

Scientific and Economic Report 2020

All rights reserved.

This publication may not be reproduced or transmitted, in whole or in part, by any means, electronic or mechanical, photocopying, recording, or otherwise reproducing information without written permission.

The contents of this book
is the exclusive responsibility of the authors.

The Publisher declines all responsibility for it.

Printed in Spain



C/ Rivera de Gata, 14
10840. Moraleja (Cáceres)
Tlf.: 927 51 53 66
www.hachepublicidad.com

TABLE OF CONTENTS

- ▶ DIRECTOR'S FOREWORD
- ▶ THE INSTITUTE
- ▶ ORGANIZATIONAL STRUCTURE
 - ▶ Collegiate bodies of government and management
 - ▶ Advisory bodies
- ▶ RESOURCES
- ▶ ECONOMIC DATA
- ▶ RESEARCH ACTIVITY
 - ▶ AREAS AND RESEARCH GROUPS
 - ▶ Area 1: Hematology and clinical experimental oncology
Clinical Genetics
 - ▶ Area 2: Cardiovascular and Respiratory Diseases
 - ▶ Area 3: Digestive, Endocrine and Metabolic Diseases
 - ▶ Area 4: Neurosciences and sensory organs
 - ▶ Area 5: Epidemiology, Public Health and Health Services
 - ▶ Area 6: Immunology, Microbiology and Infectious Diseases
 - ▶ Area 7: Biotechnology. Health Applications in Biosciences
- ▶ GROUPED RESEARCH ACTIVITY
 - ▶ IBiPO. The International Biohealth Project Office
 - ▶ Innovation and Transfer
 - ▶ Training Committee

- 
- ▶ Quality Committee
 - ▶ Communication

▶ CENTRAL CORE FACILITIES AND INFRASTRUCTURES

- ▶ Clinical Trials Central Core Facility
- ▶ Pathogen Free Animal House Facility (SPF, Specific Pathogen Free)
- ▶ Genomics Central Core Facility
- ▶ Pathology Central Core Facility
- ▶ Clean Room Central Core Facility
- ▶ Biobank Central Core Facility
- ▶ Bioinformatics and Biomedical Computational Biology Central Core Facility
- ▶ Proteomics Central Core Facility
- ▶ Tissue Culture Central Core Facility
- ▶ Animal Experimentation
- ▶ Scientific Instrumentation
- ▶ Microscopy
- ▶ Image Analysis
- ▶ Statistical Support
- ▶ Molecular Biology
- ▶ Biotechnology Central Core Facility (SEAF)
- ▶ Psychological Instrumentation Central Core Facility
- ▶ Research Support Workshop
- ▶ Radioprotection and Waste Central Core Facility

▶ GLOSSARY OF ABBREVIATIONS



DIRECTOR'S FOREWORD

It is a pleasure for the Biomedical Research Institute of Murcia (IMIB) board of directors to present the 2020 Scientific and Economic Report. This year has been marked by the requirement to face COVID-19 pandemic, a challenge of unprecedented magnitude. The IMIB has responded in an exemplary manner in the fight against COVID-19, quickly shifting a significant part of the activity of the platforms and research lines. Researchers, management, and technical personnel have been highly involved in this assignment.

During 2020, the IMIB has consolidated the qualitative leap in scientific quality achieved in 2019. Regarding the indicators of scientific quality, it is worth noting that the impact factor has increased by almost 600 points (> 3400), furthermore, the number of publications in the first quartile, the leadership of the IMIB in scientific production and the Institute's Crown Index have increased by 35%, with exponential growth (3,187).

In 2020, innovation and transfer have been dynamized with activities, mentioned in this report, fulfilling the commitment of the IMIB Strategic Research Plan for the period 2019-2023. These activities include training and dissemination activities, some of them in collaboration with The Institute for the Promotion of the Region of Murcia (INFO), the integration of the IMIB to the Alliance of innovation and industrialization of the Mediterranean axis (AIISEM), the proposal to join the European EATRIS network, or the achievement of several patents and a spin-off.

It has also been relevant that in 2020 the first internal call of the Institute was launched to support local researchers, and aimed at clinical and Primary Care investigators, both doctors and nurses, through intensification contracts (up to 14), in the IMIB's priority line of promoting research in Primary Care and Nursing.

In 2020, the IMIB has taken a qualitative leap in terms of dissemination to Society, doubling its presence in the regional, national and international media (more than 400 items). This excellent activity has been promoted by the Communication Committee, Orion Comunicaci3n



PABLO RAMÍREZ ROMERO
SCIENTIFIC DIRECTOR OF THE IMIB

and the communication offices of the Ministry of Health, the University of Murcia (UMU) and the Virgen de la Arrixaca Clinical University Hospital (HCUVA), because of such activity we have been rewarded with the Regional Award for Scientific Dissemination of the Scientific Dissemination Association Scientific Region of Murcia (ADC Murcia) (Scientific Disclosure Association Region of Murcia). In addition, during this year, different social actors (presidents of patient associations, heads of biotechnology companies, secondary education teachers, etc.) have been incorporating to the different Committees of the Institute, following the recommendations and requirements of the Carlos III Health Institute (ISCIII) and the guidelines for Biomedical Research Institutes accreditation. I also want to highlight that in December 2020, the IMIB Governing Board approved our Institute to be named after Pascual Parrilla, IMIB's first Scientific Director and undisputed promoter of biomedical research in the Region of Murcia.

In a special way, I want to acknowledge the extraordinary involvement of the IMIB in COVID-19 research during the pandemic. This effort has generated a new transversal line of research, with a great impact on attracting resources, translational research projects and Clinical Trials (CT), with more than 60 publications in less than a year and that motivated the visit of their Majesties the Kings of Spain in July 2020 to our Institute, to recognize all the researchers of the IMIB, and Research Centers of the Spanish State for their efforts against COVID-19. I want to highlight the extraordinary and efficient work of the professionals of the Foundation for Health Training and Research of the Region of Murcia (FFIS), in their tasks of managing all research and innovation projects, Clinical Trials and Human Resources (HR) of the Institute, tasks that COVID-19 have significantly intensified this year, and where all the Core Facilities, especially Clinical Trials and Biobank, have had to work at full speed without schedule and thus, be able to respond to the needs of researchers.

On the other hand, I would specially like to thank the outgoing directors of the FFIS and the General Directorate of Planning, Research, Pharmacy and Citizen Services, Jesús Angel Sanchez and María Teresa Martinez Ros, respectively, their dedication and excellent work and their commitment to dynamize our Institute. I welcome Fuensanta Martinez, new director of the FFIS and Jesús Cañavate, as the new head of the General Directorate, who take over with great enthusiasm to strengthen and promote the IMIB.

For the year 2021, and within the framework of the IMIB Strategic Research Plan for the years 2019-2023, already evaluated by the ISCIII, we have prioritized: 1. To decisively promote innovation, transfer and Clinical Trials in early stages. 2. To work towards an integrated management of the University of Murcia (UMU), the Murcia Health Service (SMS) and the FFIS-IMIB, with an indirect cost policy, recommended by the ISCIII in its audit report. This policy proposes to return funds to the IMIB to continue implementing its own research plan with new internal calls. 3. To finalise the reorganisation of the IMIB Scientific Areas, adapting them to the interactions and group dynamics, and to align them with the strategic lines of the IMIB, the regional, national and European research strategy; and finally, 4. To continue with the policy of involving Society in the Institute, with new incorporations of social actors to different commissions, and the constitution of a Social Advisory Council that facilitates the attraction of investment and public and private collaboration.

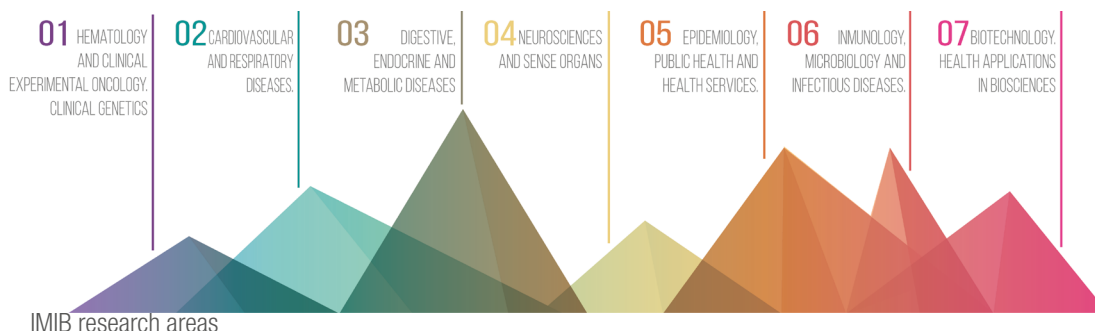
I want to end by highlighting the unconditional support that the IMIB's scientific directors have received from the leaders of the Ministry of Health, the UMu, the SMS, the Ministry of Employment, Research and Universities and the FFIS itself, which in an atmosphere of harmony and coordination, they continue to make a strong commitment to facilitate the growth of our Institute and position it as one of the best at national and European level. The coordinated effort of the different Institutions that constitute the IMIB is essential for the scientific development of our Research Institute.

Pablo Ramírez Romero
Scientific Director of the IMIB

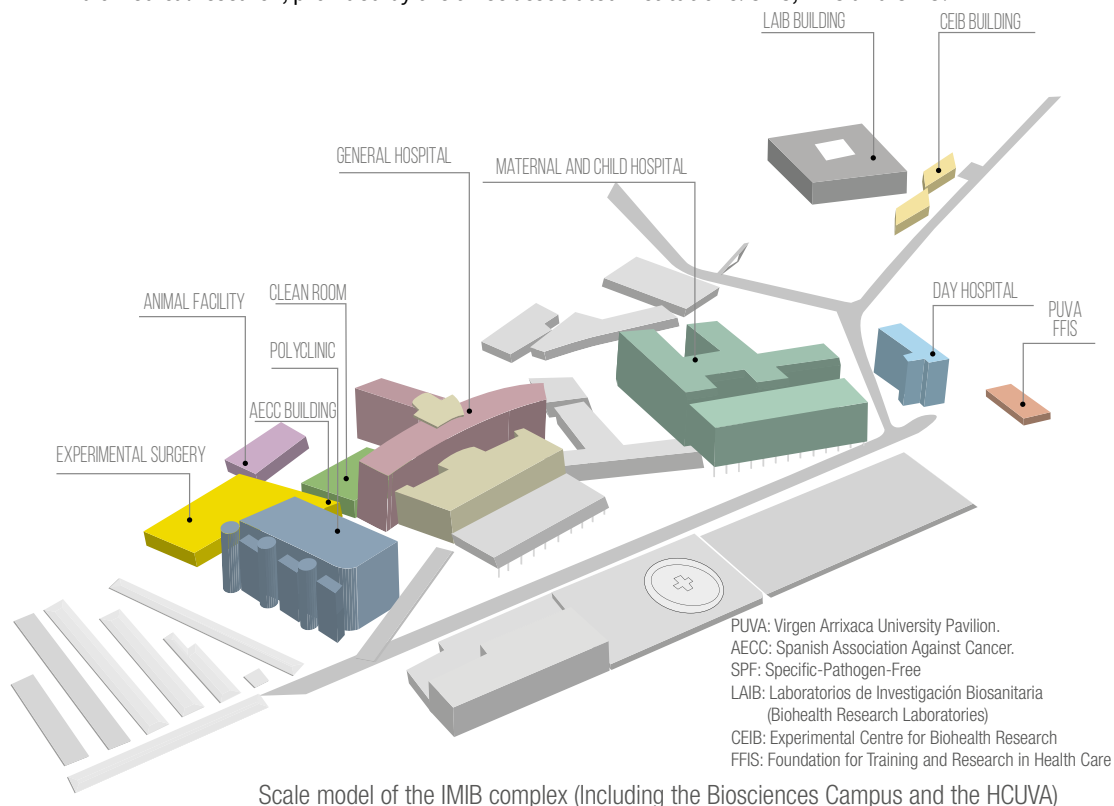


THE INSTITUTE

The IMIB is the Murcia Biomedical Research Institute. The institute is mainly located in the Virgen de la Arrixaca University Clinical Hospital and in the Health Sciences Campus of the UMU. The research activity of the institute is organized in seven areas:



Furthermore, the IMIB integrates different cross-cutting Central Core Units to support biomedical research, provided by the three associated institutions: SMS, FFIS and UMU.



The main centres of the IMIB are located in the Virgen de la Arrixaca University Clinical Hospital and in the Health Sciences Campus of the University of Murcia. They are separated by just 300 meters and this creates an excellent niche to promote biomedical research in the Region. Both centres are gathering the critical mass of researchers at the IMIB.



HCUVA



ORGANIZATIONAL STRUCTURE

COLLEGIATE BODIES OF GOVERNMENT AND MANAGEMENT

GOVERNING COUNCIL

PRESIDENCY

Head of the Council with competences in health, healthcare and biomedical research

Mr. Manuel Villegas García

VICEPRESIDENCY

Chancellor University of Murcia

Mr. José Luján Alcaraz

MEMBERS

Head of the General Directorate to promote Biomedical Research

Ms. María Teresa Martínez Ros

Head of the General Directorate for Research and Innovation

Ms. María Isabel Fortea Gorbe

Head of the SMS Management

Mr. Asensio López Santiago

Head of the Management Department Area I (HCUVA)

Mr. Ángel Baeza Alcaraz

Vice-Chancellor for Research of the University of Murcia

Ms. María Senena Corbalán García

Vice-Chancellor for Infrastructure of the University of Murcia

Ms. María Belén López Morales

Director of the IMIB

Mr. Pablo Ramírez Romero

SECRETARY

Head of the Boards of Directors of the IMIB Management Body

Mr. Jesús Ángel Sánchez Pérez

PERMANENT COMMITTEE

PRESIDENCY

Representative of the General Directorate to promote Biomedical Research

Ms. María Teresa Martínez Ros

VICEPRESIDENCY

Vice-Chancellor for Research of University of Murcia

Ms. María Senena Corbalán García

MEMBERS

Head of the Management Department Area I

Mr. Ángel Baeza Alcaraz

Scientific Director of IMIB

Mr. Pablo Ramírez Romero

Head of the Boards of Directors of the IMIB Management Body

Mr. Jesús Ángel Sánchez Pérez

MEMBERS WITH NO VOTING RIGHTS

Deputy Scientific Director for Basic Research

Mr. Pablo Pelegrín Vivancos

Deputy Scientific Director for Clinical Research

Mr. José Luis Alonso Romero

SECRETARY

Head of the IMIB Technical Subdirectorate

Ms. María del Mar Vázquez de Parga Calvo

BOARDS OF DIRECTORS

PRESIDENCY

Scientific Director of the IMIB

Mr. Pablo Ramírez Romero

VICEPRESIDENCY

Deputy Scientific Director for Basic Research

Mr. Pablo Pelegrín Vivancos

Deputy Scientific Director for Clinical Research

Mr. José Luis Alonso Romero

MEMBERS

Director of the of the IMIB management body

Mr. Jesús Ángel Sánchez Pérez

Vice-Chancellorfor Research of the University of Murcia

Ms. María Senena Corbalán García

Representative of the Virgen de la Arrixaca University Clinical Hospital

Mr. Ángel Baeza Alcaraz

Representative Coordination of the areas

Ms. Marta Agudo Barriuso

SECRETARY

IMIB Technical Subdirectorate

Ms. María del Mar Vázquez de Parga Calvo

ADVISORY BODIES

EXTERNAL SCIENTIFIC COMMITTEE

PRESIDENCY

Head of Bioinformatics and Computational Biology Group, Andalusian Centre for Developmental Biology (CABD)

Ms. Ana Rojas Mendoza

MEMBERS

Director of the Centre for Research in Environmental Epidemiology, University of Zaragoza Head of the Department of Surgical Gynecology and Obstetrics of the University of Zaragoza Deputy director of the Institute of Health Research of Aragon (IIS-A)

Mr. Luis Pablo Júlvez

Clinical Research Coordinator of the Cardiovascular Pathophysiology Area, CNIC Head of the Coronary Unit, Hemodynamic and Interventional Cardiology Unit. San Carlos Clinical Hospital, Madrid

Mr. Antonio Fernández Ortiz

Lecturer in Haematology, Centre for research in Molecular Medicine and chronic diseases (CIMUS), University Santiago de Compostela

Mr. Ángel García Alonso

Sir Henry Dale Wellcome Trust-Royal Society Research Fellow (Inflamación) en el MCCIR, University of Manchester, Manchester, Reino Unido

Ms. Gloria López Castejón

Managing Editor, Lancet Neurology, London, UK

Ms. Elena Becker Barroso

Head of Research of the Catalan Agency for Health Assessment and Quality

Ms. Paula Adams

INTERNAL SCIENTIFIC COMMITTEE

PRESIDENCY

Scientific Director

Mr. Pablo Ramírez Romero

VICEPRESIDENCY

Deputy Scientific Director for Basic Research

Mr. Pablo Pelegrín Vivancos

Deputy Scientific Director for Clinical Research

Mr. José Luis Alonso Romero

MEMBERS

Coordinator Area 1: Haematology and Clinical-Experimental Oncology

Mr. Constantino Martínez Gómez

Coordinator Area 2: Cardiovascular and Respiratory Diseases. Principal investigator of the Group of Clinical and Experimental Cardiology, Area 2

Mr. Juan Ramón Gimeno Blanes

Coordinator Area 3: Digestive and Endocrine-Metabolic Diseases

Mr. Antonio M. Hernández

Coordinator Area 4: Neurosciences and Sense Organs. Training responsible

Ms. Marta Agudo Barriuso

Coordinator Area 5: Epidemiology, Public Health and Health Services

Ms. María Dolores Chirlaque

Coordinator Area 6: Immunology, Microbiology and Infectious Diseases

Mr. Alfredo Minguela Puras

Coordinator Area 7: Biotechnology. Biosciences Health Applications

Mr. Jesualdo Tomás Fernández Breis

Principal investigator of Molecular Therapies and Biomarkers of Solid Tumors, Area 1

Mr. Antonio Piñero Madrona

Principal Investigator of the Clinical and Experimental Cardiology Group Area 2
 Mr. Juan Ramón Gimeno Blanes

Principal Investigator of the Nutrition Group, Area 3
 Ms. Elvira Larqué Daza

Principal Investigator of the Research Methodologies Group in Health Sciences Area 5
 Mr. Alberto Torres Cantero

Principal investigator of the Advanced Nursing Care Group of Area 5. Nursing representative
 Ms. Eva Abad Corpa

Primary Care Representative of the Area 5 Primary Care Research Group
 Mr. Mariano Leal Hernández

Dean of Medicine, Faculty of Medicine, University of Murcia
 Ms. María Martínez-Esparza Alvargonzález

Researcher of the Surgical Research Group in the Health Area of Area 3. Head of Quality IMIB
 Mr. Victoriano Soria Aledo

Head of the Research Area. Head of Innovation IMIB
 Ms. María del Mar Vázquez de Parga Calvo

SECRETARY

Attached to the Technical Subdirector of the IMIB
 Ms. Fátima Hernández Montesinos

ETHIC COMMITTEE FOR RESEARCH WITH MEDICINAL PRODUCTS (CEIm)

PRESIDENCY

*Department of General and Gastrointestinal Surgery
Virgen de la Arrixaca Clinical University Hospital
Dr. Antonio Piñero Madrona*

VICEPRESIDENCY

*Department of Haematology
Virgen de la Arrixaca Clinical University Hospital
Dr. Andrés Sánchez Salinas*

TECHNICAL SECRETARIAT

*B. Sc. in Biology
The Foundation for Health Research and Training in the Region of Murcia
Ms. Rosario García Gómez*

MEMBERS

*BA in Law. Member of the Healthcare Ethics Committee Virgen de la Arrixaca Clinical University Hospital
Mr. Pablo Viguera Paredes*

*Anesthesiology and Reanimation Unit
Virgen de la Arrixaca Clinical University Hospital
Ms. M^a Dolores Cárcelos Barón*

*Primary Care Pharmacist
Virgen de la Arrixaca Clinical University Hospital
Ms. María del Mar Galindo Rueda*

*Clinical Pharmacologist. Independent Member
School of Medicine. University of Murcia
Dr. Jesús Hernández Cascales*

*Reumatology Unit
Virgen de la Arrixaca Clinical University Hospital
Dr. Carlos Marras Fernández-Cid*

Hospital Pharmacy Unit
Virgen de la Arrixaca Clinical University Hospital
Dr. Ana Pareja Rodríguez de Vera

Registered Nurse
Virgen de la Arrixaca Clinical University Hospital
Dr. Laura Martínez Alarcón

Medical Oncology
Virgen de la Arrixaca Clinical University Hospital
Dr. Miguel Marín Vera

Obstetrics and Gynecology
Virgen de la Arrixaca Clinical University Hospital
Dr. Aníbal Nieto Díaz

Department of Cardiology. Trained in Bioethics
Virgen de la Arrixaca Clinical University Hospital
Dr. Eduardo Pinar Bermúdez

Bachelor of Mathematical Sciences
Fundación para la Formación e Investigación Sanitarias de la Región de Murcia
Ms. Guadalupe Ruiz Merino

Department of Pediatrics
Virgen de la Arrixaca Clinical University Hospital
Dr. Manuel Sánchez Solís de Querol

Intensive Care Unit. Trained in Bioethics
Virgen de la Arrixaca Clinical University Hospital
Dr. Juan Alfonso Soler Barnés

Lay Independent Member
Ms. Gema Chicano Saura

COMPETENT AUTHORITY FOR THE EVALUATION OF PROJECTS FOR ANIMAL EXPERIMENTATION

PRESIDENCY

Dr. Pablo Pelegrin Vivancos, presidente

SECRETARY

Dr. Olga M^a Fernández Rodríguez

MEMBERS

Dr. Carmen Lagares Martínez

Dr. Nuria García Carrillo

Dr. Francisco Laredo Álvarez

Dr. Eliseo Belda Mellado

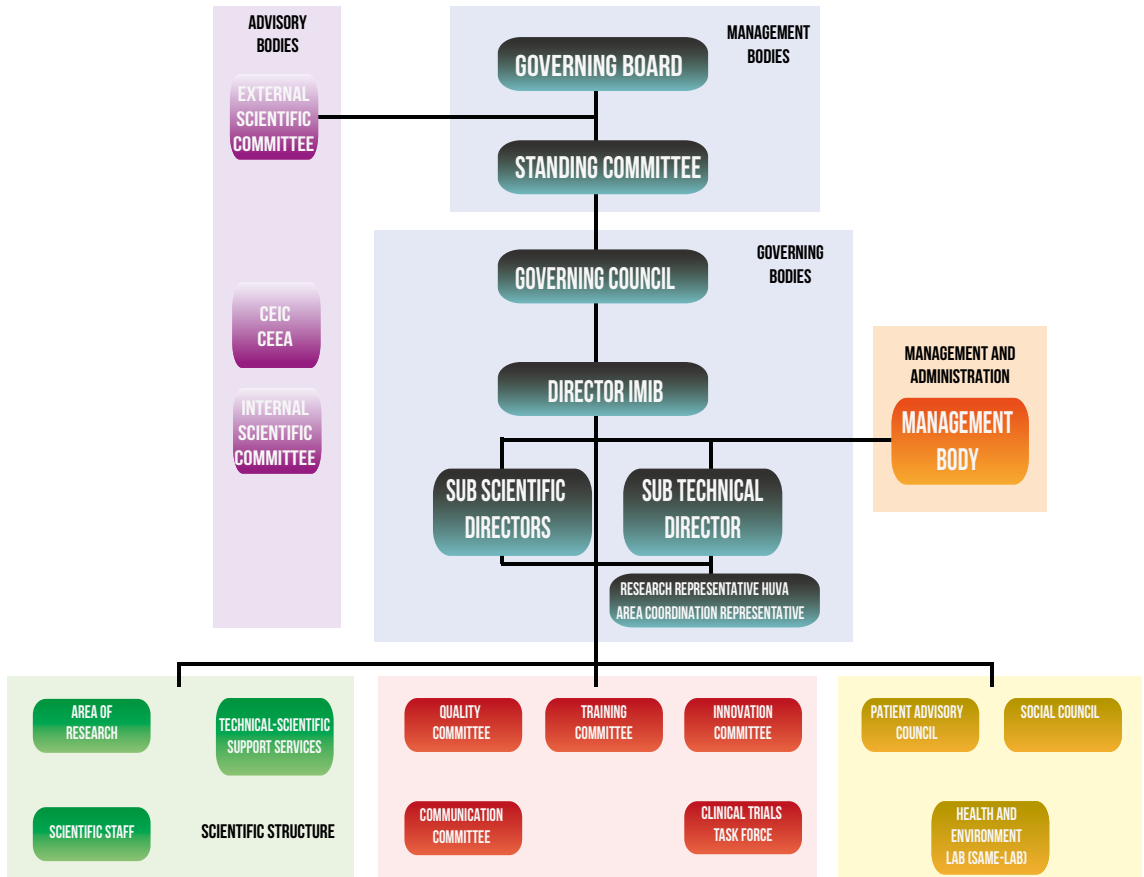
Dr. María Luisa Cayuela Fuentes

Dr. Juan Cabezas Herrera

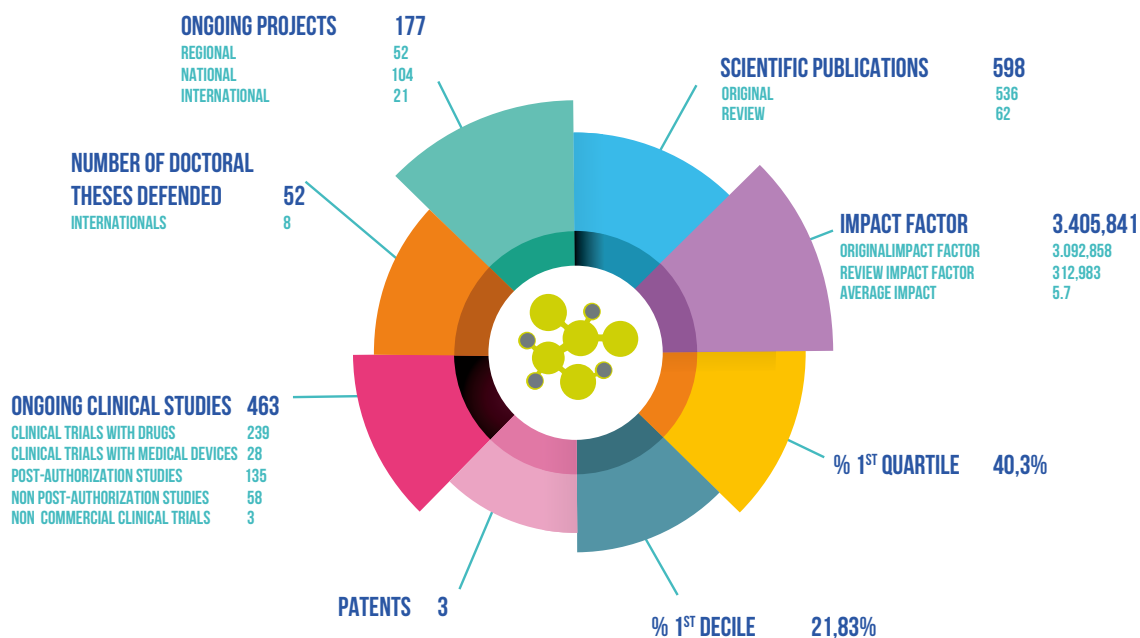
Dr. Alfredo Minguela Puras

Dr. Marta Agudo Barriuso

ORGANISATION CHART



SCIENTIFIC PRODUCTION INDICATORS 2020





RESOURCES

ANNUAL OBJECTIVES AND DEGREE OF IMPLEMENTATION ACHIVED

As a main goal, the scientific areas of the IMIB aim to obtain research resources to train a new generation of scientists and to attract scientific excellence improving research production and transfer of knowledge.

