Annual scientific report

Institut d'Investigació Biomèdica de Girona Dr. Josep Trueta

2018

Institut d'Investigació Biomèdica de Girona Dr. Josep Trueta

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Presentation

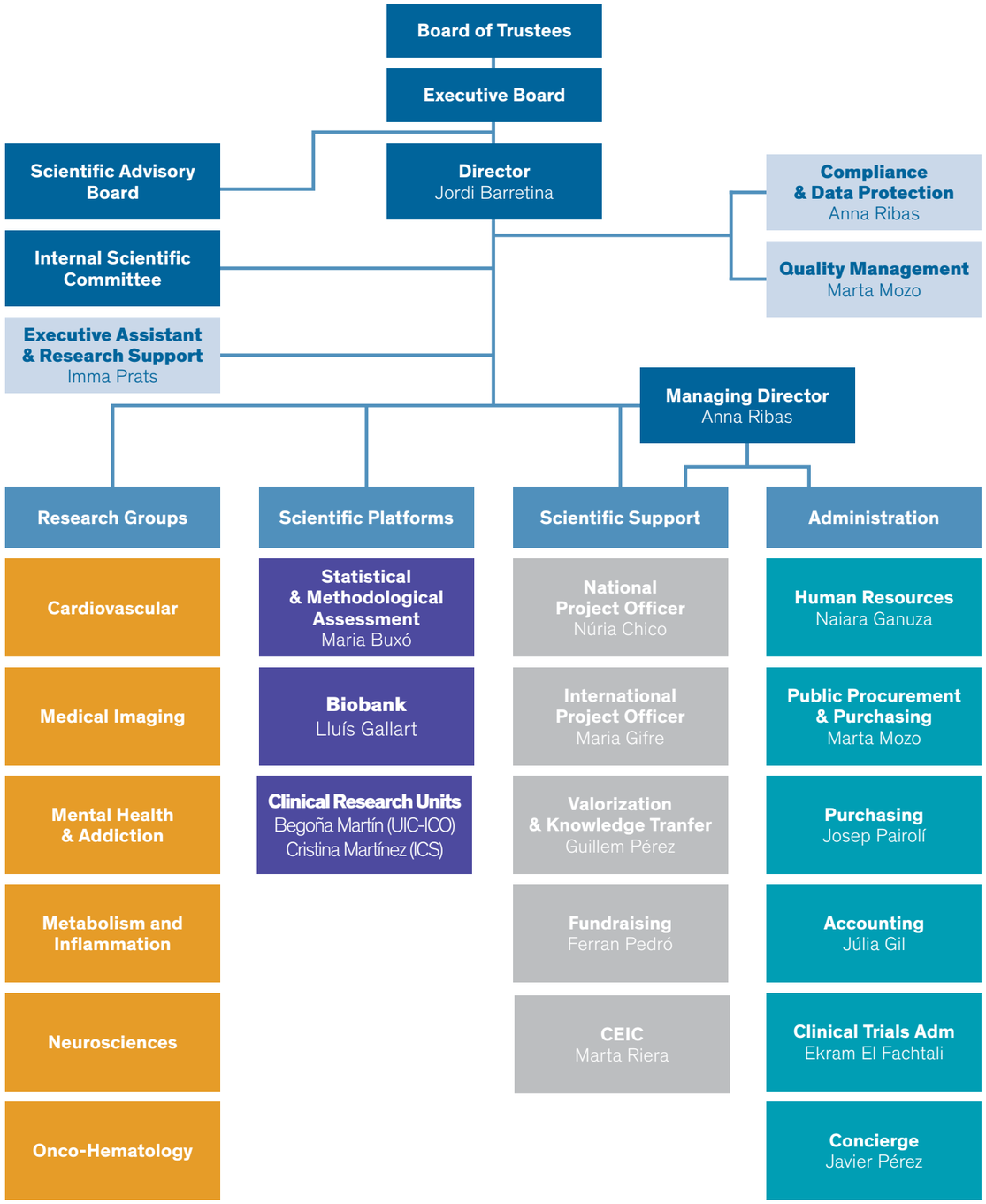
The Girona Biomedical Research Institute (IDIBGI) is a public research centre that aims to be at the center of translational biomedical and health research in the province of Girona. IDIBGI belongs to the Catalan Network of Research Centres of the Generalitat de Catalunya (CERCA).

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.

Organization



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Managing Director (Girona Region) at Institut Català de la Salut (ICS) and Institut d'assistència Sanitària (IAS)

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Elena Ribera
Managing Director, Universitat de Girona
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Vice-dean of strategic projects, Universitat de Girona
Joan Profitós Tuset
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Medical Imaging Principal Investigator

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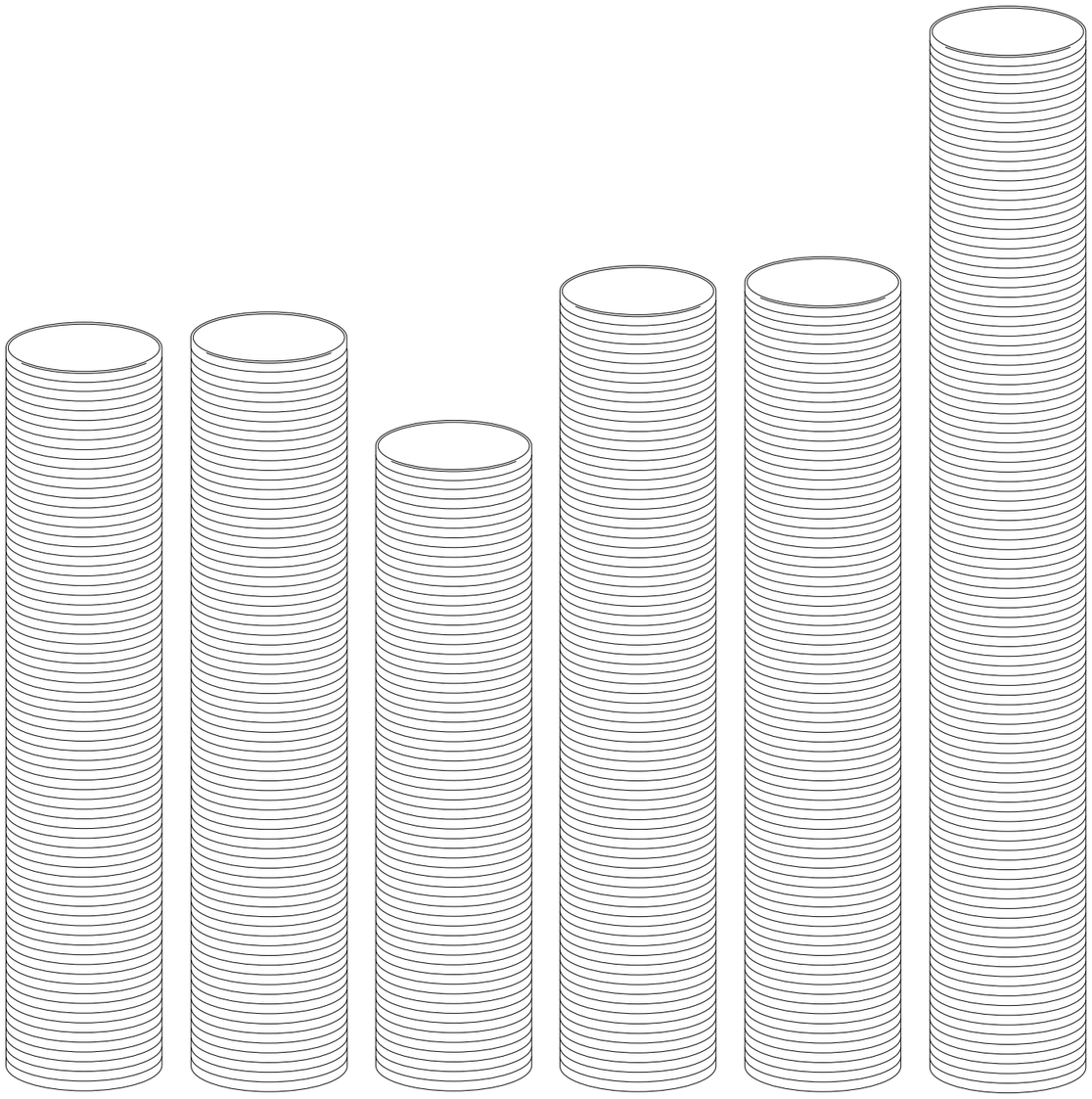
FACTS AND FIGURES

Management report

ANNUAL BUDGET



2013	2014	2015	2016	2017	2018
5.061.407,16 €	5.120.649,38 €	4.471.022,95 €	5.397.585,04 €	5.403.513,15 €	7.136.564,38 €

FUNDS SOURCES AND EXPENSES

2017 Funding Sources

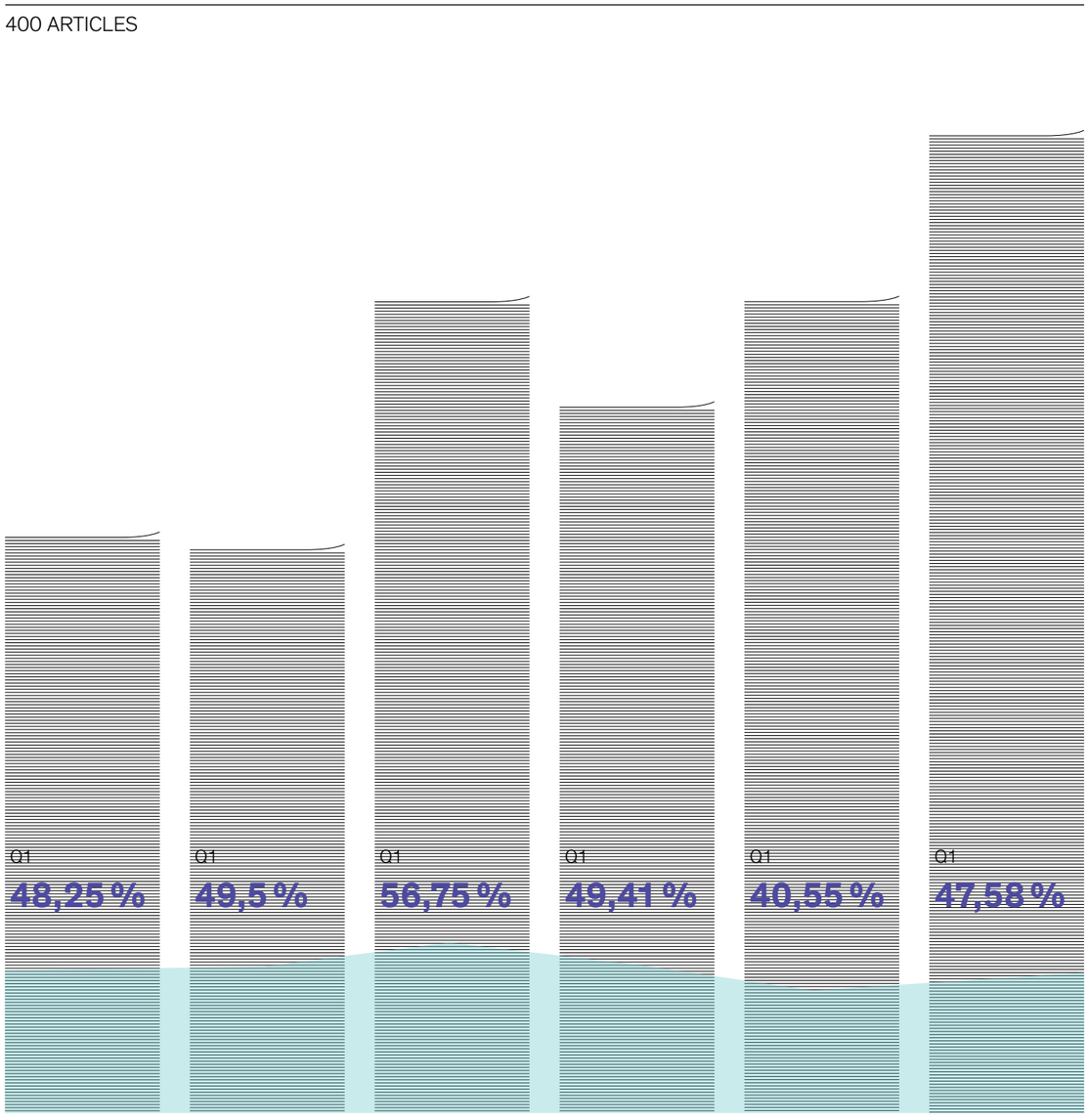
- Clinical trials & private contracts: 1.811.250,62 €
- State administration competitive funds: 933.981,89 €
- European funds (FEDER): 710.188,80 €
- Platforms: 558.769,29 €
- La Caixa Foundation: 523.110,00 €
- Diputació de Girona & DipSalut: 460.094,40 €
- Generalitat de Catalunya transfer: 450.000,00 €
- Philanthropy: 379.597,52 €
- Generalitat de Catalunya competitive funds: 357.678,19 €
- 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 €
- Finantial 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 €

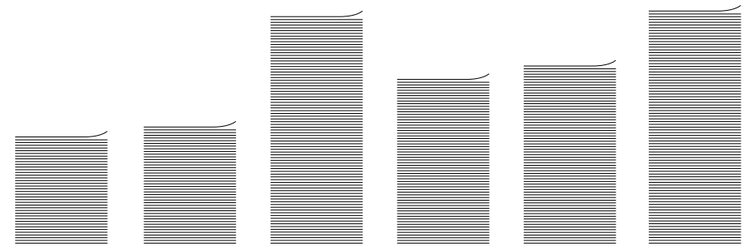
Scientific output

NUMBER OF ARTICLES



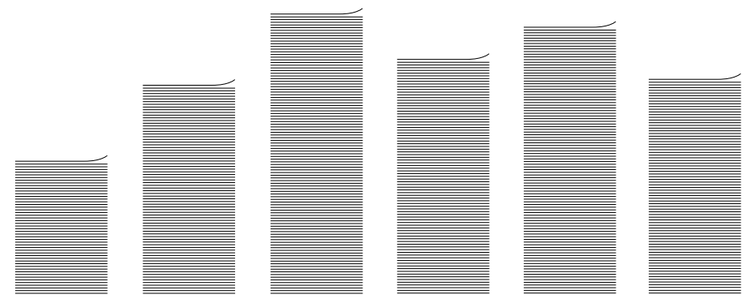
2013	2014	2015	2016	2017	2018
205	202	290	353	291	351

ARTICLES BY AREA



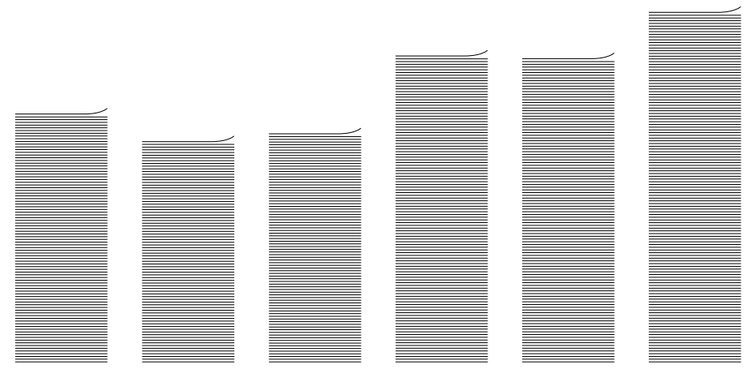
Cardiovascular

2013	2014	2015	2016	2017	2018
22	24	47	34	37	48



Metabolism

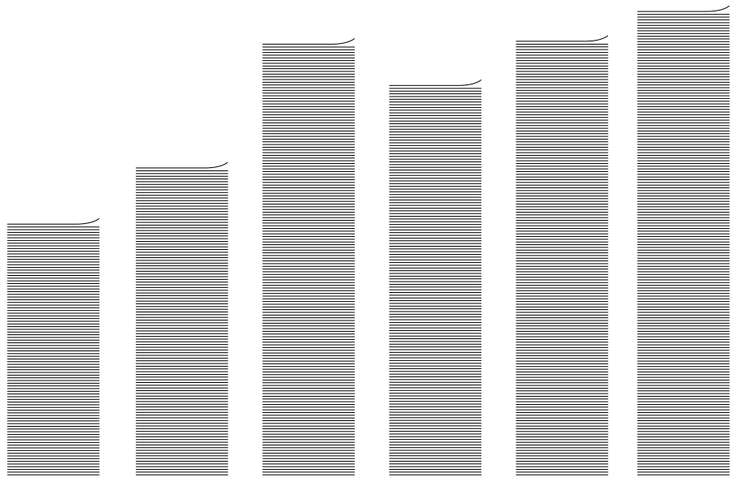
2013	2014	2015	2016	2017	2018
27	43	56	48	52	44



Neurosciences

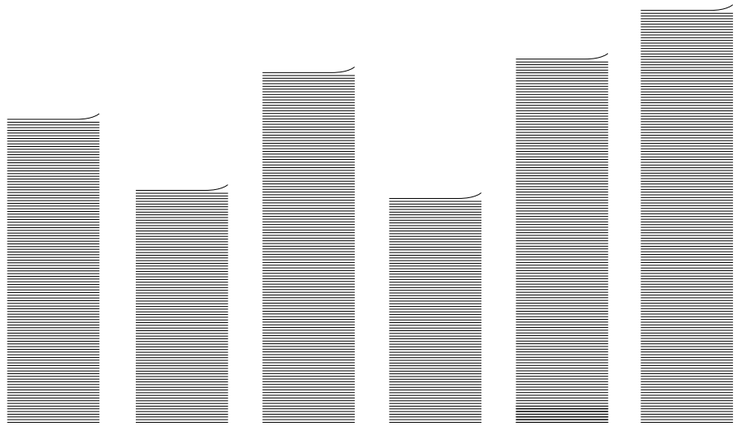
2013	2014	2015	2016	2017	2018
50	45	46	62	61	71

ARTICLES BY AREA



Onco-hematology

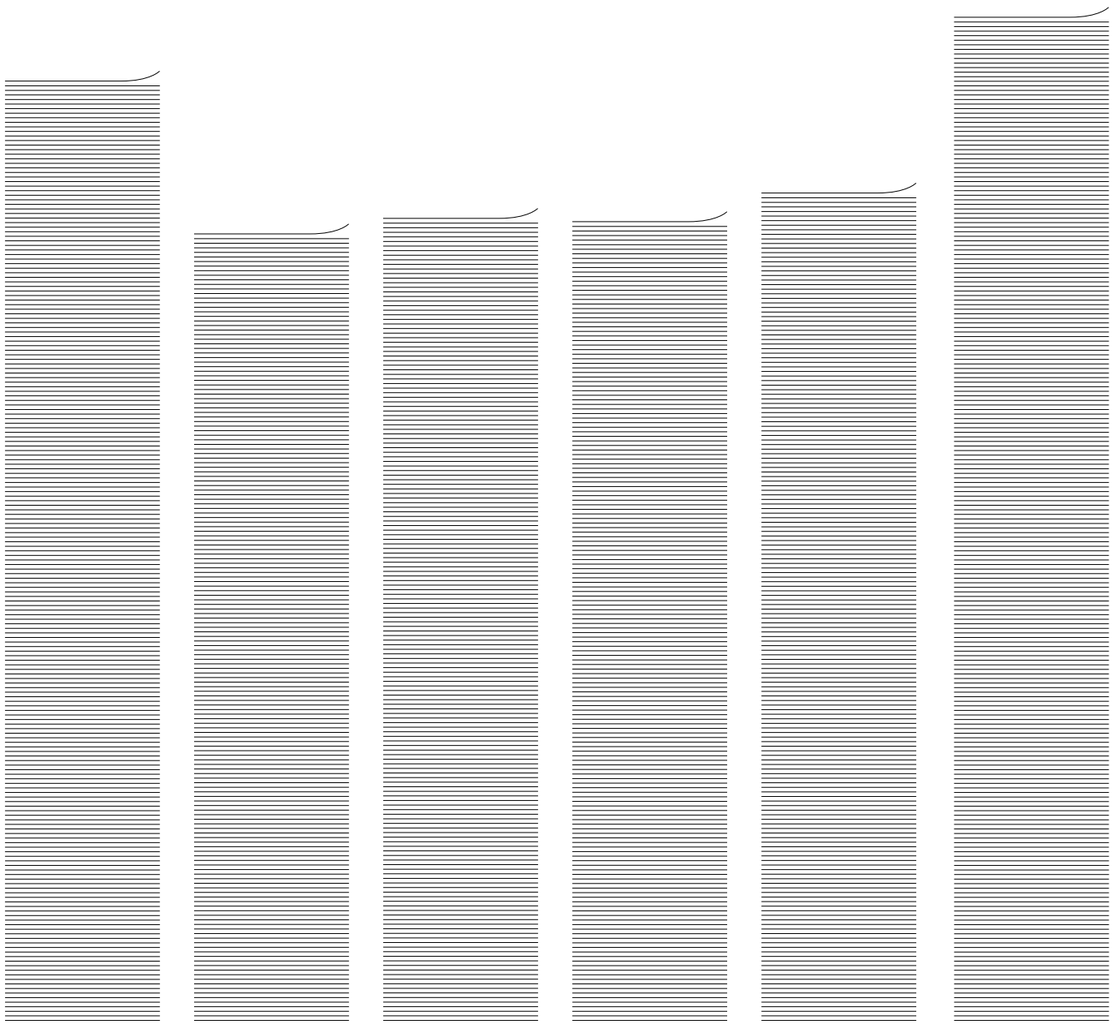
2013	2014	2015	2016	2017	2018
53	65	91	82	92	98



Other

2013	2014	2015	2016	2017	2017
64	49	74	47	77	87

IMPACT FACTOR PER ARTICLE



2013	2014	2015	2016	2017	2018
5,02	4,20	4,29	4,26	4,43	5,38

This list reflects all journals in which investigators of the IDIBGI have published articles during 2018.

JOURNAL	Total Articles Published	IF
NEW ENGLAND JOURNAL OF MEDICINE	3	79,26
THE NEW ENGLAND JOURNAL OF MEDICINE	1	79,26
LANCET	1	53,25
JAMA - JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	1	47,66
LANCET ONCOLOGY	2	36,42
NATURE MEDICINE	4	32,62
LANCET NEUROLOGY	2	27,14
GASTROENTEROLOGY	1	20,77
LEUKEMIA	1	20,02
NATURE CELL BIOLOGY	1	19,06
GUT	1	17,02
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY	3	16,83
BLOOD ADVANCES	1	15,13
INTENSIVE CARE MEDICINE	2	15
DIABETES CARE	1	13,4
NATURE COMMUNICATIONS	1	12,5
JOURNAL OF THE NATIONAL CANCER INSTITUTE. MONOGRAPHS	1	11,24
TRENDS IN ENDOCRINOLOGY AND METABOLISM	1	10,77
ISME JOURNAL	1	9,52
HAEMATOLOGICA	1	9,09
MOVEMENT DISORDERS	1	8,32
BIOSENSORS & BIOELECTRONICS	1	8,17
BLOOD CANCER JOURNAL	1	8,13
NEUROLOGY	1	8,06
CELL REPORTS	1	8,03
MOLECULAR CANCER	1	7,78
AGING CELL	1	7,63
INTERNATIONAL JOURNAL OF CANCER	3	7,36
EUROPEAN JOURNAL OF CANCER	1	7,19
EUROPEAN RESPIRATORY JOURNAL	1	7,19
ONCOGENE	1	6,85
CRITICAL CARE MEDICINE	1	6,63
STROKE	4	6,24
EBIOMEDICINE	1	6,18
JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM	1	6,04
BRITISH JOURNAL OF CANCER	1	5,92
JOURNAL OF MEDICAL GENETICS	1	5,75
FASEB JOURNAL	1	5,6
CELL CHEMICAL BIOLOGY	1	5,59
JOURNAL OF EXPERIMENTAL CELLULAR PHYSIOLOGY, BIOCHEMISTRY AND PHARMACOLOGY	2	5,5
CLINICAL NUTRITION	1	5,49
HEART	1	5,42
HUMAN MUTATION	2	5,36
MEDICAL IMAGE ANALYSIS	1	5,36
THE ONCOLOGIST	2	5,31
JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY	1	5,3
EUROPACE	1	5,23
JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY	1	5,22

JOURNAL	Total Articles Published	IF
JOURNAL OF NEUROINFLAMMATION	1	5,19
REVISTA ESPAÑOLA DE CARDIOLOGÍA	15	5,17
INTERNATIONAL JOURNAL OF OBESITY	3	5,15
MOLECULAR NUTRITION & FOOD RESEARCH	5	5,15
BRITISH JOURNAL OF HAEMATOLOGY	1	5,13
AMERICAN JOURNAL OF MEDICINE	1	5,12
CARCIONEGENESIS	2	5,07
EPILEPSIA	1	5,07
ALZHEIMER RESEARCH & THERAPY	2	5,02

CLINICAL GUIDELINES

Martínez-García MÁ, Máiz L, Olveira C, Girón RM, de la Rosa D, Blanco M, Cantón R, Vendrell M, Polverino E, de Gracia J, Prados C. *Spanish Guidelines on the Evaluation and Diagnosis of Bronchiectasis in Adults*. Arch Bronconeumol. 2018 Feb;54(2):79-87. doi: 10.1016/j.arbres.2017.07.015. Epub 2017 Nov 9. English, Spanish. PubMed PMID: 29128130.

Martínez-García MÁ, Máiz L, Olveira C, Girón RM, de la Rosa D, Blanco M, Cantón R, Vendrell M, Polverino E, de Gracia J, Prados C. *Spanish Guidelines on Treatment of Bronchiectasis in Adults*. Arch Bronconeumol. 2018 Feb;54(2):88-98. doi: 10.1016/j.arbres.2017.07.016. Epub 2017 Nov 9. English, Spanish. PubMed PMID: 29128129.

Albéniz E, Pellisé M, Gimeno García AZ, Lucendo AJ, Alonso Aguirre PA, Herreros de Tejada A, Álvarez MA, Fraile M, Herráiz Bayod M, López Rosés L, Martínez Ares D, Ono A, Parra Blanco A, Redondo E, Sánchez Yagüe A, Soto S, Díaz Tasende J, Montes Díaz M, Téllez MR, García O, Zuñiga Ripa A, Hernández Conde M, Alberca de Las Parras F, Gargallo C, Saperas E, Navas MM, Gordillo J, Ramos Zabala F, Echevarría JM, Bustamante M, González Haba M, González Huix F, González Suárez B, Vila Costas JJ, Guarner Argente C, Múgica F, Cobián J, Rodríguez Sánchez J, López Viedma B, Pin N, Marín Gabriel JC, Nogales Ó, de la Peña J, Navajas León FJ, León Brito, H Remedios D, Esteban JM, Barquero D, Martínez Cara JG, Martínez Alcalá F, Fernández Urién I, Valdivielso E; en nombre del Grupo Español de Resección Endoscópica de la Sociedad Española de Endoscopia Digestiva. *Clinical guidelines for endoscopic mucosal resection of non-pedunculated colorectal lesions*. Gastroenterol Hepatol. 2018 Mar;41(3):175-190. doi:10.1016/j.gastrohep.2017.08.013. Epub 2018 Feb 12. English, Spanish. PubMed PMID: 29449039.

Guies Societat Catalana de Neurologia 2018: Diagnòstic i tractament de les malalties cerebrovasculars. Capitol: Hemorràgia intracerebral.

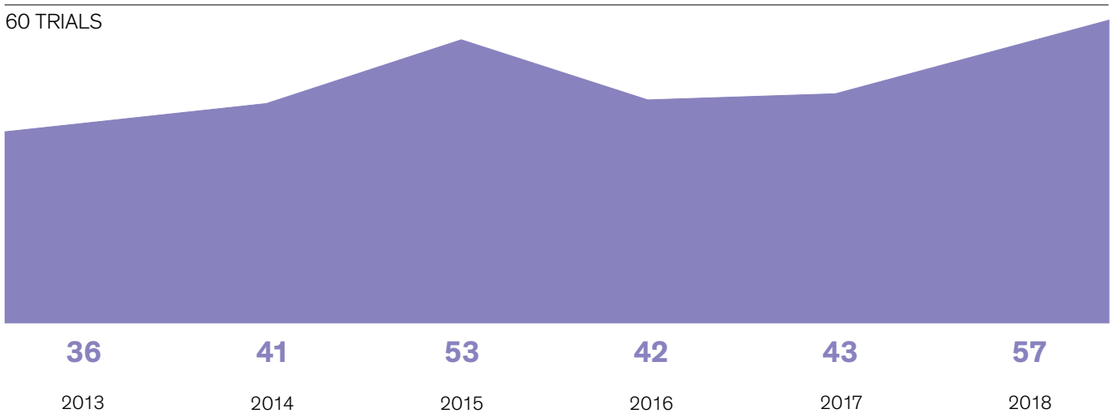
Guía SEOM-SERAM-SEMNIM sobre el empleo de las técnicas de imagen funcional y molecular en el cáncer de pulmón no microcítico avanzado.

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

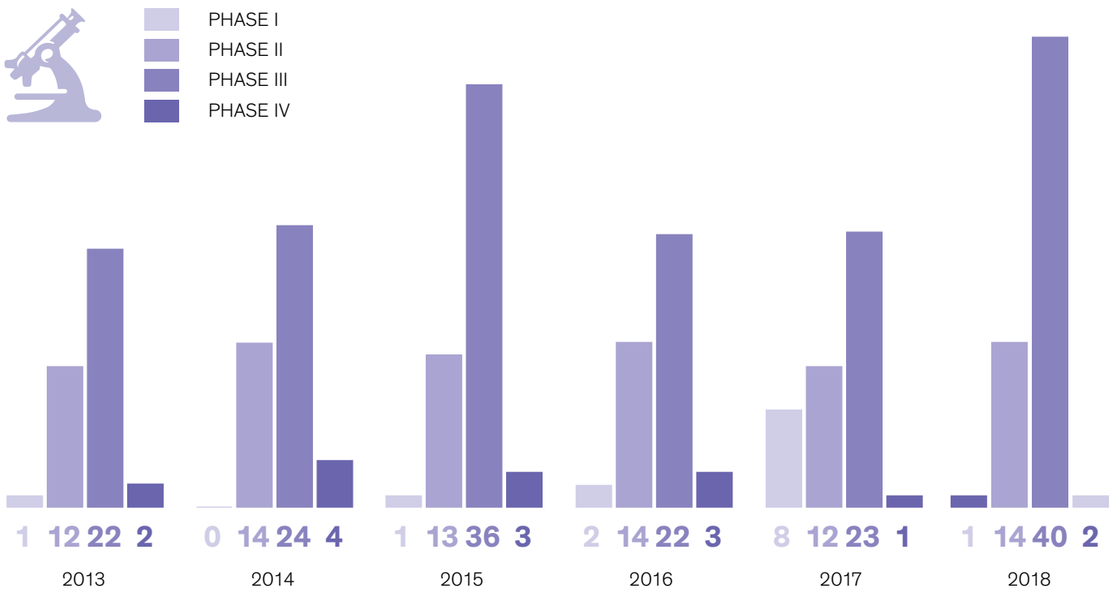
CLINICAL TRIALS

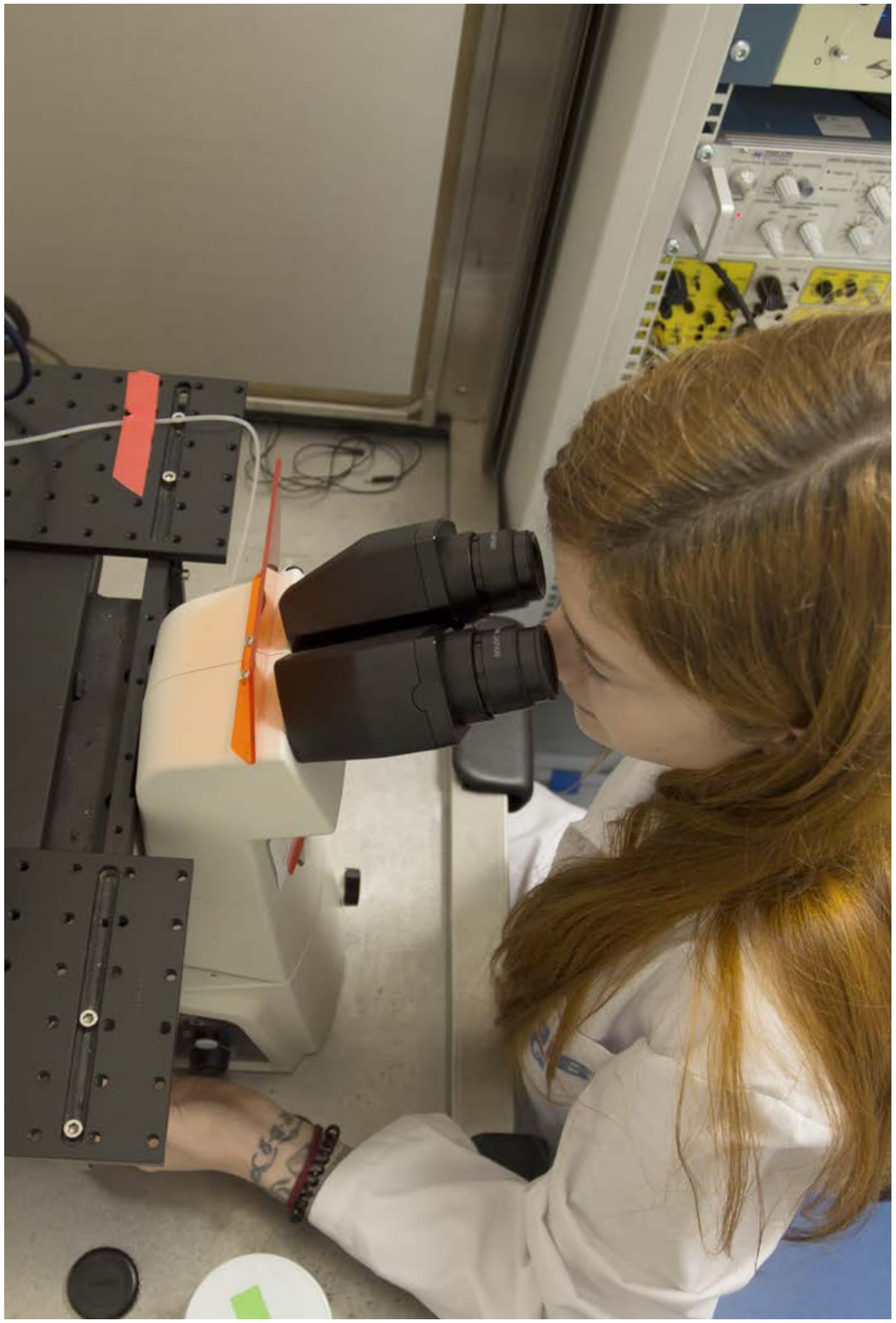
Clinical Trials

Clinical Trials initiated 2013-2018



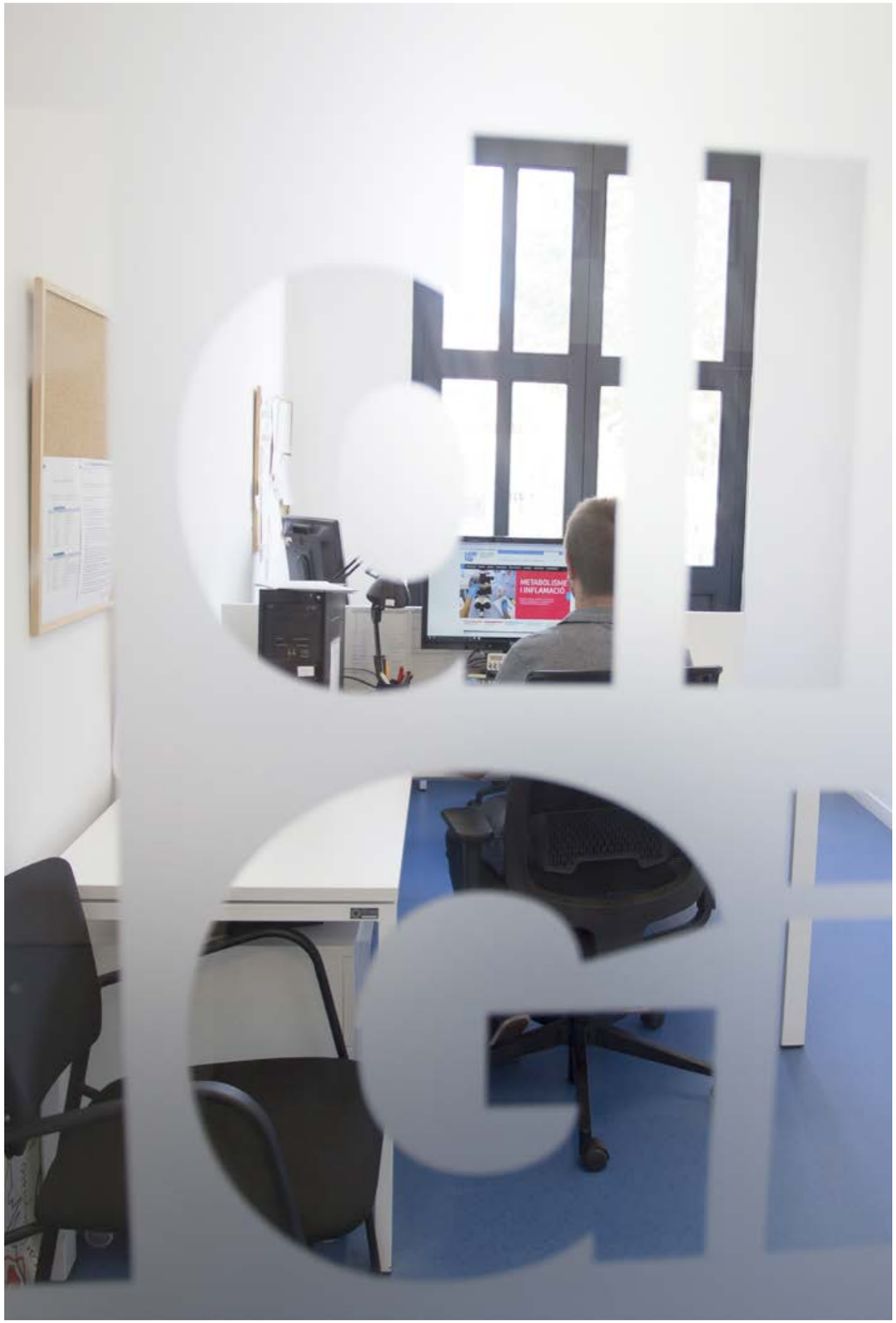
Clinical Trials by Phase 2010-2017





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 Biomèdica 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
Elisabet Selga
Carles Ferrer
Alexandra Pérez

