Annual scientific report
Institut d’Investigació Biomèdica de Girona
Dr. Josep Trueta
2018
INDEX

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</table>
The Girona Biomedical Research Institute (IDIBGI) is a public research centre that aims to be at the center of translational biomedical and health research in the province of Girona. IDIBGI belongs to the Catalan Network of Research Centres of the Generalitat de Catalunya (CERCA).

IDIBGI’s mission is to support and develop quality research in biomedical and health sciences, promoting its translation into everyday practice with the objective of responding to the health needs of the community. We aspire to become a leading player in biomedical research by producing and transferring knowledge that has a significant impact on the health and quality of life of everybody in our society.

IDIBGI is the umbrella organization for investigators from different institutions: the ICS - Doctor Josep Trueta University Hospital, the Health Care Institute (IAS), the Catalan Institute of Oncology (ICO), the Institute of Diagnostic Imaging (IDI) and the Institute of Primary Care (IDIAP Jordi Gol) and the University of Girona (UdG) in those groups related to health and biomedical research.

The combination of investigators with different expertise and backgrounds enables the creation of powerful synergies and multidisciplinary teams focused on the search for solutions to the main health problems and on training new professionals for the future. IDIBGI is well positioned to face new and future health challenges by undertaking innovative translational biomedical research in Girona.
INTRODUCTION

Organization

Board of Trustees

Executive Board

Scientific Advisory Board

Internal Scientific Committee

Executive Assistant & Research Support

Imma Piets

Managing Director

Anna Ribas

Compliance & Data Protection

Anna Ribas

Quality Management

Marta Mozo

Research Groups

Cardiovascular

Medical Imaging

Mental Health & Addiction

Metabolism and Inflammation

Neurosciences

Onco-Hematology

Scientific Platforms

Statistical & Methodological Assessment

Maria Bluxó

Biobank

Lluís Gallart

Clinical Research Units

Begoña Martín (UIC-ICO)

Gisela Martinez (ICS)

Scientific Support

National Project Officer

Naiara Ganuza

International Project Officer

Maria Gifre

Valorization & Knowledge Tranfer

Guillem Pérez

Fundraising

Ferran Pedró

CEIC

Marta Riera

Clinical Trials Adm

Ekram El Fachrali

Concierge

Javier Pérez

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Purchasing

Josep Pairolí

Accounting

Júlia Gil

Compliance & Data Protection

Anna Ribas

Quality Management

Marta Mozo

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Maria Àngels Chacón Feixas*
Minister for Economy and Knowledge – Generalitat de Catalunya

Joaquim Salvi Mas
Dean – Universitat de Girona (UdG)

1st Vice-President

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Minister for Economy and Knowledge – Generalitat de Catalunya

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Dean – Universitat de Girona (UdG)

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General Director of Research and Health Innovation, Departament de Salut, Generalitat de Catalunya.

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Joaquim Casanovas Lax
Managing Director (Girona Region) at Institut Català de la Salut (ICS) and Institut d’Assistència Sanitària (IAS)

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Director at the Hospital Universitari Dr. Josep Trueta

Josep M. Vilà Cortasa
President at the Institut d'Oncologia Girona (ICO)

Secretary

Joaquim Casanovas Lax
Managing Director (Girona Region) at Institut Català de la Salut (ICS) and Institut d’assistència Sanitària (IAS)
Executive board

President
Albert Barberà Lluis
General Director of Research and Health Innovation, Department de Salut, Generalitat de Catalunya.

Members
Joan Gómez Pallarès
General Director of Research of the Departament d’Empresa i Coneixement, Generalitat de Catalunya.
Lluís Rovira Pato
Director of Cerca, Departament d’Empresa i Coneixement, Generalitat de Catalunya.
Elena Ribera
Managing Director, Universitat de Girona
Josep Calbó Angrill
Vice-dean of strategic projects, Universitat de Girona
Joan Profitós Tuset
President Institut d’Assistència Sanitària (IAS) Girona

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Joaquim Casanovas Lax
Catalan Health Institute (ICS) Healthcare Assistance Institute (IAS) Managing Director (Girona Region)

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IRCCS- Istituto di Ricerche Farmacologiche Mario Negri, Milano
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Genomic Medicine, University of Santiago de Compostela
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European Observatory on Health Systems and Policies, World Health Organization, Bruxelles
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University of Navarra, Pamplona
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Radiology Department of the Hospital Guirón, Valencia
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Royal College of General Practitioners (RCGP), UK
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Epidemiology and Neurology Department, Health Sciences Research Department, Neurology Mayo Clinic, Rochester, Minnesota
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Molecular Pathology Programme, Spanish National Cancer Research Centre, Madrid

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Jordi Barretina
IDIBGI Director

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Girona Heart Registry Principal Investigator
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Nursing Research Coordinator, University of Girona
Montserrat Vendrell
Respiratory Principal Investigator

ICO
David Gallardo
Histology Principal Investigator
Rafel Marcos-Gragera
Descriptive Epidemiology, Genetics and Cancer Prevention Principal Investigator
Begoña Martín
ICO Clinical Research Unit Coordinator
Javier Menéndez
Metabolism and Cancer Principal Investigator

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Ramon Brugada
Cardiovascular Genetics Principal Investigator
Dolors Juvinyà
Health and Health Care Principal Investigator

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Jordi Cid
Mental Health Principal Investigator
Josep Garre
Aging and Health Principal Investigator

IDI
Salvador Pedraza
Medical Imaging Principal Investigator

SECRETARY
Guillem Pérez Sánchez
Valorization & Knowledge Transfer Officer
FACTS AND FIGURES
Management report

ANNUAL BUDGET

2017 Funding Sources
Clinical trials & private contracts: 1.811,250,62 €
State administration competitive funds: 933,981,89 €
European funds (FEDER): 710,188,80 €
Platforms: 558,769,29 €
La Caixa Foundation: 523,110,00 €
Diputació de Girona & DipSalut: 460,994,40 €
Generalitat de Catalunya transfer: 450,000,00 €
Philanthropy: 379,597,52 €
Generalitat de Catalunya competitive funds: 357,578,19 €
La Marató de TV3 Foundation: 311,376,76 €
European funds (FP7-EU): 298,443,10 €
Other associations & foundations: 168,627,00 €
Other public funds: 120,940,93 €
Other privat funds: 51,839,03 €
Financial income: 666,85 €
TOTAL: 7,136,564,38 €

2017 Expenses
Projects Human Resources: 2,286,955,17 €
Medical consumables & external works: 1,140,796,56 €
Collaborations: 174,879,26 €
Publications & academic training: 91,858,04 €
Travelling costs: 159,486,22 €
Other Services: 278,412,75 €
Transfers to other public institutions: 135,569,73 €
Equipment: 567,739,31 €
Support Running costs: 319,525,16 €
Administration office: 471,744,15 €
Research support office: 163,940,09 €
TOTAL: 5,790,906,44 €
Scientific output

NUMBER OF ARTICLES

400 ARTICLES

ARTICLES BY AREA

Cardiovascular

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Neurosciences

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<td>46</td>
<td>62</td>
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ARTICLES BY AREA

- **Onco-hematology**
  - 2013: 53
  - 2014: 65
  - 2015: 91
  - 2016: 82
  - 2017: 92
  - 2018: 98

- **Other**
  - 2013: 64
  - 2014: 49
  - 2015: 74
  - 2016: 47
  - 2017: 77
  - 2018: 87

IMPACT FACTOR PER ARTICLE

- 2013: 5.02
- 2014: 4.20
- 2015: 4.29
- 2016: 4.26
- 2017: 4.43
- 2018: 5.38
This list reflects all journals in which investigators of the IDIBGI have published articles during 2018.

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<th>JOURNAL</th>
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<tr>
<td>JOURNAL OF THE NATIONAL CANCER INSTITUTE: MONOGRAPHS</td>
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<td>BIOSENSORS &amp; BIOELECTRONICS</td>
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<tr>
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<td>CELL REPORTS</td>
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<td>EUROPACO</td>
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**CLINICAL GUIDELINES**


Guia SEOM-SEAR-SEMNIM sobre el empleo de las técnicas de imagen funcional y molecular en el cáncer de pulmón no microcítico avanzado.

Assessment of training in the use of automatic external defibrillator in a public defibrillation program.
CLINICAL TRIALS

Clinical Trials initiated 2013-2018

Clinical Trials by Phase 2010-2017
CARDIO-VASCULAR AREA

CARDIOVASCULAR GENETICS RESEARCH IN VASCULAR HEALTH
Cardiovascular genetics

Recognised as a consolidated research group - 2017SGR804
Team involved in “Red de Enfermedades Cardiovasculares”
Team involved in “Centro de Investigación Biomédica en Red Enfermedades Cardiovasculares” (CIBER-CV)
KEYWORDS: Sudden Cardiac Death; Arrhythmia; Genetics; Cell Biology; Epigenomics; iPScells

Group members

Principal Investigator
Ramon Brugada

Senior Researchers
Óscar Campuzano
Sara Pagans
Guillermo Pérez
Fabiana Scornik
Marcel Verges

Postdoctoral Researchers
Marta Puigmulé

Predoctoral Researchers
Alexandra Pérez
Carles Ferrer
Elisabet Selga
Marta Puigmulé
Jesús Matés
Mónica Coll
Mireia Alcalde

Medical Researchers
Emilce Trucco
Coloma Tiron
Xavier Albert Bertran
Daniel Bosch
Núria Coma
Alexi Fort
Markus Linhart
Paula Flivià
Elisabet Pujol

Technicians
Maria Berenguel
Marco Paz
Isabel Ramí
Jaime Aboal
Sergí Moral
Pablo Loma-Osorio
Mérida Cardenas
María Nuñez
Daniel Rivero

Support
Eloi Arias
Elisabet Canals
Laia Nogué
Anna Iglesias

BASIC RESEARCH

Overview

The aim of this point is to explain briefly the research group Cardiovascular
Genetics Centre (www.gencardio.org)

The CGC is a research laboratory created in 2008 and dedicated to the investigation of sudden cardiac death. The CGC is hosted by the Institute of Biomedical Research of Girona (IDIBGI, Spain), which embraces all the biomedical research groups at the University of Girona and Hospital Trueta.

CGC’s research aims to improve understanding of the basic mechanisms associated factors and causes of heart disease and sudden death and improve diagnostic tools, prevention and treatment.

This scientific area is divided into an area of research in an area of clinical and basic research.

Clinical Research

The clinical research program leverages collaboration of hospitals and health centers to study the risk factors, possible treatments and prevention methods.

Research topics

The purpose of the CGC’s research is to improve the knowledge of the associated factors and basic mechanisms that cause cardiovascular diseases and sudden death and improve their diagnosis, prevention and treatment tools.

This scientific area is divided into a clinical research area and a basic research area.

Clinical Research

The clinical research program takes advantage of the collaboration of hospitals and health centers to study the risk factors, possible treatments and methods of prevention.

Publications

Case reports


Editorials


Originals


26 ANNUAL SCIENTIFIC REPORT IDIBGI 2018

27 ANNUAL SCIENTIFIC REPORT IDIBGI 2018


Project: Role of nonexonic regions in Brugada Syndrome (GAF/2015/0823-IR)
Funding agency: Ministerio de Economía y Competitividad, Retos de la Sociedad
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Sara Pagans/ Miguel Duran
Project: Mechano genetic regulation of expression of the sodium channel (MPCUG2016/039)
Funding agency: Ajuts per a la millora de la productitut científica dels grups de recerca de la Universitat de Girona
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Guillermo J. Pérez, Sara Pagans
Project: Pathophysiological and therapeutic in vitro assessment of patient-specific iPS cell-derived cardiomyocytes
Tipo: ajuda predoctoral
Funding agency: Pla 350130113 Programa de Doctorat en Biologia Molecular, Biomedicina i Salut
Duration: 2016-2018
Coordinator: -
Principal Investigator: Fabiana Scornik
PhDs: Rebecca Martinez Moreno MOB18 Short-stay Grant, University of Girona, 2019. / BPS 2019 Travel Award to attend the Biophysical Society Meeting, Baltimore, USA, 2019
Project: Traffic of the sodium channel dependent of voltage (MPCUG2018/138)
Funding agency: Ajuts per a la millora de la productitut científica dels grups de recerca de la Universitat de Girona
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Marcel Vergès
Project: Centro Investigación Biomédica En Red (CIBER), Enfermedades Cardiovasculares (ciber-cv)
Funding agency: Universitat de Salut Carlos III
Duration: 2017-2021
Coordinator: -
Principal Investigator: Ramón Brugada / Oscar Campuzano
Project: Pedi-SUDS, Translational Genetic Medicine in Paediatric Sudden Death
Funding agency: Fundación Daniel Bravo
Duration: 2016-2018
Coordinator: -
Principal Investigator: Ramón Brugada

Grants

Project: Muerte Súbita Inexplicada en población joven: estudio genético, traslación clínica y prevención familiar
Funding agency: Instituto de Salud Carlos III (PI17/01690)
Duration: 2016-2018
Coordinator: -
Principal Investigator: Ramón Brugada / Oscar Campuzano
Project: Genetic and molecular basis of arrhythmogenic right ventricular cardiomyopathy: translation into clinical care
Funding agency: La Marató de TV3
Duration: 2016-2018
Coordinator: -
Principal Investigator: Ramón Brugada
Project: Support a les activitats del grup de recerca
Funding agency: AGAUR
Duration: 2015-2018
Coordinator: -
Principal Investigator: Ramón Brugada
Project: Early detection and prevention of neonatal sudden death using ECG and massive ultrasequencing genetic analysis
Funding agency: La Marató de TV3
Duration: 2015-2018
Coordinator: -
Principal Investigator: Ramón Brugada
Project: Pedi-SUDS, Translational Genetic Medicine in Paediatric Sudden Death
Funding agency: Fundación Daniel Bravo
Duration: 2016-2018
Coordinator: -
Principal Investigator: Ramón Brugada

Awards / Recognition

Rebecca Martinez Moreno MOB18 Short-stay Grant, University of Girona.

Thesis

Title: Detecció de Copy Number Variants mitjançant seqüenciació d’alt rendiment en la Mort Sobtada Cardíaca Hereditària
Student: Jesús Matés Ramírez
Director: Dr. Ramon Brugada Terradellas, Dr. Carles Ferrer Costa
University: University of Girona
Faculty/School: Sciences
Date: 19/01/2018

Science Publications, 2018
10 Contributions on Bioinformatics and Systems Biology. Avid associated with new sequencing technologies in the genetic diagnosis of sudden cardiac death-related diseases. Book: Top Challenges...
Research in vascular health

Team involved in “Red de Investigación en Actividades Preventivas y Promoción de la Salud” (redAPP)
Recognised as a consolidated research group - 2017SGR1146

KEYWORDS: Atherosclerosis, cardiovascular risk, primary prevention

Group members

Principal Investigator
Rafel Ramos

Senior Researchers:
Maria del Mar García
Ruth Martí Lluch
Anna Porjoan Thàns

Postdoctoral Researchers:
Lia Aíves
Miquel Quesada
Didac Parramon
Lourdes Camós

Predoctoral Researchers:
Jaime Abós
Elisabet Balló
Laura Guerero
Eli Carlomagno
Èrica Homs
Margarita Matas
Esther Lazaro
Ester Fages

Medical Researchers
Carlos Cerezo
Pascual Solanas

Technicians:
Marc Comas
Jordi Blanch
Josep Mª Ramos

Overview

The group Investigat en Salut Vascular (ISV) of Girona is multidisciplinary and encompasses all perspectives of the proposed research lines. In this group, experts in epidemiology and methodology of research work along with physicians and clinical researchers. Thus, interpretation and discussion of the projects are grounded and take into account the needs and considerations of clinical practice. The group is linked to three institutions: Institut de Recerca Biomèdica de Girona (IDIBGI), Institut d’Investigació en Atenció Primària (IDAP), and Universitat de Girona (UdG). The group consists of family physicians (M. Quesada, D. Parramon, P. Solanas, C. Cerezo, R. Ramos), an epidemiologist (M. Garcia), mathematicians (J. Blanch, M. Comas), a laboratory medicine specialist (L. Aíves-Cabratosa), nurses (L. Camós) and biologists (A. Ponjoan, R. Martí).

The multidisciplinary of the team has been key to achieve the results obtained so far, and will be crucial to keep such trend in the future. Expertise areas in our group are related to primary care, disease prevention, epidemiology, study of lipids, cardiovascular diseases, statistics, and analysis of large clinical databases.

Research in ISV group is focused on the study of vascular disease prevention, epidemiology of cardiovascular diseases, detection of cardiovascular diseases, statistics, and analysis of large clinical databases.

Research in ISV group is focused on the study of vascular diseases, detection of cardiovascular disease in its asymptomatic stage, mathematical modelling of risk prediction (construction of prediction tools to be applied in Primary Care), and evaluation of interventions to prevent vascular disease, particularly the effectiveness of lipid-lowering drugs.

Research topics

The ISV research group offers a broad spectrum of expertise in both methodologies and topic areas in primary care. Its research is focused on three principal research lines, with which we aim to continue during the next three years. These lines are: 1) Evaluation of preventive interventions and study of the effectiveness of drugs used in primary prevention, using the Information System for Research in Primary Care (SIDIAP). The SIDIAP database was created in 2010 under the auspices of the Catalan Institute of Health (ICHI) and the Primary Care Research Institute Jordi Gol (IDAP). It is an anonymized database that generates reliable and standardized clinical information of nearly 6 million patients – about 80% of the Catalan population, and 10% of the Spanish – attended by 3414 general practitioners (GPs) in the 274 primary care practices managed by the Catalan Institute of Health (ICHI). The main aim of the SIDIAP platform is to promote the development of research based on data from these medical records. 2) Epidemiology of cardiovascular diseases, especially asymptomatic. 3) The design of decision-making support tools using mathematical modeling of risk prediction.