To achieve this goal, areas pretend to obtain competitive funding from regional and national programs. During 2020, the research department, in collaboration with human resources, has processed 14 applications to hire personnel. Overall, 108 applications have been submitted, both from research projects and from HR, obtaining a total of 46 fellowships. Therefore, the success rate stands at around 43%.

FUNDING APPLIED FOR IN 2020			
Grants applied for by research area	M	F	TOTAL
Area 1. EXPERIMENTAL HAEMATOLOGY AND ONCOLOGY.			
CLINICAL GENETICS			
INTRAMURAL	4	1	5
ISCIH	4	2	6
ISCIH COVID	2	2	4
ISCIH RRHH	3		3
SÉNECA COVID	1	1	2
Area 2. CARDIOVASCULAR AND RESPIRATORY DISEASES			
INTRAMURAL	4	4	8
ISCIH	4	1	5
ISCIH COVID	3	1	4
ISCIH RRHH	1	1	2
MICINN	1	1	2
SÉNECA COVID	1		1
Area 3. GASTROINTESTINAL AND ENDOCRINE-METABOLIC DISEASES			
INTRAMURAL	1	5	6
ISCIH	9	2	11
ISCIH COVID	5		5
ISCIH RRHH	1	1	2
MICINN	1		1
SÉNECA COVID	2		2

Area 4. NEUROSCIENCES AND SENSES ORGANS			
INTRAMURAL	1	1	
ISCI ^{III} RRHH	1	1	
Area 5. EPIDEMIOLOGY, PUBLIC HEALTH AND HEALTH SERVICES			
INTRAMURAL	1	5	6
ISCI ^{III}	1	1	2
ISCI ^{III} COVID	1	1	2
ISCI ^{III} RRHH		1	1
Area 6. EPIDEMIOLOGY, PUBLIC HEALTH AND HEALTH SERVICES			
INTRAMURAL	5	3	8
ISCI ^{III}	7		7
ISCI ^{III} COVID	4		4
ISCI ^{III} RRHH	1	2	3
MICINN	1	1	2
Area 7. BIOTECHNOLOGY, HEALTH APPLICATIONS OF BIOSCIENCES			
ISCI ^{III}		1	1
ISCI ^{III} COVID		1	1
TOTAL	68	40	108

FUNDING OBTAINED 2020			
Grants applied for by research area	H	M	TOTAL
Area 1. EXPERIMENTAL HAEMATOLOGY AND ONCOLOGY. CLINICAL GENETIS			
FEHH	1	1	2
INTRAMURAL	4	1	5
ISCIII	3		3
ISCIII RRHH	3		3
SÉNECA COVID	1	1	2
Area 2. CARDIOVASCULAR AND RESPIRATORY DISEASES			
INTRAMURAL	1	1	2
ISCIII	3		3
ISCIII COVID	1		1
ISCIII RRHH	1		1
MICINN	1		1
SÉNECA COVID	1		1
Area 3. GASTROINTESTINAL AND ENDOCRINE-METABOLIC DISEASES			
INTRAMURAL		2	2
ISCIII	2	1	3
ISCIII RRHH	1		1
SÉNECA	1		1
SÉNECA COVID	2		2
Area 4. NEUROSCIENCES AND SENSES ORGANS			
ISCIII RRHH		1	1
Area 5. EPIDEMIOLOGY, PUBLIC HEALTH AND HEALTH SERVICES			
INTRAMURAL		3	3
ISCIII		1	1
Area 6. EPIDEMIOLOGY, PUBLIC HEALTH AND HEALTH SERVICES			
INTRAMURAL	1	1	2
ISCIII	3		3
ISCIII COVID	2		2
ISCIII RRHH		1	1
TOTAL GENERAL	32	14	46

RESEARCH STAFF: ANNUAL CAREER PROGRESSION

In the following table, researchers of the institute are classified according to area of research and Euraxess career development stages.

AREA	Others	R1	R2	R3	R4	TOTAL
AREA 1	13	22	77	13	15	140
AREA 2	23	12	99	10	6	150
AREA 3	6	29	143	10	13	201
AREA 4	5	16	71	4	8	104
AREA 5	3	7	111	3	1	125
AREA 6	17	12	113	7	6	155
AREA 7	1	29	93	6	11	140
TOTAL	68	127	707	53	60	1015

* Other: Research support technicians (laboratory technicians, clerical staff, etc.)

Of the 1015 researchers constituting the IMIB in 2020, women represent 50,54% and men 49,45%. Of the 113 researchers classified as principal investigators (R3 and R4 according to the Euraxess classification) a total of 34,51% are women and 65.48% men.

ADMINISTRATION AND MANAGEMENT STAFF

The administration and management staff count with the equivalent of 27 professionals dedicated to the management of the Institute. These departments have a strong female presence with a total of 68% women and 32% men.

In 2020, the management staff, organized in the departments listed below, has carried out numerous tasks, to support the administrative needs of researchers:

- Department of Research
- Training Department
- Legal and Contracting Department
- HR Department
- IT and Systems Department
- Department of Economic and Financial Management



Management and administration personnel



ECONOMIC DATA

INCOME

Competitive and non-competitive funds are detailed below. In addition, the use of indirect costs according to source is also disclosed in the table.

TOTAL INCOME						
	PRIVATE	REGIONAL PUBLIC	NATIONAL PUBLIC	EUROPEAN PUBLIC	TOTAL	%
COMPETITIVE	1.885.281	388.550	2.173.539	451.319	4.898.689	53,88%
NON-COMPETITIVE	1.133.406	3.058.983			4.192.389	46,12%
TOTAL	3.018.687	3.447.533	2.173.539	451.319	9.091.078	
%	33,20%	37,92%	23,91%	4,96%	100,00%	

INCOME INDIRECT COSTS						
	PRIVATE	REGIONAL PUBLIC	NATIONAL PUBLIC	EUROPEAN PUBLIC	TOTAL	%
COMPETITIVE	90.988	35.439	168.740	62.688	357.855	75,56%
NON-COMPETITIVE	104.193	11.534			115.727	24,44%
TOTAL	195.181	46.972	168.740	62.688	473.581	
%	41,21%	9,92%	35,63%	13,24%		
% ON FUNDS	6,47%	1,36%	7,76%	13,89%		

INCOME INDIRECT COSTS / OVER TOTAL DIRECT INCOME				
	PRIVATE	REGIONAL PUBLIC	NATIONAL PUBLIC	EUROPEAN PUBLIC
COMPETITIVE	4,83%	9,12%	7,76%	13,89%
NON-COMPETITIVE	9,19%	0,38%		

EXPENSES

The expenses executed, audited and those approved by the Institute Board are detailed in the table below. In addition, the use of the indirect costs is itemized.

EXPENSES EXECUTED						
	PRIVATE	REGIONAL PUBLIC	NATIONAL PUBLIC	EUROPEAN PUBLIC	TOTAL	%
COMPETITIVE	910.178	160.726	2.010.546	211.292	3.292.742	42,13%
NON-COMPETITIVE	941.836	3.581.646			4.523.482	57,87%
TOTAL	1.852.014	3.742.371	2.010.546	211.292	7.816.223	
%	23,69%	47,88%	25,72%	2,70%		

USAGE OF INDIRECT COST		
Central Core Facilities	Fungible goods	78.732
	Training	1.152
	Maintenance	126.491
	Other	94.515
Miscellaneous IMIB	Training	7.029
	Science week	
	Annual report	1.300
	Communication plan	24.402
	Strategic plan	120.448
	Merchandising	
	Other Management (transfer etc)	205
Other structural costs	IMIB infrastructure equipment	
	Personnel expenses, research and clinical trials contracts	19.307
	Cofinancing of the RETOS state program R&D+i (Debt convertible into grants)	
TOTAL		473.581

BALANCE SHEET (ASSETS, LIABILITIES)

	AMOUNT
A) NON -CURRENT ASSETS	25.595.483
I. Fixed intangible	25.177
5. Computer applications	17.852
6. Righths to assigned assets in use	7.325
III. Immobilized physical assets	15.967.831
1. Land and buildings	9.043.171
2. Technical facilities and other types of inmovilized material	6.924.660
3. Ongoing Fixed assets and in advance	0
VI. Long-term financial investments	9.602.475
5. Other financial assests	9.602.475
B) CURRENT ACTIVE	1.818.899
II. Users and other debtors of the own activity	1.818.899
1. Carm debtor by own activity	1.818.899
TOTAL ASSETS (A+B)	27.414.382

	AMOUNT
A) NET EQUITY	13.347.624
A-1) Own funds	16.458.741
I. Foundation endowment/Social Fund	15.731.110
5. Foundation endowment/Social Fund	15.731.110
II. Reserve funds	2.668.813
2. Other reserves	2.668.813
III. Suplus from previous years	-1.941.181
2. Suplus from previous years	-1.941.181
IV. Suplus from currient year	0
A-3) Grants, donations and herritages recived	2.888.883
I. Grants	2.888.883
B) NON-CURRENT LIABILITIES	7.193.806
II. Long term debts	7.193.806
5. Other financial liabilities	7.193.806
C) CURRENT LIABILITIES	872.952
V. Commercial debtors and other bills to pay	872.952
6. Other debts with Public Administration	872.952
TOTAL ASSETS NET AND PASIVE (A+B+C)	27.414.382

Investments made in 2020 are classified into the following table:

MANAGEMENT STRUCTURE	
CLASSIFICATION	AMOUNT
Computers and IT Material	
Office Furniture	2.151
TOTAL	2.151
CENTRAL CORE FACILITIES	
CLASSIFICATION	AMOUNT
Computers and digital equipment	3.071
Laboratory facilities and equipment	448.380
Furniture	2.003
TOTAL	453.453
PROJECTS	
CLASSIFICATION	AMOUNT
Computers and IT Material	34.000
Laboratory facilities and equipment	108.433
TOTAL	142.433



RESEARCH ACTIVITY

COOPERATIVE RESEARCH NETWORKS OR CONSORTIUMS

CIBERS

CIBERCV – CARDIOVASCULAR DISEASES

PI. Francisco Marín Ortuño

Ref. CB16/11/00385

Group. Clinical and experimental cardiology

Area 2. Enfermedades cardiovasculares y respiratorias

CIBEREHD – LIVER AND DIGESTIVE DISEASES

PI. Alfredo Minguela Puras

Ref. GCV12/EHD/2

Group. Immunology and immunotolerance in transplants and immune-based diseases

Area 6. Immunology, microbiology and infectious diseases

CIBERER – RARE DISEASES

PI. Vicente Vicente García

Ref. CB15/00055

Group. Haematology and clinical-experimental medical oncology

Area 1. Haematology and clinical-experimental oncology. Clinical genetics

PI. Encarna Guilén Navarro

Ref. GCV14/ER/1

Group. Research in Pediatrics

Area 2. Cardiovascular diseases and respiratory

PI. M^a Luisa Cayuela, Victoriano Mulero

Ref. CB19-07-00031

Group. Digestive, endocrine surgery and abdominal organ transplantation

Group. Immunity, Inflammation and Cancer

Area 3. Digestive and Endocrine-metabolic Diseases

Area 6. Immunology, microbiology and infectious diseases

CIBERESP – EPIDEMIOLOGY AND PUBLIC HEALTH

PI. M^a Dolores Chirlaque López

Ref. CB06/02/0042

Group. Research in Epidemiology and Public Health

Area 5. Epidemiology, Public Health and Services Health

CIBERFES – FRAGILITY AND HEALTHY AGING

PI. Juan Antonio Madrid Pérez

Ref. CB16/10/00239

Group. Nutrition

Area 3. Gastrointestinal and Endocrine-metabolic Diseases

RETICS AND CENTRAL CORE FACILITIES

NETWORKS

ARADYAL – ASTHMA, ADVERSE AND ALLERGIC REACTIONS

PI. Luis García-Marcos Álvarez

Ref. RD16/0006/0016

Grupo. Research in Pediatrics

Area 2. Cardiovascular and Respiratory Diseases

RIS – AIDS RESEARCH

PI. Enrique Bernal Morell

Ref. RD16/0025/0035

Grupo. Immunology and immunotolerance in transplants and immune-based diseases

Area 6. Immunology, microbiology and infectious diseases

RICET – COLLABORATIVE RESEARCH IN TROPICAL DISEASES

PI. Manuel Segovia Hernández

Ref. RD16/0027/0016

Grupo. Clinical microbiology and tropical medicine

Area 6. Immunology, microbiology and infectious diseases

CORE FACILITIES

SCREN – CLINICAL RESEARCH UNITS AND CLINICAL TRIALS

Manager. José Luis Alonso Romero

Ref. PT20/00115

BIOBANK CENTRAL CORE FACILITY

Manager. Luis García-Marcos Álvarez

Ref. PT20/00109

NETWORKS / INTERNATIONAL CENTRAL CORE FACILITIES

COST ACTION

EUROPEAN NETWORK TO ADVANCE CAROTENOID RESEARCH AND APPLICATIONS IN AGRO-FOODS AND HEALTH. EROCAROTEN

Scientific Area: Food science and technology; nutrition and diet

Website: <https://www.eurocaroten.eu/>

PI. M^a Jesús Periago Caston (Research Area 3)

Ref. CA15136

Date start/end. 30-10-2015 / 17-04-2020

EUROPEAN RAPTOR BIOMONITORING FACILITY

Scientific Area: Earth and related environmental sciences; Life sciences

Website: <https://erbfacility.eu/>

Researchers. Emma Martínez López; Pilar Gómez Ramírez;

Antonio Juan García Fernández (Research Area 3)

Grant holder: Universidad de Murcia

Leadership: Antonio Juan García Fernández (Representative Scientific Representative of the Grant Holder and Member of the Steering Committee)

Ref. CA16224

Date start/end. 17-10-2017 / 16-10-2021

INTERNATIONAL NETWORK FOR TRANSLATING RESEARCH ON PERINATAL DERIVATIVES INTO THERAPEUTIC APPROACHES

Scientific Area: Regenerative Medicine

Website: <https://www.sprint-cost.org/>

Researchers. Marta Agudo Barriuso (Area 4);

Francisco José Nicolás Villaescusa (Area 6); Ángel Esteban Gil (Area 7)

Leadership: Francisco José Nicolás Villaescusa (leader of WG3)

Participation in : Working Group 3 Clinical Application

Ref. CA171116

Date start/end. 101-10-2018 / 30-09-2022

ENHANCING PSYCHIATRIC GENETIC COUNSELLING, TESTING, AND TRAINING IN EUROPE

Scientific Area: Psychobiology and neurobiology of behavior

Website: <https://www.cost.eu/actions/CA17130/#tabs|Name:overview>

Researcher. Juan Ramón Ordaña Martín (Research Area 4)

Ref. CA17130

Date start/end. 17-09-2018 / 16-09-2022

DELIVERY OF ANTISENSE RNA THERAPEUTICS (DARTER)

Scientific Area: Medical biotechnology; Synthesis, Processing, Modification and Degradation of RNA; Basic medicine: pharmacology, pharmacogenomics, drug discovery and design, pharmacotherapy

Website: <https://www.antisenserna.eu/>

Researcher. María Sabater Molina (Area 2);

Juan Ramón Gimeno Blanes (Area 2) Juan Ramón Ordaña Martín (Area 2)

Ref. CA17103

Date start/end. 23-10-2018 / 22-10-2022

PAN-EUROPEAN NETWORK IN LIPIDOMICS AND EPI-LIPIDOMICS

Scientific Area: Chemical sciences: analytical chemistry; Biological science: biochemistry; basic medicine: metabolomics

Website: <https://www.epilipid.net>

PI. Bruno Ramos Molina (Area 3)

Ref. CA19105

Group of working. WG4-Integration of (epi)lipidomics with Lipid signalling and mechanisms of action

Date start/end. 13-10-2020 / 14-10-2024

DETERMINANTS OF PHYSICAL ACTIVITIES IN SETTINGS

Scientific Area: sciences: epidemiology; public and environmental health; sports science and fitness

Website: <https://depass.eu/>

PI. Francisco Javier López Román (Area 5)

Ref. CA19101

Collaboration in government bodies: Member of the Steering Committee

Date start/end. 26-10-2020 / 24-10-2024

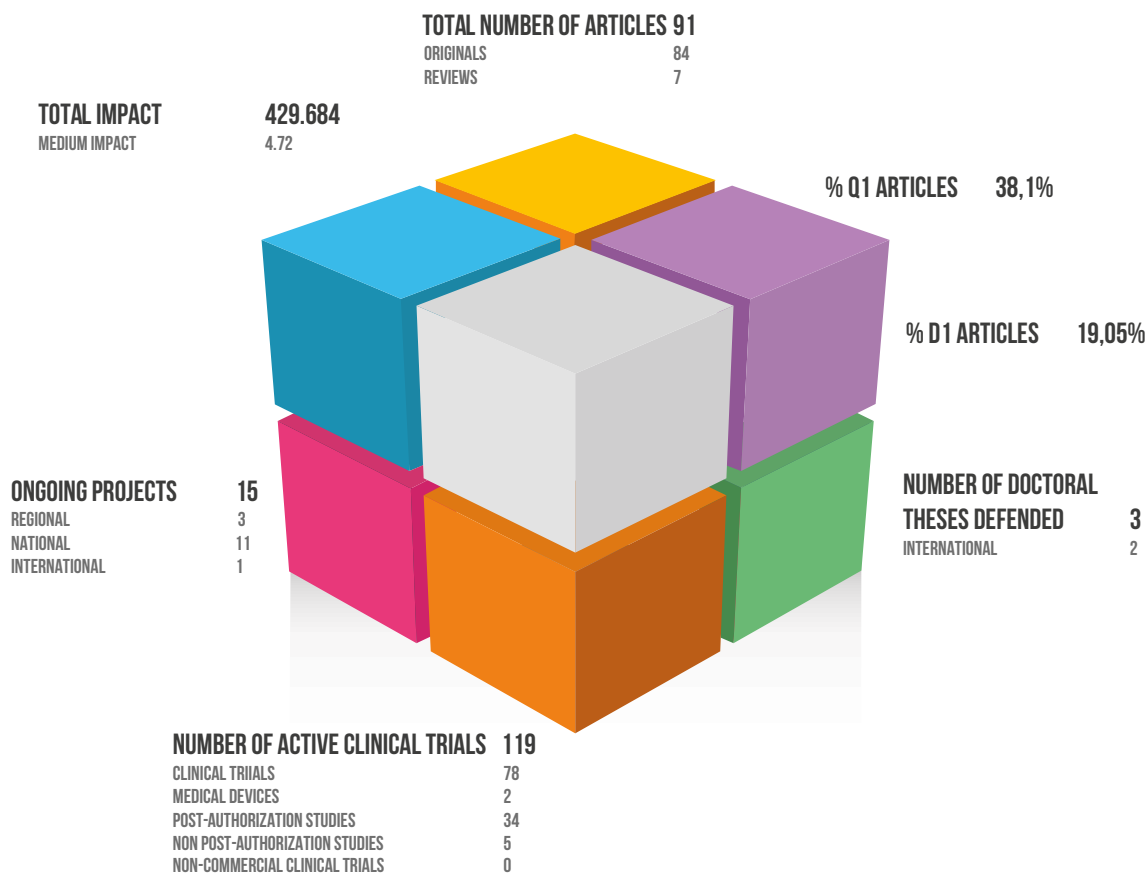


RESEARCH ACTIVITY

AREAS AND RESEARCH GROUPS

AREA 1: HAEMATOLOGY AND CLINICAL EXPERIMENTAL ONCOLOGY. CLINICAL GENETICS

SCIENTIFIC PRODUCTION OF THE AREA



The area 1 of the IMIB is structured in seven consolidated research groups. This Area has a very translational approach covering the fields of haematology and cancer. The staff of this Area has a total of 140 members.

The collaboration of Area 1 groups in international multicentre studies is very relevant to the research activity, with several high-impact publications in journals such as Nature Immunology, Leukemia, or Nature Communications.

This year 2020, due to the Covid-19 pandemic, has been very challenging at all levels. Despite this, production and funding have remained at a high level. I would like to highlight the commitment and dedication of many researchers in this and other areas of the IMIB in the fight against the coronavirus disease with specific or own funding. In this regard, two researchers from Area 1 have received funding from the Seneca Foundation to carry out their research.

We should also focus our effort in obtaining new patents, a very important part of R+D. Although no patents have been licenced in our area this year, there has been a significant increase in visibility of the Institute's research in the media. This is very positive for transferring and publicizing the IMIB to the Society.

Finally, an important part of the research lays in the training of personnel. On this subject, there is an important teaching and training activity in Bachelor's and Master's degrees, in addition to the training of resident doctors in the most basic aspects of research. This year 3 doctoral theses have been defended, two of them with international mention.

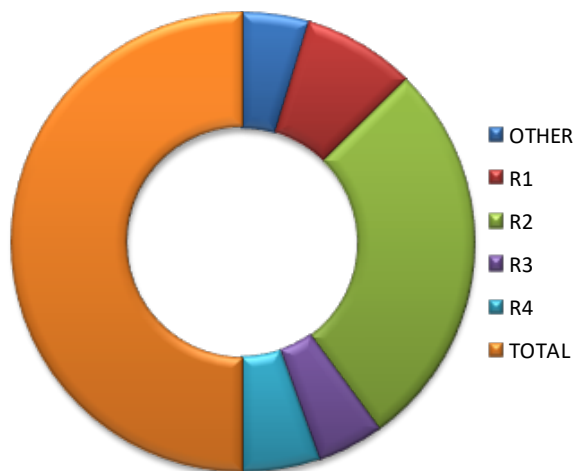


CONSTANTINO MARTÍNEZ GÓMEZ

Area 1 has 7 research groups:

NAME OF GROUP	CATEGORY	GROUP LEADER
HAEMATOLOGY AND CLINICAL-EXPERIMENTAL MEDICAL ONCOLOGY	CONSOLIDATED	VICENTE VICENTE GARCÍA
MOLECULAR CONTROL OF PROLIFERATION AND DIFFERENTIATION	CONSOLIDATED	JOSE CARLOS GARCIA-BORRON MARTINEZ
MOLECULAR THERAPIES AND BIOMARKERS OF SOLID TUMORS	CONSOLIDATED	JUAN CABEZAS HERRERA
MORFOFUNCTIONAL INTEGRATION OF CELLS AND TISSUES	CONSOLIDATED	MANUEL AVILES SANCHEZ
VENOUS THROMBOEMBOLISM	CONSOLIDATED	ANTONIO JAVIER TRUJILLO SANTOS
NON-CONVENTIONAL ANTI-TUMOR METALLODRUGS	CONSOLIDATED	JOSE RUIZ LÓPEZ
MOLECULAR AND PHARMACOGENETIC PATHOLOGY	CONSOLIDATED	PABLO CONESA

These groups have a total of 140 researchers:



*OTHER	R1	R2	R3	R4	TOTAL
13	22	77	13	15	140

*Other: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Ferrer-Marin F*, Arroyo AB, Bellosillo B, ..., **Gonzalez-Conejero R*, Martinez C.**

miR-146a rs2431697 identifies myeloproliferative neoplasm patients with higher secondary myelofibrosis progression risk.

Leukemia, 2020, 10.1038/s41375-020-0767-3 [doi], PMID: 32107471, FI: 8.665, Original

Castanon E, Sanchez-Arreaez A, Alvarez-Mancenido F, ..., **Carmona-Bayonas A***.

Critical reappraisal of phase III trials with immune checkpoint inhibitors in non-proportional hazards settings.

European Journal of Cancer, 2020, 136, 159-168, PMID: 32698098, FI: 7.275, Original

Lamas-Toranzo I, Hamze JG, Bianchi E, ..., **Jimenez-Movilla M*** et al.

TMEM95 is a sperm membrane protein essential for mammalian fertilization.

Elife, 2020, 9, PMID: 32484434, FI: 7.08, Original

Martinez-Vicente I, Abrisqueta M, Herraiz C, ..., Jimenez-Cervantes C*.

Mahogunin Ring Finger 1 Is Required for Genomic Stability and Modulates the Malignant Phenotype of Melanoma Cells.

Cancers, 2020, 12, PMID: 33019669, FI: 6.126, Original

Ballester FJ, Ortega E, Bautista D, ..., Ruiz J*.

Ru(ii) photosensitizers competent for hypoxic cancers via green light activation.

Chemical Communications, 2020, 56, 10301-10304, PMID: 32756717, FI: 5.996, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB.

Yamazaki T, Kirchmair A, Sato A, ..., **Navarro Manzano E** et al.

Mitochondrial DNA drives abscopal responses to radiation that are inhibited by autophagy.

Nature Immunology, 2020, 21, 1160-1171, PMID: 32747819, FI: 20.479, Original

Maia C, Puig N, Cedena MT, ..., **de Arriba F** et al.

Biological and clinical significance of dysplastic hematopoiesis in patients with newly diagnosed multiple myeloma.

Blood, 2020, 135, 2375-2387, PMID: 32299093, FI: 17.794, Original

Peters S, Danson S, Hasan B, ..., **Macias JA** et al.

A Randomized Open-Label Phase III Trial Evaluating the Addition of Denosumab to Standard First-Line Treatment in Advanced NSCLC: The European Thoracic Oncology Platform (ETOP) and European Organisation for Research and Treatment of Cancer (EORTC) SPLENDOUR Trial. *Journal of Thoracic Oncology*, 2020, 15, 1647-1656, PMID: 32565388, FI: 13.357, Original

Kim D, Park G, Huuhtanen J, ..., **Hurtado AM** et al.

Somatic mTOR mutation in clonally expanded T lymphocytes associated with chronic graft versus host disease. *Nature Communications*, 2020, 11, 2246, PMID: 32382059, FI: 12.121, Original

Martinez-Cuadron D, Serrano J, Gil C, ..., **Amigo ML** et al.

Evolving treatment patterns and outcomes in older patients (>=60 years) with AML: changing everything to change nothing? *Leukemia*, 2020, 10.1038/s41375-020-01058-4 [doi], PMID: 33077867, FI: 8.665, Original

Cuenca I, Alameda D, Sanchez-Vega B, ..., **De Arriba F** et al.

Immunogenetic characterization of clonal plasma cells in systemic light-chain amyloidosis. *Leukemia*, 2020, 10.1038/s41375-020-0800-6 [doi], PMID: 32203144, FI: 8.665, Original

Diaz-Santa J, Rodriguez-Romanos R, Osca G, ..., **Heras I** et al.

UGT1A1 genotype influences clinical outcome in patients with intermediate-risk acute myeloid leukemia treated with cytarabine-based chemotherapy. *Leukemia*, 2020, 34, 2925-2933, PMID: 32152464, FI: 8.665, Original

Giaccherini M, Macaudo A, Sgherza N, ..., **Jerez A** et al.

Genetic polymorphisms associated with telomere length and risk of developing myeloproliferative neoplasms. *Blood Cancer Journal*, 2020, 10, 89, PMID: 32873778, FI: 8.023, Original

Solano C, Vazquez L, Gimenez E, ..., **Heras I** et al.

Cytomegalovirus DNAemia and risk of mortality in allogeneic hematopoietic stem cell transplantation: Analysis from the Spanish Hematopoietic Transplantation and Cell Therapy Group. *American Journal of Transplantation*, 2020, 10.1111/ajt.16147 [doi], PMID: 32812351, FI: 7.338, Original

Paciullo F, Bury L, Noris P, ..., **Rivera J** et al.