Postdoctoral Researchers
Mireia Alcalde
Mónica Coll
Jesús Matés
Marta Puigmulé

Predoctoral Researchers
Eric Cortada
Anna Fernández
David Carreras
Rebecca Martínez
Mel·lina Pinsach
Bernat del Olmo
Marta Prats
Adrià Pérez

Medical Researchers
Emilce Trucco
Coloma Tiron
Xavier Albert Bertran
Daniel Bosch
Núria Coma
Aleix Fort
Markus Linhart
Paula Fluvià
Elisabet Pujol
Maria Berenguel
Marco Paz
Isabel Ramió
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Mérida Cardenas
Maria Núñez
Daniel Rivero

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Laura López
Núria Neto

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Elisabet Canals
Laia Nogué
Anna Iglesias

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.

BASIC RESEARCH
Studies to better understand the biological basis of diseases associated with sudden death. The laboratory is involved in several projects to understand the pathophysiological basis of sudden death from six major areas: genetics, epigenetics, histology, electrophysiology, membrane traffic and proteomics.

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.

BASIC RESEARCH

Studies aimed at understanding the biological bases of sudden death diseases. The laboratory participates in different projects to understand the physiopathological bases of sudden death from six major aspects: genetics, epigenetics, histology, electrophysiology, membrane traffic and proteomics.

Publications

Case reports

Fort A, Loma-Osorio P, Alcalde Ó, Brugada R. The «De Winter» pattern on the electrocardiogram: It is time to run. Med Clin (Barc). 2018 Jun 7. pii: S0025-7753(18)30298-7. doi: 10.1016/j.medcli.2018.05.003. [Epub ahead of print] English, Spanish. PubMed PMID: 29887179.

Editorials

Brugada J, Campuzano O, Arbelo E, Sarquella-Brugada G, Brugada R. Present Status of Brugada Syndrome: JACC State-of-the-Art Review. J Am Coll Cardiol. 201 8 Aug 28;72(9):1046-1059. doi: 10.1016/j.jacc.2018.06.037. Review. PubMed PMID: 30139433.

Originals

Milman A, Hochstadt A, Andorin A, Gourraud JB, Sacher F, Mabo P, Kim SH, Conte G, Arbelo E, Kamakura T, Aiba T, Napolitano C, Giustetto C, Denjoy I, Juang JJM, Maeda S, Takahashi Y, Leshem E, Michowitz Y, Rahkovich M, Jespersen CH, Wijeyeratne YD, Champagne J, Calo L, Huang Z, Mizusawa Y, Postema PG, Brugada R, Wilde AAM, Yan GX, Behr ER, Tfelt-Hansen J, Hirao K, Veltmann C, Leenhardt A, Corrado D, Gaita F, Priori SG, Kusano KF, Takagi M, Delise P, Brugada J, Brugada P, Nam GB, Probst V, Belhassen B. Time-to-first appropriate shock in patients implanted prophylactically with an implantable cardioverter-defibrillator: data from the Survey on Arrhythmic Events in BRUgada Syndrome (SABRUS). Europace. 2018 Dec 24. doi: 10.1093/europace/euy301. [Epub ahead of print] PubMed PMID: 30590530.

Pieroni M, Notarstefano P, Oliva A, Campuzano O, Santangeli P, Coll M, Nesti M, Carnevali A, Fraticelli A, Iglesias A, Grassi S, Brugada R, Bolognese L. Electroanatomic and Pathologic Right Ventricular Outflow Tract Abnormalities in Patients With Brugada Syndrome. J Am Coll Cardiol. 2018 Dec 4;72(22):2747-2757. doi: 10.1016/j.jacc.2018.09.037. PubMed PMID: 30497561.
Vilardell P, Brugada J, Aboal J, Loma-Osorio P, Falces C, Andrea R, Figueras-Coll M, Brugada R. Characterization of

Electrocardiographic Findings in Young Students. Rev Esp Cardiol (Engl Ed). 2018 Oct 1. pii: S1885-5857(18)30376-1. doi: 10.1016/j.rec.2018.06.036. [Epub ahead of print] English, Spanish. PubMed PMID: 30287239.

López-Sainz Á, Salazar-Mendiguchía J, García-Álvarez A, Campuzano Larrea O, López-Garrido MÁ, García-Guereta L, Fuentes Cañamero ME, Climent Payá V, Peña-Peña ML, Zorio-Grima E, Jordá-Burgos P, Díez-López C, Brugada R, García-Pinilla JM, García-Pavía P. Clinical Findings and Prognosis of Danon Disease. An Analysis of the Spanish Multicenter Danon Registry. Rev Esp Cardiol (Engl Ed). 2018 Aug 11. pii: S1885-5857(18)30304-9. doi: 10.1016/j.rec.2018.04.035. [Epub ahead of print] English, Spanish. PubMed PMID: 30108015.

Moral S, Ballesteros E, Roque M, Carrato C, Vilardell P, Brugada R, Evangelista A. Intimal disruption in type B aortic intramural hematoma. Does size matter? A systematic review and meta-analysis. Int J Cardiol. 2018 Oct 15;269:298-303. doi: 10.1016/j.ijcard.2018.07.111. Epub 2018 Jul 26. PubMed PMID: 30057168.
Campuzano O, Beltramo P, Fernández A, Iglesias A, García L, Allegue C, Sarquella-Brugada G, Coll M, Pérez-Serra A, Mademont-Soler I, Mates J, Del Olmo B, Rodríguez Á, Maciel N, Puigmulé M, Pico F, Cesar S, Brugada J, Cuesta A, Gutiérrez C, Brugada R. Molecular autopsy in a cohort of infants died suddenly at rest. Forensic Sci Int Genet. 2018 Nov; 37:54-63. doi: 10.1016/j.fsigen.2018.07.023. Epub 2018 Jul 31. PubMed PMID: 30086531.

Coll M, Ferrer-Costa C, Pich S, Allegue C, Rodrigo E, Fernández-Fresnedo G, Barreda P, Mates J, Martínez de Francisco AL, Ortega I, Iglesias A, Campuzano O, Salas E, Arias M, Brugada R. Role of genetic and electrolyte abnormalities in prolonged QTc interval and sudden cardiac death in end-stage renal disease patients. PLoS One. 2018 Jul 18;13(7): e0200756. doi: 10.1371/journal.pone.0200756. eCollection 2018. PubMed PMID: 30020974; PubMed Central PMCID: PMC6051653.

Toro R, Blasco-Turrión S, Morales-Ponce FJ, González P, Martínez-Camblor P, López-Granados A, Brugada R, Campuzano O, Pérez-Serra A, Rosa Longobardo F, Mangas A, Llorente-Cortes V, de Gonzalo-Calvo D. Plasma microRNAs as biomarkers for Lamin A/C-related dilated cardiomyopathy. J Mol Med (Berl). 2018 Jul 14. doi: 10.1007/s00109-018-1666-1. [Epub ahead of print] PubMed PMID: 30008018.

Scumaci D, Oliva A, Concolino A, Curcio A, Fiumara CV, Tammè L, Campuzano O, Pascali VL, Coll M, Iglesias A, Berne P, Casu G, Olivo E, Ausania F, Ricci P, Indolfi C, Brugada J, Brugada R, Cuda G. Integration of "Omics" Strategies for Biomarkers Discovery and for the Elucidation of Molecular Mechanisms Underlying Brugada Syndrome. Proteomics Clin Appl. 2018 Nov; 12(6): e1800065. doi: 10.1002/prca.201800065. Epub 2018 Jul 20. PubMed PMID: 29956481.

Milman A, Gourraud JB, Andorin A, Postema PG, Sacher F, Mabo P, Conte G, Giustetto C, Sarquella-Brugada G, Hochstadt A, Kim SH, Juang JJM, Maeda S, Takahashi Y, Kamakura T, Aiba T, Leshem E, Michowitz Y, Rahkovich M, Mizusawa Y, Arbelo E, Huang Z, Denjoy I, Wijeyeratne YD, Napolitano C, Brugada R, Casado-Arroyo R, Champagne J, Calo L, Tfelt-Hansen J, Priori SG, Takagi M, Veltmann C, Delise P, Corrado D, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. Gender differences in patients with Brugada syndrome and arrhythmic events: Data from a survey on arrhythmic events in 678 patients. Heart Rhythm. 2018 Oct;15(10):1457-1465. doi: 10.1016/j.hrthm.2018.06.019. Epub 2018 Jun 13. PubMed PMID: 29908370.

Iglesies J, Loma-Osorio P, Aboal J, Núñez M, Brugada R. Mechanical Chest Compressions and Traumatic Complications in Out-of-hospital Cardiac Arrest. Is There a Price to Pay? Rev Esp Cardiol (Engl Ed). 2018 Apr 11. pii: S1885-5857(18)30106-3. doi: 10.1016/j.rec.2018.01.019. [Epub ahead of print] English, Spanish. PubMed PMID: 29655766.

Michowitz Y, Milman A, Sarquella-Brugada G, Andorin A, Champagne J, Postema PG, Casado-Arroyo R, Leshem E, Juang JJM, Giustetto C, Tfelt-Hansen J, Wijeyeratne YD, Veltmann C, Corrado D, Kim SH, Delise P, Maeda S, Gourraud JB, Sacher F, Mabo P, Takahashi Y, Kamakura T, Aiba T, Conte G, Hochstadt A, Mizusawa Y, Rahkovich M, Arbelo E, Huang Z, Denjoy I, Napolitano C, Brugada R, Calo L, Priori SG, Takagi M, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. Fever-related arrhythmic events in the multicenter Survey on Arrhythmic Events in Brugada Syndrome. Heart Rhythm. 2018 Sep;15(9):1394-1401. doi: 10.1016/j.hrthm.2018.04.007. Epub 2018 Apr 9. PubMed PMID: 29649615.

Mates J, Mademont-Soler I, Del Olmo B, Ferrer-Costa C, Coll M, Pérez-Serra A, Picó F, Allegue C, Fernández-Falgueras A, Álvarez P, Yotti R, Espinosa MA, Sarquella-Brugada G, Cesar S, Carro E, Brugada J, Arbelo E, Garcia-Pavia P, Borregan M, Tizzano E, López-Granados A, Mazuelos F, Díaz de Bustamante A, Darnaude MT, González-Hevia JI, Díaz-Flores F, Trujillo F, Iglesias A, Fernández-Aviles F, Campuzano O, Brugada R. Role of copy number variants in sudden cardiac death and related diseases: genetic analysis and translation into clinical practice. Eur J Hum Genet. 2018 Jul;26(7):1014-1025. doi: 10.1038/s41431-018-0119-1. Epub 2018 Mar 6. PubMed PMID: 29511324; PubMed Central PMCID: PMC6018743.

Milman A, Andorin A, Gourraud JB, Postema PG, Sacher F, Mabo P, Kim SH, Juang JJM, Maeda S, Takahashi Y, Kamakura T, Aiba T, Conte G, Sarquella-Brugada G, Leshem E, Rahkovich M, Hochstadt A, Mizusawa Y, Arbelo E, Huang Z, Denjoy I, Giustetto C, Wijeyeratne YD, Napolitano C, Michowitz Y, Brugada R, Casado-Arroyo R, Champagne J, Calo L, Tfelt-Hansen J, Priori SG, Takagi M, Veltmann C, Delise P, Corrado D, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. Profile of patients with Brugada syndrome presenting with their first documented arrhythmic event: Data from the Survey on Arrhythmic Events in BRUgada Syndrome (SABRUS). Heart Rhythm. 2018 May;15(5):716-724. doi: 10.1016/j.hrthm.2018.01.014. Epub 2018 Jan 8. PubMed PMID: 29325976.

Selga E, Sendfeld F, Martínez-Moreno R, Medine CN, Tura-Ceide O, Wilmut SI, Pérez GJ, Scornik FS, Brugada R, Mills NL. Sodium channel current loss of function in induced pluripotent stem cell-derived cardiomyocytes from a Brugada syndrome patient. J Mol Cell Cardiol. 2018 Jan;114:10-19. doi: 10.1016/j.yjmcc.2017.10.002. Epub 2017 Oct 9. PubMed PMID: 29024690; PubMed Central PMCID: PMC5807028.

Loma-Osorio P, Nuñez M, Aboal J, Bosch D, Batlle P, Ruiz de Morales E, Ramos R, Brugada J, Onaga H, Morales A, Olivet J, Brugada R. The Girona Territori Cardioprotegit Project: Performance Evaluation of Public Defibrillators. Rev Esp Cardiol (Engl Ed). 2018 Feb;71(2):79-85. doi: 10.1016/j.rec.2017.04.011. Epub 2017 May 16. English, Spanish. PMID:28522305

Mates J, Mademont-Soler I, Del Olmo B, Ferrer-Costa C, Coll M, Pérez-Serra A, Picó F, Allegue C, Fernández-Falgueras A, Álvarez P, Yotti R, Espinosa MA, Sarquella-Brugada G, Cesar S, Carro E, Brugada J, Arbelo E, Garcia-Pavia P, Borregan M, Tizzano E, López-Granados A, Mazuelos F, Díaz de Bustamante A, Darnaude MT, González-Hevia JI, Díaz-Flores F, Trujillo F, Iglesias A, Fernández-Aviles F, Campuzano O, Brugada R. Role of copy number variants in sudden cardiac death and related diseases: genetic analysis and translation into clinical practice. Eur J Hum Genet. 2018 Jul;26(7):1014-1025. doi: 10.1038/s41431-018-0119-1. Epub 2018 Mar 6. PubMed PMID: 29511324; PubMed Central PMCID: PMC6018743.

Selga E, Sendfeld F, Martínez-Moreno R, Medine CN, Tura-Ceide O, Wilmut SI, Pérez GJ, Scornik FS, Brugada R, Mills NL. Sodium channel current loss of function in induced pluripotent stem cell-derived cardiomyocytes from a Brugada syndrome patient. J Mol Cell Cardiol. 2018 Jan;114:10-19. doi: 10.1016/j.yjmcc.2017.10.002. Epub 2017 Oct 9. PubMed PMID: 29024690; PubMed Central PMCID: PMC5807028.

Reviews

Mascia G, Arbelo E, Solimene F, Giaccardi M, Brugada R, Brugada J. The long-QT syndrome and exercise practice: The never-ending debate. J Cardiovasc Electrophysiol. 2018 Mar;29(3):489-496. doi: 10.1111/jce.13410. Epub 2018 Jan 24. Review. PubMed PMID: 29292852.

Bonilla JC, Parra-Medina R, Chaves JJ, Campuzano O, Sarquella-Brugada G, Brugada R, Brugada J. [Molecular autopsy in sudden cardiac death]. Arch Cardiol Mex. 2018 Oct - Dec;88(4):306-312. doi: 10.1016/j.acmx.2018.06.001. Epub 2018 Jul 18. Spanish. PubMed PMID: 30030015.

Brugada J, Campuzano O, Arbelo E, Sarquella-Brugada G, Brugada R. Present Status of Brugada Syndrome: JACC State-of-the-Art Review. J Am Coll Cardiol. 201 8 Aug 28;72(9):1046-1059. doi: 10.1016/j.jacc.2018.06.037. Review. PubMed PMID: 30139433.

Sarquella-Brugada G, Cesar S, Zambrano MD, Fernández-Falgueras A, Fiol V, Iglesias A, Torres F, Garcia-Algar O, Arbelo E, Brugada J, Brugada R, Campuzano O. Electrocardiographic Assessment and Genetic Analysis in Neonates: a Current Topic of Discussion. Curr Cardiol Rev. 2019;15(1):30-37. doi: 10.2174/1573403X14666180913114806. PubMed PMID: 30210005.

Espinosa Á, Ripollés-Melchor J, Brugada R, Campuzano Ó, Sarquella-Brugada G, Abad-Motos A, Zaballos-García M, Abad-Torrent A, Prieto-Gundin A, Brugada J. Brugada Syndrome: anaesthetic considerations and management algorithm. Minerva Anestesiol. 2018 Oct 30. doi: 10.23736/S0375-9393.18.13170-1. [Epub ahead of print] PubMed PMID: 30394071.

Campuzano O, Sarquella-Brugada G, Cesar S, Arbelo E, Brugada J, Brugada R. Recent Advances in Short QT Syndrome. Front Cardiovasc Med. 2018 Oct 29;5:149. doi: 10.3389/fcvm.2018.00149. eCollection 2018. Review. PubMed PMID: 30420954; PubMed Central PMCID: PMC6215807.

Books

Georgia Sarquella-Brugada, Anna Fernández-Falgueras, Sergi Cesar, Victoria Fiol, Josep Brugada, Daniel Natera, Laura Carrera, Carlos Ortez, Cecilia Jimenez-Mallebrera, Cristina Jou, Andres Nascimento, Ramon Brugada, Oscar Campuzano. *Distrofia muscular asociada a mutaciones en LMNA. Estudio de nuevas alteraciones genéticas mediante tecnología de secuenciación masiva*. Revista Genética Médica, Octubre 2018

Mireia Alcalde, Oscar Campuzano, Marta Prats, Anna Fernández-Falgueres, Georgia Sarquella-Brugada, Sergi Cesar, Anna Iglesias, Ramon Brugada. Chapter 3: *Arrhythmogenic cardiomyopathy: update on genetic basis*. Book: Rare Diseases. Avid Science Publications, 2018

Anna Fernández, Jesus Mates, Bernat del Olmo, Alexandra Pérez-Serra, Mònica Coll, Marta Puigmulé, Ferran Picó, Laura López, Anna Iglesias, Ramon Brugada, Oscar Campuzano. *Challenges associated with new sequencing technologies in the genetic diagnosis of sudden cardiac death-related diseases.* Book: Top 10 Contributions on Bioinformatics and Systems Biology. Avid Science Publications, 2018

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: 2018-2020
Coordinator: -
Principal Investigator: Ramon Brugada / Oscar Campuzano

Project: Genetic and molecular basis of arrhythmogenic right ventricular cardiomyopathy: translation into clinical care
Funding agency: La Marató de TV3
Duration: 2015-2018
Coordinator: -
Principal Investigator: Ramón Brugada

Project: Suport 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: Óscar Campuzano

Project: Pedi-SUDS. Translational Genetic Medicine in Paediatric Sudden Death
Funding agency: Fundación Daniel Bravo
Duration: 2015-2018
Coordinator: -
Principal Investigator: Ramón Brugada

Project: Role of nonexonic regions in Brugada Syndrome (SAF2015-70823-R)
Funding agency: Ministerio de Economía y Competitividad, Retos de la Sociedad
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Sara Pagans/ Miquel Duran

Project: Mecanismes epigenètics de regulació de l'expressió del canal de sodi cardíac (MPCUdG2016/039)
Funding agency: Ajuts per a la millora de la productivitat científica dels grups de recerca de la Universitat de Girona 2016-2018
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Guillermo J. Pérez, Sara Pagans

Project: Pathophysiologic and therapeutic in vitro assessment of patient-specific iPS cell-derived cardiomyocytes
Tipus: ajuda predoctoral
Funding agency: Pla 350130113 Programa de Doctorat en Biologia Molecular, Biomedicina i Salut
Duration: 2016-2018
Coordinator: -
Principal Investigator: Fabiana Scornik
PhD: Rebecca Martínez Moreno MOB18 Short-stay Grant, University of Girona, 2019. / BPS 2019 Travel Award to attend the Biophysical Society Meeting, Baltimore, USA, 2019

Project: Tràfic del canal de sodi cardíac dependent de voltatge (MPCUdG2016/138)
Funding agency: Ajuts per a la millora de la productivitat científica dels grups de recerca de la Universitat de Girona 2016-2018
Duration: 2016-2018
Coordinator: Universitat de Girona
Principal Investigator: Marcel Vergés

Project: Centro Investigación Biomédica En Red (CIBER), Enfermedades Cardiovasculares (ciber-cv
Funding agency: Instituto de Salud Carlos III
Duration: 2017-2021
Coordinator: -
Principal Investigator: Ramón Brugada / Oscar Campuzano

Project: Pathophysiologic and therapeutic in vitro assessment of patient-specific iPS cell-derived cardiomyocytes (Expedient 20153910)
Funding agency: Universitat de Girona
Duration: 2016-2019
Coordinator: Universitat de Girona
Principal Investigator: Fabiana Scornik

Project: Investigació Cardiovascular
Funding agency: Obra Social "La Caixa"
Duration: 2017-2022
Coordinator:
Principal Investigator: Ramon Brugada

Project: Ajuts complementaris per la Mobilitat d'investigadors UdG
Tipus: MOB18

Funding agency: Universitat de Girona
Duration: 2018-2019
Coordinator: Universitat de Girona
Principal Investigator: Rebecca Martínez Moreno

Project: Travel Award to attend the Biophysical Society Meeting, Baltimore, USA, 2019
Funding agency: The Biophysical Society
Duration: 2019
Coordinator:
Principal Investigator: Rebecca Martínez Moreno

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 i Dra. Catarina Allegue Toscano.
University: University of Girona
Faculty/School: Sciences
Date: 19/01/2018

Awards / Recognition

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

Collaborations

University of Rome. Collaborative Project in sudden cardiac death related to epilepsy.

Hospital Trueta. Collaboration in genetics of sudden cardiac death

Hospital Sant Joan de Déu. Sudden Cardiac death in Infants and intrauterine death.

Hospital del Mar i Maternitat de Barcelona per tal de dur a terme estudi ECG en nounats. L'objectiu és identificar alteracions en el ECG des del naixement per tal de prendre mesures preventives.

Institut de Medicina Legal de Catalunya (IMLC). Genetics in unexplained Sudden Cardiac death

GenIncode. Collaboration in the development of genetic panels

DipSalut. Collaboration on the public access defibrillation program.

Research in vascular health

Team involved in “Red de Investigación en Actividades Preventivas y Promoción de la Salud” (redIAPP)
Recognised as a consolidated research group - 2017SGR1146
KEYWORDS: **Atherosclerosis, cardiovascular risk, primary prevention**

Group members

Principal Investigator
Rafel Ramos

Senior Researchers:
Maria del Mar Garcia
Ruth Martí Lluch
Anna Ponjoan Thäns

Postdoctoral Researchers:
Lia Alves
Miquel Quesada
Dídac Parramon
Lourdes Camós

Predoctoral Researchers:
Jaime Aboal
Elisabet Balló
Laura Guerrero
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 Investigació 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 with three institutions: Institut de Recerca Biomèdica de Girona (IDIBGI), Institut d’Investigació en Atenció Primària (IDIAP) 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. Alves-Cabratosa), nurses (L. Camos) 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 the epidemiology 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.

The group is organised to adapt to its strategic objectives. The leading researcher and general coordinator of the group is Dr Rafel Ramos, who is a Family Physician. There is a scientific group supervised by Dr Ramos and By Dr Maria García -who is an expert in research methodology and statistics. Both coordinate the supervision of the projects, the prioritisation of the objectives, and the analyses performed by the postdoctoral researchers. They are also responsible, along with Dr Ruth Martí, for the supervision of the PhD students’ works. To accomplish the scientific and strategic objectives of the group, three platforms have been organised:

1. The platform for tuition, coordinated by Maria García, Ruth Martí, and Rafel Ramos, is in charge of the internal tuition for the group members (proposing and selecting courses for the researchers and technicians, organising the internal instruction of the researchers particularly of the PhD students, and the group sessions). They also organise the lectures in research methodology that the group members address to other health professionals. Currently, this platform is directing 10 doctoral thesis in primary care and cardiovascular epidemiology. There are 4 members in the group who are associate teachers within the Departament de Ciències Mèdiques in Universitat de Girona (UdG), and they lecture in the Medical Degree, in the Master in Health Promotion, and in the Master in Molecular Biology and Biomedicine from UdG. They lecture in multiple courses and seminars about research given to health professionals at the unitat Docent de Medicina de Família de Girona. The group ISV also hosts residents in medicine and in nursing for a period of research instruction during their internship.

2. The platform for data management and statistical analysis. This structure is strategic for the group, since the expertise in the management of large clinical databases supports the tree strategic objectives of the group. The coordinator of this platform is Dr Garcia and the technicians are M. Comas and J. Blanch, who are both mathematicians. In recent years, this platform has gained great expertise in the management of clinical databases, essentially through collaboration with other international research groups. This platform supports 8 projects that are under competitive funding. Dr Maria García has been recently appointed director of SIDIAP system (www.sidiap.org).

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. García, R. Martí, and A. Ponjoan.

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 (CIH) and the Primary Care Research Institute Jordi Gol (IDIAP). It is an anonymized database that generates reliable and standardized clinical information of nearly 5 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 CIH. 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 modelling of risk prediction.

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

Baena-Díez JM, Garcia-Gil M, Comas-Cufí M, Ramos R, Prieto-Alhambra D, Salvador-González B, et al. Association between chronic immune-mediated inflammatory diseases and cardiovascular risk. Heart. 2018 Jan;104(2):119-126.

Baena-Díez JM, Subirana I, Ramos R, Gómez de la Cámara A, Elosua R, Vila J, et al. Validity Assessment of Low-risk SCORE Function and SCORE Function Calibrated to the Spanish Population in the FRESCO Cohorts. Rev Esp Cardiol (Engl Ed). 2018 Apr;71(4):274-282.

Barroso M, Goday A, Ramos R, Marín-Ibañez A, Guembe MJ, Rigo F, et al; FRESCO Investigators. Interaction between cardiovascular risk factors and body mass index and 10-year incidence of cardiovascular disease, cancer death, and overall mortality. Prev Med. 2018 Feb;107:81-89.

Barroso M, Pérez S, Zomeño MD, Degano IR, Fitó M, Cabezas Cet al. Validity of a method for the self-screening of cardiovascular risk. J Clin Epidemiol. 2018;10:549-560.

Elosua-Bayés M, Martí-Lluch R, García-Gil MDM, Camós L, Comas-Cufí M, Blanch J, et al. Association of Classic Cardiovascular Risk Factors and Lifestyles With the Cardio-ankle Vascular Index in a General Mediterranean Population. Rev Esp Cardiol (Engl Ed). 2018 Jun;71(6):458-465.

Gómez-Marcos MA, Gómez-Sanchez L, Patino-Alonso MC, Recio-Rodríguez JI, Gómez-Sanchez M, Rigo F, et al; MARK Group. A body shape index and vascular structure and function in Spanish adults (MARK study): A cross-sectional study. Medicine. 2018 Nov; 97(47):e13299.

Loma-Osorio P, Nuñez M, Aboal J, Bosch D, Batlle P, Ruiz de Morales E, et al. The Girona Territori Cardioprotegit Project: Performance Evaluation of Public Defibrillators. Rev Esp Cardiol (Engl Ed). 2018 Feb;71(2):79-85.

Nieuwenhuijsen MJ, Gascon M, Martínez D, Ponjoan A, Blanch J, Garcia-Gil MDM, et al. Air Pollution, Noise, Blue Space, and Green Space and Premature Mortality in Barcelona: A Mega Cohort. International journal of environmental research and public health. 2018 Oct; 15(11).

Ramos R, Comas-Cufí M, Martí-Lluch R, Balló E, Ponjoan A, Alves-Cabratosa L, Blanch J, Marrugat J, Elosua R, Grau M, Elosua-Bayes M, García-Ortiz L, Garcia-Gil M. Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study. BMJ (Clinical research ed.). 2018 Sep; 362:k3359. Epub 2018 Sep 05. pmc:PMC6123838. PMID:30185425.

Rodríguez-Poncelas A, Coll-de-Tuero G, Blanch J, Comas-Cufí M, Saez M, Barceló MA. Prediabetes is associated with glomerular hyperfiltration in a European Mediterranean cohort study. Journal of nephrology. Epub 2018 Aug 27.

Salvador-González B, Gil-Terrón N, Cerain-Herrero MJ, Subirana I, Güell-Miró R, Rodríguez-Latre LM, et al. Estimated Glomerular Filtration Rate, Cardiovascular Events and Mortality Across Age Groups Among Individuals Older Than 60 Years in Southern Europe. Rev Esp Cardiol (Engl Ed). Epub 2017 Oct 28

Sangrós FJ, Torrecilla J, Giráldez-García C, Carrillo L, Mancera J, Mur T, et al. Association of General and Abdominal Obesity With Hypertension, Dyslipidemia and Prediabetes in the PREDAPS Study. Rev Esp Cardiol (Engl Ed). 2018 Mar;71(3):170-177.

Topouchian J, Labat C, Gautier S, Bäck M, Achimastos A, Blacher J, et al. Effects of metabolic syndrome on arterial function in different age groups: the Advanced Approach to Arterial Stiffness study. Journal of hypertension. Epub 2018 Jan 10.

Vázquez, G, Zamora A, Ramos R, Subirana I, Grau M, Degano IR, et al. Analysis of Plasma Albumin, Vitamin D, and Apolipoproteins A and B as Predictive Coronary Risk Biomarkers in the REGICOR Study. Rev Esp Cardiol. 2018 Nov;71(11):910-916.

Zamora A, Masana L, Comas-Cufi M, Plana N, Vila À, García-Gil M, et al. Number of Patients Eligible for PCSK9 Inhibitors Based on Real-world Data From 2.5 Million Patients. Rev Esp Cardiol (Engl Ed). 2018 Dec;71(12):1010-1017.