3. Platform for patient recruitment and follow-up. This structure is specialised in patient enrolment and follow-up, with tuition in sample extraction, clinical measurements, and questionnaire administration. In recent years, more than 9000 participants have been recruited for the various projects this platform supports (HERMES study, MARK study, REGICOR study). Dra. Martí is the coordinator of this platform.

Project management and follow-up are carried out by R. Ramos, M. Garcia, R. Martí, and A. Porjoan.
The above-mentioned three main research lines can be concreted in the following 5 objectives:

1. To assess the effectiveness and efficiency of different interventions for prevention and control of atherosclerotic disease in primary care using large databases.
2. To analyse the role of cardiovascular (CV) risk factors and their control in dementia incidence.
3. To design and validate risk functions, tailored to the needs of general and specific populations.
4. To analyse the role of emerging and new risk factors and the presence of asymptomatic atherosclerosis in cardiovascular risk prediction.
5. To evaluate activities for health promotion and disease prevention in the context of the redIAPP (Research Network on Preventive Activities and Health Promotion, RETICS).

Publications

Originals


Grants

Project: Girona, Regió Saludable
Funding agency: Generalitat de Catalunya, Fons FEDER
Duration: 2018-2020
Coordinator: Rafel Ramos, Josep Puig i Josep Garré
Principal Investigator: Rafel Ramos, Josep Puig i Josep Garré
Project: Predicción del riesgo vascular en población de edad avanzada del Mediterráneo. Estudio PROTEO
Funding agency: Generalitat de Catalunya, Fons FEDER
Duration: 2017-2019
Coordinator: Rafel Ramos
Principal Investigator: Rafel Ramos

Project: Epidemiología de la Hipercolesterolemía Familiar; predicción de risc, efectivitat i seguretat del tractament hipolipèiem
Funding agency: Departament de Salut (Convocatòria FERIS 2016)
Duration: 2017-2019
Coordinator: Rafel Ramos
Principal Investigator: Rafel Ramos
Project: Asociación entre la administración de inhibidores de la bomba de protones y la incidencia de enfermedad renal crónica y lesión renal aguda en población general
Funding agency: IDIAP Jordi Gol
Duration: 2017-2019
Coordinator: Antonio Rodríguez
Principal Investigator: Antonio Rodríguez
Project: Seguimiento de la cohorte poblacional de l’estudi REGICOR: tendències en la incidència de malaltia cardiovascular, en la prevalència de factors de risc, identificació de nous mecanismes i biomarcadors predictius, i avaluació d’estrategies de prevenció
Funding agency: Departament de Salut (Convocatòria FERIS 2016)
Duration: 2017-2019
Coordinator: Roberto Elouas
Principal Investigator: Rafel Ramos

Project: Real world Outcomes across the AD spectrum to better care: Multi-modal data Access Platform (ROADMAP)
Funding agency: Innovative Medicines Initiative (IMI)
Duration: 2018-2018
Coordinator: John Gallagher
Principal Investigator: Rafel Ramos
Project: Efectividade de los Objetivos Terapéuticos de la Lipoproteína de Baja Densidad (LDL) en la Reducción de Eventos Aterotrombóticos. Proyecto ELECTRA
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2018
Coordinator: María del Mar García Gil
Principal Investigator: Maria del Mar García Gil

Membership of the collaborative research networks

National collaborations
1. We participate in the Redes temáticas de Investigación Cooperativa en Salud (RETIICS). These are organisational structures integrated by the association of a group of biomedical multidisciplinary centres and research groups to Instituto de Salud Carlos III. Eight members of our group belong to CARDIOCAT (RD16/0007/0004), a group that is part of the Research Network in preventive activities and health promotion (redIAPP) which is configured by several Spanish research groups. The objective of CARDIOCAT is to generate knowledge that will benefit Primary Health Care, particularly on the efficacy, effectiveness, and efficiency of preventative interventions. We have many articles and projects in common with other redIAPP members. Specially with the group led by Dr. L. García-Ortiz (Research Group in cardiovascular disease from Castilla y León, RD16/0007/0003) and the group led by Dr. B.Balbis (research group in Primary Health Services in Catalonia, RD16/0007/0001).

Doctoral thesis
Title: Avaluació de la taxa de detecció de càncer i del càncer d'interval en programes de detecció precoç del càncer de mama utilizant métodes longitudinals
Students: Jordi Blanch i Font
Director: Maria Sala Serra i Montse Rui Monné
University: Universitat Autònoma de Barcelona
Faculty/School: Medicine
Date: 14/03/2018
Title: Awardee/s:  
Institution: Col·legi Oficial de Metges de Girona  
Faculty/School: Informàtica i estadística aplicada  
Date: 24/06/2018  
Title: Descripción y análisis del emplazamiento de las lesiones propias de la diabetes en las retinografías centrales de pacientes con diabetes mellitus tipo 2 y de las drusas en una muestra mixta de pacientes.  
Student: Eduard Murneu Gifre  
Director: Gabriel Coll i Dolors Juviuày  
University: Universitat de Girona  
Faculty/School: Medicine  
Date: 23/02/2018  
Title: Arteriopatía Periférica e factores de risco cardiovascular. Millora de la prevención secundaria dels pacients amb arteriopatia perifèrica en l'Atenció Primària  
Student: Àlex Llobera Serentill  
Director: Rafel Ramos Blanes  
Date: 09/03/2018  
Title: Premi Comitè de Recerca al millor póster: Supervivencia tras el diagnóstico de demencia en población general resultados preliminares del Registro de Demencias de Girona  
Institution: Serveis de Salut Integrats Baix Empordà (SSIBE)  
Date: 2018  
Title: Beca de l'Acadèmia: Determinació dels valors de normalitat i de seguretat de l'automesa de la pressió arterial al domicili del pacient en el diagnòstic d'hipertensió arterial i del millor protocol de mesures d'aquesta tècnica  
Institution: l'Academia de Ciències Mèdiques i de la Salut de Catalunya i de Balears  
Date: 2018  
Collaborations  
We effectively collaborate and share projects with investigators from both national and international institutions.  
International collaborations  
1. Dr Irene Petersen's research group. The group is located at the University College of London, and they are experts on Missing imputation techniques. Dr Irene Petersen collaborates as researcher in some of the projects led by members of our group.  
2. Participation with EU-ADR Alliance. Members of the group are part of this European structure. We intend to be involved in European projects related to cost effectiveness of treatments for cardiovascular and all-cause mortality risk. (http://medicine.exeter.ac.uk/research/healthresearch/primarycare/projects/interpress-ipd/)  
3. Participation in the FRESCO Platform (Función de Riesgo a ElSpaña de acontecimientos Coronarios y Otros) which is a collaborative, multicentre, prospective cohort study, based on grouping population cohorts that have been recruited by researchers throughout Spain for a variety of different studies. These cohorts include more than 54,000 participants aged 35 to 79 years and provide 10-year follow-up data (32036 of these participants are from our study EMMA)  
4. Collaboration with CIBERCv, through Dr Marrugat's (CB16/11/00299), Dr Eloussai's (CB16/11/00246), and Dr Brugada's (CB16/11/00329) groups.  
5. We also collaborate on the Myocardial Infarction Genetics Consortium (MiGen): This international genetics research platform includes 2,967 cases of early-onset myocardial infarction and 3,075 age- and sex-matched controls.  
6. We also participate in the Non-Communicable Diseases Risk Factor Collaboration (NCD-RisC), which is a network of health scientists around the world that provides rigorous and timely data on major risk factors for non-communicable diseases; it covers all countries worldwide. (http://ncdrisc.org/)  
7. Collaboration with the International Society of Vascular Health & Aging (ISVA): We are collaborating in an international project entitled Advanced Approach to Arterial Stiffness.  
National collaborations  
1. Information System for Research in Primary Care (SIDIAP) platform. SIDIAP promotes the development of research based on data from primary care electronic medical records and other complementary databases. We actively participate in this platform. We use this platform in most of our active projects, as has already been mentioned. Moreover, Dr Garcia is the Director of this platform and Dr Ramos is a member of its executive and scientific boards.  
2. Cardiovascular Epidemiology and Genetics Group from the IMIM (Institut Hospital del Mar Investigacions Mèdiques), Dr R. Eloussai is the coordinator of this group, which is also composed by Dr J. Marrugat and Dr M. Grau, among others, with whom we have collaborated in many projects, and authored many papers.  
3. Participation in the INTERPRESS Platform (Función de Riesgo a ElSpaña de acontecimientos Coronarios y Otros) which is a collaborative, multicentre, prospective cohort study, based on grouping population cohorts that have been recruited by researchers throughout Spain for a variety of different studies. These cohorts include more than 54,000 participants aged 35 to 79 years and provide 10-year follow-up data (32036 of these participants are from our study EMMA)  
4. Collaboration with CIBERCv, through Dr Marrugat's (CB16/11/00299), Dr Eloussai's (CB16/11/00246), and Dr Brugada's (CB16/11/00329) groups.  
5. We also collaborate on the Myocardial Infarction Genetics Consortium (MiGen): This international genetics research platform includes 2,967 cases of early-onset myocardial infarction and 3,075 age- and sex-matched controls.  
6. We also participate in the Non-Communicable Diseases Risk Factor Collaboration (NCD-RisC), which is a network of health scientists around the world that provides rigorous and timely data on major risk factors for non-communicable diseases; it covers all countries worldwide. (http://ncdrisc.org/)
METABOLISM AND INFLAMMATION AREA

MICROBIOLOGY AND INFECTION OF CRITICALLY ILL PATIENTS
DIGESTIVE DISEASES AND MICROBIOTA RESEARCH GROUP
NUTRITION, EUMETABOLISM AND HEALTH
PEDIATRIC ENDOCRINOLOGY
RESPIRATORY GROUP
MATERNAL AND FETAL METABOLIC RESEARCH
Microbiology and infection of critically ill patients

KEYWORDS: Microbiota, Inflammatory Bowel diseases, biomarker, molecular microbial ecology

Group members

Principal Investigator
Josep Maria Sirvent

Medical Researchers
Patricia Ortiz
Cristina Murcia
Silvia Cuenca
Carolina Lorenzo
Anna Bardí
Claudia Vera
Abdó Taché
Montse Motjó
Adriana Sánchez

Overview
More than 15 years ago a research group was created in the IdiBGI called “Microbiology and inflammation”. This group included all projects on infections of the University Hospital of Girona Doctor Josep Trueta (hUGDJT) as well as a group from the University of Girona working in conjunction with them. Also Dr. Sirvent, is involved in CIBERrespiratori group, 14th group- Dr. Antoni Torres (Hospital Clinic)

In order to update the group and suitably redefine the projects and research staff actively involved, we will create an internal specific, dynamic group for the study of infectious diseases in the critically ill patient: Study Group of Microbiology and Infection in Critically ill patients (MI-ICU).

Research topics

Studies of Microbiology and Infections in the critically ill patient.

Study of sepsis.

Study of community-acquired pneumonia.

Study of sepsis in glycemia

Nursing procedure in security and sepsis in critical patients.

Publications

Originals


KEYWORDS: Microbiota, Inflammatory Bowel diseases, biomarker, molecular microbial ecology
**Digestive diseases and microbiota research group**

**KEYWORDS:** Microbiota, Inflammatory Bowel diseases, biomarker, molecular microbial ecology

**Group members**

**Principal Investigator**
Xavier Aldeguer

**Post-doctoral Researchers**
Anna Bahí Salavedra
Marc Liirds

**Pre-doctoral Researchers:**
Josep Oriol Miguel
Silva Virelés
Marta Malagón
Mireia Vila
Carmen López

**Medical Researchers**
Ester Fort
L. Torresalda
Hugo Uchima
Carlos Huertas
Isabel Serra
Virginia Piñol

**Support**
Carlota Puig (Nurse)

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**Overview**

The group lead by X.Aldeguer MD PhD, is interested in understanding the role of those tiny bugs living in the gut and how their perturbations (i.e., dysbiosis) affect the status of health and disease in humans. Basically, deviations from the “normal” state will tell us about the disease status and putative ways to solve the disequilibrium. We are a multidisciplinary team involving post-doctoral researchers with broad experience in the medical and microbiology fields, but also a wide range of medical doctors pursuing a PhD degree to understand the role of our tiny trip companions. In order to give answer to our research topics (basically which is the role of gut microbes on health and inflammatory bowel status), we are performing human clinical studies and culture-independent techniques focused on DNA sequencing of the 16S rRNA gene. These tools will enable us to address our biological questions from a taxonomic and functional perspective.

**Research topics**

Over the last years our research group has established as main research lines the study of the human gut microbiome in all diseases affecting the digestive tract with the involvement of the inflammatory process (e.g., inflammatory bowel disease (IBD), colorectal cancer (CRC), chronic pancreatitis (CP), pancreatic cancer (PC), hepatic steatosis, hepatocarcinoma, Barrett’s esophagus disease, among few others) with the intention to define a set of microbial biomarkers as prognosis tools for such disease collection, but also paying attention to their diagnosis and monitoring to support clinicians. Moreover, we have been spanning our view thus getting involved in research projects were inflammatory processes can be related with the role of gut microbiome (e.g., rheumatic diseases or asthma, to cite a pair).

In this sense, the main strategic research lines of our group are based on the following pillars:

1. **Dysbiosis indicators in inflammatory bowel diseases**
   - **Overview:**
     Over the last years, we are performing a wide-range study aimed to correlate microbiological indexes (based on logarithmic ratios of absolute microbial quantifications) and clinical determinants for inflammatory bowel disorders (IBD) (Crohn’s Disease (CD), ulcerative colitis (UC), and colo-rectal cancer (CRC)). We propose such ratios for risk determination, pre-screening processes and diagnostic of bowel disorders. Besides IBD, the utility of logarithmic ratios on Inflammatory Bowel Syndrome (IBS) is also under study. Moreover, a step forward in the healing mucosa state will tell us about the disease status and putative ways to solve the disequilibrium. We are a multidisciplinary team involving post-doctoral researchers with broad experience in the medical and microbiology fields, but also a wide range of medical doctors pursuing a PhD degree to understand the role of our tiny trip companions. In order to give answer to our research topics (basically which is the role of gut microbes on health and inflammatory bowel status), we are performing human clinical studies and culture-independent techniques focused on DNA sequencing of the 16S rRNA gene. These tools will enable us to address our biological questions from a taxonomic and functional perspective.

2. **Hepatopancreatic line**
   - **Overview:**
     More and more evidences pointed towards the presence and active role of microbes (either resident or transient ones from the gut) in the hepatopancreatic environment. In this sense, we have recently opened a new research line studying the microbial community in fecal samples of patients suffering of hepatic inflammatory diseases. By now, we are studying diseases such: chronic pancreatitis (CP) and its evolution towards cancer or steatotic liver ending in hepatocellular carcinoma.

3. **Liver microbiome**
   - **Overview:**
     Liver related diseases have somehow an inflammatory process. In this sense, we are currently performing clinical- and molecular-based studies trying to correlate gut microbiome and liver diseases, basically non-alcoholic steatohepatitis (NASH), hepatocellular carcinoma (HCC), and non-alcoholic fatty acid liver disease (NAFLD).

4. **Dysbiosis and rheumatic diseases**
   - **Overview:**
     A new research line aimed to connect the inflammatory process of rheumatic disorders with the gut microbiome has been recently activated. As for the IBD, the presence of inflammatory signals might be correlated with the gut microbiome. In this sense, we propose the use and application of logarithmic ratios of absolute microbial quantifications to establish threshold values for rheumatic disorders.

5. **Healing dysbiosis with traditional bread**
   - **Overview:**
     In close collaboration with a high-quality traditionally made bread produced, we have started to investigate the effect of traditional bread (long fermentation of whole grain wheat flour with wild starters) on patients suffering of IBD and metabolic syndrome (in close collaboration with the private sector (Elias Boulanger) and two public partners (IMIM and IdIBGi). Inflammatory Bowel Disease Subjects. Front Cell Infect Microbiol. 2018; 8:281. doi: 10.3389/fcimb.2018.00281. PubMed PMID: 30245977; PubMed Central PMCID: PMC6137959.

**Publications**

**Originals**


Overview
The research group, “Nutrition, EumeTabletism and Health”, is a consolidated group recognized by the Generalitat of Catalonia and belongs to the CIBERobn (CIBER Physiopathology of Obesity and Nutrition) since its foundations.

The research is focused on the pathophysiology of obesity, type 2 diabetes mellitus and their complications and the main lines of research are centered on innate immune system, inflammation and metabolic disease, the group has done significant work on the association of various genetic inflammatory polymorphisms of the innate immune system with insulin resistance and several other parameters of the metabolic syndrome;

Genomic / genetic type 2 diabetes and obesity (including microRNAs and long-non-coding RNAs);

biology of adipose tissue, the group coordinates the FatBANK at the state level, the only biobank specializing in adipose tissue;

Iron (systemic, circulating and in tissue) in liver, brain, fatty tissue and muscle as a modulator of inflammation to metabolic pathology, the group has pioneered the study of the links between iron metabolism and insulin resistance.

Microbiota composition in metabolic disease

Interactions among microbiota, brain microstructure and function: the gut-brain axis.

Publications

Originals


Adipose tissue TSH as a new modulator of human adipocyte mitochondrial function.