Antithrombotic prophylaxis for surgery-associated venous thromboembolism risk in patients with inherited platelet disorders. The SPATA-DVT Study. *Haematologica*, 2020, 105, 1948-1956, PMID: 31558677, FI: 7.116, Original

Beke A, Laplane L, Riviere J, ..., **Hurtado A** et al.
Multilayer intraclonal heterogeneity in chronic myelomonocytic leukemia.
Haematologica, 2020, 105, 112-123, PMID: 31048357, FI: 7.116, Original

Jimenez-Fonseca P, **Carmona-Bayonas A**, Martinez de Castro E et al.
External validity of docetaxel triplet trials in advanced gastric cancer: are there patients who still benefit?
Gastric Cancer, 2020, 10.1007/s10120-020-01116-x [doi], PMID: 32970266, FI: 7.088, Original

Avnery O, Martin M, Bura-Riviere A et al. COLABORADORES: Adarraga MD, Aibar MA, Aibar J, ..., **Soler S** et al.
D-dimer levels and risk of recurrence following provoked venous thromboembolism: findings from the RIETE registry.
Journal of Internal Medicine, 2020, 287, 32-41, PMID: 31394000, FI: 6.871, Original

Puente J, Anido U, Climent MA, **Gonzalez-Billalabeitia E** et al.
Expert recommendations on the management of patients with metastatic castration-resistant prostate cancer who progress after CHAARTED or LATITUDE.
Therapeutic Advances in Medical Oncology, 2020, 12, 1758835920920067, PMID: 33014145, FI: 6.852, Original

Marti-Diaz R, **Montenegro MF**, **Cabezas-Herrera J**, ..., **Rodriguez-Lopez JN** et al.
Acriflavine, a Potent Inhibitor of HIF-1alpha, Disturbs Glucose Metabolism and Suppresses ATF4-Protective Pathways in Melanoma under Non-Hypoxic Conditions.
Cancers, 2020, 13, PMID: 33396270, FI: 6.126, Original

Puig N, Corchete-Sanchez LA, Perez-Moran JJ, ..., **de Arriba F** et al.
Pembrolizumab as Consolidation Strategy in Patients with Multiple Myeloma: Results of the GEM-Pembresid Clinical Trial.
Cancers, 2020, 12, PMID: 33287189, FI: 6.126, Original

Mas-Montoya M, **Montenegro MF**, Espinosa Ferao A et al.
Rigid pi-Extended Boron Difluoride Complex with Mega-Stokes Shift for Bioimaging.
Organic Letters, 2020, 22, 3356-3360, PMID: 32285673, FI: 6.091, Original

Hurtado Lopez AM, **Chen-Liang TH**, Zurdo M, ..., **Jerez A***.
Cancer testis antigens in myelodysplastic syndromes revisited: a targeted RNA-seq approach.
Oncoimmunology, 2020, 9, 1824642, PMID: 33101773, FI: 5.869, Original

Conteduca V, Wetterskog D, Scarpi E, ..., **Gonzalez-Billalabeitia E** et al.
Plasma tumour DNA as an early indicator of treatment response in metastatic castration-resistant prostate cancer.
British Journal of Cancer, 2020, 123, 982-987, PMID: 32669676, FI: 5.791, Original

Alvarez-Larran A, Angona A, Andrade-Campos M, ..., **Ferrer-Marin F*** et al.
Cyto-reductive treatment in patients with CALR-mutated essential thrombocythaemia: a study comparing indications and efficacy among genotypes from the Spanish Registry of Essential Thrombocythaemia.

British Journal of Haematology, 2020, 10.1111/bjh.16988 [doi], PMID: 32745264, FI: 5.518, Original

Izquierdo-Rico MJ, Moros-Nicolas C, Perez-Crespo M, ..., Aviles M*.

ZP4 Is Present in Murine Zona Pellucida and Is Not Responsible for the Specific Gamete Interaction.

Frontiers in Cell and Developmental Biology, 2020, 8, 626679, PMID: 33537315, FI: 5.186, Original

Baiges A, **de la Morena-Barrio ME**, Turon F et al.

Congenital antithrombin deficiency in patients with splanchnic vein thrombosis.

Liver International, 2020, 40, 1168-1177, PMID: 31885188, FI: 5.175, Original

Maccauda A, Giaccherini M, Sainz J, ..., **Jerez A** et al.

Do myeloproliferative neoplasms and multiple myeloma share the same genetic susceptibility loci?

International Journal of Cancer, 2020, 10.1002/ijc.33337 [doi], PMID: 33038278, FI: 5.145, Original

Melaiu O, Maccauda A, Sainz J, ..., **Jerez A** et al.

Common gene variants within 3'-untranslated regions as modulators of multiple myeloma risk and survival.

International Journal of Cancer, 2020, 10.1002/ijc.33377 [doi], PMID: 33152124, FI: 5.145, Original

Martinez-Carmona M, Ho QP, Morand J, ..., **Ortega E** et al.

Amino-Functionalized Mesoporous Silica Nanoparticle-Encapsulated Octahedral Organoruthenium Complex as an Efficient Platform for Combatting Cancer.

Inorganic Chemistry, 2020, 59, 10275-10284, PMID: 32628466, FI: 4.825, Original

Rodriguez-Alonso B, Maillo V, Acuna OS, ..., **Aviles M** et al.

Spatial and Pregnancy-Related Changes in the Protein, Amino Acid, and Carbohydrate Composition of Bovine Oviduct Fluid.

International Journal of Molecular Sciences, 2020, 21, PMID: 32121434, FI: 4.556, Original

Alburquerque-Gonzalez B, Lopez-Calderon FF, Lopez-Abellan MD, ..., **Conesa-Zamora P***.

Biology and Therapeutic Targets of Colorectal Serrated Adenocarcinoma; Clues for a Histologically Based Treatment against an Aggressive Tumor.

International Journal of Molecular Sciences, 2020, 21, PMID: 32183342, FI: 4.556, Revisión

Luongo C, **Gonzalez-Brusi L, Cots-Rodriguez P, ..., Aviles M*, Garcia-Vazquez FA***.
Sperm Proteome after Interaction with Reproductive Fluids in Porcine: From the Ejaculation to the Fertilization Site.

International Journal of Molecular Sciences, 2020, 21, PMID: 32842715, FI: 4.556, Original

Montoro-Garcia S, Albuquerque-Gonzalez B, Bernabe-Garcia A, ..., **Conesa-Zamora P***.

Novel anti-invasive properties of a Fascin1 inhibitor on colorectal cancer cells.

Journal of Molecular Medicine-Jmm, 2020, 10.1007/s00109-020-01877-z [doi], PMID: 31996952, FI: 4.427, Original

Arroyo AB, Aguila S, Fernandez-Perez MP, ..., Martinez C*, Gonzalez-Conejero R*.

miR-146a in cardiovascular diseases and sepsis: an additional burden in the inflammatory balance?

Thrombosis and Haemostasis, 2020, 10.1055/a-1342-3648 [doi], PMID: 33352593, FI: 4.385, Revisión

Orlando C, **de la Morena-Barrio B***, Pareyn I, ..., **Martinez-Martinez I***, ..., **de la Morena-Barrio ME**.

Antithrombin p.Thr147Ala: The First Founder Mutation in People of African Origin Responsible for Inherited Antithrombin Deficiency.

Thrombosis and Haemostasis, 2020, 10.1055/s-0040-1716531 [doi], PMID: 32920809, FI: 4.385, Original

Alajarin M, **Ballester FJ**, Vivancos JA et al.

Lewis Acid-Mediated Formation of 1,3-Disubstituted Spiro[cyclopropane-1,2'-indanes]: The Activating Effect of the Cyclopropane Walsh Orbital.

Journal of Organic Chemistry, 2020, 85, 4565-4573, PMID: 32077701, FI: 4.335, Original

Carmona-Bayonas A, Gomez D, Martinez de Castro E et al.

A snapshot of cancer-associated thromboembolic disease in 2018-2019: First data from the TESEO prospective registry.

European Journal of Internal Medicine, 2020, 78, 41-49, PMID: 32482596, FI: 4.329, Original

Squizzato A, Gallo A, Levi M, ..., **Vicente V** et al.

Underlying disorders of disseminated intravascular coagulation: Communication from the ISTH SSC Subcommittees on Disseminated Intravascular Coagulation and Perioperative and Critical Care Thrombosis and Hemostasis.

Journal of Thrombosis and Haemostasis, 2020, 18, 2400-2407, PMID: 32881338, FI: 4.157, Original

Arguelles A, **Sanchez-Fresneda R, Guirao-Abad JP** et al.

Novel Bi-Factorial Strategy against *Candida albicans* Viability Using Carnosic Acid and Propolis: Synergistic Antifungal Action.

Microorganisms, 2020, 8, PMID: 32429493, FI: 4.152, Original

Gonzalez-Brusi L, Algarra B, Moros-Nicolas C, ..., Aviles M*, Jimenez-Movilla M*.

A Comparative View on the Oviductal Environment during the Periconception Period.
Biomolecules, 2020, 10, PMID: 33348856, FI: 4.082, Revisión

Montenegro MF*, Gonzalez-Guerrero R, Sanchez-Del-Campo L, ..., Rodriguez-Lopez JN*.

PRMT1-dependent methylation of BRCA1 contributes to the epigenetic defense of breast cancer cells against ionizing radiation.
Scientific Reports, 2020, 10, 13275, PMID: 32764667, FI: 3.998, Original

Manuel Sanchez-Maldonado J, Martinez-Bueno M, Canhao H, ..., **Conesa-Zamora P** et al.
NFKB2 polymorphisms associate with the risk of developing rheumatoid arthritis and response to TNF inhibitors: Results from the REPAIR consortium.
Scientific Reports, 2020, 10, 4316, PMID: 32152480, FI: 3.998, Original

Oarbeascoa G, **Lozano ML**, Guerra LM et al.

Retrospective multicenter study of extracorporeal photopheresis in steroid-refractory acute and chronic graft-versus-host disease.

Biology of Blood and Marrow Transplantation, 2020, S1083-8791(20)30001-X [pii], PMID: 31917270, FI: 3.853, Original

Hernandez-Boluda JC, Pereira A, Alvarez-Larran A, ..., **Lopez-Godino O** et al.

Predicting Survival after Allogeneic Hematopoietic Cell Transplantation in Myelofibrosis: Performance of the Myelofibrosis Transplant Scoring System (MTSS) and Development of a New Prognostic Model.

Biology of Blood and Marrow Transplantation, 2020, 26, 2237-2244, PMID: 32717433, FI: 3.853, Original

Martinez C, Carpio C, **Heras I*** et al.

Potential Survival Benefit for Patients Receiving Allogeneic Hematopoietic Stem Cell Transplantation after Nivolumab Therapy for Relapse/Refractory Hodgkin Lymphoma: Real-Life Experience in Spain.

Biology of Blood and Marrow Transplantation, 2020, 26, 1534-1542, PMID: 32068094, FI: 3.853, Original

Pinero-Madróna A*, Ripoll-Orts F, Sanchez-Mendez JI et al.

External validation of a prognostic model based on total tumor load of sentinel lymph node for early breast cancer patients.

Breast Cancer Research and Treatment, 2020, 181, 339-345, PMID: 32253684, FI: 3.831, Original

Lopez-Galvez R, de la Morena-Barrio ME*, Lopez-Lera A, ..., **Corral J.**

Factor XII in PMM2-CDG patients: role of N-glycosylation in the secretion and function of the first element of the contact pathway.

Orphanet Journal of Rare Diseases, 2020, 15, 280, PMID: 33036649, FI: 3.523, Original

Tran B, Ruiz-Morales JM, **Gonzalez-Billalabeitia E** et al.

Large retroperitoneal lymphadenopathy and increased risk of venous thromboembolism in patients receiving first-line chemotherapy for metastatic germ cell tumors: A study by the global germ cell cancer group (G3).

Cancer Medicine, 2020, 9, 116-124, PMID: 31715650, FI: 3.491, Original

Ribera JM, Morgades M, Montesinos P, ..., **Amigo ML*** et al.

A pediatric regimen for adolescents and young adults with Philadelphia chromosome-negative acute lymphoblastic leukemia: Results of the ALLRE08 PETHEMA trial.

Cancer Medicine, 2020, 9, 2317-2329, PMID: 32022463, FI: 3.491, Original

Gomez-Torres MJ, Robles-Gomez L, Huerta-Retamal N, ..., **Aviles M** et al.

FE-SEM Characterization of alpha-Mannose Density and Surface Mapping Changes in Human Sperm Head During In Vitro Capacitation.

Microscopy and Microanalysis, 2020, 26, 1220-1225, PMID: 33121558, FI: 3.414, Original

Kondelova A, Alburquerque-Gonzalez B, Vychytilova-Faltejskova P, ..., **Conesa-Zamora P***.

miR-181a-2* expression is different amongst carcinomas from the colorectal serrated route.

Mutagenesis, 2020, 35, 233-241, PMID: 31784758, FI: 3.379, Original

Garabet L, Ghanima W, Rangberg A, **Teruel-Montoya R** et al.

Circulating microRNAs in patients with immune thrombocytopenia before and after treatment with thrombopoietin-receptor agonists.

Platelets, 2020, 31, 198-205, PMID: 30885035, FI: 3.378, Original

Lozano ML*, Garabet L, **Fernandez-Perez MP**, ..., **Martinez C***, **Gonzalez-Conejero R***.

Platelet activation and neutrophil extracellular trap (NET) formation in immune thrombocytopenia: is there an association?

Platelets, 2020, 31, 906-912, PMID: 31762368, FI: 3.378, Original

Palma-Barqueros V, **Bohdan N**, **Revilla N**, ..., **Rivera J***.

PTGS1 gene variations associated with bleeding and platelet dysfunction.

Platelets, 2020, , 1-7, PMID: 32584621, FI: 3.378, Original

Bastida JM, Benito R, Gonzalez-Porras JR, **Rivera J**.

ABCG5 and ABCG8 gene variations associated with sitosterolemia and platelet dysfunction.

Platelets, 2020, , 1-5, PMID: 32546081, FI: 3.378, Original

Martinez-Vicente I, **Abrisqueta M**, **Herraiz C**, ..., **Garcia-Borron JC***, **Olivares C**.

Functional characterization of a C-terminal splice variant of the human melanocortin 1 receptor.

Experimental Dermatology, 2020, 10.1111/exd.14118 [doi], PMID: 32474972, FI: 3.368, Original

Berna-Serna JD, Guzman-Aroca F, Garcia-Vidal JA et al.

A New Therapeutic Application of Platelet-Rich Plasma to Chronic Breast Wounds: A Prospective Observational Study.

Journal of Clinical Medicine, 2020, 9, PMID: 32977482, FI: 3.303, Original

Rivera-Caravaca JM, Teruel-Montoya R, Roldan V, ..., Martinez C*, Gonzalez-Conejero R*.

Pilot Study on the Role of Circulating miRNAs for the Improvement of the Predictive Ability of the 2MACE Score in Patients with Atrial Fibrillation.

Journal of Clinical Medicine, 2020, 9, PMID: 33198388, FI: 3.303, Original

Berna-Serna JD, Garcia-Vidal JA, Escolar-Reina MP, ..., Guzman-Aroca F*, ..., Berna-Mestre JD.

A New Treatment for Mammillary Fistulas Using Ultrasound-Guided Percutaneous Needle Electrolysis.

Journal of Clinical Medicine, 2020, 9, PMID: 32121204, FI: 3.303, Original

Corvillo F, **de la Morena-Barrio ME**, Marcos-Bravo C, ..., **Corral J*** et al.

The FXII c.-4T>C Polymorphism as a Disease Modifier in Patients With Hereditary Angioedema Due to the FXII p.Thr328Lys Variant.

Frontiers in Genetics, 2020, 11, 1033, PMID: 33133137, FI: 3.26, Original

Ortega E, Zamora A, Basu U, ..., **Ruiz J***.

An Erlotinib gold(I) conjugate for combating triple-negative breast cancer.

Journal of Inorganic Biochemistry, 2020, 203, 110910, PMID: 31683128, FI: 3.212, Original

Golemi I, Cote L, Iftikhar O et al. COLABORADORES: Monreal M, Prandoni P, Brenner B, ..., **Soler S** et al.

Incidence of major adverse cardiovascular events among patients with provoked and unprovoked venous thromboembolism: Findings from the Registro Informatizado de Enfermedad Tromboembolica Registry.

Journal of Vascular Surgery-Venous and Lymphatic Disorders, 2020, 8, 353-359.e1, PMID: 31784355, FI: 3.137, Original

Bravo-Perez C, de la Morena-Barrio ME, Vicente V, Corral J*.

Antithrombin deficiency as a still underdiagnosed thrombophilia: a primer for internists.

Polish Archives of Internal Medicine-Polskie Archiwum Medycyny Wewnętrznej, 2020, 130, 868-877, PMID: 32426958, FI: 3.007, Revisión

Alvarez-Larran A, Pereira A, Magaz M, ..., **Ferrer-Marin F*** et al.

Natural history of polycythemia vera and essential thrombocythemia presenting with splanchnic vein thrombosis.

Annals of Hematology, 2020, 99, 791-798, PMID: 32086587, FI: 2.904, Original

Bastos-Oreiro M, Muntanola A, Panizo C, ..., **Perez E*** et al.
RELINF: prospective epidemiological registry of lymphoid neoplasms in Spain. A project from the GELTAMO group.

Annals of Hematology, 2020, 99, 799-808, PMID: 32076827, FI: 2.904, Original

Garabet L, Henriksson CE, **Lozano ML** et al.

Markers of endothelial cell activation and neutrophil extracellular traps are elevated in immune thrombocytopenia but are not enhanced by thrombopoietin receptor agonists.

Thrombosis Research, 2020, 185, 119-124, PMID: 31805421, FI: 2.869, Original

Rios SJ, Martinez-Montesinos L, Aroca C, ..., **Teruel-Montoya R***, **Ferrer-Marin F***.

Successful ovarian stimulation and pregnancy in an infertile woman with chronic myeloid leukemia.

Journal of Assisted Reproduction and Genetics, 2020, 37, 2473-2476, PMID: 32766925, FI: 2.829, Original

Novelli S, Martin A, **Sanchez JJ*** et al.

Management experience of advanced-stage mycosis fungoides/Sézary syndrome: a retrospective study from Spanish haematology referral units.

European Journal of Dermatology, 2020, 30, 397-403, PMID: 32815814, FI: 2.782, Original

Caini S, Gandini S, Botta F, ..., **Garcia-Borrón JC** et al.

MC1R variants and cutaneous melanoma risk according to histological type, body site, and Breslow thickness: a pooled analysis from the M-SKIP project.

Melanoma Research, 2020, 30, 500-510, PMID: 32898390, FI: 2.75, Original

Palma-Barqueros V, **Torregrosa JM**, **Caparros-Perez E**, ..., **Rivera J***, **Ferrer-Marin F***.

Developmental Differences in Platelet Inhibition Response to Prostaglandin E1.

Neonatology, 2020, 117, 15-23, PMID: 31786577, FI: 2.742, Original

Viudez A, **Carmona-Bayonas A**, Gallego J et al.

Optimal duration of first-line chemotherapy for advanced gastric cancer: data from the AGAMENON registry.

Clinical & Translational Oncology, 2020, 22, 734-750, PMID: 31385226, FI: 2.737, Original

Ghanem I, Castelo B, Jimenez-Fonseca P, **Carmona-Bayonas A** et al.

Coping strategies and depressive symptoms in cancer patients.

Clinical & Translational Oncology, 2020, 22, 330-336, PMID: 31077086, FI: 2.737, Original

Munoz-Langa J, Jimenez-Fonseca P, **Carmona-Bayonas A*** et al.

Rationale, design and methodology of TESEO study: a registry of thrombosis and neoplasia of SEOM (Spanish Society of Medical Oncology).

Clinical & Translational Oncology, 2020, 10.1007/s12094-020-02472-x [doi], PMID: 32789772, FI: 2.737, Original

Gonzalez-Del-Alba A, Arranz JA, Bellmunt J, ..., **Gonzalez-Billalabeitia E** et al.
Latest progress in molecular biology and treatment in genitourinary tumours.
Clinical & Translational Oncology, 2020, 22, 2175-2195, PMID: 32440915, FI: 2.737, Revisión

Martin-Richard M, **Carmona-Bayonas A***, Custodio AB et al.
SEOM clinical guideline for the diagnosis and treatment of gastric cancer (GC) and gastroesophageal junction adenocarcinoma (GEJA) (2019).
Clinical & Translational Oncology, 2020, 22, 236-244, PMID: 31989475, FI: 2.737, Original

Gomez D, Calderon C, **Carmona-Bayonas A** et al.
Impact of adjuvant therapy toxicity on quality of life and emotional symptoms in patients with colon cancer: a latent class analysis.
Clinical & Translational Oncology, 2020, 22, 236-244, PMID: 31989475, FI: 2.737, Original

Rodriguez-Lescure A, **de la Pena FA***, Aranda E et al.
Study of the Spanish Society of Medical Oncology (SEOM) on the access to oncology drugs and predictive biomarkers in Spain.
Clinical & Translational Oncology, 2020, 22, 2253-2263, PMID: 32533318, FI: 2.737, Original

Lozano ML*, Godeau B, Grainger J et al.
Romiplostim in adults with newly diagnosed or persistent immune thrombocytopenia.
Expert Review of Hematology, 2020, 13, 1319-1332, PMID: 33249935, FI: 2.573, Revisión

Galvez MM, **Jimenez JA**, Gil Izquierdo JI, ..., **Ayala de la Pena F**.
Ultrasound staging in breast cancer: A decision-making oriented approach to axillary metastatic burden prediction.
Surgical Oncology-Oxford, 2020, 35, 114-119, PMID: 32871545, FI: 2.521, Original

Saez-Espinosa P, Huerta-Retamal N, Robles-Gomez L, **Aviles M** et al.
Influence of in vitro capacitation time on structural and functional human sperm parameters.
Asian Journal of Andrology, 2020, 22, 447-453, PMID: 31621655, FI: 2.448, Original

Galan-Ros J, Ramos-Arenas V, **Conesa-Zamora P***.
Predictive values of colon microbiota in the treatment response to colorectal cancer.
Pharmacogenomics, 2020, 21, 1045-1059, PMID: 32896201, FI: 2.339, Revisión

Ribera JM, Garcia O, Chapchap EC, ..., **Amigo ML*** et al.
Treatment of Frail Older Adults and Elderly Patients With Philadelphia Chromosome-negative Acute Lymphoblastic Leukemia: Results of a Prospective Trial With Minimal Chemotherapy.
Clinical Lymphoma Myeloma & Leukemia, 2020, 20, e513-e522, PMID: 32336676, FI: 2.298, Original

Perez Encinas MM, Sobas M, Gomez-Casares MT, ..., **Ferrer-Marin F** et al.
The risk of thrombosis in essential thrombocythemia is associated with the type of CALR mutation: A multicentre collaborative study.
European Journal of Haematology, 2020, 10.1111/ejh.13561 [doi], PMID: 33275803, FI: 2.22, Original

Rodriguez-Medina C, Martinez-Cuadron D, Cano I, ..., **Amigo ML*** et al.
Performance of prognostic scoring systems in elderly patients with acute myeloid leukaemia on intensive chemotherapy: A PETHEMA registry study.
Leukemia Research, 2020, 92, 106352, PMID: 32240863, FI: 2.214, Original

Hamze JG, Sanchez JM, O'Callaghan E, ..., **Jimenez-Movilla M***.
JUNO protein coated beads: A potential tool to predict bovine sperm fertilizing ability.
Theriogenology, 2020, 155, 168-175, PMID: 32688086, FI: 2.094, Original

de la Morena-Barrio ME, Sabater M, de la Morena-Barrio B, ..., **Minano A***, ..., **Corral J***.
ALG12-CDG: An unusual patient without intellectual disability and facial dysmorphism, and with a novel variant.
Molecular Genetics & Genomic Medicine, 2020, 8, e1304, PMID: 32530140, FI: 1.995, Original

Pastor-Galan I, Hernandez-Boluda JC, Correa JG, ..., **Ferrer-Marin F*** et al.
Clinico-biological characteristics of patients with myelofibrosis: an analysis of 1,000 cases from the Spanish Registry of Myelofibrosis.
Medicina Clinica, 2020, 155, 152-158, PMID: 31980217, FI: 1.635, Original

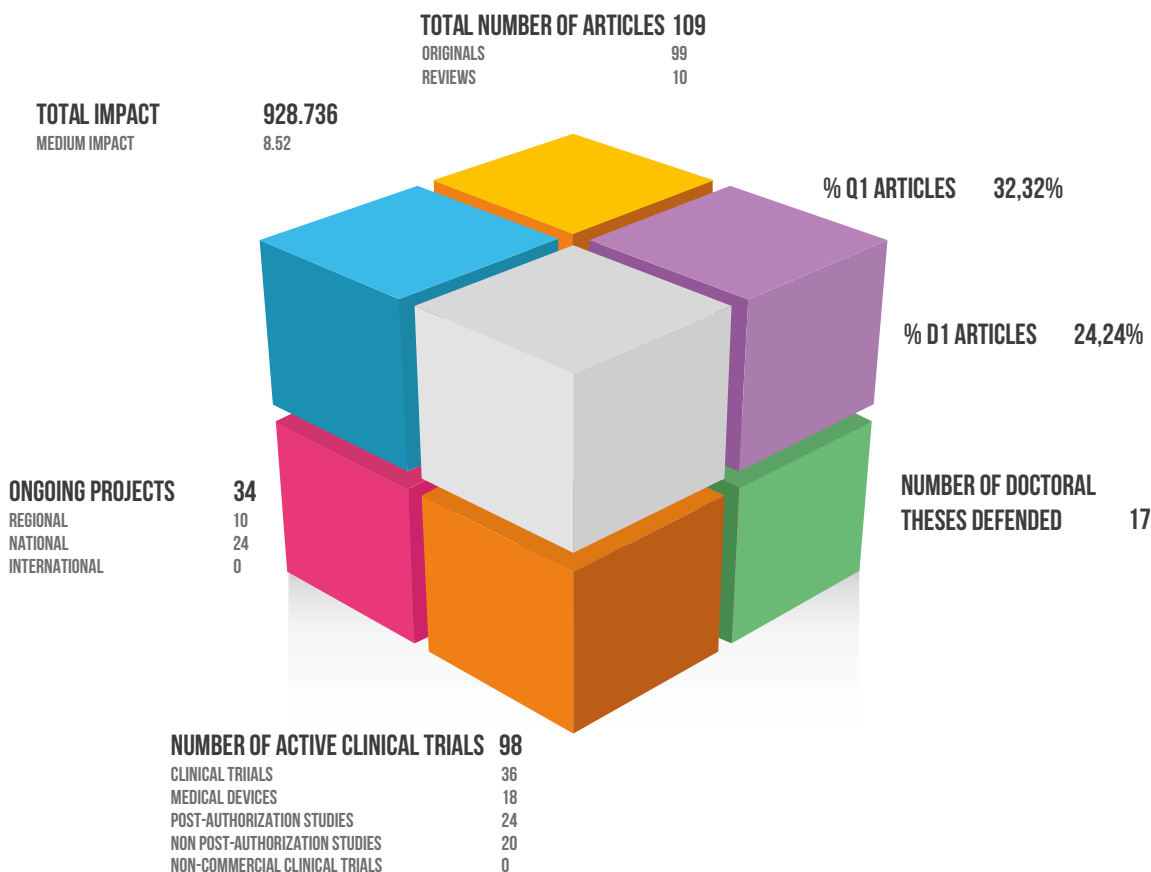
Abellan-Huerta J, Bonaque-Gonzalez JC, Rubio-Paton R, ..., **Consuegra-Sanchez L** et al.
Velocity-Time Integral of Aortic Regurgitation: A Novel Echocardiographic Marker in the Evaluation of Aortic Regurgitation Severity.
Arquivos Brasileiros de Cardiologia, 2020, 115, 253-260, PMID: 32696853, FI: 1.45, Original

Bauduer F, **de la Morena-Barrio ME**, Salloum-Asfar S, ..., **Padilla J*** et al.
When genetic and surname analyses meet historical sources: The C56R mutation associated with factor XI deficiency as a marker of human migration during the Spanish Reconquista.
Medical Hypotheses, 2020, 141, 109709, PMID: 32278893, FI: 1.375, Original

Castrillo A, Arroyo JL, Romon I, **Rivera J**.
Compliance with temperature and time requirements during in-hospital distribution of blood components: A national survey among transfusion services.
Transfusion and Apheresis Science, 2020, 59, 102908, PMID: 32921561, FI: 1.285, Original

AREA 2: CARDIOVASCULAR AND RESPIRATORY DISEASES

SCIENTIFIC PRODUCTION OF AREA



The Area 2 of the IMIB in 2020 includes seven research groups: four consolidated (Clinical and Experimental Cardiology, Research in Pediatrics, Respiratory Therapies in acute respiratory failure and Kidney regulation and Blood pressure), two emerging (Aerobiology and Environmental Toxicology and Medical Physiology) and an associated clinical group (Nursing Research in advances in respiratory functional tests). The Area brings together 150 researchers with extensive clinical, basic and translational experience (56% are linked to the clinic and 54% are women), who continue to actively participate in national research networks such as CIBER-CV, CIBER-ER, RETICS ARADYAL and SAMID; in addition to CSUR and ERN.

