ANNUAL SCIENTIFIC REPORT 2016

research
science
innovation
commitment

SJD
Sant Joan de Déu
Institut de Recerca

Index

ANNUAL SCIENTIFIC REPORT **2016**

SJD Sant Joan de Déu Institut de Recerca

1
Foreword

1.1. Introduction

The Sant Joan de Déu Research Institute (IRSJD) continues its path to become a first-time biomedical research center in the field of pediatric medicine and development throughout the life cycle of the human being, since the fetal and neonatal time to the adolescent and the young adult to improve the quality of life of the pediatric patient and of his/her vital project during the entire personal life. In 2016 it was time to establish the organization of the Institute, the participation of each and every one of the centers that constitute it and the structure of the scientific areas in which the research groups work. The scientific project is oriented towards areas of great interest for biomedical research and clinical praxis, such as the study of the structure and development of the brain and its pediatric and mental illnesses, childhood and developmental cancer, early onset of medical, metabolic and endocrinological adult disorders, and infectious, inflammatory and immunological diseases. The groups investigate the aspects of human biology and psychology, as well as the genomic and genetic aspects of rare diseases, and pathophysiological, cellular and molecular mechanisms of human illnesses. Two fundamental aspects have been the technological development aimed at providing solutions to patient problems and the push of pediatric clinical trials with a progressive increase of activity and internationalization of the Clinical Research Unit.

In September, researchers from all centers that integrate the IRSJD had the opportunity to present the bulk of their research with the rest of their colleagues and groups on the first scientific day held in the Sant Joan de Déu Auditorium. The immediate consequences have been the beginning of shared projects in common and the projection of a research center where interdisciplinarity and collaboration are part of their identity.

In 2016, the activity and scientific production of the Institute have increased, as this indicates the increase in all the fundamental parameters, 60 research projects and competitive funds awarded, 482 scientific articles (376 with impact factor), 148 clinical trials, and €1.4 million more for global budget. This result has been possible thanks to the intense work of more than 480 researchers, recruited and affiliated, who belong to the Institute. On this reality the IRSJD bases the scientific and technological growth of the next years, with an interest in improving the quality of the scientific work of the research groups and the capacity of translation in clinical medicine. Our aim is to promote cooperative and interdisciplinary work to focus on new challenges and seek new scientific, technical and therapeutic solutions to the questions and problems that arise from the patients and the diseases they suffer.

1
Foreword

Introducció

L'Institut de Recerca Sant Joan de Déu (IRSJD) continua fent el seu camí per esdevenir un centre d'investigació biomèdica de primer ordre a l'àmbit de la medicina pediàtrica i del desenvolupament al llarg del cicle vital del ésser humà, des de l'època fetal i neonatal fins a l'adolescent i l'adult jove per millorar la qualitat de vida del pacient pediàtric i del seu projecte vital durant tota la vida personal. L'any 2016 ha estat el temps per assentar l'organització de l'Institut, la participació de tots i cadascun dels centres que el constitueixen i l'estructura de les àrees científiques en les quals treballen els grups de recerca. El projecte científic s'orienta cap a àrees de gran interès per la investigació biomèdica i la praxi clínica com són l'estudi de l'estructura i desenvolupament del cervell i les seves malalties pediàtriques i mentals, el càncer infantil i del desenvolupament, els trastorns mèdics, metabòlics i endocrinològics d'inici en edat precoç de la vida, i les malalties infeccioses, inflamatòries i immunològiques. Els grups investiguen els aspectes de la biologia i la psicologia humana, així com la genètica i genòmica de les malalties rares, i els mecanismes fisiopatològics, cel·lulars i moleculars de les malalties humanes. Dos aspectes fonamentals han estat el desenvolupament tecnològic dirigit a oferir solucions a problemes dels pacients i l'empenta dels assaigs clínics pediàtrics amb un increment progressiu de l'activitat i internacionalització de la Unitat de Recerca Clínica.

El mes de setembre els investigadors de tots els centres que integren l'IRSJD varen tenir l'oportunitat de presentar el gruix de la seva recerca davant de la resta de companys i grups a la primera Jornada Científica celebrada a l'Auditori de l'Edifici Docent Sant Joan de Déu. Les conseqüències immediates han estat l'inici de projectes en comú compartits i la projecció de l'Institut de recerca on la interdisciplinarietat i la col·laboració formem part de la seva identitat.

En 2016 s'ha incrementat l'activitat i produccions científiques de l'Institut, com així ho indica l'augment en tots els paràmetres fonamentals, 60 projectes de recerca i fons competitius obtinguts, 482 articles científics de les quals 376 tenen factor d'impacte, 148 assaigs clínics, i 1, 4M€ més de pressupost global. Aquest resultat ha estat possible gràcies a l'intens treball de més de 480 investigadors, contractats i adscrits, que pertanyen a l'IRSJD. Sobre aquesta realitat l'Institut basa el creixement científic i tecnològic dels anys vinents, amb interès a millorar la qualitat del treball científic dels grups de recerca i la capacitat de translació en la medicina clínica. La nostra proposta és fomentar el treball cooperatiu i interdisciplinari per enfocar nous reptes i buscar noves solucions científiques i tècniques a les preguntes i problemes que naixen dels pacients i de les malalties que pateixen.

Introducción

El Institut de Recerca Sant Joan de Déu (IRSJD) continua haciendo su camino para convertirse en un centro de investigación biomédica de primer orden en el ámbito de la medicina pediátrica y del desarrollo a lo largo del ciclo vital del ser humano, desde la época fetal y neonatal hasta el adolescente y el adulto joven para mejorar la calidad de vida del paciente pediátrico y de su proyecto vital durante toda la vida personal. El año 2016 ha sido el tiempo para asentar la organización del Institut, la participación de todos y cada uno de los centros que lo constituyen y la estructura de las áreas científicas en las que trabajan los grupos de investigación. El proyecto científico se orienta hacia áreas de gran interés para la investigación biomédica y la praxis clínica como son el estudio de la estructura y desarrollo del cerebro y sus enfermedades pediátricas y mentales, el cáncer infantil y del desarrollo, los trastornos médicos, metabólicos y endocrinológicos de inicio en edades precoces de la vida, y las enfermedades infecciosas, inflamatorias e inmunológicas. Los grupos investigan los aspectos de la biología y la psicología humana, así como la genética y genómica de las enfermedades raras, y los mecanismos fisiopatológicos, celulares y moleculares de las enfermedades humanes. Dos aspectos fundamentales han sido el desarrollo tecnológico dirigido a ofrecer soluciones a problemas de los pacientes y el impulso de los ensayos clínicos pediátricos con un incremento progresivo de la actividad e internacionalización de la Unidad de Investigación Clínica.

El mes de septiembre los investigadores de todos los centros que integran el IRSJD tuvimos la oportunidad de presentar parte de su investigación delante de los compañeros y grupos en la primera Jornada Científica celebrada en el Auditorio del Edifici Docent Sant Joan de Déu. Las consecuencias inmediatas han sido el inicio de proyectos en común compartidos y la proyección del Institut de recerca donde la interdisciplinariedad y la colaboración forman parte de la su identidad.

Este 2016 se ha incrementado la actividad y producción científicas del Institut, como lo indica el aumento en todos los parámetros fundamentales, 60 proyectos de investigación y fondos competitivos obtenidos, 482 artículos científicos de los cuales 376 tienen factor de impacto, 148 ensayos clínicos, y 1,4M€ más de presupuesto global. Este resultado ha sido posible gracias al intenso trabajo de más de 480 investigadores, contratados y adscritos, que pertenecen al IRSJD. Sobre esta realidad el Institut basa el crecimiento científico y tecnológico de los próximos años, con interés en mejorar la calidad del trabajo científico de los grupos de investigación y la capacidad de translación en la medicina clínica. En nuestra propuesta es fundamenta el trabajo cooperativo e interdisciplinario para enfocar nuevos retos y buscar nuevas soluciones científicas y técnicas a las preguntas y problemas que nacen de los pacientes y de las enfermedades que padecen.

1.2. Governing and advisory bodies

Governing council

Dr. Manuel del Castillo Rey	*General Manager of Hospital Sant Joan de Déu in Esplugues de Llobregat*
His Excellency Mr. Dídac Ramírez i Sarrió	*Rector of Universitat de Barcelona (UB)*
His Excellency Mr. Jordi Alberch Vié	*Vice-Rector for Research of Universitat de Barcelona*
Ms. Esther Real Saladrigas	*Vice-Rector for Knowledge Transfer of Universitat Politècnica de Catalunya (UPC)*
Dr. Jaume Pérez Payarols	*Director of Innovation of Hospital Sant Joan de Déu*
Mr. Emili Bargalló Angerri	*Director of Research Foundation Sant Joan de Déu*
Dr. Francesc Palau Martinez	*Director of Institut de Recerca Sant Joan de Déu*

Management commission Institut de Recerca Sant Joan de Déu

Dr. Francesc Palau Martínez	*Director of Institut de Recerca Sant Joan de Déu*
Dr. Rafael Artuch Iriberri	*Scientific Deputy Director of Institut de Recerca Sant Joan de Déu*
Mr. Emili Bargalló Angerri	*Director of Research Foundation Sant Joan de Déu*
Dr. Jaume Pérez Payarols	*Director of Innovation of Hospital Sant Joan de Déu*
Dra. Daniela Tost Pardell	*Director of Centre de Recerca en Enginyeria Biomèdica (CREB) - Universitat Politècnica de Catalunya*
Dr. Marçal Pastor-Anglada	*Director of Institut de Biomedicina - Universitat de Barcelona (IBUB)*
Dr. Carles Escera i Micó	*Director of Institut de Neurociències - Universitat de Barcelona (UBNeuro)*
Ms. Júlia Ribot Ballabriga	*Scientific manager of Institut de Recerca Sant Joan de Déu*

Research commission

Dr. Rafael Artuch Iriberri	Dr. Alfredo García-Alix	Dr. Ángel Montero Carcaboso
Dra. Asteria Albert Cazalla	Dra. Àngels García Cazorla	Dra. Carmen Muñoz Almagro
Dr. Pere Caminal Magrans	Dr. Juan José García García	Dr. Francesc Palau Martínez
Dra. Carmen de Torres Gómez-Pallete	Dra. Maria Dolores Gómez Roig	Dr. Marçal Pastor Anglada
Dr. Carles Escera i Micó	Dra. Lourdes Ibáñez Toda	Dra. Montserrat Dolz i Abadia
Dra. Claudia Fortuny Guasch	Dr. Josep Jiménez Chillarón	

Scientific Advisory Council

Dr. Joan Rodés	*President of Scientific Advisory Council*
Dra. Mara Dierssen Soto	*Genomic Regulation Centre of Barcelona Centre de Regulació Genòmica de Barcelona*
Dra. Susan Webb	*Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau. Universitat Autònoma de Barcelona*
Dr. Michael King	*London's Global University. Division of Psychiatry.*
Dr. Romà Pallarès Giner	*Deputy Director of the General Management of Institut d'Investigació Biomèdica Bellvitge (IDIBELL)*
Dra. Montserrat Vendrell Rius	*General Director of BIOCAT*

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:

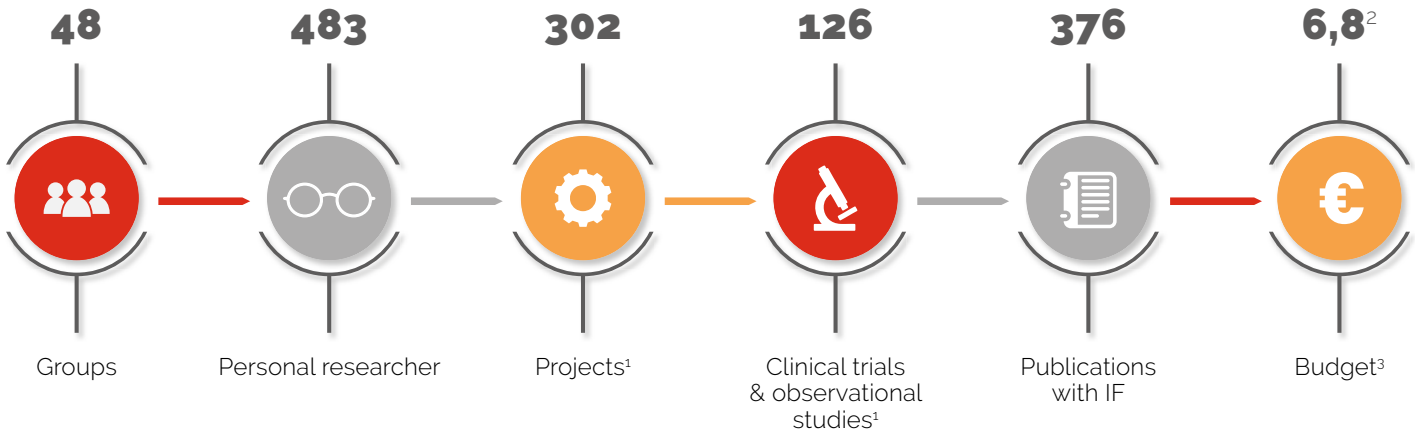
Management support services
- Administration and human resources
- Clinical Research Ethics Committee
- Research management and Promotion
- Management of knowledge and communication

Scientific Core facilities
- Support of the Clinical Trials Unit
- Sequencing 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

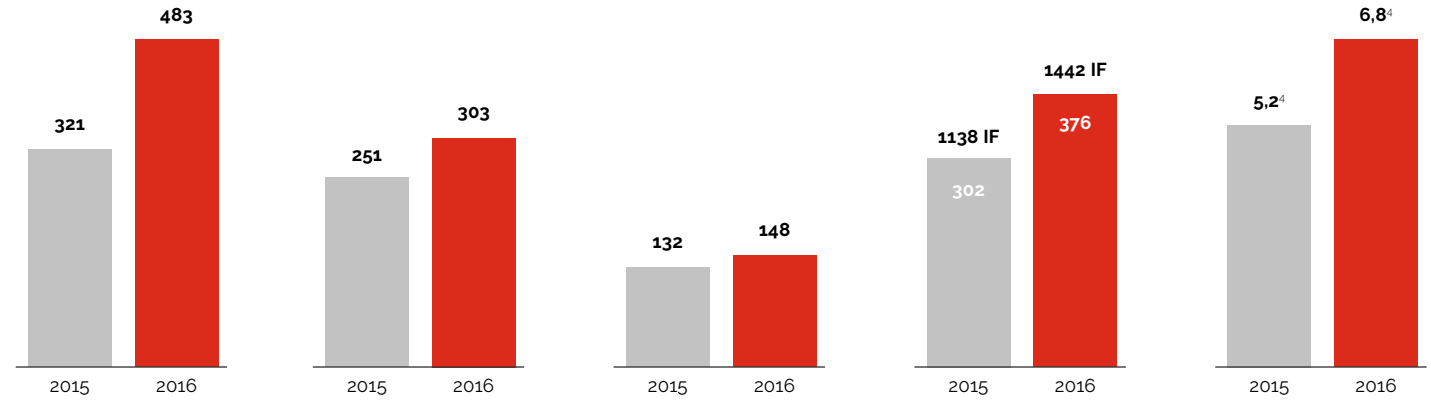
2
Global Numbers

2.1. Global numbers 2016



[1] Ongoin projects
[2] Thousand of euros
[3] This figure corresponds to the projects of researchers assigned to the IRSJD and managed by the FSJD

2.2. Global numbers 2015-2016



[4] Thousand of euros

3
Vertical Areas

3.1. Peadiatric 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

PKU and other amino acid genetic diseases

Jaume Campistol, MD, PhD

Study in depth the pathophysiological mechanisms involved in this disease in our patients and to test new treatments aimed to improve their metabolic control and neurologic prognosis.

Members

Researchers
Roser Colomé, Carme Fons, Camila Garcia, Rosa Gassió, Maria Julieta González, Silvia Maria Meavilla

Selected projects

- Epilepsy mood Regulation Disorders: a Prospective and Longitudinal Study in Children With Newly Diagnosed Epilepsy. EPILETRE. Fundació La Caixa. PI: Jaume Campistol Plana. Nov 2016 – Nov 2018
- Study of biochemical markers of dopaminergic and serotonergic neurotransmission in relation to neurological and neuropsychological changes in phenylketonuria. Instituto de Salud Carlos III (ISCIII). PI: Jaume Campistol Plana. Jan 2013 – Sep 2016
- SGR 2014_Research group on neurosciences and paediatric metabolism. Agaur - Agència de Gestió d'Ajuts Universitaris i de Recerca. PI: Jaume Campistol Plana. Jan 2014 – Apr 2017
- Open single-cohort phase IV study on the long-term neurocognitive results in children aged 4 to 5 years with phenylketonuria treated with sapropterin dihydrochloride (Kuvan®) over 7 years. Jaume Campistol Plana. Feb 2014 –
- European maternal paediatric register of adults of Kuvan® (KAMPER). PI: Jaume Campistol Plana. Mar 2010 –

Selected publications

- Campistol J, Díez-Juan M, Callejón L, Fernandez-De Miguel A, Casado M, et al. Inborn error metabolic screening in individuals with nonsyndromic autism spectrum disorders. Dev. Med. Child Neurol. 2016. 58: 842-847. IF: 3,615 (Q1)
- Montero R, Yubero D, Villarroya J, Henares D, Jou C, Rodríguez MA, et al. GDF-15 Is Elevated in Children with Mitochondrial Diseases and Is Induced by Mitochondrial Dysfunction. PLoS One 2016. IF: 3,057 (Q1)
- Yubero D, Brandi N, Ormazabal A, Garcia-Cazorla À, Pérez-Dueñas B, Campistol J, et al. Targeted Next Generation Sequencing in Patients with Inborn Errors of Metabolism. PLoS One 2016. IF: 3,057 (Q1)

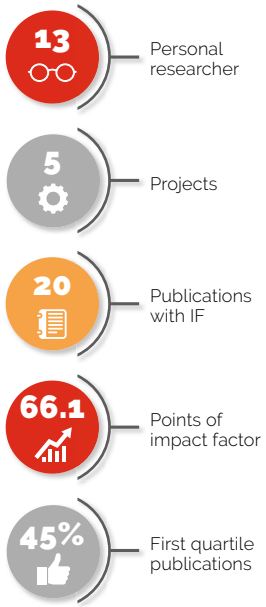
Networks

- CIBERER
- TREAT-NMD

Mithochondrial energy metabolism and development of biomarkers for the investigation of inborn errors of metabolism

Rafael Artuch, MD, PhD

iochemical and molecular aspects of childhood mitochondrial encephalomyopathies due to defects in oxidative phosphorylation, and the biochemical effect of treatment with various therapies. Development of biomarkers for the investigation of inborn errors of metabolism is the main goal of this research program.