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: Epidemiologia de la Hipercolesterolèmia Familiar; predicció de risc, efectivitat i seguretat del tractament hipolipemiant
Funding agency: Departament de Salut (Convocatòria PERIS 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 lesion renal aguda en población general
Funding agency: IDIAP Jordi Gol
Duration: 2017-2019
Coordinator: Antonio Rodríguez
Principal Investigator: Antonio Rodríguez

Project: Seguiment de la cohort poblacional de l'estudi REGICOR: tendències en la incidència de malaltia cardiovascular, en la prevalença de factors de risc, identificació de nous mecanismes i biomarcadors predictius, i avaluació d'estratègies de prevenció
Funding agency: Departament de Salut (Convocatòria PERIS 2016)
Duration: 2017-2019
Coordinator: Roberto Elosua
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: 2016-2018
Coordinator: John Gallagher
Principal Investigator: Rafel Ramos

Project: Efectividad de los Objetivos Terapéuticos de la Lipoproteina de Baja Densidad (cLDL) en la Reducción de Eventos Aterotrombóticos. Proyecto ELECTRA.
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2018
Coordinator: Maria del Mar Garcia Gil
Principal Investigator: Maria del Mar Garcia Gil

Membership of the collaborative research networks

National collaborations

1. We participate in the Redes temáticas de Investigación Cooperativa en Salud (RETICS). 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. Garcia-Ortiz (Research Group in cardiovascular disease from Castilla y León, RD16/0007/0003) and the group led by Dr B.Bolíbar, coordinator of redIAPP (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 utilitzant mètodes longitudinals
Student: Jordi Blanch I Font
Director: Maria Sala Serra i Montse Rué Monné
University: Universitat Autònoma de Barcelona
Faculty/School: Medicine
Date: 14/03/2018

Title: Aportacions de l'anàlisi composicional a les mixtures de distribucions
Student: Marc Comas Cufí
Director: Glòria Mateu Figueras I Josep Antoni Martín Fernández
University: Universitat de Girona
Faculty/School: Informàtica I estadística aplicada
Date: 24/10/2018

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 Munuera Gifre
Director: Gabriel Coll i Dolors Juvinyà
University: Universitat de Girona
Faculty/School: Medicine
Date: 23/02/2018

Title: Arteriopatia Perifèrica i factors de risc cardiovascular. Millora de la prevenció secundària dels pacients amb arteriopatia perifèrica en l'Atenció Primària
Student: Àlex Llobera Serentill
Director: Rafel Ramos Blanes
University: Universitat de Girona
Faculty/School: Medicine
Date: 09/03/2018

Awards / Recognition

Title: Premis Bonastruc ça Porta a la Trajectòria Profesional Mèdica
Institution: Col·legi Oficial de Metges de Girona
Awardee/s: Grup d'Investigació en Salut Vascular de Girona: Ramos R, Garcia M, Martí R, Ponjoan A, Alves L, Quesada M, Solanas P, Comas M, Blanch J, Parramon D, Elosua M, Sidera M, Camós L, Ferrer N, Ramos JM
Date: 2018

Title: Premi Mutual Mèdica al Millor Treball Publicat: Familial hypercholesterolemia in a European Mediterranean population-Prevalence and clinical data from 2.5 million primary care patients
Institution: Mutual Mèdica
Awardee/s: Zamora A, Masana L, Comas M, Vila A, Plana N, Garcia M, Alves L, Marrugat J, Roman I, Ramos R
Date: 2018

Title: Premi Comitè de Recerca al millor pòster: 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)
Awardee/s: Sánchez I, Inoriza JM, de Eugenio R, Turró OCubí R, Ponjoan A, Garre J.
Date: 2018

Title: Beca de l'Acadèmia: Determinació dels valors de normalitat i de seguretat de l'automesura de la pressió arterial al domicili del pacient en el diagnòstic d'hipertensió arterial i del millor protocol de messures d'aquesta tècnica
Institution: L'Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i de Balears
Awardee/s: Bayó J, Coll G, Vargas S, Beltran M, Saez M, Barceló M
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 the prevention of CV disease.

3. We are partners of the European Project entitled "Real world Outcomes across the Alzheimer's disease spectrum to better care: Multi-modal data Access Platform" (ROADMAP), financed by the Innovative Medicines Initiative (IMI) and with 13 partners from 5 other countries (United Kingdom, Netherlands, Denmark, Luxembourg, and Sweden).

4. With some other IDIAP investigators, we are part of the consortium of the European Medical Information Framework (EMIF) project. The consortium is formed by 14 countries and 56 institutions (http://www.emif.eu/consortium). The objectives of this project are to establish the Information Framework (EMIF-Platform), to identify predictors and diagnostic biomarkers for Alzheimer's Disease, and to identify predictors and diagnostic markers of metabolic complications in adults and in children.
5. Dr Prieto Alhambra's research group from Oxford University. Drs Ramos and García stayed for a research fellowship at the Botnar Research Center

6. We are partners of the E-Limiter proposal in the second stage call of H2020-SC1-2016-2017 (Personalised Medicine). The project is coordinated by Dr J. Marrugat of IMIM.

7. Collaboration with the International Society of Vascular Health & Aging (I.S.V.H). 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. Elosua 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 FRESCO Platform (Función de Riesgo a ESpaña 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 this participants are from our study EMMA)

4. Collaboration with CIBERCV, through Dr Marrugat's (CB16/11/00229), Dr Elosua'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/)

We are also involved in the INTERPRESS-IPD: The Inter-arm blood pressure difference individual patient data collaborations. It is an international collaboration evaluating the independent contribution of Inter-arm blood pressure difference to estimate cardiovascular and all-cause mortality risk. (http://medicine.exeter.ac.uk/research/healthresearch/primarycare/projects/interpress-ipd/)

METABOLISM AND INFLAM-MATION 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
Juliana González
Silvia Cuenca
Carolina Lorencio
Anna Baró
Claudia Vera
Abdó Taché
Montse Motjé
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 grou- 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 pacient.

Publications

Originals

Sirvent JM, Gordo F. Sepsis is important, but there is more. Enferm Infecc Microbiol Clin. 2018 Oct;36(8):532. doi: 10.1016/j.eimc.2018.02.007. Epub 2018 Mar 26. English, Spanish. PubMed PMID: 29599045

Welte T, Dellinger RP, Ebelt H, Ferrer M, Opal SM, Singer M, Vincent JL, Werdan K, Martín-Loeches I, Almirall J, Artigas A, Ignacio Ayestarán J, Nuding S, Ferrer R, Sirgo Rodríguez G, Shankar-Hari M, Álvarez-Lerma F, Riessen R, Sirvent JM, Kluge S, Zacharowski K, Bonastre Mora J, Lapp H, Wöbker G, Achtzehn U, Brealey D, Kempa A, Sánchez García M, Brederlau J, Kochanek M, Reschreiter HP, Wise MP, Belohradsky BH, Bobenhausen I, Dälken B, Dubovy P, Langohr P, Mayer M, Schüttrumpf J, Wartenberg-Demand A, Wippermann U, Wolf D, Torres A. Efficacy and safety of trimodulin, a novel polyclonal antibody preparation, in patients with severe community-acquired pneumonia: a randomized, placebo-controlled, double-blind, multicenter, phase II trial (CIGMA study). Intensive Care Med. 2018 Apr;44(4):438-448. doi: 10.1007/s00134-018-5143-7. Epub 2018 Apr 9. PubMed PMID: 29632995; PubMed Central PMCID: PMC5924663

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 Llirós

Pre-doctoral Researchers:
David Busquets
Josep Oriol Miquel
Síliva Virolés
Marta Malagón
Mireia Vila
Carmen López

Medical Researchers
Esther Fort
L Torrealba
Hugo Uchima
Carlos Huertas
Isabel Serra
Virgínia Piñol

Support
Carlota Puig (Nurse)

Overview

The group lead by X.Aldeguer MD PhD, is interested in understanding the role of those tinny bugs living in the gut and how their perturbations (i.e., dysbioisis) 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 microbial ecology fields, but also a wide range of medical doctors pursuing a PhD degree to understand the role of our tinny 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 ashma, 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
Over the last years, we are performing a wide-range study aimed to correlate microbiological indexes (based on logarithmic ratios of absolute 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 concept is underlining our scientific proxy.
In close collaboration with the clinical microbiology team at Universitat de Girona lead by PhD Margarita Martínez-Medina, we are digging into the genetic elements defining the "adherent-invasive" pathovar within *Escherichia coli* (AIEC) and its role on CD. Microbiologically based molecular tools for detection of AIEC on CD patients are under process.

2. Hepatopancreatic line
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 steatosic liver ending in hepatocellular carcinoma.

3. Liver microbiome
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
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
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 collaboration with the Institut Mar d'Investigacions Biomèdiques (IMIM) of Hospital del Mar de Barcelona. This new research line allowed establishingcollaborationbetween the private sector (Elias Boulanger) and two public partners (IMIM and IdIBGi).

Publications

Originals

López-Siles M, Enrich-Capó N, Aldeguer X, Sabat-Mir M, Duncan SH, Garcia-Gil LJ, Martínez-Medina M. Alterations in the Abundance and Co-occurrence of Akkermansia muciniphila and Faecalibacterium prausnitzii in the Colonic Mucosa of Inflammatory Bowel Disease Subjects. Front Cell Infect Microbiol. 2018; 8:281. doi: 10.3389/fcimb.2018.00281. PubMed PMID: 30245977; PubMed Central PMCID: PMC6137959.

Camprubí-Font C, López-Siles M, Ferrer-Guixeras M, Niubó-Carulla L, Abellà-Ametller C, Garcia-Gil LJ, Martínez-Medina M. Comparative genomics reveals new single-nucleotide polymorphisms that can assist in identification of adherent-invasive Escherichia coli. Sci Rep. 2018; 8(1): 2695. doi: 10.1038/s41598-018-20843-x. PubMed PMID: 29426864; PubMed Central PMCID: PMC5807354

Monsalve-Hernando C, Crespo L, Ferreiro B, Martín V, Aldeguer X, Opio V, et al. Phase IV noninferiority controlled randomized trial to evaluate the impact on diagnostic thinking and patient management and the test-retest reproducibility of the Gaxilose test for hypolactasia diagnosis. Medicine (Baltimore). 2018; 97(46): e13136. doi: 10.1097/MD.0000000000013136. PubMed PMID: 30431582; PubMed Central PMCID: PMC6257416.

Chaparro M, Garre A, Ricart E, Iborra M, Mesonero F, Vera I, et al and GETECCU study group. Short and long-term effectiveness and safety of vedolizumab in inflammatory bowel disease: results from the ENEIDA registry. Aliment Pharmacol Ther. 2018; 48(8): 839-851. doi: 10.1111/apt.14930. PubMed PMID: 30281832.

McNicholl AG, Molina-Infante J, Lucendo AJ, Calleja JL, Pérez-Aisa Á, Modolell I, et al. Probiotic supplementation with Lactobacillus plantarum and Pediococcus acidilactici for Helicobacter pylori therapy: A randomized, double-blind, placebo-controlled trial. Helicobacter. 2018; 23(5): e12529. doi:10.1111/hel.12529. PubMed PMID: 30141228.

López-Siles M, Enrich-Capó N, Aldeguer X, Sabat-Mir M, Duncan SH, Garcia-Gil LJ, Martínez-Medina M. Alterations in the Abundance and Co-occurrence of Akkermansia muciniphila and Faecalibacterium prausnitzii in the Colonic Mucosa of Inflammatory Bowel Disease Subjects. Front Cell Infect Microbiol. 2018; 8: 281. doi: 10.3389/fcimb.2018.00281. PubMed PMID: 30245977; PubMed Central PMCID: PMC6137959.

Acero Fernández D, Ferri Iglesias MJ, Buxó Pujolràs M, López Nuñez C, Serra Matamala I, Queralt Molés X, Aldeguer Manté X. Changes in the epidemiology and distribution of the hepatitis C virus genotypes in North-Eastern Spain over the last 35 years. Gastroenterol Hepatol. 2018; 41(1): 2-11. doi: 10.1016/j.gastrohep.2017.09.004. PubMed:29150360.

de la Rosa Carrillo D, Athanazio R, Girón Moreno RM, Máiz Carro L, Olveira C, de Gracia J, Vendrell M, Prados Sánchez C, Gramblicka G, Corso Pereira M, Lundgren F, Fernandes De Figueiredo M, Arancibia F, Rached S, Martínez-Garcia MA. The annual prognostic ability of FACED and E-FACED scores to predict mortality in patients with bronchiectasis. ERJ Open Res. 2018 Mar 6;4(1):00139-2017. doi: 10.1183/23120541.00139-2017. PubMed PMID: 29531958; PubMed Central PMCID: PMC5838357.

Polverino E, Rosales-Mayor E, Benegas M, Menéndez R, Alcaraz-Serrano V, Ansotegui E, Montull B, Girón RM, Cisneros C, Vendrell M, Muñoz G, Marcos MA, Sanchez M, Torres A. Pneumonic and non-pneumonic exacerbations in bronchiectasis: Clinical and microbiological differences. J Infect. 2018; 77(2): 99-106. doi: 10.1016/j.jinf.2018.04.006.

Grants

Project: Caracterización y desarrollo de Procesos de Elaboración de Productos Panificables con Impacto positivo en la Salud Humana: Estudio en modelos Humanos de Inflamación y Disbiosis Intestinal. RTC-2017-6467-2
Funding agency: RETOS colaboration 2017, Spanish Ministry of Economics, Industry and Competition
Duration: 2 years (2018–2020)
Coordinator: Elias Forner sl
Principal Investigator: X Aldeguer Manté

Project: Description of intestinal microbiota changes induced by infliximab treatment in patients with rheumatoid pathologies and inflammatory bowel disease. Pilot Study. XAM-INF-2017-01 / MII&RHEU
Funding agency: Pfizer
Duration: 2018–ongoing
Coordinator: X Aldeguer Manté
Principal Investigator: X Aldeguer Manté

Project: Golimumab effect in the modulation of gut microbiota in Ulcerative Colitis. Pilot Study. XAM-GOL-2016-01/Goli2015
Funding agency: Merck & Co., Inc
Duration: 2017–ongoing
Coordinator: X Aldeguer Manté
Principal Investigator: X Aldeguer Manté

Project: Study the effect of Creon® on intestinal dysbiosis balance in patients with Pancreatic Exocrinen Insufficiency (PEI) due to chronic pancreatitis. CREON
Funding agency: Abbott Laboratories
Duration: 2015 – 2019
Coordinator: X Aldeguer Manté
Principal Investigator: X Aldeguer Manté

Nutrition, eumetabolism and health

Team involved in:

Team involved in"Centro de Investigación Biomèdica en Red Fisiopatologia de la Obesidad y Nutrición" (CIBERobn)
Recognised as a consolidated research group - 2017SGR734
KEYWORDS: **Inflammation, Iron, Insulin Resistance, Type 2 diabetes, Obesity**

Group members

Principal Investigator
José-Manuel Fernández-Real

Established Researchers
José María Moreno
Francisco José Ortega

Post-doctoral Researchers
Jordi Mayneris-Perxachs
Anna Castells
Josefina Biarnés
Wifredo Ricart
Yenny Leal
Oren Conteras
Eduardo Esteve
Mercè Fernández
Gemma Xifra

Pre-doctroral Researchers
María Arnoriaga
Elisabet Costa
Ferran Comas
Jessica Latorre
Aina Lluch

Medical Researchers
Marzena Wos
Mariona Esteve
Mònica Recasens
Elisabet Costa
David Pérez
Lídia Sojo

Technicians
Núria Oliveras
Emili Loshuertos

Support
Isma Ishaq
Cristina Planella
Oscar Rovira
Anna Pibernat

Overview

The research group, "Nutrition, Eumetabolism 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 foundation.

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 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 type 2 diabetes and José Manuel Fernández-Real was the first to propose ferritin as a component of the metabolic syndrome (Diabetes Care 1998) and to measure the effects of iron-depletion on insulin sensitivity in type 2 diabetes mellitus (Diabetes 2002);

The role of the microbiota to obesity and type 2 diabetes, the microbiota is a very important regulatory factor of aggression and response to aggression. Intestinal bacteria are a part of the unconscious system that regulates our behavior. It has been postulated that in the absence of bacteria humans would not have developed their level of cognitive performance;

Non-alcoholic steatohepatitis and fatty liver;

The brain as a metabolic organ and

Computational tools to optimize glycemic control.

In parallel, the group's work has contributed to characterize new phenotypic variables linked to insulin resistance.

The group has led a part of a European project (FLORINASH) that characterizes the signature of the microbiota related to non-alcoholic steatohepatitis in patients with morbid obesity and is currently part of another Horizon 2020 project, PEPPER (patient empowerment through predictive personalised decision support), which contemplates the development of a personalized decision support system for the management of chronic diseases. The system, based on reasoning based on cases and predictive models, will allow patients to manage their own illnesses, as is the case of diabetes.

Research topics

Inflammation and insulin resistance.

Physiology of the adipose tissue.

Iron metabolism and insulin resistance.

Biomarkers for obesity, insulin resistance and Type-2 diabetes.

Microbiota composition in metabolic disease

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

Publications

Originals

Latorre J, Moreno-Navarrete JM, Sabater M, Buxo M, Rodríguez-Hermosa JI, Gironès J, et al. Decreased TLR3 in Hyperplastic Adipose Tissue, Blood and Inflamed Adipocytes is Related to Metabolic Inflammation. Cell Physiol Biochem. 2018;51(3):1051-1068.

Moreno-Navarrete JM, Liñares-Pose L, Sabater M, Rial-Pensado E, Comas F, Jové M, Latorre J, et al. Adipose TSHB in Humans and Serum TSH in Hypothyroid Rats Inform About Cellular Senescence. Cell Physiol Biochem. 2018;51(1):142-153.

Virtue S, Petkevicius K, Moreno-Navarrete JM, Jenkins B, Hart D, Dale M, et al. Peroxisome Proliferator-Activated Receptor γ2 Controls the Rate of Adipose Tissue Lipid Storage and Determines Metabolic Flexibility. Cell Rep. 2018;24(8):2005-2012.e7

Hoyles L, Fernández-Real JM, Federici M, Serino M, Abbott J, Charpentier J, et al. Molecular phenomics and metagenomics of hepatic steatosis in non-diabetic obese women. Nat Med. 2018;24(7):1070-1080

Laurans L, Venteclef N, Haddad Y, Chajadine M, Alzaid F, Metghalchi S, et al. Genetic deficiency of indoleamine 2,3-dioxygenase promotes gut microbiota-mediated metabolic health. Nat Med. 2018;24(8):1113-1120.

Suárez-Ortegón MF, Ensaldo-Carrasco E, Shi T, McLachlan S, Fernández-Real JM, Wild SH. Ferritin, metabolic syndrome and its components: A systematic review and meta-analysis. Atherosclerosis. 2018 Aug;275:97-106

Crujeiras AB, Pissios P, Moreno-Navarrete JM, Díaz-Lagares A, Sandoval J, Gómez A, et al. An Epigenetic Signature in Adipose Tissue Is Linked to Nicotinamide N-Methyltransferase Gene Expression. Mol Nutr Food Res. 2018:e1700933

Suárez-Ortegón MF, McLachlan S, Price AH, Fernández-Balsells M, Franch-Nadal J, Mata-Cases M, et al. Decreased iron stores are associated with cardiovascular disease in patients with type 2 diabetes both cross-sectionally and longitudinally. Atherosclerosis. 2018;272:193-199

Romero M, Sabaté-Pérez A, Francis VA, Castrillón-Rodríguez I, Díaz-Ramos Á, Sánchez-Feutrie M, et al. TP53INP2 regulates adiposity by activating γ-catenin through autophagy-dependent sequestration of GSK3γ. Nat Cell Biol. 2018;20(4):443-454

Barja-Fernández S, Moreno-Navarrete JM, Folgueira C, Xifra G, Sabater M, Castelao C, et al. Plasma ANGPTL-4 is Associated with Obesity and Glucose Tolerance: Cross-Sectional and Longitudinal Findings. Mol Nutr Food Res. 2018;62(10):e1800060.

Serena C, Ceperuelo-Mallafré V, Keiran N, Queipo-Ortuño MI, Bernal R, Gómez-Huelgas R, et al. Elevated circulating levels of succinate in human obesity are linked to specific gut microbiota. ISME J. 2018;12(7):1642-1657.

Castelblanco E, Hernández M, Castelblanco A, Gratacòs M, Esquerda A, Molló À, et al. Low-grade Inflammatory Marker Profile May Help to Differentiate Patients With LADA, Classic Adult-Onset Type 1 Diabetes, and Type 2 Diabetes. Diabetes Care. 2018;41(4):862-868.

Mleczko J, Ortega FJ, Falcon-Pérez JM, Wabitsch M, Fernández-Real JM, Mora S. Extracellular Vesicles from Hypoxic Adipocytes and Obese Subjects Reduce Insulin-Stimulated Glucose Uptake. Mol Nutr Food Res. 2018;62(5).

Chacón MR, Lozano-Bartolomé J, Portero-Otín M, Rodríguez MM, Xifra G, Puig J, et al. The gut mycobiome composition is linked to carotid atherosclerosis. Benef Microbes. 2018;9(2):185-198

Moreno-Navarrete JM, Serino M, Blasco-Baque V, Azalbert V, Barton RH, Cardellini M, et al. Gut Microbiota Interacts with Markers of Adipose Tissue Browning, Insulin Action and Plasma Acetate in Morbid Obesity. Mol Nutr Food Res. 2018;62(3).

Moreno-Navarrete JM, Rodríguez A, Becerril S, Valentí V, Salvador J, Frühbeck G, et al. Increased Small Intestine Expression of Non-Heme Iron Transporters in Morbidly Obese Patients With Newly Diagnosed Type 2 Diabetes. Mol Nutr Food Res. 2018;62(2).

Xifra G, Moreno-Navarrete JM, Moreno M, Ricart W, Fernández-Real JM. Obesity status influences the relationship among serum osteocalcin, iron stores and insulin sensitivity. Clin Nutr. 2018;37(6 Pt A):2091-2096.

López B, Torrent-Fontbona F, Viñas R, Fernández-Real JM. Single Nucleotide Polymorphism relevance learning with Random Forests for Type 2 diabetes risk prediction. Artif Intell Med. 2018;85:43-49.

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

Comas F1, Lluch A1, Sabater M1, Latorre J1, Ortega F1, Ricart W1, López M2, Fernández-Real JM3, Moreno-Navarrete JM4. DOI: 10.1038/s41366-018-0203-1

Reviews

Latorre J, Fernández-Real JM. LncRNAs in Adipose Tissue from Obese and Insulin-Resistant Subjects: New Targets for Therapy? EBioMedicine. 2018;30:10-11.

Grants

Project: Patient Empowerment through Predictive PERsonalised decision support (PEPPER)
Funding agency: -
Duration: 2016-2019

Project: Rellevància del clúster miR-424(322)/503 en el desenvolupament d'un teixit adipós hiperplàsic
Funding agency: Fundació La Marató de TV3
Duration: 2017-2019

Lead Researcher: Francisco Ortega
Project: Identificació de mediadors moleculars de la senyalització de l'intestí vers la sensibilització a la insulina 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 Mª Moreno

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 Riacart

Project: Rellevància del cluster miR-424(322)/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
Sílvia Xargay

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

Medical Researchers
Lluís Mayol
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.
- Pathophysiology of childhood 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

Sanz N, Malpique R, Sierra C, López-Bermejo A, Bassols J, Ibáñez L. Body Composition and Circulating Polyunsaturated Fatty Acids at Age 6 Years: A Longitudinal Pilot Study. Horm Res Paediatr. 2018;90(6):414-418

Xargay-Torrent S, Espuña-Capote N, Montesinos-Costa M, Prats-Puig A, Carreras-Badosa G, Díaz-Roldán F, et al. Serum alkaline phosphatase relates to cardiovascular risk markers in children with high calcium-phosphorus product. Sci Rep. 2018 Dec 14;8(1):17864

Xargay-Torrent S, Carreras-Badosa G, Borrat-Padrosa S, Prats-Puig A, Soriano P, Álvarez-Castaño E, et al. Circulating sex hormone binding globulin: An integrating biomarker for an adverse cardio-metabolic profile in obese pregnant women. PLoSOne. 2018 Oct 15;13(10):e0205592

Díaz M, Gallego-Escuredo JM, López-Bermejo A, de Zegher F, Villarroya F, Ibáñez L. Low-Dose Spironolactone-Pioglitazone-Metformin Normalizes Circulating Fetuin-A Concentrations in Adolescent Girls with Polycystic Ovary Syndrome.Int J Endocrinol. 2018 Jul 19;2018:4192940.

deZegher F, García Beltrán C, López-Bermejo A, Ibáñez L.Metformin for Rapidly Maturing Girls with Central Adiposity: Less Liver Fat and Slower Bone Maturation.Horm Res Paediatr. 2018;89(2):136-140.

Díaz M, García-Beltran C, López-Bermejo A, de Zegher F, Ibáñez L.GLP-1 and IGF-I levels are elevated in late infancy in low birth weight infants, independently of GLP-1 receptor polymorphisms and neonatal nutrition.Int J Obes (Lond). 2018 Apr;42(4):915-918.

Bassols J, Martínez-Calcerrada JM, Prats-Puig A, Carreras-Badosa G, Xargay-Torrent S, Lizarraga-Mollinedo E, et al. Perirenal fat is related to carotid intima-media thickness in children. Int J Obes (Lond). 2018 Apr;42(4):641-647

Malpique R, Bassols J, López-Bermejo A, Díaz M, Villarroya F, Pavia J, et al. Liver volume and hepatic adiposity in childhood:relations to body growth and visceral fat. Int J Obes (Lond). 2018Jan;42(1):65-71

Carreras-Badosa G, Armero-Bujaldón C, Solé-Amat L, Prats-Puig A, Díaz-Roldán F, Soriano-Rodríguez P, et al. Serum 25-hydroxyvitamin D and cardiovascular disease risk factors in women withexcessive weight gain during pregnancy and in their offspring at age 5-6 years.Int J Obes (Lond). 2018 Jun;42(5):1019-1028

Reviews

deZegher F, López-Bermejo A, Ibáñez L. Central Obesity, Faster Maturation, and 'PCOS' in Girls. Trends EndocrinolMetab. 2018 Dec;29(12):815-818.

Grants

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

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

Project: Epidemiologia de la Hipercolesterolèmia Familiar, predicció de risc, efectivitat i seguretat del tractament hiperlipemiant
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 marcas epigenéticas de programaciónmetabólica: identificación y reversibilidad terapèutica (PI16/01335)
Funding agency: Instituto de Salud 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 of Catalonia (2017 SGR 1236)

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

Doctoral thesis

Title: Sistema immunitari i marcadors de risc metabolic en l'edat pediàtrica.
Doctor student: Montserrat Gispert-Saüch
Director: Abel López Bermejo and Judit Bassols
University: University of 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-doctoratal Researchers
Manel Haro
Susana Mota
Gerard Muñoz
Marc Bonib

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 IdibGi 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

Research topics

– Bronchiectasis. Physiotherapy. Primary immunodeficiencies
– Sleep diseases: diagnostic at Primary Health care level and vascular impact.
– Occupational diseases and immunoallergic respiratory diseases.
– Diffuse interstitial pulmonary disease: diagnostic and treatment.
– Lung cancer.
– Pulmonary hypertension

Publications

Originals

de la Rosa Carrillo D, Athanazio R, Girón Moreno RM, Máiz Carro L, Olveira C, de Gracia J, Vendrell M, Prados Sánchez C, Gramblicka G, Corso Pereira M, Lundgren F, Fernandes De Figueiredo M, Arancibia F, Rached S, Martínez-Garcia MA. The annual prognostic ability of FACED and E-FACED scores to predict mortality in patients with bronchiectasis. ERJ Open Res. 2018.6;4(1).

Polverino E, Rosales-Mayor E, Benegas M, Menéndez R, Alcaraz-Serrano V, Ansotegui E, Montull B, Girón RM, Cisneros C, Vendrell M, Muñoz G, Marcos MA, Sanchez M, Torres A. Pneumonic and non-pneumonic exacerbations in bronchiectasis: Clinical and microbiological differences. J Infect. 2018;77(2):99-106. doi: 10.1016/j.jinf.2018.04.006.

Muñoz G, de Gracia J, Buxó M, Alvarez A, Vendrell M. Long-term benefits of airway clearance in bronchiectasis: a randomized placebo-controlled trial. Eur Respir J 2018. 11;51(1).

Clinical guidelines

Martínez-García MÁ, Máiz L, Olveira C, Girón RM, de la Rosa D, Blanco M, Cantón R, Vendrell M, Polverino E, de Gracia J, Prados C. Spanish Guidelines on the Evaluation and Diagnosis of Bronchiectasis in Adults. Arch Bronconeumol. 2018 Feb;54(2):79-87

Martínez-García MÁ, Máiz L, Olveira C, Girón RM, de la Rosa D, Blanco M, Cantón R, Vendrell M, Polverino E, de Gracia J, Prados C. Spanish Guidelines on Treatment of Bronchiectasis in Adults. Arch Bronconeumol. 2018 Feb;54(2):88-98

Books

G. Muñoz Castro, JD Martí Romeu y R Martínez Alejos. Fisioterapia en el paciente crítico. Editorial médica Panamericana. Capitulo Oposiciones. 2018

G. Muñoz Castro y JD Martí Romeu. Intervención de fisioterapia respiratoria en el paciente crítico durante ventilación mecánica invasiva. En: Sistema Respiratorio. Métodos, fisioterapia clínica y afecciones para fisioterapeutes. Editorial médica Panamericana, 2018: 295-305.

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 SAOS
Funding agency: PERIS, Generalitat de Catalunya, PERIS 2018
Duration: 3 years
Coordinator: Dr. Olga Tura Ceide
Principal Investigator: Dr. Olga Tura Ceide

Project: Disfunción endotelial, metobolómica 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-microbiològica 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 eosinófilica 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 Brotad del ref. CB06/06/0030 del Hospital Vall d'Hebron (Dra.Vendrell).

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

- Investigador col.laborador del Grup Emergent “Observatori per l’estudi de les malalties relacionades ambl’Amiant”. Institut Català de la Salut – IDIAP Jordi Gol. (Dr.Orriols)

Collaborations

Membre del comitè científic de la societat catalana pneumologia (SOCAP): PhD PT Gerard Muñoz

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

- Membre de la "TaskForce on adult non-cystic fibrosis bronchiectasis (TF-2014-13)" de la European Respiratory Society (ERS)-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

Pre-doctoral Researchers
José MarÍa Martínez-Calcerrada

Medical Researchers
Mercè Montesinos
Alexandra Bonmatí

Technicians
Berta Mas

Support
Estíbaliz Platero

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 a 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

Sanz N, Malpique R, Sierra C, López-Bermejo A, Bassols J, Ibáñez L. Body Composition and Circulating Polyunsaturated Fatty Acids at Age 6 Years: A Longitudinal Pilot Study. Horm Res Paediatr. 2018;90(6):414-418

Xargay-Torrent S, Espuña-Capote N, Montesinos-Costa M, Prats-Puig A, Carreras-Badosa G, Díaz-Roldán F, et al. Serum alkaline phosphatase relates to cardiovascular risk markers in children with high calcium-phosphorus product. Sci Rep. 2018 Dec 14;8(1):17864

Xargay-Torrent S, Carreras-Badosa G, Borrat-Padrosa S, Prats-Puig A, Soriano P, Álvarez-Castaño E, et al. Circulating sex hormone binding globulin: An integrating biomarker for an adverse cardio-metabolic profile in obese pregnant women. PLoS One. 2018 Oct 15;13(10):e0205592

Bassols J, Martínez-Calcerrada JM, Prats-Puig A, Carreras-Badosa G, Xargay-Torrent S, Lizarraga-Mollinedo E, et al. Perirenal fat is related to carotid intima-media thickness in children. Int J Obes (Lond). 2018 Apr;42(4):641-647

Malpique R, Bassols J, López-Bermejo A, Díaz M, Villarroya F, Pavia J, et al. Liver volume and hepatic adiposity in childhood: relations to body growth and visceral fat. Int J Obes (Lond). 2018 Jan;42(1):65-71

Carreras-Badosa G, Armero-Bujaldón C, Solé-Amat L, Prats-Puig A, Díaz-Roldán F, Soriano-Rodríguez P, et al. Serum 25-hydroxy-vitamin D and cardiovascular disease risk factors in women with excessive weight gain during pregnancy and in their offspring at age 5-6 years. Int J Obes (Lond). 2018 Jun;42(5):1019-1028

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 Ibañez

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

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

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.

Thesis

Title: Sistema immunitari i marcadors de risc metabòlic en l'edat pediátrica
Student: Montserrat Gispert-Saüch
Director: Judit Bassols and Abel López-Bermejo
University: University of Girona
Faculty School: Faculty of Medicine
Date: 02/03/2018

NEUROSCIENCE AREA

AGING, DISABILITY AND HEALTH
CEREBROVASCULAR PATHOLOGY
MEDICAL IMAGING
MENTAL HEALTH AND ADDICTION
NEURODEGENERATION AND NEUROINFLAMMATION

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

Portellano-Ortiz C, Garre-Olmo J, Calvó-Perxas L, Conde-Sala JL. Depression and associated variables in people over 50 years in Spain. Rev Psiquiatr Salud Ment. 2018;11(4):216-226.

Calvó-Perxas L, Vilalta-Franch J, Litwin H, Turró-Garriga O, Mira P, Garre-Olmo J. What seems to matter in public policy and the health of informal caregivers? A cross-sectional study in 12 European countries. PLoS One. 2018;13(3):e0194232.

Turró-Garriga O, Calvó-Perxas L, Vilalta-Franch J, Blanco-Silvente L, Castells X, Capellà D, Garre-Olmo J; Registry of Dementia of Girona Study Group (ReDeGi Study Group). Measuring anticholinergic exposure in patients with dementia: A comparative study of nine anticholinergic risk scales. Int J Geriatr Psychiatry. 2018;33(5):710-717.

Blanco-Silvente L, Capellà D, Garre-Olmo J, Vilalta-Franch J, Castells X. Predictors of discontinuation, efficacy, and safety of memantine treatment for Alzheimer's disease: meta-analysis and meta-regression of 18 randomized clinical trials involving 5004 patients. BMC Geriatr. 2018;18(1):168.