In 2020, a total of 34 competitive projects have been developed (24 national and 10 regional), including projects related to COVID-19. Clinical research studies have grown to 98 (36 clinical trials, 18 medical devices, 24 EPA and 20 non-EPA). With the effort and dedication of its researchers, the scientific production of the Area has increased this year in quantity and quality, with 109 publications (compared to 80 articles in 2019); the total accumulated impact has doubled to 928,736 (414 points in 2019) with an average impact per publication of 8.17; and placing 32.32% of publications in Q1 and 24.24% in D1. The list of publications is reflected in this report, highlighting high-impact articles in the New England Journal of Medicine, Lancet, Molecular Psychiatry, European Heart Journal or Genetics in Medicine, among others. In training, the defense of 17 Doctoral Theses stands out. Finally, the intense activity of scientific dissemination, social visibility and transfer carried out by researchers, through ICTs, social networks and the media in this difficult period, must also be underlined.

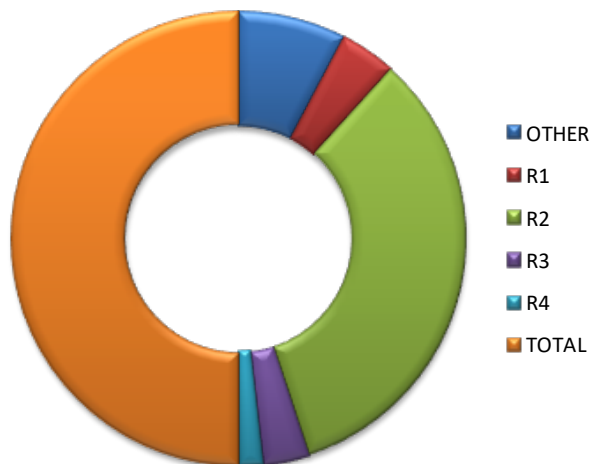


DRA. ENCARNA GUILLÉN NAVARRO

Area 2 has 7 groups

NAME OF GROUP	CATEGORY	GROUP LEADER
CLINICAL AND EXPERIMENTAL CARDIOLOGY	CONSOLIDATED	DOMINGO ANDRÉS PASCUAL FIGAL
RESEARCH IN PEDIATRICS	CONSOLIDATED	LUIS GARCÍA-MARCOS ÁLVAREZ
RESPIRATORY THERAPIES IN ACUTE RESPIRATORY FAILURE	CONSOLIDATED	ANDRES CARRILLO ALCARAZ
KIDNEY REGULATION AND BLOOD PRESSURE	CONSOLIDATED	F. JAVIER SALAZAR APARICIO
AEROBIOLOGY AND ENVIRONMENTAL TOXICOLOGY	EMERGING	STELLA MORENO GRAU
MEDICAL PHYSIOLOGY	EMERGING	ISABEL HERNANDEZ GARCIA
NURSING RESEARCH GROUP IN ADVANCES IN RESPIRATORY FUNCTIONAL TESTS	ASSOCIATED CLINIC	MONICA BALLESTER MARTINEZ

These groups have an overall total of 150 researchers:



*OTHER	R1	R2	R3	R4	TOTAL
23	12	100	10	5	150

Other*: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Garcia-Serna AM, Morales E*.

Neurodevelopmental effects of prenatal vitamin D in humans: systematic review and meta-analysis.

Molecular Psychiatry, 2020, 25, 2468-2481, PMID: 30696940, FI: 12.384, Revisión

Senni M, Wachter R, Witte KK, ..., **Pascual-Figal D.**

Initiation of sacubitril/valsartan shortly after hospitalisation for acutely decompensated heart failure in patients with newly diagnosed (de novo) heart failure: a subgroup analysis of the TRANSITION study.

European Journal of Heart Failure, 2020, 22, 303-312, PMID: 31820537, FI: 11.627, Original

Pascual-Figal D*, Wachter R, Senni M et al.

NT-proBNP Response to Sacubitril/Valsartan in Hospitalized Heart Failure Patients With Reduced Ejection Fraction: TRANSITION Study.

Jacc-Heart Failure, 2020, 8, 822-833, PMID: 32800508, FI: 9.14, Original

Rivera-Caravaca JM, Roldan V*, Vicente V, ..., Marin F.

Particulate Matter and Temperature: Increased Risk of Adverse Clinical Outcomes in Patients With Atrial Fibrillation.

Mayo Clinic Proceedings, 2020, 95, 2360-2369, PMID: 33153628, FI: 6.942, Original

Gazquez A, Prieto-Sanchez MT, Blanco-Carnero JE, ..., Larque E*.

Altered materno-fetal transfer of 13C-polyunsaturated fatty acids in obese pregnant women.

Clinical Nutrition, 2020, 39, 1101-1107, PMID: 31029479, FI: 6.36, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB:

Maron DJ, Hochman JS, Reynolds HR et al. COLABORADORES: Ricci J, **Tello Montoliu A**, Robero Aniorte AI.

Initial Invasive or Conservative Strategy for Stable Coronary Disease.

New England Journal of Medicine, 2020, 382, 1395-1407, PMID: 32227755, FI: 74.699, Original

Packer M, Anker SD, Butler J et al. COLABORADORES: Aizenberg D, Cartasegna L, Colombo H, ..., **Pascual Figal D** et al.

Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure.

New England Journal of Medicine, 2020, 383, 1413-1424, PMID: 32865377, FI: 74.699, Original

Kirchhof P, Camm AJ, Goette A et al. COLABORADORES: Breithardt G, Crijns H, Camm J, ..., **Marin F** et al.

Early Rhythm-Control Therapy in Patients with Atrial Fibrillation.

New England Journal of Medicine, 2020, 383, 1305-1316, PMID: 32865375, FI: 74.699, Original

Spertus JA, Jones PG, Maron DJ et al. COLABORADORES: Ricci J, **Tello Montoliu A**, Robero Aniorte AI.

Health-Status Outcomes with Invasive or Conservative Care in Coronary Disease.

New England Journal of Medicine, 2020, 382, 1408-1419, PMID: 32227753, FI: 74.699, Original

Olivotto I, Oreziak A, Barriales-Villa R, ..., **Gimeno-Blanes J** et al.

Mavacamten for treatment of symptomatic obstructive hypertrophic cardiomyopathy (EXPLORER-HCM): a randomised, double-blind, placebo-controlled, phase 3 trial.

Lancet, 2020, S0140-6736(20)31792-X [pii], PMID: 32871100, FI: 60.39, Original

Ponikowski P, Kirwan BA, Anker SD, ..., **Pascual-Figal DA** et al.

Ferric carboxymaltose for iron deficiency at discharge after acute heart failure: a multicentre, double-blind, randomised, controlled trial.

Lancet, 2020, 396, 1895-1904, PMID: 33197395, FI: 60.39, Original

Vranckx P, Valgimigli M, Eckardt L, ..., **Marin F** et al.

Edoxaban in atrial fibrillation patients with percutaneous coronary intervention by acute or chronic coronary syndrome presentation: a pre-specified analysis of the ENTRUST-AF PCI trial.

European Heart Journal, 2020, 41, 4497-4504, PMID: 32860041, FI: 22.673, Original

Mazzanti A, Guz D, Trancuccio A, ..., **Munoz-Esparza C** et al.

Natural History and Risk Stratification in Andersen-Tawil Syndrome Type 1.

Journal of the American College of Cardiology, 2020, 75, 1772-1784, PMID: 32299589, FI: 20.589, Original

Pericas JM, Llopis J, Munoz P et al. COLABORADORES: Sanchez FF, Noureddine M, Rosas G, ..., **Hernandez-Meneses M** et al.

A Contemporary Picture of Enterococcal Endocarditis.

Journal of the American College of Cardiology, 2020, 75, 482-494, PMID: 32029130, FI: 20.589, Original

Lopez-Sainz A, Dominguez F, Lopes LR, ..., **Navarro M** et al.

Clinical Features and Natural History of PRKAG2 Variant Cardiac Glycogenosis.

Journal of the American College of Cardiology, 2020, 76, 186-197, PMID: 32646569, FI: 20.589, Original

Lorenzini M, Anastasiou Z, O'Mahony C, ..., **Gimeno JR** et al.
Mortality Among Referral Patients With Hypertrophic Cardiomyopathy vs the General European Population.
Jama Cardiology, 2020, 5, 73-80, PMID: 31774458, FI: 12.794, Original

Asher MI, **Garcia-Marcos L**, Pearce NE et al.
Trends in worldwide asthma prevalence.
European Respiratory Journal, 2020, 56, PMID: 32972987, FI: 12.339, Original

Kapelijs CJ, Laroche C, Crespo-Leiro MG et al. COLABORADORES: Gale CP, Beleslin B, Budaj A, ..., **Perez-Martinez MT** et al.
Association between loop diuretic dose changes and outcomes in chronic heart failure: observations from the ESC-EORP Heart Failure Long-Term Registry.
European Journal of Heart Failure, 2020, 10.1002/ejhf.1796 [doi], PMID: 32237110, FI: 11.627, Original

Lainscak M, Milinkovic I, Polovina M et al. COLABORADORES: Gale CP, Chair GB, Branko Beleslin RS, ..., **Perez-Martinez MT** et al.
Sex- and age-related differences in the management and outcomes of chronic heart failure: an analysis of patients from the ESC HFA EORP Heart Failure Long-Term Registry.
European Journal of Heart Failure, 2020, 22, 92-102, PMID: 31863522, FI: 11.627, Original

Linhart A, Germain DP, Olivotto I, ..., **Gimeno JR** et al.
An expert consensus document on the management of cardiovascular manifestations of Fabry disease.
European Journal of Heart Failure, 2020, 10.1002/ejhf.1960 [doi], PMID: 32640076, FI: 11.627, Original

Walsh R, Lahrouchi N, Tadros R, ..., **Ortuno CG** et al.
Enhancing rare variant interpretation in inherited arrhythmias through quantitative analysis of consortium disease cohorts and population controls.
Genetics in Medicine, 2020, 10.1038/s41436-020-00946-5 [doi], PMID: 32893267, FI: 8.904, Original

Papadopoulos NG, Custovic A, Deschildre A, ..., **Garcia-Marcos L** et al.
Impact of COVID-19 on Pediatric Asthma: Practice Adjustments and Disease Burden.
Journal of Allergy and Clinical Immunology-In Practice, 2020, 8, 2592-2599.e3, PMID: 32561497, FI: 7.574, Original

Akhtar MM, Lorenzini M, Cicerchia M, ..., **Sabater Molina M** et al.
Clinical Phenotypes and Prognosis of Dilated Cardiomyopathy Caused by Truncating Variants in the TTN Gene.
Circulation-Heart Failure, 2020, 13, e006832, PMID: 32964742, FI: 6.033, Original

Ganapathi M, Argyriou L, Martinez-Azorin F, ..., **Sabater-Molina M** et al.
Bi-allelic missense disease-causing variants in RPL3L associate neonatal dilated cardiomyopathy with muscle-specific ribosome biogenesis.
Human Genetics, 2020, 139, 1443-1454, PMID: 32514796, FI: 5.743, Original

Bleijendaal H, Ramos LA, Lopes RR, ..., **Gimeno-Blanes JR** et al.
Computer versus cardiologist: Is a machine learning algorithm able to outperform an expert in diagnosing a phospholamban p.Arg14del mutation on the electrocardiogram?
Heart Rhythm, 2020, S1547-5271(20)30861-4 [pii], PMID: 32911053, FI: 5.731, Original

Porta M, Pumarega J, Amaral AFS, ..., **Morales E** et al.
Influence of KRAS mutations, persistent organic pollutants, and trace elements on survival from pancreatic ductal adenocarcinoma.
Environmental Research, 2020, 190, 109781, PMID: 32791343, FI: 5.715, Original

Gil MM, Molina FS, Rodriguez-Fernandez M, ..., **De Paco Matallana C**.
Risk of miscarriage after chorionic villus sampling.
Ultrasound in Obstetrics & Gynecology, 2020, 10.1002/uog.22041 [doi], PMID: 32281125, FI: 5.571, Original

Yovera L, Zaharia M, Jachymski T, ..., **De Paco Matallana C** et al.
Impact of gestational diabetes mellitus on fetal cardiac morphology and function: cohort comparison of second- and third-trimester fetuses.
Ultrasound in Obstetrics & Gynecology, 2020, 10.1002/uog.22148 [doi], PMID: 32691497, FI: 5.571, Original

Matalonga L, Laurie S, Papakonstantinou A et al. COLABORADORES: Renieri A, Dursun A, Matilla-Duenas A, ..., **Gimeno Blanes JR** et al.
Improved Diagnosis of Rare Disease Patients through Systematic Detection of Runs of Homozygosity.
Journal of Molecular Diagnostics, 2020, 22, 1205-1215, PMID: 32619640, FI: 5.553, Original

Caravaca Perez P, Gonzalez-Juanatey JR, Nuche J, ..., **Pascual Figal D** et al.
Serum potassium dynamics during acute heart failure hospitalization.
Clinical Research in Cardiology, 2020, 10.1007/s00392-020-01753-3 [doi], PMID: 33070219, FI: 5.268, Original

Larenas-Linnemann D, Romero-Tapia SJ, Virgen C, ..., **Garcia-Marcos L**.
Risk factors for wheezing in primary health care settings in the tropics.
Annals of Allergy Asthma & Immunology, 2020, 124, 179-184.e1, PMID: 31734332, FI: 4.969, Original

Manganaro R, Marchetta S, Dulgheru R, ..., **de la Morena G** et al.

Correlation between non-invasive myocardial work indices and main parameters of systolic and diastolic function: results from the EACVI NORRE study.

European Heart Journal-Cardiovascular Imaging, 2020, 21, 533-541, PMID: 31408147, FI: 4.841, Original

Tsugu T, Postolache A, Dulgheru R, ..., **de la Morena G** et al.

Echocardiographic reference ranges for normal left ventricular layer-specific strain: results from the EACVI NORRE study.

European Heart Journal-Cardiovascular Imaging, 2020, jeaa050 [pii], PMID: 32259844, FI: 4.841, Original

Moreno-Galdo A, Perez-Yarza EG, Ramilo O et al. COLABORADORES: Aldasoro A, Corcuera P, Korta J, ..., **Sanchez-Solis M** et al.

Recurrent wheezing during the first 3 years of life in a birth cohort of moderate-to-late preterm infants.

Pediatric Allergy and Immunology, 2020, 31, 124-132, PMID: 31597224, FI: 4.699, Original

Navas-Carrillo D, **Rivera-Caravaca JM**, Sampedro-Andrada A, **Orenes-Pinero E***.

Novel biomarkers in Alzheimer's disease using high resolution proteomics and metabolomics: miRNAs, proteins and metabolites.

Critical Reviews in Clinical Laboratory Sciences, 2020, , 1-13, PMID: 33137264, FI: 4.677, Revisión

Crespo-Leiro MG, Barge-Caballero E, Segovia-Cubero J, ..., **Pascual-Figal DA** et al.

Hyperkalemia in heart failure patients in Spain and its impact on guidelines and recommendations: ESC-EORP-HFA Heart Failure Long-Term Registry.

Revista Espanola de Cardiologia, 2020, 73, 313-323, PMID: 31672562, FI: 4.642, Original

Fernandez-Vazquez D, Ferrero-Gregori A, Alvarez-Garcia J, ..., **Pascual Figal DA***.

Changes in causes of death and influence of therapeutic improvement over time in patients with heart failure and reduced ejection fraction.

Revista Espanola de Cardiologia, 2020, S1885-5857(19)30420-7 [pii], PMID: 31974070, FI: 4.642, Original

Manito Lorite N, Rubio-Rodriguez D, Gonzalez Costello J et al. COLABORADORES: Pinilla JMG, Almenar L, Crespo-Leiro MG, ..., **Pascual-Figal D** et al.

Economic analysis of intermittent intravenous outpatient treatment with levosimendan in advanced heart failure in Spain.

Revista Espanola de Cardiologia, 2020, 73, 361-367, PMID: 31899185, FI: 4.642, Original

Anguita Sanchez M, Bertomeu Martinez V, Ruiz Ortiz M, ..., **Marin Ortuno F**.

Direct oral anticoagulants versus vitamin K antagonists in real-world patients with nonvalvular atrial fibrillation. The FANTASIA study.

Revista Espanola de Cardiologia, 2020, 73, 14-20, PMID: 31160265, FI: 4.642, Original

Cantero Lopez F, Elvira Ruiz G, Penafiel Verdu P, ..., **Garcia-Alberola A**.

Emergency department attendance and reasons for consultation after cryoballoon ablation for pulmonary vein isolation of atrial fibrillation.

Revista Espanola de Cardiologia, 2020, S1885-5857(20)30057-8 [pii], PMID: 32127343, FI: 4.642, Original

Vivas D, **Roldan V**, Esteve-Pastor MA, ..., **Marin F*** et al.

[Recommendations on antithrombotic treatment during the COVID-19 pandemic. Position statement of the Working Group on Cardiovascular Thrombosis of the Spanish Society of Cardiology].

Revista Espanola de Cardiologia, 2020, 10.1016/j.recesp.2020.04.006 [doi], PMID: 32327870, FI: 4.642, Original

Bertomeu-Gonzalez V, Moreno-Arribas J, **Esteve-Pastor MA***, ..., **Marin F**.

Association of Body Mass Index With Clinical Outcomes in Patients With Atrial Fibrillation: A Report From the FANTASIA Registry.

Journal of the American Heart Association, 2020, 9, e013789, PMID: 31870235, FI: 4.605, Original

Camelo-Castillo A, **Rivera-Caravaca JM**, **Marin F**, ..., **Roldan V***.

Predicting Adverse Events beyond Stroke and Bleeding with the ABC-Stroke and ABC-Bleeding Scores in Patients with Atrial Fibrillation: The Murcia AF Project.

Thrombosis and Haemostasis, 2020, 120, 1200-1207, PMID: 32506417, FI: 4.385, Original

Proietti M, **Rivera-Caravaca JM**, **Esteve-Pastor MA** et al.

Stroke and Thromboembolism in Warfarin-Treated Patients with Atrial Fibrillation: Comparing the CHA2DS2-VASc and GARFIELD-AF Risk Scores.

Thrombosis and Haemostasis, 2020, 10.1055/a-1333-4448 [doi], PMID: 33296920, FI: 4.385, Original

Rodriguez-Queralto O, Formiga F, Lopez-Palop R, **Marin F** et al.

FRAIL Scale also Predicts Long-Term Outcomes in Older Patients With Acute Coronary Syndromes.

Journal of the American Medical Directors Association, 2020, 21, 683-687.e1, PMID: 31780414, FI: 4.367, Original

Roldan Rabadan I, **Esteve-Pastor MA**, Anguita Sanchez M et al.

Influence of sex on long-term prognosis in patients with atrial fibrillation treated with oral anticoagulants. Results from the prospective, nationwide FANTASIA study.

European Journal of Internal Medicine, 2020, S0953-6205(20)30118-7 [pii], PMID: 32303456, FI: 4.329, Original

Palencia-Campos A, Martinez-Fernandez ML, Altunoglu U, ..., **Guillen-Navarro E** et al.

Heterozygous pathogenic variants in GLL1 are a common finding in isolated postaxial polydactyly A/B.

Human Mutation, 2020, 41, 265-276, PMID: 31549748, FI: 4.124, Original

Alfayate Miguelez S, Yague Guirao G, Menasalvas Ruiz AI, **Sanchez-Solis M** et al.
Impact of Pneumococcal Vaccination in the Nasopharyngeal Carriage of *Streptococcus pneumoniae* in Healthy Children of the Murcia Region in Spain.
Vaccines, 2020, 9, PMID: 33379235, FI: 4.086, Original

Farkowski MM, Jubele K, **Marin F** et al.
Diagnosis and management of left atrial appendage thrombus in patients with atrial fibrillation undergoing cardioversion or percutaneous left atrial procedures: results of the European Heart Rhythm Association survey.
Europace, 2020, 22, 162-169, PMID: 31501852, FI: 4.045, Original

Torp-Pedersen C, Goette A, Nielsen PB et al. COLABORADORES: Gorennek B, Dagres N, Violi F, ..., **Marin F** et al.
'Real-world' observational studies in arrhythmia research: data sources, methodology, and interpretation. A position document from European Heart Rhythm Association (EHRA), endorsed by Heart Rhythm Society (HRS), Asia-Pacific HRS (APHRS), and Latin America HRS (LAHRS).
Europace, 2020, 22, 831-832, PMID: 31725156, FI: 4.045, Original

Boveda S, Marijon E, Lenarczyk R, ..., **Marin F** et al.
Factors influencing the use of leadless or transvenous pacemakers: results of the European Heart Rhythm Association Prospective Survey.
Europace, 2020, 22, 667-673, PMID: 31960027, FI: 4.045, Original

Asensio Lopez MDC, Lax A*, Hernandez Vicente A, ..., **Pascual Figal DA***.
Empagliflozin improves post-infarction cardiac remodeling through GTP enzyme cyclohydrolase 1 and irrespective of diabetes status.
Scientific Reports, 2020, 10, 13553, PMID: 32782412, FI: 3.998, Original

Revuelta-Lopez E, Nunez J, Gastelurrutia P, ..., **Pascual-Figal D** et al.
Nephrilysin inhibition, endorphin dynamics, and early symptomatic improvement in heart failure: a pilot study.
Esc Heart Failure, 2020, 7, 559-566, PMID: 32045114, FI: 3.902, Original

Helio T, Elliott P, Koskenvuo JW, **Gimeno JR** et al.
ESC EORP Cardiomyopathy Registry: real-life practice of genetic counselling and testing in adult cardiomyopathy patients.
Esc Heart Failure, 2020, 10.1002/ehf2.12925 [doi], PMID: 32767651, FI: 3.902, Original

Mizia-Stec K, Caforio ALP, Charron P, **Gimeno JR** et al.
Atrial fibrillation, anticoagulation management and risk of stroke in the Cardiomyopathy/Myocarditis registry of the EURObservational Research Programme of the European Society of Cardiology.
Esc Heart Failure, 2020, 10.1002/ehf2.12854 [doi], PMID: 32940421, FI: 3.902, Original

Asselbergs FW, Sammani A, Elliott P, **Gimeno JR** et al.

Differences between familial and sporadic dilated cardiomyopathy: ESC EORP Cardiomyopathy & Myocarditis registry.

Esc Heart Failure, 2020, 10.1002/ehf2.13100 [doi], PMID: 33179448, FI: 3.902, Original

Gorennek B, Halvorsen S, Kudaiberdieva G, ..., **Marin F** et al.

Atrial fibrillation in acute heart failure: A position statement from the Acute Cardiovascular Care Association and European Heart Rhythm Association of the European Society of Cardiology.

European Heart Journal-Acute Cardiovascular Care, 2020, 9, 348-357, PMID: 31976747, FI: 3.813, Original

Ruiz-Nodar JM, **Esteve-Pastor MA**, **Rivera-Caravaca JM**, ..., **Marin F***.

One-year efficacy and safety of prasugrel and ticagrelor in patients with acute coronary syndromes: Results from a prospective and multicentre ACHILLES registry.

British Journal of Clinical Pharmacology, 2020, 10.1111/bcp.14213 [doi], PMID: 31912949, FI: 3.74, Original

Tenorio J, Alarcon P, Arias P et al. COLABORADORES: Rosa AL, Blanquer A, Alix AG, ..., **Navarro EG** et al.

Further delineation of neuropsychiatric findings in Tatton-Brown-Rahman syndrome due to disease-causing variants in DNMT3A: seven new patients.

European Journal of Human Genetics, 2020, 28, 469-479, PMID: 31685998, FI: 3.657, Original

Sanchez-Campillo M, **Ruiz-Palacios M**, **Ruiz-Alcaraz AJ**, ..., **Larque E***.

Child Head Circumference and Placental MFSD2a Expression Are Associated to the Level of MFSD2a in Maternal Blood During Pregnancy.

Frontiers in Endocrinology, 2020, 11, 38, PMID: 32117064, FI: 3.644, Original

Ruiz-Sanchez JG, Nunez-Gil IJ, Cuesta M, ..., **Marin F** et al.

Prognostic Impact of Hyponatremia and Hypernatremia in COVID-19 Pneumonia. A HOPE-COVID-19 (Health Outcome Predictive Evaluation for COVID-19) Registry Analysis.

Frontiers in Endocrinology, 2020, 11, 599255, PMID: 33329400, FI: 3.644, Original

Pascual-Alonso A, Blasco L, Vidal S, ..., **Guillen E** et al.

Molecular characterization of Spanish patients with MECP2 duplication syndrome.

Clinical Genetics, 2020, 97, 610-620, PMID: 32043567, FI: 3.578, Original

Gil-Ortuno C, Sebastian-Marcos P, **Sabater-Molina M*** et al.

Genetics of feline hypertrophic cardiomyopathy.