Comas FJ, Lluch A1, Sabater M1, Latorre J1, Ortega F1, Ricart W1, López M2, Fernández-Real J3, Moreno-Navarrete JM4. DOI: 10.1038/s41366-018-0203-1

Reviews


Grants

Project: Patient Empowerment through Predictive PERSonalised decision support (PEPPER)

Funding agency: -

Duration: 2016-2019

Project: Relativence of the cluster miR-424/322/503 in the development of a teixit adipós

Funding agency: Fundació La Marató de TV3

Duration: 2017-2019

Lead Researcher: Francisco Ortega

Project: Identificac dei mediadors moleculars de la senisalitzaci de l'interstici vascular a la senisalitzaci a la insulin i el "browning" del teixit adipós: paper de LBP i FGF15/19

Funding agency: Fundació La Marató de TV3

Duration: 2017-2019

Principal Investigator: Jose M Moreno
**METABOLISM AREA**

**Project:** Regulació de l’activitat mitocondrial com a estratègia terapèutica per a l’obesitat i la diabetis de tipus 2  
**Funding:** Fundació La Marató de TV3  
**Duration:** 2017-2019  
**Principal Investigator:** Wifredo Ricart

**Project:** Estudio de la biosíntesis de H2S en el tejido adiposo humano y su posible efecto en la adipogenesis y en la sensibilidad a la insulina  
**Funding:** ISCIII  
**Duration:** 2017-2019  
**Principal Investigator:** José Mª Moreno

**Project:** Estudio de la biosíntesis intestinal de LBP y células de Paneth en relación con la sensibilidad a insulina y obesidad  
**Funding:** ISCIII  
**Duration:** 2017-2019  
**Principal Investigator:** Wifredo Ricart

**Project:** Rellevància del cluster miR-424/4322/503 en el desenvolupament d’un teixit adipós hiperplàsic. Pla estratègic de recerca i innovació en salut (PERIS).  
**Funding:** BECA PERIS  
**Duration:** 2017-2019  
**Principal Investigator:** Francisco Ortega

**Thesis**

**Title:** BYPASS gástrico en el tratamiento de la obesidad mórbida. Seguimiento a 5 años de los primeros 300 casos en la provincia de Girona  
**Student:** Rodríguez Hermosa, José Ignacio  
**Director:** José Manuel Fernández-Real  
**University:** University of Girona  
**Date:** 10/12/2018

**Pediatric endocrinology**

**KEYWORDS:** obesity, cardiovascular risk, children, epigenetics, DNA methylation, imprinting

**Group members**

**Principal Investigator**  
Abel López Bermejo

**Post-doctoral Researcher**  
Esther Lizarraga
Silvia Xargay

**Pre-doctoral Researchers**  
Isabel Mauriz
Ferran Díaz
Montserrat Gispert-Sauch

**Medical Researchers**  
Lluís Mayo
Pilar Soriano
Elena Riera
Joan-Carles Riera
Inés Osiniri

**Collaborators**  
Anna Prats
Gemma Carreras
Overview

Our research is aimed at identifying new biomarkers during the perinatal life and childhood for early detection and prevention of cardio-metabolic risk and obesity in the adult life. We also investigate the epigenetic marks that contribute to prenatal programming of such diseases and the use of metformin to prevent them early in life. To carry out these objectives we have developed a population-based cohort of children with and without obesity (n = 700), two prenatal cohorts of pregnant mother-father-infant trios (n = 700) and a swine animal model of piglets treated with metformin (n=96). In the recent years, we have characterized several endocrine, genetic and epigenetic markers in relation to the pre-and postnatal growth and metabolic dysfunction during pregnancy and in the offspring.

Research topics

Research lines:
- Identification of biomarkers in childhood for early prevention of cardio-metabolic risk and obesity.
- Cardiovascular risk markers in childhood.
- Epigenetics of development: DNA methylation and imprinted marks.
- Prenatal basis of metabolic programming.
- The use of metformin to revert metabolic programming.

Publications

Originals


Reviews

Grants
Project: Repercusión de las alteraciones prenatales perinatales en el desarrollo postnatal: Enfermedades de origen fetal (Esp. 2017-SGR-1236)
Funding agency: Agència de Gestió d’Ajuts Universitaris i de Recerca (AGAUR)
Duration: 2018 - 2020
Principal Investigator: Lourdes Ibáñez

Project: Identificación de biomarcadores placentarios del metabolismo lipídico en obesidad maternal: efectos endocrino-metabólicos en la descendencia
Funding agency: Fundació Agrupació
Duration: 2018 - 2019
Principal Investigator: Judit Bassols

Project: Epidemiología de la Hipercolesterolèmia Familiar, predicción de risc, efectivitat i seguretat del tractament hipolipèmico
Funding agency: Institut Català de la Salut de Barcelona
Generalitat de Catalunya
Duration: 2017 - 2019
Principal Investigator: Ramos R.

Project: Efecto de la sobrenutrición materna en las epigenéticas de programación metabólica: identificación y reversibilidad terapéutica (PI16/01338)
Funding agency: Institut de Salut Carlos III
Duration: 2017-2019
Principal Investigator: Abel López-Bermejo

Membership of collaborative research networks

( National & International)
2018- International childhood consortium on cardiovascular risk: The consortium consists of 5 research groups (Brazil, China, Greece, Italy and Spain) with data on more than 3,500 children.
Principal investigator: Abel López-Bermejo
2017-2019 Research Groups Recognized and Funded by the Generalitat de Catalunya (2017 SGR 1236)
2016- International Consortium on Thyroid and Pregnancy: The consortium consists of 23 research groups (Brazil, China, Greece, Italy and Spain) with data on more than 80,000 mother-child pairs from across the world.
Principal investigator: Abel López-Bermejo.

Doctoral thesis
Title: Sistema inmunari i marcadors de risc metabòlic en l’edat pediàtrica
Doctoral student: Montserrat Gispert-Sauch
Director: Abel López Bermejo and Judit Bassols
University: Universitat de Girona
Faculty / School: Faculty of medicine
Dates: 02/03/2018

Collaborations
- Endocrinology, Pediatric Research Institute, Sant Joan de Déu Children's Hospital, Barcelona
- Genetics and Animal Improvement. Agrifood Research and Technology Institute (IRTA), Monells, Girona.
- Development & Regeneration, University of Leuven, Leuven, Belgium.
- Genomic Imprinting and Development, Institute of Molecular Genetics of Montpellier, CNRS, Montpellier, France.
Respiratory group

**KEYWORDS:** Bronchiectasis; Sleep disorders; Interstitial Lung Diseases and Occupational diseases

**Group members**

**Principal Investigator**
Ramón Orriols

**Established Researchers**
Montserrat vendrell
Olga Tura

**Post-doctoral Researchers**
Manel haro
Susana Mota
Gerard Muñoz
Marc Borib

**Pre-doctoral Researchers:**
Eric Rojas
Eduard Barrio
Daniel S. Torres

**Medical Researchers:**
Sònia Belda
Anton Obrador
Juan Carlos Calderón
Maria José Redondo
Saioa Eizaguirre
Gladis Sabater

**Technicians:**
Neus Luque

**Support:**
Laia Merchan

**Overview**

Respiratory Research Group at IdiGi is composed by several researchers from the Pneumology Service. It is focused on bronchiectasis, sleep diseases, occupational respiratory diseases and Interstitial Lung Diseases research.

Research is complemented with an intensive clinical activity, which has lent the group to be invited to conferences at international congresses, draft reviews and publishers in magazines of high impact, as well as to be a member of experts in the field of respiratory illnesses, either on a national and international basis.

**Research topics**

- Bronchiectasis. Physiotherapy. Primary immunodeficiencies
- Sleep diseases: diagnostic at Primary Health care level and vascular impact.
- Occupational diseases and immunological respiratory diseases.
- Lung cancer.
- Pulmonary Hypertension

**Publications**

**Originals**


**Clinical guidelines**


**Books**


**Grants**

**Project:** Benefits of inhalation of hypertonic saline solution with hyaluronic acid prior to ELTGOL physiotherapy in patients with bronchiectasis. A randomized controlled trial

Funding agency: Chiesi

Duration: 2 years

Coordinator: PhD Dra. Montse Vendrell

Principal Investigator: PhD Dra Montse Vendrell & PhD PT Gerard Muñoz

**Project:** La detecció de ctDNA com a eina de diagnòstic en la neoplàsia de pulmó amb codi de protocol Codi ctDNA

Funding agency: Menarini

Duration: 2 years

Coordinator: Dr. Ramon Orriols

Principal Investigator: Dr. Ramon Orriols & Dr. Eduard Barrio

**Project:** Biomarcadors de disfunció endotelial en la SADS

Funding agency: PERIS, Generalitat de Catalunya, PERIS 2018

Duration: 3 years

Coordinator: Dr. Olga Tura Cede

Principal Investigator: Dr. Olga Tura Cede
ANNUAL SCIENTIFIC REPORT
IDIBGI 2018

Project: Disfunción endotelial, metabólomica y biomarcadores en pacientes con el Síndrome de Apnea Obstructiva del Sueño (SAOS)
Funding agency: Sociedad Española de Neumología y Cirugía Torácica, BECAS SEPAR
Duration: 2 years
Coordinator: Dr. Olga Tura Ceide
Principal Investigator: Dr. Olga Tura Ceide

Project: La detección de ctDNA como herramienta diagnóstica en el cáncer de pulmón
Funding agency: Sociedad Española de Neumología y Cirugía Torácica, BECAS SEPAR
Duration: 2 years
Coordinator: Dr. Eduard Barrio
Principal Investigator: Dr. Olga Tura Ceide / Dr. Eduard Barrio

Research activity contributions related to clinical activity

Title: A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multi-Center Study to Assess the Efficacy, Safety and Tolerability, and Pharmacokinetics of INS1007 Administered Once Daily for 24 Weeks in Subjects with Non-Cystic Fibrosis Bronchiectasis - The Willow Study
Funding: INSMED. PI: PhD Dra vendrell. IC: PhD PT Muñoz

Title: Epidemiología y caracterización clínica-microbiológica de las agudizaciones en las Bronquiectasias no asociadas a fibrosis quística
Funding: SEPAR. PI: PhD Dra Vendrell. IC: PhD PT Muñoz

Title: Carga de la enfermedad en pacientes con EPOC eosinófila en España: Estudio observacional multicéntrico.
Funding: GSK PI: PhD Dr. Marc Bonnin.

Membership of collaborative research networks
(National & International)

- Investigadora del CIBERES de grup d’investigació del Dr. Ferran Morell Bratad del ref. CB06/06/0030 del Hospital Vall d’Hebron (Dra. Vendrell).

- Investigador del CIBERES de grup d’investigació del Dr. Ferran Morell Bratad del ref. CB06/06/0030 del Hospital Vall d’Hebron (Dr. Orriols).

Collaborations
Membre del comitè científic de la societat catalana pneumologia (GDCAP). PhD PT Gerard Muñoz

- Membre del Steering Committee : The European bronchiectasis registry (EMBARC) – Dra. Vendrell.


- Membre del Scientific Committee The European bronchiectasis registry (EMBARC) – Dra. Vendrell.

- Membre del BRN (Barcelona Respiratory Network) Dr. Orriols.

Materno-Fetal Metabolic Research

Keywords: pregnancy, pre and postnatal growth, metabolic programming

Group members

Principal Investigator
Judit Bassols

Technicians
Berta Mas

Pre-doctoral Researchers
José María Martínez-Calcedra

Support
Estíbaliz Platero

Medical Researchers
Mercè Montesinos
Alexandra Bonmatí

Materno-Fetal Metabolic Research

Keywords: pregnancy, pre and postnatal growth, metabolic programming

Group members

Principal Investigator
Judit Bassols

Technicians
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José María Martínez-Calcedra

Support
Estíbaliz Platero

Medical Researchers
Mercè Montesinos
Alexandra Bonmatí
Overview

An unfavorable prenatal environment and inadequate nutritional stimulus during critical developmental periods are associated with an increased risk of endocrine-metabolic diseases in the mother and in their offspring. This metabolic programming is produced, in part, by epigenetic changes in maternal and fetal tissues. In recent years, we have developed a longitudinal clinical study in a cohort of pregnant-newborns with prenatal development alterations (pregestational obesity, gestational obesity and fetal growth restriction) to study the epigenetic markers (miRNA and DNA methylation) in maternal plasma, placenta and umbilical cord and to determine their relationship with endocrine-metabolic parameters and with pre and postnatal growth. These epigenetic marks in pregnancy available tissues can be used as new predictive elements for the identification of newborns at risk of developing future metabolic diseases and as new therapeutic targets for these diseases.

Research topics

Research line: Identification of metabolic and (epi)genetic markers associated with metabolic alterations of pregnancy and offspring, and their relation to pre and postnatal growth.
1. Alterations of prenatal development: gestational obesity and restriction of fetal growth.
2. Postnatal recovery growth (catch-up).
3. Metabolic programming during pregnancy.
4. Epigenetics of development.

Publications

Originals


Membership of collaborative research networks (National & International)

2016- International Consortium on Thyroid and Pregnancy: The consortium consists of 23 research groups with data on more than 80,000 mother-child pairs from across the world.
Principal investigator: Abel López-Bermejo.

Collaborations

- Endocrinology, Pediatric Research Institute, Sant Joan de Déu Children’s Hospital, Barcelona
- Development & Regeneration, University of Leuven, Leuven, Belgium
- Genetics and Animal Improvement, Agrifood Research and Technology Institute (IRTA), Monells, Girona.

Grants

Project: Lipid profile and epigenetic programming in placenta: prevention of cardiovascular risk and obesity in children (PI17/00557)
Funding agency: Instituto de Salud Carlos III
Duration: 2018-2020
Principal Investigator: Judit Bassols

Project: Repercusión de las alteraciones prenatales perinatales en el desarrollo postnatal: Enfermedades de origen fetal (Exp. 2017-SGR-1236)
Funding agency: Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR)
Duration: 2018-2020
Principal Investigator: Lourdes Ibáñez

Project: Identificació de biomarcadors placentaris del metabolisme lipídic en obesitat materna: efectes endocrino-metabòlics en la descendència
Funding agency: Fundació Agapú
Duration: 2018-2019
Principal Investigator: Judit Bassols

Thesis

Title: Sistema inmunitari i marcadors de risc metabòlic en l’edat pediàtrica
Student: Montserrat Gispert-Saüch
Director: Judit Bassols and Abel López-Bermejo
University: University of Girona
Faculty School: Faculty of Medicine
Date: 02/03/2018
Aging, disability and health

Recognised as a consolidated research group – 2017SGR731
The Survey of Health, Ageing and Retirement in Europe Consortium
KEYWORDS: ageing, disability, dementia, Alzheimer’s disease, epidemiology, neuropsychology, depression, caregivers

Group members

Principal Investigator
Josep Garre-Olmo

Established Researchers
Josep Lluís Conde
Manuel de Gracia

Post-doctoral Researchers
Laia Calvó
Oriol Turró

Medical Researchers
Secundí López-Pousa
Joan Vilalta-Franch
Overview

The research group on Ageing, Health and Disability has as a scientific challenge related to the socio-demographic, clinical and epidemiological factors associated with the normal and pathological aging and with the process of disability and dependence.

Research topics

Line 1. Clinical characteristics and consequences of pathological aging associated with dementia

Line 2. Epidemiology of dementia and aging

Line 3. Development, adaptation and validation of psychometric instruments to measure variables related to aging (normal and pathological) and disability

Publications

Originals


Reviews

Grants
Project: Risgo y variables asociadas a la mortalidad tras el diagnóstico de demencia en población general (PI15/01980)
Funding agency: Instituto de Salud Carlos III
Duration: 2015 - 2018
Principal Investigator: Josep Garre-Olmo

Project: Trastornos afectivos y riesgo cardiovasculares en población general: efecto diferencial dels mecanismes fisiopatològics (SLT006/17234)
Funding agency: Generalitat de Catalunya – Departament de Salut – Pla estratègic de recerca i innovació en salut (PERSIS) 2016-2020
Duration: 2018-2020
Principal Investigator: Josep Garre-Olmo

Project: Maduresa i Enveliment Satisfactori a Girona (MESGI 50) – Survey of Health, Ageing, and retirement in Europe – Girona node
Funding agency: Organisme de Salut Pública de la Diputació de Girona – Diputat
Duration: 2013-2023
Principal Investigator: Josep Garre-Olmo

Project: Imagenoma de l’Envelliment: Estudi observacional poblacional per definir biomarcadors d’imatge RM corporal integral i òmics que s’assocïen al procés d’envelliment i a factors de risc biopsicosocials en subjectes adults i que defineixen la seva trajectòria vital cap a un enveliment saludable o bé la fragilitat i discapacitat.
Funding agency: Generalitat de Catalunya – Departament de Salut – Pla estratègic de recerca i innovació en salut (PERSIS) 2016-2020
Duration: 2017-2019
Principal Investigator: Reinald Pamplona Gras

Project: Real world Outcomes across the AD spectrum for better care; Multimodal data Acces Platform (ROADMAP)
Duration: 2017-2019
Principal Investigator: John Gallacher

Project: Desigualdades socioeconómicas en salud en los cuidadores informales (OI16/00184)
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2019
Principal Investigator: Laia Calvó-Perxas

Project: El sentido de la coherencia de las personas cuidadoras como factor determinante de los costes asistenciales de la enfermedad de Alzheimer (P17/00029)
Funding agency: Instituto de Salud Carlos III
Duration: 2017-2020
Principal Investigator: Oriol Turró-Garriga

Membership of collaborative research networks
(Nationals & international)
Survey of Health, Ageing and Retirement in Europe (http://www.share-project.org)

Collaborations
- IDiap Jordi Gol Girona (Dra Anna Ponjoan, Dra. Ruth Martí i Dr. Rafael Ramos)
- Laboratori de Medicina Translacional i Ciències de la Decisió (TransLab) (Dra. Dolors Capellà, Dr. Xavier Castells)
- Servei de Radiologia-Institut de Diagnòstic per la Imatge (IDI) (Dr. Josep Puig)
- Grup de recerca Nutrició, Eumetabolisme i Salut (IDIBGI) (Dr. Jose Manuel Fernández Real Lemos)
- East Anglia University, UK (Dr. Eneida Misio)
- Universidade Federal do Rio de Janeiro, Brasil (Dra. Maria Fernanda Barroso de Sousa)
Cerebrovascular pathology

The Cerebrovascular Pathology Research Group is a multidisciplinary team with more than 15 years of investigating experience in the area of cerebrovascular diseases, during which time it has consolidated itself as new investigators have joined. It has been recognised as a pre-consolidated research group by the Catalan Autonomous Government (2017SGR1730) and maintains scientific relations with other member centres of a network of scientific collaboration which began more than 10 years ago. Relations are particularly close with the groups that make up the STROKE area of the Thematic Network of Cooperative Health Investigation (Red RENEVAS, Red INVICTUS –Investigación Vascular en Ictus- and Red INVICTUS PLUS), of the Carlos III Health Institute. We are one of the 11 members of this group, who have all been selected on the basis of their experience and results from the first cut of this network.