Bosch-Farré C, Garre-Olmo J, Bonmatí-Tomàs A, Malagón-Aguilera MC, Gelabert-Vilella S, Fuentes-Pumarola C, Juvinyà-Canal D. Prevalence and related factors of Active and Healthy Ageing in Europe according to two models: Results from the Survey of Health, Ageing and Retirement in Europe (SHARE). PLoS One. 2018;13(10):e0206353.

Portellano-Ortiz C, Garre-Olmo J, Calvó-Perxas L, Conde-Sala JL. Factor structure of depressive symptoms using the EURO-D scale in the over-50s in Europe. Findings from the SHARE project. Aging Ment Health. 2018;22(11):1477-1485.

Turró Garriga O, Farrés Costa S, Pérez Terré A, Batlle Amat P. [Assessment of the sense of coherence in the perceived burden and in the adherence to a psycho-educational program for informal caregivers of dependent persons]. Rev Esp Geriatr Gerontol. 2018;53(4):196-201.

Portellano-Ortiz C, Conde-Sala JL. Cognition and its association with the factors of the EURO-D: Suffering and Motivation. Findings from SHARE Wave 6. Int J Geriatr Psychiatry. 2018;33(12):1645-1653.

Sousa MFB, Santos RL, Simões P, Conde-Sala JL, Dourado MCN. Discrepancies Between Alzheimer's Disease Patients' and Caregivers' Ratings About Patients' Quality of Life: A 1-year Observation Study in Brazil. Alzheimer Dis Assoc Disord. 2018;32(3):240-246.

Reviews

Garre-Olmo J. [Epidemiology of Alzheimer's disease and other dementias]. Rev Neurol. 2018;66(11):377-386

Grants

Project: Riesgo 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: Trastorns afectius i risc cardiovascular en població general: efecte diferencial dels mecanismes fisiopatològics (SLT006/17234)
Funding agency: Generalitat de Catalunya – Departament de Salut – Pla estratègic de recerca i innovació en salu (PERIS) 2016-2020
Duration: 2018-2020
Principal Investigator: Josep Garre-Olmo

Project: Maduresa i Envellliment 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 - Dipsalut
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'associen al procés d'envelliment i a factors de risc biopsicosocials en subjectes adults i que defineixen la seva trajectòria vital cap a un envelliment saludable o bé la fragilitat i discapcitat.
Funding agency: Generalitat de Catalunya – Departament de Salut – Pla estratègic de recerca i innovació en salu (PERIS) 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)
Funding agency: Innovative Medicines Initiative 2. Research and Innovation Actions. European Commission and European Federation of Pharmaceutical Industries and Associations.
Duration: 2017-2019
Principal Investigator: John Gallacher

Project: Desigualdades socioeconómicas en salud en los cuidadoress 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 (PI17/00029)
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. Rafel Ramos)

- Laboratori de Medicina Translacional i Ciències de la Decisió (TransLab) (Dra. Dolors Capellà, Dr. Xavier castells)

- Registre Gironí del Cor (REGICOR) (Dr. Jaume Marrugat i Dr. Roberto Elosua)

- 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 Mioshi)

- Universidade Federal do Rio de Janeiro, Brasil (Dra. Maria Fernanda Barroso de Sousa)

Cerebrovascular pathology

Team involved in "Red de Enfermedades Vasculares Cerebrales(RED INVICTUS)"
Recognised as a consolidated research group - 2017SGR1730
KEYWORDS: **Acute Stroke, ischaemic stroke, haemorragic stroke, thrombolysis, stroke unit, endovascular treatment, cryptogenic stroke, animal models, molecular and cellular neuroscience, atherosclerosis.**

Group members

Principal Investigator
Joaquín Serena Leal

Established Researchers:
Gemma Huguet
Elisabet Kádár

Post-doctoral Researchers:
Carme Gubern

Pre-doctoral Researchers:
Pau Comajoan
Saima Bashir

Medical Researchers:
Yolanda Silva
Mikel Terceño

Support:
Laura Pardo
Montserrat Reina

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 call 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 ischaemic and haemorrhagic stroke, with special focus on biomarkers of endothelial lesions and of the extracellular matrix that are predictors of haemorrhagic transformation (HT) of the ischaemic lesion and the recanalization response in patients who receive fibrinolytic therapy with rt-PA.
3. Basic investigation into the molecular mechanisms related with cerebral ischaemia in in vivo and in vitro experimental models. Blood brain barrier model. Mechanisms of genic regulation (miRNA) and their involvement in cerebral ischaemia.
4. Clinical and experimental investigation of the predictive capacity of biomarkers associated with haematoma growth in patients with primary intracerebral haemorrhage.
5. Application and utility of advanced neuroimaging predictors in 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.

Publications

Originals

Comajoan P, Gubern C, Huguet G, Serena J, Kádár E, Castellanos M. Evaluation of common housekeeping proteins under ischemic conditions and/or rt-PA treatment in bEnd.3 cells. J Proteomics. 2018;184:10-15.

Castellanos M, van Eendenburg C, Gubern C, Kádár E, Huguet G, Puig J, et al. Low Levels of Caveolin-1 Predict Symptomatic Bleeding After Thrombolytic Therapy in Patients With Acute Ischemic Stroke. Stroke. 2018;49:1525–1527.

Suñer-Soler R, Grau-Martín A, Terceno M, Silva Y, Davalos A, Sánchez JM, et al. Biological and Psychological Factors Associated With Smoking Abstinence Six Years Post-Stroke. Nicotine Tob Res. 2018;20(10):1182-1188.

Schneider H, Huynh TJ, Demchuk AM, Dowlatshahi D, Rodríguez-Luna D, Silva Y, et al.; PREDICT/Sunnybrook ICH CTA Study Group. Combining Spot Sign and Intracerebral Hemorrhage Score to Estimate Functional Outcome: Analysis From the PREDICT Cohort. Stroke. 2018;49(6):1511-1514.

Carrera D, Gorchs M, Querol M, Abilleira S, Ribó M, et al.; Catalan Stroke Code and Reperfusion Consortium (Cat-SCR).Revalidation of the RACE scale after its regional implementation in Catalonia: a triage tool for large vessel occlusion. J Neurointerv Surg. 2018. pii: neurintsurg-2018-014519.

Puig J, Blasco G, Alberich-Bayarri A, Schlaug G, Deco G, Biarnes C, et al. Resting-State Functional Connectivity Magnetic Resonance Imaging and Outcome After Acute Stroke. Stroke. 2018;49(10):2353-2360.

López-Cancio E, Ribó M, Cardona P, Serena J, Purroy F, Palomeras E, et al.; Catalan Stroke Code and Reperfusion Consortium (Cat-SCR). Telestroke in Catalonia: Increasing Thrombolysis Rate and Avoiding Interhospital Transfers. Cerebrovasc Dis. 2018;46(1-2):66-71.

Thomalla G, Simonsen CZ, Boutitie F, Andersen G, Berthezene Y, Cheng B, et al.; WAKE-UP Investigators. MRI-Guided Thrombolysis for Stroke with Unknown Time of Onset. N Engl J Med. 2018;379(7):611-622.

Zapata-Wainberg G, Quintas S, Ximénez-Carrillo Rico Á, Masjuán Vallejo J, Cardona P, Castellanos Rodrigo M, et al. Epidemiology of Intracranial Hemorrhage Associated with Oral Anticoagulants in Spain: Trends in Anticoagulation Complications Registry - The TAC 2 Study. Interv Neurol. 2018;7(5):284-295.

Arikan F, Rubiera M, Serena J, Rodríguez-Hernández A, Gándara D, Lorenzo-Bosquet C, et al. [Revascularization experience and results in ischaemic cerebrovascular disease: Moyamoya disease and carotid occlusion]. Neurocirugia (Astur). 2018;29(4):170-186.

Engedal TS, Hjort N, Hougaard KD, Simonsen CZ, Andersen G, Mikkelsen IK, et al. Transit time homogenization in ischemic stroke - A novel biomarker of penumbral microvascular failure? J Cereb Blood Flow Metab. 2018;38(11):2006-2020.

Hart RG, Sharma M, Mundl H, Kasner SE, Bangdiwala SI, Berkowitz SD, et al. Navigate ESUS Investigators. Rivaroxaban for Stroke Prevention after Embolic Stroke of Undetermined Source. N Engl J Med. 2018; 378(23):2191-2201.

Johnston SC, Easton JD, Farrant M, Barsan W, Conwit RA, Elm JJ, et al. Clinical Research Collaboration, Neurological Emergencies Treatment Trials Network, and the POINT Investigators. Clopidogrel and Aspirin in Acute Ischemic Stroke and High-Risk TIA. N Engl J Med. 2018; 379(3):215-225.

Campbell BCV, van Zwam WH, Goyal M, Menon BK, Dippel DWJ, Demchuk AM, et al.; HERMES collaborators. Effect of general anaesthesia on functional outcome in patients with anterior circulation ischaemic stroke having endovascular thrombectomy versus standard care: a meta-analysis of individual patient data. Lancet Neurol. 2018;17(1):47-53.

Amarenco P, Lavallée PC, Monteiro Tavares L, Labreuche J, Albers GW, Abboud H, et al.; TIAregistry.org Investigators.Five-year risk of stroke after TIA or minor ischemic stroke. N Engl J Med. 2018;378(23):2182-2190.

Kasner SE, Swaminathan B, Lavados P, Sharma M, Muir K, Veltkamp R, et al.; NAVIGATE ESUS Investigators. Rivaroxaban or aspirin for patent foramen ovale and embolic stroke of undetermined source: a prespecified subgroup analysis from the NAVIGATE ESUS trial. Lancet Neurol. 2018;17(12):1053-1060.

García-Brito S, Aldavert-Vera L, Huguet G, Álvarez A, Kádár E, Segura-Torres P. Increased training compensates for OX1R blockage-impairment of spatial memory and c-Fos expression in different cortical and subcortical areas. Behav Brain Res. 2018;353:21-31.

Kádár E, Varela EV, Aldavert-Vera L, Huguet G, Morgado-Bernal I, Segura-Torres P. Arc protein expression after unilateral intracranial self-stimulation of the medial forebrain bundle is upregulated in specific nuclei of memory-related areas. BMC Neurosci. 2018;19(1):48.

Tapias-EspinosaRevascularization experience and results in ischaemic cerebrovascular disease C, Kádár E, Segura-Torres P. Spaced sessions of avoidance extinction reduce spontaneous recovery and promote infralimbic cortex activation. Behav Brain Res. 2018;336:59-66.

Clinical guidelines

Guies Societat Catalana de Neurologia 2018: Diagnòstic i Tractament de les malalties cerebrovasculars. Capitol: Hemorràgia intracerebral.

Grants

Project: Aproximación proteómica para la identificación de placa vulnerable y posterior validación de biomarcadores no invasivos en pacientes con estenosis carotidea: biomarcadores en sangre periférica y neuroimagen de alta resolución. PI16/01540.
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2019
Principal Investigator: Joaquín Serena

Project: Prediction of intracerebral hemorrhage growth by CT-perfusion: a prospective study. 284/U/2017.
Funding agency: Fundació La Marató de TV3.
Duration: 2017-2019
Principal Investigator: Yolanda Silva

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 cognitiva. MPCUdG2016/092.
Funding agency: Universitat de Girona (UdG)
Duration: 2016-2018
Principal Investigator: Elisabet Kadar Garcia- Gemma Huguet Blanco

Project: Potenciación de la plasticidad neural en ratas sanas y en un modelo de enfermedad de Alzheimer: estimulación cerebral reforzante y sinergias con suplementos dietéticos (PlastAEICdietAD). PSI2017-83202-C2-2-P.
Funding agency: Ministerio de Economía y Competitividad.
Duration: 2018-2020
Coordinator: Pilar Segura
Principal Investigator: Gemma Huguet Blanco- Elisabet Kádár Garcia

Project: Addressing challenges of stroke care in the XXIst century: Reaching reperfusion therapy top rates, eliminating inequalities in access and dealing with big data.
Funding agency: Fundació La Marató de TV3
Duration: 2018-2021
Principal Investigator: Miquel Gallofré-Pla Director Ictus

Membership of collaborative research networks
(National & international)

Red de Enfermedades Vasculares Cerebrales (INVICTUS PLUS) (RD16/0019/0003)

Doctoral thesis

Title: "Papel del Diffusion Tensor Imaging en la Resonancia Magnética cerebral como marcador predictivo del estado motor y evolución funcional en pacientes con hemorragia intracerebral."
Student: Mikel Terceño Izaga
Director: Yolanda Silva Blas, Joaquín Serena Leal, Josep Puig Alcàntara.
University: Universitat de Girona
Faculty/school: Medicina
Date: 06/02/2018

Partner groups

- Grup: Dr. Ignacio Lizasoain and Dr. María Ángeles Moro. Unidad de Investigación Neurovascular (UIN). Departamento de Farmacología. Facultad de Medicina. Universidad Complutense de Madrid.

- Grup: Prof. José Castillo. Laboratorio de Investigación en Neurociencias Clínicas. Hospital Clínico Universitario. Santiago de Compostela.

- Grup col·laboratiu Catalan Stroke Code and Reperfusion Study Group (Cat-SCR) del Pla Director de Malaties Cerbrovascular.

- International PFO Consortium. Prof. Dr. med. Krassen Nedeltchev. Kantonsspital Aarau AG. CH – 5001 Aarau (http://www.pfoconsortium.org).

- Grup de Gestió del Pla de Malaties Malalties Cerebovasculars de l'Institut Catalá de la Salut (ICS).

- Grupo de Trabajo de la Sociedad Española de Neurología - Proyecto RENISEN, Registro de Ictus de la Sociedad Española de Neurología.

Medical imaging

Group members

Principal Investigator
Salvador Pedraza

Established Researchers:
Josep Puig
Kai Vilanova
Albert Maroto

Pre-Doctoral Researchers
Laia Valls
Victoria Garriga
Blanca Domenech
Brigite Beltran
Elda Balliu
Paco Jaldo
Elsa Pérez

Technicians:
Carles Biarnes
Marian Marti

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 teh evolution time of cerebral infaction.
- Validation of the use of mismatch diffusion / FLAIR in the treatment of patients with awaeking stroke.
- Validació de la TC perfusió i angio TC en el diagnòstic de l’ 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 of intravascular contrast in the definition of the real extensió of aggressive brain tumor.
- Validation of ultrasound biomarkers (intima average degree of hepàtic steatosis)
- Utility of the tensor diffusion in the evaluation of the lumbar disc degeneration.

Publications

Originals

Imaging of non-neoplastic duodenal diseases. A pictorial review with emphasis on MDCT. Juanpere S, Valls L, Serra I, Osorio M, Gelabert A, Maroto A, Pedraza S. Insights Imaging. 2018 Jan 31. doi: 10.1007/s13244-018-0593-6. Review. PMID: 29388052.

Transit time homogenization in ischemic stroke - A novel biomarker of penumbral microvascular failure?. Engedal TS1,2, Hjort N3, Hougaard KD3, Simonsen CZ3, Andersen G3, Mikkelsen IK1, Boldsen JK1, Eskildsen SF1, Hansen MB1, Angleys H1, Jespersen SN1,4, Pedraza S5, Cho TH6, Serena J5, Siemonsen S7, Thomalla G7, Nighoghossian N6, Fiehler J7, Mouridsen K1, Østergaard L1,2. J Cereb Blood Flow Metab. 2018 Nov;38(11):2006-2020. doi: 10.1177/0271678X17721666. Epub 2017 Jul 31.

Better Diffusion Segmentation in Acute Ischemic Stroke through Automatic Tree Learning Anomaly Segmentation. Jens Kjærgaard Boldsen, Thorbjørn Søndergaard Engedal, Salvador Pedraza, Tae-Hee Cho, Götz Thomalla, Norbert Nighoghossian, Jean-Claude Baron, Jens Fiehler, Leif Østergaard, Kim Mouridsen. Front Neuroinform. 2018 Apr 25;12:21. doi: 10.3389/fninf.2018.00021. eCollection 2018.PMID: 29910721 PMCID: PMC5996895 DOI: 10.3389/fninf.2018.00021

MRI-Guided Thrombolysis for Stroke with Unknown Time of Onset. Thomalla G, Simonsen CZ, Boutitie F, Andersen G, Berthezene Y, Cheng B, Cheripelli B, Cho TH, Fazekas F, Fiehler J, Ford I, Galinovic I, Gellissen S, Golsari A, Gregori J, Günther M, Guibernau J, Häusler KG, Hennerici M, Kemmling A, Marstrand J, Modrau B, Neeb L, Pérez de la Ossa N, Puig J, Ringleb P, Roy P, Scheel E, Schonewille W, Serena J, Sunaert S, Villringer K, Wouters A, Thijs V, Ebinger M, Endres M, Fiebach JB, Lemmens R, Muir KW, Nighoghossian N, Pedraza S, Gerloff C; WAKE-UP Investigators. N Engl J Med. 2018 May 16. doi: 10.1056/NEJMoa1804355. PMID: 29766770

Homogeneous application of imaging criteria in a multicenter trial supported by investigator training: A report from the WAKE-UP study. Galinovic I, Dicken V, Heitz J, Klein J, Puig J, Guibernau J, Kemmling A, Gellissen S, Villringer K, Neeb L, Gregori J, Weiler F, Pedraza S, Thomalla G, Fiehler J, Gerloff C, Fiebach JB; WAKE-UP Investigators. Eur J Radiol. 2018 Jul; 104:115-119. doi: 10.1016/j.ejrad.2018.05.011. Epub 2018 May 15. PMID: 29857856.

Collateral circulation assessment within the 4.5 h time window in patients with and without DWI/FLAIR MRI mismatch. Berthezène Y, Eker O, Makris N, Bettan M, Mansuy A, Chabrol A, Mikkelsenm IK, Hermier M, Mechtouff L, Ong E, Derex L, Berner LP, Ameli R, Pedraza S, Thomalla G, Østergaard L, Baron JC, Cho TH, Nighoghossian N. J Neurol Sci. 2018 Nov 15;394:94-98. doi: 10.1016/j.jns.2018.09.013. Epub 2018 Sep 1.

Resting-State Functional Connectivity Magnetic Resonance Imaging and Outcome After Acute Stroke. Puig J, Blasco G, Alberich-Bayarri A, Schlaug G, Deco G, Biarnes C, Navas-Martí M, Rivero M, Gich J, Figueras J, Torres C, Daunis-I-Estadella P, Oramas-Requejo CL, Serena J, Stinear CM, Kuceyeski A, Soriano-Mas C, Thomalla G, Essig M, Figley CR, Menon B, Demchuk A, Nael K, Wintermark M, Liebeskind DS, Pedraza S. Stroke. 2018 Oct;49(10):2353-2360. doi: 10.1161/STROKEAHA.118.021319. PMID: 30355087.

Heterozygous STUB1 mutation causes familial ataxia with cognitive affective syndrome (SCA48). David Genis, Sara Ortega-Cubero, Hector San . Nicolás, Jordi Corral, Josep Gardenyes, Laura de Jorge, Eva López, Berta Campos, Elena Lorenzo, Raúl Tonda, Sergi Beltran, Montserrat Negre, María Obón, Brigitte Beltran, Laura Fàbregas, Berta Alemany, Fabián Márquez, Lluís Ramió-Torrentà, Jordi Gich, Víctor Volpini, Pau Past. Neurology. November 20, 2018; 91 (21). First published October 31, 2018, DOI: https://doi.org/10.1212/WNL.0000000000006550

Multiparametric MRI for Differentiation of Radiation Necrosis From Recurrent Tumor in Patients With Treated Glioblastoma. Nael K, Bauer AH, Hormigo A, Lemole M, Germano IM, Puig J, Stea B. AJR Am J Roentgenol. 2018 Jan;210(1):18-23. doi: 10.2214/AJR.17.18003. Epub 2017 Sep 2. PMID: 28952810.

Pseudoprogression as an adverse event of glioblastoma therapy. Balaña C, Capellades J, Pineda E, Estival A, Puig J, Domenech S, Verger E, Pujol T, Martínez-García M, Oleaga L, Velarde J, Mesia C, Fuentes R, Marruecos J, Del Barco S, Villà S, Carrato C, Gallego O, Gil-Gil M, Craven-Bartle J, Alameda F; GLIOCAT Group. Cancer Med. 2017 Dec;6(12):2858-2866. doi: 10.1002/cam4.1242. Epub 2017 Nov 3. PMID: 29105360

Is a pretreatment radiological staging system feasible for suggesting the optimal extent of resection and predicting prognosis in glioblastoma? An observational study. Capellades J, Puig J, Domenech S, Pujol T, Oleaga L, Camins A, Majós C, Díaz R, de Quintana C, Teixidor P, Conesa G, Plans G, González J, García-Balañà N, Velarde JM, Balaña C. J Neurooncol. 2018 Apr;137(2):367-377. doi: 10.1007/s11060-017-2726-z. Epub 2017 Dec 28. PMID: 29285591.

Low Levels of Caveolin-1 Predict Symptomatic Bleeding After Thrombolytic Therapy in Patients With Acute Ischemic Stroke. Castellanos M, van Eendenburg C, Gubern C, Kádár E, Huguet G, Puig J, Sobrino T, Blasco G, Serena J, Sánchez JM. Stroke. 2018 Jun;49(6):1525-1527. doi: 10.1161/STROKEAHA.118.020683. Epub 2018 Apr 30. PMID: 29712879

Molecular phenomics and metagenomics of hepatic steatosis in non-diabetic obese women. Hoyles L, Fernández-Real JM, Federici M, Serino M, Abbott J, Charpentier J, Heymes C, Luque JL, Anthony E, Barton RH, Chilloux J, Myridakis A, Martínez-Gili L, Moreno-Navarrete JM, Benhamed F, Azalbert V, Blasco-Baque V, Puig J, Xifra G, Ricart W, Tomlinson C, Woodbridge M, Cardellini M, Davato F, Cardolini I, Porzio O, Gentileschi P, López F, Foufelle F, Butcher SA, Holmes E, Nicholson JK, Postic C, Burcelin R, Dumas ME. Nat Med. 2018 Jul;24(7):1070-1080. doi: 10.1038/s41591-018-0061-3. Epub 2018 Jun 25. Erratum in: Nat Med. 2018 Aug 9; PMID: 2994209

Publisher Correction: Molecular phenomics and metagenomics of hepatic steatosis in non-diabetic obese women. Hoyles L, Fernández-Real JM, Federici M, Serino M, Abbott J, Charpentier J, Heymes C, Luque JL, Anthony E, Barton RH, Chilloux J, Myridakis A, Martínez-Gili L, Moreno-Navarrete JM, Benhamed F, Azalbert V, Blasco-Baque V, Puig J, Xifra G, Ricart W, Tomlinson C, Woodbridge M, Cardellini M, Davato F, Cardolini I, Porzio O, Gentileschi P, López F, Foufelle F, Butcher SA, Holmes E, Nicholson JK, Postic C, Burcelin R, Dumas ME. Nat Med. 2018 Oct;24(10):1628. doi: 10.1038/s41591-018-0169-5. PMID: 30093731.

Association of Clinical, Imaging, and Thrombus Characteristics With Recanalization of Visible Intracranial Occlusion in Patients With Acute Ischemic Stroke. Menon BK, Al-Ajlan FS, Najm M, Puig J, Castellanos M, Dowlatshahi D, Calleja A, Sohn SI, Ahn SH, Poppe A, Mikulik R, Asdaghi N, Field TS, Jin A, Asil T, Boulanger JM, Smith EE, Coutts SB, Barber PA, Bal S, Subramanian S, Mishra S, Trivedi A, Dey S, Eesa M, Sajobi T, Goyal M, Hill MD, Demchuk AM; INTERRSeCT Study Investigators. JAMA. 2018 Sep 11;320(10):1017-1026. doi: 10.1001/jama.2018.12498. PMID: 30208455.

Lesion Segmentation in Automated 3D Breast Ultrasound: Volumetric Analysis. Agarwal R, Díaz O, Lladó X, Gubern-Mérida A, Vilanova JC, Martí R. Ultrason Imaging. 2018 Mar;40(2):97-112. doi: 10.1177/0161734617737733. Epub 2017 Nov 28. PMID: 29182056.

Advanced Imaging Techniques in Evaluation of Colorectal Cancer. García-Figueiras R, Baleato-González S, Padhani AR, Luna-Alcalá A, Marhuenda A, Vilanova JC, Osorio-Vázquez I, Martínez-de-Alegría A, Gómez-Caamaño A. Radiographics. 2018 May-Jun;38(3):740-765. doi: 10.1148/rg.2018170044. Epub 2018 Apr 20. Review. PMID: 29676964

Dosimetric impact of Acuros XB dose-to-water and dose-to-medium reporting modes on VMAT planning for head and neck cancer. Muñoz-Montplet C, Marruecos J, Buxó M, Jurado-Bruggeman D, Romera-Martínez I, Bueno M, Vilanova JC. Phys Med. 2018 Nov;55:107-115. doi: 10.1016/j.ejmp.2018.10.024. Epub 2018 Nov 15. PMID: 30471814.

One-shot domain adaptation in multiple sclerosis lesion segmentation using convolutional neural networks. Valverde S, Salem M, Cabezas M, Pareto D, Vilanova JC, Ramió-Torrentà L, Rovira À, Salvi J, Oliver A, Lladó X. Neuroimage Clin. 2018 Dec 10:101638. doi: 10.1016/j.nicl.2018.101638. PMID: 30555005

Aging Imageomics Study: Looking at imaging, seeing health. J. Puig. OLEA IMAGING. 32-35. Febrer 2018. Advances in the management of wakeup patients. S Pedraza. OLEA IMAGING. 41.42. October 2018.

FDG PET/MRI Coregistration Helps Predict Response to Gamma Knife Radiosurgery in Patients With Brain Metastases. Leiva-Salinas C, Muttikkal TJE, Flors L, Puig J, Wintermark M, Patrie JT, Rehm PK, Sheehan JP, Schiff D. AJR Am J Roentgenol. 2018 Nov 13:1-6. doi: 10.2214/AJR.18.20006. PMID: 30422717.

A phase 2 trial of neoadjuvant metformin in combination with trastuzumab and chemotherapy in women with early HER2-positive breast cancer: the METTEN study. Martín-Castillo B, Pernas S, Dorca J, Álvarez I, Martínez S, Pérez-Garcia JM, Batista-López N, Rodríguez-Sánchez CA, Amillano K, Domínguez S, Luque M, Stradella A, Morilla I, Viñas G, Cortés J, Cuyàs E, Verdura S, Fernández-Ochoa Á, Fernández-Arroyo S, Segura-Carretero A, Joven J, Pérez E, Bosch N, Garcia M, López-Bonet E, Saidani S, Buxó M, Menéndez JA. Oncotarget. 2018 Nov 2;9(86):35687-35704. doi: 10.18632/oncotarget.26286. eCollection 2018 Nov 2. PMID: 30479698 Free PMC Article.

Correction to: Biomarkers in breast cancer: A consensus statement by the Spanish Society of Medical Oncology and the Spanish Society of Pathology. Colomer R, Aranda-López I, Albanell J, García-Caballero T, Ciruelos E, López-García MÁ, Cortés J, Rojo F, Martín M, Palacios-Calvo J. Clin Transl Oncol. 2018 Jun 18. doi: 10.1007/s12094-018-1909-1. PMID: 29916189.

Key features of radiology reports in oncology. Vilanova JC. Radiologia. 2018 May;60 Suppl 1:36-42. doi: 10.1016/j.rx.2018.02.008. Epub 2018 Apr 5. English, Spanish. PMID: 29627123.

Functional imaging in pancreatic disease. Baleato-González S, García-Figueiras R, Luna A, Domínguez-Robla M, Vilanova JC. Radiologia. 2018 Nov - Dec;60(6):451-464. doi: 10.1016/j.rx.2018.07.004. Epub 2018 Sep 17. Review. English, Spanish. PMID: 30236460.

Mastitis granulomatosa lobulillar idiopática: manejo radiológico a propósito de dos casos. B. Domenech-Ximenos, E. Pérez. 10.1016/j.rx.2018.03.006. Radiologia 2018;60:359-60.

Primary central nervous system lymphoma in immunocompetent patients: spectrum of findings and differential characteristics. Gómez Roselló E, Quiles Granado AM, Laguillo Sala G, Pedraza Gutiérrez S. Radiologia. 2018 Jul - Aug;60(4):280-289. doi: 10.1016/j.rx.2017.12.009. Epub 2018 Feb 23. PMID: 29482953.

MR Perfusion to Determine the Status of Collaterals in Patients with Acute Ischemic Stroke: A Look Beyond Time Maps. K. Nael, A. Doshi, R. De Leacy, J. Puig, M. Castellanos, J. Bederson, T.P. Naidich, J Mocco and M. Wintermark. American Journal of Neuroradiology February 2018, 39 (2) 219-225; DOI: https://doi.org/10.3174/ajnr.A5454.

Association of Clinical, Imaging, and Thrombus Characteristics With Recanalization of Visible Intracranial Occlusion in Patients With Acute Ischemic Stroke. Menon BK1, Al-Ajlan FS2, Najm M1, Puig J3, Castellanos M3, Dowlatshahi D4, Calleja A5, Sohn SI6, Ahn SH6,7, Poppe A8, Mikulik R9, Asdaghi N10, Field TS11, Jin A12, Asil T13, Boulanger JM14, Smith EE1, Coutts SB1, Barber PA1, Bal S1, Subramanian S1, Mishra S15, Trivedi A16, Dey S1, Eesa M1, Sajobi T1, Goyal M1, Hill MD1, Demchuk AM1; INTERRSeCT Study Investigators. JAMA. 2018 Sep 11;320(10):1017-1026. doi: 10.1001/jama.2018.12498

Thomalla G, Boutitie F, Fiebach JB, Simonsen CZ, Pedraza S, Lemmens R, Nighoghossian N, Roy P, Muir KW, Ebinger M, Ford I, Cheng B, Galinovic I, Cho TH, Puig J, Thijs V, Endres M, Fiehler J, Gerloff C. Clinical characteristics of unknown symptom onset stroke patients with and without diffusion-weighted imaging and fluid-attenuated inversion recovery mismatch. Int J Stroke. 2018 Jan;13(1):66-73. doi: 10.1177/1747493017706245. Epub 2017 Apr 20. PubMed PMID: 28425349.

Chacón MR, Lozano-Bartolomé J, Portero-Otín M, Rodríguez MM, Xifra G, Puig J, Blasco G, Ricart W, Chaves FJ, Fernández-Real JM. The gut mycobiome composition is linked to carotid atherosclerosis. Benef Microbes. 2018 Feb 27;9(2):185-198. doi: 10.3920/BM2017.0029. Epub 2017 Nov 10. PubMed PMID: 29124969.

Clinical guidelines

Guía SEOM-SERAM-SEMNIM sobre el empleo de las técnicas de imagen funcional y molecular en el cáncer de pulmón no microcítico avanzado. Radiologia. 2018 ISSN: 0033-8338

Books

Kai Vilanova, Catalá V, Algaba F, Laucirica O. Atlas of multiparametric Prostate MRI. Springer. 2018

Salvador Pedraza. Indicadores para evaluar la calidad de los servicios de Diagnostico por la Imagen. Radiolegs de Catalunya. 2018.

Salvador Pedraza. Tratado "Radiología Esencial. Segunda Edición". Del Cura JL, Pedraza S, Gayete A, A Rovira editores. SERAM Radiología Esencial. Madrid: Editorial Médica Panamericana; Diciembre 2018. ISBN: 978-84-9110-349-3. ISBN: 978-84-9110-338-7 (versión eBook 2 Tomos)

JC Vilanova, A Luna. "Imagen oncològica". Monográfico Radiología SERAM Elsevier España. 2018

Grants

Project: Imagenoma de l'Envelliment (SLT002/16/00250). Aging Imageomics Study': An observational population study in adult subjects 50 years of age or older in the province of Girona to develop advanced imaging biomarkers based on whole-body magnetic resonance imaging associated with aging and its relation with biopsychosocial, metabolomics, lipidomics and microbiomics characteristics
Funding agency: PERIS2016
Duration: 2017-2018
Coordinator: Josep Puig
Principal Investigator: Josep Puig

Project: BRAIN-CONNECTS': MRI Biomarkers of Brain Connectivity during Stroke Recovery and Rehabilitation
Funding agency: La Marató de TV3
Duration: 2017-2019
Coordinator: Josep Puig
Principal Investigator: Josep Puig

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 Marti 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

Mental Health & Addiction Research Group

Group members

Principal investigator
Jordi Cid

Post-doctored Researchers
Eva Frigola
Laura Masferre

Pre-doctorate Researchers
Miriam Broncano

Medical researchers
Jordi Nuñez
Meritxell Beltran
Mª Àngels Vila
René Morgan
Eduard Palomer

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

González LE, López-Carrilero R, Barrigón ML, Grasa E, Barajas A, Pousa E, González-Higueras F, Ruiz-Delgado I, Cid J, Lorente-Rovira E, Pélaez T; Spanish Metacognition Study Group, Ochoa S Neuropsychological functioning and jumping to conclusions in recent onset psychosis patients. Schizophr Res. 2018 May;195:366-371. doi: 10.1016/j.schres.2017.09.039. Epub 2017 Sep 29. PMID: 2896993

Masferrer L, Escalé-Muntañà E, Malagón R, Cid J, Caparrós B. Which Psychopathological Syndromes Could Be Associated with the Risk of Suicide among Substance Users? Int J Environ Res Public Health. 2018 Oct 17;15(10). pii: E2279. doi: 10.3390/ijerph15102279. PMID: 30336594

Sadeniemi M, Almeda N, Salinas-Pérez JA, Gutiérrez-Colosía MR, García-Alonso C, Ala-Nikkola T, Joffe G, Pirkola S, Wahlbeck K, Cid J, Salvador-Carulla L. A Comparison of Mental Health Care Systems in. Northern and Southern Europe: A Service Mapping Study. Int J Environ Res Public Health. 2018 May 31;15(6). pii: E1133. doi: 10.3390/ijerph15061133. PMID: 29857556

Editorials

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

Books

Masferrer, L., & Caparrós, B. (2018). Bereavement and Substance Use Disorder. Drug Addiction, 31..