Members

Researcher
Aida Ormazabal
Postdoc–associate researcher
Raquel Montero, Délia Yubero, Mercedes Casado, Cristina Sierra, Marta Molero
PhD student
Cristina Jou, Marta Batllori
Collaborator researchers
Andrés Nascimento, Mar O'Callaghan
Technicians
Juan Moreno, Aroa Fernández, Tania Pardal, Yahel Calzadilla

Selected projects

- Mitochondrial encephalomyopathies and secondary deficiencies of coenzyme Q10: studies on paediatric patients, cellular models and murine models. Instituto de Salud Carlos III (ISCIII). PI: Rafael Artuch Iriberri. Jan 2015 – Dec 2017
- Study of trace elements (Cu, Zn, Se and Mn) in cerebrospinal fluid of paediatric subjects and analysis of related biomarkers. Instituto de Salud Carlos III (ISCIII). PI: Aida Ormazabal Herrero. Jan 2015 – Dec 2017
- Identification of populations showing high linear correlations between biochemical variables.. Ministerio de Economía Y Competitividad (MINECO). PI: Rafael Artuch Iriberri. Sep 2014 - Feb 2016
- Predoctoral grant - Phenotypic and molecular characterisation of coenzyme Q deficiency syndrome. Beneficiary: Delia Yubero Siles. Instituto de Salud Carlos III (ISCIII). PI: Rafael Artuch Iriberri. Sep 2012 – Sep 2016

Selected publications

- Ortigoza-Escobar JD, Molero-Luis M, Arias A, Oyarzabal A, Darín N, Serrano M, et al. Free-thiamine is a potential biomarker of thiamine transporter-2 deficiency: a treatable cause of Leigh syndrome. Brain 2016. 139: 31-38. IF: 10,103 (Q1)
- Yubero D, Adin A, Montero R, Jou C, Jiménez-Mallebrera C, García-Cazorla A, et al. A statistical algorithm showing coenzyme Q10 and citrate synthase as biomarkers for mitochondrial respiratory chain enzyme activities. Sci Rep 2016. 6: 15-0. IF: 5,228 (Q1)
- Yubero D, Brandi N, Ormazabal A, Garcia-Cazorla À, Pérez-Dueñas B, Campistol J, el al. Targeted Next Generation Sequencing in Patients with Inborn Errors of Metabolism. PLoS One 2016. IF: 3,057 (Q1)
- Yubero D, Montero R, Martín MA, Montoya J, Ribes A, Grazina M, et al. Secondary coenzyme Q(10) deficiencies in oxidative phosphorylation (OXPHOS) and non-OXPHOS disorders. Mitochondrion 2016. 30: 51-58. IF: 3,647 (Q2)

Applied research on neuromuscular disorders

Cecilia Jiménez, PhD

Research in: Muscular dystrophies, including Duchenne muscular dystrophy (DMD) and congenital muscular dystrophies (CMD), with a special focus on the role of the extracellular matrix and collagen VI. Mitochondrial diseases incluing mithocondrial DNA depletion syndromes affecting muscle.

Members

Researchers
Andrés Nascimento, Carlos Ignacio Ortez
Postdoc–associate researcher
Mónica Llano, Angelica Maritza Betancourt
PhD Student
Cristina Jou, M Angeles Rodríguez
Assistant researcher
Lidia Alvarez
Technicians
M del Carmen Badosa, Sergi Garcia
Collaborator researcher
Susana Kalko (IDIBAPS)

Selected projects

- Miguel Servet tipo II - Beneficiary: Dra. Cecilia Jimenez. Instituto de Salud Carlos III (ISCIII). PI: Cecilia Jiménez Mallebrera. Apr 2016 – Apr 2019
- Role of collagen VI and biglycan in muscle homeostasis: regulation of muscle fibre size and metabolism. Implications for muscular dystrophies. Instituto de Salud Carlos III (ISCIII). PI: Cecilia Jiménez Mallebrera. Jan 2014 – Jun 2017
- Miguel Servet - Application of Global Gene Expression Analysis and Functional Genomics to the Study of the Physiopathology, Treatment and Diagnosis of Pediatric Myopathies. Beneficiary: Cecilia Jimenez. Instituto de Salud Carlos III (ISCIII). PI: Cecilia Jiménez Mallebrera. Apr 2010 – Apr2016
- Open extension study for patients with spinal muscular atrophy who have previously participated in experimental studies of ISIS 396443. PI: Andrés Nascimento Osorio. May 2016 –

Selected publications

- Llano Diez M, Ortez C, Armas J, Álvarez-Cabado L, Jou C, Medina J, et al. Digital PCR quantification of miR-30c and miR-181a as serum biomarkers in Duchenne muscular dystrophy. Neuromuscul Disord 2016. 29: 159-0. IF: 3,107 (Q2)
- Yubero D, Adin A, Montero R, Jou C, Jiménez-Mallebrera C, García-Cazorla A, et al. A statistical algorithm showing coenzyme Q10 and citrate synthase as biomarkers for mitochondrial respiratory chain enzyme activities.. Sci Rep 2016. 6: 15-0. IF: 5,228 (Q1)
- Yubero D, Montero R, Martín MA, Montoya J, Ribes A, Grazina M, et al. Secondary coenzyme Q(10) deficiencies in oxidative phosphorylation (OXPHOS) and non-OXPHOS disorders. Mitochondrion 2016. 30: 51-58. IF: 3,647 (Q2)
- Montero R, Yubero D, Villarroya J, Henares D, Jou C, Rodríguez MA, et al. GDF-15 Is Elevated in Children with Mitochondrial Diseases and Is Induced by Mitochondrial Dysfunction. PLoS One 2016. IF: 3,057 (Q1)

Networks

- CIBERER
- TREAT-NMD

Neurometabolic disorders and synaptic studies in rare neurogenetic conditions

Àngels García-Cazorla, MD, PhD

Neurometabolic disorders, neurotransmitters, cerebrospinal fluid biomarkers, brain connectivity and synaptic function through different approaches.

- **13** Personal researcher
- **9** Projects
- **2** Clinical trials & observational studies
- **19** Publications with IF
- **63.1** Points of impact factor
- **15%** First quartile publications

Members

Senior researcher
Judith Armstrong, Aida Ormazábal
Researchers
Elisenda Cortès-Saladelafont,
Alfonso Luis de Oyarzabal
Postdoc–associate researcher
Anna López, Roser Colomé, Itziar Alonso,
M del Mar O'Callaghan
PhD student
Gabriel Díaz, Inés Medina, Federico Ramos,
Alba Tristan

Selected projects

- Neurotransmission systems in paediatric encephalopathies of genetic origin: identification of new molecular and pathophysiologic aspects. Instituto de Salud Carlos III (ISCIII). PI: MªAngels García Cazorla. Jan 2016 – Dec 2018
- "My Princess Rett" – Cellular model for the study and treatment of excitatory/inhibitory synaptic imbalance in Rett syndrome. OSSJD - Obra Social Sant Joan de Déu. PI: MªAngels García Cazorla. Sep 2014 – Dec 2020
- InNerMeD_Inherited NeuRoMetabolic Diseases Information Network European Commission. PI: MªAngels García Cazorla. Apr 2013 – Mar 2016
- Biomarkers of change in cerebral neurotransmission in paediatric encephalopathies of genetic origin: studies on patients and on a cellular model. Instituto de Salud Carlos III (ISCIII). PI: MªAngels García Cazorla. Jan 2013 – Dec 2016

Selected publications

- Cassis L, Cortès-Saladelafont E, Molero-Luis M, Yubero D, González MJ, Ormazábal A, et al.. Review and evaluation of the methodological quality of the existing guidelines and recommendations for inherited neurometabolic disorders. Orphanet J Rare Dis 2016. 11: 147-0. IF: 3,290 (Q2)
- Cortès-Saladelafont E, Tristán-Noguero A, Artuch R, Altafaj X, Bayès A, García-Cazorla A. Diseases of the Synaptic Vesicle: A Potential New Group of Neurometabolic Disorders Affecting Neurotransmission. Semin Pediatr Neurol. 2016 Nov; 23(4):306-320. Epub 2016 Nov 15. IF: 1,303 (Q3)
- Opladen T, Cortès-Saladelafont E, Mastrangelo M, Horvath G, Pons R, Lopez-Laso E, et al. The International Working Group on Neurotransmitter related Disorders (iNTD): A worldwide research project focused on primary and secondary neurotransmitter disorders. Mol Genet Metab Rep. 2016 Oct 20;9:61-66. eCollection
- Tristán-Noguero A, Díez H, Jou C, Pineda M, Ormazábal A, Sánchez A, et al. Study of a fetal brain affected by a severe form of tyrosine hydroxylase deficiency, a rare cause of early parkinsonism. Metab. Brain Dis. 2016. 31: 705-709. IF: 2,603 (Q3)

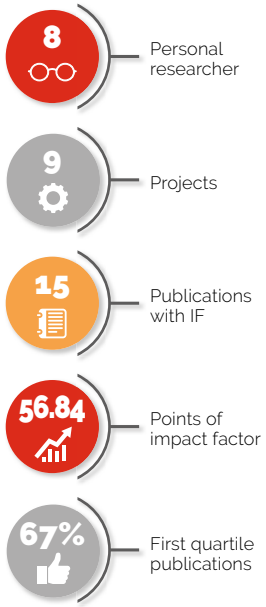
Networks

- CIBERER
- TREAT-NMD
- EUROPEAN REFERENCE NETWORK FOR HEREDITARY METABOLIC DISEASES (METABERN)
- Connecting the growing brain
- INTD – International Working Group on Neurotransmitter Related Disorders

Movement disorders of genetic and neurometabolic origin

Belén Pérez, MD, PhD

Study of defects in the transport and metabolism of thiamine associated with recurrent encephalopathies in childhood. Cerebral folate deficiency. Relation to neurotransmitters and follow-up of treatment with folinic acid.



Members

Researchers
Jordi Muchart, M Pilar Poo, Mercedes Serrano
Postdoc–associate researcher
Juan Dario Ortigoza
PhD student
Maria Vanegas, Laura Martí, Alejandra Darling
Collaborator researcher
Carmen Espinós (Centro de Investigación Príncipe Felipe)

Selected projects

- Collaborative project between Sant Joan de Déu Barcelona and the Aludme association on the clinical and genetic characterisation of patients with myoclonous dystonia in the Spanish population, and biomarkers study.. Asociación de lucha contra la distonia mioclonica valenciana. PI: Belén Pérez Dueñas. Jun 2016 – May 2019
- Biomarkers and genes in infantile bilateral striatal necrosis.. Instituto de Salud Carlos III (ISCIII). PI: Belén Pérez Dueñas. Jan 2016 – Dec 2018
- Neurodegeneration with Brain Iron Accumulation: Clinical Assessment and Genetic Characterization by means of a Spanish Multi-Centre Research Network. Fundació La Marató de TV3. PI: Belén Pérez Dueñas. Mar 2015 – Mar 2018
- Pantothenate Kinase Associated Neurodegeneration: Clinical Assessment and Genetic Characterization by means of a Multi-Centre Research Network. Retrophin, Inc. PI: Belén Pérez Dueñas. Mar 2015 – Jun 2019

Selected publications

- Ortigoza-Escobar JD, Molero-Luis M, Arias A, Martí-Sánchez L, Rodriguez-Pombo P, Artuch R, et al. Treatment of genetic defects of thiamine transport and metabolism.. Expert Rev. Neurother. 2016. 16: 755-763. IF: 2,758 (Q2)
- Ortigoza-Escobar JD, Molero-Luis M, Arias A, Oyarzabal A, Darín N, Serrano M, et al. Free-thiamine is a potential biomarker of thiamine transporter-2 deficiency: a treatable cause of Leigh syndrome. Brain 2016. 139: 31-38. IF: 10,103 (Q1)
- Ortigoza-Escobar JD, Oyarzabal A, Montero R, Artuch R, Jou C, Jiménez-Mallebrera C, et al. Ndufs4 related Leigh syndrome: A case report and review of the literature. Mitochondrion 2016. 28: 73-78. IF: 3,647 (Q2)
- Papandreou A, Schneider RB, Augustine EF, Ng J, Mankad K, Meyer E, McTague A, et al. Delineation of the movement disorders associated with FOXG1 mutations. Neurology 2016. 86: 1794-1800. IF: 8,166 (Q1)

Networks

- CIBERER
- TREAT-NMD
- Unitat integrada de referència del sistema nacional de salud en “enfermedades raras que cursan con trastornos del movimiento (csur_53)
- “Healt care provider” European Reference Network on Rare Neurologic Diseases

Neurogenetics and molecular medicine

Janet Hoenicka, MD, PhD

Neurogenetics and pathophysiology of neuromuscular, neurodevelopmental and CNS disorders • Charcot-Marie-Tooth neuropathy • Friedreich's ataxia • Parkinson's disease • Addictive disorders • Rett syndrome • Congenital disorders of glycosylation • Menkes disease • Intellectual disability

Members

Senior researchers
Francesc Palau, Judith Armstrong
Researchers
Mercedes Serrano
Research associates and clinical researchers
Xochitl Castro, Lara Cantarero, Laura Dominguez, Antonio Martínez Monseny, Loreto Martorell, Maria del Mar Pérez Iribarne, Isabel Plensa
PhD students
Azahara Civera, Elena Juárez, Silvia Vidal
Research assistant: Laura Blasco, Nuria Brandi
Technicians
Daniel Castillo, Jordi Genovès, Dolores López, Ana López Montserrat Naudó, Paola Pacheco, Teresa Ramírez, Lluïsa Zabala

Selected projects

- Role of ANKK1 in the genetics and pathophysiology of Parkinson's disease. Instituto de Salud Carlos III (ISCIII). PI: Janet Hoenicka. Jan 2016 – Dec 2018
- The landscape of axonal biology and mitochondrial-associated membranes in neurogenetic disorders. Ministerio de Economía Y Competitividad (MINECO). PI: Francesc Palau Martínez. Jan 2016 – Dec 2019
- Clinical and molecular characterisation of Rett syndrome: elucidating unsolved cases. Instituto de Salud Carlos III (ISCIII). PI: Judith Silvia Armstrong Morón. Jan 2016 –Dec 2018
- GenomicScientia – Centre for Genomic Sciences in Medicine. Departament de Salut - Generalitat de Catalunya. PI: Francesc Palau Martínez. Jan 2016 – Dec 2018

Selected publications

- Lucariello M, Vidal E, Vidal S, Saez M, Roa L, Huertas D, et al.. Whole exome sequencing of Rett syndrome-like patients reveals the mutational diversity of the clinical phenotype. Hum Genet 2016. 135: 1343-1354. IF: 5,138 (Q1)
- Mollá B, Riveiro F, Bolinches-Amorós A, Muñoz-Lasso DC, Palau F*, González-Cabo P*. Two different pathogenic mechanisms, dying-back axonal neuropathy and pancreatic senescence, are present in the YG8R mouse model of Friedreich's ataxia. Dis. Model. Mech. 2016. 9: 647-657. IF: 4,316 (Q1)
- Sáez MA, Fernández-Rodríguez J, Moutinho C, Sanchez-Mut JV, Gomez A, Vidal E, et al.. Mutations in JMJD1C are involved in Rett syndrome and intellectual disability. Genet. Med. 2016. 18: 378-385. IF: 7,710 (Q1)
- Sevilla T, Lupo V, Martínez-Rubio D, Sancho P, Sivera R, Chumillas MJ, et al. Mutations in the MORC2 gene cause axonal Charcot-Marie-Tooth disease. Brain 2016. 139: 62-72. IF: 10,103 (Q1)

Networks

- CIBERER
- TREAT-NMD
- ACTION – Data and Policies for Rare Diseases
- European Reference Network for Rare Neuromuscular Diseases
- Orphanet-Spain

Preclinical pharmacology and drug release in solid paediatrics tumours

Angel Montero Carcaboso, PhD

Development of preclinical disease models (neuroblastoma, diffuse intrinsic pontine glioma/DIPG, rhabdomyosarcoma, Ewing's sarcoma, retinoblastoma) on the basis of biobank samples. Study of new treatments (pharmacological, biological and immunotherapy) in preclinical models of paediatric solid tumours. Study of the penetration of chemotherapeutic agents in preclinical models of paediatric solid tumours. Development of new chemotherapy release systems in paediatric solid tumours.

Members

Senior researcher
Guillermo Chantada
Researcher
Ofelia Cruz, Andrés Morales
PhD student
Nagore Gené, Carles Monterrubio, Sonia Paco, Guillem Pascual
Technician
Mònica Vilà

Selected projects

- Cure2DIPG_Nanocarriers modified with a protease-resistant BBB shuttle for targeted CNS drug delivery in diffuse intrinsic pontine glioma. Instituto de Salud Carlos III (ISCIII). PI: Angel Montero Carcaboso. Jan 2016 – Dec 2018
- Immunotherapy of diffuse pontine glioma (DIPG). .Instituto de Salud Carlos III (ISCIII). PI: Angel Montero Carcaboso. Jan 2016 – Dec 2018
- Cure4RB. Ministerio de Economía Y Competitividad (MINECO). PI: Angel Montero Carcaboso. Jul 2015 – Dec 2018
- Miguel Servet Translational research program in diffuse intrinsic pontine gliomas. Beneficiario: Angel Montero. Instituto de Salud Carlos III (ISCIII). PI: Angel Montero Carcaboso. Jan 2014 – Jan 2019
- Translational research program in diffuse intrinsic pontine gliomas. Instituto de Salud Carlos III (ISCIII). PI: Angel Montero Carcaboso. Jan 2014 – Dec 2017

Selected publications

- Daryani VM, Patel YT, Tagen M, Turner DC, Carcaboso AM, Atkinson JM, Gajjar A, Gilbertson RJ, Wright KD, Stewart CF. Translational Pharmacokinetic-Pharmacodynamic Modeling and Simulation: Optimizing 5-Fluorouracil Dosing in Children With Pediatric Ependymoma. CPT Pharmacometrics Syst Pharmacol. 2016. 5(4):211-221. IF: -- (Q--)
- Monterrubio C, Pascual-Pasto G, Cano F, Vila-Ubach M, Manzanares A, Schaiquevich P, et al.. SN-38-loaded nanofiber matrices for local control of pediatric solid tumors after subtotal resection surgery. Biomaterials 2016. 79: 69-78. IF: 8,387 (Q1)
- Pascual-Pasto G, Olaciregui NG, Vila-Ubach M, Paco S, Monterrubio C, Rodriguez E, et al. Preclinical platform of retinoblastoma xenografts recapitulating human disease and molecular markers of dissemination. Cancer Lett 2016. 380: 10-19. IF: 5,992 (Q1)
- Winter U, Mena HA, Negrotto S, Arana E, Pascual-Pasto G, Laurent V, et al. P. Schedule-Dependent Antiangiogenic and Cytotoxic Effects of Chemotherapy on Vascular Endothelial and Retinoblastoma Cells. PLoS One. 2016 Jul 28;11(7):e0160094. IF: 3,057 (Q1)

Networks

- Innovative Therapies for Children with Cancer

Leukaemia and non-malignant blood disorders

Mireia Camòs, MD, PhD

To conduct translational and easily applicable research both on leukaemias and bone marrow failure syndromes, and on non-neoplastic blood changes, haemoglobin disorders and coagulation disorders.