Research topics

The main areas of investigation of the group are:

1. Clinical and experimental investigation of vulnerable atheromatous plaques in the identification of at-risk groups of patients with atherothrombotic disease.
2. Clinical and experimental investigation of the predictive capacity of biomarkers in the functional prognosis of patients with ischemic and hemorrhagic stroke, with special focus on biomarkers of endothelial lesions and of the extracellular matrix that are predictors of haemorrhagic transformation (hT) of the ischemic lesion and the recanalization response in patients who receive fibrinolytic therapy with rt-PA.
5. Application and utility of advanced neuroimaging predictors of the identification of salvageable cerebral tissue in the ischaemic penumbra and predictors of progression in cerebral haemorrhage.
6. Ultrasound clinical investigation focussed on the epidemiology of the patent foramen ovale, the possibility of associated stroke recurrence, and response to current preventative pharmacological therapy.

Overview

The Cerebrovascular Pathology Research Group is a multidisciplinary team with more than 15 years of investigating experience in the area of cerebrovascular diseases, during which time it has consolidated itself as new investigators have joined. It has been recognised as a pre-consolidated research group by the Catalan Autonomous Government (2017SGR1730) and maintains scientific relations with other member centres of a network of scientific collaboration which began more than 10 years ago. Relations are particularly close with the groups that make up the STROKE area of the Thematic Network of Cooperative Health Investigation (Red RENEVAS, Red INVICTUS –Investigación Vascular en Ictus- and Red INVICTUS PLUS), of the Carlos III Health Institute. We are one of the 11 members of this group, who have all been selected on the basis of their experience and results from the first cut of this network.

Publications

Originals


Clinical guidelines


Grants

Project: Grup de Recerca Preconsolidat Reconegut per la Generalitat de Catalunya. 2017SGR1730.
Funding agency: Agència de Gestió d’Ajuts Universitaris i de Recerca (AGAUR)
Duration: 2017-2020
Principal Investigator: Joaquín Serena

Project: Indicadors de neuroplasticitat en la potenciació perifèrica y posterior validación de biomarcadores no invasivos en pacientes con estenosis carotidea: biomarcadores en sangre periférica y neuroimagen de alta resolución. P16/01540.
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2019
Principal Investigator: Joaquín Serena

Funding agency: Fundació La Marató de TV3.
Duration: 2017-2019
Principal Investigator: Yolanda Silva

Doctoral thesis

Title: “Papel del Diffusion Tensor Imaging en la Resonancia Magnética cerebral como marcador predictivo del estado motor y evolución post ischemia intracerebral”
Student: Mikel Terceño Izaga
Director: Yolanda Silva Blas, Joaquín Serena Leal, Josep Puig Alcántara,
University: Universitat de Girona
Faculty/school: Medicina
date: 06/02/2018

Partner groups

- Grp: Dr. Ignacio Lluisa and Dr. María Ángeles Micro, Unidad de Investigación Neurovascular (UIN), Departamento de Farmacología, Facultad de Medicina, Universidad Complutense de Madrid.
- Grp: Prof. José Castillo, Laboratorio de Investigación en Neurociencias Clínicas, Hospital Clínico Universitario, Santiago de Compostela.
- Grp: colaborativo Catalan Stroke Code and Reperfusion Study Group (Cat-SCR) del Pla Director de Malalties Cerebrovascular.
- Grp: Gestió del Pla de Malalties Malalties Cerebrovasculars de l’Institut Català de la Salut (ICS).
- Grp: de Tràfic de la Societida Española de Neurología – Proyecto RENISEN, Registro de ictus de la Sociedad Española de Neurología.
Medical imaging

Overview
Medical Imaging research group main goals:
- Image Biomarkers validation.
- Validation of brain connectivity as a predictive biomarker in patients with cerebral infarction.
- Aging predictive biomarkers study.
- “Population” study

Research topics
The main research lines are:
- Validation of the utility of the tensor diffusion in the management and prognosis of the patient with cerebral infarction.
- Validation of the utility of the tensor diffusion in the evaluation of the evolution time of cerebral infarction.
- Validation of the use of mismatch diffusion / FLAIR in the treatment of patients with awakening stroke.
- Validation of the TC perfusion i angio TC en el diagnostic d’infart cerebral.
- Validation of predictive biomarkers for MR in the cerebral hematoma.
- Validation of the predictive biomarker for TC in the cerebral hematoma.
- Utility of the study regarding the elasticity of the arterial in the prediction of cardiovascular risk.
- Utility of intravascular contrast in the definition of the real extent of aggressive brain tumor.
- Validation of ultrasound biomarkers (intima average degree of hepatic steatosis)
- Utility of the tensor diffusion in the evaluation of the lumbar disc degeneration.

Publications
Originals


Project: Análisis de Imágenes Inteligente para los retos en el cribado de cáncer de mama (SMARTER).
Funding agency: MECO - Ministerio de Economía y Competitividad.
Duration: 2018-2020
Coordinator: Robert Martí Marly
Principal Investigator: Kai Vilanova.

Project: "WAKEUP: Efficacy and safety of MRI-based thrombolysis in wake-up stroke: a randomised, double-blind, placebo-controlled trial"
Funding agency: European Union- VII programme* REF: No 278276
Duration: 2012-2018
Coordinator: Christian Gerloff
Principal Investigator: Salvador Pedraza

NEUROSCIENCE AREA
Mental Health & Addiction Research Group

Group members

Principal investigator
Jordi Cid

Post-doctoral Researchers
Eva Frigola
Laura Masferre

Pre-doctorate Researchers
Miriam Broncano

Overview
The aim of the group is consolidate mental health and addiction clinical research. We develop studies from epidemiological, promotion of health and prevention (suicide) perspective. We also promote studies from clinical practice and treatments. We do effectiveness multi-site, multi-trial studies in early psychosis, depression and addiction. Also, we develop research based in outcome programs from economical health perspective.

Research topics

Early Psychosis: etiology of psychosis, early intervention and early intervention.

Addiction: understand the psychological, neurobiological variables involved in addiction assessment and treatment Promotion & Prevention Mental Health: promote health status in mental health patients and to prevent suicide

Complexity in Mental Health: we study multi-morbidity in mental health patients, how to improve integral treatment (social, health and mental health) and how to prevent and treat multimorbidity.

Health Economics: main goal is to apply health economics, management to mental health area. Specific areas of interest are:
- Evaluation of attention patterns in attention deficit disorder. A Population Study
- Mental health care models
- Mental health financing systems
- Project to evaluate the cost-effectiveness of the Route of Complexity in Mental Health.

Psychological & Psychopharmacological trials: effectiveness trials comparing two active treatments.

Publications

Originals


Broncano M. Investigación en cuidados en el ámbito asistencial: binomio clave para la aplicación de la mejor evidencia. Revista Enfermería en Salud Mental. 2018-9:3-4


**Project:** Cognición social y sesgos cognitivos en personas con primeros episodios psicóticos en comparación con esquizofrenia crónica y controles sanos  
**Funding agency:** PERIS Departament de Salut  
**Duration:** 3 years  
**Coordinator:** Susana Ochoa. Sant Joan Deu Research Foundation  
**Principal Investigator:** Jordi Cid

**Project:** INNOBRAIN: Noves tecnologies per a la Innovació en Rehabilitació i Estimulació Cognitiva  
**N. de projecte:** 6  
**Funding agency:** Comunitat RIS3CAT  
**Duration:** 3 years  
**Coordinator:** Gutman Institute  
**Principal Investigator:** Jordi Cid

**Project:** Predictores clínicos y biomarcadores de las tentativas de suicidio en pacientes del Código Riesgo Suicidio de Cataluña (CRS)  
**Funding agency:** Instituto Carlos III  
**Duration:** 3 years  
**Coordinator:** Diego Palao. Parc Taulí  
**Principal Investigators:** Jordi Nuñez & Miriam Broncano

**Neurodegeneration and neuroinflammation**

Team involved in Red Española de Esclerosis Múltiple (REEM)  
Recognised as a consolidated research group - 2017SGR1444  
**KEYWORDS:** multiple sclerosis, neurodegeneration, neuroinflammation, cognitive impairment, neuroimmunology, epigenetics

**Group members**

**Principal Investigator**  
Lluís Ramí i Torrentà

**Post-doctoral Researchers**  
René Robles  
Jordi Tomàs  
Jordi Gich  
Ester Quintana

**Pre-doctoral Researchers**  
María Muñoz  
Claudia Colí  
Naïara Celarain  
Judit Salavedra

**Medical Researchers**  
Héctor Perkal  
Joan Carlos Viana  
Imma Pericot  
David Genis  
Laura Fàbregas  
Anna Cots  
Berta Solano  
Antoni Turón  
Berta Alemany

**Technicians**  
Imma Gómez  
Miriam Broncano  
Miguel Merchán  
Dagmar Keller  
Marina González  
Miriam Broncano

**Support**  
Pepi López  
Meritxell Rigola  
Cristina Ridao  
Mireia Montserrat

**Grants**

**Project:** Evaluación del malestar subjetivo en la esquizofrenia: Validación y viabilidad de la Escala SIRS en España. Estudio SIRS-España. CÓDIGO DEL PROYECTO: P116/00647  
**Funding agency:** Ministerio de Sanidad, Servicios Sociales e Igualdad  
**Duration:** 3 years  
**Coordinator:** Berta Kuchner. FIMABIS. Málaga  
**Principal Investigator:** Jordi Cid

**Project:** Influencia del estilo de apego en la cognición social y sesgos cognitivos en personas con primeros episodios psicóticos, esquizofrenia y controles sanos  
**Funding agency:** Ministerio de Sanidad, Servicios Sociales e Igualdad  
**Duration:** 3 years  
**Coordinator:** Susana Ochoa. Sant Joan Deu Research Foundation  
**Principal Investigator:** Eva Frigola
Our multidisciplinary research group is headed by Dr. Lluis Ramió i Torrentà who is also in charge of the Neuroimmunology and Multiple Sclerosis (MS) Unit and head of the neurology department in Dr. Josep Trueta University Hospital. The Unit take care of most of the multiple sclerosis patients in Girona’s region. The group is composed by neurologist, neuropsychologist, radiologists, lab personal, nurses and office personal with common aim of give responses to each challenge that MS could give us. Our horizon is not only with the knowledge, but transfers it to the society and finally to the patient. We are involved in several clinical studies (clinical trials, epidemiologic studies) and in basic research (genetic and epigenetic factors, biomarkers, cognitive rehabilitation, rare clinical phenotypes).

Overview

Our multidisciplinary research group is headed by Dr. Lluis Ramió i Torrentà who is also in charge of the Neuroimmunology and Multiple Sclerosis (MS) Unit and head of the neurology department in Dr. Josep Trueta University Hospital. The Unit take care of most of the multiple sclerosis patients in Girona’s region. The group is composed by neurologist, neuropsychologist, radiologists, lab personal, nurses and office personal with common aim of give responses to each challenge that MS could give us. Our horizon is not only with the knowledge, but transfers it to the society and finally to the patient. We are involved in several clinical studies (clinical trials, epidemiologic studies) and in basic research (genetic and epigenetic factors, biomarkers, cognitive rehabilitation, rare clinical phenotypes).

Research topics

Priority clinical-healthcare lines:
2. Study of the emotional impact, ability to cope, and adaptation to the diagnosis of multiple sclerosis.
5. Improve the clinical data collection by developing a multiparametric, multidisciplinary database for multiple sclerosis.
7. Shared decisions, expert patient empowerment and patient with multiple sclerosis.

Priority lines in basic research:
2. Study of miRNA pattern expression in different clinical subtype and their biomarker value.
5. Genetic studies in familial multiple sclerosis.
6. Determination of biological prognostic factors in cerebrospinal fluid and serum for the evaluation of multiple sclerosis (genetic factors, biochemical factors, environmental factors such as vitamin D, virus and others).

Bank of DNA, CSF and serum samples of neuroimmunological diseases and control subjects.

Publications

Originals


Genis D; Ortega-Cubero S; San Nicolas H; Corral J; Gardenyes J; de Jorge L; López E; Campos B; Llorero E; Tonda R; Beltran S; Nere M; Obon M; Beltran F; Fabregas A; Alemany B; Marquez F; Ramí-Torrentà LI; Gich J; Volpini V; Pastor P. Heterozygous STUB1 mutation causes familial ataxia with cognitive affective syndrome (SCA44). Neurology 2018;91(2):1988.


Casanova B, Lacruz L, Villar ML, Domínguez JA; Gadea MC; GasconF; Mallada J; Hervas D; Simó C; Castelló M; Salcedo E; Calles C; Olascagoitia J; Arroyo R; Cerveró I; Bosca I; Pérez-Miralles FC, Coret F. Different clinical response to interferon beta and glataminator related to the presence of oligoclonal IgM bands in CSF in multiple sclerosis patients. Neurológicas 2018;39(9):1423-1430.


Vilanova JC. Key features of radiology reports on oncology. Radiologia. 2018;60 Suppl 1:36-42.


Research

Fernández O, Tintoré M; Saiz A; Calles-Hernandez MC; Comabella M, Ramí-Torrentà LI; Oterño A; Izuqierd G; Tellez N; Garcia-Merino JA; Brieva L; Arnal-García C; Aladro Y, Mendibé-Bilbao MM; Meca-Lallana JE; Romero-Pinel L; Ginestal R; Martinez-Gines ML; Arroyo R; Rodríguez-Antiguiedad A. Review of the novels from the 2017 ECTRIMS Congress, presented at the 10th Post-ECTRIMS Meeting III. Revista de Neurologia 2018;67(5):15-27.

Grants

Project: EM-line Memory con a eina de rehabilitación cognitiva per a pacients que han patit un ictus
Funding agency: Fundació Mutuam Convive.
Duration: 2018-2019
Principal Investigator: Lluís Ramió i Torrentà
Project: Estudio de metiloma completo en células de sistema inmunoe de pacientes con esclerosis múltiple (P16/01140)
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2019
Principal Investigator: Lluís Ramió i Torrentà
Project: Estis de vida, caracteristiques sociodemogràfiques e econòmiques, discapacitat, dolor, qualitat de vida, impulsiuvitat, suport social, i prevalència de factors de risc i de malalties cròniques de la població adulta de la província de Girona. (Girona, regió saludable).
Funding agency: Generalitat de Catalunya i Diputació de Girona.
Duration: 2018-2020
Principal Investigator: Dr. Josep Garre Olmo
Funding agency: CSDA - Departament de Salut de la Generalitat de Catalunya.
Duration: 2017 – 2020
Principal Investigator: Dr. Reinald Pamplona i Dr. Josep Puig
Project: Red Española de Esclerosis Múltiple
ISCA - Instituto de Salud Carlos III
Duration: 2017-2021
Coordinator: Dra LM Villar
Principal investigator: Lluís Ramió i Torrentà

Project: New technologies applied to clinical practice for obtaining biomarkers of atrophy and lesions in magnetic resonance images of patients with multiple sclerosis (BiomarkEM.cat)
Funding agency: FTV3 - Fundació La Marató de TV3
Duration: 2015-2019
Principal Investigator: Xavier Lladó Bardera

Project: Influencia del virus Epstein-barr en el risc de patir una malaltia autònomma com l’esclerosi múltiple.
Funding agency: Friselva S.A.
Duration: 2017-2018
Principal Investigator: Dr. Lluís Ramió i Torrentà

Membership of collaborative research networks
(National & International)
Red Española de Esclerosis Múltiple. RD16/0015/0006 2016-2021

Thesis
Title: Utilidad de las biopsias guiadas cognitivamente por resonancia magnética para mejorar la detección del cáncer de próstata
Student: Josep Garcia Bennett
Director: Joan Carles Vilanova Busquets; Josep Gumà Padró
University: Rovira i Virgili University
Faculty/School: Medicine and surgery department
Date: 2018-03-12

Collaborations
- VICOROB- UdG
- Hospital Ramón y Cajal, neurology service
- Hospital Universitari Vall d’Hebron, neuroimmune service
ONCOLOGY AND HEMATOLOGY AREA

CHROMOSOME REPLICATION
DESCRIPTIVE EPIDEMIOLOGY, GENETICS AND CANCER PREVENTION
HEMATOLOGY
HEPATOBILEARY & PANCREATIC SURGERY AND ONCOLOGY
METABOLISM AND CANCER GROUP

ONCOLOGY AND HEMATOLOGY AREA

Chromosome replication

KEYWORDS: genomic duplication and cell cycle

Group members

Principal Investigator
Jordi Frigola Mas

Pre-doctoral Researchers
Marina Guerrero
Overview
DNA replication is an essential process to living organisms. Faithful genome duplication ensures genome stability and it contributes to pass genetic information from generation to generation. Errors during this process lead to cancer. Our laboratory is interested in understanding, at a molecular level, how the replication machinery (known as replisome) works in yeast and human cells. If we understand how the replisome works, we not only find out what goes wrong during cancer development but also we would be able to design new cancer treatments.