Grants

Project: Evaluación del malestar subjetivo en la esquizofrenia: Validación y viabilidad de la Escala SIRS en España. Estudio SIRS-España. CÓDIGO DEL PROYECTO: PI16/00647
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

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

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: Guttman 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 Ramió i Torrentà

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

Pre-doctoral Researchers
María Muñoz
Claudia Coll
Naiara Celarain
Judit Salavedra

Medical Researchers
Héctor Perkal
Joan Carles Vilanova
Imma Pericot
David Genís
Laura Fàbregas
Anna Cots
Berta Solano
Antoni Turón
Berta Alemany

Technicians
Imma Gómez
Míriam Broncano
Miguel Merchan
Dagmar Keller
Marina González
Míriam Broncano

Support
Pepi López
Meritxell Rigola
Cristina Ridao
Mireia Montserrat

Overview

Our multidisciplinary research group is headed by Dr. Lluís 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:
1. Study of neuropsychological disorders and cognitive rehabilitation in multiple sclerosis.
2. Study of the emotional impact, ability to cope, and adaptation to the diagnosis of multiple sclerosis.
3. Study of fatigue in multiple sclerosis.4. Improve compliance with immunomodulatory treatment in multiple sclerosis.
5. Improve the clinical data collection by developing of a multiparametric, multidisciplinary database for multiple sclerosis
6. Application of Deep Learning technique as a new brain MRI analyzer to generate prognosis markers in multiple sclerosis.
8. Shared decisions, expert patient empowerment and patient with multiple sclerosis

Priority lines in basic research:
1. Study of epigenetic factors in multiple sclerosis.
2. Study of miRNA pattern expression in different clinical subtype and their biomarker value
3. Study of the relation between viruses miRNAs and multiple sclerosis
4. Study of pattern methylation in multiple sclerosis
5. Genetic studies in familial multiple sclerosis
6. Determination of biological prognosis factors in cerebrospinal fluid and serum for the evolution of multiple sclerosis (genetic factors, biochemical factors, environmental factors such as vitamin D, virus and others).
7. Determination of biological response factors (genetic and biochemical) to immunomodulatory treatments in multiple sclerosis.
8. Microbiota in multiple sclerosis and other neurodegenerative diseases.
Bank of DNA, CSF and serum samples of neuroimmunological diseases and control subjects

Publications

Originals

Matute-Blanch C, Villar LM, Álvarez-Cermeño JC, Rejdak K, Evdoshenko E, Makshakov G, Nazarov V, Lapin S, Midaglia L, Vidal-Jordana A, Drulovic J, García-Merino A, Sánchez-López AJ, Havrdova E, Saiz A, Llufriu S, Alvarez-Lafuente R, Schroeder I, Zettl UK, Galimberti D, Ramió-Torrentà LI, Robles R, Quintana E, Hegen H, Deisenhammer F, Río J, Tintoré M, Sánchez A, Montalban X, Comabella M.Neurofilament light chain and oligoclonal bands are prognostic biomarkers in radiologically isolated syndrome. Brain 2018;141(4):1085-1093

Genís D; Ortega-Cubero S; San Nicolas H; Corral J; Gardenyes J; de Jorge L; López E; Campos B; Lorenzo E; Tonda R; Beltran S; Nere M; Obon M; Beltran B; Fabregas L; Alemany B; Marquez F; Ramió-Torrentà LI; Gich J; Volpini V; Pastor P. Heterozygous STUB1 mutation causes familial ataxia with cognitive affective syndrome (SCA48). Neurology 2018;91(21):1988

Robles-Cedeno R; Ramio-Torrenta L. Cladribine in the treatment of relapsing multiple sclerosis. Revista de Neurologia 2018;67(9)343-354

Gil-Varea E, Urcelay E, Vilariño-Güell C, Costa C, Midaglia L, Matesanz F, Rodríguez-Antigüedad A, Oksenberg J, Espino-Paisan L, Dessa Sadovnick A, Saiz A, Villar LM, García-Merino JA, Ramió-Torrentà LI, Triviño JC, Quintana E, Robles R, Sánchez-López A, Arroyo R, Alvarez-Cermeño JC, Vidal-Jordana A, Malhotra S, Fissolo N, Montalban X, Comabella M.Exome sequencing study in patients with multiple sclerosis reveals variants associated with disease course.Journal of Neuroinflammation 2018;15(1)265

Casanova B; Lacruz L; Villar ML; Domínguez JA; Gadea MC; Gascón F; Mallada J; Hervás D; Simó-Castelló M; Álvarez-Cermeño JC; Calles C; Olascoaga J; Ramió-Torrentà LI; Alcalá C; Cervelló A; Boscá I; Pérez-Miralles FC; Coret F.Different clinical response to interferon beta and glatiramer acetate related to the presence of oligoclonal IgM bands in CSF in multiple sclerosis patients. Neurological Sciences 2018;39(8):1423-1430

Quintana E, Coll C, Salavedra-Pont J, Muñoz-San Martín M, Robles-Cedeño R, Tomàs-Roig J, Buxó M, Matute-Blanch C, Villar LM, Montalban X, Comabella M, Perkal H, Gich J, Ramió-Torrentà LI. Cognitiveimpairment in early stages of multiple sclerosis is associated with high cerebrospinal fluid levels of chitinase 3-like 1 and neurofilament light chain. European Journal of Neurology 2018;25(9):1189-1191

Tomas-Roig J, Piscitelli F, Gil V, Quintana E, Ramió-Torrentà LI, Del Río JA, Moore TP, Agbemenyah H, Salinas G, Pommerenke C, Lorenzen S, Beißbarth T, Hoyer- Fender S, Di Marzo V, Havemann-Reinecke U. Effects of repeated long-term psychosocial stress and acute cannabinoid exposure on mouse corticostriatal circuitries: implications for neuropsychiatric disorders. CNS Neuroscience and Therapeutics 2018;24(6):528-538

Puig J, Blasco G, Alberich-Bayarri A, Schlaug G, Deco G, Biarnes C, Navas-Martí M, Rivero M, Gich J, Figueras J, Torres C, Daunis-I-Estadella P, Oramas-Requejo CL, Serena J, Stinear CM, Kuceyeski A, Soriano-Mas C, Thomalla G, Essig M, Figley CR, Menon B, Demchuk A, Nael K, Wintermark M, Liebeskind DS, Pedraza S. Resting-State Functional Connectivity Magnetic Resonance Imaging and Outcome After Acute Stroke.Stroke. 2018;49(10):2353-2360

Muñoz-Montplet C, Marruecos J, Buxó M, Jurado-Bruggeman D, Romera-Martínez I, Bueno M, Vilanova JC.Dosimetric impact of Acuros XB dose-to-water and dose-to-medium reporting modes on VMAT planning for head and neck cancer. Phys Med. 2018 Nov;55:107-115

Baleato-González S, García-Figueiras R, Luna A, Domínguez-Robla M, Vilanova JC. Functional imaging in pancreatic disease. Radiologia. 2018 Nov - Dec;60(6):451-464

García-Figueiras R, Baleato-González S, Padhani AR, Luna-Alcalá A, Marhuenda A, Vilanova JC, Osorio-Vázquez I, Martínez-de-Alegría A, Gómez-Caamaño A. Advanced Imaging Techniques in Evaluation of Colorectal Cancer. Radiographics. 2018;38(3):740-765

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

Agarwal R, Díaz O, Lladó X, Gubern-Mérida A, Vilanova JC, Martí R. Lesion Segmentation in Automated 3D Breast Ultrasound: Volumetric Analysis. Ultrason Imaging. 2018;40(2):97-112

Reviews

Fernández O; Tintore M; Saiz A; Calles-Hernandez MC; Comabella M, Ramio-Torrenta LI; Oterino A; Izquierdo G; Tellez N; Garcia-Merino JA; Brieva L; Arnal-Garcia C; Aladro Y, Mendibe-Bilbao MM; Meca-Lallana JE; Romero-Pinel L; Ginestal R; Martínez-Gines ML; Arroyo R; Rodríguez-Antiguedad A. Review of the novelties from the 2017 ECTRIMS Congress, presented at the 10th Post- ECTRIMS Meeting (II). Revista de Neurologia 2018;67(2):50-62

Fernández O; Tintore M; Saiz A; Calles-Hernandez MC; Comabella M, Ramió-Torrentà LI; Oterino A; Izquierdo G; Tellez N; Garcia-Merino JA; Brieva L; Arnal-Garcia C; Aladro Y, Mendibe-Bilbao MM; Meca-Lallana JE; Romero-Pinel L; Ginestal R; Martínez-Gines ML; Arroyo R; Rodríguez-Antiguedad A. Review of the novelties from the 2017 ECTRIMS Congress, presented at the 10th Post-ECTRIMS Meeting (I). Revista de Neurologia 2018;67(1)15-27

Books

Vilanova JC, Luna A; editors. Imagen oncológica. Barcelona. Elsevier. 2018

Vilanova JC, Catalá V, Algaba F, Laucirica O, Editors. Atlas of multiparametric prostate MRI. Switzerland. Springer, 2018

Grants

Project: EM-line Memory com a eina de rehabilitació cognitiva per a pacients que han patit un ictus
Funding agency: Fundació Mutuam Conviure.
Duration: 2018-2019
Principal Investigator: Lluís Ramió i Torrentà

Project: Estudio de metiloma completo en células de sistema inmune de pacientes con esclerosis múltiple (PI16/01140)
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2019
Principal Investigator: Lluís Ramió i Torrentà

Project: Estils de vida, característiques sociodemogràfiques i econòmiques, discapacitat, dolor, qualitat de vida, impulsivitat, suport social, i prevalença 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 Puig / Dr. Rafel Ramos Blanes / Dr. Josep Garre Olmo

Project: Imagenoma de l'Envelliment: Estudi observacional poblacional per al desenvolupament de biomarcadors d'imatge corporal integral basats en ressonància magnètica en individus de 50 anys d'edat o més i la seva relació amb factors de l'esfera biopsicosocial, cardiovascular, metabolòmica, lipidòmica, microbiòmica i altres factors associats a l'envelliment.
Funding agency: CDSA - 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 autoinmune com l'esclerosis 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
HEPATOBILIARY & PANCREATIC SURGERY AND ONCOLOGY
METABOLISM AND CANCER GROUP

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. Faithfull 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

Cdt1 stabilizes an open MCM ring for helicase loading. Frigola J, He J, Kinkelin K, Pye VE, Renault L, Douglas ME, Remus D, Cherepanov P, Costa A, Diffley JFX. Nat Commun. 2017 Jun 23;8:15720. doi: 10.1038/ncomms15720

Grants

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

Partner groups

Dr. Narcís Fernández Fuentes
Universitat de Vic.

Descriptive epidemiology, genetics and cancer prevention

Team involved in “Centro de Investigación Biomèdica en Red Epidemiologica 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

Post-doctoral Researchers
Gemma Osca

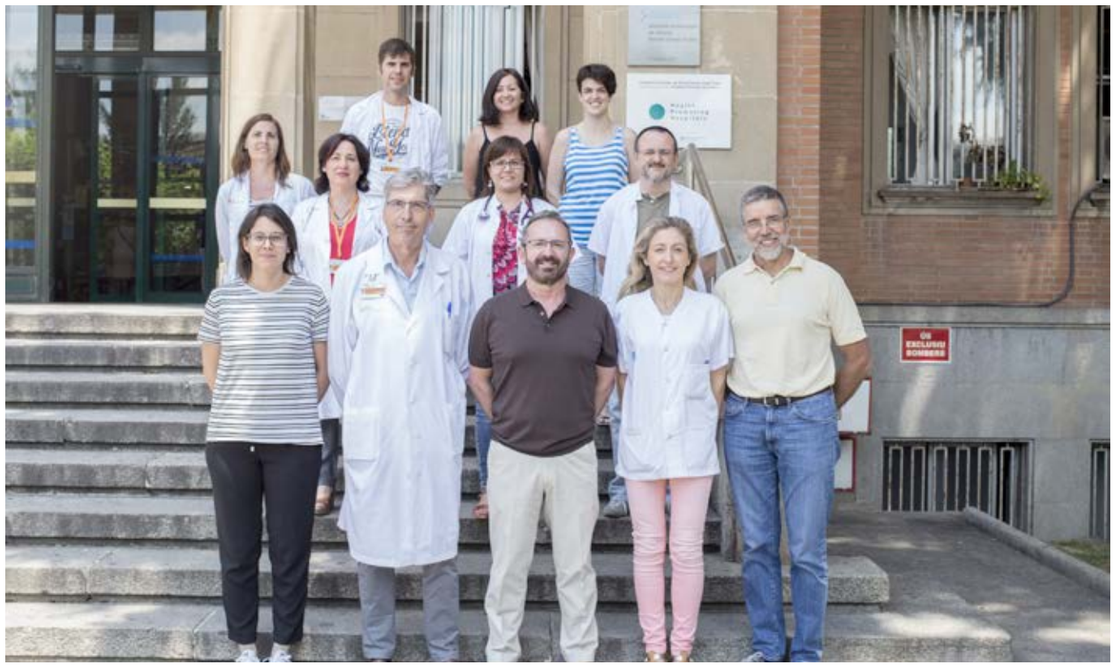
Pre-doctoral Researchers
Marta Solans

Medical Researchers
Carme Carmona
Rafael Fuentes
Sónia del Barco
Angel Izquierdo
Neus Vilar
Jordi Rubió
Loreto Vilardell
Adelaida García
Maria Aranzazu Eraso

Technicians
Joana Fuentes
Montse Puigdemont
Anna Vidal
Martí Rispau

Support
Bernat Serdà
Montse Puig

Collaborators
Antonia Bianca



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, biologist. The group main focus is cancer epidemiology (descriptive and analytical), cancer prevention and genetic.

Research topics

Strategic 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 leukaemia (CLL) and breast cancer.
- Study of the genetic and molecular prognosis factors in breast cancer and haematological tumours.
- Study of the genetic and environmental risk factors in breast cancer and chronic lymphocytic leukaemia.
- 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 efficacy of vaccination against the human papilloma virus

Secondary prevention
- Evaluation of the organized breast cancer detection program:
- Benefits and adverse effects of breast cancer detection: a method to improve the measurement of the results of early detection.
- Evaluation of the rate of interval of cancer and its determinants in the program of early detection of breast cancer at the province of Girona.
- Screening and prevention of cervical cancer.
- 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 rehabilitation programmes improve Quality of Life in cancer patients.
- To design and implement rehabilitation programmes based on epidemiological knowledge.
- To maintain 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.

Publicactions

Originals

Solans M, Benavente Y, Saez M, Agudo A, Naudin S, Saberi Hosnijeh F, Noh H, Freisling H, Ferrari P, Besson C, Mahamat-Saleh Y, Boutron-Ruault MC, Kühn T, Kaaks R, Boeing H, Lasheras C, Rodríguez-Barranco M, Amiano P, Huerta JM, Barricarte A, Schmidt J, Vineis P, Riboli E, Trichopoulou A, Bamia C, Peppa E, Masala G, Agnoli C, Tumino R, Sacerdote C, Panico S, Skeie G, Weiderpass E, Jerkeman M, Ericson U, Späth F, Nilsson LM, Dahm CC, Overvad K, Bolvig AK, Tjønneland A, de Sanjose S, Buckland G, Vermeulen, Nieters A, Casabonne D. Adherence to the Mediterranean diet and lymphoma risk in the European Prospective Investigation into Cancer and Nutrition. Int J Cancer. 2018 Dec 26.doi: 10.1002/ijc.32091. [Epub ahead of print]

Stradella A, Del Valle J, Rofes P, Feliubadaló L, Grau Garces È, Velasco À, González S, Vargas G, Izquierdo Á, Campos O, Tornero E, Navarro M, Balmaña-Gelpi J, Capellá G, Pineda M, Brunet J, Lázaro C. Does multilocus inherited neoplasia alleles syndrome have severe clinical expression?J Med Genet. 2018 Dec 22.pii: jmedgenet-2018-105700. doi: 10.1136/jmedgenet-2018-105700. [Epub ahead of print] PubMed PMID: 30580288.

Balana C, Estival A, Teruel I, Hardy-Werbin M, Sepulveda J, Pineda E, Martínez-Garcia M, Gallego O, Luque R, Gil-Gil M, Mesia C, Del Barco S, Herrero A, Berrocal A, Pérez-Segura P, De Las Penas R, Marruecos J, Fuentes R, Reynes G, Velarde JM, Cardona A, Verger E, Panciroli C, Villa S. Delay in starting radiotherapy due to neoadjuvant therapy does not worsen survival in unresected glioblastoma patients. Clin Transl Oncol. 2018 Dec;20(12):1529-1537. doi: 10.1007/s12094-018-1883-7. Epub 2018 May 8.IF 2.392

Fuentes-Raspall R, Solans M, Auñon-Sanz C, Saez M, Marcos-Gragera R. Incidence and survival of primary central nervous system lymphoma (PCNSL): results from the Girona cancer registry (1994–2013). Clin Transl Oncol. 2018 Dec;20(12):1628-1630. doi: 10.1007/s12094-018-1890-8. Epub 2018 May 23.

Clèries R, Ameijide A, Buxó M, Vilardell M, Martínez JM, Marcos-Gragera R, Vilardell ML, Carulla M, Espinàs JA, Galceran J, Borràs JM, Izquierdo Á. Excess mortality among breast cancer patients in early stages in Tarragona and Gerona (Spain). Gac Sanit. 2018 Dec 17.pii: S0213-9111(18)30244-9. doi: 10.1016/j.gaceta.2018.09.008. [Epub ahead of print]

A. Roca Barceló, G. Viñas, H. Pla, A. Carbó, R. Comas, Á. Izquierdo, P. S. Pinheiro, L. Vilardell, M.Solans, Marcos-Gragera R. Mortality of women with ductal carcinoma in situ of the breast: a population-based study from the Girona province, Spain (1994–2013). Clin Transl Oncol. 2018 Dec 10. doi: 10.1007/s12094-018-1994-1. [Epub ahead of print]

Losada B, Guerra JA, Malón D, Jara C, Rodríguez L, Del Barco S. Pretreatment neutrophil/lymphocyte, platelet/lymphocyte, lymphocyte/monocyte, and neutrophil/monocyte ratios and outcome in elderly breast cancer patients. Clin Transl Oncol. 2018 Nov 30. doi: 10.1007/s12094-018-1999-9. [Epub ahead of print]

Casabonne D, Benavente Y, Costas L, Robles C, Gonzá lez-Barca E, de la Banda E, Alonso E, Aymerich M, Campo E, Marcos-Gragera R, Tardón A, Olmedo-Requena R, Gimeno E, Martínez-López A, Casanovas O, Castaño-Vinyals G, Aragonés N, Pollán M, Kogevinas M, de Sanjosé S. Insulin-like growth factor levels and chronic lymphocytic leukaemia: results from the MCC-Spain and EpiLymph-Spain studies. Br J Haematol. 2018 Nov 19. doi: 10.1111/bjh.15583. [Epub ahead of print] No abstract available.

Kogevinas M, Espinosa A, Castelló A, Gómez-Acebo I, Guevara M, Martín V, Amiano P, Alguacil J, Peiro R, Moreno V, Costas L, Fernández-Tardón G, Jimenez JJ, Marcos-Gragera R, Pérez-Gómez B, Llorca J, Moreno-Iribas C, Fernández-Villa T, Oribe M, Aragones N, Papantoniou K, Pollán M, Castano-Vinyals G, Romaguera D. Effect of mistimed eating patterns on breast and prostate cancer risk (MCC-Spain Study).Int J Cancer. 2018 Nov 15;143(10):2380-2389. doi: 10.1002/ijc.31649. Epub 2018 Jul 17.

Minicozzi P, Van Eycken L, Molinie F, Innos K, Guevara M, Marcos-Gragera R, Castro C, Rapiti E, Katalinic A, Torrella A, Žagar T, Bielska-Lasota M, Rossi PG, Larrañaga N, Bastos J, Sánchez MJ, Sant M; European HR Working Group on breast cancer. Comorbidities, age and period of diagnosis influence treatment and outcomes in early breast cancer. Int J Cancer. 2018 Nov 8. doi: 10.1002/ijc.31974. [Epub ahead of print]

Martín-Broto J, Hindi N, Cruz J, Martínez-Trufero J, Valverde C, De Sande LM, Sala A, Bellido L, De Juan A, Rubió-Casadevall J, Díaz-Beveridge R, Cubedo R, Tendero O, Salinas D, Gracia I, Ramos R, Baguè S, Gutiérrez A, Duran-Moreno J, López-Pousa A. Relevance of Reference Centers in Sarcoma Care and Quality Item Evaluation: Results from the Prospective Registry of the Spanish Group for Research in Sarcoma (GEIS).Oncologist. 2018 Nov 8.pii: theoncologist. 2018-0121. doi: 10.1634/theoncologist.2018-0121. [Epub ahead of print]

Solans M, Castelló A, Benavente Y, Marcos-Gragera R, Amiano P, Gracia-Lavedan E, Costas L, Robles C, González Barca E, de la Banda E, Alonso E, Aymerich M, Campo E, Dierssen-Sotos T, Fernández-Tardón G, Olmedo-Requena R, Gimeno E; Castaño-Vinyals G, Aragonés N, Kogevinas M, de Sanjose S, Pollán M, Casabonne D. Adherence to the Western, Prudent, and Mediterranean dietary patterns and chronic lymphocytic leukemia in the MCC-Spain study. Haematologica. 2018 Nov;103(11):1881-1888. doi: 10.3324/haematol.2018.192526. Epub 2018 Jun 28.

Clèries R, Ameijide A, Buxó M, Martínez JM, Marcos-Gragera R,Vilardell ML, Carulla M, Yasui Y, Vilardell M, Espinàs JA, Borràs JM, Galceran J, Izquierdo À. Long-term crude probabilities of death among breast cancer patients by age and stage: a population-based survival study in Northeastern Spain (Girona-Tarragona 1985-2004). Clin Transl Oncol. 2018 Oct;20(10):1252-1260. doi: 10.1007/s12094-018-1852-1. Epub 2018 Mar 6.

Marcos-Gragera R, Solans M, Galceran J, Fernández-Delgado R, Fernández-Teijeiro A, Mateos A, Quirós-Garcia JR, Fuster-

Camarena N, De Castro V, Sánchez MJ, Franch P, Chirlaque MD, Ardanaz E, Martos C, Salmerón D, Peris-Bonet R. Spanish Childhood Cancer Epidemiology Working Group (Marcos-Gragera R, Vilardell L). Childhood and adolescent lymphoma in Spain: incidence and survival trends over 20 years. Clin Transl Oncol. 2018 Oct;20(10):1289-1301. doi: 10.1007/s12094-018-1860-1. Epub 2018 Apr 5.

Qian F, Wang S, Mitchell J, McGuffog L, Barrowdale D, Leslie G, Oosterwijk JC, Chung WK, Evans DG, Engel C, Kast K, Aalfs CM, Adank MA, Adlard J, Agnarsson BA, Aittomäki K, Alducci E, Andrulis IL, Arun BK, Ausems MGEM, Azzollini J, Barouk-Simonet E, Barwell J, Belotti M, Benitez J, Berger A, Borg A, Bradbury AR, Brunet J, Buys SS, Caldes T, Caligo MA, Campbell I, Caputo SM, Chiquette J, Claes KBM, Margriet Collée J, Couch FJ, Coupier I, Daly MB, Davidson R, Diez O, Domchek SM, Donaldson A, Dorfling CM, Eeles R, Feliubadaló L, Foretova L, Fowler J, Friedman E, Frost D, Ganz PA, Garber J, Garcia-Barberan V, Glendon G, Godwin AK, Gómez Garcia EB, Gronwald J, Hahnen E, Hamann U, Henderson A, Hendricks CB, Hopper JL, Hulick PJ, Imyanitov EN, Isaacs C, Izatt L, Izquierdo Á, Jakubowska A, Kaczmarek K, Kang E, Karlan BY, Kets CM, Kim SW, Kim Z, Kwong A, Laitman Y, Lasset C, Hyuk Lee M, Won Lee J, Lee J, Lester J, Lesueur F, Loud JT, Lubinski J, Mebirouk N, Meijers-Heijboer HEJ, Meindl A, Miller A, Montagna M, Mooij TM, Morrison PJ, Mouret-Fourme E, Nathanson KL, Neuhausen SL, Nevanlinna H, Niederacher D, Nielsen FC, Nussbaum RL, Offit K, Olah E, Ong KR, Ottini L, Park SK, Peterlongo P, Pfeiler G, Phelan CM, Poppe B, Pradhan N, Radice P, Ramus SJ, Rantala J, Robson M, Rodríguez GC, Schmutzler RK, Hutten Selkirk CG, Shah PD, Simard J, Singer CF, Sokolowska J, Stoppa-Lyonnet D, Sutter C, Yen Tan Y, Teixeira RM, Teo SH, Terry MB, Thomassen M, Tischkowitz M, Toland AE, Tucker KM, Tung N, van Asperen CJ, van Engelen K, van Rensburg EJ, Wang-Gohrke S, Wappenschmidt B, Weitzel JN, Yannoukakos D; GEMO Study Collaborators; HEBON; EMBRACE, Greene MH, Rookus MA, Easton DF, Chenevix-Trench G, Antoniou AC, Goldgar DE, Olopade OI, Rebbeck TR, Huo D. Height and Body Mass Index as Modifiers of Breast Cancer Risk in BRCA1/2 Mutation Carriers: A Mendelian Randomization Study. J Natl Cancer Inst. 2018 Oct 12.doi: 10.1093/jnci/djy132. [Epub ahead of print] PubMed PMID: 30312457.

Isabel Blancas, MD, PhD1, Elena Aguirre, MD2, Serafín Morales MD2, Laia Espasa MD3, María Luisa Gonzálvez MD4, Sonia Servitja MD, PhD5, Nieves Díaz MD6, Sonia del Barco MD, PhD7, Agustí Barnadas MD, PhD8, Mireia Margelí MD9, Itzciar García Carbonero MD10, Antonio Llombart MD, PhD11. Real-world data on the efficacy and safety of weekly oral vinorelbine in breast cancer patients previously treated with anthracycline or taxane-based regimens. Clin Transl Oncol. 2018 Oct 6.doi: 10.1007/s12094-018-1946-9. [Epub ahead of print]IF 2.392

Walker V, Crijns A, Langendijk J, Spoor D, Vliegenthart R, Combs SE, Mayinger M, Eraso A, Guedea F, Fiuza M, Constantino S, Tamarat R, Laurier D, Ferrières J, Mousseaux E, Cardis E, Jacob S. Early Detection of Cardiovascular Changes After Radiotherapy for Breast Cancer: Protocol for a European Multicenter Prospective Cohort Study (MEDIRAD EARLY HEART Study). JMIR Res Protoc. 2018 Oct 1;7 (10):e178. doi: 10.2196/resprot.9906

Montserrat Grau-Pallicer; Bernat-Carles Serdà Ferrer; Josep Medina Casanovas; Andrés Chamarro Lusar. Effectiveness of a multimodal low-moderate intensity exercise rehabilitation program for stroke survivors. Apunts Medicina de l'Esport. Volume 53, Issue 200, October–December 2018, Pages 147-153 (Espanya): Elsevier España, 2018. ISSN 1886-6581 DOI: https://doi.org/10.1016/j.apunts.2018.09.001

Clèries R, Ameijide A, Buxó M, Vilardell M, Martínez JM, Alarcón F, Cordero D, Díez-Villanueva A, Yasui Y, Marcos-Gragera R, Vilardell ML, Carulla M, Galceran J, Izquierdo Á, Moreno V, Borràs JM. WebSurvCa: Web-based estimation of death and survival probabilities in a cohort]. Gac Sanit. 2018 Sep - Oct;32(5):492-495. doi: 10.1016/j.gaceta.2017.10.015. Epub 2018 Jan 19.

Gómez-Acebo I, Dierssen-Sotos T, de Pedro M, Pérez-Gómez B, Castaño-Vinyals G, Fernández-Villa T, Palazuelos-Calderón C, Amiano P, Etxeberria J, Benavente Y, Fernández-Tardón G, Salcedo-Bellido I, Capelo R, Peiró R, Marcos-Gragera R, Huerta JM, Tardón A, Barricarte A, Altzibar JM, Alonso-Molero J, Dávila-Batista V, Aragonés N, Pollán M, Kogevinas M, Llorca Epidemiology of non-steroidal anti-inflammatory drugs consumption in Spain. The MCC-Spain study. J.BMC Public Health. 2018 Sep 21;18(1):1134. doi: 10.1186/s12889-018-6019-z.

Bernat-Carles Serdà i Ferrer, Eline van Roekel, Brigid M. Lynch. The Role of Physical Activity in Managing Fatigue in Cancer Survivors. Curr Nutr Rep. 2018 Sep;7(3):59-69. doi: 10.1007/s13668-018-0234-1.

Serrano C, García-Del-Muro X, Valverde C, Sebio A, Durán J, Manzano A, Pajares I, Hindi N, Landolfi S, Jiménez L, Rubió-Casadevall J, Estival A, Lavernia J, Safont MJ, Pericay C, Díaz-Beveridge R, Martínez-Marín V, Vicente-Baz D, Vivancos A, Hernández-Losa J, Arribas J, Carles J. Clinicopathological and Molecular Characterization of Metastatic Gastrointestinal Stromal Tumors with Prolonged Benefit to Frontline Imatinib. Oncologist. 2018 Aug 20. pii: theoncologist.2018-0032. doi: 10.1634/theoncologist.2018-0032. [Epub ahead of print]

Steliarova-Foucher E, Fidler MM, Colombet M, Lacour B, Kaatsch P, Piñeros M, Soerjomataram I, Bray F, Coebergh JW, Peris-

Bonet R, Stiller CA; ACCIS contributors(Marcos-Gragera R). Changing geographical patterns and trends in cancer incidence in children and adolescents in Europe, 1991-2010 (Automated Childhood Cancer Information System): a population-based study. Lancet Oncol. 2018 Sep;19(9):1159-1169. doi: 10.1016/S1470-2045(18)30423-6. Epub 2018 Aug 8.

Lope V, Castelló A, Mena-Bravo A, Amiano P, Aragonés N, Fernández-Villa T, Guevara M, Dierssen-Sotos T, Fernández-Tardón G, Castaño-Vinyals G, Marcos-Gragera R, Moreno V, Salas-Trejo D, Díaz-Santos M, Oribe M, Romieu I, Kogevinas M, Priego-Capote F, Pérez-Gómez B, Pollán M.J. Serum 25-Hydroxyvitamin D and breast cancer risk by pathological subtype (MCC-Spain). J Steroid Biochem Mol Biol. 2018 Sep;182:4-13. doi: 10.1016/j.jsbmb.2018.04.005. Epub 2018 Apr 19.

Bernat-Carles Serdà i Ferrer; Àngel Alsina Pastells. Knowledge-transfer and self-directed methodologies in university students' learning. Reflective Practice: International and Multidisciplinary Perspectives. Taylor & Francis (Routledge), 2018. ISSN 1462-3943 DOI: https://doi.org/10.1080/14623943.2018.1538947 Pages 573-585. | Received 18 Sep 2017, Accepted 08 Aug 2018, Published online: 09 Nov 2018

Sala M, Domingo L, Louro J, Torá-Rocamora I, Baré M, Ferrer J, Carmona-Garcia MC, Barata T, Román M, Macià F, Castells X. Survival and disease-free survival by breast density and phenotype in interval breast cancers.Cancer Epidemiol Biomarkers Prev. 2018 Aug;27(8):908-916. doi: 10.1158/1055-9965.EPI-17-0995. Epub 2018 May 31.

Fuentes R, Osorio D, Expósito Hernandez J, Simancas-Racines D, Martínez-Zapata M, Bonfill Cosp X. Surgery versus stereotactic radiotherapy for people with single or solitary brain metastasis. Cochrane Database Syst Rev. 2018 Aug 20;8:CD012086. doi: 10.1002/14651858.CD012086.pub2. FI: 6,754

Noemie Travier, Genevieve Buckland,Joan J. Vendrell, Sonia Fernández-Veledo, Immaculada Peiró, Sonia del Barco, Sonia Pernas, Esther Zamora, Meritxell Bellet et al. Changes in metabolic risk, insulin resistance, leptin and adiponectin following a lifestyle intervention in overweight and obese breast cancer survivors. Eur J Cancer Care (Engl). 2018 Jul;27(4):e12861. doi: 10.1111/ecc.12861. Epub 2018 Jun 5.IF 2.409

Solans M, Coenders G, Marcos-Gragera R, Castelló A, Gràcia-Lavedan E, Benavente Y, Moreno V, Pérez-Gómez B, Amiano P, Fernández-Villa T, Guevara M, Gómez-Acebo I, Fernández-Tardón G, Vanaclocha-Espi M, Chirlaque MD, Capelo R, Barrios R, Aragonés N, Molinuevo A, Vitelli-Storelli F, Castilla J, Dierssen-Sotos T, Castaño-Vinyals G, Kogevinas M, Pollán M, Saez M. Compositional analysis of dietary patterns. Stat Methods Med Res. 2018 Jul 26:962280218790110. doi: 10.1177/0962280218790110. [Epub ahead of print]

Castaño-Vinyals G, Aragonés N, Pérez-Gómez B, Martín V, Llorca J, Moreno V, Altzibar JM, Ardanaz E, de Sanjosé S, Jiménez-Moleón JJ, Tardón A, Alguacil J, Peiró R, Marcos-Gragera R, Navarro C, Pollán M, Kogevinas M; MCC-Spain Study Group. [Corrigendum a: Estudio multicaso-control de base poblacional de tumores comunes en España (MCC-Spain): razón y diseño del estudio (Gaceta Sanitaria 2015;29:308-15)] Gac Sanit. 2018 Sep - Oct;32(5):501. doi: 10.1016/j.gaceta.2018.04.004. Epub 2018 Jul 20. Spanish. No abstract available.

Rubió-Casadevall J, Puig-Vives M, Puigdemont M, Vilardell L, Carbó-Bagué A, Marcos-Gragera R, Vilar-Coromina N. Patterns of increased incidence and survival of cutaneous melanoma in Girona (Spain) 1994-2013: a population-based study. Transl Oncol. 2018 Jun;11(3):794-799. doi: 10.1016/j.tranon.2018.03.015. Epub 2018 Apr 26.