Members

Researchers
Isabel Badell, Ruben Berrueco, Albert Català, Julia Marsal, Susanna Rives, Anna Ruiz, Montserrat Torrebadell
PhD students
Anna Alonso, Roberta Malatesta, Montserrat Mesegue, Maria Trabazo, Nerea Vega
Technicians
Maria Camino Estella, Sandra Pont

Selected projects

- Pilot study of infusion of autologous genetically modified T lymphocytes to express anti-CD19 in patients with leukaemia or lymphoma CD19+ resistant or refractory to treatment. Instituto de Salud Carlos III (ISCIII). PI: Susana Rives Solà. Jan 2015 – Dec 2017
- Biological studies group on paediatric acute lymphoblastic leukaemia (ALL): harmonisation and standardisation of the diagnosis, follow-up of the minimum residual disorder and promotion of cooperative research. Fundación Sandra Ibarra de Solidaridad Frente al Cáncer. PI: Mireia Camós Guijosa. Jan 2014 – Jun 2016
- Pilot study of infusion of autologous genetically modified T lymphocytes to express anti-CD19 in patients with leukaemia or lymphoma CD19+ resistant or refractory to treatment. PI: Susana Rives Solà. Jan 2015 –
- Study of regulatory molecular pathways of haematopoietic progenitor cells in paediatric leukaemias with rearrangement of the MLL gene. Instituto de Salud Carlos III (ISCIII). PI: Mireia Camós Guijosa. Jan 2013 – Jun 2017

Selected publications

- Alonso-Saladrigues A, Català A, Berrueco R, Camós M, Torrebadell M, Rives S. Aplastic Crisis Secondary to Parvovirus B19 Infection as the First Manifestation of an Undiagnosed Hereditary Spherocytosis: Report of a Pediatric Series of Spanish Patients. J Pediatr Hematol Oncol. 2016 Jan;38(1):81-2. IF:1,146 (Q3)
- Català A, Pastor-Anglada M, Caviedes-Cárdenas L, Malatesta R, Rives S, Vega-García N, et al. FLT3 is implicated in cytarabine transport by human equilibrative nucleoside transporter 1 in pediatric acute leukemia. Oncotarget 2016. 7: 49786-49799. IF: 5,008 (Q1)
- Cela E, Bellón JM, de la Cruz M, Beléndez C, Berrueco R, Ruiz A, et al. National registry of hemoglobinopathies in Spain (REPHem). Pediatr Blood Cancer. 2016 Nov 2. IF: 2, 634 (Q1)
- de Sevilla MF, Català A, Rives S, Berrueco R, Vidiella N, Camós M, et al. Spuriously low pulse oximetry saturation associated with hemoglobin Sydney in a child and relatives: Identification of this unstable hemoglobin may avoid unnecessary testing and hospital admissions. Pediatr Blood Cancer 2017. 64(5). IF: 2,634 (Q1)

Networks

- Innovative Therapies for Children with Cancer

Neuroblastoma

Carmen de Torres, PhD

New therapeutic targets in neuroblastoma; personalized treatment to pediatric patients affected of refractory solid tumors based on the knowledge of their genetic alterations.

Members

Postdoc–associate researchers
Marta García, Eliana Carolina Gonzalves, Silvia Mateo, Carlos Javier Rodríguez
Technician
Noelia Salvador

Selected projects

- CaSR_Marie Curie International Training Network - CaSR Biomedicine_Calcium-Sensing Receptor Therapeutics for Non-Communicable Diseases. Beneficiary: Dra. Carmen de Torres. European Commission. PI: Carmen De Torres Gómez-Pallete. Mar 2016 – Feb 2020
- Assessment of the calcium-sensing receptor and parathyroid hormone-related protein as new therapeutic targets in neuroblastoma. Instituto de Salud Carlos III (ISCIII). PI: Carmen De Torres Gómez-Pallete. Jan 2015 – Dec 2017

Selected publications

- Brandt A, Löhers K, Beier M, Leube B, de Torres C, Mora J, et al. Establishment of a Conditionally Immortalized Wilms Tumor Cell Line with a Homozygous WT1 Deletion within a Heterozygous 11p13 Deletion and UPD Limited to 11p15. PLoS One 2016. IF: 3,057 (Q1)
- Chamorro-Garcia A, Dela Escosura-Muñiz A, Espinosa-Castañeda M, Rodriguez-Hernandez CJ, de Torres C, et al. Detection of parathyroid hormone-like hormone in cancer cell cultures by gold nanoparticle-based lateral flow immunoassays. Nanomed.-Nanotechnol. Biol. Med. 2016. 12: 53-61. IF: 5,671 (Q1)
- Mateo-Lozano S, García M, Rodríguez-Hernández CJ, de Torres C. Regulation of Differentiation by Calcium-Sensing Receptor in Normal and Tumoral Developing Nervous System. Front. Physiol. 2016. 7: 169-0. IF: 4,031 (Q1)
- Rodríguez-Hernández CJ, Mateo-Lozano S, García M, Casalà C, Briansó F, Castrejón N, et al. Cinacalcet inhibits neuroblastoma tumor growth and upregulates cancer-testis antigens. Oncotarget 2016. 7: 16112-16129. IF: 5,008 (Q1)

Networks

- CaSR_Marie Curie International Training Network - CaSR Biomedicine_Calcium-Sensing Receptor Therapeutics for Non-Communicable Diseases

Sarcoma and histiocytosis

Jaume Mora, MD, PhD

Study of the origin of sarcoma and phenotypic and genotypic characterisation of the various clinical subtypes. Research on the existence of precursor or tumour stem cells. Improved treatment of patients with sarcomas through the study of pre-clinical pharmacology. Development of therapies targeted at the IgF1r pathway. Study of directed therapies and molecular pathways in Langerhans cell histiocytosis.

Members

Senior researcher
Mª Inmaculada Hernández
Postdoc–associate researcher
Sara Sánchez
Assistant researcher
Veronica Celis, Vicente Santa-María, Moira Garraus
PhD student
Elisabet Figuerola, Sara Pérez-Jaume, Estela Prada
Technician
Mª Jesús Nagel

Selected projects

- Search, validation and clinical translation of new therapeutic targets on the basis of genomics and integrative proteomics studies on Ewing's sarcoma.. Asociación Española Contra el Cáncer. PI: Jaume Mora Graupera. Oct 2013 – Sep 2018
- Uncontrolled multi-centre prospective phase II clinical trial on intensive chemotherapy, surgery and radiotherapy in tumours of the Ewing's sarcoma family in children, adolescents and adults. Ministerio de Sanidad y Política Social. PI: Jaume Mora Graupera. Jan 2010 – Jun 2016
- Two-part open multi-centre single-armed phase I/IIA study to determine the safety, tolerability and pharmacokinetics of oral dabrafenib in children over age 12 months and under 18 years with advanced solid tumours and BRAF V600 positive mutation. PI: Jaume Mora Graupera. Sep 2014 –
- Single-centre uncontrolled phase II clinical trial on dinutuximab (CH 14.18) with cytokines – granulocyte-macrophage colony-stimulating factor (GM-CSF) and IL-2 – in patients with high-risk neuroblastoma who are not candidates for other immunotherapy trials. PI: Jaume Mora Graupera. May 2014 –

Selected publications

- Hernández-Muñoz I, Figuerola E, Sánchez-Molina S. RING1B contributes to Ewing sarcoma development by repressing the NaV1.6 sodium channel and the NF-?B pathway, independently of the fusion oncoprotein. Oncotarget 2016. 7: 46283-46300. IF: 5,008 (Q1)
- Kovar H, Amatruda J, Brunet E, Burdach S, Cidre-Aranaz F, de Alava E, et al. O. The second European interdisciplinary Ewing sarcoma research summit - A joint effort to deconstructing the multiple layers of a complex disease. Oncotarget 2016. 7: 8613-8624. IF: 5,008 (Q1)
- Krauel L, Fenollosa F, Riaza L, Pérez M, Tarrado X, Morales A, et al. Use of 3D Prototypes for Complex Surgical Oncologic Cases. World J.Surg. 2016. 40: 889-894. IF: 2,523 (Q2)
- Mora J. Dinutuximab for the treatment of pediatric patients with high-risk neuroblastoma. Expert Rev Clin Pharmacol 2016. 9: 647-653. IF: 2,488 (Q2)

Networks

- Innovative Therapies for Children with Cancer

Translational genomics

Cinzia Lavarino, PhD

Identification of epigenetic biomarkers. Development of tools for the determination of treatment response. Genomic study of developmental tumours. Sequencing of the transcriptome of individual tumour cells.Identification of tumour stem cells.

Members

Researcher
Héctor Salvador
PhD students
Laura Garcia, Alícia Garrido, Soledad Gómez
Technician
Isadora Lemos

Selected projects

- Epigenetics in neuroblastoma pathogenesis: new molecular perspectives for the development of therapeutic strategies. Instituto de Salud Carlos III (ISCIII). PI: Cinzia Lavarino. Jan 2015 – Dec 2017
- Formation of a Spanish cohort of childhood cancer survivors: SPAIN-CCSS cohort. PI: Héctor Salvador Hernández. Jan 2014 –

Selected publications

- Pascual-Pasto G, Olaciregui NG, Vila-Ubach M, Paco S, Monterrubio C, Rodriguez E, et al. Preclinical platform of retinoblastoma xenografts recapitulating human disease and molecular markers of dissemination. Cancer Lett 2016. 380: 10-19. IF: 5,992 (Q1)
- Rodríguez-Hernández CJ, Mateo-Lozano S, García M, Casalà C, Briansó F, Castrejón N, Rodríguez E, et al. Cinacalcet inhibits neuroblastoma tumor growth and upregulates cancer-testis antigens. Oncotarget 2016. 7: 16112-16129. IF: 5,008 (Q1)
- Salas S, Agut T, Rovira C, Canizo D, Lavarino C, García-Alix A. Infratentorial congenital glioblastoma multiforme. A rare tumour with a still unknown biology. Rev Neurol 2016. 63: 411-414. IF: 0,684 (Q4)

Metabolic endocrinology

Lourdes Ibáñez, MD, PhD

Research in: Prenatal diagnosis. Postnatal growth restriction and prematurity nutritional inputs. Endocrine and developmental effects. New therapeutic strategies in paediatric entities associated with insulin resistance. New risk markers of metabolic syndrome, hyperinsulinism and cardiovascular disease in children and adolescents with low birth weight. Metabolomic and methylome studies in patients with hyperinsulinism/low birth weight/metabolic syndrome.

Members

Researcher
Marta Díaz
Postdoc–associate researchers
Rita Malpique de Sousa, Giorgina Sebastiani
Assistant researcher
Cristina García
Collaborator researchers
Francis de Zegher, Abel López Bermejo

Selected projects

- Development of a new combination of sensitisers to the action of insulin and antiandrogens for the treatment of polycystic ovary syndrome in adolescent and young adult women.. Ministerio de Economía Y Competitividad (MINECO). PI: Lourdes Ibañez Toda. Mar 2016 – Dec 2019
- Effectiveness and tolerance of a new combination of low doses of sensitisers to the action of insulin and antiandrogens in prepuberal and adolescent girls with hyperandrogenism and hyperinsulinism. Agaur - Agència de Gestió d'Ajuts Universitaris i de Recerca. PI: Lourdes Ibañez Toda. Jan 2016 – Dec 2018
- MicroRNAs and metabolic diseases of foetal origin: pathophysiological mechanisms and risk markers (EPIPROG). Fundació Agrupació Mútua. PI: Lourdes Ibañez Toda. Jan 2016 – Dec 2017
- Maternal diet, microbiome and infant feeding practice: roles in initializing the fetal gut microbiome and establishing the infant gut microbiome. Icahn School of Medicine at Mount Sinai. PI: Lourdes Ibañez Toda. Jul 2015 – Jul 2018

Selected publications

- Bassols J, Martínez-Calcerrada JM, Prats-Puig A, Carreras-Badosa G, Díaz-Roldán F, Osiniri I, et al. Uric acid, carotid intima-media thickness and body composition in prepubertal children. Pediatr Obes 2016. 11: 375-382. IF: 3,689 (Q1)
- Sebastiani G, Díaz M, Bassols J, Aragonés G, López-Bermejo A, de Zegher F, et al. The sequence of prenatal growth restraint and post-natal catch-up growth leads to a thicker intima-media and more pre-peritoneal and hepatic fat by age 3-6 years. Pediatr Obes 2016. 11: 251-257. IF: 3,689 (Q1)
- Valle-Sistac J, Molins-Delgado D, Díaz M, Ibáñez L, Barceló D, Díaz-Cruz SM. Determination of parabens and benzophenone-type UV filters in human placenta. First description of the existence of benzyl paraben and benzophenone-4. Environ Int 2016. 88: 243-249. IF: 5,929 (Q1)
- de Zegher F, Pérez-Cruz M, Sebastiani G, Díaz M, López-Bermejo A, Ibáñez L. Large for Gestational Age Newborns from Mothers Without Diabetes Mellitus Tend to Become Tall and Lean Toddlers. J Pediatr 2016. 178: 278-280. IF: 3,890 (Q1)

Networks

- CIBERDEM

Early origins of long-term risk of obesity and metabolic disease

José Carlos Jiménez, PhD

Research in: Molecular mechanisms that associate nutrition during early development with the risk of acquiring childhood obesity and chronic metabolic disorders during adulthood, including obesity, insulin resistance and diabetes. We are currently studying the role of the epigenome and the microbiota in mediating nutritionally-derived disease risk. To achieve this goal we are combining experimental animal models and well as Clinical Cohorts of pre-pubertal obese children.

Members

Senior researcher
Carles Lerin, Rubén Díaz
Researcher
Marta Ramon Krauel
Postdocs–asssociate researchers
David Sánchez-Infantes, Oscar Osorio
PhD students
M Jesús Leal, Silvia Ribó
Technicians
Judith Cebrià Romero

Selected projects

- Modifying maternal nutrition during lactation to improve offspring life-course health outcomes. Ajinomoto Co., Inc.. PI: Carles Lerin Martinez. Jan 2015 – Sep 2017
- Childhood obesity and metabolic syndrome risk in adults: epigenetic mechanisms. Instituto de Salud Carlos III (ISCIII). PI: José Carlos Jiménez Chillarón. Jan 2015 – Dec 2017
- CIDI - La Caixa Special Fund (fund for scientific advance and innovation in childhood diabetes). Fundació Caixa d'Estalvis i Pensions de Barcelona. PI: Ruben Díaz Naderi. Jan 2011 – Dec 2017
- Randomised, double-blind placebo-controlled phase 3 trial of beloranib on obese subjects with Prader-Willi syndrome to assess eating behaviour, total body weight and safety over 52 weeks.. PI: Marta Ramon Krauel. Sep 2015 –

Selected publications

- Domingo-Almenara X, Brezmes J, Vinaixa M, Samino S, Ramirez N, Ramon-Krauel M, et al. eRah: A Computational Tool Integrating Spectral Deconvolution and Alignment with Quantification and Identification of Metabolites in GC/MS-Based Metabolomics. Anal Chem 2016. 88: 9821-9829. IF: 5,886 (Q1)
- Ejaz A, Martínez Guinó L, Goldfine AB, Ribas F, De Nigris V, Ribó S, et al. Dietary Betaine Supplementation Increases Fgf21 Levels to Improve Glucose Homeostasis and Reduce Hepatic Lipid Accumulation in Mice. Diabetes 2016. 65: 902-912. IF: 8,784 (Q1)
- Jimenez-Chillaron JC, Ramon-Krauel M, Ribo S, Diaz R. Transgenerational epigenetic inheritance of diabetes risk as a consequence of early nutritional imbalances. Proc. Nutr. Soc. 2016. 75: 78-89. IF: 4,703 (Q1)

Networks

- CIBERDEM

Neonatal physiopathology

Alfredo García-Alix, MD, PhD

Research in: Actors and causes that have an influence during the intrauterine, perinatal and neonatal periods.

Members

Senior researchers
Martin Iriondo, Isabel Iglesias, Marta Camprubi.
Researchers
Thais Agut, Ana Riverola, Africa Pertierra, Xavier Fanjul, Montse Izquierdo, Ana Martín Ancel
PhD students
Miguel Alsina Casanova, Ruth del Rio

Selected projects

- Diagnostic and prognostic application of the characterisation of neonatal arterial cerebral infarction with multimodal neuroimaging and lesion-behaviour mapping with voxel-based lesion-symptom maps. Instituto de Salud Carlos III (ISCIII). PI: Alfredo García-Alix Pérez. Jan 2016 – Dec 2018
- Intelligent monitoring of preterm neonatal patients hospitalised in intensive care units. Ministerio de Economía Y Competitividad (MINECO). PI: Ana Riverola De Veciana. Jan 2015 – Jan 2016
- Early biomarkers of the safety and effectiveness of nutritional support in extremely preterm infants (EPI). Instituto de Salud Carlos III (ISCIII). PI: Isabel Iglesias Platas. Jan 2014 – Mar 2017.
- Randomised, double-blind, placebo-controlled phase 3 study to assess the effectiveness and safety of a human monoclonal antibody, REGN2222, for prevention of hRSV infection under medical care in preterm infants. PI: Martin Iriondo Sanz. Nov 2015 –

Selected publications

- Alarcon A, Martinez-Biarge M, Cabañas F, Quero J, García-Alix A. A Prognostic Neonatal Neuroimaging Scale for Symptomatic Congenital Cytomegalovirus Infection. Neonatology 2016. 110: 277-285. IF: 2,754 (Q1)
- Boronat N, Aguar M, Rook D, Iriondo M, Brugada M, Cernada M, et al. Survival and Neurodevelopmental Outcomes of Preterms Resuscitated With Different Oxygen Fractions. Pediatrics 2016. IF: 5,196 (Q1)
- Del Río R, Ochoa C, Alarcon A, Arnáez J, Blanco D, García-Alix A. Amplitude Integrated Electroencephalogram as a Prognostic Tool in Neonates with Hypoxic-Ischemic Encephalopathy: A Systematic Review. PLoS One 2016. IF: 3,057 (Q1)
- Rodríguez-Fanjul J, Balcells C, Aldecoa-Bilbao V, Moreno J, Iriondo M. Lung Ultrasound as a Predictor of Mechanical Ventilation in Neonates Older than 32 Weeks.. Neonatology 2016. 110: 198-203. IF: 2,754 (Q1)

Networks

- BCNAtal

Vaccine-preventable diseases

Carmen Muñoz-Almagro, MD, PhD

Research in: epidemiologic surveillance of vaccine-preventable diseases, and diagnostic innovation.