Clinical Genetics, 2020, 10.1111/cge.13743 [doi], PMID: 32215921, FI: 3.578, Revisión

Rutter CE, Silverwood RJ, Asher MI, ..., **Garcia-Marcos L** et al.
Comparison of individual-level and population-level risk factors for rhinoconjunctivitis, asthma, and eczema in the International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three.
World Allergy Organization Journal, 2020, 13, 100123, PMID: 32642022, FI: 3.506, Original

Del-Rio-Navarro BE, Navarrete-Rodriguez EM, Berber A, ..., **Garcia-Marcos Alvarez L**
COLABORADORES: Garcia-Almaraz R, Merida-Palacio JV, Saucedo-Ramirez OJ, ...
The burden of asthma in an inner-city area: A historical review 10 years after Isaac.
World Allergy Organization Journal, 2020, 13, 100092, PMID: 31934263, FI: 3.506, Revisión

Uribarri A, Nunez-Gil IJ, Aparisi A, ..., **Marin F** et al.
Impact of renal function on admission in COVID-19 patients: an analysis of the international HOPE COVID-19 (Health Outcome Predictive Evaluation for COVID 19) Registry.
Journal of Nephrology, 2020, 33, 737-745, PMID: 32602006, FI: 3.484, Original

Rivera-Caravaca JM, Nunez-Gil IJ, Vivas D, ..., **Marin F***.
Clinical profile and prognosis in patients on oral anticoagulation before admission for COVID-19.
European Journal of Clinical Investigation, 2020, , e13436, PMID: 33080051, FI: 3.481, Original

Aimo A, **Pascual Figal DA**, Bayes-Genis A et al.
Effect of low-dose colchicine in acute and chronic coronary syndromes: A systematic review and meta-analysis.
European Journal of Clinical Investigation, 2020, , e13464, PMID: 33251579, FI: 3.481, Revisión

Bertomeu-Gonzalez V, Moreno-Arribas J, **Esteve-Pastor MA***, ..., **Marin F**.
Peripheral artery disease and clinical outcomes in patients with atrial fibrillation: A report from the FANTASIA registry.
European Journal of Clinical Investigation, 2020, , e13431, PMID: 33065765, FI: 3.481, Original

Ruiz-Ortiz M, Anguita-Sanchez M, Bonilla-Palomas JL, ..., **Marin F** et al.
Incidence and outcomes of hospital treated acute myocarditis from 2003 to 2015 in Spain.
European Journal of Clinical Investigation, 2020, , e13444, PMID: 33152138, FI: 3.481, Original

Sanchez-Solis M*, Parra-Carrillo MS, Mondejar-Lopez P, ..., **Garcia-Marcos L**.
Preschool Asthma Symptoms in Children Born Preterm: The Relevance of Lung Function in Infancy.
Journal of Clinical Medicine, 2020, 9, PMID: 33081007, FI: 3.303, Original

Sabater-Molina M, Navarro-Penalver M, Munoz-Esparza C, ..., **Gimeno JR**.
Genetic Factors Involved in Cardiomyopathies and in Cancer.
Journal of Clinical Medicine, 2020, 9, PMID: 32498335, FI: 3.303, Revisión

Frontela-Saseta C, Gonzalez-Bermudez CA, **Garcia-Marcos L***

Diet: A Specific Part of the Western Lifestyle Pack in the Asthma Epidemic.

Journal of Clinical Medicine, 2020, 9, PMID: 32630168, FI: 3.303, Revisión

Casanova JD, **Carrillo JG**, Jimenez JM, ..., **Gimeno JR*** et al.

Trabeculated Myocardium in Hypertrophic Cardiomyopathy: Clinical Consequences.

Journal of Clinical Medicine, 2020, 9, PMID: 33007916, FI: 3.303, Original

Ellwood P, Ellwood E, Rutter C, **Perez-Fernandez V**, ..., et al.

Global Asthma Network Phase I Surveillance: Geographical Coverage and Response Rates.

Journal of Clinical Medicine, 2020, 9, PMID: 33212975, FI: 3.303, Original

Garcia-Fernandez A, **Esteve-Pastor MA***, Roldan-Rabadan I, ..., **Marin F**.

Relationship of adverse events to quality of anticoagulation control in atrial fibrillation patients with diabetes: real-world data from the FANTASIA Registry.

Annals of Medicine, 2020, 52, 300-309, PMID: 32500748, FI: 3.243, Original

Hall CL, Gurha P, **Sabater-Molina M** et al.

RNA sequencing-based transcriptome profiling of cardiac tissue implicates novel putative disease mechanisms in FLNC-associated arrhythmogenic cardiomyopathy.

International Journal of Cardiology, 2020, 302, 124-130, PMID: 31843279, FI: 3.229, Original

Hall CL, Akhtar MM, **Sabater-Molina M**, ..., **Gimeno JR** et al.

Filamin C variants are associated with a distinctive clinical and immunohistochemical arrhythmogenic cardiomyopathy phenotype.

International Journal of Cardiology, 2020, 307, 101-108, PMID: 31627847, FI: 3.229, Original

Sanchez-Ferrer ML, **Arense-Gonzalo JJ**, **Prieto-Sanchez MT***, ..., **Torres-Cantero AM**.

Does the anogenital distance change across pregnancy?

Reproductive Biomedicine Online, 2020, 41, 527-533, PMID: 32586732, FI: 3.218, Original

Oltra L, **Reverte V**, **Garces B**, ..., **Llinas MT***.

Trophoblast-induced spiral artery remodelling and uteroplacental haemodynamics in pregnant rats with increased blood pressure induced by heme oxygenase inhibition.

Placenta, 2020, 89, 91-98, PMID: 31778922, FI: 3.177, Original

Mondejar-Lopez P, Quintana-Gallego E, Giron-Moreno RM, ..., **Sanchez-Solis M** et al.

Impact of SARS-CoV-2 infection in patients with cystic fibrosis in Spain: Incidence and results of the national CF-COVID19-Spain survey.

Respiratory Medicine, 2020, 170, 106062, PMID: 32843180, FI: 3.095, Original

Rivera-Caravaca JM, Esteve-Pastor MA, Camelo-Castillo A, ..., **Marin F***.

Treatment strategies for patients with atrial fibrillation and anticoagulant-associated intracranial hemorrhage: an overview of the pharmacotherapy.

Expert Opinion on Pharmacotherapy, 2020, 21, 1867-1881, PMID: 32658596, FI: 2.878, Revisión

Rodriguez-Queralto O, Formiga F, Carol A, ..., **Marin F** et al.

Impact of Diabetes Mellitus and Frailty on Long-Term Outcomes in Elderly Patients with Acute Coronary Syndromes.

Journal of Nutrition Health & Aging, 2020, 24, 723-729, PMID: 32744568, FI: 2.791, Original

Esperon-Moldes U, Ginarte-Val M, Rodriguez-Pazos L, ..., **Guillen-Navarro E** et al.

Novel CYP4F22 mutations associated with autosomal recessive congenital ichthyosis (ARCI).

Study of the CYP4F22 c.1303C>T founder mutation.

Plos one, 2020, 15, e0229025, PMID: 32069299, FI: 2.74, Original

Szefer SJ, Fitzgerald DA, Adachi Y, ..., **Garcia-Marcos L** et al.

A worldwide charter for all children with asthma.

Pediatric Pulmonology, 2020, 10.1002/ppul.24713 [doi], PMID: 32142219, FI: 2.534, Original

Sanchez-Solis M*, Garcia-Marcos PW, Aguera-Arenas J, ..., **Garcia-Marcos L**.

Impact of early caffeine therapy in preterm newborns on infant lung function.

Pediatric Pulmonology, 2020, 55, 102-107, PMID: 31587528, FI: 2.534, Original

Seidler AL, Duley L, Katheria AC, **De Paco Matallana C** et al.

Systematic review and network meta-analysis with individual participant data on cord management at preterm birth (iCOMP): study protocol.

Bmj Open, 2020, 10, e034595, PMID: 32229522, FI: 2.496, Revisión

Elvira-Ruiz G, Caro-Martinez C, **Flores-Blanco PJ,** ..., **Manzano-Fernandez S.**

Aortic valve stenosis provides complementary information to bleeding risk scores in non-valvular atrial fibrillation patients initiating anticoagulation.

Journal of Geriatric Cardiology, 2020, 17, 141-148, PMID: 32280330, FI: 2.491, Original

Gallego-Gomez JI, Balanza S, **Leal-Llopis J,** ..., **Rivera-Caravaca JM.**

Effectiveness of music therapy and progressive muscle relaxation in reducing stress before exams and improving academic performance in Nursing students: A randomized trial.

Nurse Education Today, 2020, 84, 104217, PMID: 31683132, FI: 2.49, Original

Rivera-Caravaca JM*, Gil-Perez P, Lopez-Garcia C, ..., **Marin F.**

A nurse-led atrial fibrillation clinic: Impact on anticoagulation therapy and clinical outcomes.

International Journal of Clinical Practice, 2020, , e13634, PMID: 32745337, FI: 2.444, Original

Ding WY, **Rivera-Caravaca JM**, Shantsila A et al.
Outcomes in VKA-treated patients with atrial fibrillation and chronic kidney disease: Clinical trials vs 'real-world'.
International Journal of Clinical Practice, 2020, , e13888, PMID: 33283377, FI: 2.444, Original

Ortiz MR, Muniz J, **Esteve-Pastor MA** et al.
Direct Anticoagulants Versus Vitamin K Antagonists in Patients Aged 80 Years or Older With Atrial Fibrillation in a "Real-world" Nationwide Registry: Insights From the FANTASIA Study.
Journal of Cardiovascular Pharmacology and Therapeutics, 2020, , 1074248420916316, PMID: 32228180, FI: 2.322, Original

Nunez-Gil IJ, Fernandez-Perez C, Estrada V, ..., **Marin F** et al.
Mortality risk assessment in Spain and Italy, insights of the HOPE COVID-19 registry.
Internal and Emergency Medicine, 2020, 10.1007/s11739-020-02543-5 [doi], PMID: 33165755, FI: 2.322, Original

Rivera-Caravaca JM, Vilchez JA, Rodriguez-Rojas C, ..., **Marin F***.
Influence of the matrix type over the concentration of GDF-15.
Journal of Investigative Medicine, 2020, jim-2020-001351 [pii], PMID: 32907909, FI: 2.304, Original

Camafort-Babkowski M, Adeseye A, Coca A, ..., **Pascual-Figal DA** et al.
The Global Ambulatory Blood Pressure Monitoring (ABPM) in Heart Failure with Preserved Ejection Fraction (HFpEF) Registry. Rationale, design and objectives.
Journal of Human Hypertension, 2020, 10.1038/s41371-020-00446-8 [doi], PMID: 33239742, FI: 2.26, Original

Prieto-Sanchez MT, Hernandez-Penalver AI, **Sanchez-Ferrer ML***, ..., **Torres-Cantero AM**.
Anogenital distance and anti-Mullerian hormone combined improves the diagnosis of polycystic ovary syndrome.
Human Fertility, 2020, , 1-9, PMID: 32713212, FI: 2.161, Original

Ventura W, **Prieto-Sanchez MT***, Delgado JL, ..., **De Paco Matallana C**.
Short Femur in the Second Trimester Scan Is Related to Maternal Preeclampsia and Small for Gestational Age Newborns.
Fetal Diagnosis and Therapy, 2020, , 1-9, PMID: 32069451, FI: 2.095, Original

Alfayate Miguelez S, **Garcia-Marcos L***.
Rational use of antimicrobials in the treatment of upper airway infections.
Jornal de Pediatria, 2020, 96 Suppl 1, 111-119, PMID: 31857096, FI: 2.029, Revisión

Moran-Sanchez I, **Adoamnei E, Sanchez-Ferrer ML***, ..., **Torres-Cantero AM**.
Is dispositional optimism associated with endometriomas and deep infiltrating endometriosis?
Journal of Psychosomatic Obstetrics & Gynecology, 2020, , 1-7, PMID: 32081052, FI: 2.0, Original

Morales-Rosello J, Galindo A, Herraiz I, ..., **Delgado JL** et al.

Is it possible to predict late antepartum stillbirth by means of cerebroplacental ratio and maternal characteristics?

Journal of Maternal-Fetal & Neonatal Medicine, 2020, 33, 2996-3002, PMID: 30672365, FI: 1.737, Original

Lazaro Salvador M, Quezada Loaiza CA, Rodriguez Padial L et al. COLABORADORES: Alcasena MS, Alcolea S, Alvarez M, ..., **Pastor-Perez F** et al.

Portopulmonary hypertension: prognosis and management in the current treatment era. Results from the REHAP Registry.

Internal Medicine Journal, 2020, 10.1111/imj.14751 [doi], PMID: 31943676, FI: 1.677, Original

Trejo-Velasco B, Cruz-Gonzalez I, **Tello-Montoliu A** et al.

Influence of Valve Type and Antiplatelet Regimen on Platelet Reactivity After TAVI: Subanalysis of the REAC-TAVI Trial.

Journal of Invasive Cardiology, 2020, 32, 446-452, PMID: 32771996, FI: 1.47, Original

Riera-Monroig J, Del Carmen Martinez-Romero M, Alos L, **Guillen-Navarro E*** et al.

Eccrine Syringofibroadenoma as a clue for the diagnosis of Schopf-Schulz-Passarge syndrome in acquired palmoplantar keratoderma.

Journal of Cutaneous Pathology, 2020, 10.1111/cup.13743 [doi], PMID: 32406069, FI: 1.373, Original

Ortega-Garcia JA*, Martinez-Hernandez I, Boldo E et al.

[Urban air pollution and hospital admissions for asthma and acute respiratory disease in Murcia city (Spain)].

Anales de Pediatría, 2020, S1695-4033(20)30035-7 [pii], PMID: 32115374, FI: 1.313, Original

Sanchez-Soler MJ*, Lopez-Gonzalez V, Ballesta-Martinez MJ, ..., **Guillen-Navarro E.**

[Assessment of psychomotor development of Spanish children up to 3 years of age conceived by assisted reproductive techniques: Prospective matched cohort study].

Anales de Pediatría, 2020, 92, 200-207, PMID: 31488383, FI: 1.313, Original

Barrios V, Escobar C, Ortiz Cortes C, ..., **Pascual Figal DA** et al.

Management of patients with heart failure treated in cardiology consultations: IC-BERG Study.

Revista Clinica Espanola, 2020, S0014-2565(20)30006-0 [pii], PMID: 32111439, FI: 1.304, Original

Ariza-Sole A, Lorente V, Formiga F, ..., **Marin F** et al.

Prognostic impact of anemia according to frailty status in elderly patients with acute coronary syndromes.

Journal of Cardiovascular Medicine, 2020, 21, 27-33, PMID: 31652170, FI: 1.225, Original

Keklikian E, Cornes P, Cela CJ, **Sanchez Solis M** et al.

Predicting the outcome of respiratory disease in wheezing infants using tidal flow-volume loop shape.

Allergologia et Immunopathologia, 2020, 48, 355-359, PMID: 32312562, FI: 1.202, Original

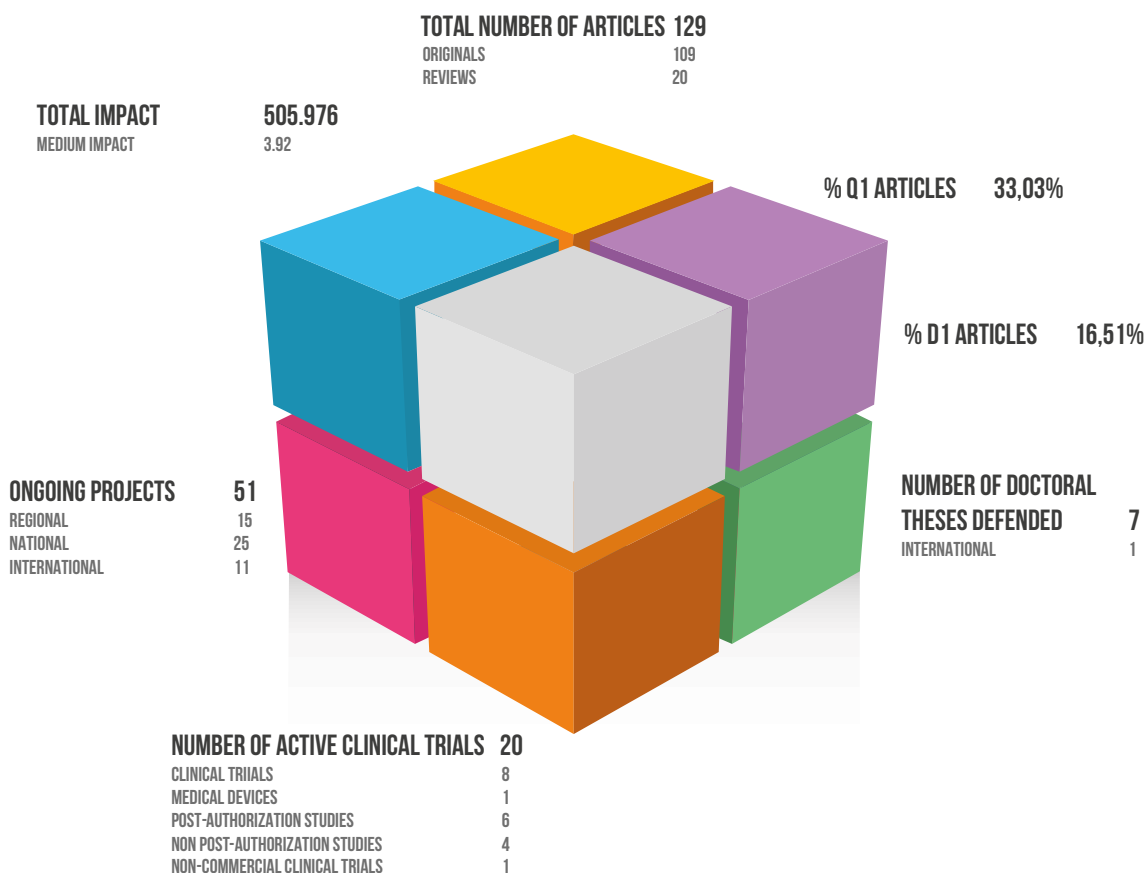
Elvira Ruiz G, Penafiel Verdu P, Martinez Sanchez J, **Sanchez Munoz JJ** et al.

Medium- and long-term outcome after a single second-generation cryoballoon ablation in patients with paroxysmal and persistent atrial fibrillation.

Revista Portuguesa de Cardiologia, 2020, S0870-2551(20)30032-9 [pii], PMID: 32063404, FI: 0.96, Original

AREA 3: GASTROINTESTINAL, ENDOCRINE AND METABOLIC DISEASES

SCIENTIFIC PRODUCTION OF AREA



Area 3 is composed of eight research groups: 5 consolidated (Digestive, Endocrine Surgery and Abdominal Organ Transplantation; Nutrition; Clinical, Technological, Cellular and Molecular Bases in Medicine Digestive; Dentistry; Surgical Research in the Health Area) and 3 emerging groups (Minimally Invasive Dentistry; Nutrition and Bromatology and Toxicology, and Risk Assessment).

The area brings together more than 200 researchers, with extensive clinical, basic and translational experience, which has resulted in a scientific production that maintains and exceeds, in some indicators, the figures achieved in previous years. The effort and dedication of its researchers has produced 129 research papers. It should be highlighted that almost 50% of the total of these publications are in Q1 journals, with an accumulated impact factor of more than 500 points during 2020 and with an average impact of almost 4 points per paper. The record of all publications is listed in this report.

A total of 7 doctoral theses have been defended during this period, one of them with international mention. Area 3 also has more than 51 active research projects (11 of them international) and it is working on 20 clinical trials, which highlights the connection and clinical orientation of the research carried out within the Area 3.

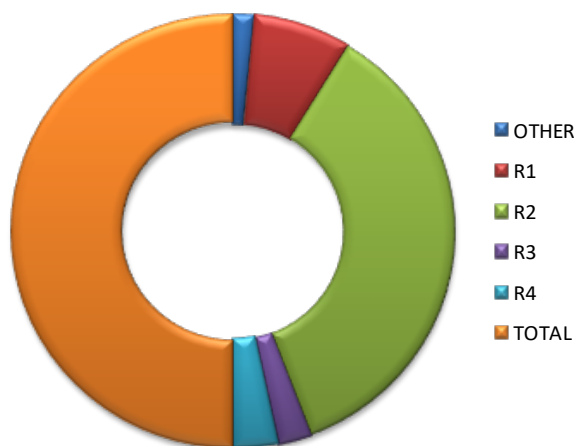


DR. PEDRO CASCALES CAMPOS

Area 3 has 8 groups:

NAME OF GROUP	CATEGORY	GROUP LEADER
GASTROINTESTINAL SURGERY, ENDOCRINE AND ABDOMINAL ORGAN TRANSPLANTATION	CONSOLIDATED	PABLO RAMÍREZ ROMERO
NUTRITION	CONSOLIDATED	JUAN ANTONIO MADRID PEREZ
CLINICAL, TECHNOLOGICAL, CELLULAR AND MOLECULAR BASES IN DIGESTIVE MEDICINE	CONSOLIDATED	ENRIQUE PEREZ-CUADRADO MARTINEZ
DENTISTRY	CONSOLIDATED	PIA LÓPEZ JORNET
MINIMALLY INVASIVE DENTISTRY	EMERGING	ANTONIO JOSÉ ORTIZ RUIZ
SURGICAL RESEARCH IN THE HEALTH AREA	CONSOLIDATED	JOSÉ LUIS AGUAYO ALBASINI
NUTRITION AND FOOD SCIENCE	EMERGING	GASPAR ROS BERRUEZO
TOXICOLOGY AND RISK ASSESSMENT	EMERGING	ANTONIO JUAN GARCIA FERNANDEZ

These groups have a total of 201 researchers:



*OTHERS	R1	R2	R3	R4	TOTAL
6	29	143	10	13	201

*Other: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Broz P, **Pelegrin P***, Shao F.

The gasdermins, a protein family executing cell death and inflammation.

Nature Reviews Immunology, 2020, 20, 143-157, PMID: 31690840, FI: 40.358, Revisión

Pizzuto M*, **Pelegrin P.**

Cardiolipin in Immune Signaling and Cell Death.

Trends in Cell Biology, 2020, 30, 892-903, PMID: 33011017, FI: 16.041, Revisión

Bano-Otalora B, Madrid JA, Rol MA*.

Melatonin alleviates circadian system disruption induced by chronic shifts of the light-dark cycle in *Octodon degus*.

Journal of Pineal Research, 2020, 68, e12619, PMID: 31677295, FI: 14.528, Original

Brouwers B, Coppola I, Vints K, ..., **Ramos-Molina B*** et al.

Loss of Furin in beta cells Induces an mTORC1-ATF4 Anabolic Pathway that Leads to beta cell Dysfunction.

Diabetes, 2020, db200474 [pii], PMID: 33277337, FI: 7.72, Original

Cascales-Campos PA, Ferreras D, **Alconchel F***, ..., **Ramirez P.**

Controlled donation after circulatory death up to 80 years for liver transplantation: Pushing the limit again.

American Journal of Transplantation, 2020, 20, 204-212, PMID: 31329359, FI: 7.338, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB.

Malhotra S, **Costa C**, Eixarch H et al.

NLRP3 inflammasome as prognostic factor and therapeutic target in primary progressive multiple sclerosis patients.

Brain, 2020, 143, 1414-1430, PMID: 32282893, FI: 11.337, Original

Santiago L, Castro M, Sanz-Pamplona R, ..., **Pelegrin P** et al.

Extracellular Granzyme A Promotes Colorectal Cancer Development by Enhancing Gut Inflammation.

Cell Reports, 2020, 32, 107847, PMID: 32640217, FI: 8.109, Original

Duan Y, Zhang L, **Angosto-Bazarra D** et al.

RACK1 Mediates NLRP3 Inflammasome Activation by Promoting NLRP3 Active Conformation and Inflammasome Assembly.

Cell Reports, 2020, 33, 108405, PMID: 33207200, FI: 8.109, Original

Soria E, Vallejo M, **Saenz L** et al.

Telomerase-specific attenuated viruses, a definitive strategy or just one more in circulating tumor cells detection anthology?

Cancer Letters, 2020, 469, 490-497, PMID: 31738959, FI: 7.36, Revisión

Castellano-Castillo D, **Ramos-Molina B**, Cardona F et al.

Epigenetic regulation of white adipose tissue in the onset of obesity and metabolic diseases.

Obesity Reviews, 2020, 10.1111/obr.13054 [doi], PMID: 32542987, FI: 7.31, Original

Martin-Cortazar C, Chiodo Y, Jimenez RP, **Bernabe M** et al.

CDCA7 finely tunes cytoskeleton dynamics to promote lymphoma migration and invasion.

Haematologica, 2020, 105, 730-740, PMID: 31221787, FI: 7.116, Original

Alarcon-Vila C, Baroja-Mazo A, de Torre-Minguela C, ..., Pelegrin P*.

CD14 release induced by P2X7 receptor restricts inflammation and increases survival during sepsis.

Elife, 2020, 9, PMID: 33135636, FI: 7.08, Original

Lopez-Berenguer G, Bossi R, Eulaers I, ..., **Martinez-Lopez E***.

Stranded cetaceans warn of high perfluoroalkyl substance pollution in the western Mediterranean Sea.

Environmental Pollution, 2020, 267, 115367, PMID: 32866862, FI: 6.793, Original

Arrondo E, Navarro J, Perez-Garcia JM, ..., **Navas I** et al.

Dust and bullets: Stable isotopes and GPS tracking disentangle lead sources for a large avian scavenger.

Environmental Pollution, 2020, 266, 115022, PMID: 32629306, FI: 6.793, Original

Sanchez-Virosta P, Leon-Ortega M, Calvo JF, ..., **Espin S***.

Blood concentrations of 50 elements in Eagle owl (*Bubo bubo*) at different contamination scenarios and related effects on plasma vitamin levels.

Environmental Pollution, 2020, 265, 115012, PMID: 32593922, FI: 6.793, Original

Espin S, Sanchez-Virosta P, Zamora-Marin JM, ..., Garcia-Fernandez AJ*.

Toxic elements in blood of red-necked nightjars (*Caprimulgus ruficollis*) inhabiting differently polluted environments.

Environmental Pollution, 2020, 262, 114334, PMID: 32179219, FI: 6.793, Original

Sanchez-Virosta P, **Espin S***, Ruiz S et al.

Arsenic-related oxidative stress in experimentally-dosed wild great tit nestlings.

Environmental Pollution, 2020, 259, 113813, PMID: 31896481, FI: 6.793, Original

Espin S*, Sanchez-Virosta P, Ruiz S et al.

Female oxidative status in relation to calcium availability, metal pollution and offspring development in a wild passerine.

Environmental Pollution, 2020, 260, 113921, PMID: 31991347, FI: 6.793, Original

Martin-Nalda A, Fortuny C, Rey L, ..., **Martinez-Banaclocha H** et al.

Severe Autoinflammatory Manifestations and Antibody Deficiency Due to Novel Hypermorphic PLCG2 Mutations.

Journal of Clinical Immunology, 2020, 40, 987-1000, PMID: 32671674, FI: 6.78, Original

Dashti HS, **Gomez-Abellan P**, Qian J, ..., **Garaulet M***.

Late eating is associated with cardiometabolic risk traits, obesogenic behaviors, and impaired weight loss.

American Journal of Clinical Nutrition, 2020, nqaa264 [pii], PMID: 33022698, FI: 6.766, Original

Badry A, Krone O, Jaspers VLB, ..., **Garcia-Fernandez A** et al.

Towards harmonisation of chemical monitoring using avian apex predators: Identification of key species for pan-European biomonitoring.

Science of the Total Environment, 2020, 731, 139198, PMID: 32422436, FI: 6.551, Revisión

Eeva T, **Espin S**, Sanchez-Virosta P et al.

Weather effects on breeding parameters of two insectivorous passerines in a polluted area.

Science of the Total Environment, 2020, 729, 138913, PMID: 32375066, FI: 6.551, Original

da Silva IV, Cardoso C, **Martinez-Banaclocha H**. ..., **Pelegrin P*** et al.

Aquaporin-3 is involved in NLRP3-inflammasome activation contributing to the setting of inflammatory response.

Cellular and Molecular Life Sciences, 2020, 10.1007/s00018-020-03708-3 [doi], PMID: 33231721, FI: 6.496, Original

Sanchez-Alcoholado L, **Ramos-Molina B**, Otero A et al.

The Role of the Gut Microbiome in Colorectal Cancer Development and Therapy Response.

Cancers, 2020, 12, PMID: 32486066, FI: 6.126, Revisión

Idilli AI, Pagani F, Kerschbamer E, ..., **Bernabe M** et al.

Changes in the Expression of Pre-Replicative Complex Genes in hTERT and ALT Pediatric Brain Tumors.