García-Pérez J, Lop V, Pérez-Gómez B, Molina AJ, Tardón A, Díaz Santos MA, Ardanaz E, O'Callaghan-Gordo C, Altzibar JM, Gómez-Acebo I, Moreno V, Peiró R, Marcos-Gragera R, Kogevinas M, Aragonés N, López-Abente G, Pollán M. Risk of breast cancer and residential proximity to industrial installations: New findings from a multicase-control study (MCC-Spain).Environ Pollut. 2018 Jun;237:559-568. doi: 10.1016/j.envpol.2018.02.065. Epub 2018 Mar 15.

Torras MG, Canals E, Jurado-Bruggeman D, Marín-Borras S, Macià M, Jové J, Boladeras AM, Muñoz-Montplet C, Molero J, Picón C, Puigdemont M, Aliste L, Torrents A, Guedea F, Borras JM. Clinical Audit of the Radiotherapy Process in Rectal Cancer: Clinical Practice Guidelines and Quality Certification Do Not Avert Variability in Clinical Practice.Transl Oncol 2018 June 2018; 11: 794-9.

Botta L, Capocaccia R, Trama A, Herrmann C, Salmerón D, De Angelis R, Mallone S, Bidoli E, Marcos-Gragera R, Dudek-Godeau D, Gatta G, Cleries R; RACECAREnet Working group. Bayesian estimates of the incidence of rare cancers in Europe. Cancer Epidemiol. 2018 Jun;54:95-100. doi: 10.1016/j.canep.2018.04.003. Epub 2018 Apr 21.

Clèries R, Ameijide A, Marcos-Gragera R, Pareja L, Carulla M, Vilardell ML, Esteban L, Buxó M, Espinàs JA, Puigdefàbregas A, Ribes J, Izquierdo A, Galceran J, Borrás JM. Predicting the cancer burden in Catalonia between 2015 and 2025: the challenge of cancer management in the elderly. Clin Transl Oncol. 2018 May;20(5):647-657. doi: 10.1007/s12094-017-1764-5. Epub 2017 Oct 12.

Rebbeck TR, Friebel TM, Friedman E, Hamann U, Huo D, Kwong A, Olah E, Olopade OI, Solano AR, Teo SH, Thomassen M, Weitzel JN, Chan TL, Couch FJ, Goldgar DE, Kruse TA, Palmero EI, Park SK, Torres D, van Rensburg EJ, McGuffog L, Parsons MT, Leslie G, Aalfs CM, Abugattas J, Adlard J, Agata S, Aittomäki K, Andrews L, Andrulis IL, Arason A, Arnold N, Arun BK, Asseryanis E, Auerbach L, Azzollini J, Balmaña J, Barile M, Barkardottir RB, Barrowdale D, Benitez J, Berger A, Berger R, Blanco AM, Blazer KR, Blok MJ, Bonadona V, Bonanni B, Bradbury AR, Brewer C, Buecher B, Buys SS, Caldes T, Caliebe A, Caligo MA, Campbell I, Caputo SM, Chiquette J, Chung WK, Claes KBM, Collée JM, Cook J, Davidson R, de la Hoya M, De Leeneer K, de Pauw A, Delnatte C, Diez O, Ding YC, Ditsch N, Domchek SM, Dorfling CM, Velazquez C, Dworniczak B, Eason J, Easton DF, Eeles R, Ehrencrona H, Ejlertsen B; EMBRACE, Engel C, Engert S, Evans DG, Faivre L, Feliubadaló L, Ferrer SF, Foretova L, Fowler J, Frost D, Galvão HCR, Ganz PA, Garber J, Gauthier-Villars M, Gehrig A; GEMO Study Collaborators, Gerdes AM, Gesta P, Giannini G, Giraud S, Glendon G, Godwin AK, Greene MH, Gronwald J, Gutiérrez-Barrera A, Hahnen E, Hauke J; HEBON, Henderson A, Hentschel J, Hogervorst FBL, Honisch E, Imyanitov EN, Isaacs C, Izatt L, Izquierdo A, Jakubowska A, James P, Janavicius R, Jensen UB, John EM, Vijai J, Kaczmarek K, Karlan BY, Kast K, Investigators K, Kim SW, Konstantopoulou I, Korach J, Laitman Y, Lasa A, Lasset C, Lázaro C, Lee A, Lee MH, Lester J, Lesueur F, Liljegren A, Lindor NM, Longy M, Loud JT, Lu KH, Lubinski J, Machackova E, Manoukian S, Mari V, Martínez-Bouzas C, Matrai Z, Mebirouk N, Meijers-Heijboer HEJ, Meindl A, Mensenkamp AR, Mickys U, Miller A, Montagna M, Moysich KB, Mulligan AM, Musinsky J, Neuhausen SL, Nevanlinna H, Ngeow J, Nguyen HP, Niederacher D, Nielsen HR, Nielsen FC, Nussbaum RL, Offit K, Öfverholm A, Ong KR, Osorio A, Papi L, Papp J, Pasini B, Pedersen IS, Peixoto A, Peruga N, Peterlongo P, Pohl E, Pradhan N, Prajzendanc K, Prieur F, Pujol P, Radice P, Ramus SJ, Rantala J, Rashid MU, Rhiem K, Robson M, Rodríguez GC, Rogers MT, Rudaitis V, Schmidt AY, Schmutzler RK, Senter L, Shah PD, Sharma P, Side LE, Simard J, Singer CF, Skytte AB, Slavin TP, Snape K, Sobol H, Southey M, Steele L, Steinemann D, Sukiennicki G, Sutter C, Szabo CI, Tan YY, Teixeira MR, Terry MB, Teulé A, Thomas A, Thull DL, Tischkowitz M, Tognazzo S, Toland AE, Topka S, Trainer AH, Tung N, van Asperen CJ, van der Hout AH, van der Kolk LE, van der Luijt RB, Van Heetvelde M, Varesco L, Varon-Mateeva R, Vega A, Villarreal-Garza C, von Wachenfeldt A, Walker L, Wang-Gohrke S, Wappenschmidt B, Weber BHF, Yannoukakos D, Yoon SY, Zanzottera C, Zidan J, Zorn KK, Hutten Selkirk CG, Hulick PJ, Chenevix-Trench G, Spurdle AB, Antoniou AC, Nathanson KL. Mutational spectrum in a worldwide study of 29,700 families with BRCA1 or BRCA2 mutations. Hum Mutat. 2018 May;39(5):593-620. doi: 10.1002/humu.23406. Epub 2018 Mar 12. PubMed PMID: 29446198; PubMed Central PMCID: PMC5903938.

Boldo E, Castelló A, Aragonés N, Amiano P, Pérez-Gómez B, Castaño-Vinyals G, Martín V, Guevara M, Urtiaga C, Dierssen-Sotos T, Fernández-Tardón G, Moreno V, Solans M, Peiró R, Capelo R, Gómez-Acebo I, Castilla J, Molina AJ, Castells X, Altzibar JM, Lope V, Kogevinas M, Romieu I, Pollán M on behalf of MCC-Spain researchers. Meat intake, methods and degrees of cooking and breast cancer risk in the MCC-Spain study. Maturitas. 2018 Apr;110:62-70. doi: 10.1016/j.maturitas.2018.01.020. Epub 2018 Jan 31.

Moura DS, Ramos R, Fernández-Serra A, Serrano T, Cruz J, Alvarez-Alegret R, Ortiz-Duran R, Vicioso L, Gómez-Dorronsoro ML, Garcia Del Muro X, Martínez-Trufero J, Rubio-Casadevall J, Sevilla I, Lainez N, Gutiérrez A, Serrano C, López-Alvarez M, Hindi N, Taron M, López-Guerrero JA, Martín-Broto J. Gene expression analyses determine two different subpopulations in KIT-negative GIST-like (KNGL) patients. Oncotarget. 2018 Apr 3;9(25):17576-17588. doi: 10.18632/oncotarget.24799. eCollection 2018 Apr 3.

Minicozzi P, Walsh PM, Sánchez MJ, Trama A, Innos K, Marcos-Gragera R, Dimitrova N, Botta L, Johannesen TB, Rossi S, Sant M; EUROCARE-5 Working Group (Marcos-Gragera R;Vilardell ML and Izquierdo A.) Is low survival for cancer in Eastern Europe due principally to late stage at diagnosis?Eur J Cancer. 2018 Apr;93:127-137. doi: 10.1016/j.ejca.2018.01.084. Epub 2018 Mar 20.

Solans M, Osca-Gelis G, Comas R, Roncero JM, Gallardo D, Marcos-Gragera R, Saez M. Challenges in assessing the real incidence of chronic lymphocytic leukemia: 16 years of epidemiological data from the province of Girona, Spain. Cancer Causes Control. 2018 Mar;29(3):379-382. doi: 10.1007/s10552-018-1004-5. Epub 2018 Jan 30.

Allemani C, Matsuda T, Di Carlo V, Harewood R, Matz M, Nikšić M, Bonaventure A, Valkov M, Johnson CJ, Estève J, Ogunbiyi OJ, Azevedo E Silva G, Chen WQ, Eser S, Engholm G, Stiller CA, Monnereau A, Woods RR, Visser O, Lim GH, Aitken J, Weir HK, Coleman MP; CONCORD Working Group (Marcos-Gragera R, Vilardell Gil ML). Global surveillance of trends in cancer survival 2000-14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. Lancet. 2018 Mar 17;391(10125):1023-1075. doi: 10.1016/S0140-6736(17)33326-3. Epub 2018 Jan 31.

Dierssen-Sotos T, Gómez-Acebo I, Palazuelos C, Fernández-Navarro P, Altzibar JM, González-Donquiles C, Ardanaz E, Bustamante M, Alonso-Molero J, Vidal C, Bayo-Calero J, Tardón A, Salas D, Marcos-Gragera R, Moreno V, Rodríguez-Cundin P, Vinyals GC, Ederra M, Vilorio-Marqués L, Amiano P, Pérez-Gómez B, Aragonés N, Kogevinas M, Pollán M, Llorca J. Validating a breast cancer score in Spanish women. The MCC-Spain study.Sci Rep. 2018 Feb 14;8(1):3036. doi: 10.1038/s41598-018-20832-0.

Benavente Y, Casabonne D, Costas L, Robles C, Alonso E, de la Banda E, González-Barca E, Marcos-Gragera R, Llorca J, Tardón A, Monleon JJ, Aymerich M, Campo E, Gimeno-Vázquez E, Castaño-Vinyals G, Aragonés N, Pollán M, Kogevinas M, de Sanjosé S. Established and suggested exposures on CLL/SLL etiology: Results from the CLL-MCC-Spain study. Cancer Epidemiol. 2018 Feb;52:106-111. doi: 10.1016/j.canep.2017.12.012. Epub 2018 Jan 4.

Chirlaque MD, Salmerón D, Galceran J, Ameijide A, Mateos A, Torrella A, Jiménez R, Larrañaga N, Marcos-Gragera R, Ardanaz E, Sant M, Minicozzi P, Navarro C, Sánchez MJ; REDECAN Working Group (Marcos-Gragera R, Izquierdo A,Vilardell ML. Cancer survival in adult patients in Spain. Results from nine population-based cancer registries.Clin Transl Oncol. 2018 Feb;20(2):201-211. doi: 10.1007/s12094-017-1710-6. Epub 2017 Jul 17.

Books

Josep Maria Borràs, Angel Izquierdo, Loreto VIlardell, Rafael Marcos-Gragera, Josepa Ribes, Jordi Gálvez, Laura Esteban (2017) Cancer incidence in Girona (2008-2012). In: Bray F, Colombet M, Piñeros M, Znaor A, Zanetti R and Ferlay J editors. Cancer Incidence in Five Continents, Vol. XI (electronic version). Lyon: International Agency for Research on Cancer. Available from: http://ci5.iarc.fr, accessed [16 de gener de 2018].

Sonia Del Barco. "eBreast. Práctica Cáncer de Mama". MANUAL PRÁCTICO PARA LA CONSULTA DE PACIENTES CON CÁNCER DE MAMA ISBN: 978-84-09-08966-6

Grants

Project: Patrones asistenciales y factores asociados al envejecimiento de la población en la supervivencia de la leucemia linfática crónica. (PI15/00966)
Funding agency: Instituto de Salud Carlos III
Duration: 2016-2018
Principal Investigator: Rafael Marcos-Gragera
Collaborator researcher: Loreto Vilardell, Marta Solans, Gemma Osca.

Project: Efectes de l'estil de vida en la Qualitat de Vida del càncer de mama i el càncer colorectal. Estada post-doctoral al Cancer Council Victoria de Melbourne, Australia
Funding agency: Universitat de Girona (UdG), a través de la beca "Ajuts complementaris per a la mobilitat d'investigadors de la UdG (MOB2017)"
Duration: 15/02/2018-15/05/2018
Beneficiary: Bernat-Carles Serdà

Project: Grup d'Estudi de les Neoplàsies Hematològiques de Girona (2017-SGR-733)
Funding agency: Agència de Gestió d'Ajuts Universitaris I Recerca (AGAUR)
Duration: 2018-2020
Principal investigator: Rafael Marcos-Gragera i David Gallardo

Project: Implications of medical low dose radiation exposure (MEDIRAD)
Funding agency: European Commission - Horizon 2020, Call NFRP-2016-2017
Duration: 2014-2018
Coordinator:
Principal Investigator: Arantxa Eraso

Project: Modelo predictivo de supervivencia poblacional del cáncer de mama según el estadio, el subtipo molecular en el momento del diagnóstico y la adherencia al tratamiento (PI18/01836)
Funding agency: Instituto de Salud Carlos III
Duration: 2019-2021
Principal Investigator: Ramon Clèries
Collaborator researcher: Àngel Izquierdo

Project: Population based assessment of the impact on survival and recurrence of the conformity to evidence based guidelines and adherence to oral endocrine therapy in breast cancer patients. (587/U/2013)
Funding agency: MARATÓ TV3
Duration: 2016-2018
Principal Investigator: Josep Maria Borràs.
Collaborator researcher: Àngel Izquierdo

Project: Genetic and metabolomics screening towards the precisión medicine in cáncer prevention (GCTRA18022MORE)
Funding agency: Fundación AECC Investigación contra el cancer
Duration: 01.10.2018-30.09.2023
Coordinator: Victor Moreno
Principal Investigator: Victor Moreno Aguado
Collaborator researcher: Rafael Marcos-Gragera

Project: Estudio Poblacional Multinivel de las Desigualdades Socioeconómicas en la Distribución Geográfica de la Incidencia, la Mortalidad y la Supervivencia Neta del Cancer en España. (CP17/00206)

Funding agency: Instituto de Salud Carlos III
Duration: 2018-2020
Principal Investigator: Miguel Angel Luque Fernández
Collaborator researcher: Loreto Vilardell

Project: Análisis en base poblacional de la prevalencia de la mutación de BRAF en los pacientes diagnosticados de melanoma en Girona en el período 2009-2011 y su correlación con supervivencia y otros factores pronósticos (RCG-MEL-2017-01)
Funding agency: NOVARTIS
Duration: 2017-2018
Coordinator: Rafael Marcos-Gragera
Principal Investigator: Jordi Rubió

Project: Impacto poblacional de las nuevas pautas diagnósticas y terapéuticas en la supervivencia del cáncer de páncreas en la provincia de Girona y su asociación pronóstica con mutaciones somáticas de genes reparadores
Funding agency: Institut Catalá d'Oncologia
Duration: 2018-2019
Principal Investigator: Adelaida García Velasco
Collaborator researcher: Raquel Liñán, Walter Carbajal, MC Carmona

Project: Attendance to the Annual InterLymph Meeting. Chicago, US
Funding agency: Universitat de Girona, a través de la beca "Ajuts per a l'assistència a congressos internacionals de recerca"
Duration: 25-28th of June 2018
Beneficiary: Marta Solans

Project: A 3-months stay at the School of Public Health, Imperial College London, under thesupervision of Dr. Marta Blangiardo. Funding agency: CIBERESP , a través de la beca "Ayudas para estancias breves en el extranjero para el Doctorado con mención internacional"
Duration: from the 17th of September to the 17th of December 2018
Beneficiary: Marta Solans

Project: Implications of medical low dose radiation exposure (MEDIRAD)
Funding agency: Euratom research and training programme 2014-2018 under grant agreement No 755523. Amb una dotació de 10 M€ i la col·laboració de 33 centres europeus i les principals associacions mèdiques europees
Per a més informació: http://www.medirad-project.eu/project-description
Duration: 2014-2018
Principal Investigator: Arantxa Eraso

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
Student: Yislenz Yardeliz Narvaez
Director: Sonia del Barco
University: Universitat Autónoma de Barcelona
Faculty/School: Medicina i Cirurgía
Date: lectura el 17 de julio de 2018 con la calificación de Cum Laude

Title: Aetiological role and prognostic value of human papiloma virus in oropharyngeal cáncer patients
Student: Miren Taberna (OM ICO-Hospitalet)
Alternate secretary of the thesis: Jordi Rubió
University: Universitat de Barcelona
Faculty/School: Facultat de Medicina
Date: 2018

Membership of the collaborative research networks

The group takes part in numerous national and international collaborations:

La Red Española de Registros de Cáncer (REDECAN). http://redecan.org/es/index.cfm

Cancer Incidence in Five Continents (CI5) is the result of a long collaboration between the International Agency for Research on Cancer and the International Association of Cancer Registries. The series of monographs, published every five years, has become the reference source of data on the international incidence of cancer. http://ci5.iarc.fr/Default.aspx

International Incidence of Childhood Cancer (IICC) is a collaborative project of the International Agency for Research on Cancer (IARC) and the International Association of Cancer Registries (IACR). This project was co-sponsored by the Union for International Cancer Control (UICC). The objective is to disseminate the available data on the incidence of cancer in children around the world.

The European Network of Cancer Registries (ENCR), established within the framework of the Europe Against Cancer Programme of the European Commission, has been in operation since 1990. The ENCR 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.encr.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/

EUROpean **CA**ncer **RE**gistry based study on survival and care of cancer patients **(EUROCARE)** (member of the Steering Committee); http://www.eurocare.it/

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.it). 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.rarecarenet.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.lshtm.ac.uk/

EUPancreas. is a COST Action .-BM1204-. That aims to unite pancreas cancer research groups across Europe and provides an innovative and unique platform for collaborating and sharing information, ideas and experience.

Collaborations

Multicentre case-control studies:

MCC Spain. Population-based multicase-control study (MCC-SPAIN) to evaluate the influence of environmental factors and their interaction with genetic factors in common tumours or tumours with peculiar epidemiological characteristics in our country, for which the environmental factors involved were not well investigated. At present, the MCC-Spain study includes 17 CIBERSP research groups.

International Lymphoma Epidemiology Consortium (InterLymph). The InterLymph Consortium, or formally the International Consortium of Investigators Working on Non-Hodgkin's Lymphoma Epidemiologic Studies, is an open scientific forum for epidemiologic research in non-Hodgkin's lymphoma. Formed in 2001, the Consortium is a group of international investigators who have completed or have ongoing case-control studies and who discuss and undertake research projects that pool data across studies or otherwise undertake collaborative research. https://epi.grants.cancer.gov/

Haematology

Team envolved 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

López-Anglada L, Cueto-Felgueroso C, Rosiñol L, Oriol A, Teruel AI, López de la Guia A, Bengoechea E, Palomera L, de Arriba F, Hernandez JM, Granell M, Peñalver FJ, Garcia-Sanz R, Besalduch J, González Y, Martínez RB, Hernandez MT, Gutiérrez NC, Puerta P, Valeri A, Paiva B, Blade J, Mateos MV, San Miguel J, Lahuerta JJ, Martínez-López J; GEM (Grupo Español de MM)/PETHEMA (Programa para el Estudio de la Terapéutica en Hemopatías Malignas) Cooperative Study Group. Prognostic utility of serum free light chain ratios and heavy-light chain ratios in multiple myeloma in three PETHEMA/GEM phase III clinical trials. PLoS One. 2018 Sep 7;13(9)

Rodríguez-Otero P, Mateos MV, Martínez-López J, Martín-Calvo N, Hernández MT, Ocio EM, Rosiñol L, Martínez R, Teruel AI, Gutiérrez NC, Bargay J, Bengoechea E, González Y, de Oteyza JP, Gironella M, Encinas C, Martín J, Cabrera C, Palomera L, de Arriba F, Cedena MT, Paiva B, Puig N, Oriol A, Bladé J, Lahuerta JJ, San Miguel JF. Early myeloma-related death in elderly patients: development of a clinical prognostic score and evaluation of response sustainability role. Leukemia. 2018 Nov;32(11):2427-2434

Gatterman N, Coll R, Jacobasch L, Allameddine A, Amon A, DeBonnett L, Bruederle A, Jin J; KALLISTO study investigators. Effect of deferasirox + erythropoietin vs erythropoietin on erythroid response in Low/Int-1-risc MDS patients: Results of the phase II KALLISTO trial. European Journal of Heamatology. 2018 May 19, vol.101, issue 2, pp 208-215

Palomo L, Malinverni R, Cabezón M, Xicoy B, Arnan M, Coll R, Pomares H, García O, Fuster-Tormo F, Grau J, Feliu E, Solé F, Bushbeck M, Zamora L. DNA methylation profile in chronic myelomonocytic leukemia associates with distinct clinical, biological and genetic features. Epigenetics. 2018;13(1):8-18

Hernández-Boluda JC, Pereira A, Pastor-Galán I, Alvarez-Larrán A, Savchuk A, Puerta JM, Sánchez-Pina JM, Collado R, Díaz-González A, Angona A, Sagüés M, García-Gutiérrez V, Boqué C, Osorio S, Vallansot R, Palomera L, Mendizábal A, Casado LF, Pérez-Encinas M, Pérez-López R, Ferrer-Marín F, Sánchez-Guijo F, García C, Heras NL, López-Lorenzo JL, Cervantes F, Steegmann JL; Grupo Español de Leucemia Mieloide Crónica (GELMC). Feasibility of treatment discontinuation in chronic myeloid leukemia in clinical practice: results from a nationwide series of 236 patients. Blood Cancer J. 2018 Dec 2;8(10):91.

Guillem V, Calabuig M, Brunet S, Esteve J, Escoda L, Gallardo D, Ribera JM, Queipo de Llano MP, Arnan M, Pedro C, Amigo ML, Martí-Tutusaus JM, García-Guiñón A, Bargay J, Sampol A, Salamero O, Font L, Talarn C, Hoyos M, Díaz-Beyá M, Garrido A, Navarro B, Nomdédeu J, Sierra J, Tormo M. Bone marrow VEGFC expression is associated with multilineage dysplasia and several prognostic markers in adult acute myeloid leukemia, but not with survival. Leuk Lymphoma. 2018 Oct;59(10):2383-2393.

Solans M, Osca-Gelis G, Comas R, Roncero JM, Gallardo D, Marcos-Gragera R, Saez M. Challenges in assessing the real incidence of chronic lymphocytic leukemia: 16 years of epidemiological data from the province of Girona, Spain. Cancer Causes Control. 2018 Mar;29(3):379-382.

Santos N, Rodríguez-Romanos R, de la Cámara R, Brunet S, Nieto JB, Buño I, Martínez C, Jiménez-Velasco A, Vallejo C, González M, Solano C, Ferrá C, Sampol A, Pérez-Simón JA, López-Jiménez J, Díez JL, Gallardo D. PD-1 genotype of the donor is associated with acute graft-versus-host disease after HLA-identical sibling donor stem cell transplantation. Ann Hematol. 2018 Nov;97(11):2217-2224

Martínez-Laperche C, Buces E, Aguilera-Morillo MC, Picornell A, González-Rivera M, Lillo R, Santos N, Martín-Antonio B, Guillem V, Nieto JB, González M, de la Cámara R, Brunet S, Jiménez-Velasco A, Espigado I, Vallejo C, Sampol A, Bellón JM, Serrano D, Kwon M, Gayoso J, Balsalobre P, Urbano-Izpizua Á, Solano C, Gallardo D, Díez-Martín JL, Romo J, Buño I. A novel predictive approach for GVHD after allogeneic SCT based on clinical variables and cytokine gene polymorphisms. Blood Adv. 2018 Jul 24;2(14):1719-1737

Awards / Recognition

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

Project: Modulación de respuesta inmune en trasplante alogénico 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

Hepatobiliary & Pancreatic surgery and Oncology

KEYWORDS: **Oncology Surgery**

Group members

Principal Investigator
Antoni Codina Cazador

Medical researchers
Jordi Gironés
Pere Planellas
David Julia
Anna Pigem
Maite Albiol
Clara Codony
Ander Timoteo
Francesc Tuca
Jose Ignacio Rodríguez
Ernest Castro
Júlia Gil
Laia Falgueras
Marcel Pujadas
Núria Ortega
Ramón Farres
Núria Gómez
Santiago López-Ben
Margarida Casellas
Elisabet Garcia
Eva Artigau

Medical researchers
Lídia 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

Casellas M,López-Ben S,Falgueras L,Codina Barreras A. Comment on subvesical bile duct injury resolved by percutaneous drainage. Gastroenterol hepatol;41(8):530-531

Originals

Nari GA, López-Ben S, Mariot D, Albiol M, Gongora-Ortega J, Figueras J. Metástasis hepaticas sincrónicas de cáncer

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

Nari G, Mariot D, Gongora-Ortega J, López-Ban S, Albiol M, Figueras J. Resultados a corto y largo plazo de las rehepatectomias como parte del tratamiento multimodal de las metastasis de origen colorectal. Un studio biinstitucional. Cir Cir 2018;86(4):347-354

Klompmaker S, van Hilst J, Gerritsen SL, Adham M, Albiol MT, Bassi C, et al. Outcomes after distal pancreatectomy with celiac axis resection for pancreatic cancer:A Pan-European retrospective cohort study. Ann Surg Oncol 2018;25(5):1440-1447

Salvador-Roses H, López-Ben S, Casellas M, Planellas P, Gómez N, Farres R, et al. Oncological strategies for locally advanced rectal cancer with synchronous liver metastases, interval strategy versus rectum first strategy: a comparison of short-term outcomes. Clin Transl Oncol 2018;20(8):1018-1025

Salvador-Roses H, López-Ben S, Planellas P, Canals E, Casellas M, Farres R, et al. Treatment strategies for rectal cancer with synchronous liver metastases: surgical and oncological outcomes with propensity-score analysis. Clin Transl Oncol 2018;20(2):221-229

Pellino G, Biondo S, Codina Cazador A, Enríquez-Navascues JM, Espin E, Roig JV,et al. Pelvic exenterations for primary rectal cancer: Analysis from a 10-year national prospective database. World J Gastroenterol 2018;24(45):5144-5153

Claassen YHM, Vermeer NCA, Iversen LH, van Eycken E, Guren MG, Mroczkowski P,et al. Treatment and survival of rectal cancer patients over the age of 80 years: a EURECCA international comparison. Br J Cancer 2018;119(4):517-522

Latorre J, Moreno-Navarrete JM, Sabater M, Buxo M, Rodríguez-Hermosa JI, Gironès J, et al. Decreased TLR3 in hyperplastic adipose tissue, blood and inflamed adipocytes is related to metabolic inflammation. Cellular Physiology and Biochemistry 2018;51(3):1051-1068

De la Portilla F, Builes S, Garcia-Novoa A, Espin E, Kreisler E, Enríquez-Navascues JM,et al. Analysis of Quality Indicators for Colorectal Cancer Surgery in Units Accredited by the Spanish Association of Coloproctology. Cir Esp 2018;96(4): 226-233

Prospective evaluation of the International Study Group for Liver Surgery definition of post hepatectomy liver failure after liver resection: an international multicentre study.

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

Grants

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

Project: Estudio del browning del tejido adiposo en pacientes con disfunción tiroidea (BROWNING)

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

Project: Impacto de la afectación del ganglio delfiano en el carcinoma papilar de tiroides.
Duration: 2017-2019

Project: Impacto de la implementación de un protocol de ahorro transfusional en pacientes con cancer gastric sometidos a resección con intención curative (IPAT)
Coordinator: Dr. M. Pujadas

Project: Validación de la calidad de los datos del registro EURECCA de cancer esofagogástrico en España
Coordinator: Dr M Pujadas

Project: Uso del adhesivo de fibrina (Tisseal) para disminuir la degiscencia de la anastomosis esofagoyeyeunal en gastrectomías totales por cancer.estudio aleatorio y multicéntrico
Coordinato C.Codony

Project: Integration of trastuzumab, with or without pertuzumab,into perioperative chemotherapy of HER-2 positive stomach cancer: the INNOVATION-TRIAL.

Project: Estudio comparativo de la cirugía laparoscópica versus cirugía robótica en el tratamiento de la obesidad morbid-by pass gástrico
Coordinator: C.Codony

Project: LiverMetSurvey
Funding agency: ARCAD Fundation.
Coordinator: S. López-Ben

Project: IapLiverEur
Coordinator: S. López-Ben

Project: Impact of narrow margin and R1 resection on the outcome of patients with initially transplantable hepatocellular carcinoma
Funding agency: Hôpital Henri-Mondor Ap-Hp – Hospital de Bellvitge.
Coordinator: M. Casellas

Project: Estudio de expression génica de enzimas implicados en procesos de invasion y metastasis en carcinomas humanos
Principal Investigator: Dra Ferri. H Trueta

Project: The early detection of pancreatic cancer.Strategies for the discovery of new biomarkers for the diagnosis of pancreatic ductal adenocarcinoma
Coordinator: MT Albiol.
Principal Investigator: Dra Rosa Peracaula.

Project: Escisión Completa del Mesocolon vs Linfadenectomía Locoregional en el cancer de colon sigmoide (Estudio ECME)
Coordinator: Dr P. Planellas

Project: Estudi prospectiu de la relació entre la Microbiota I el grau de regression tumoral postneoadjuvància
Coordinator: Dr. D. Julia

Project: Model de predicció preoperatori de la qualitat del mesorrecte I de l' afectació del marge circumferencial en el cancer de recte de terç mig I inferior (Estudi PREMAR)
Coordinator: Dr. P. Planellas

Project: Estudi clinic prospectiu aleatoritzat creuat per evaluar la eficàcia de la neuromodulació sacra en el syndrome de resecció anterior (Estudi SANLARS)
Coordinator: Dra. J. Gil

Thesis

Title: Bypass gastric en el tratamiento de la obesidad morbid. Seguimiento a 5 años
Student: JI Rodríguez Hermosa
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

Post-doctoral Researchers
Elisabet Cuyàs

Pre-doctoral Researchers
Sara Verdura

Medical Researchers
Joaquim Bosch
Begoña Martín
Eugeni López

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

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

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

Metabolo-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

Priego N, Zhu L, Monteiro C, Mulders M, Wasilewski D, Bindeman W, et al. STAT3 labels a subpopulation of reactive astrocytes required for brain metastasis.NATURE MEDICINE 2018;24(7):1024-1035.

Cuyàs E, Fernández-Arroyo S, Verdura S, García RÁ, Stursa J, Werner L, et al. Metformin regulates global DNA methylation via mitochondrial one-carbon metabolism ONCOGENE2018; 37(7):963-970.

Cuyàs E, Verdura S, Llorach-Pares L, Fernández-Arroyo S, Luciano-Mateo F, Cabré N, et al. Metformin directly targets the H3K27me3 demethylase KDM6A/UTX.AGING CELL. 2018 May 8:e12772.

Corominas-Faja B, Cuyàs E, Lozano-Sánchez J, Cufí S, Verdura S, Fernández-Arroyo S, et al. Extra-virgin olive oil contains a metabolo-epigenetic inhibitor of cancer stem cells. CARCINOGENESIS. 2018 Apr 5;39(4):601-613.

Verdura S, Cuyàs E, Lozano-Sánchez J, Bastidas-Velez C, Llorach-Parés L, Fernández-Arroyo S, et al. An olive oil phenolic is a new chemotype of mutant isocitrate dehydrogenase 1 (IDH1) inhibitors. CARCINOGENESIS 2018 Nov 18 (Epub ahead of print) doi: 10.1093/carcin/bgy159.

Folguera-Blasco N, Cuyàs E, Menéndez JA, Alarcón T. Epigenetic regulation of cell fate reprogramming in aging and disease: A predictive computational model.PLoS COMPUTATIONAL BIOLOGY. 2018 Mar 15;14(3):e1006052.

Verdura S, Cuyàs E, Llorach-Parés L, Pérez-Sánchez A, Micol V, Nonell-Canals A, et al. Silibinin is a direct inhibitor of STAT3. FOOD AND CHEMICAL TOXICOLOGY. 2018 Jun;116(Pt B):161-172. doi: 10.1016/j.fct.2018.04.028. Epub 2018 Apr 14. PMID:29660364

Cuyàs E, Verdura S, Folguera-Blasco N, Bastidas-Velez C, Martín ÁG, Alarcón T, Menéndez JA. Mitostemness.CELL CYCLE. 2018;17(8):918-926.

Tramonti A, Paiardini A, Paone 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; 653:71-79.

Hernández-Aguilera A, Fernández-Arroyo S, Cabre N, Luciano-Mateo F, Baiges-Gaya G, Fibla M, et al. Plasma Energy-Balance Metabolites Discriminate Asymptomatic Patients with Peripheral Artery Disease. MEDIATORS OF INFLAMMATION 2018;2018:2760272.

Cuyàs E, Verdura S, Llorach-Parés L, Fernández-Arroyo S, Joven J, Martín-Castillo B, et al. Metformin Is a Direct SIRT1-Activating Compound: Computational Modeling and Experimental Validation. FRONTIERS IN ENDOCRINOLOGY 2018;9:657.

Hernández-Aguilera A, Nielsen SH, Bonache C, Fernández-Arroyo S, Martín-Paredero V, Fibla M, et al. Assessment of extracellular matrix-related biomarkers in patients with lower extremity artery disease. JOURNAL OF VASCULAR SURGERY 2018;68(4):1135-1142.e6.

Martín-Castillo B, Pernas S, Dorca J, Álvarez I, Martínez S, Pérez-Garcia JM, et al. A phase 2 trial of neoadjuvant metformin in combination with trastuzumab and chemotherapy in women with early HER2-positive breast cancer: the METTEN study. ONCOTARGET 2018;9(86):35687-35704.