Members

Senior researchers
Juan J Garcia-Garcia, Iolanda Jordan
Researchers
Cristian Launes, Pedro Brotons, Ana Valero-Rello
Postdoc–associate researchers
Mariona F de Sevilla, Cristina Esteva
Assistant researchers
Susana Hernandez, Maria Andres, Miguel García Fernández
PhD students
Miriam Triviño, Desiree Henares, Didac Casas-Alba
Technicians
Amaresh Pérez, Jesica Saucedo, Carles Cisneros
Collaborator researcher
Anny Camelo

Selected projects

- Research Group on Paediatric Infectious Diseases of the Centre for Biomedical Network Research on Epidemiology and Public Health (CIBERESP). Instituto de Salud Carlos II. PI: Carmen Muñoz-Almagro. Jan 2016 –
- Setting up a sentinel system to assess the burden of whooping cough in EU/EEA. Service Agreement. European Center of Disease Control (ECDC). PI: Overall consortium: Alain Moren, Epiconcept, France, Microbiological coordinator: Carmen Muñoz-Almagro. Mar 2016
- The Utility of the FilmArray Respiratory Panel Test for the Rational Use of Resources in the Pediatric Intensive Care Unit (PICU). BioFire Diagnostics, LLC. PI: Carmen Muñoz Almagro/Pedro Brotons. Jan 2016 – Jun 2017
- Multi-centre open randomised phase II/III study to determine the safety and effectiveness of solithromycin in adolescents (from 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. PI: Juan José García García. Sep 2016 –

Selected publications

- Brotons P, de Paz HD, Toledo D, Villanova M, Plans P, Jordan I, et al. Differences in Bordetella pertussis DNA load according to clinical and epidemiological characteristics of patients with whooping cough. J Infect. 2016 Apr;72(4):460-7. IF: 4,387(Q1)
- Del Amo E, Esteva C, Hernandez-Bou S, Galles C, Navarro M, Sauca G, et al.Serotypes and Clonal Diversity of Streptococcus pneumoniae Causing Invasive Disease in the Era of PCV13 in Catalonia, Spain. PLoS One. 2016 Mar 8;11(3):e0151125. IF: 3,057 (Q1)
- Godoy P, García-Cenoz M, Toledo D, Carmona G, Caylà JA, Alsedà M, et al. Transmission of Pertussis in Households Working Group.. Factors influencing the spread of pertussis in households: a prospective study, Catalonia and Navarre, Spain, 2012 to 2013. Euro Surveill. 2016 Nov 10;21(45).IF: 5,983 (Q1)
- Launes C, Casas-Alba D, Fortuny C, Valero-Rello A, Cabrerizo M, Muñoz Almagro C. Utility of FilmArray Meningitis/Encephalitis Panel during Outbreak of Brainstem Encephalitis Caused by Enterovirus in Catalonia in 2016. J Clin Microbiol. 2016 Dec 28;55(1):336-338. IF: 3,631 (Q2)

Networks

- CIBERESP
- SPIDNET
- PERTINENT

AIDS

Claudia Fortuny, MD, PhD

Research in: Economic factors associated with vertically transmitted infections and especially with HIV infection.

Members

PhD student
Ferran Bossacoma, Silvia Simó, Rute Efigemio
Collaborator researcher
Dra. Emilia Sanchez Ruíz. (Universitt Ramon LLull), Constanza Moren (IDIBAPS)

Selected projects

- Longitudinal study of the mutations of mitochondrial DNA in children exposed to HIV (infected and non-infected) and to antiretrovirals.. Instituto de Salud Carlos III (ISCIII). PI: Claudia Fortuny Guasch. Jan 2014 – Dec 2017.
- Randomised trial on antiretroviral treatment with dolutegravir (DTG) compared with standard treatment (ST) in children with HIV infection who begin first-line or second-line treatment. PI: Claudia Fortuny Guasch. Aug 2016 –
- Open multi-centre study to assess the pharmacokinetics, safety and effectiveness of ombitasvir (OBV), paritaprevir (PTV), ritonavir (RTV), with or without dasabuvir (DSV) and with or without ribavirin (RBV) in paediatric patients with chronic infection by hepatitis C virus (HCV) genotype 1 or 4 (ZIRCON). PI: Claudia Fortuny Guasch. Jan 2016 -
- Randomised multi-centre researcher-masked phase 3 study with parallel groups to investigate the safety and effectiveness of fidaxomicin in oral suspension or tablets every 12 hours, and vancomycin in oral solution or capsules every 6 hours for 10 days, in paediatric subjects with diarrhoea associated with Clostridium difficile.. PI: Claudia Fortuny Guasch. Jan 2015 -

Selected publications

- Deyà-Martínez À, Fortuny C, Soler-Palacín P, Neth O, Sánchez E, Martín-Nalda A, et al. A Marker for Inflammation and Renal Function Among HIV-infected Children and Adolescents. Pediatr Infect Dis J 2016. 35: 196-200. IF: 2,587(Q1)
- Falcon-Neyra L, Palladino C, Navarro Gómez ML, Soler-Palacín P, González-Tomé MI, De Ory SJ, et al. Off-label use of rilpivirine in combination with emtricitabine and tenofovir in HIV-1-infected pediatric patients: A multicenter study. Medicine (Baltimore) 2016. IF: 2,133(Q2)
- Rodà D, Rozas L, Fortuny C, Sierra C, Noguera-Julian A. Impact of the Increased Recommended Dosage of Isoniazid on Pyridoxine Levels in Children and Adolescents. Pediatr Infect Dis J 2016. 35: 586-589. IF: 2,587(Q1)
- Soriano-Arandes A, Noguera-Julian A, Fortuny C; NENEXP Cohort Study Group. Impact of immigration on HIV mother-to-child transmission in Western Europe. HIV Med. 2016 Dec 30. IF: 3,341 (Q2)

Networks

- 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

Tuberculosis

Antoni Noguera, MD, PhD

Adherence and toxicity associated with first-line anti-tuberculosis drugs in the paediatric age, on the pharmacokinetic characteristics of these drugs on newborns and pre-school children, on the new tuberculosis diagnostic techniques in healthy children, on children from high tuberculosis endemic areas and on immunosuppressed children, and on the clinical-epidemiological characteristics of tuberculosis in childhood in our areas

Members

Researchers
Maria Goretti López, Eneritz Velasco, Joan Vinent

Selected projects

- Open phase IIA clinical trial on absorption of a 10 mg/mL isoniazid suspension for the treatment of tuberculosis infection in patients under age 6 years. Instituto de Salud Carlos III (ISCIII). PI: Antoni Noguera Julián. Jan 2015 – Dec 2017
- Validation of the single daily dose of isoniazid at 10 mg/kg body weight in infants under age 3 months. Instituto de Salud Carlos III (ISCIII). PI: Antoni Noguera Julián. Jan 2014 – Dec 2017
- Multi-centre national retrospective-prospective study of the value of IGRAs in the diagnosis of adenitis by non-tuberculous mycobacteria, and of its different therapeutic approaches. PI: Antoni Noguera Julian. Jul 2015 – Jun 2018
- Diagnosis of tuberculosis infection in paediatric patients under treatment with tumour necrosis factor-alpha inhibitors: comparative study between the tuberculin test and IGRA tests. PI: Antoni Noguera Julian. Nov 2013 - Jun 2017

Selected publications

- De Luca A, Flandre P, Dunn D, Zazzi M, Wensing A, Santoro MM, et al. Improved darunavir genotypic mutation score predicting treatment response for patients infected with HIV-1 subtype B and non-subtype B receiving a salvage regimen. J Antimicrob Chemother 2016. 71: 1352-1360. IF: 4,919 (Q1)
- Falcon-Neyra L, Palladino C, Navarro Gómez ML, Soler-Palacín P, González-Tomé MI, De Ory SJ, et al. Off-label use of rilpivirine in combination with emtricitabine and tenofovir in HIV-1-infected pediatric patients: A multicenter study. Medicine (Baltimore) 2016. IF: 2,133 (Q2)
- Gianesin K, Noguera-Julian A, Zanchetta M, Del Bianco P, Petrara MR, Freguja R, et al. Premature aging and immune senescence in HIV-infected children. Aids 2016. 30: 1363-1373. IF: 4,407 (Q1)
- Gijón M, Bellusci M, Petraitiene B, Noguera-Julian A, Zilinskaite V, Sanchez Moreno P, et al. Factors associated with severity in invasive community-acquired Staphylococcus aureus infections in children: a prospective European multicentre study. Clin Microbiol Infect. 2016 Jul;22(7):643.e1-6. IF: 4,575 (Q1)

Networks

- Tuberculosis Trials Consortium (TBTC), de los CDC de Atlanta (EEUU); sub-investigador del site 31 (Barcelona)
- 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 Anton, MD, PhD

Immunologic mechanisms involved in primary and secondary immunodeficiencies, autoinflammatory diseases and paediatric systemic autoimmune disease.

Members

Senior resarcher
Laia Alsina
Researchers
Rosa Bou, Estibaliz Iglesias, Angela Deyà, Mónica Piquer, Judith Sánchez
Assistant researchers
Violeta Bittermann, Clara Gimenez
PhD students
Joan Calzada, Ana Esteve

Selected projects

- Study of mechanisms involved in the clinical expressivity of patients with heterozygous mutations in the MEFV gene. Spanish Rheumatology Foundation Grant.. Beca Sociedad Española de Reumatoogía pediàtrica. Beca Investigación Hospital Sant Joan de Déu - Esplugues HSJD. PI: Jordi Antón López. May 2016 – May 2019
- WINDBIOME_Aerial micro-biome diversity and their role in Kawasaki disease. Fundació Privada Daniel Bravo Andreu. PI: Jordi Antón López. Dec 2015 – Dec 2018
- Modulating factors of primary immunodeficiency with susceptibility to severe infections by intracellular organisms in paediatric age.. Instituto de Salud Carlos III (ISCIII). PI: Laia Alsina Manrique de Lara. Jan 2016 – Dec 2018
- Study of primary and secondary defects of the IL12-Interferon gamma-TNF alpha pathway with susceptibility to infection by intracellular microorganisms. Instituto de Salud Carlos III (ISCIII). PI: Laia Alsina Manrique de Lara. Jan 2013 – Jun 2017

Selected publications

- García-López R, de la Morena-Barrio ME, Alsina L, Pérez-Dueñas B, Jaeken J, Serrano M, et al. Natural Killer Cell Receptors and Cytotoxic Activity in Phosphomannomutase 2 Deficiency (PMM2-CDG). PLoS One 2016. IF: 3,057 (Q1)
- Jordan I, Balaguer M, Esteban ME, Cambra FJ, Felipe A, Hernández L, et al. Glutamine effects on heat shock protein 70 and interleukines 6 and 10: Randomized trial of glutamine supplementation versus standard parenteral nutrition in critically ill children. Clin. Nutr. 2016. 35: 34-40. IF: 4,487 (Q1)
- Sánchez-Manubens J, Antón J, Bou R, Iglesias E, Calzada-Hernandez J, and the Kawasaki Disease in Catalonia Working Group. Incidence, epidemiology and clinical features of Kawasaki disease in Catalonia, Spain. Clin. Exp. Rheumatol. 2016. 34: 139-144. IF: 2,495 (Q2)
- Ter Haar NM, Jeyaratnam J, Lachmann HJ, Simon A, Brogan PA, Doglio M, et al., Paediatric Rheumatology International Trials Organisation (PRINTO) and Eurofever. The Phenotype and Genotype of Mevalonate Kinase Deficiency: A Series of 114 Cases From the Eurofever Registry. Arthritis Rheumatol 2016. 68: 2795-2805. IF: 6,009 (Q1)

Clinical, cognitive and psychosocial bases of severe mental disorders

Susana Ochoa, MD, PhD

The evaluation of the clinical, psychosocial and neuropsychological characteristics of people with a severe mental disorder will allow us to identify more precisely the treatment needs in each case.

Members

Researchers
Ruth Cunill, Regina Vila, Núria del Cacho, María Trinidad Peláez, Marcia Irazabal, Jorge Cuevas, Hilari Andres, Gemma Escuder, Francisco Martínez, Emma Casas, Belen Ramos, Anna Butjosa, Alexandrina Foix, Sonia Vilamala

Selected projects

- Assessment of the treatment needs of users of the Psychosocial Rehabilitation Services, from the standpoint of the users themselves, their families and healthcare professionals.. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: Sonia Vilamala Anton. Feb 2013 – Dec 2016
- Effectiveness of individualised metacognitive training (MCT+) in patients with brief psychotic disorder. Instituto de Salud Carlos III (ISCIII). PI: Susana Ochoa Güerre. Jan 2015 – Dec 2017
- Ajut de recerca PSSJD - Antipsychotic treatment with secondary sexual and reproductive effects. Cross-sectional and follow-up study at 3 months. Beneficiary: Nuria del Cacho. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: Núria del Cacho Ortega. Sep 2013 – Oc 2016
- Longitudinal study of the evolution of the needs of subjects attended to in penitentiary psychiatric units. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: Gemma Escuder Romeva. Jan 2015 – Dec 2016

Selected publications

- Butjosa A, Gómez-Benito J, Huerta-Ramos E, Del Cacho N, Barajas A, Baños I, Usall J, Dolz M, Sánchez B, Carlson J, Maria Haro J, GENIPE group, Ochoa S. Incidence of stressful life events and influence of sociodemographic and clinical variables on the onset of first-episode psychosis.. Psychiatry Res 2016. 245: 108-115. IF:2,466 (Q2)
- Fusté M, Meléndez-Pérez I, Villalta-Gil V, Pinacho R, Villalmanzo N, Cardoner N, Menchón JM, Haro JM, Soriano-Mas C, Ramos B. Specificity proteins 1 and 4, hippocampal volume and first-episode psychosis.. Br J Psychiatry 2016. 208: 591-592. IF:7,060 (Q1)
- Núñez C, Ochoa S, Huerta-Ramos E, Baños I, Barajas A, Dolz M, Sánchez B, Del Cacho N, GENIPE Group, Usall J. Cannabis use and cognitive function in first episode psychosis: differential effect of heavy use.. Psychopharmacology 2016. 233: 809-821. IF:3,540 (Q1)
- Stephan-Otto C, Siddi, Sara, Cuevas Esteban, Jorge, Senior, Carl, García-Alvarez, R, Cambra Martí, Maria Rosa, Usall J, Brébion G. Neural activity during object perception in schizophrenia patients is associated with illness duration and affective symptoms. Schizophr Res 2016. 175: 27-34. IF:4,453 (Q1)

Networks

- CIBERSAM

Mental health interventions

Judith Usall, MD, PhD

The current pharmacological and psychological treatments are not effective in all the people who suffer schizophrenia. This research group conducts clinical trials on the treatment of resistant schizophrenia or schizophrenia with predominant negative pharmacological or psychological symptoms.

Members

Principal researchers
Sonia Vilamala, Raquel López, Marta Coromina, Maria Soledad Escobar, Mar García, M Elena Huerta, Gemma Escartin, Eva Miquel, Elia Vila, Elena Rubio, Belen Arranz, Adela Berrozpe, Ines Campo, Antoni Manuel Alba

Selected projects

- m-RESIST_Mobile Therapeutic Attention for Patients with Treatment Resistant Schizophrenia. European Commission. PI: Judith UsallRodie. Jan 2015 – Dec 2017
- Assessment of the effectiveness of community assertive treatment addressed to persons with severe mental disorder who are users of the Housing First programme. Beneficiaria: Inés Campo Ferreira. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: Alexandrina Foix Sanjuan. Sep 2015 – Sep 2017
- Aspects of the approach to patients with incipient psychosis relating to improved clinical and social prognosis one year after. Assessment of the Healthcare Park's new incipient psychosis programme. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: María Trinidad Peláez Martínez. Jan 2015 – Dec 2016
- Clinical and neurobiological determinants of second episodes of schizophrenia. Longitudinal study of first psychotic episodes. Instituto de Salud Carlos III (ISCIII).PI: Judith UsallRodie. Jan 2012 – Jun 2016

Selected publications

- Labad J, Martorell L, Huerta-Ramos E, Cobo J, Vilella E, Rubio-Abadal E, et al, RALOPSYCAT Group, Usall J. Pharmacogenetic study of the effects of raloxifene on negative symptoms of postmenopausal women with schizophrenia: A double-blind, randomized, placebo-controlled trial. EurNeuropsychopharmacol 2016. 26: 1683-1689. IF:4,409 (Q1)
- Rubio-Abadal E, Del Cacho N, Saenz-Navarrete G, Arranz B, Cambra RM, Cuadras D, et al, PROLACT Group. How Hyperprolactinemia Affects Sexual Function in Patients Under Antipsychotic Treatment. J ClinPsychopharmacol 2016. 36: 422-428. IF:3,000 (Q2)
- Rubio-Abadal E, Usall J, Barajas A, Carlson J, Iniesta R, Huerta-Ramos E, et al. Relationship between menarche and psychosis onset in women with first episode of psychosis. Early Interv.Psychiatry 2016. 10: 419-425. IF:2,889 (Q2)
- Usall J, Huerta-Ramos E, Labad J, Cobo J, Núñez C, Creus M, et al, RALOPSYCAT Group. Raloxifene as an Adjunctive Treatment for Postmenopausal Women With Schizophrenia: A 24-Week Double-Blind, Randomized, Parallel, Placebo-Controlled Trial. Schizophr Bull 2016. 42: 309-317. IF:7,757 (Q1)

Networks

- CIBERSAM

Cognitive and neurobiological correlates of psychotic and affective symptoms in severe mental disorder

Gildas Brebion, PhD

The line is mainly aimed at studying the relationship between mental disorder and cognition. Our research is based on cognitive and neuroimaging tests, both functional and structural.