Cancers, 2020, 12, PMID: 32331249, FI: 6.126, Original

Lopez-Berenguer G, Penalver J, **Martinez-Lopez E***.

A critical review about neurotoxic effects in marine mammals of mercury and other trace elements.

Chemosphere, 2020, 246, 125688, PMID: 31896013, FI: 5.778, Revisión

Bhangu A et al. COLABORADORES: Nepogodiev D, Matthews JH, Morley GL, ..., **Garcia M** et al.

Evaluation of appendicitis risk prediction models in adults with suspected appendicitis.

British Journal of Surgery, 2020, 107, 73-86, PMID: 31797357, FI: 5.676, Original

EuroSurg Collaborative COLABORADORES: Chapman SJ, Blanco-Colino R, Perez-Ajates S, ..., **Alconchel F** et al.

Safety of hospital discharge before return of bowel function after elective colorectal surgery.

British Journal of Surgery, 2020, 10.1002/bjs.11422 [doi], PMID: 31976560, FI: 5.676, Original

Albuquerque-Gonzalez B, **Bernabe-Garcia M**, **Montoro-Garcia S**, ..., **Conesa-Zamora P***.

New role of the antidepressant imipramine as a Fascin1 inhibitor in colorectal cancer cells.

Experimental and Molecular Medicine, 2020, 10.1038/s12276-020-0389-x [doi], PMID: 32080340,

FI: 5.418, Original

Idilli AI, Cusanelli E, Pagani F, ..., **Bernabe M** et al.

Expression of tert Prevents ALT in Zebrafish Brain Tumors.

Frontiers in Cell and Developmental Biology, 2020, 8, 65, PMID: 32117990, FI: 5.186, Original

Herrera C, Leza M, **Martinez-Lopez E**.

Diversity of compounds in *Vespa* spp. venom and the epidemiology of its sting: a global appraisal.

Archives of Toxicology, 2020, 10.1007/s00204-020-02859-3 [doi], PMID: 32700166, FI: 5.059,

Revisión

Martinez L, Jongberg S, **Ros G**, ..., **Nieto G***.

Plant derived ingredients rich in nitrates or phenolics for protection of pork against protein oxidation.

Food Research International, 2020, 129, 108789, PMID: 32036925, FI: 4.972, Original

Tiu AC, Yang J, Asico LD, ..., **Cuevas S** et al.

Lipid rafts are required for effective renal D1 dopamine receptor function.

FASEB Journal, 2020, 34, 6999-7017, PMID: 32259353, FI: 4.966, Original

Yang J, Asico LD, Beitelshes AL, ..., **Cuevas SG** et al.

Sorting nexin 1 loss results in increased oxidative stress and hypertension.

FASEB Journal, 2020, 34, 7941-7957, PMID: 32293069, FI: 4.966, Original

Camacho-Alonso F, Gomez-Albentosa T, Onate-Sanchez RE et al.

In Vitro Study of Synergic Effect of Cisplatin and Low Molecular Weight Heparin on Oral Squamous Cell Carcinoma.

Frontiers in Oncology, 2020, 10, 549412, PMID: 33312942, FI: 4.848, Original

Espin S, Andevski J, Duke G, ..., **Garcia-Fernandez AJ***.

A schematic sampling protocol for contaminant monitoring in raptors.

Ambio, 2020, 10.1007/s13280-020-01341-9 [doi], PMID: 32399779, FI: 4.778, Original

Cuevas S*, Asico LD, Jose PA et al.

Renal Hydrogen Peroxide Production Prevents Salt-Sensitive Hypertension.

Journal of the American Heart Association, 2020, 9, e013818, PMID: 31902320, FI: 4.605, Original

Sanchez-Alcoholado L, Ordóñez R, Otero A, ..., **Ramos-Molina B** et al.

Gut Microbiota-Mediated Inflammation and Gut Permeability in Patients with Obesity and Colorectal Cancer.

International Journal of Molecular Sciences, 2020, 21, PMID: 32947866, FI: 4.556, Original

De Miguel C, Kraus AC, Saludes MA, ..., **Cuevas S***.

ND-13, a DJ-1-Derived Peptide, Attenuates the Renal Expression of Fibrotic and Inflammatory Markers Associated with Unilateral Ureter Obstruction.

International Journal of Molecular Sciences, 2020, 21, PMID: 32987947, FI: 4.556, Original

de la Rosa G, Gomez AI, Banos MC, Pelegrin P*.

Signaling Through Purinergic Receptor P2Y2 Enhances Macrophage IL-1beta Production.

International Journal of Molecular Sciences, 2020, 21, PMID: 32630144, FI: 4.556, Original

Campos M*, Jimenez F, Sanchez G et al.

A methodology based on multiple criteria decision analysis for combining antibiotics in empirical therapy.

Artificial Intelligence in Medicine, 2020, 102, 101751, PMID: 31980090, FI: 4.383, Original

Iglesias N, Juarez JM, **Campos M***.

Comprehensive analysis of rule formalisms to represent clinical guidelines: Selection criteria and case study on antibiotic clinical guidelines.

Artificial Intelligence in Medicine, 2020, , 101741, PMID: 31928849, FI: 4.383, Revisión

Paiva IM, de Carvalho LM, Di Chiacchio IM, ..., **Bernabe MG** et al.

Inhibition of Lrrk2 reduces ethanol preference in a model of acute exposure in zebrafish.

Progress in Neuro-Psychopharmacology & Biological Psychiatry, 2020, 100, 109885, PMID: 32032698, FI: 4.361, Original

Johnstone AM, Kelly J, Ryan S, ..., **Lopez-Nicolas R** et al.
Nondigestible Carbohydrates Affect Metabolic Health and Gut Microbiota in Overweight Adults after Weight Loss.

Journal of Nutrition, 2020, 150, 1859-1870, PMID: 32510158, FI: 4.281, Original

Munoz-Rodriguez JR, Rodriguez-Cano T, Polo F, **Saenz-Mateos L** et al.
The Neuroendocrine and Metabolic Outcomes of Bariatric Surgery Depend on Presurgical Control over Eating.

Neuroendocrinology, 2020, 110, 63-69, PMID: 31280270, FI: 4.271, Original

Sanchez-Moya T, Planes-Munoz D, **Frontela-Saseta C**, ..., **Lopez-Nicolas R**.
Milk whey from different animal species stimulates the in vitro release of CCK and GLP-1 through a whole simulated intestinal digestion.

Food & Function, 2020, 11, 7208-7216, PMID: 32756716, FI: 4.171, Original

Ciria R, Berardi G, **Alconchel F** et al.

The impact of robotics in liver surgery: A worldwide systematic review and short-term outcomes meta-analysis on 2,728 cases.

Journal of Hepato-Biliary-pancreatic Sciences, 2020, 10.1002/jhbp.869 [doi], PMID: 33200536, FI: 4.16, Revisión

Giancane G, Swart JF, Castagnola E et al. COLABORADORES: Cuttica R, Garay SM, Brunner J, ..., **Mesa-Del-Castillo P** et al.

Opportunistic infections in immunosuppressed patients with juvenile idiopathic arthritis: analysis by the Pharmachild Safety Adjudication Committee.

Arthritis Research & Therapy, 2020, 22, 71, PMID: 32264969, FI: 4.103, Original

Nunez-Gomez V, Baenas N, **Navarro-Gonzalez I**, ..., **Periago-Caston MJ***.

Seasonal Variation of Health-Promoting Bioactives in Broccoli and Methyl-Jasmonate Pre-Harvest Treatments to Enhance Their Contents.

Foods, 2020, 9, PMID: 32993199, FI: 4.092, Original

Teixeira-Guedes C, Sanchez-Moya T, Pereira-Wilson C, ..., **Lopez-Nicolas R***.

In Vitro Modulation of Gut Microbiota and Metabolism by Cooked Cowpea and Black Bean.

Foods, 2020, 9, PMID: 32630276, FI: 4.092, Original

Gonzalez-Barrio R, Nunez-Gomez V, Cienfuegos-Jovellanos E, ..., **Periago-Caston MJ***.

Improvement of the Flavanol Profile and the Antioxidant Capacity of Chocolate Using a Phenolic Rich Cocoa Powder.

Foods, 2020, 9, PMID: 32074967, FI: 4.092, Original

Molina-Vega M, Castellano-Castillo D, Sanchez-Alcoholado L, ..., **Ramos-Molina B** et al.
Relationship of Zonulin with Serum PCSK9 Levels after a High Fat Load in a Population of Obese Subjects.

Biomolecules, 2020, 10, PMID: 32403394, FI: 4.082, Original

Penalver R, Lorenzo JM, **Ros G**, ..., **Nieto G***.

Seaweeds as a Functional Ingredient for a Healthy Diet.

Marine Drugs, 2020, 18, PMID: 32517092, FI: 4.073, Revisión

Ortiz-Ruiz AJ*, Perez-Guzman N, Rubio-Aparicio M et al.

Success rate of proximal tooth-coloured direct restorations in primary teeth at 24 months: a meta-analysis.

Scientific Reports, 2020, 10, 6409, PMID: 32286461, FI: 3.998, Original

Vicente A, Bravo-Gonzalez LA, Lopez-Romero A, ..., **Sanchez-Meca J**.

Craniofacial morphology in down syndrome: a systematic review and meta-analysis.

Scientific Reports, 2020, 10, 19895, PMID: 33199843, FI: 3.998, Revisión

Imani MM, Golchin N, Safaei M, ..., **Lopez-Jornet P** et al.

Methylenetetrahydrofolate reductase C677T polymorphism is not associated with the risk of nonsyndromic cleft lip/palate: An updated meta-analysis.

Scientific Reports, 2020, 10, 1531, PMID: 32001764, FI: 3.998, Original

Carda-Dieguez M, **Bravo-Gonzalez LA**, Morata IM et al.

High-throughput DNA sequencing of microbiota at interproximal sites.

Journal of Oral Microbiology, 2020, 12, 1687397, PMID: 32002129, FI: 3.939, Original

Ocana-Wilhelmi L, Cardona F, Garrido-Sanchez L, ..., **Ramos-Molina B**.

Change in serum polyamine metabolome pattern after bariatric surgery in obese patients with metabolic syndrome.

Surgery for Obesity and Related Diseases, 2020, 16, 306-311, PMID: 31813775, FI: 3.812, Original

Ruiz-Alcaraz AJ, Martinez-Banaclocha H, Marin-Sanchez P, ..., **Pelegrin P***, **Martinez-Esparza M***.

Isolation of functional mature peritoneal macrophages from healthy humans.

Immunology and Cell Biology, 2020, 98, 114-126, PMID: 31709677, FI: 3.764, Original

Tobajas J, **Gomez-Ramirez P**, Ferreras P et al.

Conditioned food aversion in domestic dogs induced by thiram.

Pest Management Science, 2020, 76, 568-574, PMID: 31287232, FI: 3.75, Original

Xu P, Gildea JJ, Zhang C, ..., **Cuevas S** et al.

Stomach gastrin is regulated by sodium via PPAR-alpha and dopamine D1 receptor.

Journal of Molecular Endocrinology, 2020, 64, 53-65, PMID: 31794424, FI: 3.562, Original

Lopez-Lopez V*, Ruiz-Manzanera JJ, Eshmuminov D, ..., **Ramirez-Romero P**.

Are We Ready for Bariatric Surgery in a Liver Transplant Program? A Meta-Analysis.

Obesity Surgery, 2020, 10.1007/s11695-020-05118-7 [doi], PMID: 33225408, FI: 3.412, Original

Febrero B*, Segura P, Ruiz-Manzanera JJ, ..., **Rodriguez JM**.

Uncommon tumors in multiple endocrine neoplasia (MEN) type 1: Do they have a relationship with the prognosis of these patients?

Journal of Endocrinological Investigation, 2020, 10.1007/s40618-020-01414-2 [doi], PMID: 32909176, FI: 3.397, Original

Bonmati-Carrion MA, Revell VL, Cook TJ, ..., **Madrid JA**.

Living Without Temporal Cues: A Case Study.

Frontiers in Physiology, 2020, 11, 11, PMID: 32116739, FI: 3.367, Original

Lopez-Jornet P*, Felipe CC, Pardo-Marin L et al.

Salivary Biomarkers and Their Correlation with Pain and Stress in Patients with Burning Mouth Syndrome.

Journal of Clinical Medicine, 2020, 9, PMID: 32231113, FI: 3.303, Original

Ceron JJ, Lamy E, Martinez-Subiela S, **Lopez-Jornet P** et al.

Use of Saliva for Diagnosis and Monitoring the SARS-CoV-2: A General Perspective.

Journal of Clinical Medicine, 2020, 9, PMID: 32429101, FI: 3.303, Revisión

Lopez-Yufera E, **Lopez-Jornet P**, Toralla O, **Pons-Fuster Lopez E***.

Non-Pharmacological Interventions for Reducing Anxiety in Patients with Potentially Malignant Oral Disorders.

Journal of Clinical Medicine, 2020, 9, PMID: 32110871, FI: 3.303, Original

Di Marzio A, Lambertucci SA, **Garcia-Fernandez AJ**, **Martinez-Lopez E***.

Temporal changes in metal concentrations in Andean condor feathers: a potential influence of volcanic activity.

Environmental Science and Pollution Research, 2020, 10.1007/s11356-020-08981-0 [doi], PMID: 32356051, FI: 3.056, Original

Aver GF, **Espin S**, Dal Corno RB et al.

Organochlorine pesticides in feathers of three raptor species in southern Brazil.

Environmental Science and Pollution Research, 2020, 27, 5971-5980, PMID: 31863378, FI: 3.056, Original

de Costa J*, Barja G, **Almaida-Pagan PF**.

Membrane peroxidation index and maximum lifespan are negatively correlated in fish of the genus *Nothobranchius*.

Journal of Experimental Biology, 2020, 223, PMID: 32366693, FI: 3.014, Original

Di Carlo G, Zara F, Rocchetti M, ..., **Ortiz-Ruiz AJ** et al.

Prevalence of Sleep-Disordered Breathing in Children Referring for First Dental Examination. A Multicenter Cross-Sectional Study Using Pediatric Sleep Questionnaire.

International Journal of Environmental Research and Public Health, 2020, 17, PMID: 33207543, FI: 2.849, Original

Gomez-Ramirez P, Blanco G, **Garcia-Fernandez AJ***.

Validation of Multi-Residue Method for Quantification of Antibiotics and NSAIDs in Avian Scavengers by Using Small Amounts of Plasma in HPLC-MS-TOF.

International Journal of Environmental Research and Public Health, 2020, 17, PMID: 32517231, FI: 2.849, Original

Serna Munoz C*, **Ortiz Ruiz AJ***, **Perez Silva A**, ..., **Vicente A**.

Second primary molar hypomineralisation and drugs used during pregnancy and infancy. A systematic review.

Clinical Oral Investigations, 2020, 24, 1287-1297, PMID: 31312969, FI: 2.812, Revisión

Tvarijonaviciute A, Zamora C, Ceron JJ, ..., **Lopez-Jornet P***.

Salivary biomarkers in Alzheimer's disease.

Clinical Oral Investigations, 2020, 10.1007/s00784-020-03214-7 [doi], PMID: 31989369, FI: 2.812, Original

Martinez-Zamora L, **Ros G**, **Nieto G***.

Designing a Clean Label Fish Patty with Olive, Citric, Pomegranate, or Rosemary Extracts.

Plants-Basel, 2020, 9, PMID: 32456111, FI: 2.762, Original

Bonmati-Carrion MA, Padilla J, **Arguelles-Prieto R**, ..., **Rol MA**.

Electrochromic selective filtering of chronodisruptive visible wavelengths.

Plos one, 2020, 15, e0241900, PMID: 33152042, FI: 2.74, Original

Perez Sayans M, Suarez Quintanilla JA, Chamorro Petronacci CM, ..., **Lopez Jornet P** et al.

Volumetric study of the maxillary sinus in patients with sinus pathology.

Plos one, 2020, 15, e0234915, PMID: 32555640, FI: 2.74, Original

Gomez-Garcia FJ, Lopez Lopez A, Guerrero-Sanchez Y, ..., **Camacho Alonso F**.

Chemopreventive effect of pomegranate and cocoa extracts on ultraviolet radiation-induced photocarcinogenesis in SKH-1 mice.

Plos one, 2020, 15, e0232009, PMID: 32353018, FI: 2.74, Original

Martinez L, **Ros G, Nieto G***.

Effect of natural extracts obtained from food industry by-products on nutritional quality and shelf life of chicken nuggets enriched with organic Zn and Se provided in broiler diet.

Poultry Science, 2020, 99, 1491-1501, PMID: 32111317, FI: 2.659, Original

Lopez-Lopez V, Gomez-Ruiz AJ, Eshmuminov D, ..., **Alconchel F** et al.

Surgical oncology in patients aged 80 years and older is associated with increased postoperative morbidity and mortality: A systematic review and meta-analysis of literature over 25 years.

Surgical Oncology-Oxford, 2020, 33, 81-95, PMID: 32561103, FI: 2.521, Revisión

Lorenzo-Pouso AI, Perez-Sayans M, Chamorro-Petronacci C, ..., **Lopez-Jornet P** et al.

Association between periodontitis and medication-related osteonecrosis of the jaw: A systematic review and meta-analysis.

Journal of Oral Pathology & Medicine, 2020, 49, 190-200, PMID: 31605632, FI: 2.495, Revisión

Albertos S, Berenguer NI, Sanchez-Virosta P, ..., **Garcia-Fernandez AJ*, Espin S***.

Mercury Exposure in Birds Linked to Marine Ecosystems in the Western Mediterranean.

Archives of Environmental Contamination and Toxicology, 2020, 79, 435-453, PMID: 33106911, FI: 2.4, Original

Soria Galvez F, Lopez-Albors O, **Esteban Delgado P** et al.

Device-assisted enteroscopy training. A rapid review.

Revista Espanola de Enfermedades Digestivas, 2020, 112, 294-298, PMID: 32193941, FI: 2.196, Revisión

Gomes C, Rubio Mateos JM, Pinho RT, ..., **Esteban Delgado P** et al.

The rebleeding rate in patients evaluated for obscure gastrointestinal bleeding after negative small bowel findings by device assisted enteroscopy.

Revista Espanola de Enfermedades Digestivas, 2020, 112, 262-268, PMID: 32202909, FI: 2.196, Original

Perez-Cuadrado Robles E, Perrod G, Moreels TG, ..., **Esteban Delgado P** et al.

A comprehensive systematic review and meta-analysis of risk factors for rebleeding following device-assisted enteroscopy therapy of small-bowel vascular lesions.

Revista Espanola de Enfermedades Digestivas, 2020, 112, 249-257, PMID: 32193939, FI: 2.196, Revisión

Perez Fernandez A, Rubio Mateos JM, Sanchez Fernandez MJ, ..., **Chacon Martinez S** et al.

Recurrent small-bowel bleeding from a Dieulafoy's lesion after combined endoscopic treatment.

Revista Espanola de Enfermedades Digestivas, 2020, 112, 269-272, PMID: 32193938, FI: 2.196, Original

Perez-Cuadrado Robles E, Pinho R, Gonzalez-Suarez B, ..., **Perez-Cuadrado Martinez E**
COLABORADORES: Perez-Cuadrado-Robles E, Pinho R.
Small bowel enteroscopy - A joint clinical guideline by the Spanish and Portuguese small-bowel study groups.
Revista Espanola de Enfermedades Digestivas, 2020, 112, 309-318, PMID: 32188259, FI: 2.196, Original

Flores-Funes D, Lluna-Llorens AD, Jimenez-Ballester MA, ..., **Aguayo-Albasini JL**.
Is the number of rib fractures a risk factor for delayed complications? A case-control study.
European Journal of Trauma and Emergency Surgery, 2020, 46, 435-440, PMID: 30251150, FI: 2.139, Original

Angel Garcia D, Martinez Nicolas I, Garcia Marin JA, **Soria Aledo V**.
Risk-adjustment models for clean and colorectal surgery surgical site infection for the Spanish health system.
International Journal for Quality in Health Care, 2020, 32, 599-608, PMID: 32901796, FI: 1.957, Original

Sanchez-Moya T, Hidalgo AM, **Ros-Berrueto G, Lopez-Nicolas R***.
Screening ultrafiltration membranes to separate lactose and protein from sheep whey: application of simplified model.
Journal of Food Science and Technology-Mysore, 2020, 57, 3193-3200, PMID: 32713959, FI: 1.946, Original

Serna-Munoz C, Martinez-Beneyto Y*, Perez-Silva A, ..., Ortiz-Ruiz AJ.
Perception, knowledge, and attitudes towards molar incisor hypomineralization among Spanish dentists: a cross-sectional study.
Bmc Oral Health, 2020, 20, 260, PMID: 32948160, FI: 1.911, Original

Pons-Fuster E, Ruiz Roca J, Tvarijonaviciute A, **Lopez-Jornet P***.
YouTube information about diabetes and oral healthcare.
Odontology, 2020, 108, 84-90, PMID: 31396751, FI: 1.84, Original

Gomez-Ramirez P, Espin S, Navas I, ..., Garcia-Fernandez AJ*.
Mercury and Organochlorine Pesticides in Tissues of Loggerhead Sea Turtles (*Caretta caretta*) Stranded Along the Southwestern Mediterranean Coastline (Andalusia, Spain).
Bulletin of Environmental Contamination and Toxicology, 2020, 104, 559-567, PMID: 32185428, FI: 1.657, Original

Candel-Perez C, Zapata-Galian E, **Lopez-Nicolas R, ..., Martinez-Gracia C***.
Presence of toxigenic *Clostridioides* (*Clostridium*) *difficile* in edible bivalve mollusks in Spain.
Food Science and Technology International, 2020, 26, 413-419, PMID: 31876184, FI: 1.654, Original

Perez-Garcia S, Lozano-Carrascal N, Ruiz-Roca JA, **Lopez-Jornet P** et al.
Evaluation of endovenous sedation using BIS monitoring in dentistry. A systematic review.
Medicina Oral Patologia Oral y Cirugia Bucal, 2020, 25, e439-e448, PMID: 32520922, FI: 1.596, Revisión

Lorenzo-Pouso AI, Rodriguez-Gonzalez F, Blanco-Carrion A, ..., **Lopez-Jornet P** et al.
Validity, reliability and optimisation of the TOPICOP questionnaire for oral lichen planus.
Acta Odontologica Scandinavica, 2020, , 1-8, PMID: 32189543, FI: 1.573, Original

Flores-Funes D, Aguilar-Jimenez J, Martinez-Galvez M, ..., **Aguayo-Albasini JL**.
The problem of axillary staging in breast cancer after neoadjuvant chemotherapy. Role of targeted axillary dissection and types of lymph node markers.
Cirugia Espanola, 2020, S0009-739X(20)30097-X [pii], PMID: 32386728, FI: 1.323, Revisión

Ruiz Pardo J, **Rios A**, Rodriguez JM, ..., **Hernandez AM**, **Parrilla P**.
Risk Factors of Metastatic Lymph Nodes in Papillary Thyroid Microcarcinoma.
Cirugia Espanola, 2020, 98, 219-225, PMID: 31980154, FI: 1.323, Original

Balibrea JM, Badia JM, Rubio Perez I, ..., **Soria Aleido V** et al.
Surgical Management of Patients With COVID-19 Infection. Recommendations of the Spanish Association of Surgeons.
Cirugia Espanola, 2020, S0009-739X(20)30069-5 [pii], PMID: 32252979, FI: 1.323, Original

Serra-Aracil X, Pascua-Sol M, Badia-Closa J et al. COLABORADORES: Navarro Soto S, Sanchez Santos R, Sabater Orti L, ..., **Soria Aleido V** et al.
How to start and develop a multicenter, prospective, randomized, controlled trial.
Cirugia Espanola, 2020, 98, 119-126, PMID: 31932028, FI: 1.323, Original

de la Calle I, **Ros G**, Penalver Miras R, **Nieto G***.
[Celiac disease: causes, pathology, and nutritional assessment of gluten-free diet. A review].
Nutricion Hospitalaria, 2020, 37, 1043-1051, PMID: 32960627, FI: 0.888, Revisión

Alconchel F*, Martinez-Insfran LA, **Cascales-Campos PA**, ..., **Parrilla P**.
Impact of Hepatic Artery Thrombosis on the Success of a Liver Transplant Because of Hepatocellular Carcinoma.
Transplantation Proceedings, 2020, S0041-1345(19)31169-8 [pii], PMID: 32029319, FI: 0.784, Original

Alconchel F*, **Martinez-Alarcon L**, Nicolas-Lopez T, ..., **Ramirez P**.
Psoas Muscle Index Does Not Predict Post-Transplant Outcomes: A Series of 57 Liver Transplant Recipients.
Transplantation Proceedings, 2020, S0041-1345(19)31368-5 [pii], PMID: 32029312, FI: 0.784, Original

Febrero B, Ros I, Almela-Baeza J, ..., **Alconchel F** et al.
The Attitude of Older People Toward Living Donation.
Transplantation Proceedings, 2020, S0041-1345(19)31086-3 [pii], PMID: 32044085, FI: 0.784,
Original

Almela-Baeza J, Febrero B, Ros I, ..., **Alconchel F** et al.
The Influence of Mass Media on Organ Donation and Transplantation in Older People.
Transplantation Proceedings, 2020, S0041-1345(19)31089-9 [pii], PMID: 32044083, FI: 0.784,
Original

Febrero B, Ros I, Almela-Baeza J, ..., **Alconchel F** et al.
Knowledge of the Brain Death Concept Among Older People.
Transplantation Proceedings, 2020, S0041-1345(19)31088-7 [pii], PMID: 32044079, FI: 0.784,
Original

Rios A*, Lopez-Navas A, Gutierrez PR, ..., **Ramirez P**.
What Reasons Lead Spanish Medical Students Not to Be in Favor of Organ Donation?
Transplantation Proceedings, 2020, S0041-1345(19)31203-5 [pii], PMID: 32057503, FI: 0.784,
Original

Rios A*, Lopez-Navas AI, Carrillo J, ..., **Ramirez P**.
Factors Related to the Attitude Toward Living Kidney Donation of the Population of Havana.
Transplantation Proceedings, 2020, S0041-1345(19)31219-9 [pii], PMID: 32057501, FI: 0.784,
Original

Rios A*, Lopez-Navas A, Gutierrez PR, ..., **Ramirez P**.
Are Medical Students of Non-Spanish Nationality Studying in Spain as Sensitized to
Transplantation as Those of Spanish Nationality?
Transplantation Proceedings, 2020, S0041-1345(19)31201-1 [pii], PMID: 32057498, FI: 0.784,
Original

Rios A*, Lopez-Navas A, Gutierrez PR, ..., **Ramirez P**.
Information About Donation and Organ Transplantation Among Spanish Medical Students.
Transplantation Proceedings, 2020, S0041-1345(19)31204-7 [pii], PMID: 32057497, FI: 0.784,
Original

Jover-Aguilar M, **Martinez-Alarcon L***, Ramis G, ..., **Ramirez P**.
Self-Esteem Related to Quality of Life in Patients Over 60 Years Old Who Received an Orthotopic
Liver Transplantation More Than 10 Years Ago.
Transplantation Proceedings, 2020, S0041-1345(19)31200-X [pii], PMID: 32057494, FI: 0.784,
Original

Rios A*, Carrillo J, Lopez-Navas AI, ..., **Ramirez P.**

Does Knowledge of the Concept of Brain Death Affect the Attitude Toward Donation of Algerians Residing in Spain?

Transplantation Proceedings, 2020, S0041-1345(19)31210-2 [pii], PMID: 32044084, FI: 0.784, Original

Rios A*, Carrillo J, Lopez-Navas AI, ..., **Ramirez P.**

Population of Senegal Residents in Spain: Acceptance of Organ Xenotransplantation.