Case Reports

Teixidor E, Sais E, Vásquez CA, Carbajal W, Hernández A, Sánchez G, et al. Immune-related adverse events and atypical radiological response with checkpoint inhibitor immunotherapy in an elderly patient with high PD-L1 expressing lung adenocarcinoma. ONCOTARGET 2018 31;9(68):33043-33049.

Editorials

Fibla M, Hernández-Aguilera A, Camps J, Menéndez JA, Joven J. Treating atherosclerosis: targeting risk factors should not be the only option. ANNALS OF TRANSLATIONAL MEDICINE 2018 Nov;6(Suppl 1):S34.

Grants

Project: a metabolomic framework for reducing and exploiting the multidimensional complexity of tumor heterogeneity: sub-phenotyping of cancer stem cell metabolomic states. Saf2016-80639
Funding agency: Ministerio de Economía y Competitividad, Agencia Estatal de Investigación. Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016
Duration: 2016-2019
Coordinator: Javier A. Menéndez
Principal Investigator: 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
Coordinators: Begoña Martín-Castillo/Javier A. Menéndez
Principal Investigator: Begoña Martín-Castillo

Project: Contratos Postdoctorales de Perfeccionamiento en Investigación en Salud "Sara Borrell". CD15/00033
Funding agency: Instituto de Salud Carlos III. Ministerio de Economía y Competitividad.
Duration: 2016-2018
Coordinator: Javier A. Menéndez
Principal Investigator: Elisabet Cuyàs

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
Coordinator: Jorge Joven
Principal Investigator: Jorge Joven

Project: Caracterización de un inhibitor 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
Coordinator: Joaquim Bosch-Barrera/Javier A. Menéndez
Principal Investigator: Joaquim Bosch-Barrera

Project: Restricció calòrica i càncer: Bases moleculars i noves estrategias terapèutiques
Funding agency: Fundació Oncolliga Girona
Duration: 2018
Coordinator: Joan Nrunet / Javier A. Menéndez
Principal Investigator: 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 VAÑÓ 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 (IISPV)/Rovira i Virgili University. Reus (Spain)

Prof. Vicente Micol. 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 Cutruzzolà. 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)

Internal medicine

ICS

Group members

Principal Investigator
Antoni Castro i Guardiola

Medical researchers
Antoni Castro
Iria Francisco
Joel Elias
Arola Armengou
Xavier Salgado
Gemma Alvarez

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 tocontinuing medicaleducation (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 the 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 the 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 America 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

Chai-Adisaksopha C, Iorio A, Crowther MA, de Miguel J, Salgado E, Zdraveska M, Fernández-Capitán C, Nieto JA, Barillari G, Bertoletti L, Monreal M; RIETE investigators. Vitamin K Antagonists After 6 Months of Low-Molecular-Weight Heparin in Cancer Patients with Venous Thromboembolism. Am J Med. 2018 Apr;131(4):430-437.

Anna Torrente-Nieto, María Gómez-Resa, Antoni Castro-Guardiola. Retinopatía de Purtscher y lupus eritematoso sistémico. Medicina Clinica 2018;151(12):504-505

Grau Amorós J, Formiga F, Aramburu Bodas O, Armengou Arxe A, Conde Martel A, Quesada Simón MA, Oropesa Juanes R, Satué Bartolomé JA, Dávila Ramos MF, Montero Pérez-Barquero M; Miembros del Registro RICA. Hemoconcentration as a prognostic factor after hospital discharge in acute heart failure in the RICA registry. Rev Clin Esp. 2019;219(1):1-9

Kuperman A, López-Reyes R, Bosco LJ, Lorenzo A, José B, Farge Bancel D, Alfonso M, Lumbierres M, Stemer G, Monreal Bosch M, Braester A; RIETE Investigators.Anemia and bleeding in patients receiving anticoagulant therapy for venous thromboembolism. J Thromb Thrombolysis. 2018;45(3):360-368.

Moustafa F, Giorgi Pierfranceschi M, Di Micco P, Bucherini E, Lorenzo A, Villalobos A, Nieto JA, Valero B, Sampériz ÁL, Monreal M; RIETE Investigators. Clinical outcomes during anticoagulant therapy in fragile patients with venous thromboembolism.Res Pract Thromb Haemost. 2017;1(2):172-179.

Weinberg I, Giri J, Kolluri R, Arcelus JI, Falgá C, Soler S, Braester A, Bascuñana J, Gutiérrez-Guisado J, Monreal M; RIETE Investigators. Characteristics, treatment patterns and outcomes of patients presenting with venous thromboembolic events after knee arthroscopy in the RIETE Registry. J Thromb Thrombolysis. 2018 Nov;46(4):551-558.

Lemaitre, S., Esquerda, G. M., Guardiola, A. C., Agustin, J. T., Sanda, N., & González-Candial, M. (2018). Colon cancer and IgG4-related disease with orbital inflammation and bilateral optic perineuritis. Medicine, 97(39), e12197.

Books

Grau A, Toran P, Zamora A, Quesada M, Carrion C, Vilert E, Castro A, Cerezo C, Vargas S, Galí B, Cordon F. Título: Evaluación dela empatía en estudiantes de Medicina. Ref. Revista/Libro: Educacion Medica 2017; 18:114-120.

Nephrology

ICS

Group members

Principal Investigator
Jordi Calabia

Post-Doc Researchers
Xoana Barros

Post graduate Researchers
Marcela Castillo
Marina Cufí
Nàdia Martín

Medical Researchers:
Isabel García
Pere Torguet
Cristina Noboa

Collaborators:
Cristina Martínez
Elisabeth Marcè

Nursing Staff:
Estibaliz Platero
Montse Jubany

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.

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
Sílvia Barrabés
Esther Llop

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

Technicians
Montserrat Ferrer

Overview

Research group of de 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

Llop E, E Guerrero P, Duran A, Barrabés S, Massaguer A, José Ferri M, Albiol-Quer M, de Llorens R, Peracaula R. "Glycoprotein biomarkers for the detection of pancreatic ductal adenocarcinoma". World J Gastroenterol. 2018 Jun 28;24(24):2537-2554. doi: 10.3748/wjg.v24.i24.2537. Review.

Grants

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

Project: "Grups de Recerca Consolidats" (Grupos de investigación consolidados)
Funding agency: DGR (dirección general de investigación de la Generalitat de Catalunya) N/r: 2014 SGR229. 7
Collaborators: Fundació Institut d'Investigació de Girona Dr. Josep Trueta.
Duration: 2014-2016
Coordinator: Dr. Rafael de Llorens - 18 Investigadors participants

Project: "Nueva metodología para la detección del cáncer de próstata a través de biomarcadores no invasivos. Estudio multicéntrico PSA glicosilado". investigación (bajo financiación del CDTI a la empresa).
Funding agency: Roche-Diagnostics SL.
Collaborators: Roche, Universitat de Girona
Duration: 2017 hasta 2019.
Coordinator: Dr. R. Peracaula and Dr. R. De Llorens - 9 Investigadors participants

Computer vision and robotics

University of Girona

Recognised as a consolidated research group

Group members

Principal investigator
Joan Martí

Established Researchers
Xavier Lladó
Arnau Oliver
Jordi Freixenet
Joan Martí
Robert Martí

Post-doctoral Researchers
Oliver Díaz
Sergi Valverde
Mariano Cabezas

Pre-doctoral Researchers
Alexandra Gonzàlez
Mostafa Salem
Albert Malet
Albert Clèrigues
Joel Vidal
Richa Agarwal
Kaisar Kushibar

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.

From 2014 to December 2018, 12 thesis has been defended and two of them still investigating in the group as postdoctoral researchers. In addition, 2 new doctoral students started working on their doctoral thesis. G3DAI has a strong capacity to attract new talent for training (PhD students) which is funded from different sources (European, National, and Catalan level), being the master MAIA the main source for obtaining candidates.

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.

Publications

Originals

E. García, Y. Diez, O. Díaz, X. Lladó, A. Gubern-Mérida, R. Martí, J. Martí, A. Oliver. "Multimodal breast parenchymal patterns correlation using a patient-specific biomechanical model". IEEE Trans. on Medical Imaging, vol. 37(3), pp. 712-723, 2018

R. Agarwal, O. Díaz, X. Lladó, A. Gubern-Merida, J. C. Vilanova, and R. Martí. "Lesion Segmentation in Automated 3D breast Ultrasound: Volumetric Analysis". Ultrasonic Imaging, 40(2), pp. 97-112, 2018

E. García, Y. Diez, O. Díaz, X. Lladó, R. Martí, J. Martí, A. Oliver. "A step-by-step review on patient-specific biomechanical finite element models for breast MRI to X-ray mammography registration". Medical Physics, 45(1), pp. e6-e31, 2018

M. Salem, M. Cabezas, S. Valverde, D. Pareto, A. Oliver, J. Salvi, À. Rovira, and X. Lladó."A supervised framework with intensity subtraction and deformation field features for the detection of new T2-w lesions in multiple sclerosis". NeuroImage: Clinical, vol. 17C, pp. 607-615, 2018

K. Kushibar, S. Valverde, S. González-Villà, J. Bernal, M. Cabezas, A. Oliver, X. Lladó. "Automated sub-cortical brain structure segmentation combining spatial and deep convolutional features". Medical Image Analysis, 48, pp-177-186, 2018

J. Bernal, K. Kushibar, D. Sileshi A. S. Valverde, A.Oliver, R. Marti, X. Lladó. "Deep convolutional neural networks for brain image analysis on magnetic resonance imaging: a review". Artificial Intelligence in Medicine, 2018

Yap, M.H.;Goyal, M.;Osman, F.;Martí, R.;Denton, E.;Juette, A.;Zwiggelaar, R. “Breast ultrasound lesions recognition: end-to-end deep learning approaches”J. of Medical Imaging, 6(1), 011007 (2018)

M.H. Yap, G. Pons, J. Martí, S. Ganau, M. Sentís, R. Zwiggelaar, A.K. Davison and R. Martí “Automated Breast Ultrasound Lesions Detection using Convolutional Neural Networks”. IEEE Journal of Biomedical and Health Informatics, 22(4), pp. 1218-1226, 2018

Grants

Project: PrEdictiVe mOdeLs for mUlTIplesclerOsis using braiN magnetic resonance imaging biomarkers - EVOLUTION
Funding agency: Ministerio de Economia y Competitividad
Duration: 2018-2021
Coordinator: Universitat de Girona
Principal investigator: Dr. Xavier Lladó

Project: Automatic brian Structures Segmentation As potential imaging Biomarkers – WASSABI
Funding agency: Ministerio de Economia y Competitividad.
Duration: 2016-2019
Coordinator: Universitat de Girona
Principal investigator: Dr. Arnau Oliver / Dr. Xavier Lladó

Project: Smart Image Analysis for Screening Challenges in Breast Cancer – SMARTER
Funding agency: Ministerio de Economia y Competitividad
Duration: 2016-2019
Coordinator: Universitat de Girona
Principal investigator: Dr. Robert Martí

Project: Erasmus + Joint Master Degree in Medical Imaging and Applications – MAIA
Funding agency: ComissióEuropea
Duration: 2016-2020
Coordinator: Universitat de Girona
Principal investigator: Dr. Robert Martí

Project: Computacion de la Imagen para la mejora de la Radiomica del cancer De Mama
Funding agency: Ministerio de Economia y Competitividad
Duration: 2019-2021
Coordinator: Universitat de Girona
Principal investigator: Dr. Robert Martí

Membership of collaborative research networks

In terms of research community, since, 1993, three members of G3DAI are members of the AERFAI (Spanish Association of Recognition of Forms and Analysis of Images), a non-profit association to encourage in Spain the development of subjects of Pattern Recognition, Image Processing and Analysis, Computer Vision, Remote Sensing and Speech Recognition. One of the objectives of the association is to contribute to the establishment of stronger ties between the international and Spanish research community and to disseminate relevant information on related topics among all its members.

Moreover, Joan Martí is member of the Scientific Committee of the International Workshop on Breast Imaging, formerly called the International Workshop on Digital Mammography (IWDM). The IWDM meetings bring together a diverse group of researchers, clinicians and representatives of industry, who are jointly committed to developing technology for early detection and subsequent patient management of breast cancer. IWDM, is designed as a platform to present the latest technological developments and clinical experiences of novel breast imaging technologies.

Finally, we have been invited to be part of the network “VISIOCat”, a Computer Vision R&D network lead by the UniversitatPolitènica de Catalunya. This network has been built in order to apply for the AGAUR grant call “Ajuts per a xarxesd’R+D+I per a dur a termeprogrames de valorització i transferènciadelsresultats de la Recerca”. Therefore, it will just become a reality if they accept the project proposal.

Thesis

Title: Motion Annotation in complex video datasets
Student: Sr. Mahmood Muhammad Habib
Director: Dr. Arnau Oliver Malagelada
University: Universitat de Girona
Faculty/School: Escola Politècnica Superior
Date: 16-11-2018

Title: Glandular Tissue Pattern Analysis Through Multimodal MRI-Mammography Registration
Student: Sr. Eloy Garcia Marcos
Director: Dr. Joan Martí Bonmatí / Dr. Arnau Oliver Malagelada
University: Universitat de Girona
Faculty/School: Escola Politècnica Superior
Date: 05-04-2018

Collaborations

At an international level, through the existing international masters at G3DAI, the group coordinates on a daily basis with Fabrice Meriaudeau, Alain Lalande, from the University of Bourgogne (France) and Francesco Tortorella, from Cassino University (Italy). This has also encouraged the mobility of lectures between these institutions.

Through the FP7 ASSURE project we started the collaboration with 9 other international partners, including Radboud University Medical Center (The Netherlands), Mevis Medical Solutions AG (Germany), Matakina UK Limited (UK), Biomediq A/S (Denmark), Medical Imaging Research Institute GmbH (Germany), Fraunhofer MEVIS (Germany), University Of Manchester (UK), Institute Jules Bordet (Belgium) and University Medical Center Utrecht (The Netherlands). A selected number of these partners, together with new ones, belong to the new consortium built to apply for the forthcoming H2020 ITN call (January 2019).

The group is alsocollaborating in thefield of breast image analysis with the Manchester Metropolitan University (Dr. Moi Hoon Yap) and Aberystwyth 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**

Group members

Principal Investigator
Beatriz López

Established Researchers
Bianca Innocenti
Miquel Rustullet
Beatriz López
Daniel Macaya
Carles Pous

Post-doctoral Researchers
Ferran Torrent
Joaquim Massana

Pre-doctoral Researchers
Natàlia Mordvanyuk

Technicians
Oscar Raya
Pau Olives
Gerard Cáceres

Support
Roberto Petite
Sara Murlà
Pablo Gay

Overview

The main research activity of the healthcare research line of the control engineering and intelligent systems (eXiT) research group is focused 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

TheMedicine and Healthcare research line of eXiT focuses onfour main groups: (i) Disease prognosis, (ii) clinical decision support systems, (iii) mHealth and (iv) biosignal processing. These 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 recommendationsystem for dyslipidaemia, 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 (NOAH) project for vital signs monitoring in premature babies.

Publications

Originals

Ferran Torrent-Fontbona, Adaptive basal insulin recommender system based on Kalman filter for type I diabetes. Expert Systems With Applications. 2018, (101): 1-7

Beatriz López, Ferran Torrent-Fontbona, Ramon Viñas, José Manuel Fernández-Real. Single Nucleotide Polymorphism relevance learning with Random Forests for Type 2 diabetes risk prediction. Artificial Intelligence in Medicine. 2018; (85): 43-49.

Books

Koch, F., Koster, A., Riaño, D., Montagna, S., Schumacher, M., Teije, A., Guttmann, C., Reichert, M., Bichindaritz, I., Herrero, P., Lenz, R., López, B., Marling, C., Martín, C., Montani, S., Wiratunga, N. (Eds.) Artificial Intelligence in Health. First International Workshop, AIH 2018, Stockholm, Sweden, July 13-14 (2018), CEUR vol 2142, ISSN 163-0073. http://ceur-ws.org/Vol-2142

Grants

Project: RTC-2017-6701-1
Funding agency: MINECO
Duration: 1/12/2018 a 31/05/2022
Coordinator: MJN Neuroserveis-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 Martín,Oxford Brooks University
Principal investigator: Beatriz López, UdG

Project: TECNIOCandidate 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, Jan 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

Project: Impulse to Scientific Competitiveness of eXiT research group
Funding agency: UdG - MPCUdG2016/075
Duration: 3 years, starting in 2016
Coordinator: Joaquim Meléndez, Joan Colomer
Principal investigator: Joaquim Meléndez, Joan Colomer

Project: Predicción de la afluencia de urgencias y la hospitalización que se deriva.
Funding agency: Fundación Hospital de Palamós.
Duration: 2015 to date
Principal investigator: Beatriz López

Project: Sponsorship Contract for the HTE tool
Funding agency: SAnofi
Duration: 1 year, starting in 2018

Project: Improving quality of life for people with epilepsy using SERAS (Seizure Risk Assessment device) and personal data.
Funding agency: Fundación Barcelona Mobile World Capital, in collaboration with MJN Neuroserveis, S.L., Clínica Corachán S.A., Rebert Espai S.L.
Duration: Dec 2017-Sept 2018
Principal investigator: Beatriz López

Project: Analysis and testing of artificial intelligence models that allow anticipating epilepsy crises with minutes in advance using clinical data from real patients.
Funding agency: MJN Neuroserveis, S.L.
Duration: Nov 15th., 2017 – Jan. 15th, 2018
Principal investigator: Beatriz López, Alberto Zamora

Awards / Recognition

Title: EUREKA Innovation of tomorrow
Institution: Universitat de Girona
Awardee/s: 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 Martín and team from Oxford Brookes (PEPPER project)

- Doctor Xavier Castells from the Laboratori de Medicina Translacional i Ciències de la Decisió, TRANSLAB (ADHD project)

- Doctor Alberto Zamora, TRANSLAB (Dyslipidemia project)

Health and healthcare

University of Girona

Recognised as a consolidated research group - 2017 SGR 1767

Group members

Principal Investigator
Dolors Juvinyà

Established Researchers
Carme Bertran
David Ballester
Maria Rosa Suñer
Concepció Fuentes
Bernat Carles Serdà

Post-doctoral Researchers
Marta Vilanova
Cristina Bosch
Anna Bonmatí
Josep Olivet
Maria del Carmen Malagon

Pre-doctoral Researchers
Almerinda Domingo

Technicians
Cristina Vilarò
Laura López

Overview

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

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

The group is part to 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.
- Health care and quality of life of people in critical conditions, with neurological problems, with mental health problems or with cancer.

The Elderly and carers
Themain 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 assessthe 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; Onaga, H; Morales, A; Olivet, J; Brugada, R. Proyecto Girona Territori Cardioprotegit: evaluación

del funcionamiento de los desfibriladores públicos. Revista Española de Cardiologia. 2018;71(2):79-85.

Juvinyà Canal, D. Posant valor a la promoció de la salut. Annals de Medicina. 2018;10(3):142-144.

Suñer Soler R, Grau-Martín A, Terceno M, Silva Y, Davalos A, Sánchez JM, Font Mayolas S, Gras E, Rodrigo J, Kazimierczak M, Malagón C, Serena J. Biological and Psychological Factors Associated With Smoking Abstinence Six Years Post-Stroke. Nicotine & Tobacco Research. 2018;20(10):1182-1188.

Reig G G, Figa V J, Vila V A, Juvinyà C D. How do Catalan Nurses See the Continuity of Care?. Biomed J Sci &Tech Res 2(2)- 2018. BJSTR.MS.ID.000743. DOI: 10.26717/BJSTR. 2018.02.000743

Raurell Torredà M, Romero Collado A, Bonmatí Tomas A, Olivet Pujol J, Baltasa Ar, Solà M, MateuFigueras G. Objective Structured Clinical Examination: an assessment method for academic-practice partnerships. Clinical Simulation In Nursing. 2018;19:8-16.

Burjalés Martí MD, Rigol Cuadra MA, Anguiano Carrasco MA, Martorell Poveda A, Jiménez Herrera MF, Fuentes Pumarola C, Rodríguez Martín D, Galbany-Estragués P, Ballester Ferrando, D. Scale for the study of nursing students' perception of intimate partner violence: Adaptation and validation. Nurse Education Today. 2018;162:233-241.

Castellanos M, Suñer R, Fernández Real JM, Sánchez Navarro JM. 2,5-dimethylfuran as a validated biomarker of smoking status. Nicotine & Tobacco Research. 2018;21(6):828-834.

Bosch Farré C, Garre Olmo J, Bonmatí-Tomàs A, Malagón-Aguilera MC, Gelabert-Vilella S, Fuentes-Pumarola C, Juvinyà Canal D. Prevalence and related factors of Active and Healthy Ageing in Europe according to two models: Results from the Survey of Health, Ageing and Retirement in Europe (SHARE). PLoS One. 2018;13(10) e0206353.

Martínez-Alarcon L, Rios A, Santanes Borredá E, Agras MC, Cañadas de la Fuente G, Hurtado Pardos B, Bárcena Calvo C, Perelló Campaner C, Arribas Marín J, García Mayor S, Soto Ruiz N, Navalón JC, Bertran Noguer C, Peña-Amaro MP, Jiménez Herrera MF, Blanco-Sánchez R, Calvo Sánchez MD, Prado Laguna MC, González-García A, Martínez Rodríguez A, Bas P, Gabandé F, Muños-Alvarez A, Peyró Gregori L, Hernández Martínez H, Saez A, Sánchez A, López Navas A, Ramírez P, Parrilla, P. Nursing Students faced with organ donation and transplantation: a Spanish multicenter study. Nurse Education Today. 2018.

Escobar Castellanos B, Juvinyà Canal D, Cid Henríquez P. Sense of coherence and lifestyle in young university adults: review. Nursing & Care Open Access Journal. 2018;5(3):187-189.

Juvinyà Canal D, Bertran Noguer C, Suñer Soler R. Alfabetización para la salud, más que información = Health literacy, more than information. Gaceta Sanitaria. 2018;32:8-10.

Vilaplana Morillo E, Marco Segarra E, Baltasar Bagué A, Pons Roca M, Costa Bosch M, Carmen Malagón-Aguilera. Síndrome de la bolsa de orina purpura: planificación de cuidados. Gerokomos: revista de la Sociedad Española de Enfermeria Geriátrica y Gerontológica. 2018;29(4):178-180.

Olivet Vila J, Fuentes Pumarola C, Carreras Frau V, Ballester Ferrando D, Olivet Pujol J. Retention of Cardiopulmonary Resuscitation Quality and compliance of International Guidelines in Spanish nursing students trained with high-fidelity manikin: prospective study. Resuscitation. 2018;130(1):e77-e77.

Mateu-Capell M, Arnau A, Juvinyà D, Montesinos J, Fernández R. Sound isolation and music on the comfort of mechanically ventilated critical patients. Nurs Crit Care. 2018 Dec 27. doi: 10.1111/nicc.12407

Olivet Pujol J, Olivet Vila J, Bertran Noguer C, Juvinyà Canal D. Assessment of training in the use of automatic external defibrillator in a public defibrillation program. Resuscitation. 2018;130(1):e58-e59.

Clinical guidelines

Cassetti V, López-Ruiz V, Paredes-Carbonell JJ, por el Grupo de Trabajo del Proyecto AdaptA GPS. Participación comunitaria: mejorando la salud y el bienestar y reduciendo desigualdades en salud. Zaragoza: Ministerio de Sanidad, Consumo y Bienestar Social – Instituto Aragonés de Ciencias de la Salud; 2018. 65 p. (Guía adaptada de la Guía NICE NG44: «Community engagement: improving health and wellbeing and reducing health inequalities»)

Books

López Ortiz S, Malagón Aguilera MC. Beneficios de la participación en actividades lúdicas y de ocio en personas mayores: revisión sistemática. Cuidados, aspectos psicológicos y actividad física en relación con la salud. Spain. 2018.

Juvinyà-Canal D, Batlle P, Bonmatí Tomàs A, Vilanova M, editors. Shanghai 2016 in the mediterranean countries: New challenges in health promotion. Xangai 2016 als països mediterranis: Nous reptes per a la promoció de la Salut. Shanghái 2016 en los países mediterráneos. promotion. Girona: Documenta Universitaria; 2018. 216 p.

Grants

Project: Salut i apoderament de les persones
Funding agency: UdG-University of Girona
Duration: 01/01/2016 -31/12/2018 Start of prolongation: 01/01/2019 Final prolongation: 31/05/2019
Coordinator: Dolors Juvinyà Canal, Carme Bertran Noguer.
Principal Investigator: Dolors Juvinyà Canal, Carme Bertran Noguer

Project: Promoció de la Salut, Gènere, Envelliment i Qualitat de Vida
Funding agency: UdG-University of Girona
Duration: 2016-2018
Coordinator: Concepció Fuentes Pumarola
Principal Investigator: Concepció Fuentes Pumarola

Project: El sentido de la coherencia en cuidadores de pacientes con demencia puede reducir los costes asistenciales
Funding agency: Instituto de Salud Carlos III
Duration: 2018-2020
Coordinator: Oriol Turró
Principal Investigator: Oriol Turró Garriga

Project: Prospectiva transfronteriza sanitaria y social / Prospective transfrontalière sanitaire et sociale. ProspecTsaso
Funding agency: European Commission
Duration: 01/09/2016-31/08/2019
Start of prolongation: 01/09/2019
Final prolongation: 31/08/2020
Coordinator: Yves Gilbert
Principal Investigator: Anna Planas

Membership of collaborative research networks (National & International)

Membership of TheGlobal Working Group on Salutogenesis (GWG-SAL). International Union on Health Promotion and Education.

Membership of International Health Promotion Hospitals and Health Center.

Thesis

Title: Avaluació de la promoció de salut als serveis de salut mental de la Regió
Sanitària de Girona.
Student: Sandra Gelabert Vilella
Director: Carme Bertran Noguer - Dolors Juvinyà Canal
University: University of Girona
Faculty/School: Nursing faculty
Date: 2018

Title: Influència de l'adherència terapèutica i el suport social en la qualitat de vida de les persones amb diàlisi peritoneal
Student: Miquel Sitjar Sunyer
Director: Concepció Fuentes Pumarola
University: University of Girona
Faculty/School: Nursing faculty
Date: 2018

Title: Descripción y análisis del emplazamiento de las lesiones propias de la diabetes en las Retinografiascentrales de pacientes con diabetes mellitus tipo 2 y de las drusas en una muestra mixta de pacientes
Student: Eduardo Munuera Gifre
Director: Gabriel Coll de Tuero. Dolors Juvinyà Canal
University: University of Girona
Faculty/School: Nursing faculty
Date: 2018

Awards / Recognition

Title: Premi Carolina Melèndez Fernàndez 2018
Institution: Academia de Ciències Mèdiques i de la Salut de Catalunya i Balears
Awardee/s: Dolors Juvinyà Canal

Collaborations

Grup de recerca sobre Envelliment, Discapacitat i Salut. Institut d'Investigació Biomèdica de Girona.

Health psychology
University of Girona

Recognised as a consolidated research group – 2017 SGR 98
KEYWORDS: **Health Psychology. Risk behavior.**

Group members

Principal Investigator
Montserrat Planes

Established Researchers
Sílvia Font-Mayolas
Armand Grau
Maria Aymerich
Josefina Patiño
Mònica Cunill
Olga Hernández

Post-doctoral Researchers
Natàlia Cebriàn
Laura Fàbregas
Anna Salamó
Anna Belén Gómez
Francesc Prat

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: - Recognized as a Consolidated Research Group by the Catalan Autonomous Government in the 2014-2016 call. Call No.: 2014 SGR 322. - Recognized as a Consolidated Research Group by the Catalan Autonomous Government in the 2009-2013 call. Call No.: 2009 SGR 618.

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 STD 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

Prat F, Gras ME, Planes M, Font-Mayolas S., &Sullman MJM (2018). Self-reported distraction.related collisions: Mundane distractions are reported more often than technology-related secondary tasks. Transportation Research Part F: Traffic Psychology and Behaviour, 59, 124-134.

Sullman MJM, Przepiorka AM, Prat F &Blachnio AP (2018). The role of beliefs in the use of hands-free and handheld mobile phones while driving. Journal of Transport &Health . doi:10.1016/j.jth.2018.04.001

Hernández-Serrano O, Gras ME & Font-Mayolas S. (2018). Concurrent and simultaneous use of cannabis and tobacco and its relationship with academic achievement amongst university students. Behavioral Sciences, 8(31). doi: 10.3390/bs8030031.

Hernández-Serrano O, Gras ME & Font-Mayolas S. (2018). Consumo de drogas y participación deportiva en estudiantes universitarios de ciencias de la salud y el deporte. Salud y Drogas/Health and Addictions, 18(1), 61-70.

De Tejada M, Sidera F, Gras ME, & Mera D. (2018). Diseño de una escala de evaluación de autoestima: EVA 2015. UniversitasPsychologica, 17(4). doi: 10.11144/Javeriana.upsy17-4.

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 Mayolas
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 depresióny 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

Established Researchers
Joaquim Armengol
Josep Vehí
Remei Calm
Ningsu Luo

Post-doctoral Researcher
Iván Contreras
Charrise Ramkisoonn
Inés Ferrer

Pre-doctoral Researchers
Arthur Bertachi
Silvia Oviedo
Lyvia Biaggi
Aleix Beneyto
Adrià Parcerisas

Support
Anna C. Comas

Overview

The MICELab group is an interdisciplinary research group of the Institute of Informatics and Applications of the University of Girona involved in national and international research and technology transfer projects. The team is composed of experienced researchers from the control engineering field with expertise in systems and control theory, modelling and control of biomedical systems, computer science, robust and predictive control, machine learning and decision support systems.

The group has extensive experience in the field of diabetes and is one of the leading groups in the development of the artificial pancreas worldwide. Since January 1st, 2018 the group led by Prof. Vehi belongs to the prestigious centre of excellence in diabetes CIBERDEM: "Centro de Investigación Biomédica en Red de Diabetes y Enfermedades Metabólicas Asociadas", being one of the few engineering groups of the centre.

MICELab vision is to be the leading provider of innovative technological solutions for diabetes and other chronic diseases management. Our mission is to empower patients to take control of their disease and improve their quality of life and well-being by means of the incorporation of biomedical knowledge and clinical evidence in m-health systems and the intensive use of wearable devices.

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 pancreas and related technologies, such as continuous glucose monitoring and automatic patient monitoring usingartificial intelligence techniques. The development and validation of newartificial pancreas systems to improve the efficiency and safety of food intake and exercise is proposed as a general objective. The complexityof the glycemic effect of intakes and exercise suggests the need for more degreesof freedom than current systems based solely on the measurement of glucoseand insulin infusion. The use of additional signals to glucose, for example fromphysical activity monitors, to measure or estimate such disturbances andfacilitate the automatic monitoring of the patient with the characterization ofglycemic patterns and risk situations, as well as the incorporation of newcounterregulatory actuation signals for greater safety in the face ofhypoglycaemia, especially in the case of exercise, can be fundamental inovercoming the limitations of current systems in a second generation ofartificial pancreas. This gives rise, in terms of control engineering, to newmultivariable architectures of the artificial pancreas.

Artificial Intelligence (AI) in diabetes and chronic diseases: The implementation of AI techniques such as automatic learning algorithms and big data, whichare currently revolutionizing the health field, allows to design systems that are automatically capable ofdetect, diagnose or predict effects of clinical relevance in diabetes. These skills allow to discover a knowledge that otherwise remains hidden both to professionals and to the use of other traditional computing techniques. The AI provides tools to raise the capacity of current analysis and process the huge amounts of data that are being generated by the latest technologies integrated in diabetes management. This has allowed us to provide evidence-based support for the design of treatments and the identification of potential care elements.

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 people, give technological support to m-health applications for diabetes and / or multi-chronicity, the detection of risk behaviors, the control of the evolution of patients, etc.

Modeling and simulation of intra-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. In recent years the group has developed 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

Biagi, L., Bertachi, A., Giménez, M., Conget, I., Bondia, J., Martín-Fernández, J. A., Vehí, J. Individual categorisation of glucose profiles using compositional data analysis. Stat. Methods Med. Res.First Published October 31, 2018; https://doi.org/10.1177/0962280218808819

Beneyto A, Bertachi A, Bondia J, Vehi J. A New Blood Glucose Control Scheme for Unannounced Exercise in Type 1 Diabetic Subjects. IEEE Trans. Control Syst. Technol. Early access 2018 DOI:10.1109/TCST.2018.2878205

Beneyto, A, Vehi, J. Postprandial fuzzy adaptive strategy for a hybrid proportional derivative controller for the artificial pancreas Med Biol Eng Comput. 2018; 56(11):1973-1986.

Rosales N, De Battista H, Vehí J, Garelli F. Open-loop glucose control: Automatic IOB-based super-bolus feature for commercial insulin pumps. Comput. Methods Programs Biomed. 2018;159:145-158

Bertachi A, Beneyto A, Ramkissoon CM, Vehí J. Assessment of Mitigation Methods to Reduce the Risk of Hypoglycemia for Announced Exercise in a Uni-hormonal Artificial Pancreas. Diabetes Technol. Ther. 2018;20(4):285-295.

Ramkissoon CM, Herrero P, Bondia J, Vehi J. Unannounced Meals in the Artificial Pancreas: Detection Using Continuous Glucose Monitoring. Sensors 2018:18(3):884

Quirós C, Bertachi A, Giménez M, Biagi L, ViLaplana J, Viñals J, et al. Blood glucose monitoring during aerobic and anaerobic physical exercise using a new artificial pancreas system. Endocrinología, Diabetes y Nutrición 2018;65(6):342-347.

Biagi L, Bertachi A, Quirós C, Giménez M, Conget I, Bondia J et al. Accuracy of Continuous Glucose Monitoring before, during, and after Aerobic and Anaerobic Exercise in Patients with Type 1 Diabetes Mellitus. Biosensors 2018;8(1):22.

Quirós C, Bertachi A, Giménez M, Biagi L, Viaplana J, Viñals C et al. Control de la glucemia durante el ejercicio físico aeróbico y anaeróbico mediante un nuevo sistema de páncreas artificial. Endocrinología, Diabetes y Nutrición. 2018; 65 (6), 342-347.