Members

Group leader
Christian Stephan-Otto Attolini
Researchers
Christian Núñez Leánez
Collaborator researcher
Carl Senior (Aston University, UK)

Selected projects

- Miguel Servet tipo II - Beneficiario: Gildas Brébion. Instituto de Salud Carlos III (ISCIII). PI: Gildas Brebion. Jan 2016 – Jan 2019
- Neurofunctional bases of abnormal inner speech in verbal hallucinations. Instituto de Salud Carlos III (ISCIII). PI: Gildas Brebion. Jan 2015 – Jan 2017
- PSSJD research grant - Unusual Psychic Experiences and Jumping to Conclusions in the clinical and general populations. Beneficiari: Gildas Brevion. Parc Sanitari de Sant Joan de Déu -Serveis de Salut Mental. PI: Gildas Brebion. Feb 2014 – Dec 2016
- Miguel Servet - Hallucinations and Source Memory Impairment in Schizophrenia Patients and Non-Clinical Individuals. Beneficiary: Gildas Brebion. Instituto de Salud Carlos III (ISCIII). PI: Gildas Brebion. Jan 2010 – Jan 2016

Selected publications

- Brébion G, Stephan-Otto C, Ochoa S, Roca M, Nieto L, Usall J. Impaired Self-Monitoring of Inner Speech in Schizophrenia Patients with Verbal Hallucinations and in Non-clinical Individuals Prone to Hallucinations. Front. Psychol. 2016. 7: 1381-0. IF: 2,463 (Q1)
- Stephan-Otto C, Siddi S, Cuevas Esteban J, Senior C, García-Álvarez R, Cambra-Martí MR, Usall J, Brébion G. Neural activity during object perception in schizophrenia patients is associated with illness duration and affective symptoms. Schizophr Res 2016. 175: 27-34. IF: 4,453 (Q1)

Child and youth mental health research

Montserrat Dolz, MD, PhD

The general objective of our line of research is focused on the study of the clinic of different psychiatric disorders in childhood / adolescence, with special emphasis on neurodevelopmental disorders. Childhood onset psychosis • Attention deficit hyperactivity disorder (ADHD) • Autistic spectrum disorders.

Members

Senior researchers
Jordi Navarra, José Angel Alda, Josep Lluís Matalí, Eduard Serrano, Fernando Lacasa
Researchers
Mª Ángeles Mairena García, Maria Diez, Daniel Muñoz, Marta Pardo, Mar Alvarez
Assistant researchers
Jordina Tor, Ivan Cester
PhD students
Laura Puigerver, Claudia Caprile
Collaborator researcher
Montserrat Deportós

Selected projects

- Multi-centre longitudinal study of neurobiological markers of stress in children and adolescents with psychosis risk syndrome and transition to psychosis.. Instituto de Salud Carlos III (ISCIII). PI: Montserrat Dolz Abadia. Jan 2016 – Dec 2018
- Characterisation of the spatial recoding of acoustic pitch and intensity under normal and dysfunctional psychological conditions. Ministerio de Economía Y Competitividad (MINECO). PI: Jordi Navarra Ordoño. Jan 2016 – Dec 2018
- Placebo-controlled trial on subjects with high risk of psychosis compared with omega-3 fatty acids in Europe. PI: Montserrat Dolz Abadia. Dec 2016 –
- Influence of a mindfulness programme on the nuclear symptoms, executive functions and hypothalamus-hypophysis-adrenal axis (HPA) in children recently diagnosed with attention deficit hyperactivity disorder (ADHD). Beca de Recerca de l'Hospital Sant Joan de Déu. PI: J.A. Alda.

Selected publications

- Alda JA, Muñoz-Samons D, Tor J, Merchán-Naranjo J, Tapia-Casellas C, Baeza I, et al. Absence of Change in Corrected QT Interval in Children and Adolescents Receiving Antipsychotic Treatment: A 12 Month Study. J Child Adolesc Psychopharmacol 2016. 26: 449-457. IF: 2,149 (Q2)
- Butjosa A, Gómez-Benito J, Huerta-Ramos E, Del Cacho N, Barajas A, Baños I, et al. Incidence of stressful life events and influence of sociodemographic and clinical variables on the onset of first-episode psychosis. Psychiatry Res 2016. 245: 108-115. IF: 2,466 (Q2)
- Núñez C, Ochoa S, Huerta-Ramos E, Baños I, Barajas A, Dolz M, et al, GENIPE Group, Usall J. Cannabis use and cognitive function in first episode psychosis: differential effect of heavy use. Psychopharmacology 2016. 233: 809-821. IF: 3,540 (Q2)
- Rubio-Abadal E, Usall J, Barajas A, Carlson J, Iniesta R, Huerta-Ramos E, et al. Relationship between menarche and psychosis onset in women with first episode of psychosis. Early Interv. Psychiatry 2016. 10: 419-425. IF: 2,889 (Q1)

Networks

- CIBERSAM

Innovative interventions in Fibromyalgia

Juan Vicente, PhD

Research in: Cost-effectiveness of pharmacological and non-pharmacological treatments for fibromyalgia syndrome • Biomarkers of fibromyalgia syndrome • Process and mechanism oriented research in chronic pain • Psychometric analysis of patient-reported outcome measures in chronic pain patients.

Members

Postdoc–associate researcher
Albert Feliu-Soler
PhD Students
Adrián Pérez-Aranda, Laura Andrés-Rodríguez
Collaborator researchers
Antonio I. Cuesta-Vargas, Francesco D'Amico, Raffaelle Tuccillo, Rita Fernández-Vergel

Selected projects

- Miguel Servet Tipo I (Contrato) Beneficiario: Juan Vicente Luciano. Instituto de Salud Carlos III (ISCIII). PI: Juan Vicente Luciano Devis. Jan 2015 – Jan 2020
- 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). PI: Juan Vicente Luciano Devis. Jan 2015 – Dec 2017
- Neurobiological effects of a mindfulness-based intervention (MBSR) vs. a psychoeducational programme (FibroQol) in patients with fibromyalgia (EUDAIMON Project). Instituto de Salud Carlos III (ISCIII). PI: Juan Vicente Luciano Devis. Jan 2016 – Dec 2018

Selected publications

- Feliu-Soler A, Borràs X, Peñarrubia-María MT, Rozadilla-Sacanell A, D'Amico F, Moss-Morris R, et al. Cost-utility and biological underpinnings of Mindfulness-Based Stress Reduction (MBSR) versus a psychoeducational programme (FibroQoL) for fibromyalgia: a 12-month randomised controlled trial (EUDAIMON study). BMC Complement Altern Med 2016. 16: 81-0. IF:1,987 (Q1)
- Feliu-Soler A, Soler J, Luciano JV*, Cebolla A, Elices M, Demarzo M, et al. Psychometric properties of the spanish version of the nonattachment scale (NAS) and its relationship with mindfulness, decentering, and mental health. Mindfulness 2016. 7(5): 1156-1169. IF:3,317 (Q1)
- Gumà-Uriel L, Peñarrubia-María MT, Cerdà-Lafont M, Cunillera-Puertolas O, Almeda-Ortega J, Fernández-Vergel R, et al. Impact of IPDE-SQ personality disorders on the healthcare and societal costs of fibromyalgia patients: a cross-sectional study. BMC Fam Pract 2016. 17: 61-0. IF:1,641 (Q2)
- Luciano JV, Garcia Forero C, Cerdà Lafont M , Peñarrubia Maria MT, Fernández Vergel R, Ruiz JM, et al. Functional Status, Quality of Life, and Costs Associated With Fibromyalgia Subgroups: A Latent Profile Analysis. Clin. J. Pain 2016. 32: 829-840. IF:2,712 (Q2)

Networks

- Coordinator participates in the redIAPP

Paediatric Intensive Care Unit research projects group

Francisco José Cambra, MD, PhD

We seek to base our research projects on the crossover concept of the critical patient. The most interesting research lines to date have been in the field of respiratory and infectious pathology.

Members

Principal researchers
Iolanda Jordán, Martí Pons
Postdoc–associate researchers
Mónica Balaguer, Elisabet Esteban
PhD students
Carme Alejandre, Georgina Armero, Sergio Benito, Sara Bobillo, Patricia Corniero, Laura Escuredo, Aida Felipe, Elena Fresán, LLuïsa Hernández, Nuria Millán, Luciana Rodríguez, Susana Segura, David Vila
Collaborator researchers
Jordi Aguiló (UAB), Montserrat Esquerda (IBB)

Selected projects

- Immunogenicity and safety of a quadrivalent meningococcal conjugate vaccine in an investigation on children aged 12 to 23 months PI: Iolanda Jordán García. Dec 2016 –
- Hacia una red de área corporal para medir niveles de estrés. Instituto de Salud Carlos III (ISCIII). PI: Francisco José Cambra Lasaosa. Jan 2013 – Jun 2017
- Towards a body area network to measure stress levels. Analysis of a diagnostic algorithm of severe pneumonia in paediatric critical patients by pulmonary ultrasonography and procalcitonin as a plan for improvement of healthcare quality. PI16/01040. 2016-2019. PI: Iolanda Jordan.

Selected publications

- Aguilo J, Ferrer-Salvans P, Garcia-Rozo A, Armario A, Corbi A, Cambra FJ, et al. Cuantificacion del estrés: información incompleta más un exceso de triunfalismo. Rev Neurol 2016. 62: 335-336. IF: 0,684 (Q4)
- Balaguer M, Alejandre C, Vila D, Esteban E, Carrasco JL, Cambra FJ, Jordan I. Bronchiolitis Score of Sant Joan de Déu: BROSJOD Score, validation and usefulness. Pediatr Pulmonol. 2017 Apr;52(4):533-539. IF: 2,850 (Q1)
- Jordan I, Balaguer M, Esteban ME, Cambra FJ, Felipe A, Hernández L, et al. Glutamine effects on heat shock protein 70 and interleukines 6 and 10: Randomized trial of glutamine supplementation versus standard parenteral nutrition in critically ill children. Clin. Nutr. 2016. 35: 34-40. IF: 4,487 (Q1)
- Launes C, Esteban E, Balaguer M, Alsina M, Cambra FJ, Jordan I. Procalcitonin-guidance reduces antibiotic exposure in children with nosocomial infection (PRORANI). J Infect. 2016 Feb;72(2):250-3. IF: 4,382 (Q1)

Networks

- Multicenter study: prophylaxis against thrombosys practice (PROTRACT). Estudio multicéntrico internacional. Colaboración anual. Entidad financiadora: Universidad de Yale
- Groupe français respiratoire GFRUP: Estudio multicéntrico PEDIAPART (Radiologia en PICU)
- PALICC (Pediatric Acute Lung Injury Consensus Conference): PARDIE Estudio multicentrico sobre SDRA liderado por R Khemani. Redacción de "ancillary study about NIV in ARDS"
- Respiratory group of ESPNIC society : PEMVEEC (conferencia consensus expertos enVM) PEDNIVES (estudio epidemiologico de VNI liderado. y VESPER studies.

Influence of the environment on child and adolescent welfare

Carles Luaces, MD, PhD

Research in: epidemiologic and clinical factors of childhood accidents. Differential diagnosis of child mistreatment. Early detection and secondary prevention of social-health issues in adolescence: drugs, sexuality and violence. Impact of external agents (radiation, pollution, etc.) on child health. Improvement of paediatric patient care in medical visits.

Members

Senior researchers
Victoria Trenchs, Gemma Claret, Ana I Curcoy
Researchers
Lidia Martínez, Andrea Aldemira, Sergi Navarro
Assistant researchers
Marta Simó; David Muñoz-Santanach

Selected projects

- Open trial on subjects from age 6 to under 18 years with pain requiring extended-release opioid treatment, to assess the safety and effectiveness of tapentadol LP vs. morphine LP, followed by open expansion. PI: Sergi Navarro Vilarrubi. Nov 2014 –

Selected publications

- Alisic E, Hoysted C, Kassam-Adams N, Landolt MA, Curtis S, Kharbanda AB, et al. Psychosocial Care for Injured Children: Worldwide Survey among Hospital Emergency Department Staff. J Pediatr. 2016;170:227-233. IF: 3,890 (Q1)
- Claret Teruel G, Sole Ribalta A, , Gonzalez Balenciaga M, Paniagua Calzon NM, Korta Murua J. Degree of compliance with health care quality criteria in the treatment of lower airway obstruction in Spanish pediatric emergency departments, reasons for noncompliance, and recommendations for improvement. Emergencias 2016. 28: 167-172. IF: 2,917 (Q1)
- Martínez Sánchez L, Trenchs Sainz de la Maza V, Santibáñez BA, Nogué-Xarau S, Ferrer Bosch N, García González E, et al.. Impact of quality-indicator-based measures to improve the treatment of acute poisoning in pediatric emergency patients. Emergencias 2016. 28: 31-37. IF: 2,917 (Q1)
- Pascual C, Trenchs V, Hernández-Bou S, Català A, Valls AF, Luaces C. Outcomes and infectious etiologies of febrile neutropenia in non-immunocompromised children who present in an emergency department.. Eur J Clin Microbiol Infect Dis 2016. 35: 1667-1672. IF: 2,857(Q2)

Networks

- 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)

Foetal environment and obstetrical complication

M Dolores Gómez Roig, MD, PhD

Research in risk of loss of foetal welfare • Preterm delivery • Premature newborn • Foetal growth retardation.

Members

Researcher
Laura Almeida, Isidora Andujar, Carolina Esteve, Jaume Ignasi Miñano, Isabel Miró, Elisabet Palacios, M José Tojo
Postdoc – associate researcher
Silvia Irene Ferrero, Edda Marimon, Edurne Mazarico, Miriam Pérez, Joan Sabrià, Jose M Boguña, Sergio Cabré

Selected projects

- Assessment of prenatal exposure to abuse substances and environmental toxic substances in foetuses with intrauterine growth restriction and its influence on placental pathology. Hospital Sant Joan de Déu - Esplugues HSJD. PI: Maria Dolores Gómez Roig. Oct 2015 - Sep 2018
- SAMID NETWORK: Maternal-infantile and developmental health. Instituto de Salud Carlos III (ISCIII). PI: Maria Dolores Gómez Roig. Jan 2013 – Sep 2017
- SGR 2014: Maternal-foetal and neonatal medicine mixed group, Hospital Clínic de Barcelona and Hospital Sant Joan de Déu. Agaur - Agència de Gestió d'Ajuts Universitaris i de Recerca. PI: Maria Dolores Gómez Roig. Jan 2014 – Apr 2017
- Environmental Exposure And Fetal Growth Restriction. Sally Sabra, MD. Erasmus Mundus PhD in Fetal and Perinatal Medicine. Fetal i+D Fetal Medicine Research Center, IDIBAPS BCNatal. Barcelona Center for Maternal Fetal and Neonatal Medicine.Hospital Clínic and Hospital Sant Joan de Déu, University of Barcelona. PI : Dr.Maria Dolores Gomez Roig, Dr.Eduard Gratacós. Research line: Environmental and Obstetric Diseases. May 2015 -

Selected publications

- Fernández-Blanco L, Peguero A, Eixarch E, Oltra M, Mazarico E, Gómez Roig M, et al. EP13.01: Pregnancy and perinatal outcomes in a cohort of second trimester intrauterine growth restricted (IUGR) fetuses. Ultrasound Obstet Gynecol 2016. 48 Suppl 1: 320-0. IF: 4,254 (Q1)
- García B, Llurba E, Valle L, Gómez-Roig MD, Juan M, Pérez-Matos C, et al. Do knowledge of uterine artery resistance in the second trimester and targeted surveillance improve maternal and perinatal outcome? UTOPIA study: a randomized controlled trial. Ultrasound Obstet Gynecol 2016. 47: 680-689. IF: 4,254 (Q1)
- Gómez-Roig MD, Mazarico E, Cárdenas D, Fernandez MT, Díaz M, Ruiz de Gauna B, et al. Placental 11B-Hydroxysteroid Dehydrogenase Type 2 mRNA Levels in Intrauterine Growth Restriction versus Small-for-Gestational-Age Fetuses. Fetal Diagn Ther 2016. 39: 147-151. IF: 2,700 (Q1)
- Mazarico E, Martinez-Cumplido R, Díaz M, Sebastiani G, Ibáñez L, Gómez-Roig MD. Postnatal Anthropometric and Body Composition Profiles in Infants with Intrauterine Growth Restriction Identified by Prenatal Doppler. PLoS One 2016. IF: 3.057(Q1)

Networks

- Red SAMID-RETIC
- BCNatal

4
Cross-sectional Areas

Molecular biology and gene regulation of adipose tissue and its pathologies

Francesc Villarroya, PhD

Research in: Molecular and cellular biology of adipose tissue in relation to energetic metabolism and its pathologies • Molecular mechanisms of transcriptional control of adipocyte differentiation and metabolic and endocrine functions of adipose tissue in metabolic regulation by hormones and nutrients • Complex metabolic pathologies.

Members

Senior researchers
Roser Iglesias Coll, Teresa Mampel Astals, Marta Giralt Oms
Postdoc–associate researcher
Marion Peyrou, Aleix Gavaldà Navarro, Rubén Cereijo Pérez, Anna Planavila
PhD student
Celia Helena Rupérez Gonzalo, Samantha Morón Ros, Gemma Ferrer Curriu, Ricardo Moure Ortega, Tania Quesada López, Laura Campderrós Traver, Montserrat Cairò Calzada, Joan Villarroya
Technician
Mercedes Morales Rueda, Gemma Moreno Besora, Albert Però Garcia.