Transplantation Proceedings, 2020, S0041-1345(19)31212-6 [pii], PMID: 32044082, FI: 0.784, Original

Lopez-Navas AI, **Rios A***, Flores-Medina J, ..., **Ramirez P.**

Predisposition Toward Living Liver Donation Is Low Among Relatives of Patients on the Waiting List for Transplantation in Spain.

Transplantation Proceedings, 2020, S0041-1345(19)31215-1 [pii], PMID: 32044078, FI: 0.784, Original

Rios A*, Carrillo J, Lopez-Navas AI, ..., **Ramirez P.**

Are Ghanaians Residing in Spain Aware of the Donation of Living Related Kidney?

Transplantation Proceedings, 2020, S0041-1345(19)31211-4 [pii], PMID: 32044077, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Carrillo J, ..., **Ramirez P.**

Is the Population of Santiago de Cuba Sensitized to Xenotransplantation? A Multivariate Analysis.

Transplantation Proceedings, 2020, S0041-1345(19)31218-7 [pii], PMID: 32037066, FI: 0.784, Original

Lopez-Navas AI, **Rios A***, Flores-Medina J, ..., **Ramirez P.**

Attitude Toward Related Living Donation Among Patients on Waiting List for Liver Transplantation.

Transplantation Proceedings, 2020, S0041-1345(19)31209-6 [pii], PMID: 32037065, FI: 0.784, Original

Martinez-Alarcon L*, **Rios A**, Gutierrez PR, ..., **Ramirez P.**

Attitudes Toward Organ Donation: Differences Between Medical and Nursing Andalusian Students.

Transplantation Proceedings, 2020, S0041-1345(19)31226-6 [pii], PMID: 32035685, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Flores-Medina J, ..., **Ramirez P.**

Acceptance of Solid Organ Xenotransplantation by the Ecuadorian Population Residing in Spain.

Transplantation Proceedings, 2020, S0041-1345(19)31208-4 [pii], PMID: 32035684, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Flores-Medina J, ..., **Ramirez P.**

Puerto Rican Population Residing in Florida: Attitude Towards Organ Xenotransplantation.

Transplantation Proceedings, 2020, S0041-1345(19)31207-2 [pii], PMID: 32035677, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Flores-Medina J, ..., **Ramirez P.**

Nicaraguan Population Residing in Florida Attitude Toward Different Types of Organ Donation.

Transplantation Proceedings, 2020, S0041-1345(19)31206-0 [pii], PMID: 32035671, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Flores-Medina J, ..., **Ramirez P.**

Ecuadorian Population Residing in Spain and Their Knowledge of Brain Death Concept.

Transplantation Proceedings, 2020, S0041-1345(19)31194-7 [pii], PMID: 32033830, FI: 0.784, Original

Martinez-Alarcon L*, **Rios A**, Gutierrez PR, ..., **Ramirez P.**

Organ Donation Related With Attitude Toward the Law of Presumed Consent: Spanish University Medical and Nursing Students Study.

Transplantation Proceedings, 2020, S0041-1345(19)31202-3 [pii], PMID: 32029316, FI: 0.784, Original

Rios A*, Lopez-Navas AI, Flores-Medina J, ..., **Ramirez P.**

Knowledge of the Brain Death Concept Among the Puerto Rican Population Residing in Florida.

Transplantation Proceedings, 2020, S0041-1345(19)31205-9 [pii], PMID: 32029314, FI: 0.784, Original

Jover-Aguilar M, **Martinez-Alarcon L***, **Ramis G**, ..., **Ramirez P.**

Resilience Related to Quality of Life Perceived in Elderly Patients With Orthotopic Liver Transplant for More Than 10 Years.

Transplantation Proceedings, 2020, S0041-1345(19)31707-5 [pii], PMID: 32276833, FI: 0.784, Original

Rios A, Lopez-Navas AI, Carrillo J, ..., **Ramirez P.**

Differences in Attitude Toward Organ Donation in the Three Main Cities of Cuba.

Transplantation Proceedings, 2020, 52, 1435-1438, PMID: 32409222, FI: 0.784, Original

Rios A*, Carrillo J, Lopez-Navas AI, ..., **Ramirez P.**

Analysis of the Socio-Personal Profile of Latin Americans Living in Spain and the United States: Does It Justify the Differences in Attitude Toward Organ Donation?

Transplantation Proceedings, 2020, 52, 1439-1441, PMID: 32217018, FI: 0.784, Original

Rios A*, Carrillo J, Lopez-Navas AI et al.

Impact of Catholicism on the Attitude Toward the Donation of Organs Among African Residents in Spain.

Transplantation Proceedings, 2020, 52, 1432-1434, PMID: 32217006, FI: 0.784, Original

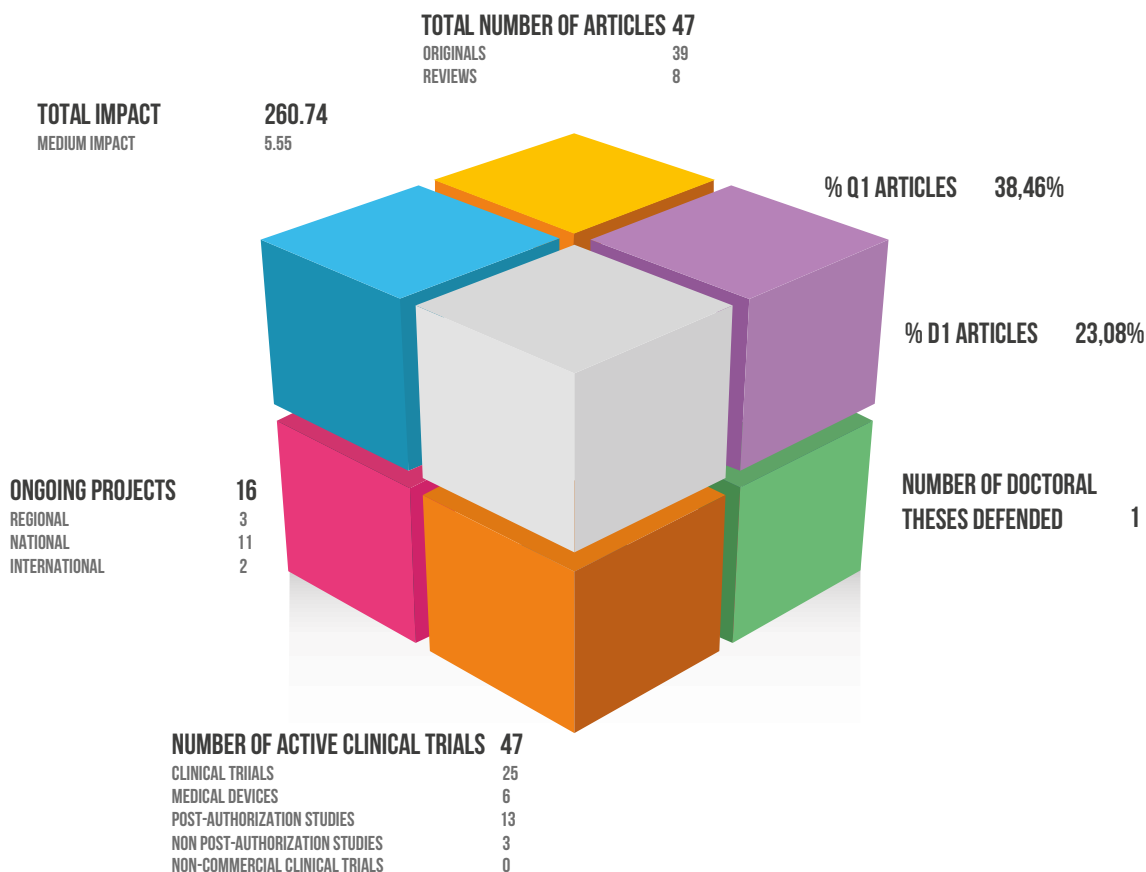
Azorin-Samper MC, Aguilar-Jimenez J, **Flores-Pastor B**, **Aguayo-Albasini JL.**

A quality improvement cycle of the care process in a general surgery hospitalization ward.

Cirugia y Cirujanos, 2020, 88, 175-184, PMID: 32116319, FI: 0.264, Original

AREA 4: NEUROSCIENCES AND SENSORY ORGANS

SCIENTIFIC PRODUCTION OF AREA



IMIB Area 4, Neuroscience and Sensory Organs, is formed by multidisciplinary clinical and basic groups whose joint objective is to understand the molecular, anatomical, physiological and functional bases of diseases affecting the nervous system, from addiction to aging or trauma.

Within this broad goal, the aim is to continue publishing in the first quartile and decile, to supervise doctors with special attention to resident doctors who are eager to do research, and to obtain competitive funding that allows hiring personnel. In addition, international and national collaborations are of utmost importance to build collaborative networks, and to apply for European funding. In fact, this Area participates in several Spanish and European collaborative networks such as Brain Activity, Oftared, Tercel and SPRINT-COST action.

Regarding the number of publications, the Area has had a very good productivity during 2020.

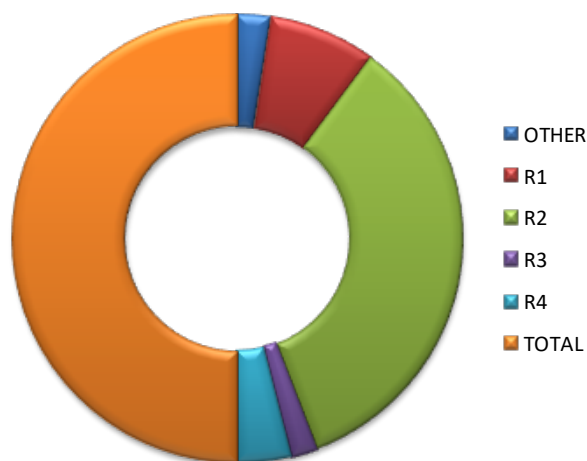


DRA. MARTA AGUDO BARRIUSO

Area 4 has 9 reserach groups:

NAME OF GROUP DEL GRUPO	CATEGORY	GROUP LEADER
EXPERIMENTAL OPHTHALMOLOGY	CONSOLIDATED	MANUEL VIDAL SANZ
CELL AND MOLECULAR PHARMACOLOGY	CONSOLIDATED	M. VICTORIA MILANÉS MAQUILÓN
BRAIN REGIONALIZATION AND DEVELOPMENTAL GENES	CONSOLIDATED	JOSE LUIS FERRÁN BERTONE
NEUROPATHOLOGIES OF THE CHOLINERGIC SYSTEM	CONSOLIDATED	FRANCISCO JAVIER CAMPOY MENENDEZ
CLINICAL AND EXPERIMENTAL NEUROSCIENCE	CONSOLIDATED	MARIA TRINIDAD HERRERO EZQUERRO
PSYCHOBIOLOGY AND NEUROBIOLOGY OF BEHAVIOR	CONSOLIDATED	JOSÉ MARÍA MARTÍNEZ SELVA
BRAIN AGING AND DEMENTIA	EMERGING	MIROLJUB POPOVIC POPOVIC
LABORATORY OF TECHNOLOGICAL INNOVATION FOR BLINDNESS	EMERGING	FERNANDO VARGAS MARTIN
NEUROINTERVENTIONISM	EMERGING	MARIANO ESPINOSA DE RUEDA RUIZ

These groups have a total of 104 researchers:



*OTHERS	R1	R2	R3	R4	TOTAL
5	16	71	4	8	104

Other*: Personnel hired to projects, data manager, administrative, laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Almela P, Cuenca-Bermejo L, Yuste JE, ..., Herrero MT*.

Cardiac Noradrenaline Turnover and Heat Shock Protein 27 Phosphorylation in Dyskinetic Monkeys.

Movement Disorders, 2020, 35, 698-703, PMID: 31872915, FI: 8.679, Original

Madrid-Valero JJ, Rubio-Aparicio M, Gregory AM, ..., Ordonana JR*.

Twin studies of subjective sleep quality and sleep duration, and their behavioral correlates: Systematic review and meta-analysis of heritability estimates.

Neuroscience and Biobehavioral Reviews, 2020, 109, 78-89, PMID: 31899301, FI: 8.329, Revisión

Garcia-Guillen IM, Alonso A, Morales-Delgado N, ..., Aroca P*.

Netrin-1/DCC Signaling Differentially Regulates the Migration of Pax7, Nkx6.1, Irx2, Otp, and Otx2 Cell Populations in the Developing Interpeduncular Nucleus.

Frontiers in Cell and Developmental Biology, 2020, 8, 588851, PMID: 33195252, FI: 5.186, Original

Martinez-Laorden E, Navarro-Zaragoza J*, Milanés MV, ..., Almela P*.

Cardiac Protective Role of Heat Shock Protein 27 in the Stress Induced by Drugs of Abuse.

International Journal of Molecular Sciences, 2020, 21, PMID: 32455528, FI: 4.556, Revisión

Popovic N, Morales-Delgado N, Vidal Mena D, ..., Popovic M*.

Verapamil and Alzheimer's Disease: Past, Present, and Future.

Frontiers in Pharmacology, 2020, 11, 562, PMID: 32431612, FI: 4.225, Revisión

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB.

Hauser SL, Bar-Or A, Cohen JA et al. COLABORADORES: Hauser SL, Kappos L, Bar-Or A, ..., **Meca Lallana J** et al.

Ofatumumab versus Teriflunomide in Multiple Sclerosis.

New England Journal of Medicine, 2020, 383, 546-557, PMID: 32757523, FI: 74.699, Original

Bourdenx M, Nioche A, Dovero S, ..., **Estrada C** et al.

Identification of distinct pathological signatures induced by patient-derived alpha-synuclein structures in nonhuman primates.

Science Advances, 2020, 6, eaaz9165, PMID: 32426502, FI: 13.117, Original

Arotcarena ML, Dovero S, Prigent A, ..., **Estrada C** et al.

Bidirectional gut-to-brain and brain-to-gut propagation of synucleinopathy in non-human primates.

Brain, 2020, 143, 1462-1475, PMID: 32380543, FI: 11.337, Original

Navas-Perez E, Vicente-Garcia C, Mirra S, ..., **Ferran JL** et al.
Characterization of an eutherian gene cluster generated after transposon domestication identifies Bex3 as relevant for advanced neurological functions.
Genome Biology, 2020, 21, 267, PMID: 33100228, FI: 10.806, Original

Arana E, Kovacs FM, Royuela A et al. COLABORADORES: Alonso A, Alvarez MA, Alvarez-Galovich L, ..., **Zamarro J**.
Metastatic Versus Osteoporotic Vertebral Fractures on MRI: A Blinded, Multicenter, and Multispecialty Observer Agreement Evaluation.
Journal of the National Comprehensive Cancer Network, 2020, 18, 267-273, PMID: 32135511, FI: 9.316, Original

Trotta M, Bello EP, Alsina R, ..., **Ferran JL** et al.
Hypothalamic Pomc expression restricted to GABAergic neurons suppresses Npy overexpression and restores food intake in obese mice.
Molecular Metabolism, 2020, 37, 100985, PMID: 32311511, FI: 6.448, Original

Lipiec MA, Bem J, Kozinski K, ..., **Toval A** et al.
TCF7L2 regulates postmitotic differentiation programmes and excitability patterns in the thalamus.
Development, 2020, 147, PMID: 32675279, FI: 5.611, Original

Montagud-Romero S, Cantacorps L, **Fernandez-Gomez FJ** et al.
Unraveling the molecular mechanisms involved in alcohol intake and withdrawal in adolescent mice exposed to alcohol during early life stages.
Progress in Neuro-Psychopharmacology & Biological Psychiatry, 2020, 104, 110025, PMID: 32599136, FI: 4.361, Original

Garcia-Perez D*, **Milanes MV**.
Role of glucocorticoids on noradrenergic and dopaminergic neurotransmission within the basolateral amygdala and dentate gyrus during morphine withdrawal place aversion.
Addiction Biology, 2020, 25, e12728, PMID: 30784175, FI: 4.121, Original

Martinez-Laorden E, **Navarro-Zaragoza J***, **Milanes MV**, ..., **Almela P**.
Conditioned aversive memory associated with morphine withdrawal increases brain-derived neurotrophic factor in dentate gyrus and basolateral amygdala.
Addiction Biology, 2020, 25, e12792, PMID: 31282111, FI: 4.121, Original

Costa T, Fernandez-Villalba E, **Izura V**, ..., **Herrero MT***.
Combined 1-Deoxynojirimycin and Ibuprofen Treatment Decreases Microglial Activation, Phagocytosis and Dopaminergic Degeneration in MPTP-Treated Mice.
Journal of Neuroimmune Pharmacology, 2020, 10.1007/s11481-020-09925-8 [doi], PMID: 32564332, FI: 4.113, Original

Silventoinen K, Jelenkovic A, Sund R, ..., **Ordonana JR** et al.
Genetic and environmental variation in educational attainment: an individual-based analysis of 28 twin cohorts.

Scientific Reports, 2020, 10, 12681, PMID: 32728164, FI: 3.998, Original

Pusti D, Benito A, **Madrid-Valero JJ** et al.
Inheritance of Refractive Error in Millennials.

Scientific Reports, 2020, 10, 8173, PMID: 32424231, FI: 3.998, Original

Gil-Martinez AL, Cuenca-Bermejo L, Gonzalez-Cuello AM, ..., Herrero MT*.

Identification of differentially expressed genes profiles in a combined mouse model of Parkinsonism and colitis.

Scientific Reports, 2020, 10, 13147, PMID: 32753609, FI: 3.998, Original

Ramirez AI, de Hoz R, Fernandez-Albarral JA, ..., **Valiente-Soriano FJ** et al.

Time course of bilateral microglial activation in a mouse model of laser-induced glaucoma.

Scientific Reports, 2020, 10, 4890, PMID: 32184450, FI: 3.998, Original

Valiente-Soriano FJ, Salinas-Navarro M, **Di Pierdomenico J**, ..., **Agudo-Barriuso M***.

Tracing the retina to analyze the integrity and phagocytic capacity of the retinal pigment epithelium.

Scientific Reports, 2020, 10, 7273, PMID: 32350384, FI: 3.998, Original

Andreucci A, **Madrid Valero JJ**, Ferreira PH, **Ordonana JR**.

Sleep quality and chronic neck pain: a co-twin study.

Journal of Clinical Sleep Medicine, 2020, 10.5664/jcsm.8316 [doi], PMID: 32026805, FI: 3.586, Original

Di Pierdomenico J, Martinez-Vacas A, Hernandez-Munoz D, ..., **Garcia-Ayuso D***.

Coordinated Intervention of Microglial and Muller Cells in Light-Induced Retinal Degeneration.

Investigative Ophthalmology & Visual Science, 2020, 61, 47, PMID: 32232352, FI: 3.47, Original

Toval A, Vicente-Conesa F, Martinez-Ortega P, ..., **Ferran JL***.

Hypothalamic Crh/Avp, Plasmatic Glucose and Lactate Remain Unchanged During Habituation to Forced Exercise.

Frontiers in Physiology, 2020, 11, 410, PMID: 32499715, FI: 3.367, Original

Garcia-Calero E, **Martinez-de-la-Torre M**, **Puelles L**.

A radial histogenetic model of the mouse pallial amygdala.

Brain Structure & Function, 2020, 225, 1921-1956, PMID: 32583144, FI: 3.298, Original

Alonso A, Trujillo CM, Puelles L.

Longitudinal developmental analysis of prethalamic eminence derivatives in the chick by mapping of Tbr1 in situ expression.

Brain Structure & Function, 2020, 225, 481-510, PMID: 31901976, FI: 3.298, Original

Diaz C, **Puelles L.**

Developmental Genes and Malformations in the Hypothalamus.

Frontiers in Neuroanatomy, 2020, 14, 607111, PMID: 33324176, FI: 3.292, Revisión

Garcia-Calero E, **Puelles L.**

Histogenetic Radial Models as Aids to Understanding Complex Brain Structures: The Amygdalar Radial Model as a Recent Example.

Frontiers in Neuroanatomy, 2020, 14, 590011, PMID: 33240050, FI: 3.292, Revisión

Guerrero-Bautista R, Franco-Garcia A, Hidalgo JM, ..., Milanés MV*, Nunez C.

Blockade of D3 receptor prevents changes in DAT and D3R expression in the mesolimbic dopaminergic circuit produced by social stress- and cocaine prime-induced reinstatement of cocaine-CPP.

Journal of Psychopharmacology, 2020, , 269881120936468, PMID: 32648812, FI: 3.121, Original

Sanchez Martinez I, Cerdan Sanchez M, **Lopez Roman J** et al.

Possible Influence of the Route of Treatment Administration on Treatment Adherence in Patients With Multiple Sclerosis.

Clinical Therapeutics, 2020, 42, e87-e99, PMID: 32362347, FI: 3.119, Original

Damasceno S, Gomez-Nieto R, Garcia-Cairasco N, ..., **Marin F** et al.

Top Common Differentially Expressed Genes in the Epileptogenic Nucleus of Two Strains of Rodents Susceptible to Audiogenic Seizures: WAR and GASH/Sal.

Frontiers in Neurology, 2020, 11, 33, PMID: 32117006, FI: 2.889, Original

Fuentes-Rumi L, Hernandez-Clares R, Carreon-Guarnizo E, ..., **Meca-Lallana JE.**

Prevention of rebound effect after natalizumab withdrawal in multiple sclerosis. Study of two high-dose methylprednisolone schedules.

Multiple Sclerosis and Related Disorders, 2020, 44, 102311, PMID: 32593958, FI: 2.889, Original

Bruguier H, Suarez R, Manger P, ..., **Ferran JL** et al.

In search of common developmental and evolutionary origin of the claustrum and subplate.

Journal of Comparative Neurology, 2020, 528, 2956-2977, PMID: 32266722, FI: 2.801, Original

Barrero F, Mallada-Frechin J, Martinez-Gines ML, ..., **Meca-Lallana J** et al.

Spanish real-world experience with fingolimod in relapsing-remitting multiple sclerosis patients: MS NEXT study.

Plos one, 2020, 15, e0230846, PMID: 32240213, FI: 2.74, Original

Meseguer Henarejos AB, Popovic N, Bokonjic D, ..., Popovic M*.

Sex and Time-of-Day Impact on Anxiety and Passive Avoidance Memory Strategies in Mice.
Frontiers in Behavioral Neuroscience, 2020, 14, 68, PMID: 32523516, FI: 2.512, Original

Ribo M, Requena M, Macho J, **Zamarro J** et al.

Mechanical thrombectomy with a novel stent retriever with multifunctional zones: Initial clinical experience with the NeVa thrombectomy device.
Journal of Neuroradiology, 2020, 47, 301-305, PMID: 30951765, FI: 2.423, Original

Comi G, Freedman MS, **Meca-Lallana JE** et al.

Prior treatment status: impact on the efficacy and safety of teriflunomide in multiple sclerosis.
Bmc Neurology, 2020, 20, 364, PMID: 33023488, FI: 2.356, Original

Valero-Lopez G, Carreon-Guarnizo E, Hernandez-Clares R, ..., **Meca-Lallana JE***.

Pulse immunosuppressive therapy for multiple sclerosis during the SARS-CoV-2 lockdown de-escalation plan: Safety algorithm.
Neurologia, 2020, 35, 357-362, PMID: 32591152, FI: 2.283, Original

Paez-Granda D, **Parrilla G**, Diaz-Perez J, ..., Zamarro J.

Are modified Fisher Scale and bleeding pattern helpful predictors of neurological complications in non-aneurysmal subarachnoid hemorrhage?
Neuroradiology, 2020, 10.1007/s00234-020-02524-7 [doi], PMID: 32812071, FI: 2.238, Original

Poveda CM, **Popovic N**, Morales-Delgado N, ..., **Popovic M***.

The diurnal variation of open-field habituation in rats.
Behavioural Processes, 2020, 178, 104186, PMID: 32619522, FI: 1.846, Original

Gallego-Ortega A, Norte-Munoz M, Miralles de Imperial-Ollero JA, ..., **Vidal-Sanz M***.

Functional and morphological alterations in a glaucoma model of acute ocular hypertension.
Progress in Brain Research, 2020, 256, 1-29, PMID: 32958209, FI: 1.746, Revisión

Herle M, **Madrid-Valero JJ**, Morosoli JJ, ..., **Ordonana J**.

The Role of the Environment in Overweight and Eating Behavior Variability: Insights from a Multivariate Twin Study.
Twin Research and Human Genetics, 2020, 23, 338-344, PMID: 33480833, FI: 1.319, Original

Meca-Lallana J*, Ayuso T, Martinez-Yelamos S et al.

Effectiveness of Fingolimod versus Natalizumab as Second-Line Therapy for Relapsing-Remitting Multiple Sclerosis in Spain: Second-Line GATE Study.
European Neurology, 2020, 83, 25-33, PMID: 32187609, FI: 1.182, Original

Kosonogov V, **Martinez-Selva JM**, **Torrente G**, ..., **Sanchez-Navarro J**.

Does Social Content Influence the Subjective Evaluation of Affective Pictures?

Spanish Journal of Psychology, 2020, 23, e6, PMID: 32460951, FI: 0.972, Original

Paez-Granda D*.

[Subarachnoid haemorrhage with negative tomographic angiography without vasospasm: is it necessary to perform angiographic controls?]

Revista de Neurologia, 2020, 70, 287-292, PMID: 32242335, FI: 0.562, Original

Fernandez O, Aladro Y, Arroyo R, ..., **Meca-Lallana JE** et al.

12th Post-ECTRIMS Meeting: review of the novelties from the 2019 ECTRIMS Congress (II).

Revista de Neurologia, 2020, 70, 417-429, PMID: 32436209, FI: 0.562, Revisión

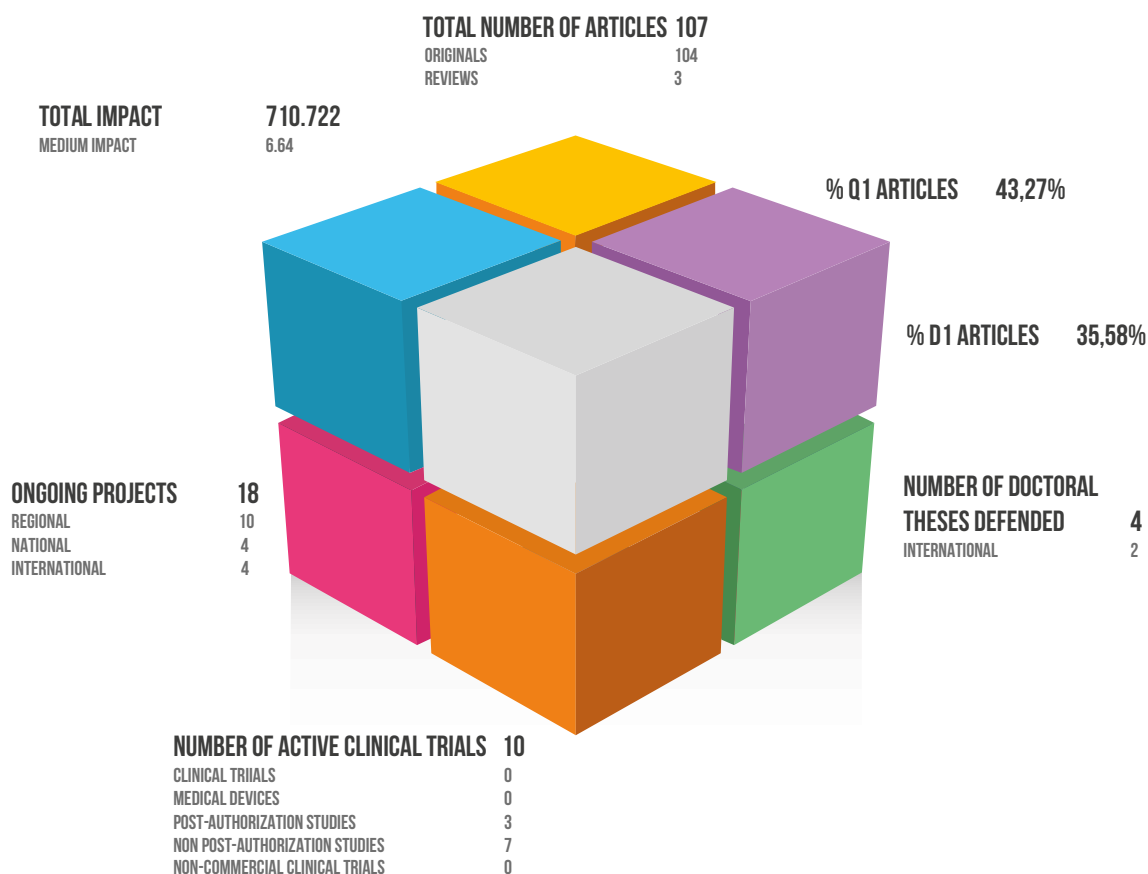
Fernandez O, Aladro Y, Arroyo R, ..., **Meca-Lallana JE** et al.