Research topics
Find out how the helicase is recruited and activated during chromosome replication.

Develop new ways to stop cell proliferation without inducing DNA damage (one of the main limitations of the current cancer treatments).

Study how chromosome termination occurs.

Publications

Grants
Project: BFU2016-79927-P
Funding agency: MINECO
Duration: 2016-2019
Coordinator: Jordi Frigola
Leader Researcher: Jordi Frigola

Descriptive epidemiology, genetics and cancer prevention

Team involved in “Centro de Investigación Biomédica en Red epidemiología y salud pública” (CIBERESP)
Member of the steering committee: EUROCARE
Member of the steering committee: Spanish cancer registries
KEYWORDS: Cancer epidemiology; prognostic and predictive markers; cancer risk factor

Group members

Principal Investigator
Rafael Marcos-Gragera

Medical Researchers
Carma Carmona
Rafael Fuentes
Sónia del Barco
Angel Izquierdo
Neus Vilar
Jordi Rubió
Loreto Villardell
Adelaida Garcia
Maria Aranzazu Eraso

Technicians
Joana Fuentes
Montse Puigdemont
Anna Vidal
Martí Rispau

Support
Bernat Sordà
Montse Puig

Collaborators
Antonia Bianca

Partner groups
Dr. Narcís Fernández Fuentes
Universitat de Vic.

ONCOLOGY AND HEMATOLOGY AREA
Overview

The Descriptive Epidemiology, Genetics and Cancer Prevention group is made up of a multidisciplinary group including epidemiologists, statisticians, oncologists, radiotherapists, physical therapist, dermatologist; biologist, nurse and medical documentalists, biostatist. The group main focus is cancer epidemiology (descriptive and analytical), cancer prevention and genetic.

Research topics

Strategies objectives

1. Descriptive and analytical epidemiology of cancer

Population-based cancer registry in the province of Girona (national and international collaborations)
- To monitor the cancer burden (incidence, prevalence and survival) and its evolution in Girona, Spain, Europe and Worldwide.
- To provide a basis for research on cancer causes
- Aetiological studies of chronic lymphocytic leukemia (CLL) and breast cancer.
- Study of the genetic and molecular prognostic factors in breast cancer and haematological tumours.
- Study of the genetic and environmental risk factors in breast cancer and chronic lymphocytic leukemia.
- Studies of infectious, genetic and environmental risk factors linked to the development of lymphomas.
- Genetic susceptibility and the interaction between genes and environment. The study of the interaction of environmental factors with genetic factors is a key part of aetiopathogenesis.

2. Cancer prevention

Primary prevention
- Evaluation of the program of timely detection of cervical cancer:
  - Determination of the sensitivity and specificity of cervical cytology.
- Tertiary prevention
  - Tertiary prevention in cancer care: the use of treatment and rehabilitation programmes to improve the outcome of illness among affected individuals.
  - To design strategic and collaborative links with rehabilitation cancer research programmes.
  - To improve the quality of survival in older cancer population based on multimodal rehabilitation programmes.
  - To generate knowledge on cancer recovery and Quality of Life by conducting, assisting and evaluating innovative, internationally competitive, public health programs.
- To form and maintain strategic and collaborative links with cancer research / control programs and related institutions nationally and internationally.

3. Genetics (Genetic Epidemiology of Cancer)

- Evaluation of the risk of developing cancer.
- Study of the genetic risk factors for cancer.
- Genetic susceptibility to cancer.

Principal lines of research

Descriptive and analytical epidemiology of cancer.

Publications

Originals

Solans M, Benavente Y, Saiz M, Agudo A, Naudin S, Saberí


PMID: 30312457.


Books


Funding agency: Universitat de Girona (UdG), a través de la beca "Autors complementaris per a la mobilitat d’investigadors de la UdG (IMOB2017)"

Duration: 15/02/2018-15/09/2018


Books


Funding agency: Universitat de Girona (UdG), a través de la beca "Autors complementaris per a la mobilitat d’investigadors de la UdG (IMOB2017)"

Duration: 15/02/2018-15/09/2018


Membership of collaborative research structures (National)

Marta Solans: PhD contract of CIBER in Epidemiology and Public Health (CIBERESP), Madrid, Spain.

Thesis

Title: Influencia de la glicemia y los corticoides en el pronóstico vital de los pacientes con glioblastoma multiforme

Students: Yolanda Yarcel, N. Navea

Director: Sonia del Barco

University: Universitat Autònoma de Barcelona

Faculty/School: Medicina i Cirugia

Date: 17 de julio de 2018 con la calificación de Cum Laude

Membership of the collaborative research networks

The group takes part in numerous national and international collaborations:

- The European Network of Cancer Registries (ENCIR): established within the framework of the Europe Against Cancer Programme of the European Commission, has been in operation since 1990. The ENCIR promotes collaboration between cancer registries, defines data collection standards, provides training for cancer registry personnel and regularly disseminates information on incidence and mortality from cancer in the European Union and Europe. http://www.encir.eu/
- European Cancer Information System (ECIS). ECIS provides the latest information on indicators that quantify cancer-burden across Europe. It permits the exploration of geographical patterns and temporal trends of incidence, mortality and survival data across Europe for the major cancer entities. The purpose of the web-application is to support research as well as public-health decision-making in the field of cancer and to serve as a point of reference and information for European citizens. https://ecis.jrc.ec.europa.eu/
- EUROpian Cancer REgistry based study on survival and care of cancer patients (EUROCARE) (member of the Steering Committee). http://www.eurocare.cat/
- The High Resolution studies (HR) started in 1990s as ancillary studies of the EUROCARE project, with the participation of a few population-based Cancer Registries (CR) across Europe. Based on samples of cases representative of the whole cancer incidence population, the HR studies collect more clinical detailed data than those available in the routine cancer registry activity, such as stage at diagnosis, diagnostic procedures, molecular profiling and main treatments. The main aim of the HR studies is to explain the reasons of the cancer survival differences evidenced by the EUROCARE studies across Europe. The HR studies started in the 1990s with 26 CR, and thanks to a steadily growing number of participating Cancer Registries, the study regularly provides publications of patterns of care in Europe. http://www.hrstudies.eu/
- RARECAREnet project: the RARECAREnet database on the epidemiology of rare cancers in Europe is drawn from the dataset of EUROCARE-5, the wider collaborative study on cancer patients’ survival in Europe (www.eurocare.cat). Overall 94 European population-based cancer registries (CRs) participating in EUROCARE-5 adhered to the RARECAREnet project also. They provided information on cancer patients diagnosed up to 2007 and followed-up for vital status ascertainment to the end of 2008 or later. http://www.rarecanet.eu/
- Global surveillance of cancer survival (CONCORD programme). CONCORD is the global programme for world-wide surveillance of cancer survival, led by the London School of Hygiene & Tropical Medicine. http://csg.lshm.ac.uk/
ONCOLOGY AND HEMATOLOGY AREA

Haematology

Team involved in “Red Temática de Investigación Cooperativa en Cáncer (RTICC)”
Recognised as a consolidated research group - 2017SGR733

Group members

Principal investigator
David Gallardo Giralt

Overview

The main lines of translational research for this group are:

- Study of genes involved in the immune response as predictors of survival and graft disease against the host after allogeneic transplantation of hematopoietic progenitors.
- Genotype of molecules co-stimulators as markers of progression of multiple myeloma.
- Pharmacogenomics in patients with acute myeloblastic leukemia

Publications

Originals


Awards / Recognition

Premi Corominas: XXXIV Jornada de Cloenda acadèmia de ciències mèdiques curs 2017-2018
Rosa Coll, Neus Masó, Núria Salvadó, Montserrat Grabalosa, Pere Roure, Ester Auget. Eficàcia de la crioteràpia oral amb gel picat com a profilaxi de la mucositis severa secundària a la quimoteràpia durant l’acondicionament en el trasplantament autòleg de progenitors hematopoètics.

Project: Modulación de respuesta inmune en trasplante aloengénico de progenitores hematopoyéticos por el genotipo de moléculas inhibidoras de checkpoint. Biobanco español de aloTPh.

Entity: FIS. Projecte nº PI17/00815
Duration: 3 years (2018 - 2020).
Principal Investigator: David Gallardo

Project: SGR2017
Entity: AGAUR
Duration: 3 years (2018 - 2020).
Principal Investigator: David Gallardo

Project: EFA281/16/IMLINFO - Réseau transfrontalier d'immunothérapies personnalisées dans le traitement des lymphomes non hodgkiniens.

Entity: POCTEFA 2014-2020 FR
Duration: 3 years (2018 - 2020)
Principal Investigator: Patricia Pérez
Associated researchers: David Gallardo, Josep Mª Roncero.

Project: Estudi de les molècules de coestimulació com a marcadors de progressió del mieloma múltiple.

Entity: Fundació Roses contra el càncer
Principal Investigator: Yolanda González

Group members

Principal Investigator
Antoni Codina Cazador

Medical researchers
Jordi Giné
Pere Planellas
David Julia
Anna Pigem
Maite Albiol
Clara Codony
Andor Timoteo
Francesc Tuca
Jose Ignacio Rodriguez
Ernest Castro
Julia Gil
Laia Falgueras
Marcel Pujadas
Núria Ortega

Medical researchers
Ramón Farres
Núria Gómez
Santiago López-Ben
Margarida Casellas
Elisabet Garcia
Eva Artigau

Lidia Cornejo

Overview
The main lines of research of the group are focused on digestive oncological surgery, mainly at the colorectal, liver and pancreas, stomach and endocrine surgery.

Research topics
The Service of General and Digestive Surgery develops mainly three activities: assistance, teaching and research. The first two take up most of the time but the surgeons develop a research activity that is reflected in the preparation of papers, communications to congresses, the realization of doctoral thesis and research works.

Surgery service does not have human or material resources to carry out research at the laboratory level, therefore, our lines of research are focused at the healthcare level.

Lines Research:
- Prospective study between the microbiota and the degree of tumor regression post neoadjuvant therapy in rectal cancer
- Prospective clinical study to evaluate the efficacy of sacral neuromodulation in the anterior resection syndrome
- Preoperative prediction model of mesorectum quality and affectation of the circumferential margin in rectal cancer
- Strategies for the discovery of new biomarkers for the diagnosis of pancreatic ductal adenocarcinoma
- European Registry of laparoscopic Liver Surgery
- Impact of surgery resection on the outcome of patients with initially transplantable hepatocellular carcinoma
- Perioperative chemotherapy of hER-2 positive stomach cancer. The Innovation trial
- Study of adipose tissue in obese subjects (Ironmet)

Publications
Case reports

Originals
colorectal. ¿Resección simultánea o Diferida ?. Cir Cir 2018;86(4):528-533


Project: Impact of associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) en growth of colorectal liver metastases.

Grants

Project: Identification of novel modulators of chronic inflammation in prevalent disorders and divergent mechanisms of diseases (INFLAMES)

Coordinador: Dr. JI Rodríguez

Project: Study of adipose tissue muscle and brain iron in obese subjects. Interaction with gut microbiota and effects of weight loss (IRONMET)

Coordinador: Dr. M. Pujadas

Project: Validation de la calidad de los datos del registro EURECCA de cáncer esofagogástrico en España

Coordinador: Dr. M. Pujadas

Project: Uso del adhesivo de fibrina (Tisseal) para disminuir la degiscencia de la anastomosis esofagogástrica en gastrectomías totales por cáncer: estudio aleatorizado y multicéntrico

Coordinador: C. Codony

Project: Estudio de expresión génica de enzimas implicadas en procesos de invasión y metastasis en carcinomas humanos

Coordinador: Dr. J. Gil

Thesis

Title: Bypass gastric en el tratamiento de la obesidad morbid.

Seguimiento a 5 años

Student: JI Rodríguez

Director: JM Fernández-Real, A Codina Cazador

University: Universitat de Girona

Faculty/ School: Facultat de medicina

Date: 10/12/18
Metabolism and cancer group

KEYWORDS: Metabolism, cancer, aging

Group members

Principal Investigator
Javier A. Menéndez

Medical Researchers
Joaquim Bosch
Bagofía Martín
Eugens López

Post-doctoral Researchers
Elisabet Cuyàs

Pre-doctoral Researchers
Sara Verdura

Overview

The Metabolism & Cancer Group adopts the view that cancer is governed by a pivotal regulatory role of metabolic reprogramming in cell fate. The group aims to advance new metabolism-targeted approaches through completion of clinical proof-of-efficacy in cancer patients.

Research topics

Metabolome-epigenetics & cancer: molecular aspects and therapeutic development
- Metabolome-epigenetic mechanisms involved in the generation and maintenance of cancer stem cells (CSCs), i.e., the metastemness hallmark.
- New therapeutic strategies targeting the metabolome-epigenetic machinery of CSCs.
- Precision medicine approaches based on the metabolome-epigenetic machinery of CSCs.

Mitochondrial dynamics & cancer
- Role of autophagy and mitochondrial dynamics in the generation and maintenance of CSCs.
- Targeting autophagy and mitochondrial dynamics to overcome drug resistance in cancer therapy.

Computational systems biology in cancer & aging
- Mathematical & Computational Biology: stochastic tools, conceptual frameworks, and wet-lab validation of metabolome-epigenetics models in cancer & aging.

Natural bio-compounds: mechanisms & drug development
- Molecular characterization and pre-clinical evaluation of natural with anti-cancer and/or anti-aging properties.
- In silico modeling and pre-clinical development of bio-compounds-based anti-cancer and anti-aging drugs.

Metabolome-immunotherapy
- Identification of metabolic nodes essential for the regulation of immune checkpoints in cancer cells.
- Dietary interventions and efficacy of immune checkpoint inhibitors (ICIs).
- In silico clinical trials of metabolic interventions in combination with ICIs.

Publications

Originals

PMID: 30045052

PMID: 30045052

PMID: 30045052

Tramonti, A; Paizidri, A; Pasne, A; Bouzidi, A; Giardina, G; Guiducci, G; et al. Differential inhibitory effect of a pyrazolopyran compound on human serine hydroxymethyltransferase - amino acid complexes. ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS 2018; 653:71-77.


Agrícola Estatal de Investigación. Plan Estatal de Investigación Científica y Técnica para la Innovación 2013-2016

Duration: 2016-2019

Coordinador: Javier A. Menéndez

Principal Investigador: Javier A. Menéndez

Project: Ensayo en Fase II, aleatorizado, abierto, multicéntrico de tratamiento neoadyuvante con quimioterapia y trastuzumab con o sin la adición de metformina en mujeres diagnosticadas de cáncer de mama primario HER2/ErbB2 positivo. EC10-125

Funding agency: Ministerio de Sanidad

Duration: 2010-2018

Coordinador: Begoña Martín-Castillo/Javier A. Menéndez

Principal Investigador: Begoña Martín-Castillo

Project: Contratos Postdoctorales de Perfeccionamiento en Investigación en Salud “Sara Borrañ”. CD15/00033

Funding agency: Instituto de Salud Carlos III. Ministerio de Economía y Competitividad.

Duration: 2016-2018

Coordinador: Javier A. Menéndez

Principal Investigador: Elisabet Cuyás

Project: Impacto del metabolismo energético en las modificaciones epigenéticas derivadas de la combinación de diabetes y obesidad.

Funding agency: Fundació La Marató de TV3. Convocatoria 2015 Diabetes y Obesidad.

Duration: 2016-2018

Coordinador: Jorge Joven

Principal Investigador: Jorge Joven

Project: Caracterización de un inhibidor dual de STAT3 como quimio-sensibilizador en el tratamiento del cáncer de pulmón.

Funding agency: Grupo Español de Cáncer de Pulmón (Becas, 2ª edición)

Duration: 2018-2019

Coordinador: Joaquim Bosch-Barrera/Javier A. Menéndez

Principal Investigador: Joaquim Bosch-Barrera

Project: Restricció calòrica i càncer: Bases moleculars i noves estratègiques terapèutiques

Funding agency: Fundació Oncolliga Girona

Duration: 2018

Coordinador: Joan Nrunet / Javier A. Menéndez

Principal Investigador: Javier A. Menéndez

Thesis

Title: Stochastic modelling of epigenetic regulation: analysis of its heterogeneity and its implications in cell plasticity.

Student: Núria Folguera Blasco

Director: Tomás Alarcón/Javier A. Menéndez

University: Universitat Autònoma de Barcelona (UAB)

Faculty/School: Centre de Recerca Matemàtica (CRM), Program de Doctorat en Matemàtiques

Date: November 2, 2018

Awards / Recognition

Title: IV Edition of Castillo de Canena LUIS VAÑO Award

Institution: UC Davis Olive Center, Castillo de Canena, and Universidad de Jaén

Awardee/s: Javier A. Menéndez

Title: Full member

Institution: World Academy of Sciences (WAS)

Awardee/s: Javier A. Menéndez

Partner groups

ICREA Prof. Tomás Alarcón, Centre de Recerca Matemàtica (CRM), Barcelona (Spain).

Prof. Jorge Joven, Pere Virgili Institute for Health Research (ISPV)/Rovira i Virgili University, Reus (Spain)

Prof. Vicente Micó, Universidad Miguel Hernández, Elche (Spain)

Prof. Antonio Segura-Carretero, Universidad de Granada, Granada (Spain)

Prof. José Antonio Encinar, Universidad Miguel Hernández, Elche (Spain)

Dr. Angel G. Martín. StemTek Therapeutics. Bilbao (Spain)

Dr. Alexei Vazquez, Beatson Institute for Cancer Research (UK)

Prof. Francesca Cutruzzola, SAPIENZA University of Rome (Italy)

Prof. Jiri Neuzil, School of Medical Science/GIH Griffith University, Gold Coast Campus (Australia).