Selected projects

- Identificación y caracterización de nuevas cardiomioquinas: una nueva aproximación para el tratamiento y diagnóstico de la enfermedad cardíaca. Ministerio de Economia y Competitividad. PI: Ana Planavila Porta. Oct 2015 – Sep 2018
- Bases moleculares y celulares de las alteraciones en el sistema FGF23/alfa-Klotho en relación con las disfunciones óseas, adiposas y metabólicas en pacientes VIH. Ministerio de Economia y Competitividad. PI: Marta Giralt Oms. Jan 2015 – Dec 2017
- Identificación y caracterización de nuevos factores con acción sistémica y local responsables de los efectos metabólicos saludables de la activación del tejido adiposo marrón. Ministerio de Economia y Competitividad. PI: Francesc Villarrota Gombau. Jan 2015 – Dec 2017
- Implicación del sistema FGF21 en la cardiopatia asociada a obesidad. Fundación Banco Bilbao Vizcaya Argentaria (BBVA). PI: Francesc Villarrota Gombau. Dec 2014 – Dec 2017

Selected publications

- Cairó M, Villarroya J, Cereijo R, Campderrós L, Giralt M, Villarroya F. Thermogenic activation represses autophagy in brown adipose tissue. Int J Obes (Lond) 2016. 40: 1591-1599. IF: 5,337 (Q1)
- Giralt M, Cairó M, Villarroya F. Hormonal and nutritional signalling in the control of brown and beige adipose tissue activation and recruitment. Best Pract Res Clin Endocrinol Metab 2016. 30: 515-525. IF: 5,070 (Q1)
- Quesada-López T, Cereijo R, Turatsinze JV, Planavila A, Cairó M, Gavaldà-Navarro A, et al. The lipid sensor GPR120 promotes brown fat activation and FGF21 release from adipocytes. Nat Commun 2016. 7: 13479-0. IF: 11,329 (Q1)
- Redondo-Angulo I, Mas-Stachurska A, Sitges M, Giralt M, Villarroya F, Planavila A. C/EBPß is required in pregnancy-induced cardiac hypertrophy. Int J Cardiol 2016. 202: 819-828. IF: 4,638 (Q1)

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

Roser Gonzàlez, PhD

This group concerns monogenic disorders associated to different degrees of genetic heterogeneity, from those of lysosomal origin to retinitis pigmentosa. Our first aim was to identify new candidate genes, disease-causing mutations and to analyse the structural and functional features of the mutant alleles. As a continuation of our work, we aim to perform functional studies at the cellular and tissular level, the construction of animal models and new strategies for diagnosis and therapy.

Members

Senior researcher
Gemma Marfany Nadal
Postdoc–associate researcher
Rosa Andrés Ventura
PhD student
Marta de Castro Miró, Víctor Abad Morales, Mariona Esquerdo Barragán, Elena Borrego Domènech, Vasileios Toulis

Selected projects

- Modelos animales para las distrofias de retina: estrategias de edición genómica, fenotipado y nanoterapia. Ministerio de Economía y Competitividad. PI: Gemma Marfany. CoPI: Roser González Duarte. Dec 2016 – Dec 2019
- Conveni de col·laboració per al desenvolupament del projecte 'Construcción de un nuevo modelo de retinosis pigmentaria y estudio de su utilidad para ensayos de terapias neuroprotectoras'. Organización Nacional de Ciegos Españoles (ONCE). PI: Roser González Duarte. Aug 2016 – Aug 2017
- Contractes de recerca/servei diagnòstic. Tripartit entre FBG-UB, HSJD, Spark Therapeutics Inc. PI: Roser González Duarte. Nov 2016 – Oct 2020
- Dissecting protein trafficking in retinal neurodegeneration by super-resolution imaging on animal models and human iPSCs. Fundació La Marató de TV3. PI: Roser González Duarte. Jan 2015 – Dec 2017

Selected publications

- de Castro-Miró M, Tonda R, Escudero-Ferruz P, Andrés R, Mayor-Lorenzo A, Castro J, Ciccioli M, Hidalgo DA, Rodríguez-Ezcurra JJ, Farrando J, Pérez-Santonja JJ, Cormand B, Marfany G, Gonzàlez-Duarte R. Novel Candidate Genes and a Wide Spectrum of Structural and Point Mutations Responsible for Inherited Retinal Dystrophies Revealed by Exome Sequencing. PLoS One 2016. IF: 3,057 (Q1)
- Esquerdo M, Grau-Bové X, Garanto A, Toulis V, Garcia-Monclús S, Millo E, et al. Expression Atlas of the Deubiquitinating Enzymes in the Adult Mouse Retina, Their Evolutionary Diversification and Phenotypic Roles. PLoS One 2016. IF: 3,057 (Q1)
- Masoumi KC, Marfany G, Wu Y, Massoumi R. Putative role of SUMOylation in controlling the activity of deubiquitinating enzymes in cancer. Future Oncol 2016. 12: 565-574. IF: 2,129 (Q3)

Networks

- CIBERER- UNITAT 718 (Centro de Investigación Biomédica en Red- Enfermedades Raras)
- COST ACTION BM1307 - PROTEOSTASIS (Member of the Core Management Group) 2013-2018

Human molecular genetics II

Daniel Grinberg, PhD

Research in: Lysosomal Diseases • Costello Syndrome • Retinitis pigmentosa • Homocystinurias • Multiple Osteochondromatosis • Osteoporosis • Migraines • Autism • Attention Deficit Hyperactivity Disorder • Opitz C Syndrome.

Members

Researchers
Susana Balcells Comas, Bru Cormand Rifà, Lluïsa Vilageliu
Postdoc–associate researchers
Noelia Fernández Castillo, Bárbara Torrico Avilés, Roser Urreizti Frexedas,
PhD students
Neus Roca Ayats, Noelia Benetó Gandia, Núria Martínez Gil, Judit Cabana Domínguez, Laura Pineda Cirera, Anu Shivalikanjli
Technician
Mónica Cozar Morillo

Selected projects

- Genetics and epigenetics of psychiatric disorders: Autism Spectrum Disorders, Attention-Deficit/ Hyperactivity Disorder and Substance Use Disorders. Ministerio de Economia y Competitividad. PI: Bru Cormand Rifà. Jan 2016 – Dec 2018
- Sinergias en el estudio genético y la búsqueda de terapias para el síndrome de Opitz C, la fractura femoral atípica, la osteoporosis y enfermedades lisosomales. Ministerio de Economia y Competitividad. PI: Susana Balcells Comas. Jan 2016 – Dec 2019
- Comorbid Conditions of Attention-Deficit Hyperactivity Disorder (CoCA). Unió Europea (H2020). PI: Bru Cormand Rifà. Jan 2016 – Dec 2020
- Identificación de variantes, generación de modelos y ensayos terapéuticos en tres tipos de patologías genéticas: enfermedades lisosomales, osteoporosis y síndrome de Optiz C. Ministerio de Economia y Competitividad. PI: Daniel-Raul Grinberg Vaisman. Jan 2015 – Dec 2016

Selected publications

- Cabana-Domínguez J, Roncero C, Grau-López L, Rodríguez-Cintas L, Barral C, Abad AC, et al A Highly Polymorphic Copy Number Variant in the NSF Gene is Associated with Cocaine Dependence. Sci Rep 2016;6:31033. IF: 5,228 (Q1)
- Sintas C, Fernàndez-Castillo N, Vila-Pueyo M, Pozo-Rosich P, Macaya A, Cormand B. Transcriptomic Changes in Rat Cortex and Brainstem After Cortical Spreading Depression With or Without Pretreatment With Migraine Prophylactic Drugs. J Pain 2016. doi: 10.1016/j.jpain.2016.11.007 [Epub ahead of print]. IF: 4,463 (Q1)
- Urreizti R, Roca-Ayats N, Trepat J, Garcia-Garcia F, Aleman A, Orteschi D, et al. Screening of CD96 and ASXL1 in 11 patients with Opitz C or Bohring-Opitz syndromes. Am J Med Genet A 2016. 170A: 24-31. IF: 2,082 (Q3)
- Zayats T, Jacobsen KK, Kleppe R, Jacob CP, Kittel-Schneider S, Ribasés M, et al. Exome chip analyses in adult attention deficit hyperactivity disorder. Transl Psychiatry 2016; 6(10):e923. IF: 5,538(Q1)

Networks

- CIBERER
- GEFOS/GENOMOS (international consortium for the study of the genetic bases of osteoporosis)
- European Network and Registry for Homocystinurias and Methylation Defects
- IMpACT (International Multicenter Persistent ADHD Collaboration)
- IHGC (International Headache Genetics Consortium)
- PGC (Pschiatric Genomics Consortium)
- ECNP (European College of Neuropsychopharmacology) Network: ADHD across the lifespan

Molecular pharmacology and experimental therapies

Marçal Pastor-Anglada, PhD

Research in: Study of membrane proteins involved in mechanisms of regulation of cellular physiology • bioavailability and action of a wide range of drugs used in cancer therapy.

Members

Researcher
Sandra Pérez Torras
Assistant researchers
Clara Boces Pascual, Aida Mata Ventosa, Catalina Perelló Reus
PhD students
Albert Viel Oliva, Olga Casulleras Gras, Sandra Moro Villa, Hamsa Banjer, Liska Caviedes Cárdenas
Technicians
Nerea Urtasun Plans, Ingrid Iglesias-Garanto

Selected projects

- Disección funcional de las propiedades de las proteínas 'human concentrative nucleoside transporter' (hCNT). Ministerio de Economia y Competitividad. PI: Marçal Pastor Anglada. Jan 2015 – Dec 2017
- Papel del miRNoma tumoral en la expresión de transportadores de membrana implicados en el desarrollo de tumores digestivos. Evaluación de nuevas estrategias terapéuticas. Búsqueda de nuevos marcadores de Colangiocarcinoma. CIBER. PI: Sandra Pérez Torras. 2015 - 2016
- Farmacologia Molecular i Teràpies Experimentals (MPET). Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). PI: Marçal Pastor Anglada. Jan 2014 – Apr 2017
- Enfermedades Hepáticas y Digestivas. Ministerio de Sanidad y Consumo. PI: Marçal Pastor Anglada. Oct 2006 – Dec 2017

Selected publications

- Català A*, Pastor-Anglada M*, Caviedes-Cárdenas L, Malatesta R, Rives S, Vega-García N, Camós M, Fernández-Calotti P. FLT3 is implicated in cytarabine transport by human equilibrative nucleoside transporter 1 in pediatric acute leukemia. Oncotarget. 2016 Aug 2;7(31):49786-49799. IF: 5,5008 (Q1)
- Fernández-Calotti P, Casulleras O, Antolin M, Guarner F, Pastor-Anglada M. Galectin-4 interacts with the drug transporter human concentrative nucleoside transporter 3 to regulate its function.. FASEB J 2016. 30: 544-554. IF: 5,299 (Q1)
- Grañé-Boladeras N, Spring CM, Hanna WJ, Pastor-Anglada M*, Coe IR. Novel nuclear hENT2 isoforms regulate cell cycle progression via controlling nucleoside transport and nuclear reservoir. Cell Mol Life Sci 2016. 73: 4559-4575. IF: 5,694 (Q1)
- Pérez-Torras S, Iglesias I, Llopis M, Lozano JJ, Antolín M, Guarner F, Pastor-Anglada M. Transportome Profiling Identifies Profound Alterations in Crohn's Disease Partially Restored by Commensal Bacteria. J Crohns Colitis. 2016 Jul;10(7):850-9. doi: 10.1093/ecco-jcc/jjw042. IF: 6,585 (Q1)

Networks

- CIBER-EHD

Pharmacological targets in inflammation and metabolic diseases

Manuel Vázquez-Carrera, PhD

Research in: Search for new pharmacological targets susceptible of preventing or reducing pathologies with an inflammatory base such as insulin resistance and cardiomyopathy • molecular mechanisms by which monounsaturated fatty acids like oleic acid prevent chronic inflammation of low intensity and resistance to insulin.

Members

Researcher
F. Xavier Palomer Tarridas
Postdoc–associate researchers
Emma Barroso Fernández, Javier Pizarro Delgado, Lucía Peña Moreno
PhD students
Gaia Botteri, Mohammad Zarei, Marta Montori Grau, María Silvia Román Azcona

Selected projects

- Inflamación, resistencia a la insulina y cardiomiopatía diabética: evaluación de los agonistas PPARbeta/delta y del ácido oleico. Ministerio de Economia y Competitividad. PI: Manuel Vázquez Carrera. Jan 2016 – Dec 2018
- Diabetic cardiomyopathy: searching for a therapeutic target. Fundació La Marató de TV3. PI: Manuel Vázquez Carrera. Jan 2016 – Dec 2018
- Dianes farmacològiques en inflamació i malalties metabòliques. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). PI: Manuel Vázquez Carrera. Jan 2014 – Apr 2017
- Diabetes y enfermedades metabólicas. Ministerio de Sanidad y Consumo. PI: Manuel Vázquez Carrera. Oct 2007 – Dec 2017

Selected publications

- Palomer X, Barroso E, Zarei M, Botteri G, Vázquez-Carrera M. PPARß/d and lipid metabolism in the heart. Biochim Biophys Acta 2016. 1860: 1569-1578. IF: 2,590(Q2)
- Tan NS, Vázquez-Carrera M, Montagner A, Sng MK, Guillou H, Wahli W. Transcriptional control of physiological and pathological processes by the nuclear receptor PPARß/d. Prog Lipid Res 2016. 64: 98-122. IF: 11,238 (Q1)
- Vázquez-Carrera M. Unraveling the Effects of PPARß/d on Insulin Resistance and Cardiovascular Disease. Trends Endocrinol Metab 2016. 27: 319-334. IF: 8,964 (Q1)
- Zarei M, Barroso E, Leiva R, Barniol-Xicota M, Pujol E, Escolano C, Vázquez S, Palomer X, Pardo V, González-Rodríguez Á, Valverde ÁM, Quesada-López T, Villarroya F, Wahli W, Vázquez-Carrera M. Heme-Regulated eIF2 Kinase Modulates Hepatic FGF21 and Is Activated by PPAR/ Deficiency. Diabetes. 2016 Oct;65(10):3185-99. IF:8,784 (Q1)

Networks

- CIBERDEM

Microbiota intestinal

Laura Baldomà, PhD

Research in: Widening of the knowledge of the molecular mechanisms involved in the communication between the gut fl ora and the cells of the intestinal mucosa. Study of proteins secreted by bacteria and their function in the interaction with the host. Study of outer membrane vesicles (OMV) of commensal microbiota and probiotics as signallers in intestinal homeostasis.

Members

Researchers
Laura Aguilera Gil, Carina Shianya Álvarez Villagómez, Josefa Badia Palacín, M. Alexandra Cañas Pacheco, M. José Fábrega Fernández, Rosa Giménez Claudio

Selected projects

- Vesículas de membrana externa de microbiota y probióticos Gram-negativos como agentes modulares de la barrera intestinal y la respuesta inmunitaria. Ministerio de Economia y Competitividad. PI: Laura Baldomà Llavines. Dec 2016 – Dec 2019
- Conveni de col.laboració per dur a terme la recerca 'Estudio de la regulación del gen nhd de Escherichia Coli'. Universidad Nacional de Tucumán. PI: Laura Baldomà Llavines. May 2009 – May 2018

Selected publications

- Alvarez CS, Badia J, Bosch M, Giménez R, Baldomà L. Outer membrane vesicles and soluble factors released by probiotic Escherichia coli Nissle 1917 and commensal ECOR63 enhance barrier function by regulating expression of tight junction proteins in intestinal epithelial cells. Frontiers in Microbiology 2016. 7: 1981. IF: 4,165 (Q1)
- Cañas MA, Giménez R, Fábrega MJ, Toloza L, Baldomà L, Badia J. Outer membrane vesicles from the probiotic Escherichia coli Nissle 1917 and the commensal ECOR12 enter intestinal epithelial cells via clathrin-dependent endocytosis and elicit differential effects on DNA damage. PLoS One 2016. 11(8): e0160374. IF: 3,057 (Q1)
- Fábrega MJ, Aguilera L, Giménez R, Varela E, Cañas MA, Antolin M, Badia J, Baldomà,L. Activation of immune and defense responses in the intestinal mucosa by outer membrane vesicles of commensal and probiotic Escherichia coli strains. Frontiers in Microbiology 2016. 7: 705 IF: 4,165 (Q1)
- Pérez-Cruz C, Cañas MA, Giménez R, Badia J, Mercade E, Baldomà L, Aguilera L. Membrane vesicles released by a hypervesiculating Escherichia coli Nissle 1917 tolR mutant are highly heterogeneous and show reduced capacity for epithelial cell interaction and entry. PLoS One 2016.11(12): e0169186. IF: 3,057 (Q1)

Stem Cell and Neural Plasticity

Antonella Consiglio, PhD

Our laboratory is interested in adult neuroplasticity and regeneration in the brain. We are interested in understanding the function and the potential of these newly born cells in physiology and disease. The main goal pursued in our laboratory is to identify part of the multiple signals that are responsible for endogenous precursor division, differentiation, circuit integration and survival in different regions of the brain, and to validate the possibility to manipulate neural precursors toward therapeutic neuronal repopulation for the cure of different degenerative CNS pathologies.

Members

Postdoc – associate researcher
Neus Bayo
Assistant researchers
Irene Fernández, Armida Faella
PhD students
Giulia Carola, Angelique Di Domenico, Carles Calatayud

Selected projects

- Investigación de la patogénesis de la enfermedad de Parkinson mediante el uso de células madre humanas. Ministerio de Economia y Competitividad. PI: Antonella Consiglio. Jan 2014 – Dec 2016
- Elucidating early pathogenic mechanisms of neurodegeneration in Parkinson's disease through a humanized dynamic in vitro model (PD-HUMMODEL). Unió Europea. PI: Antonella Consiglio. Jul 2013 – Jun 2018

Selected publications

- Porlan E, Martí-Prado B, Antonella Consiglio and Fariñas I. Stable and Efficient Genetic Modification of Cells in the Adult Mouse V-SVZ for the Analysis of Neural Stem Cell Autonomous and Non-autonomous Effects. J Vis Exp 2016. : 53282-0. IF: 1,113 (Q2)

Neuropsychology

Maria Mataró, PhD

Our research has focused on cerebrovascular diseases and the neurobiological mechanisms underlying cognitive impairment and its recovery • Cerebrovascular disease and cognition • Neuroplasticity.