Bertachi, CM Ramkissoon, J Bondia, J Vehí Automated blood glucose control in type 1 diabetes: A review of progress and challenges Endocrinologia, diabetes y nutricion. 2018;65 (3), 172-181

Contreras I, Vehi J. Artificial Intelligence for Diabetes Management and Decision Support: Literature Review. J Med Internet Res. 2018 May; 20(5): e10775

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"

Protein engineering

University of Girona

Recognised as a consolidated research group - 2017SGR238
KEYWORDS: **Cancer, Proteoinophaties**

Group members

Principal Investigators
Antoni Benito
Marc Ribó

Established Researchers
Antonio Benito
Marc Ribó
Maria Vilanova
Jessica Castro

Post-doctoral Researchers
Marlon Bravo
Alex Romero

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 apoptinand 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 selectivelyisotopically 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.

Publications

Originals

A. Vert, J Castro, M Ribó, M Vilanova, A Benito. Transcriptional profiling of NCI/ADR-RES cells unveils a complex network of signalingpathwaysand molecular mechanisms of drugresistance. Onco Targets and Therapy. 2018, 11, 221-237.

Gordo V, Aparicio D, Pérez-Luque R, Benito A, Vilanova M, Usón et al. Structural insights into subunits assembly and the oxyester splicing mechanism of Neq pol split intein. Cell Chemical Biology 2018, 25(7):871-879.

Castro J, Manrique E, Bravo M, Vilanova M, Benito A, Fontrodona X. et al. A family of manganese complexes containing heterocyclic-based ligands with cytotoxic properties Journal of inorganic biochemistry (2018) 182:124-132

Roura-Padrosa D, Castro J, Romero-Casañas A, Ribó M, Vilanova M, Benito A.Construction of Highly Stable Cytotoxic Nuclear-Directed Ribonucleases.Molecules. 2018 Dec 11;23(12). pii: E3273. doi: 10.3390/molecules23123273.

Reviews

Castro J; Ribo M; Benito A; Vilanova M. Apoptin, a Versatile Protein with Selective Antitumor Activity. Current medicinal chemistry (2018) 25(30): 3540 - 3559

Grants

Project: Development of anantitumor protein delivery system into ovarian cancer cells using The subcellular vault
Fundingagency: Asociación Española contra el Cáncer
Duration:10/01/2018-09/30/2020
Coordinator: Antoni Benito
Principal investigator: 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 investigator: Jessica Castro and Antoni Benito

Project: Acquisition of a flow cytometer instrument
Funding agency: University of Girona
Duration:01/01/2018-11/30/2018
Coordinator: Jessica Castro and Anna Massaguer
Principal investigator: Jessica Castro and Anna Massaguer

Collaborations

Dr. D. V. Laurents and Dra. Marta Bruix 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 Herrerías, of the Departamento de Química-Física, at the University of Granada

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

Statistics and data analysis (GR-EADC)

University of Girona

Recognised as a consolidated research group - 2017 SGR 656
KEYWORDS: **proportions, percentages, multivariate analysis, compositions**

Group members

Principal Investigator
Josep Antoni Martín-Fernández

Established Researchers
Carles Barceló
Pepus Daunis Estadella
M. Glòria Mateu
Vera Pawlowsky
Santiago Thió Fernández

Pre-doctoral Researchers
Marc Comas
Iván Galván

Technician
Álvaro Franquet

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), food industry (food composition: fat, sugar, etc), chemistry (chemical composition), ecology (abundance of different species), paleontology (foraminifera taxa), agriculture (nutrient balance ionomics), sociology (time-use surveys), environmental sciences (soil contamination), and genetics (genotype frequency). This type of data appears in most applications, and the interest 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 environmental, the medicine and the biological sciences.

This hot topic of research has nowadays a broad impact in these fields. However, it took a long time to find a solution to the problem of how to perform a proper statistical analysis of this type of data, i.e. to solve the problem of the spurious correlation, as it was named by Karl Pearson back in 1897, or the closure problem as called by Felix Chayes in the 1960's. Because standard statistical techniques loose their applicability and classical interpretation when applied to compositional data, new techniques were needed. No theoretically sound solution was proposed until the 1980's, when John Aitchison set forth a consistent theory based on log-ratios. Later developments have shown that the mathematical foundation of a proper statistical analysis for this type of data is based on the definition of a specific geometry on the simplex (the sample space of compositional data). Based on it, is possible to rigorously develop any statistical analysis (cluster analysis, discriminant analysis, factor analysis, regression models, to mention just a few).

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 of the current group research lines is to obtain results by using compositional methods and to transfer them to involved entities, that is, to promote its social and economic impact. This spread of results 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.

Statistics, econometrics and health (GRECS)

University of Girona and CIBERESP

Team involved in "Centro de Investigación Biomèdica en Red en Epidemiología y Salud Pública" (CIBEResp)
Recognised as a consolidated research group- 2017SGR656

Group members

Principal Investigator
Marc Saez

Established Researchers
Maria Antònia Barceló
Carme Saurina
Germà Coenders
Laura Vall.llosera
Lluís Coromina
Gemma Renart
Diego Varga
Marc Saez

Pre-doctoral Researchers
Marta Solans
Álvaro Franquet

Support
Anna Mota

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
    - 1.5 -. Gender violence
2. Real World Data
3. Statistical methods
    - 3.1. Mixed models
    - 3.2. Spatial statistics
    - 3.3.- Spatial misalignment
    - 3.4.- Bayesian methods
4. Health econometrics
    - 4.1 -. Effects of the economic crisis on health
    - 4.2 -. Evaluation of public policies
    - 4.3 -. Evaluation of health technologies

Publications

Originals

Arroyo-Borrrell E, Cabrera-León A, Renart G, Saurina C, Serra-Saurina L, Daponte A, Saez M. Did psychotropic drug consumption increase during the 2008 financial crisis? A cross-sectional population-based study in Spain. BMJ Open 2018; 9:e021440

Rodríguez-Poncelas A, Barceló MA, Saez M, Coll-De-Tuero G. Duration and dosing of proton pump inhibitors associated with high incidence of chronic kidney disease in population-based cohort PlosOne 2018; 13(10):e0204231.

Solans M, Coenders G, Marcos-Gragera R, Castelló A, Gràcia-Lavedan E, Benavente Y, Moreno V, Pérez-Gómez B, Amiano

P, Fernández-Villa T, Guevara M, Gómez-Acebo I, Fernández-Tardón G, Vanaclocha-Espi M, Chirlaque Md, Capelo R, Barrios R, Aragonés N, Molinuevo A, Vitelli-Storelli F, Castilla J, Dierssen-Sotos T, Castaño-Vinyals G, Kogevinas M, Pollán M, Saez M. Compositional analysis of dietary patterns . Statistical Methods in Medical Research 2018.

Marta Solans, Adela Castelló, Yolanda Benavente, Rafael Marcos-Gragera, Pilar Amiano, Esther Gracia-Lavedan, Laura Costas, Claudia Robles, Eva González-Barca, Esmeralda de la Banda, Esther Alonso, Marta Aymerich, Elias Campo, Trinidad Dierssen-Sotos, Guillermo Fernández-Tardón, Rocio Olmedo-Requena, Eva Gimeno, Gemma Castaño-Vinyals, Nuria Aragonés, Manolis Kogevinas, Silvia de Sanjose, Marina Pollán, Delphine Casabonne. Adherence to the Western, Prudent, and Mediterranean dietary patterns and chronic lymphocytic leukemia in the MCC-Spain study. Haematologica 2018; 103(11):1881-1888.

Fuentes-Raspall R, Solans M, Auñón-Sanz C, Saez M, Marcos-Gragera R. Incidence and survival of primary central nervous system lymphoma (PCNSL): results from the girona cancer registry (1994-2013). Clinical and Translational Oncology 2018; 20(12):1628-1630.

Rodríguez-Poncelas A, Coll-De-Tuero G, Blanch J, Comas-Cufí M, Saez M, Barceló MA. Prediabetes is associated with glomerular hyperfiltration in a european mediterranean cohort study. Journal of Nephrology 2018; 31(5):743-749.

Marcos-Gragera R, Solans M, Galceran J, Fernández-Delgado R, Fernández-Teijeiro A, Mateos A, Quirós-Garcia J, Fuster-Camarena N, De Castro V, Sánchez MJ, Franch P, Chirlaque MD, Ardanaz E, Martos C, Salmerón D, Peris-Bonet R; Spanish Childhood Cancer Epidemiology Working Group. Childhood and adolescent lymphoma in Spain: incidence and survival trends over 20 years. Clin Transl Oncol. 2018; 20(10):1289-1301.

Saez M, Barceló MA, Farrerons M, López-Casasnovas G. The association between exposure to environmental factors and the occurrence of attention-deficit/hyperactivity disorder (ADHD). A population-based retrospective cohort study. Environmental Research 2018; 166:205-214.

Povedano M, Saez M, Martínez-Matos JA, Barceló MA. Spatial assessment of the association between long-term exposure to environmental factors and the occurrence of amyotrophic lateral sclerosis (ALS) in Catalonia, Spain. A population-based nested case-control study. Neuroepidemiology 2018; 51(1-2):33-49.

Boldo E, Castelló A, Aragonés N, Amiano P, Pérez-Gómez B, Castaño-Vinyals G, Martín V, Guevara M, Urtiaga C, Dierssen-Sotos T, Fernández-Tardón G, Moreno V, Solans M, Peiró R, Capelo R, Gómez-Acebo I, Castilla J, José Molina A, Castells X, Altzibar JM, Lope V, Kogevinas M, Romieu I, Pollán. Meat intake, methods and degrees of cooking and breast cancer risk in the MCC-Spain study. Maturitas 2018; 110: 62-70.

Solans M, Osca-Gelis G, Comas R, Roncero JM, Gallardo D, Marcos-Gragera R, Saez M. Challenges in assessing the real incidence of chronic lymphocytic leukemia: 17 years of epidemiological data from the province of Girona, Spain. Cancer Causes & Control 2018; 29(3):379-383.

García-Pérez J, Lope V, Pérez-Gómez B, Molina AJ, Tardón A, Díaz-Santos MA, Ardanaz E, O'Callaghan-Gordo C, Altzibar JM, Gómez-Acebo I, Moreno V, Peiró R, Marcos-Gragera R, Kogevinas M, Aragonés N, López-Abente G, Pollán M. Risk of breast cancer and residential proximity to industrial installations: New findings from a multicase-control study (MCC-Spain). Environmental Pollution 2018; 237:559-568.

Saez M (Guest Editor). Special issue 'Environmental risk and cancer epidemiology'. International Journal of Environmental Research and Public Health 2018-2019 (https://www.mdpi.com/journal/ijerph/special_issues/Environmental_Risk_and_Cancer_Epidemiology).

Benito H, Pérez-Cabaní M, Saurina C. Impacto de la innovación en la docencia y el aprendizaje. En Carrasco S, de Corral I (coordinadores). Docencia Universitaria e Innovación. Evolución y Retos a través de los CIDUI. ISBN: 978-84-17219-68-0 Depósito legal: B. 16.107-2018. Barcelona: Ediciones Octaedro 2018, pp. 153.175.

Grants

Members of GRECS, main researcher

European
Project: WASABY European Commission DG SANTE PP-2-5-2016
Coordinator: Paolo Baili, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy. GRECS
Duration: 2018-2020
Collaborator: Marc Saez and Rafael Marcos-Gragera

Project: Project H2020 European Union Funding for Research & Innovation (topic SFS-39-2017: Sustainable Food Security – Resilient and resource efficient value) 'Science and technology in childhood obesity policy (STOP)'
Coordinator: Franco Sassi, Imperial College of Science Technology and Medicine (London, UK). GRECS
Duration: 2018-2021

Principal investigator: Marc Saez

Autonomus
Project: Convocatoria Doctorats Industrial 2018 (DI 2018). Primera Resolució parcial definitiva de la convocatòria de doctorats industrials (DI) 2018 del president de la Comissions Executives d'Ajuts Universitaris i de Recerca, 10 de setembre de 2018
Coordinator: Maria Antònia Barceló (GRECS, UdG) y Pere Plaja (Fundació Salut Empordà). Doctorando: Álvaro Franquet Bonet
Duration: 2018-2020

Members of GRECS, researcher

National
Project: Grupos Coordinados Traslacionales AECC 2018. 'Genetic and metabolomics screening towards the precision medicine in cancer prevention'
Duration: 1/10/2018-20/9/2023.
Principal investigator: Víctor Moreno (Institut d'Investigació Biomèdica de Bellvitge (IDIBELL) y CIBERESP)

Project: Project 15/00966, 'Patrones asistenciales y factores asociados al envejecimiento de la población en la supervivencia de la leucemia linfática aguda'.
Funding agency: Fondo de Investigación Sanitaria (FIS), Instituto de Salud Carlos II
Duration: 2016 -2018
Principal investigator: Rafael Marcos Gragera, GRECS, UdG

Research projects – public financed, non competitive calls
Project: Programa d'impuls a la recerca per als grups de recerca amb més projecció competitiva de la Universitat de Girona (GdRCompetUdG2017).
Principal investigator: Marc Saez - 2018

Project: Ajut del programa foment de la Transferència TRANSFERUdG2016 de la Univesrsitat de Girona (TRANSFER2016/24)
Principal investigator: Marc Saez
Duration: September 2017 – April 2019

Project: Ajut per a la millora de la productivitat científica dels grups de recerca de la Universitat de Girona 2016-2018 (MPCUdG2016/69).
Duration: 2016 -2018
Principal investigator: Marc Saez

Project: Ajut del subprograma 3 del programa de la innovació docent i de la millora de la qualitat de la docència de la Universitat de Girona (MIQD UdG 61/17).
Duration: July 2017-July 2018.
Principal investigator: Maria Antònia Barceló, Gemma Renart

Project: Avaluació d'un nou dispositiu de socorrisme aquàtic: Tests d'usuari. Informe Técnico para Dipsalut.
Duration: March 2018.
Principal investigator: Marc Saez (GRECS, UdG

Project: Construcción de mapas de cáncer y enfermedades congénitas en la CAPV durante los periodos 2007-2011 y 2012-2016. Informe Técnico. Contrato de prestación de servicios entre Fundación Universitat de Girona: Innovació i Formació y la Asociación Instituto Biodonostia.
Duration: September 2017-May 2018.
Principal investigator: Marc Saez (GRECS, UdG), Maria Antònia Barceló (GRECS, UdG)

Membership of collaborative research networks (national & international)

Consolidated Research Groups, Tematic Networks
1. Centro de Investigación Biomédica en Red en Epidemiología y Salud Pública (CIBER CB06/02/1002). GRECS main researcher: Marc Saez (2007-…).

2. Acciones de dinamización 'Redes de Excelencia', Convocatoria 2016, Red Temática BIA2016-81749-REDT, Programa Estatal de Investigación Científica y Técnica de Excelencia, Subprograma Estatal de Generación del Conocimiento, Ministerio de Economía y Competitividad, Gobierno de España 'Microclima, habitalidad y salud urbana (HABITA)', Investigador Principal: F. Javier Neila González (Universidad Politécnica de Madrid), Investigador principal del GRECS: Marc Saez (2017-2018). 20000 €.

3. Grup de Recerca Consolidat 'Compositional and Spatial Data Analysis (COSDA)' 2017 SGR 656, Investigador principal: Josep Antoni Martín Fernández (UdG), Investigador principal del GRECS: Marc Saez (2018-…)

4. Grup d'Experts en el Canvi Climàtic a Catalunya (GECCC). DURSI, Generalitat de Catalunya; Consell Asesor per al Desenvolupament Sostenible de Catalunya (CADS) del Departament de presidència, Generalitat de Catalunya; Institut d'Estudis Catalans; Fundació Catalana per a la Recerca i Innovació. Main coordinator: Josep Enric Llebot, UAB and CADS, GRECS main researcher: Marc Saez (2006-…).

Awards / Recognition

Title: Premio a la mejor comunicación oral de la xxv reunión de la societat catalana d'hipertensió arterial quin és el punt de tall òptim en l'automesura de la pressió arterial? Estudi vampahica
Awardee/s: Pascual-Montes M, Pallozzi J, García-Batanero M, Dalfó A, Coll-de-Tuero G, Barceló Ma, Saez M, Roca C, Senan R. Bayó J
Other: 31ª Jornades Catalanes sobre Hipertensió Arterial y 25 Reunió de la Societat Catalana d'Hipertensió Arterial i Risc Vascular, December 11-12, 2018, National.

OUTREACH ACTIVITIES

Conferences, courses and seminars

Conferences organized by IDIBGI during 2018:

- 24th April 2018
Sexe o dessecació? – 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.
Glória Garrabou, PhD – Constanza Morén, PhD.

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

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

- 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 la neurorehabilitació en esclerosi múltiple, directrius bàsiques de funcionament i d'accessibilitat.

- 7th February 2018
INFODAY H2020. Salut, canvi demogràfic i benestar.
Presentació de les convocatòries 2018-2020, juntament amb la Universitat de Girona (UdG), amb la participació del Sr. Juan Riese (NCP-SC1, ISCIII).

- 15th February 2018
Chronic inflamation and prevalent Metabolic Disease 2nd edition.
Hospital Universitari de Girona Dr. Josep Trueta. IDIBGI, SEEN, ICS, Societat Catalana d'Endocrinologia, Ciberobn, Associació Catalana de Diabetis.

- 9th April 2018
Jornada Cirurgia Hepàtica por laparoscòpia.
Cirugías en directo, Ponente Dr. Santiago López Ben, Hospital Dr. Josep Trueta de Girona.

- 24th April 2018
Jornada científica ICO: Reunió multidisciplinar de tractament dels tumors de pell 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 May 2018
Activate Science: Seminaris
1- Cripr/Cas9 Genome Editing: Get started with CRISPR and boost your CRISPR efficiency.
2- Purificació de proteïnes

- 10th May 2018
Jornada patología Biliar: Jornada d'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 i Unitat de cirurgia Hepatobiliopancreàtica

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

- 5th June 2018
Presentació de les Accions Individuals Marie Skolodowska-Curie Actions 2018.
Juntament amb l'Institut Català d'Oncologia (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)

- 15th June 2018
Jornada científica Ginecologia Onco.
Diagnòstic histològic i molecular del càncer d'endometri. Optimització de la radioteràpia adjuvant en càncer d'endometri. Present i futur del tractament del càncer de cèrvix metastàsic. Unitat Funcional de Ginecologia Oncològica: resultats de 2 anys funcionament. Abordatge multidisciplinar del càncer d'ovari. Resultats de supervivència de càncer ginecològic a la Província de Girona. Dra. Elena Álvarez, Dr. Jordi Barretina, Dr. Eduard Sala, Dra. M. Pilar Barretina. Amb la col·laboració de: Roche, Angelini

- 2nd July 2018
Diagnòstic de les lesions obstètriques de l'esfínter anal al segle XXI. Un enfocament pràctic.

- 2th September 2018
Jornada sobre oportunitats de col·laboració entre grups recerca de l'IDIBGI, la UdG 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, UdG, IAS, Gereralitat de Catalunya, Departament de Salut. Dr. Lluís Ramió Torrentà (IP Grup d'investigació en Neurodegeneratives i Neuroinflamació, Cap de Servei de Neurologia de l'Hospital Universitari Dr. Josep Trueta i IAS)

- 5th Octubre 2018
III Jornada Catalana d'actualització en infectologia pediàtrica.
IDIBGI, GSK, BIOMÉRIUEX, BIOFIRE

- 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 mostres 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 diagnòstic, l'evolució i la cura de les malalties estudiades.

- 8th November 2018
Ponència "European funding opportunities: News, tips and practical aspects".
A càrrec de la Sra. Marina Martínez de l'Oficina SOST-CDTI, en el marc del Retreat conjunt IDIBGI-IISPV-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 curs emergències obstètriques.
Dra. Vila. Facultat de Medicina Universitat de Girona.

- 2th October 2018
III Actualització en Infectología Pediàtrica.
Dr. Boja Guarch. Hotel Ultònia . Girona.

- 26th October 2018
Manejo de la hemorràgia obstètrica massiva.
Dr. Joan Meléndez. Hospital Universitari de Girona Dr. Josep Trueta.

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

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

Visits

29th January 2019
2nd course of "Administrative Santary Documentation" students.

26th April 2018
Garbí Institute

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

21st November 2018
Sils Institute
Aproximately 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 oportunity 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 cardiac en esportistes.

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

The IDBGI 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 folowing 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:** 30people/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 (rivaroxaban)"

RECABA. Maria Emilce Trucco. "Estudio observacional prospectivo de crioablación de las venas pulmonares en pacientes con Fibrilación Auricular (FA) en España. (Estudio post-autorización con dispositivo médico con marcado CE)"

LNC001. Maria Emilce Trucco. "Evaluación de seguridad y comportamiento eléctrico de las sondas INVICTA equipadas con conector DF4"

GENERAL SURGERY

Observational studies

BXU011443. Santiago López-Ben. "Evaluación del resultado de HEMOPATCH: registro de observación prospectivo"

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

VASCULAR SURGERY

Observational studies

LOCOMOTIVE. Omar Andres Navarro. "LOCOMOTIVE ALL COMERS"

DIGESTIVE

Observational studies

PBF-677-3. Xavier Aldeguer i Mante. "Ensayo clínico multicéntrico de fase IIa (prueba de concepto) aleatorizado, con doble enmascaramiento y controlado con placebo para evaluar la seguridad y eficacia del tratamiento oral con PBF-677 en pacientes con colitis ulcerosa de leve a moderada"

Clinical trials

PRV-6527-CD2a. Xavier Aldeguer 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 - PRovention INvestigation in Crohn's DiseasE (PRINCE)"

I6T-MC-AMBG. Xavier Aldeguer i Mante. "A Phase 3, Multicenter, Randomized, Double-Blind, Parallel-Arm, Placebo-Controlled Maintenance Study of Mirikizumab in Patients with Moderately to Severely Active Ulcerative Colitis"

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

CECUM. 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 ulcerosa moderada: ensayo clínico multicéntrico y aleatorizado"

I6T-MC-AMAN. Xavier Aldeguer i Mante. "A phase 3, multicenter, randomized, double-blind, parallel, placebo-controlled induction study of mirikizumab in conventional-failed and biologic-failed patients with moderately to severely active ulcerative colitis"

CNTO1275CRD3007. Xavier Aldeguer 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 Aldeguer 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"

RCP01-3204. Xavier Aldeguer i Mante. "A Phase 3, Multicenter, Open-Label Extension Study of Oral Ozanimod for Moderately to Severely Active Crohn's Disease"

RPC01-3203. Xavier Aldeguer 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 de mantenimiento y de extensión a largo plazo, para evaluar la eficacia y la 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 la 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 la 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 Aldeguer i Mante. "Efecto del dipropionato de beclometasona (DPB) en los niveles de calprotectina fecal en pacientes con colitis ulcerosa clínicamente inactiva con riesgo de recaída. Estudio BeCalCU"

ENDOCRINOLOGY

Observational Studies

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

TED-R13-002. 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 III, abierto, aleatorizado y multicéntrico, para comparar la inmunogenicidad, eficacia y seguridad de la inyección de insulina glargina de Gan & Lee Pharmaceuticals con Lantus® (inyección de insulina glargina) en sujetos adultos con diabetes mellitus tipo 1"

CLINICAL HEMATOLOGY

Observational studies

FMS-ITK-2016-01. Miquel Sagües 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 relmc-nova"

1203-GITCG. Raquel Guardeño Sanchez. "INtegratioN of trastuzumab, with or without pertuzumab, into periOperatiVe chemotherApy of HER-2 posiTIve stOmach caNcer: the INNOVATION-TRIAL"

CEL-MIE-2018-01. Yolanda González Montes. "Estudio retrospectivo sobre el tratamiento en primera línea del Mieloma Múltiple, en pacientes de nuevo diagnóstico no candidatos a trasplante de 2012 a 2016 según práctica clínica habitual en España"

GS-ES-312-4397. Josep Maria Roncero Vidal. "Evaluación retrospectiva no intervencional posterior a la autorización del uso de idelalisib en pacientes con leucemia linfocítica crónica (LLC) en recaída/refractaria (R/R) en España"

Clinical trials

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

GO39942. Nicolas Kelleher. "A phase III, multicenter, randomized, double-blind, placebo-controlled trial comparing the efficacy and safety of polatuzumab vedotin in combination with rituximab and chp (R-CHP) versus rituximab and chop (R-CHOP) in previously untreated patients with diffuse large b-cell lymphoma"

54767414MMY3012. Yolanda González Montes. "Ensayo fase 3, randomizado, multicentrico, para comparar daratumumab intravensos frente a daratumumab subcutaneo en sujetos con mieloma multiple en recaida o refractario"

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

GEM2017FIT. Yolanda González Montes. "Tratamiento de inducción con bortezomib, melfalán y prednisona (VMP) seguido de lenalidomida y dexametasona (RD) frente a carfilzomib, lenalidomida y dexametasona (KRD) más/menos 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 3S®"

Annexes

INTENSIVE MEDICINE

Clinical trials

POL7080-011. Jose Maria Sirvent. “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 Pseudomonasaeruginosa”.

NEFROLOGY

Clinical trials

204837. Jordi Calabia Martínez. “Estudio de fase 3, aleatorizado, doble ciego, con control activo, de grupos paralelos y multicéntrico en participantes en hemodiálisis con anemia causada por nefropatía crónica para evaluar la eficacia, seguridad y farmacocinética de daprodustat administrado tres veces por semana, en comparación con eritropoyetina humana recombinante, después de haber recibido eritropoyetina humana recombinante o sus análogos”

NEUROLOGY

Observational studies

SAN-ALE-2015-03. Lluis Ramio Torrenta. Observational study to evaluate changes in quality of life in patients with relapsing-remitting multiple sclerosis treated with alemtuzumab (Lemtrada)

Clinical trials

CL02-ORY-2001MS. Lluis Ramió Torrenta. “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. Lluis Ramió Torrenta. “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. Joaquin Serena Leal. “CONVINCE (COlchicine for preventioN of Vascular Inflammation in Non-CardioEmbolic stroke)”

CL2-44819-004. Joaquin Serena Leal. “Ensayo aleatorizado de eficacia y seguridad con S44819 oral tras un accidente isquémico cerebral reciente. Estudio de fase II internacional, multicéntrico, aleatorizado, doble ciego y controlado frente a placebo. Estudio RESTORE BRAIN”

WN29922. 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 los sub-estudios: “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 BIIB093 (Glibenclamide) for Severe Cerebral Edema following Large Hemispheric”

FMD-TRI-2017-01. Joaquín Serena Leal. “Estudio multicéntrico, aleatorizado, abierto, de grupos paralelos para estudiar la seguridad y no inferioridad de una nueva estrategia terapéutica (polipíldora cardiovascular de Fuster-CNIC-Ferrer) versus tratamiento habitual en la reducción del cLDL y la presión arterial en pacientes con enfermedad cardiovascular aterotrombótica: ensayo APOLO”.

ANAVEX2-73-PD-001. Berta Solano Vila. “A Phase II, Double-Blind, Randomized, Placebo-Controlled Study to Evaluate the Safety, Tolerability, and Efficacy of ANAVEX2-73 for Cognitive Impairment in Parkinson’s Disease with Dementia Patients”

MN39158. Lluís Ramió Torrenta. A single arm, open label multicentre extension study to evaluate the effectiveness and safety of ocrelizumb in patients with multiple sclerosis previously enrolled in a F. Hoffman-La Roche sponsored ocrelizumab phase IIIb/IV clinical trial. promotor F. Hoffmann-la Roche”

DROSPAS-1. Lluís Ramió Torrenta. “A phase III, multi-centre, randomised, double-blind, placebo-controlled, parallel-group clinical trial to investigate the efficacy and safety of BX-1 for the symptomatic relief of spasticity in patients with multiple sclerosis”, with the protocol code DroSpas-1”

COMB157G2399. Lluís Ramió Torrenta. “Estudio de extensión abierto, de brazo único y multicéntrico, para evaluar la seguridad, tolerabilidad y eficacia a largo plazo de ofatumumab, en pacientes con esclerosis múltiple que cursa con brotes”.

CL2-RTCCAR-001. Joaquín Serena Leal. TAFIa. Evaluación de la cinética plasmática del inhibidor activo de la fibrinolisis activable por trombina (TAFIa) en pacientes con ictus isquémico en fase aguda: Estudio prospectivo de biomarcadores, multicéntrico, abierto, no aleatorizado. Fase II

D5134C00003. Joaquín Serena Leal. A Randomised, Double-Blind, Placebo-Controlled, International, Multicentre, Phase III Study to Investigate the Efficacy and Safety of Ticagrelor and ASA Compared with ASA in the Prevention of Stroke and Death in Patients with Acute Ischaemic Stroke or Transient Ischaemic Attack[THALES - Acute STroke or Transient IscHaemic Attack Treated with TicAgreLor and ASA for PrEvention of Stroke and Death

2015-004505-16. Joaquín Serena Leal. CONVINCE. CONVINCE (COlchicine for preventioN of Vascular inflammation in Non-CardioEmbolic Stroke – a randomised clinical trial of low dose colchicine for secondary prevention after stroke)

2013-001185-41. Joaquín Serena Leal. Platelet-Oriented Inhibition in New TIA and minor ischemic stroke (POINT) Trial

2013-003444-24. Joaquín Serena Leal. Randomized, double-blind, Evaluation in secondary Stroke Prevention comparing the EfficaCy and safety of the oral Thrombin inhibitor dabigatran etexilate (110 mg or 150 mg, oral b.i.d.) versus acetylsalicylic acid (100 mg oral q.d.) in patients with Embolic Stroke of Undetermined Source (RESPECT ESUS)

OFTALMOLOGY

Clinical trials

SHP640-301. Jordi Tarrus Bozal. “A Phase 3, Multi-center, Randomized, Double-Masked 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 Conjunctivis”

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

I.2016.010. Teresa Torrent. “Ensayo clínico de fase I/II, multicéntrico, aleatorizado, abierto, de dos brazos de tratamiento, para evaluar la eficacia y la seguridad del colirio de sangre de cordón umbilical en el tratamiento de la queratitis neurotrófica”.

MEDICAL ONCOLOGY

Observational study

Health-EpiGEICAM. Joan Brunet Vidal. “Estilos de vida saludables y calidad de vida en mujeres con cáncer de mama”

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

EXPRESSION VI. Pilar Barretina Ginesta. “Caroline meets HANNA – Holistic Analisys of Longterm-survival with Ovarian Cancer”

RING GECP 17/03. Joaquim Bosch Barrera. “Investigación de la mutación t790m en sangre mediante diferentes metodologías”

TESEO. Rut Porta Balanya. “Registry of thrombosis and neoplasia of seom/estudio epidemiológico observacional descriptivo sobre la trombosis asociada al cáncer: registro de trombosis y neoplasias de la SEOM”

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 ovoc (evaluación objetiva del cáncer de ovario)”

Clinical studies

MITO-23. Pilar Barretina Ginesta. “Estudio en fase III aleatorizado sobre trabectedina (ET 743) frente a la quimioterapia elegida por el clínico en pacientes con cáncer ovárico, peritoneal primario o tubárico con fenotipo de mutación en BRCA o BRCAness”

3475-671. Joaquim Bosch Barrera. “Ensayo de fase iii, aleatorizado y doble ciego de quimioterapia doble con platino +/- pembrolizumab (MK-3475) como tratamiento neoadyuvante/adyuvante en participantes con cáncer de pulmón no microcítico (CPNM) en estadio IIB O IIIA resecable (KEYNOTE-671)”

R2810-ONC-1676/GOG-3016. Pilar Barretina Ginesta. “An open-label, randomized, phase 3 clinical trial of regn2810 versus therapy of investigator's choice chemotherapy in recurrent or metastatic platinumrefractory cervical carcinoma”

EMR100070-005. Joaquim Bosch Barrera. “A Phase III, open-label, multicenter trial of avelumab (MSB0010718C) versus platinum based doublet as a first line treatment of recurrent or Stage IV PD L1+ non–small-cell lung cancer”

B9991001. Nuria Sala. “A phase 3, Multicenter, Multinational, Randomized, Open-Label, Parallel-ARM study of avelumab* (MSB0010718C) plus best supportive care versus best

Annexes

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".

GEINO 1602. Sonia del Barco Berron. "Phase Ib/II Multicentric Study Combining Glasdegib with temozolomide in patients with newly diagnosed Glioblastoma, safety and preliminary efficacy for the combination"

D0816C00020. Pilar Barretina Ginesta. "OPINION - A Phase IIIb, Single-arm, Open-label Multicentre StudyClinical Trial of Olaparib Maintenance Monotherapy in Platinum Sensitive Relapsed non- Germline BRCA Mutated Ovarian Cancer Patients who are in Complete or Partial Response Following Platinum based Chemotherapy"

GECP 17/05. Joaquim Bosch Barrera. "Ensayo clínico fase ii, no randomizado en primera línea de atezolizumab en combinación con carboplatino y pemetrexed en pacientes con cáncer de pulmón no microcítico estadio iv con metástasis cerebrales asintomáticas"

GECP 17/02. 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 FOLFIRI + panitumumab en el tratamiento en segunda línea de pacientes con cáncer colorrectal 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 FOLFIRI + bevacizumab (Secuencia 1) frente a FOLFOX + bevacizumab seguido por FOLFIRI + panitumumab (Secuencia 2) en pacientes con cáncer colorrectal metastásico no resecable, RAS nativo, tumor primario en lado izquierdo, no tratado previamente: CR-SEQUENCE"

GECP 17/04. 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-764). 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 múltiple 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 (estadio IVB), 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 cáncer"

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 Berron. "A Phase IB Dose Finding Study of the Safety of 2Hydroxyoleic 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 eosinófilica 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"

PRIMARY CASE

Observational trials

CHI-COR-2017. Jose Paredes Saura. "Estudio observacional transversal para Caracterizar La EPOC grAVe en España"

RHEUMATOLOGIY

Observational studies

GP15-501. Patricia Reyner. "Estudio observacional de cohortes multicéntrico 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 VTE: Reduced vs Full Dose of Apixaban : API-CAT STUDY for APIxaban Cancer Associated Thrombosis

OTHERS

Clinical trials

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

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

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

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