Prof. Ruth Lupu. Mayo Clinic (USA)

Prof. Ana Jesús García-Sáez. Tübingen University (Germany)

Prof. Pilar Blancafort, Harry Perkins Institute of Medical Research, University of Western Australia (Australia)
ASSOCIATED GROUPS

ICS
INTERNAL MEDICINE
NEPHROLOGY

UNIVERSITY OF GIRONA
BIOCHEMISTRY OF CANCER
COMPUTER VISION AND ROBOTICS
CONTROL ENGINEERING AND INTELLIGENT SYSTEMS - MEDICINE AND HEALTH
HEALTH AND HEALTHCARE
HEALTH PSYCHOLOGY
MICELAB - MODELLING, IDENTIFICATION AND CONTROL ENGINEERING
PROTEIN ENGINEERING
STATISTICS AND DATA ANALYSIS
STATISTICS, ECONOMETRICS AND HEALTH (GRECS)
Overview

All members belong to the Internal Medicine Service, a healthcare service that assists a wide spectrum of pathologies. The main activity of the group is the assistance, and, in their effort to maintain the quality of care, they dedicate notable efforts to ongoing medical education (after hours), and in their conviction that clinical research results in a better quality of care.

Research topics

- Venous thromboembolic disease (vTE). The group, for years, has been dedicated to clinical research of vTE; has participated in several controlled clinical trials on the new direct-acting oral anticoagulants, all of which were published in the New England Journal of Medicine (the last in 2018). The group also participates in two international registries on vTE, the registries RIETE and GARFIELD - vTE. Nowadays involves in the trial API-CAT STUDY for Apixaban Cancer Associated Thrombosis.

- Heart failure. Dr. Arola Armengou She is a member of the Heart Failure and Atrial Fibrillation group of the Spanish Internal Medicine Society and is an active member of the RICA registry.

- Infectious diseases. The group designed and developed a clinical trial on pneumonia acquired in the community, as well as other studies on the same pathology. These studies were translated into an original in the American Journal of Medicine as well as other publications and communications to different congresses. The group also works on the infection by the human immunodeficiency virus, multiresistant bacteria, urinary tract infections and Tuberculosis.

- Finally, the group also participates in the clinical investigation of systemic autoimmune diseases and recently we have started clinical research, together with the Ophthalmology Service, of uveitis. The group participates in the RELES registry (Registro Español del Lupus Eritematoso Sistémico) of the Spanish Internal Medicine Society.

Publications

Originals


**Nephrology**

**Group members**

**Principal Investigator**
Jordi Calabia

**Post-Doc Researchers**
Xoana Barros

**Post graduate Researchers**
Marcela Castillo
Marina Cufí
Nàdia Martin

**Medical Researchers:**
Isabel Garcia
Pere Torguet
Cristina Neboa

**Overview**

Consolidate the method for studying cardiovascular risk and the atheroma burden in patients with chronic kidney disease, high blood pressure and Diabetes Mellitus with diabetic nephropathy.

Consolidating the methodology for the study of stiffness and vascular calcification in patients with chronic kidney disease.

**Research topics**

Study of the macro and microvascular affectation of inflammatory markers and bone-mineral metabolism markers in chronic kidney disease and their most frequent pathologies: high blood pressure and diabetic nephropathy.

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**Biochemistry of cancer**

**University of Girona**

Recognised as a consolidated research group - 2017 SGR 673

**KEYWORDS:** Pancreatic cancer, Prostate cancer, tumor markers, aberrant glycosylation, PSA. New cancer therapeutic approaches, targeted drug delivery.

**Group members**

**Principal Investigators**
Rafael de Llorens and Rosa Peracaula

**Established Researchers**
Anna Massaguer
Silvia Barrabés
Esther Llop

**Pre-Doctoral Researchers**
Pedro Guerrero
Anna Gratacós
Adrià Duran
Laura Minto
Josep Comet
Manel Ramírez

**Technicians**
Montserrat Ferrer

**Overview**

Research group of the Biochemistry and Molecular Biology area of the Biology Departament of the Faculty of Sciences. University of Girona (Spain). (GRTC003).

web: http://www2.udg.edu/grupsrecerca/Bioqu%C3%ADmica-delC%C3%A0ncer/Activitats/Projectesderecerca/tabid/20005/language/es-ES/Default.aspx

**Research topics**

1. **Tumor markers:** Abnormal glycosylation of various serum proteins as possible tumor markers for carcinomas. Currently focused on pancreatic and prostatic carcinomas, specifically in the abnormal glycosylation of human pancreatic ribonuclease, acute phase proteins and PSA (prostate specific antigen). Extensible to other glycoproteins (Proteomics and Glycomics).

2. **Molecular mechanisms responsible for the changes of glycosylation in tumors:** Expression studies of glycosyltransferases responsible for the biosynthesis of glucidic antigens associated with the tumor, determination of their involvement in different stages of tumor progression and the factors that regulate their expression.

3. **Epidermal Growth Factor Analogs (EGF) as antitumor agents:** Antitumor effects of recombinant protease inhibitors (EGF, truncated EGF). Obtaining new more related and cytotoxic derivatives. Study of the mechanisms of resistance to new agents, by the appearance of autocrine loops of the EGF / ErbB pathway. Obtaining derivatives of cisplatin and ruthenium with fewer side effects, and their delivery by binding to peptides ligands of receptors overexpressed in tumors (Targeted Drug Delivery).
Publications

Reviews


Grants

Project: "Influencia de la glicosilación alterada en cáncer de páncreas. Estrategias glicoproteómicas para la búsqueda de nuevos marcadores tumoriales"
Funding agency: MINECO. N/r. BIO2015-66356-R.
Duration: 01/2016-12/2018.
Coordinator: Rosa Peracaula/Rafael de Llorens.

Overview

The Image Analysis and 3D Perception research group (G3DAI) belongs to the VICOROB research Institute of the University of Girona and it has been recognised as a consolidated group (2017 SGR 1164).

G3DAI focuses its effort on two main research lines: image analysis and 3D perception. In the field of image analysis, G3DAI is committed in developing and optimizing methods (including both hardware and software developments) for analysis of data, with particular focus on the study of medical images. In the 3D perception field, G3DAI brings together extensive experience in many of the scientific and technological fields related to the acquisition of three-dimensional information of a real scene, as well as the processing of this information to approach tasks of automation of machinery or quality control of up to 100% of the production.

Currently, G3DAI has 25 members: 10 doctors, 7 doctoral students, 6 master’s students and 2 administrative staff.

Research topics

G3DAI’s motivation is driven by the scientific challenges which continuously appear as a consequence of the society’s requirements. G3DAI is working towards the development of imaging tools to help women stratification for personalized breast cancer screening programs. In this sense, new algorithms and image acquisition protocols will be proposed to improve breast cancer detection using the most appropriate technology (mammography, ultrasound, magnetic resonance) for each woman, according to their cancer risk (e.g. breast density).

With respect to multiple sclerosis, the group’s research intends to develop novel algorithms to improve the current magnetic resonance biomarkers such as brain lesions, longitudinal brain atrophy, and regional cortical and subcortical gray matter, which indeed will improve the diagnosis, monitoring and follow-up of patients. Furthermore, we will tackle the challenge of developing predictive models fusing MRI information with other relevant clinical information. Moreover, G3DAI plans also to continue the development of novel 3D reconstruction techniques based on scanner systems and computer vision algorithms, with the main focus to deal with other quality control challenges from industrial companies.
The group is also collaborating in the field of breast image analysis with the Manchester Metropolitan University (Prof. Reyer Zwiggelaar).
Control engineering and intelligent systems - Medicine and health
University of Girona

KEYWORDS: Healthcare, artificial intelligence, case based reasoning, machine learning, optimization

Overview
The main research activity of the healthcare research line of eXiT focuses on the application of artificial intelligence principles (data mining and knowledge discovery, qualitative reasoning, case based reasoning, metaheuristic optimization) and machine learning, to support decision-making processes in healthcare.

Research topics
The Medicine and Healthcare research line of eXiT focuses on four main groups: (i) Disease prognosis, (ii) clinical decision support systems, (iii) mHealth and (iv) biosignal processing. Those research and technical approaches were applied to the following medical and healthcare areas:
- Endocrinology: insulin bolus recommendation for diabetic patients, phenotype model learning for obesity prognosis
- Hospital management: machine learning methods for Emergency department attendance prediction
- Internal medicine: treatment recommendation system for dyslipidemia, and familial hypercholesterolemia detection mechanism
- Mental health: treatment recommender system for Attention Deficit and hyperactivity disorder (ADHD)
- Neurology: machine learning algorithms for seizure detection and prediction from EEG, machine learning for migraine prediction
- Odontology: New devices for bruxism monitoring
- Paediatrics: Neonatologist at home (NOA h) project for vital signs monitoring in premature babies.

Publications

Books

Grants

Project: RCT-2017-6701-1
Funding agency: MINECO
Duration: 1/12/2018 a 31/05/2022
Coordinator: M.N. Neuroservices-SERAS
Principal investigator: Beatriz López, UdG

Project: PHC-28-2015, Grant Agreement 689810. PEPPER (Patient empowerment through personalized predictive decision support)
Funding agency: European Commission, H2020
Duration: 01/02/2016-31/12/2019
Coordinator: Clare Martin, Oxford Brooks University
Principal investigator: Beatriz López, UdG

Project: TECNICOCandidate support. Growth plan to promote technology transfer
Funding agency: ACCIO
Duration: 4 years (2015-2018)
Principal investigator: Joaquim Meléndez, Joan Colomer

Project: COMPET, Competitive research group award
Funding agency: Universitat de Girona
Duration: 2 years (starting in 2018)
Principal investigator: Joaquim Meléndez, Joan Colomer

Project: Development of a prototype tool to formulate participatory, individualized and automated therapeutic recommendations for the treatment of patients with Attention Deficit Hyperactivity Disorder (ADHD)
Funding agency: Fundació Pascual i Prats & Campus de Salut de la UdG
Duration: 2 years, starting in 2018
Principal investigator: Domenech Serrano, Xavier Castells

Awards / Recognition
Title: EUREKA Innovation of tomorrow
Institution: Universitat de Girona
Awarded/si MOSHCA (My Mobile and Smart Health Care Assistant) project
Date: 17-May-2018
Collaborations

The eXit Healthcare research group collaborates with the following researchers / groups:

- Doctor Fernández Real and team from IdIBGI (obesity and diabetes projects)
- Doctor Nick Oliver and team from Imperial College London (PEPPER project)
- Clare Martin and team from Oxford Brookes (PEPPER project)
- Doctor Xavier Castells from the Laboratori de Medicina Translacional i Ciències de la Decisió, TRANSLAB (AD hD project)
- Doctor Alberto Zamora, TRANSLAB (Dyslipidemia project)

Health and healthcare

University of Girona

Recognised as a consolidated research group - 2017 SGR 1767

Overview

The Research Group in Health and Healthcare is a multidisciplinary group composed of experts in nursery, psychology, anthropology and physiotherapy. Its aim is to conduct high quality research in different areas of health.

The research group in Health and Healthcare was founded in 2002 and in 2017, the Generalitat de Catalunya (2017-SGR-1767) renewed your recognition as a “Consolidated Group”.

The group is part of the sectorial campus of Health of the Universitat de Girona.

Research topics

The research carried out by the Group is organized into four major areas of work: Health Promotion, The elderly and carers, Woman, Gender and health and Health Emergencies.

Health promotion

Research in Health Promotion covers a wide range of actions in several areas:

- Health institutions: evaluation of the quality of both the organizations themselves and the care services they provide; assessment of the skills of the professionals of health.
- Educational institutions such as schools and universities.
- Community collectives of users of health services.
- Strategies: health literacy and salutogenesis.

The Elderly and carers

The main objective of this area is to improve the quality of life of the elderly, the dependent and fragile population and its carers. To achieve it, its investigators do specialized research to enhance the understanding of these situations, with special attention to the development of tools to assess dependency.

Women, Gender and Health

The research developed in this area is designed to provide the scientific knowledge needed to undertake actions to revert the discriminatory elements of the healthcare system that affect the health professions, the health professionals and the users of health services.

Health Emergency

This area focuses on the assessment of the skills to conduct basic and advanced life support protocols and on the creation of new tools to assess the professional competences in this field. This activity takes place in the group’s laboratory in the Science Park.

Publications

Originals

Loma Osorioa, P; Nuñez, M; Aboal, J; Bosch, D; Batlle, P; Ruiz de Morales, E; Ramos, R; Brugada, J; Onapa, H; Morales, A; Olivet, J; Brugada, R. Proyecto Girona Territori Cardioprotegit: evaluación...
Health psychology
University of Girona

Overview
The research group on Health Psychology was founded at the UdG in 1994. In the first stage of its development, its studies focused on analysing factors influencing risk and prevention behaviours in the spheres of sexuality and driving. The range of subjects was later expanded by incorporating drug use, pain, stress and burn-out, aging and death, and mourning.

The group’s researchers come from different fields of knowledge within the subjects of Psychology, Nursing and Medicine, and their research is interdisciplinary in nature.

The members of the group teach on the undergraduate and Master’s degree programmes in their fields. One of the main tasks of the group’s activity is the training of new researchers.

The research group has received recognition from the Catalan Autonomous Government by the following means and calls:

The group has also implemented knowledge transfer actions for public and private institutions in relation to the preparation and evaluation of preventive programmes.

Wherever possible, researchers from the group have disseminated the results of their research through different media.

Research topics
- Risky sexual behaviours.
- Risky behaviours on public roads.
- Substance addiction.
- Stress, pain and quality of life.
- Quality of life during aging.
- Loss and mourning processes.
- Research into health Psychology teaching.

The research lines of the group are included in the field of health psychology. The perspective is, therefore, biopsychosocial.

The priority lines of research are:
- Sexual behaviour of risk and prevention of AIDS, other STI and unwanted pregnancies.
- Behaviour of risk and prevention for users of motor vehicles and pedestrians.
- Substance dependence.
- Stress, pain and quality of life.
- Quality of life during aging.
- Processes of loss and mourning.
- Research in education in health Psychology.

Publications

Originals


Thesis

Title: Comportamientos de riesgo para la salud y calidad de vida en adolescentes escolarizados
Student: Fabiola Vilugrón
Director: M. Eugenia Gras and Sílvia Font Mayolass
University: Girona
Faculty/School: Institut de Recerca sobre Qualitat de Vida
Date: November 2018

Title: Eficacia de un entrenamiento en neurofeedback de la onda cerebral alfa en el tratamiento del estrés, la ansiedad, la depresión y los síntomas psicosomáticos
Student: Alexandra Glink
Director: Montserrat Planes Pedra
University: Girona
Faculty/School: Institut de RecercasobreQualitat de Vida
Date: November 2018
MICELab - Modelling, identification and control engineering
University of Girona

Recognised as a consolidated research group - 2017 SGR 1551
KEYWORDS: Artificial Pancreas, Diabetes Technology, Control Engineering, Artificial Intelligence, Machine Learning.

Group members

Established Researchers
Josep Vehí
Remei Calm
Ningsu Luo

Post-doctoral Researcher
Iván Cordorosca
Charrière Ramkissoon
Inds Ferrer

Pre-doctoral Researchers
Arthur Bertachi
Silvia Oviedo
Lyvia Biaggi
Alexi Beneito
Adrià Parcerisas

Research topics
The main research objective of the MICELab group is the development of innovative medical technologies and the incorporation of intelligent systems and biomedical engineering in healthcare management. The main areas of research are:

Artificial Pancreas: Research is conducted on artificial pancreases and related technologies, such as continuous glucose monitoring and automatic patient monitoring. Computer and artificial intelligence techniques are used to develop and validate new artificial pancreas systems to improve the efficiency and safety of food intake and provide a response as a general objective. The complexity of the glycemic effect of intake and exercise suggests the need for more degree-of-freedom control systems already based on the measurement of glucoseand insulin infusion. The use of additional signals to glucose, for example from physical activity monitors, to measure or estimate such disturbances and facilitate the automatic monitoring of the patient with the characterization of glycemic patterns and risk situations, as well as the incorporation of new counterregulatory actuation signals for greater safety in the face of hypoglycaemia, especially in the case of exercise, can be fundamental for the improvement of the limitations of current systems.

Telemedicine, Internet of Things (IoT) and m-health: The group has experience in the development of applications and tools capable of giving access to information collected by sensory devices (wearables). The data generated by these applications can be used for the evaluation of health parameters and the lifestyle of the individual, providing technical support to m-health applications for diabetes and/or multi-chronicity, the detection of risk behaviors, the control of the evolution of patients, etc.

Telematic monitoring and in-patient uncertainty and variability: One of the problems in predicting the physiological response of an individual is intra-subject variability. The same individual may have very different answers in similar circumstances. One of the great challenges of recent years in the group is developing predictive models that take into account this variability as well as other sources of uncertainty for patients with type 1 and type 2 diabetes.

Signal processing, optimization and control: Artificial pancreas technologies and continuous glucose monitoring are based on techniques in the area of systems engineering and automation, characterized by its cross-sectional nature in terms of applications. These techniques include, among others, mathematical modeling and analysis of systems behavior (for example, the pathophysiology of diabetes at different levels, from molecular to systemic), the processing of signals for estimation of non-measurable variables, optimization and automatic control.