- 7 — Personal researcher
- 3 — Projects
- 7 — Publications with IF
- 25.8 — Points of impact factor
- 86% — First quartile publications

Members

Senior researchers
M. Ángeles Jurado Luque, Roser Pueyo Benito
Researcher
Xavier Caldú Ferrús
PhD Students
Júlia Ballester Plané, Olga Laporta Hoyos, Jonatan Ottino González

Selected projects

- Obesidad y sobrepeso: Correlatos neuronales a lo largo de la vida. Caracterización de redes neuronales. Ministerio de Economia y Competitividad. Jan 2014-Dec 2017. PI: M. Ángeles Jurado Luque
- Neuroplasticidad en la edad adulta: ejercicio físico y entrenamiento cognitivo. Ministerio de Economia y Competitividad. Jan 2014-Dec 2017. PI: Maria Mataró Serrat
- Entrenamiento ejecutivo en parálisis cerebral: participación, calidad de vida y conectividad cerebral. Ministerio de Economia y Competitividad. Jan 2014-Dec 2017. PI: Roser Pueyo Benito

Selected publications

- Ariza M, Cuenca N, Mauri M, Jurado MA, Garolera M. Neuropsychological performance of young familial hypercholesterolemia patients. Eur J Inter Med 2016. e29-e31. IF:2,591 (Q1)
- Laporta-Hoyos O, Ballester-Plané J, Póo P, Macaya A, Meléndez M, Vázquez E, et al. Proxy-reported quality of life in adolescents and adults with dyskinetic cerebral palsy is associated with executive functions and cortical thickness. Qual Life Res 2016. 1-14. IF: 2,429 (Q1)
- Mauri M, Cuenca N, Borrallo NM, Romero E, Ottino J, García-García I, et al. Episodic memory performance in young adults with familial hypercholesterolemia. Atherosclerosis 2016. IF: 3,942 (Q1)
- Stillman CM, Watt JC, Grove GA, Wollam ME, Uyar F, Mataro M, et al. Physical activity is associated with reduced Implicit learning but enhanced relational memory and executive functioning in young adults. PLoS One 2016. IF:3,057 (Q1)

Cognitive neuroscience

Carles Escera, PhD

Research in: Neurobiological and genetic mechanisms of auditory cognition and their alteration in neurodevelopmental disorders • Eye movements as diagnostic tool for visual perception and attention deficits • Cerebral mechanisms executive function and predictive processing in sensorio-motor interactions.

Members

Senior researchers
Maribel Núñez Peña, Hans Supèr
Researchers
M. José Corral López, Iria San Miguel Insúa, Immaculada Clemente Lapena, Marc Via Garcia
Postdoc–associate researchers
Raffaele Cacciaglia, Miriam Cornella Griful
PhD students
Lenka Selinger, Natàlia Gorina, Alejandro Lerer

Selected projects

- Contribución subcortical a la cognición auditiva. Ministerio de Economia y Competitividad Jan 2016 – Dec 2018. IP: Carles Enric Escera Mico
- Ajut per incentivar i consolidar la recerca d'excel•lència ja existent a les universitats públiques de Catalunya. Programa ICREA Academia 2015. Fundació Institució Catalana de Recerca i Estudis Avançats (ICREA). Jan 2016 – Dec 2020. PI: Carles Enric Escera Mico
- Ansiedad matemática: el papel de la habilidad de procesamiento espacial. Ministerio de Economia y Competitividad. Jan 2016 – Dec 2019. PI: M Isabel Nuñez Peña
- Development of improvment attention measures by novel eye tracking technology. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Jan 2016 – Dec 2019. IP: Hendrik Anne Supe

Selected publications

- Gorina-Careta N, Zarnowiec K, Costa-Faidella J, Escera C. Timing predictability enhances regularity encoding in the human subcortical auditory pathway. Sci Rep 2016. 6: 37405-0. IF: 5,228 (Q1)
- López-Caballero F, Zarnowiec K, Escera C. Effects of deviant probability on middle-latency evoked potential correlates of deviance detection. Biol Psychol 2016. 120:1-9. IF: 3,234(Q1)
- Selinger L, Zarnowiec K, Via M, Clemente IC, Escera C. Involvement of the Serotonin Transporter Gene in Accurate Subcortical Speech Encoding. J Neurosci 2016. 36: 10782-10790. IF: 5,924 (Q1)
- Timm J, Schönwiesner M, Schröger E, SanMiguel I. Sensory suppression of brain responses to self-generated sounds is observed with and without the perception of agency. Cortex 2016. 80: 5-20. IF: 4,314 (Q1)

Developmental neuroscience

Laura Bosch, PhD

Research in: Speech perception • Language learning • Cognitive development • Bilingualism •Audiovisual language processing • Development of attention.

Members

Senior researchers
Ferran Pons Gimeno
Postdoc–associate researchers
Marta Ramon Casas, Clément François
PhD students
Maria Teixidó Ibáñez, Joan Birulé Muntané
Technician
Jorgina Solé Montoliu

Selected projects

- Conveni de col•laboració per una recerca sobre l'adquisició del llenguatge en menors multilingües. St. Peter's School. Nov 2016 – Sep 2017. PI: Ferran Pons Gimeno
- Dinamica par segmentar el habla continuo en recien nacidos a termino y prematuros. Ministerio de Economia y Competitividad. Jan 2016 – Dec 2017. PI: Clement Francois
- Multimodal information at the start of language learning: use of audiovisual keys in normal/ typical development and in neurocognitive risk populations. Ministerio de Economia y Competitividad. Jan 2015 – Dec 2017. PI: Laura Bosch Galceran

Selected publications

- François, C, Ripollés P, Bosch L, García-Alix A, Muchart J, Sierpowska J, et al A. Language learning and brain reorganization in a 3-year-old child with left perinatal stroke revealed using structural and functional connectivity. Cortex 2016. 95-118. IF: 4,314 (Q1)
- de Diego-Balaguer R, Martinez-Alvarez A, Pons F. Temporal attention as a Scaffold for Language Development. Front Psychol 2016. 7:44. IF:2,463 (Q1)
- Ramon-Casas M, Fennell CT, Bosch L. Minimal-pair word learning by bilingual toddlers: the Catalan /e/-// contrast revisited. Biling-Lang Cong 2016. 16: 32-48. IF:2,330 (Q1)
- De Anda S, Bosch L, Poulin-Dubois D, Zesiger P, Friend M. The Language Exposure Assessment Tool: Quantifying language exposure in infants and children. J Speech Lang Hear R 2016. FI: 1,526 (Q2)

Bioinformatics and data analysis platform

Pere Caminal, PhD

It is considered essential to propose a platform for the analysis of data in the broadest sense, including bioinformatics and biosignals. The goal is to establish a bioinformatics platform for the IR-SJD with a twofold aim: to provide the set of research groups with support on massive data analysis and to carry out an active programme of research, providing added value to the platform.

Members

Researchers
Raul Benítez, Jesús Escrivá, Giovana Elizabeth Gavidia, Pedro Gomis, Maria Maqueda, Xavier Marimon, Alexandre Perera, Sergi Picart, Alexander Vallmitjana, Montserrat Vallverdú

Selected projects

- Serious Games on Heart Failure patients. Estimation of their benefits on the Spanish Health System. MINECO. Jan 2014 – Sep 2015.
- Impacto del entrenamiento en deportistas de élite en la función cardíaca, regulación neural y regulación genètica asociada. MINECO. Jan 2015 – Dec 2017.
- Bioinformatics and biomedical signals laboratory", AGAUR. Jan 2014 – Dec 2016.
- Atenció personalitzada del malalt crònic en un marc de salut digital (NEXTCARE). Comunitat RIS3CAT: Innovació en Salut. 2016-2019.

Selected publications

- Arcentales A, Rivera P, Caminal P, Voss A, Bayés-Genis A, Giraldo B. Analysis of blood pressure signal in patients with different ventricular ejection fraction using linear and non-linear methods", Engineering in Medicine and Biology 2016: 2700-2703. IF: 2,727 (Q1)
- Bolaños JD, Vallverdú M, Caminal P, Borrat X, Gambús PL, Valencia JF. Assessment of sedation-analgesia by means of Poincaré analysis of the electroencephalogram. Engineering in Medicine and Biology 2016: 6425-6428. IF: 2,727 (Q1)
- Valencia JF, Melia U, Vallverdú M, Borrat X, Jospin M, Jensen EW, Porta A, Gambús PL, Caminal P. Assessment of Nociceptive Responsiveness Levels during Sedation-Analgesia by Entropy Analysis of EEG. Entropy 2016. 18: 103. IF: 1,743 (Q2)
- Vargas C, Burgos F, Cano I, Blanco I, Caminal P, Escarrabill J, Gallego C, Llauger MA, Miralles F, Solans O, Vallverdú M, Velickovski F, Roca J. Protocol for Regional Implementation of Collaborative Lung Function Testing". npj Primary Care Respiratory Medicine 2016. 26: 16024. IF: 1,447 (Q3)

Medical imaging, 3D printing and serious games for diagnosis and rehabilitation

Daniela Tost, PhD and Lluis Solano, PhD

Support for the rapid prototyping of serious games for the performance of short-term experimental studies, the development of a web platform of speech rehabilitation, and support for the development of a series of serious games targeted at the assessment of eating habits and to the acquisition of knowledge for patients with childhood diabetes. Provision of a service for reconstruction of 3D models based on medical imaging and rapid prototyping with 3D printers.

Members

Researchers
Dolors Ayala, Núria Bonet, Jose Luis Eguía, Robert Joan, Núria Pla, Lluis Solano, Marc Vigo, Ariel von Barnekow

Selected projects

- Personatges en Joc: una sèrie de jocs educatius sobre història de Catalunya. Departament d'Educació de la Generalitat de Catalunya, projecte renovat anualment des de 2009. PI: Lluís Solano
- SeniorLudens: serious games for intergenerational knowledge transfer. EU Ambient-Assisted-Living AAL-2013-6-039. Mar 2014 – Oct 2016. PI: Dani Tost.
- ADALT: Aplicació gamificada de recollida d'informació i reforç motivacional de la rehabilitacio d'un braç parètic. EureCAT. Jun 2016 – Jun 2016

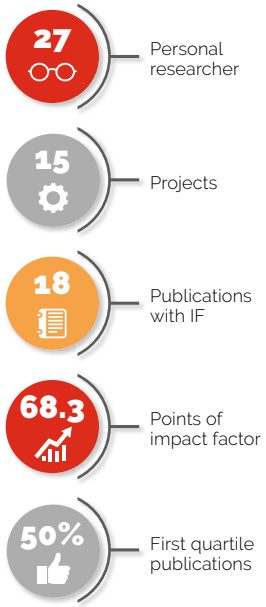
Selected publications

- Bonet N, Tost D, Barnekow A, von Gomar C, Mata M. Design and implementation of a 3D serious game for training of the cardiopulmonary bypass management. British Journal of Surgery 2016. 103 (S1): 2. IF: 5,596 (Q1)
- Contreras E, Ruth S, Eguia JL, Solano Ll. Investigación-acción como metodología para el diseño de un serious game. RIED, Revista Iberoamericana de Educación a Distancia 2016. 19: 71. I
- Eguia JL, Contreras E, Ruth S, Solano Ll. Involucrando a profesores de primaria en el diseño de un juego serio mediante la metodología investigación-acción y co-creación. RISTI Revista lbérica de Sistemas y Tecnologías de Información 2016. 20:115-130.
- Moya S, Tost D, Barnekow A, Félix E. SKETCH'NDO: A framework for the creation of task-based serious games. Journal of visual languages and computing 2016. (34-35): 1-10. IF: 0,634 (Q3)

Biomaterials and tissue engineering

Maria Pau Ginebra, PhD

Support for the development of controlled drug-release systems (antineoplastics and antibiotics), for the functionalisation of surfaces and specifi cally metal surfaces intended for implants, and for the development of atmospheric plasma treatments which allow cancer cells to be selectively destroyed without harm to surrounding tissues.



Members

Researchers
Albert Barba, Judit Buxadera, Cristina Canal, Anna Díez, Montserrat Español, Roberta Fraioli, F Xavier Gil, Jordi Guillem Martí, Mireia Hoyos, Kanupriya Khurana, Cédric Labay, José María Manero, Carles Mas, Marta Pegueroles, Daniel Rodríguez, Elisa Rupérez, Joanna Maria Sadowska, Romain Hugues Marie, Èlia Vidal, Zhitong Zhao, Clara Sandino
Technicians
Marc Avilés, Meritxell Molmeneu, Mònica Ortiz, Miquel Punset, Sergi Torrent

Selected projects

- APACHE: Atmospheric Pressure Plasma meets biomaterials for bone cancer healing. Agencia Financiadora: European Research Council. Starting Grant: Proposal 714793 – APACHE. PI: Cristina Canal. 2017-2021.
- Femoral head osteonecrosis treatment with advanced cell therapy and biomaterials in an experimental sheep animal model. Agencia Financiadora: Fundació La Marató de TV3. PI: Maria Pau Ginebra (Subproyecto) (Coordinator: Dr. Màrius Aguirre Canyadell, Hospital Vall d'Hebrón). 2013-2016
- Print4Life: "Novel bioprinting strategies for bone regeneration cáncer therapies". Agencia Financiadora: MINECO (Ministerio de Economía y Competitividasd). Gobierno de España. PI: Maria Pau Ginebra and Cristina Canal. 2016-2019
- AdvantOss: "Recubrimientos osteoinductivos y antimicrobianos avanzados para mejorar la osteointegración de biomateriales en patologías osteopóricas y diabéticas". Agencia Financiadora: MINECO (Ministerio de Economía y Competitividasd). Gobierno de España. PI: José María Manero. 2016-2018

Selected publications

- Espanol M, Mestres G, Luxbacher T, Dory JB, Ginebra MP. Impact of Porosity and Electrolyte Composition on the Surface Charge of Hydroxyapatite Biomaterials. ACS Appl. Mater. Interfaces 2016. 8 (1): 908–917. IF: 7,145 (Q1)
- Fraioli R, Dashnyam K, Kim JH, Perez RA, Kim HW, Gil J, Ginebra MP, Manero JM, Mas-Moruno C. Surface guidance of stem cell behavior: Chemically tailored co-presentation of integrin-binding peptides stimulates osteogenic differentiation in vitro and bone formation in vivo. Acta Biomaterialia 2016. 43: 269–281. IF: 6,008 (Q1)
- Hoyos-Nogués M, Brosel-Oliu S, Abramova N, Muñoz FX, Bratov A, Mas-Moruno C, Gil FJ. Impedimetric antimicrobia lpeptide-based sensor for the early detection of periodontopathogenic bacteria. Biosensors and Bioelectronics 2016. 86: 377–385. IF: 7,476 (Q1)
- Zhao Z, Espanol M, Guillem-Marti J, Kempf D, Diez-Escudero D, Ginebra MP. Ion-doping as a strategy to modulate hydroxyapatite nanoparticle internalization. Nanoscale 2016. 8: 1595-1607. IF: 7,760 (Q1)

Processing and interpretation of biomedical signals

Miguel Mañanas, PhD

Analysis and interpretation of signals of cerebral origin obtained by means of non-invasive techniques such as electroencephalography (EEG) and magnetoencephalography (MEG). Analysis of signals of muscular origin as a tool for motor diagnosis and rehabilitation. Modelling and simulation of the respiratory system in order to predict the ventilatory response to different respiratory stimuli and in various conditions which may be the result of pulmonary disorders.

Members

Researchers
Joan Francesc Alonso, Sergio Romero

Selected projects

- Cost effective self-management of urinary incontinence addressed to women across Europe (WOMEN-UP). European Comission. PI: Miguel Ángel Mañanas. 2015-2018
- System of clinical response indexes based on EEG for the evaluation of cognitive psicostimulation for the Alzheimer disease (Recognition of researchers and cultural creators in their intermediate stages of their career). MINECO (Ministerio de Economía y Competitividasd). Gobierno de España. PI: Miguel Ángel Mañanas. 2016-2018

Selected publications

- Jordanic M, Rojas M, Mañanas MA and Alonso JF. Spatial distribution of HD-EMG improves identification of task and force in patients with incomplete spinal cord injury. J Neuroeng Rehabil 2016. 13: 41-0. IF: 2,419(Q1)
- Marateb HR, Farahi M, Rojas M, Mañanas MA and Farina D. Detection of Multiple Innervation Zones from Multi-Channel Surface EMG Recordings with Low Signal-to-Noise Ratio Using Graph-Cut Segmentation. PLoS One 2016 . IF: 3,057(Q1)
- Serna, Leidy Y, Mañanas MA, Marin, Jesus, Mauricio Hernandez, Alher and Benito, Salvador. Optimization techniques in respiratory control system models. Appl Soft Comput 2016. 48: 431-443. IF: 2,857(Q1)
- Valle M, Maqueda M, Rabella M, Rodríguez-Pujadas A, Antonijoan RM, Romero S, Alonso JF, Mañanas MA, Barker S, Friedlander P, Feilding A and Riba J. Inhibition of alpha oscillations through serotonin-2A receptor activation underlies the visual effects of ayahuasca in humans. EUR NEUROPSYCHOPHARM 2016. 26: 1161-1175. IF: 4,409(Q1)

Instrumentation and bioengineering

Francisco Javier Rosell, PhD

Design and characterisation of medical and biotechnological instrumentation, of ultrasonic transducers, and of control and monitoring equipment; redesign of equipment and facilities. Guidance on the eff ect of non-ionising radiations and on compliance with EMC and electrical safety standards and directives.

Members

Researchers
Ramon Bragós, Mireya Fernández, Miquel Angel García, Miguel J García, Tomás García, Lexa Nescolarde, Juan Ramos, Pere Joan Riu

Selected projects

- A novel myocardial impedance mapping system for ablation of postinfarction ventricular arrhythmias in humans. Fundació La Marató de TV3. 2016 – 2018. PI: Joan Cinca and Javier Rosell
- Desarrollo traslacional de un nuevo sistema de mapeo de la impedància eléctrica del miocardio para la ablación por catèter de las arritmias ventriculares en pacientes con infarto de miocardio. Instituto de Salut Carlos III. Jan 2016 – Dec 2017
- Desarrollo preclínico de una nueva técnica para guiar la ablación eléctrica de las arritmias ventriculares en pacientes con infarto crónico mediante bioimpedancia.. Instituto de Salut Carlos III. Jan 2014 – Dec 2016. PI: Juan Cinca Cuscullola.
- Desarrollo de métodos de medida del nivel de esfuerzo/recuperación en la práctica de ejercicio físico, basados en la actividad cardiovascular, temperatura y respiración. Ministerio de Economía y Competitividad. Jan 2016 – Dec 2018

Selected publications

- Amoros G, Jorge E, García-Sánchez T, Bragos R, Rosell F, Cinca J. Recognition of fibrotic infarct density by the pattern of local systolic-diastolic myocardial electrical impedance. Frontiers in Physiology 2016. 7: 1-10 IF: 2,463 (Q1)
- Jorge E, Amoros G, García-Sánchez T, Bragos R, Rosell F, Cinca J. Early detection of acute transmural myocardial ischemia by the phasic systolic-diastolic changes of local tissue electrical impedance. American journal of physiology. Heart and circulatory physiology 2016. 310 (3): h436-h443. IF: 3,324 (Q2)
- Nescolarde L, Lukaski H, De Lorenzo A, de Mateo-Silleras B, Redondo del Río M, Caminal A. Different displacement of bioimpedance vector due to Ag/AgCl electrode effect. European journal of clinical nutrition 2016. 70 (12): 1401-1407 IF: 2,935 (Q2)
- Sánchez B, Li J, Geisbush T, Bragos R, Rutkove S. Impedance alterations in healthy and diseased mice during electrically induced muscle contraction. IEEE transactions on biomedical engineering 2016. 63 (8): 1602-1612. IF: 2,468 (Q2)

Robotics and Vision

Alicia Casals, PhD

Guidance on process automation, adaptation and robotisation of facilities, and on diff erent types of facilities, development of vision systems for inspection and guiding of robots, development of image processing systems, design of mobile robots (intelligent walkers, prams, ...), and study and design of technical aids for persons with physical and sensory disabilities, as well as guidance on and development of advanced control systems.