Publications

Originals


Grants

**Project:** SMART-Diabetes: The Self-Management Assistant and Remote Treatment for Diabetes  
**Funding agency:** European Comission. (TECSPR15-1-0022)  
**Duration:** 2016-2018  
**Coordinator:** Dr. Josep Vehí  
**Principal investigator:** Dr. Iván Contreras

**Project:** mSAFE-AP – Solutions for the improvement of efficiency and safety of the artificial pancreas by fault-tolerant multivariable control architectures.  
**Funding agency:** MINECO (Spain). DPI2016-78831-C2-2-R  
**Duration:** 2016-2019  
**Coordinator:** Dr. Jorge Bondia  
**Principal investigator:** Dr. Josep Vehí

**Project:** SOCIALDIABETES, Hack your Diabetes Experience.  
**Funding agency:** European Commission (H2020-SMEInst: 768398)  
**Duration:** 2017-2019  
**Coordinator:** Victor Bautista  
**Principal investigator:** Dr. Josep Vehí

Membership of collaborative research networks  
(National & International)

**CIBERDEM:** “Centro de Investigación Biomédica en Red de Diabetes y Enfermedades Metabólicas Asociadas”

Overview

Our research group is interested in the development of new effective antitumor drugs and in the study of protein oligomerization processes that are linked to proteinopathies. Specifically, we are developing new antitumor drugs based on nuclear-directed ribonucleases (ND-RNases), on apoptin and on organometallic compounds of ruthenium, manganese, copper or iron. The protein cytotoxic drugs developed here are non-mutagenic compounds that exert their cytotoxic action on different targets allowing fighting the malignant phenotype at multiple levels. On the other hand, TDP43 is associated with the amyotrophic lateral sclerosis (ALS) and with thefrontotemporal lobar degeneration (FTLD), which constitute the third more important neurodegenerative disease. The use of inteins to selectively isotopically labeldifferent internal domains of the proteinopathic TDP43 protein allows to study the molecular determinants involved in its aggregation as well as the interactions to other cellular partners related to its function.

Research topics

1. Characterization of the molecular determinants of apoptin cytotoxicity and improvement of its delivery to tumor cells.  
2. Characterization of the anticancer properties of ND-RNases and improvement of their internalization efficiency.  
3. Screening of the antitumor properties of Fe(II), Cu(II) Mg(II) and Ru(II)-based coordination compounds with pyridine ligands and characterization of the cytotoxic mechanism of the lead candidates.  
4. Structural studies of TDP-43 by NMR and selective isotopic labeling of the different domains using orthogonal inteins.
The image contains a page from a scientific paper. Here is the text extracted from the page:

**Publications**

**Originals**


**Reviews**


**Grants**

**Project:** Development of an antitumor protein delivery system into ovarian cancer cells using The subcellular vault

**Funding agency:** Asociación Española contra el Cáncer

**Duration:** 01/01/2018-09/30/2020

**Coordinator:** Antoni Benito

**Principal investigators:** Antoni Benito

**Project:** Ribonucleases and inteins for the development of antitumor drugs and the study of proteinopathies.

**Funding agency:** University of Girona

**Duration:** 01/01/2016-11/30/2018

**Coordinator:** Jessica Castro and Antoni Benito

**Principal investigators:** Jessica Castro and Antoni Benito

**Collaborations**

Dr. D. V. Laurents and Dra. Marta Blñex of the Instituto de Química-Física “Rocasolano” CSIC Madrid

Dr. Matthew Smalley of the European Cancer Stem Cell Institute (Cardiff, UK)

Dr. José C. Martínez Hernárias, of the Departamento de Química-Física, at the University of Granada

Dr. Ignacio Fita of the Instituto de Biología Molecular of Barcelona (IBMB-CSIC) at the Parc Científic de Barcelona.

**Overview**

Compositional Data Analysis (CoDA) refers to the analysis of compositional data (CoDa), which have been defined historically as random vectors with strictly positive components whose sum is constant (e.g., 100, one, a million). More recently, the term covers all those vectors representing parts of a whole which only carry relative information, thus including not only parts per unit or percentages, but also molar compositions.

Typical examples in different fields are: geology (geochemical elements), economy (income/expenditure distribution), medicine and health (body composition: fat, bone, lean; microbiome; physical activities), questionnaire surveys (ipsative data), environmental sciences (soil contamination), and genetics (genotype frequency). This type of data appears in most applications, and the interest in and importance of consistent statistical methods cannot be underestimated. Although the concern of the problems related to them was kept alive mainly by researchers from the field of Geosciences, in particular by members of the International Association for Mathematical Geosciences, the awareness of coherent methods is growing in the environment, the medicine and the biological sciences.
Research topics

Current multivariate methods for the analysis and modeling of compositional data (CoDa) are the result of more than a century of efforts. K. Pearson already identified the difficulties in the statistical analysis of CoDa at the end of the 19th century. In the decade of the eighties, J. Aitchison presented a clever way for the statistical analysis of CoDa. He stated that the information contained in this type of data is in the ratio of the different parts and, in particular, in the logratios. Besides, he defined the simplex as the sample space for CoDa. The simplex is formed by vectors of positive components with constant sum (1 for proportions, 100 for percentages, one million for ppm). Despite the efforts of J. Aitchison and some of his co-authors, the methods for the CoDa analysis did not have a strong impact in the applied sciences.

In the beginning of the 21st century, as a consequence of the works of the members of UdG's CoDa Research Group, a theoretical consolidation of the compositional methods took place. They established the mathematical and statistical bases according of the geometry of the simplex. Two keys results were responsible for this consolidation: the definition of a composition as an equivalence class of vectors of proportional positive components; and the structure of the simplex as a Euclidean space. This opens the way to the principle of working on coordinates for the analysis of compositions and the identification of the hypotheses of the analysis.

Nowadays, the main challenge that emerges is the diffusion of the compositional methods in other fields of applied science and technology. The current aim of the group activities is to spread and transfer the CoDa methods in other scientific fields and, in particular, in the fields identified as societal challenges: climate change, health, wellness, and food quality. The final objective is to promote its social and economic impact. This spread will be carried out by means of the following activities proposed: organisation of seminars, workshops (CoDaWork), and courses (CoDaCourse); development of statistical packages (CoDaPack and R); and a specific website for CoDa (CoDaWeb), as well as the edition of specialized publications.

Overview

The Research Group on Statistics, Econometrics and Health (GRECS) is a research group with a multidisciplinary composition, composed mainly of statisticians and epidemiologists. It is a consolidated research group, not only at the national level, through its membership in the CIBER, but also at the regional level. His lines of research are applied as well as methodological. In the first case, epidemiology, both environmental and cancer, and clinical epidemiology occupy a prominent place. Among the topics investigated in the latter are cardiovascular risk factors, amyotrophic lateral sclerosis (ALS) and attention deficit hyperactivity disorder. Our research interests also include more methodological topics such as statistical methods related to mixed models, spatial statistics, survival analysis, Bayesian statistical methods and analysis of compositional data. Lately we are interested in mixed, methodological-applied research lines related to Real World Data, genomics and epigenetics.

Research topics

1. Epidemiology
   1.1. Environmental epidemiology
   1.2. Clinical epidemiology
      - Cardiovascular risk factors
      - Amyotrophic lateral sclerosis disease
      - Attention deficit hyperactivity disorder
   1.3. Socioeconomic inequalities in health
   1.4. Cancer epidemiology

Publications

Originals


Solans M, Coenders G, Marcoz-Gragera R, Casteló A, Gracia-Lavedan E, Benavente Y, Moreno V, Pérez-Gómez B, Amiano...


Grants

Members of GRECS, main researcher


ASSOCIATED GROUPS
Awards / Recognition

Title: Premio a la mejor comunicación oral de la XXV reunión de la Sociedad Catalana de Hipertensión Arterial: ¿Qué es el punto óptimo en la automesura de la presión arterial? Estudio vamapaica


Conferences, courses and seminars

Conferences organized by IDIBGI during 2018:

- 24th April 2018
  Sexo o desescació? – com evolucionar al llarg del temps.
  PhD. Marc Llirós

- 31st maig 2018
  A translational approach for the genetic basis of a trial fibrillation.
  Brandon Chalazan, MD.

- 31st June 2018
  Patologia mitochondrial: De la recerca a la pràctica clínica.
  Glòria Garrabou, PhD – Constanza Morén, PhD.

- 24th September 2018
  Precise and efficient editing of mammalian genomes for therapeutic purposes.
  Dr. Marc Guell

- 23rd October 2018
  Post – Stroke cognitive impairment: Involvement of hippocampal neurogenesis.
  Maria Àngeles Moro, PhD-FSPHs.

- 17th December 2018
  Are neuroprotection and neurorepair still feasible in cerebrovascular diseases?
  Tomás Sobrino, PhD

Seminars organized by IDIBGI during 2018:

- 18th January 2018
  EM-LINE: Rehabilitació cognitiva i neuroplasticitat: evidències de les tècniques de neuroimatge funcional.
  Retos de la rehabilitación neuropsicológica en el siglo XXI, evidències de les tècniques de neuroimatge funcional.
  Dr. Loma Osorio. hospital Universitari de Girona Dr. Josep Trueta.

- 9th April 2018
  Jornada Cirugía Hepàtica por laparoscòpia.
  Jornada de prevenció de riscos laborals.
  Dra. M. Pilar Barretina. Amb la col·laboració de: Roche, MSD LECHE, Ferrer, Laboratoris SAGIPA.

- 5th May 2018
  Activate Science: Seminars
  1- Cris/Cas9 Genome Editing: Get started with CRISPR and boost your CRISPR efficiency
  2- Purificación de proteínas

- 10th May 2018
  Jornada patología Biliar: Jornada de actualització en patologia benigna dirigit per a metges de medicina familiar i comunitària i metges d’urgències.
  Organitzat per: Fundació IDIBGI, Servei de Cirurgia General i de l’Aparell Digestiu y Unitat de cirugía Hepatobiliaropancreatológica

- 1st June 2018
  Jornada de prevencció de riscos laborals.
  Adreçat a personal de serveis de prevenció en l’àmbit sanitari, tant de l’àmbit hospitalari com de l’atenció primària.

- 5th June 2018
  Presentación de las Acciones Individuales Marie Skłodowska-Curie Actions 2018.
  Juntament amb l’Institut Català d’Oncològia (ICO), amb la participació del Sr. Pablo Coret (Gestor de l’ICO i expert en MSCA) i la Dra. Sara Pagans (Avaluadora de IF i ITN)

- 9th June 2018
  Jornada científica ICO: Reunió multidisciplinar de tractament dels tumors de peit de la regió sanitària de Girona
  Canvis en l’estadificació TNM i en l’indicació de realitzar gangli sentinella en melanoma, tècnica de gangli sentinella a Girona: mes de deu anys d’experiència, carcinoma de Merkel. Amb l’ajuda de Merck

- 9th July 2018
  Diagnostic de les lesions obstétriques de l’esfínter anal al segle XXI. Un enfrontament pràctic.

- 2th September 2018
  Jornada sobre oportunidades de co-laboración entre grupos recerca de l’IDIBGI, la U4G i TIC SALUT SOCIAL.
  Amb la participació del Sr. Josuè Sallent (Director) i els responsables dels departaments d’interoperabilitat, innovació, APPs, observatori, gestió de projectes i comunicació de TIC SALUT SOCIAL.

- 5th & 6th October 2018
  VIII Jornades Gironines de Mediterrani 2018
  Organitza: ICS, Hospital Dr. Josep Trueta, IDIBGI, U4G, IAS, Generalitat de Catalunya, Departament de Salut. Dr. Lluís Ramòl Torrentà (IP Grup d’investigació en Neurodegeneratives i Neuroinflammació, Cap de Servei de Neurologia de l’Hospital Universitari Dr. Josep Trueta i IAS)

- 5th October 2018
  III Jornada Catalana d’actualització en infectologia pediàtrica.
  IDIBGI, 65K, BIOMÉRIUX, BIODIRE

- 19th October 2018
  5è aniversari Biobanc IDIBGI.
  El Biobanc IDIBGI és una plataforma de serveis a la comunitat científica que té com a missió posar a disposició dels investigadors molèsties biològiques de màxima qualitat amb les que puguin desenvolupar els seus projectes de recerca biomèdica i contribuir d’aquesta manera a millorar el coneixement sobre les causes, el diàgnostic, l’evolució i la cura dels malalties estudiades.

- 8th November 2018
  Ponència “European funding opportunities: News, tips and practical aspects”.
  A càrrec de la Sr. Marina Martínez de l’Oficina SOST-CDTI, en el marc del Retreat conjunt IDIBGI-IISP v-IRBLleida.

Courses organized by IDIBGI during 2018:

- 11th May 2018
  Curs Cardiologia: IV curs d’actualització en cardiologia JAAMC.
  Dr. Loma Osorio. Hospital Universitari de Girona Dr. Josep Trueta.

- 25th September 2018
  Simulació cursos emergències obstétriques.
  Dra. Vila. Facultad de Medicina Universitat de Girona.

- 2th October 2018
  III Actualització en Infectologia Pediàtrica.
  Dr. Boja Guarch. Hotel Ultonia. Girona.

- 26th October 2018
  Manejo de la hemorragia obstétrica masiva.
  Dr. Joan Mélendez. Hospital Universitari de Girona Dr. Josep Trueta.

- 15th November 2018
  Actualització en Endocrinologia.
  Dr. Wilfredo Ricart Engel. Sala d’actes Hospital Universitari de Girona Dr. Josep Trueta.

- 16th&17th November 2018.
  Curs bàsic Ecocardiografia Transesofàgica.
  Dr. Marc Vives. Hospital Universitari de Girona Dr. Josep Trueta.
Visits

29th January 2019
2nd course of “Administrative Sanitary Documentation” students.

26th April 2018
Garbi Institute

8th Juny 2018
Students from “Centre escolar Empordà” in Roses visited ICO and also IDIBGI.

21st November 2018
Sils Institute
Approximately 26 ESO students visited IDIBGI.

13th December 2018
Brugulat Institute (Banyoles)
Around 24 students visited Gencardio (Dr. Ramón Brugada).

La Marató Foundation
Every year, the participants of La Marató de TV3 have the opportunity to visit IDIBGI and learn more about the research, that is being carried out thanks to the financed projects. During 2018, IDIBGI has welcomed more than 15 visitors from La Marató de TV3.

Winners of the IDIBGI award 2018

The IDIBGI Award for the best final year project of the Nursing School. Undergraduates (ex aequo) was awarded to:

Erola Bisquert Parés
Grau d’implementació i coneixement de la prevenció de la mort sobtada cardíaca en esportistes.

Alba Berenguer Simon
Violència sexual en l’estudiant universitàri en context d’oci i sota el consum de toxics.

The IDIBGI award for the best final year project of the nursing school master

Joan Olivet Vila
“Eixos de desigualtat en salut i mortalitat durant les onades de calor a la ciutat de Girona.”

Fundraising

During 2018, Fundraising department has developed the following actions:

- Companies: 89 companies contacted, 27 of them conducted an official visit. Output: 8 new companies → “Empresaris per la Recerca”
- Professional bodies: 18 professional bodies contacted, 6 of them conducted an official visit. Output: 4 solidarity initiatives
- Cultural sector: 14 entities contacted, 7 of them conducted an official visit in IDIBGI. Output: 3 charity concert
- Mass media: 5 mass media contacted. New media partners
- Solidarity initiatives: 30 people/entity 21 contacted, + 60 people conducted a visit in IDIBGI. Output: 12 solidarity initiatives
ANNEXES

Annexes

Clinical trials & observational essays by area (approved during 2018)

CARDIOLOGY

Observational studies

BAY-RIV-2017-01, Júlia Roure Fernández. "Factores de Riesgo Asociados con la progresión de la Insuficiencia Cardíaca (IC) en pacientes con fibrilación auricular tratados con un anticoagulante oral directo (ivaroxibarnab"

RECABA. María Emile Trucco. "Estudio observacional prospectivo de crioglobulina de las venas pulmonares en pacientes con Fibrilación Atrial (FA) en España. (Estudio post- autorización con dispositivo médico con marca CE)

LNC001. María Emile Trucco. "Evaluación de seguridad y comportamiento eléctrico de las sondas INVICTA equipadas con conector IF4"

GENERAL SURGERY

Observational studies

BUXU11443. Santiago López-Ibarr. "Estudio de fase IIa (prueba de concepto) de los efectos de la neuromodulación sacra en el síndrome de resección anterior"

SANLARS. María Julia Gil García. “Estudio clínico prospectivo aleatorizado cruzado para evaluar la eficacia de la neuromodulación sacra en el síndrome de resección anterior"

VASUCGULAR SURGERY

Observational studies

LOCOMOTIVE. Omar Andres Navarro. "LOCOMOTIVE ALL COMERS"

DIGESTIVE

Observational studies

PBF-677-3. Xavier Alderque i Mante. "Evaluación clínica multicéntrica de fase Ila (prueba de concepto) de mirtakinumab en pacientes con enfermedad de Crohn con actividad moderada o grave previsamente no tratados con fármacos biológicos"

Clinical trials

PRV-6527-CD2a. Xavier Alderque i Mante. "A Phase 2a, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel Study to Evaluate the Efficacy and Safety of Oral PRV-6527 (JNJ-40346527), an Inhibitor of Colony Stimulating Factor-1 Receptor, in Subjects with Moderately to Severely Active Crohn’s Disease - PRvention Investigation of Crohn’s Disease (PRINCE)"

IU7-AMBIG. Xavier Alderque i Mante. "A Phase 3, Multicenter, Randomized, Double-Blind, Parallel-Arm, Placebo-Controlled Maintenance Study of Mirkukumab in Patients with Moderately to Severely Active Ulcerative Colitis"