Members

Researchers
Joan Aranda, Antonio Benedico, Josep Fernández, Enric Xavier Martín, Carlos Morata, Laureano Tinoco, Antonio Martínez

Selected projects

- Estrategias distribuidas de control y cooperación personas-robot en entornos asistenciales. Ministerio de Economía, Industria y Competitividad. 2016 – 2018. PI: Alícia Casals
- Nuevas tecnologías de alta precisión en medicina y cirugía fetal: Robótica. Fundació Cellex i Fundació La Caixa. 2015 – 2018. PI: Alícia Casals
- Avaluació clínica d'un robot quirúgic . RobSurgical Systems SL . 2016 – 2018. PI: Alícia Casals
- Desenvolupament d'un sistema robòtic de baix cost d'ajut a la rehabilitació de la marxa per a nens amb trastorns motors greus". Programa recercaixa. PI: Alícia Casals

Selected publications

- Avilés AI, Alsaleh SM, Hahn JK, Casals A. Towards Retrieving Force Feedback in Robotic-Assisted Surgery: A Supervised Neuro-Recurrent-Vision Approach. IEEE Transactions on Haptics 2016. IF:1,031 (Q3)
- López-Larraz E, Trincado-Alonso F, Rajasekaran V, Pérez-Nombela S, del-Ama AJ, Aranda J, et al. Control of an Ambulatory Exoskeleton with a Brain–Machine Interface for Spinal Cord Injury Gait Rehabilitation. Front. Neurosci 2016. 10: 359. IF:3,398 (Q2)
- Pla M, Altay G, Giralt X, Casals A, Samitier J. Automation of nanoliter immunoassays using a microarray processing station (MPS) integrated on a commercial microarrayer. Biomedical microdevices 2016. 18:64. IF: 2,227 (Q2)
- Rajasekaran V, Aranda J, Casals A. User intention driven adaptive gait assistance using a wearable exoskeleton. Advances in Intelligent Systems and Computing 2016. 418: 289-301. IF:-- (Q--)

Medical radiophysics

Mercè Ginjaume, PhD

Trials and calibration of photon radiation and beta radiation measuring systems, guidance on aspects relating to dosimetric applications of radiations, development of methodologies for the optimisation of the exposure of healthcare personnel when they take part in radiology and interventionist cardiology tasks, estimation of radiation dose in computed tomography, radiology and paediatric cardiology.

Members

Researchers
Maria Amor Duch, Youri Alexandre Koubychine, Xavier Ortega, Josep Sempau

Selected projects

- Calibratge d'equips de mesura de radiacions ionitzants. Trescat S.A. 2016 – 2018. PI: Mercè Ginjaume
- Dosimetría en piel en técnicas de IMRT y SBRT – coordinat per l'Hosp. Santa Creu i Sant Pau. Asociación Española Contra el Cáncer. 2016 – 2018. PI: Mercè Ginjaume
- Irradiacions de dosímetres per a la caracterització del sistema de dosimetria personal del centre de dosimetria, S.L. Centre de Dosimetria S.L. 2016 – 2018. PI: Mercè Ginjaume
- Ajut grup de recerca consolidat" Grup de dosimetria i radiofísica mèdica-2014. SGR846 Generalitat de Catalunya. 2014 - 2016. PI: J. Sempau
- European Training and Education for Medical Physics Experts in Radiology, EUTEMPE-RX. Programa Europeu. 2013 – 2016. PI: J. Sempau
- COST Action: Innovative methods in radiotherapy and radiosurgery using synchrotron radiation. Programa Europeu. 2013 – 2017. PI: J. Sempau

Selected publications

- Clairand I, Ginjaume M, Vanhavere F, Carinou E, Daures J, Denoziere M, Silva EH, Roig M, Principi S, Van Rycheghem L. First eurados intercomparison exercise of eye lens dosemeters for medical applications. Radiat Prot Dosimetry 2016. 170(1-4):21-26. IF: 0,894(Q3)
- Gultresa J, Llansana J, Roig M, Ginjaume M. A practical approach to perform the isotropy test for extremity dosemeters. Radiat Prot Dosimetry 2016. 170(1-4):95-99. IF: 0,894(Q3)
- Principi S, Farah J, Ferrari P, Carinou E, Clairand I, Ginjaume M. The influence of operator position, height and body orientation on eye lens dose in interventional radiology and cardiology: Monte Carlo simulations versus realistic clinical measurements. Phys Med. 2016. 32(9):1111-1117. IF: 1,763 (Q3)
- Principi S, Guardiola C, Duch MA, Ginjaume M. Air Kerma to HP(3) conversion coefficients for IEC 61267 RQR X-RAY radiation qualities: application to dose monitoring of the lens of the eye in medical diagnostics. Radiat Prot Dosimetry 2016. 170(1-4):45-48. IF: 0,894(Q3)

Biomechanical Engineering

Josep Maria Font, PhD

Kinematic and dynamic measurements of human movement in the biomechanics laboratory, dynamic analysis of human movement, mechanical design of care and rehabilitation devices.

Members

Researchers
Ana Barjau, Daniel Clos, Rosa Pàmies, Gil Serrancolí, Mireia Claramunt, Míriam Febrer, Belén Hidalgo, Pau Martínez, Anna Muño, Florian Stuhlnmiller

Selected projects

- Low-cost motor-FES hybrid orthosis for the gait of spinal cord injured subjects and simulation methods to support the design and adaptation (HYBOR). Spanish Ministry of Economy and Competitiveness (MINECO). Jan 2016 – Dec 2018. PI: Josep M. Font-Llagunes
- Activities of Daily Augmented Living Toolkit (ADALT). Technological Center Eurecat. Apr 2016 – Dec 2017. PI: Josep M. Font-Llagunes
- Comparative study of postoperative gait in subjects with total hip arthroplasty (HIPART). Medcom Tech, S.A. Mar 2016 – Dec 2016. PI: Josep M. Font-Llagunes
- Design of an innovative gait-assistive active orthosis for spinal cord injured subjects based on motion analysis and prediction methods and complex musculoskeletal models. Spanish Ministry of Economy and Competitiveness (MINECO). Jan 2013 – Dec 2015. PI: Josep M. Font-Llagunes

Selected publications

- García-Vallejo D, Font-Llagunes JM, Schiehlen W. Dynamical analysis and design of active orthoses for spinal cord injured subjects by aesthetic and energetic optimization. Nonlinear Dynamics 2016. 84(2): 559-581. IF: 3,000 (Q1)
- Romero F, Alonso FJ, Gragera C, Lugrís U, Font-Llagunes JM. Estimation of muscular forces from SSA smoothed sEMG signals calibrated by inverse dynamics-based physiological static optimization. Mechanical Sciences and Engineering 2016. 38(8): 2213-2223. IF:-- (Q--)
- Serrancolí G, Kinney AL, Fregly BJ, Font-Llagunes JM. Neuromusculoskeletal model calibration significantly affects predicted knee contact forces for walking. Journal of Biomechanical Engineering 2016. 138(8): 11 p. IF:-- (Q--)
- Serrancolí G, Monllau JC, Font-Llagunes JM. Analysis of muscle synergies and activation-deactivation patterns in subjects with anterior cruciate ligament deficiency during walking. Clinical Biomechanics 2016. 31: 65-73. IF: 1,636 (Q2)

Epidemiology of aging: factors associated with healthy aging

Josep M Haro, MD, PhD

Research in the factors associated with healthy ageing, with a special focus on mental disorders. We conduct and use data from population cohorts to better understand what determines (both from a risk factor and protective perspective) the health status of a person as she/he gets older and which are the critical time points when these factors have most influence.

Members

Principal
Stefanos Tyrovolas
Researchers
Ziggi Santini, Sara Siddi, Maria Victoria Maliandi, Laia Egea, Ellen Vorstenbosch, Carla Obradors, Blanca Mellor, Albert Sánchez

Selected projects

- MULTIMODE I_Multimodal strategies to promote a healthy brain in aging: Innovative evidence-based tools. European Commission. PI: Josep Maria Haro Abad. Jan 2016 – Dec 2016
- ATHLOS_Ageing Trajectories of Health: Longitudinal Opportunities and Synergies. European Commission. PI: Josep Maria Haro Abad. May 2015 – Mar 2020
- ComMent_Training for COMmunity MENTal healthcare. European Commission. PI: Josep Maria Haro Abad. Sep 2014 – Aug 2017
- MARATONE_Marie Curie International Training Network - MARATONE Mental Health Training through Research Network in Europe. Beneficiary: Josep Maria Haro. European Commission. PI: Josep Maria Haro Abad. Apr 2013 – Mar 2017

Selected publications

- Lara E, Haro JM, Tang MX, Manly J, Stern Y. Exploring the excess mortality due to depressive symptoms in a community-based sample: The role of Alzheimer's Disease. J Affect Disord 2016. 202: 163-170. IF: 3,570 (Q1)
- Olaya B, Moneta MV, Koyanagi A, Lara E, Miret M, Ayuso-Mateos JL, et al. The joint association of depression and cognitive function with severe disability among community-dwelling older adults in Finland, Poland and Spain. Exp Gerontol 2016. 76: 39-45. IF: 3,350 (Q1)
- Santini ZI, Fiori KL, Feeney J, Tyrovolas S, Haro JM, Koyanagi A. Social relationships, loneliness, and mental health among older men and women in Ireland: A prospective community-based study. J Affect Disord 2016. 204: 59-69. IF: 3,570 (Q1)
- Tyrovolas S, Koyanagi A, Panagiotakos DB, Haro JM, Kassebaum NJ, Chrepa V, Kotsakis GA. Population prevalence of edentulism and its association with depression and self-rated health. Sci Rep 2016. 6: 37083-0. IF: 5,228 (Q1)

Networks

- CIBERSAM
- European Innovation Partnership on Active and Healthy Ageing (the Partnership)

Impact, risk and prevention of mental disorders

Ai Koyanagi, MD, PhD

Our interdisciplinary group, which includes psychiatrists, psychologists, statisticians, sociologists and basic researchers, studies the factors that provide protection against or increase the risk of mental disorders, and treatments for the people who suffer them, for the purpose of improving preventive and therapeutic strategies.

Members

Principal
Beatriz Olaya Guzmán
Researchers
Maria Victoria Moneta, Ivet Bayes Marín, Elvira Lara Pérez

Selected projects

- Pseudo-psychotic experiences and health: results of epidemiologic studies. Instituto de Salud Carlos III (ISCIII). PI: Ai Koyanagi. Jan 2016 – Dec 2018
- Miguel Servet - Neuropsychiatric disorders in the elderly. Beneficiario: Dra. Ai Koyanagi. Instituto de Salud Carlos III (ISCIII). PI: Ai Koyanagi. Mar 2014 - Mar 2019
- Neuropsychiatric disorders in the elderly. Instituto de Salud Carlos III (ISCIII). PI: Ai Koyanagi. Mar 2014 – Dec 2017

Selected publications

- Koyanagi A, Oh H, Stickley A, Haro JM, DeVylder J. Risk and functional significance of psychotic experiences among individuals with depression in 44 low- and middle-income countries. Psychol Med 2016. 46: 2655-2665. IF: 5,491 (Q1)
- Koyanagi A, Stickley A, Haro JM. Psychotic symptoms and smoking in 44 countries. Acta Psychiatr Scand 2016. 133: 497-505. FI: 6,128 (Q1)
- Koyanagi A, Stickley A, Haro JM. Subclinical psychosis and pain in an English national sample: The role of common mental disorders. Schizophr Res 2016. 175: 209-215. IF: 4,453 (Q1)
- Lara E, Haro JM, Tang MX, Manly J, Stern Y. Exploring the excess mortality due to depressive symptoms in a community-based sample: The role of Alzheimer's Disease. J Affect Disord 2016. 202: 163-170. IF: 3,570 (Q1)

Networks

- CIBERSAM

Healthcare technologies and results in primary care and mental health (PRISMA)

Antoni Serrano, MD, PhD

Research in: Economic evaluation of health care services: Efficiency of different treatments or interventions for health problems are evaluated at the Catalan Health context. Initial medication non adherence: the prevalence and economical health consequences of initial medication non adherence in Primary care are being evaluated and new interventions are designed and tested.

Members

Senior Researcher
Maria Rubio Valera
Postdoc–associate researcher
Enric Vicens Pons
PhD students
Ignacio Aznar Lou, Maria Montserrat Gil Girbau, Ana Gabriela Murrugarra Centurión, Carles Vilaplana Carnerero
Researchers
Luisa Baladón Higuera, Vanessa Barneda, Laura González Suñer, Maria Iglesias González, Cristina López Ortiz
Collaborators researchers
Ana Fernández Sánchez, Ana Maria Jove Massó, Martin Knapp, Maria Antonia March Pujol, Paul McCrone, Juan Manuel Mendive Arbeloa, Maria Teresa Peñarrubia María, Ramón Sabes Figuera, Lluís Salvador Carulla

Selected projects

- Mental Health Training Through Research Network In Europe (MARATONE). Period: 2013 to 2017. Funded by 7MP European Union FP7-PEOPLE-2012-ITN (316795).
- Financial assessment of a complex multi-risk intervention to promote healthy behaviours in persons aged 45-75 years treated in primary healthcare: Econ-EIRA3 study. Instituto de Salud Carlos III (ISCIII). PI: Antonio Serrano Blanco. Jan 2016 – Decr 2018
- PRE-test-STROKE_Personalizing REperfusion Therapeutic Strategies in Stroke. Instituto de Salud Carlos III (ISCIII). PI: Antonio Serrano Blanco. Jan 2016 – Dec 2019
- The problem of non-initiation of pharmacological treatment: mixed-methods assessment. Instituto de Salud Carlos III (ISCIII). PI: Maria Rubio Valera. Jan 2015 – Dec 2017

Selected publications

- Baladón L, Rubio-Valera M, Serrano-Blanco A, Palao DJ, Fernández A. Gender differences in the impact of mental disorders and chronic physical conditions on health-related quality of life among non-demented primary care elderly patients. Qual Life Res 2016. 25(6): 1461-1474. IF: 2,429 (Q1)
- Bellón JÁ, Conejo-Cerón S, Moreno-Peral P, King M, Nazareth I, Martín-Pérez C, et al.. Intervention to Prevent Major Depression in Primary Care: A Cluster Randomized Trial. Ann Intern Med 2016. 164: 656-665. IF: 16,593 (Q1)
- Rubio-Valera M, Fernández A, Evans-Lacko S, Luciano JV, Thornicroft G, Aznar-Lou I, Serrano-Blanco A. Impact of the mass media OBERTAMENT campaign on the levels of stigma among the population of Catalonia, Spain. Eur Psychiatry 2016. 31: 44-51. IF: 3,439 (Q1)
- Rubio-Valera M, Pujol MM, Fernández A, Peñarrubia-Maria MT, Travé P, Del Hoyo YL, Serrano-Blanco A. Corrigendum to: "Evaluation of a pharmacist intervention on patients initiating pharmacological treatment for depression: A randomized controlled superiority trial" [Eur. Neuropsychopharmacol. 23(2013)1057-1066]. Eur Neuropsychopharmacol 2016. 26: 1085-0. IF: 4,409 IF: 3,912 (Q1)

Networks

- CIBERESP
- Red IAPP

5
Activities and Scientific seminars

Activities and Scientific seminars

- January, 12. Neurodegenerative diseases with brain iron accumulation.
- January, 26. De-escalating antibiotics in critical patients.
- January, 29. 1st National Congress on Menkes Disease.
- February, 9. Impact of a multifactorial intervention on reduction of nosocomial infection in PICUs. Usefulness of a multi-centre register of hospital-acquired infections.
- February, 23. Cerebral artery infarction. Diagnostic and prognostic application of the characterisation of cerebral artery infarction using multimodal neuroimaging and lesion-behaviour mapping by voxel-based lesion-symptom mapping.
- March, 8. Diffuse intrinsic pontine glioma (DIPG): immunological characterisation and immunotherapeutic treatment proposal.
- March, 22. Modulation of systemic inflammatory response in critically ill children after parenteral supplementation with glutamine.
- April, 5. Call FIS 2016. Human Resources and Projects.
- April, 12. Overnutrition during breastfeeding causes early alteration of insulin sensitivity and permanently conditions the risk of metabolic disease.
- April, 19. Systems biology applied to biomedical research: from preclinical to clinical practice.
- April, 30. Information day on the advances of Sant Joan de Déu Barcelona researchers in childhood cancer.
- May, 3. Clinical and molecular characterisation of Rett Syndrome.
- May, 17. Retinoblastoma: From the research laboratory to clinical practice and back to the laboratory.
- May, 31. Cinacalcet inhibits tumour growth and increases CTA antigen expression in a neuroblastoma model.
- June, 10. Information session “How we manage Retinoblastoma in 2016”.
- June, 14. “New challenges in genomic diagnosis”.
- June, 27 – July, 1. iCAN Research & Advocacy Summit.
- July, 5. TissueFAXS™ Cytometry: providing “FACS-functionality” to Quantify Molecular Markers and Cellular Interaction in Tissue Sections and Adherent Cell Culture Monolayers.
- July, 28. Origin of ependymoma and medulloblastoma (MAGIC project).
- September, 20. Old and new risk factors in paediatric Acute Lymphoblastic Leukaemia: genetic and genomic approach.
- Septemeber, 21. I Jornada Científica de l’Institut de Recerca Sant Joan de Déu.
- October, 4. Information session: New call for financing: PERIS 2016.
- October, 18. Nutrigenomics. New diagnostic targets.
- November, 11. The Biomedical Engineering Research Centre of Universitat Politècnica de Catalunya (UPC): Opportunities for collaboration within the framework of the Sant Joan de Déu Barcelona Research Institute.
- November, 21. Congress: Updating in the healthcare decision-making process.
- November, 22. Cerebrospinal fluid biomarkers for the study of neurometabolic diseases.
- Desember, 1. Jornada de Recerca al Parc Sanitari Sant Joan de Déu.
- December, 13. The role of miRNAs as biomarkers in muscular dystrophies: Application of digital PCR.