IM011023. Xavier Alderque i Mante. "A Phase 2 Randomized, Double-Blind, Placebo-Controlled Study of the Safety and Efficacy of BM3-986165 in Subjects with Moderate-to-Severe Crohn’s Disease"

CCEUM. David Busquets Casals. "Eficacia de los bolos intravenosos de corticoides más tratamiento con corticoides orales en comparación con corticoides orales en monoterapia para el tratamiento de la colitis úlceroosa moderada: ensayo clínico multicéntrico y aleatorizado"

IU7-AMAN. Xavier Alderque i Mante. "A Phase 3, Multicenter, Randomized, Double-Blind, Parallel-Placebo-controlled induction study of mirtakinumab in conventional-failed and biologic-failed patients with moderately to severely active ulcerative colitis"

CNT01275CRD3007. Xavier Alderque i Mante. "Estudio de fase IIIb, multicéntrico, aleatorizado, enmascarado ciego y controlado con fármaco activo para comparar la eficacia y seguridad de ustekinumab frente a adalimumab en el tratamiento de pacientes con enfermedad de Crohn con actividad moderada o grave previamente no tratados con fármacos biológicos"

RPC01-3202. Xavier Alderque i Mante. "Induction study #2 - a phase 3, multicenter, randomized, double blind, placebo controlled study of oral ozanimod as induction therapy for moderately to severely active crohn’s disease"

RPC01-3204. Xavier Alderque i Mante. "A Phase 3, Multicenter, Open-Label Extension Study of Oral Ozanimod for Moderately to Severely Active Crohn’s Disease"

RPC01-3203. Xavier Alderque i Mante. "A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study of Oral Ozanimod as Maintenance Therapy for Moderately to Severely Active Crohn’s Disease"

M14-430. David Busquets Casals. "Estudio multicéntrico aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia y seguridad de upadacitinib (ABT-494) en sujetos con enfermedad de Crohn que han finalizado los estudios M14-431 o M14-433"

M14-431. David Busquets Casals. "Estudio de inducción multicéntrico, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia y seguridad de upadacitinib (ABT-494) en sujetos con enfermedad de Crohn de moderada a grave que han tenido una respuesta insuficiente o intolerancia a un tratamiento biológico"

M14-433. David Busquets Casals. "Estudio de inducción multicéntrico, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia y seguridad de upadacitinib (ABT-494) en sujetos con enfermedad de Crohn de moderada a grave que han tenido una respuesta insuficiente o intolerancia a un tratamiento biológico"

CHI-DIP-2016-01. Xavier Alderque i Mante. "Efecto del dopaminergico de bocometasona (DFB) en los niveles de calprotectina fecal en pacientes con colitis úlceroasa clinicamente inactiva con riesgo de recadá. Estudio BeCalCI"

ENDOCRINOLOGY

Observational studies

SED1. Wifredo Ricart Engil. "Registro Nacional de Pacientes con Diabetes tipo 1"

TED13-002. Silvia Mauri Roca. "A prospective, multi-center registry for patients with short bowel syndrome"

Clinical trials

GL-GLAT1-3001. Eduardo Esteve Lafuente. "Estudio en fase I, abierto, aleatorizado y multicéntrico, para comparar la inmunogenicidad, eficacia y seguridad de la inyección de insulina glargina de Gan & Lee Phamaceuticals con Lantus® (inyección de insulina glargina) en sujetos adultos con diabetes mellitus tipo 1"

CLINICAL HEMATOLOGY

Observational studies

FMS-ITK-2016-01. Miguel Sagüés Serrano. "Estudio observacional prospectivo para evaluar la precocidad, estabilidad y profundidad de la respuesta molecular en pacientes recién diagnosticados de leucemia mieloide crónica en fase crónica (LMC-FC) tratados con inhibidores de la actividad tirosina-quinasa (ITK) como tratamiento de primera línea en la práctica clínica. Estudio relm-nae"

1203-GITCG. Raquel Guardoñ Sanchez. "Integración de trastuzumab, with or without pertuzumab, into periOperative chemotherapy (AVP of HER-2 posi)5ve Stomach cAICa: the INNOVATION-TRIAL"

Clinical trials

C16029. Yolanda González Montes. "A Phase 2/3, Randomized, Open-Label Study Comparing Oral ixazomib/Dexamethasone and Oral Pamidronate/Dexamethasone in Relapsed and/or Refractory Multiple Myeloma"

GOM39942. Nicolas Kelleher. "A phase III, multicenter, randomized, double-blind, placebo-controlled trial comparing the efficacy and safety of palatumab vedotin in combination with rituximab and chp (R-CHP) versus rituximab and chp (R-CHOP) in previously untreated patients with diffuse large b-cell lymphoma"

Clinical trials

Yolanda González Montes. "Evaluación de seguridad y eficacia de mirtakinumab frente a daratuzumab subcutáneo en sujetos con mieloma múltiple en recadá o refractorio"

M13-494. Yolanda González Montes. "Estudio fase 3, multicéntrico, aleatorizado y abierto de venetoclax y dexametasona en comparación con pomaldomida y dexametasona en sujetos con mieloma múltiple en recidiva o refractorio con t(11;14) positivo"

Yolanda González Montes. "Tratamiento de inducción con bortezomib, melphalan y prednisona (VMP) seguido de lenalidomida y dexametasona (RD) frente a carfitazobib, lenalidomida y dexametasona (KRD) más/minus daratumumab, 18 ciclos, seguido de tratamiento de consolidación y mantenimiento con lenalidomida y daratumumab: un ensayo clínico de fase III, multicéntrico, aleatorizado para pacientes adultos mayores, de entre 65 y 80 años, con buen estado general y mieloma múltiple de nuevo diagnóstico"

STOMATERAPEUTA NURSERY

Observational studies

KISSS. Gloria Vaquer Casas. "Estudio clínico observacional postcomercialización, prospectivo e internacional del producto para ostomía Flexima/Softima 358™"
**NEUROLOGY**

Observational studies

SAN-ALLE-2015-03. Luis Ramiro Torrensa. Observational study to evaluate changes in quality of life in patients with relapsing-remitting multiple sclerosis treated with amlaftumab (Lemtrada)

Clinical trials

CL02-ORY-201IM. Luis Ramiro Torrensa. Randomized, double-blind, placebo-controlled, 3-arm, 36 weeks parallel-group study to evaluate the safety and tolerability of ORY-2001 in patients with Relapsing-Remitting Multiple Sclerosis (RRMS) and Secondary Progressive Multiple Sclerosis (SPMS)

215MS202. Luis Ramiro Torrensa. A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study in Subjects With Relapsing Multiple Sclerosis to Evaluate the Efficacy and Safety of BIIB033 as an Add-On Therapy to Anti-Inflammatory Disease-Modifying Therapies

CON-001. Joaquín Serena Leal. CONVINCE (Clotchicine for prevention of Vascular Inflammation in Non-CardioEmbolic stroke)

**ONCOLOGY**

Clinical trials

SHP640-301. Jordi Tarus Bozal. A Phase 3, Multi-center, Randomized, Double-Blind Study to Evaluate the Clinical Efficacy and Safety of SHP640 (PVP-Iodine 0.6% and Dexamethasone 0.1%) Ophthalmic Suspension Compared to PVP-Iodine and Placebo in the Treatment of Adenoviral Conjunctivitis

SHP640-303. Jordi Tarus Bozal. A Phase 3, Multi-center, Randomized, Double-Blind Study to Evaluate the Clinical Efficacy and Safety of SHP640 (PVP-Iodine 0.6% and Dexamethasone 0.1%) Ophthalmic Suspension Compared to Placebo in the Treatment of Adenoviral Conjunctivitis

L2016.010. Teresa Torrent. "Estudio clínico de fase III, multicéntrico, abierto, de doble ciego de quimioterapia doble con platino +/- pembrolizumab (MK-3475) como tratamiento neoadyuvante/adyuvante en pacientes con carcinoma de pulmón no microscópico (CPNM) en estadio IIIB a IV resecable (KEYNOTE-077)"


EMR10070-005. Joaquim Bosch Barrera. "A Phase III, open-label, multicenter trial of avelumab (MSB0010718C) plus platinum based doublet as first line treatment of recurrent or Stage IV PD L1+ non-small-cell lung cancer"

**ANNEXES**

Clinical trials

POLT080-011. Jose Maria Servent. "Estudio fundamental abierto, multicéntrico, aleatorizado, con control activo y de grupos paralelos para investigar la eficacia, la seguridad, la tolerabilidad y la farmacocinética de la murepavadina combinada con un antibiótico contra pseudomonas frente a dos antibióticos contra pseudomonas en sujetos adultos con neumonía bacteriana asociada al respirador mecánico cuya causa sospechada o confirmada es una infección por Pseudomonas aeruginosa."

PWN29922. Antoni Tuorn Estrada. "Estudio de fase III, multicéntrico, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y seguridad de gan-tenerumab en pacientes con enfermedad de Alzheimer precoz (de prodrómica a leve) y la sub-estudio: "Subestudio longitudinal de PET para amiloide asociado a estudio de fase III, multicéntrico, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y seguridad de gantenerumab en pacientes con enfermedad de Alzheimer precoz (de prodrómica a leve)" y "Subestudio exploratorio de PET para TAU asociado a estudio de fase III, multicéntrico, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y seguridad de gantenerumab en pacientes con enfermedad de Alzheimer precoz (de prodrómica a leve)

252LH301. Joaquín Serena Leal. "Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multicenter, Phase 3 Study to Evaluate the Efficacy and Safety of Intravenous BIIB033 (Bilibencamidc) for Severe Cerebral Edema following Large Hemispheric Ischemic Stroke"


ANAVEX2-73-PO-001. Berta Solano Vila. "A Phase II, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group, Multicenter, Phase 3 Study to Evaluate the Efficacy and Safety of Intravenous BIIB033 (Bilibencamidc) for Severe Cerebral Edema following Large Hemispheric Ischemic Stroke"

MEDICAL ONCOLOGY

Observational study

Health-EpiGECAM. Joan Brunet Vidal. "Estudios de vida saludables y calidad de vida en mujeres con cáncer de mama"

GEICAM-2016-04. Sonia del Barco Berrón. "Estudio observacional retrospectivo de evolución de casos de cáncer de mama en el varón y evaluación del riesgo de recidiva mediante secuenciación genética"

EXPRESSION V. Pilar Barretina Ginesta. "Caroline meets HANA – Holistic Analisis of Longevity-survival with Ovarian Cancer"

RING GEC-17/03. Joaquim Bosch Barrera. "Investigación de la mutación TP53 en sangre mediante diferentes metodologías"

TSESO. Ruth Porta Balanya. "Registry of thrombosis and neoplasias of seom/estudio epidemiológico observacional descriptivo sobre la trombosis asociada al cáncer: registro de trombosis y neoplasias de la SEMD"

ML40141. Pilar Barretina Ginesta. "Estudio observacional retrospectivo para evaluar las estrategias de tratamiento en práctica clínica y la evolución clínica de los pacientes con cáncer de ovario avanzado en españa: estudio ovo (evaluación objetiva del cáncer de ovario)"

Clinical studies

MITO-23. Pilar Barretina Ginesta. "Estudio en fase II aleatorizado sobre trabajectedina (ET 743) frente a la quimioterapia elegida por el clinico en pacientes con cáncer ovárico, peritoneal primario o tubárico con fenotipo de mutación en BRCA o BRCA

3475-671. Joaquim Bosch Barrera. "Estudio de la mutación TP53 en sangre mediante diferentes metodologías"


Health-EpiGECAM. Joan Brunet Vidal. "Estudios de vida saludables y calidad de vida en mujeres con cáncer de mama"

RUT010070-005. Joaquim Bosch Barrera. "A Phase III, open-label, multicenter trial of avelumab (MSB0010718C) plus platinum based doublet as first line treatment of recurrent or Stage IV PD L1+ non-small-cell lung cancer"
supportive care alone as a maintenance treatment in patients with locally advanced or metastatic urothelial cancer whose disease did not progress after completion of first-line platinum-containing chemotherapy”.

GEICOL1602. Sonia del Barco Berren. “Phase Ib/II Multicentric Study Combining Glaadseg with temozolomide in patients with newly diagnosed Glioblastoma, safety and preliminary efficacy for the combination”


GECP17/05. Joaquim Bosch Barrera. “Ensayo clínico fase I, no randomizado in primera linea de atezolizumab en combinación con carboplatino y pemetrexed en pacientes con cáncer de pulmón no microcítico avanzado”

GECP17/02. Joaquim Bosch Barrera. “Ensayo clínico fase II abierto, multicéntrico, para evaluar la eficacia del retratamiento con pembrolizumab en segunda línea o posteriores, en pacientes con carcinoma de pulmón no microcítico avanzado”

GEMCAD-17-01. Xavier Hernandez Yague. “Estudio aleatorizado de fase II para evaluar la eficacia de FOLFOX + panitumumab en el tratamiento en segunda línea de pacientes con cáncer colorectal metastásico RAS no mutado que han recibido FOLFOX + panitumumab en primera línea de tratamiento”

TTD-18-01. Xavier Hernandez Yague. “Estudio de fase III, aleatorizado, secuencial y abierto, para evaluar la eficacia de FOLFOX + panitumumab seguido por FOLFOX + panitumumab (Secuencia 1) frente a FOLFOX + bevacizumab seguido por FOLFOX + panitumumab (Secuencia 2) en pacientes con cáncer colorectal metastásico no resecable, RAS nativo, tumor primario en lado izquierdo, no tratado previamente: CR-SEQUENCE”

GECP17/04. Joaquim Bosch Barrera. “Ensayo clínico fase II, para evaluar la efectividad de tipifarnib en pacientes con carcinoma de pulmón no microcítico avanzado escamoso con mutación HRAS”

IO102-012 (KN-784). Joaquim Bosch Barrera. “An Open-label, Randomized, Phase I/II Trial Investigating the Safety and Efficacy of IO102 in Combination with Pembrolizumab, with or without Chemotherapy, as First-line Treatment for Patients with Metastatic Non-Small Cell Lung Cancer”

GEM-SELIBORDARA. Yolanda González Montes. “Ensayo abierto, multicéntrico, de fase 2 de selinexor (KPT-330), bortezomib y dosis baja de dexametasona más daratumumab (SELIBORDARA) para el tratamiento de pacientes con mieloma multiple en recaída y/o refractario”

ENGOT-Cx10/GEICO 68-C/BEAT cc. Pilar Barretina Ginesta. “Estudio aleatorizado fase III de quimioterapia con platino y paclitaxel mas bevacizumab y atezolizumab frente a quimioterapia con platino y paclitaxel mas bevacizumab en el carcinoma de cérvix metastásico (estudio IBV), persistente o recurrente”

CA209-9HX. Nuria Sala González. “PROSTRATEGY: A multi-arm, multi-stage, randomized phase II/III trial of immunotherapy strategies in metastatic hormone-sensitive prostate cancer”

GEOCA/2016-03. Joan Dorca Ribugent. “Estudio de largo seguimiento de pacientes con cáncer de mama incluidos en estudios en estadios precoces del grupo GEICAM”

MIN-002-1801. Sonia del Barco Berren. “A Phase Ib Dose Finding Study of the Safety of 2-Hydroxoyleic acid sodium salt (2-OHOA) Administered Orally in Combination with Temozolomide and Radiation Therapy (Concurrent Phase) or Temozolomide Alone (Maintenance Phase) in the First Line Treatment of Subjects with Glioblastoma”

ENGOT-OV41/GEICO69-O/ANITA. Pilar Barretina Ginesta. “Ensayo fase III, aleatorizado y doble ciego de quimioterapia basada en platino con o sin atezolizumab, seguida de mantenimiento con niraparib con o sin atezolizumab, en pacientes con cáncer de ovario, de trompa de Falopio o peritoneal recidivante e intervalo libre de tratamiento con platino (ILP) >6 meses”

PNEUMOLOGY

Observational studies

HO-16-16447. Marc Bonnin. “Carga de la enfermedad en pacientes con EPOC eosinólica en España: Estudio observacional multicéntrico”

Clinical trials

INS1007-201. Montserrat Vendrell. “A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multi-Center Study to Assess the Efficacy, Safety and Tolerability, and Pharmacokinetics of INS1007 Administered Once Daily for 24 Weeks in Subjects with Non-Cystic Fibrosis Bronchiectasis - The Willow Study”

PNEUMOLOGY

Observational studies

NOCHYPRED: Prediction and Prevention of Nocturnal Hypoglycaemia in Persons with Type 1 Diabetes Using Machine Learning Techniques

PRIMARY CASE

Observational trials


RHEUMATOLOGY

Observational studies

GP15-501. Patricia Royer. “Estudio observacional de cohortes multicéntricas y prospectivo para evaluar la seguridad y efectividad en la práctica clínica real de Erelzi™, un biosimilar de etanercept (COMPACT)”

UROLOGY

Clinical trials

ALLN-177-301. Josep Comet-Batlle. “Estudio de fase III, randomizado y controlado con placebo para evaluar la seguridad y la eficacia de ALLN-177 en pacientes con hiperoxaluria entérica”

INTERNAL MEDICINE

Clinical trials

NCT03692065 - API-CAT STUDY. Long-term Treatment of Cancer Associated v TE: Reduced vs Full Dose of Apixaban : API-CAT STUDY for APIxaban Cancer Associated Thrombosis

OTHERS

Clinical trials

H2020 PEPPER Project clinical trialists estudio de validación: November 2018 - July 2019

(NCT03577158) SAFE AP3: Automatic Control of Blood Glucose Under Announced and Unannounced Exercise

(NCT03711656) Nochypred: Prediction and Prevention of Nocturnal Hypoglycemia in Persons with Type 1 Diabetes Using Machine Learning Techniques

ANNEXES

Annexes