[12th Post-ECTRIMS Meeting: review of the novelties from the 2019 ECTRIMS Congress (I)].

Revista de Neurologia, 2020, 70, 379-390, PMID: 32390131, FI: 0.562, Revisión

AREA 5: EPIDEMIOLOGY, PUBLIC HEALTH AND HEALTH SERVICES

SCIENTIFIC PRODUCTION OF AREA



The Area 5 of the IMIB comprises a total of 7 research groups (3 consolidated, 3 emerging, and 1 associated clinical group). The groups integrated in the area are from diverse institutions including the University of Murcia, the University Clinical Hospital “Virgen de la Arrixaca”, Primary Care Units, and the General Directorate of Public Health and Addictions of the Region of Murcia. The Area benefits from the multidisciplinary of the groups and research profiles, and it has a large and consolidated research trajectory on the main health problems of the population, such as cancer and other chronic diseases, reproductive health, environmental pollutants, or mental health. Besides, throughout 2020 the Area developed highly-demanding research and health-care activities focused on the control of COVID-19 pandemic through the Epidemiology Department of Murcia, coordinating the COVID-19 health response of the Region of Murcia.

The scientific production of the Area reached a total of 107 publications in 2020 (104 original research papers), of which 36% were published in D1 journals, and 43% in Q1 journals. Thus, the Area continues ranking 2nd in the IMIB by number of original papers and impact factor (21.3% of the total factor of the Institute). Despite the limitations imposed by the pandemic, the Area has maintained a prolific and high-quality scientific production with publications in top medical journals such as Lancet, Nature, JAMA Psichiatty, or JNCI, among others.

Throughout 2020, the Area participated in 18 research projects with active competitive funding (10 regional, 4 national, and 4 international), while maintaining its long-lasting contribution to several large national and international consortia and research networks. Furthermore, during 2020, the Area took part in a total of 10 clinical trials.

Regarding training activities, a total of 4 Doctoral Theses were defended during 2020 (2 with international mention).

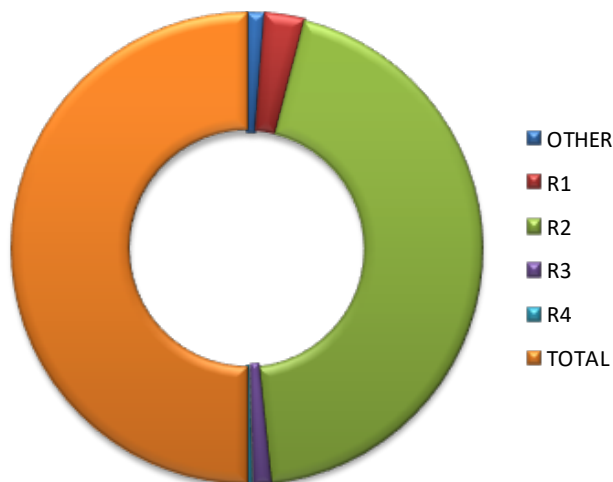


MARÍA DOLORES CHIRLAQUE

Area 5 has total of 7 groups:

NAME OF GROUP	CATEGORY	GROUP LEADER
RESEARCH IN EPIDEMIOLOGY AND PUBLIC HEALTH	CONSOLIDATED	MARIA DOLORES CHIRLAQUE
RESEARCH METHODOLOGY IN HEALTH SCIENCES	CONSOLIDATED	ALBERTO MANUEL TORRES CANTERO
PHYSIOTHERAPY AND DISABILITY	CONSOLIDATED	FRANCISCO MEDINA MIRAPEIX
LEGAL AND FORENSIC MEDICINE. HEALTH LEGISLATION	EMERGING	AURELIO LUNA MALDONADO
PEDIATRIC ENVIRONMENTAL HEALTH	EMERGING	JUAN ANTONIO ORTEGA GARCIA
ADVANCED NURSING CARE	EMERGING	EVA ABAD CORPA
RESEARCH IN PRIMARY CARE	ASSOCIATED CLINICAL GROUP	MARIANO LEAL HERNÁNDEZ

These groups have a total of 125 researchers:



*OTHERS	R1	R2	R3	R4	TOTAL
3	7	111	3	1	125

Other*: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Navarro-Mateu F*, Husky M, Cayuela-Fuentes P, ..., **Sanchez-Meca J**.

The association of telomere length with substance use disorders: a systematic review and meta-analysis of observational studies.

Addiction, 2020, 10.1111/add.15312 [doi], PMID: 33140537, FI: 6.343, Revisión

Garcia-Sanchez E, Rubio-Arias JA, Avila-Gandia V, ..., **Lopez-Roman FJ***, **Menarguez-Puche JF***. Effects of Two Community-Based Exercise Programs on Adherence, Cardiometabolic Markers, and Body Composition in Older People with Cardiovascular Risk Factors: A Prospective Observational Cohort Study.

Journal of Personalized Medicine, 2020, 10, PMID: 33081361, FI: 4.433, Original

Andreu-Reinon ME, **Huerta JM***, **Gavrila D**, ..., **Chirlaque MD**.

Incidence of Dementia and Associated Factors in the EPIC-Spain Dementia Cohort.

Journal of Alzheimers Disease, 2020, 78, 543-555, PMID: 33016917, FI: 3.909, Original

Sanchez-Martinez MP, **Bernabeu-Mora R***, **Martinez-Gonzalez M**, ..., **Medina-Mirapeix F**.

Stability and Predictors of Poor 6-min Walking Test Performance over 2 Years in Patients with COPD.

Journal of Clinical Medicine, 2020, 9, PMID: 32325637, FI: 3.303, Original

Ortega-Garcia JA, **Lopez-Hernandez FA**, **Azurmendi Funes ML** et al.

My partner and my neighbourhood: The built environment and social networks' impact on alcohol consumption during early pregnancy.

Health & Place, 2020, 61, 102239, PMID: 31786095, FI: 3.29, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB.

NCD Risk Factor Collaboration (NCD-RisC) COLABORADORES: Rodriguez-Martinez A, Zhou B, Sophiea MK, ..., **Chirlaque MD** et al.

Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants.

Lancet, 2020, 396, 1511-1524, PMID: 33160572, FI: 60.39, Original

NCD Risk Factor Collaboration (NCD-RisC) COLABORADORES: Taddei C, Zhou B, Bixby H, ..., **Chirlaque MD** et al.

Repositioning of the global epicentre of non-optimal cholesterol.

Nature, 2020, 582, 73-77, PMID: 32494083, FI: 42.779, Original

Deschasaux M, Huybrechts I, Julia C, ..., **Colorado-Yohar SM** et al.

Association between nutritional profiles of foods underlying Nutri-Score front-of-pack labels and mortality: EPIC cohort study in 10 European countries.

Bmj-British Medical Journal, 2020, 370, m3173, PMID: 32938660, FI: 30.313, Original

Zheng JS, Sharp SJ, Imamura F, ..., **Chirilaque MD** et al.

Association of plasma biomarkers of fruit and vegetable intake with incident type 2 diabetes: EPIC-InterAct case-cohort study in eight European countries.

Bmj-British Medical Journal, 2020, 370, m2194, PMID: 32641421, FI: 30.313, Original

Tong TYN, Appleby PN, Key TJ, ..., **Chirilaque MD** et al.

The associations of major foods and fibre with risks of ischaemic and haemorrhagic stroke: a prospective study of 418 329 participants in the EPIC cohort across nine European countries.

European Heart Journal, 2020, 41, 2632-2640, PMID: 32090257, FI: 22.673, Original

Harris MG, Kazdin AE, Chiu WT, ..., **Navarro-Mateu F** et al.

Findings From World Mental Health Surveys of the Perceived Helpfulness of Treatment for Patients With Major Depressive Disorder.

Jama Psychiatry, 2020, 77, 830-841, PMID: 32432716, FI: 17.471, Original

Archambault AN, Su YR, Jeon J, ..., **Chirilaque MD** et al.

Cumulative Burden of Colorectal Cancer-Associated Genetic Variants Is More Strongly Associated With Early-Onset vs Late-Onset Cancer.

Gastroenterology, 2020, 158, 1274-1286.e12, PMID: 31866242, FI: 17.373, Original

Murphy N, Carreras-Torres R, Song M, ..., **Chirilaque MD** et al.

Circulating Levels of Insulin-like Growth Factor 1 and Insulin-like Growth Factor Binding Protein 3 Associate With Risk of Colorectal Cancer Based on Serologic and Mendelian Randomization Analyses.

Gastroenterology, 2020, 158, 1300-1312.e20, PMID: 31884074, FI: 17.373, Original

Ibsen DB, Steur M, Imamura F, ..., **Santiuste C** et al.

Replacement of Red and Processed Meat With Other Food Sources of Protein and the Risk of Type 2 Diabetes in European Populations: The EPIC-InterAct Study.

Diabetes Care, 2020, 43, 2660-2667, PMID: 32868270, FI: 16.019, Original

Papadimitriou N, Dimou N, Tsilidis KK, ..., **Maria Huerta J** et al.

Physical activity and risks of breast and colorectal cancer: a Mendelian randomisation analysis.

Nature Communications, 2020, 11, 597, PMID: 32001714, FI: 12.121, Original

Kuhn T, Stepien M, Lopez-Noguerolles M, ..., **Colorado-Yohar S** et al.
Prediagnostic Plasma Bile Acid Levels and Colon Cancer Risk: A Prospective Study.
Jnci-Journal of the National Cancer Institute, 2020, 112, 516-524, PMID: 31435679, FI: 11.577, Original

Li C, Stoma S, Lotta LA, ..., **Chirlaque MD** et al.
Genome-wide Association Analysis in Humans Links Nucleotide Metabolism to Leukocyte Telomere Length.
American Journal of Human Genetics, 2020, 106, 389-404, PMID: 32109421, FI: 10.502, Original

Zheng JS, Luan J, Sofianopoulou E, ..., **Huerta JM** et al.
The association between circulating 25-hydroxyvitamin D metabolites and type 2 diabetes in European populations: A meta-analysis and Mendelian randomisation analysis.
Plos Medicine, 2020, 17, e1003394, PMID: 33064751, FI: 10.5, Original

Peters S, Gallo V, Vineis P, ..., **Chirlaque MD** et al.
Alcohol Consumption and Risk of Parkinson's Disease: Data From a Large Prospective European Cohort.
Movement Disorders, 2020, 35, 1258-1263, PMID: 32357270, FI: 8.679, Original

Aglago EK, Huybrechts I, Murphy N, ..., **Huerta JM** et al.
Consumption of Fish and Long-chain n-3 Polyunsaturated Fatty Acids Is Associated With Reduced Risk of Colorectal Cancer in a Large European Cohort.
Clinical Gastroenterology and Hepatology, 2020, 18, 654-666.e6, PMID: 31252190, FI: 8.549, Original

NCD Risk Factor Collaboration (NCD-RisC) COLABORADORES: Taddei C, Jackson R, Zhou B, ..., **Chirlaque MD** et al.
National trends in total cholesterol obscure heterogeneous changes in HDL and non-HDL cholesterol and total-to-HDL cholesterol ratio: a pooled analysis of 458 population-based studies in Asian and Western countries.
International Journal of Epidemiology, 2020, 49, 173-192, PMID: 31321439, FI: 7.707, Original

Augusto S, Ratola N, Tarin-Carrasco P, **Jimenez-Guerrero P** et al.
Population exposure to particulate-matter and related mortality due to the Portuguese wildfires in October 2017 driven by storm Ophelia.
Environment International, 2020, 144, 106056, PMID: 32866734, FI: 7.577, Original

Castello A, Perez-Gomez B, Lora-Pablos D, ..., **Chirlaque Lopez MD** et al.
Validation of self-reported perception of proximity to industrial facilities: MCC-Spain study.
Environment International, 2020, 135, 105316, PMID: 31918152, FI: 7.577, Original

- Garcia-Perez J, Fernandez de Larrea-Baz N, Lope V, ..., **Chirlaque MD** et al.
Residential proximity to industrial pollution sources and colorectal cancer risk: A multicase-control study (MCC-Spain).
Environment International, 2020, 144, 106055, PMID: 32827807, FI: 7.577, Original
- Rolandsson O, Hampe CS, Sharp SJ, ..., **Chirlaque MD** et al.
Autoimmunity plays a role in the onset of diabetes after 40 years of age.
Diabetologia, 2020, 63, 266-277, PMID: 31713011, FI: 7.518, Original
- Mahamat-Saleh Y, Cervenka I, Al-Rahmoun M, ..., **Colorado-Yohar S** et al.
Citrus intake and risk of skin cancer in the European Prospective Investigation into Cancer and Nutrition cohort (EPIC).
European Journal of Epidemiology, 2020, 35, 1057-1067, PMID: 32710289, FI: 7.135, Original
- Naudin S, Viallon V, Hashim D, ..., **Chirlaque Lopez MD** et al.
Healthy lifestyle and the risk of pancreatic cancer in the EPIC study.
European Journal of Epidemiology, 2020, 35, 975-986, PMID: 31564045, FI: 7.135, Original
- Seyed Khoei N, Jenab M, Murphy N, ..., **Chirlaque MD** et al.
Circulating bilirubin levels and risk of colorectal cancer: serological and Mendelian randomization analyses.
Bmc Medicine, 2020, 18, 229, PMID: 32878631, FI: 6.782, Original
- Freisling H, Viallon V, Lennon H, ..., **Santiuste C** et al.
Lifestyle factors and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study.
Bmc Medicine, 2020, 18, 5, PMID: 31918762, FI: 6.782, Original
- Sieri S, Agnoli C, Grioni S, ..., **Gomez JH** et al.
Glycemic index, glycemic load, and risk of coronary heart disease: a pan-European cohort study.
American Journal of Clinical Nutrition, 2020, 112, 631-643, PMID: 32619242, FI: 6.766, Original
- Zamora-Ros R, Lujan-Barroso L, Achaintre D, ..., **Chirlaque MD** et al.
Blood polyphenol concentrations and differentiated thyroid carcinoma in women from the European Prospective Investigation into Cancer and Nutrition (EPIC) study.
American Journal of Clinical Nutrition, 2020, nqaa277 [pii], PMID: 33021645, FI: 6.766, Original
- National COVID-19 outbreak monitoring group COLABORADORES: Guzman Herrador BR, Rivera Ariza S, Latasa Zamalloa P, ..., **Garcia-Fulgueiras A, Chirlaque MD, Barranco I** et al.
COVID-19 outbreaks in a transmission control scenario: challenges posed by social and leisure activities, and for workers in vulnerable conditions, Spain, early summer 2020.
Eurosurveillance, 2020, 25, PMID: 32885777, FI: 6.454, Original

Working group for the surveillance and control of COVID-19 in Spain COLABORADORES: Redondo-Bravo L, Sierra Moros MJ, Martinez Sanchez EV, ..., **Garcia-Fulgueiras A, M^a Dolores Chirlaque, M^a Isabel Barranco** et al.

The first wave of the COVID-19 pandemic in Spain: characterisation of cases and risk factors for severe outcomes, as at 27 April 2020.

Eurosurveillance, 2020, 25, PMID: 33334400, FI: 6.454, Original

Van Puyvelde H, Versele V, De Backer M, ..., **Chirlaque MD** et al.

Methodological approaches to compile and validate a food composition database for methyl-group carriers in the European Prospective Investigation into Cancer and Nutrition (EPIC) study.

Food Chemistry, 2020, 330, 127231, PMID: 32535317, FI: 6.306, Original

McGrath JJ, Lim CCW, Plana-Ripoll O, ..., **Navarro-Mateu F** et al.

Comorbidity within mental disorders: a comprehensive analysis based on 145 990 survey respondents from 27 countries.

Epidemiology and Psychiatric Sciences, 2020, 29, e153, PMID: 32782057, FI: 5.876, Original

Salamanca-Fernandez E, Rodriguez-Barranco M, Petrova D, ..., **Chirlaque MD** et al.

Bisphenol A exposure and risk of ischemic heart disease in the Spanish European Prospective Investigation into cancer and nutrition study.

Chemosphere, 2020, 261, 127697, PMID: 32731019, FI: 5.778, Original

Fisher BG, Thankamony A, **Mendiola J** et al.

Maternal serum concentrations of bisphenol A and propyl paraben in early pregnancy are associated with male infant genital development.

Human Reproduction, 2020, 35, 913-928, PMID: 32325494, FI: 5.733, Original

Salamanca-Fernandez E, Rodriguez-Barranco M, Arrebola JP, ..., **Chirlaque MD** et al.

Bisphenol-A in the European Prospective Investigation into Cancer and Nutrition cohort in Spain: Levels at recruitment and associated dietary factors.

Environmental Research, 2020, 182, 109012, PMID: 31837551, FI: 5.715, Original

Cai L, Wheeler E, Kerrison ND, ..., **Huerta JM** et al.

Genome-wide association analysis of type 2 diabetes in the EPIC-InterAct study.

Scientific Data, 2020, 7, 393, PMID: 33188205, FI: 5.541, Original

Rizzi MA, Sarasola AG, Arbe AA et al. COLABORADORES: Fuentes M, Gil C, Alonso H, ..., **Pinera P** et al.

Factors associated with in-hospital mortality and adverse outcomes during the vulnerable post-discharge phase after the first episode of acute heart failure: results of the NOVICA-2 study.

Clinical Research in Cardiology, 2020, 10.1007/s00392-020-01710-0 [doi], PMID: 32959081, FI: 5.268, Original

Naudin S, Solans Margalef M, Saberi Hosnijeh F, ..., **Huerta JM** et al.
Healthy lifestyle and the risk of lymphoma in the European Prospective Investigation into Cancer and Nutrition study.

International Journal of Cancer, 2020, 147, 1649-1656, PMID: 32176325, FI: 5.145, Original

Jakszyn P, Cayssials V, Buckland G, ..., **Huerta JM** et al.
Inflammatory potential of the diet and risk of colorectal cancer in the European Prospective Investigation into Cancer and Nutrition study.

International Journal of Cancer, 2020, 147, 1027-1039, PMID: 31945199, FI: 5.145, Original

Obon-Santacana M, Lujan-Barroso L, Freisling H, ..., **Santiuste C** et al.
Consumption of nuts and seeds and pancreatic ductal adenocarcinoma risk in the European Prospective Investigation into Cancer and Nutrition.

International Journal of Cancer, 2020, 146, 76-84, PMID: 31107546, FI: 5.145, Original

Zamora-Ros R, Cayssials V, Franceschi S, ..., **Colorado-Yohar SM** et al.
Polyphenol intake and differentiated thyroid cancer risk in the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort.

International Journal of Cancer, 2020, 146, 1841-1850, PMID: 31342519, FI: 5.145, Original

Christakoudi S, Kakourou A, Markozannes G, ..., **Colorado-Yohar SM** et al.
Blood pressure and risk of cancer in the European Prospective Investigation into Cancer and Nutrition.

International Journal of Cancer, 2020, 146, 2680-2693, PMID: 31319002, FI: 5.145, Original

Schmidt JA, Fensom GK, Rinaldi S, ..., **Chirlaque MD** et al.
Patterns in metabolite profile are associated with risk of more aggressive prostate cancer: A prospective study of 3,057 matched case-control sets from EPIC.

International Journal of Cancer, 2020, 146, 720-730, PMID: 30951192, FI: 5.145, Original

Assi N, Rinaldi S, Viallon V, ..., **Chirlaque MD** et al.
Mediation analysis of the alcohol-postmenopausal breast cancer relationship by sex hormones in the EPIC cohort.

International Journal of Cancer, 2020, 146, 759-768, PMID: 30968961, FI: 5.145, Original

Perez-Cornago A, Huybrechts I, Appleby PN, ..., **Chirlaque MD** et al.
Intake of individual fatty acids and risk of prostate cancer in the European prospective investigation into cancer and nutrition.

International Journal of Cancer, 2020, 146, 44-57, PMID: 30807653, FI: 5.145, Original

Casabonne D, Benavente Y, Seifert J, ..., **Chirlaque MD** et al.

Serum levels of hsa-miR-16-5p, hsa-miR-29a-3p, hsa-miR-150-5p, hsa-miR-155-5p and hsa-miR-223-3p and subsequent risk of chronic lymphocytic leukemia in the EPIC study.

International Journal of Cancer, 2020, 147, 1315-1324, PMID: 32012253, FI: 5.145, Original

Gibbs DC, Bostick RM, McCullough ML, ..., **Colorado-Yohar S** et al.

Association of prediagnostic vitamin D status with mortality among colorectal cancer patients differs by common, inherited vitamin D-binding protein isoforms.

International Journal of Cancer, 2020, 147, 2725-2734, PMID: 32391587, FI: 5.145, Original

Idahl A, Le Cornet C, Gonzalez Maldonado S, ..., **Chirlaque MD** et al.

Serologic markers of Chlamydia trachomatis and other sexually transmitted infections and subsequent ovarian cancer risk: Results from the EPIC cohort.

International Journal of Cancer, 2020, 147, 2042-2052, PMID: 32243586, FI: 5.145, Original

Sanikini H, Muller DC, Sophiea M, ..., **Chirlaque Lopez MD** et al.

Anthropometric and reproductive factors and risk of esophageal and gastric cancer by subtype and subsite: Results from the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort.

International Journal of Cancer, 2020, 146, 929-942, PMID: 31050823, FI: 5.145, Original

Cervenka I, Al Rahmoun M, Mahamat-Saleh Y, ..., **Colorado-Yohar S** et al.

Exogenous hormone use and cutaneous melanoma risk in women: The European Prospective Investigation into Cancer and Nutrition.

International Journal of Cancer, 2020, 146, 3267-3280, PMID: 31506954, FI: 5.145, Original

Kliemann N, Murphy N, Viallon V, ..., **Chirlaque MD** et al.

Predicted basal metabolic rate and cancer risk in the European Prospective Investigation into Cancer and Nutrition.

International Journal of Cancer, 2020, 147, 648-661, PMID: 31652358, FI: 5.145, Original

Heath AK, Muller DC, van den Brandt PA, ..., **Chirlaque MD** et al.

Nutrient-wide association study of 92 foods and nutrients and breast cancer risk.

Breast Cancer Research, 2020, 22, 5, PMID: 31931881, FI: 4.988, Original

O'Callaghan-Gordo C, Espinosa A, Valentin A, ..., **Chirlaque MD** et al.

Green spaces, excess weight and obesity in Spain.

International Journal of Hygiene and Environmental Health, 2020, 223, 45-55, PMID: 31679857, FI: 4.801, Original

Stein DJ, Harris MG, Vigo DV, ..., **Navarro-Mateu F** et al.
Perceived helpfulness of treatment for posttraumatic stress disorder: Findings from the World Mental Health Surveys.
Depression and Anxiety, 2020, 37, 972-994, PMID: 32667096, FI: 4.702, Original

Solans M, Benavente Y, Saez M, ..., **Chirlaque MD** et al.
Inflammatory potential of diet and risk of lymphoma in the European Prospective Investigation into Cancer and Nutrition.
European Journal of Nutrition, 2020, 59, 813-823, PMID: 30903361, FI: 4.664, Original

Papadimitriou N, Muller D, van den Brandt PA, ..., **Santiuste C** et al.
A nutrient-wide association study for risk of prostate cancer in the European Prospective Investigation into Cancer and Nutrition and the Netherlands Cohort Study.
European Journal of Nutrition, 2020, 59, 2929-2937, PMID: 31705265, FI: 4.664, Original

Van Puyvelde H, Perez-Cornago A, Casagrande C, ..., **Maria Huerta J** et al.
Comparing Calculated Nutrient Intakes Using Different Food Composition Databases: Results from the European Prospective Investigation into Cancer and Nutrition (EPIC) Cohort.
Nutrients, 2020, 12, PMID: 32977480, FI: 4.546, Original

Davila-Batista V, Molina AJ, Fernandez-Villa T, ..., **Huerta JM** et al.
The Relation of CUN-BAE Index with Body Mass Index and Waist Circumference in Adults Aged 50 to 85 Years: The MCC-Spain Study.
Nutrients, 2020, 12, PMID: 32260185, FI: 4.546, Original

Rubin-Garcia M, Vitelli-Storelli F, Molina AJ, ..., **Chirlaque MD** et al.
Association between Polyphenol Intake and Gastric Cancer Risk by Anatomic and Histologic Subtypes: MCC-Spain.
Nutrients, 2020, 12, PMID: 33114671, FI: 4.546, Original

Butt J, Jenab M, Pawlita M, ..., **Santiuste C** et al.
Antibody Responses to *Helicobacter pylori* and Risk of Developing Colorectal Cancer in a European Cohort.
Cancer Epidemiology Biomarkers & Prevention, 2020, 29, 1475-1481, PMID: 32332031, FI: 4.344, Original

Lujan-Barroso L, Botteri E, Caini S, ..., **Santiuste C** et al.
Menstrual Factors, Reproductive History, Hormone Use, and Urothelial Carcinoma Risk: A Prospective Study in the EPIC Cohort.
Cancer Epidemiology Biomarkers & Prevention, 2020, 29, 1654-1664, PMID: 32467345, FI: 4.344, Original

Singleton RK, Heath AK, Clasen JL, ..., **Santiuste C** et al.

Risk Prediction for Renal Cell Carcinoma: Results from the European Prospective Investigation into Cancer and Nutrition (EPIC) Prospective Cohort Study.

Cancer Epidemiology Biomarkers & Prevention, 2020, 10.1158/1055-9965.EPI-20-1438 [doi], PMID: 33335022, FI: 4.344, Original

Gentiluomo M, Katzke VA, Kaaks R, ..., **Colorado-Yohar S** et al.

Mitochondrial DNA Copy-Number Variation and Pancreatic Cancer Risk in the Prospective EPIC Cohort.

Cancer Epidemiology Biomarkers & Prevention, 2020, 29, 681-686, PMID: 31932413, FI: 4.344, Original

Yammine S, Huybrechts I, Biessy C, ..., **Chirilaque MD** et al.

Dietary and Circulating Fatty Acids and Ovarian Cancer Risk in the European Prospective Investigation into Cancer and Nutrition.

Cancer Epidemiology Biomarkers & Prevention, 2020, 29, 1739-1749, PMID: 32616494, FI: 4.344, Original

Rey-Garcia J, Guallar-Castillon P, Donat-Vargas C, ..., **Colorado-Yohar S** et al.

Fried-Food Consumption Does Not Increase the Risk of Stroke in the Spanish Cohort of the European Prospective Investigation into Cancer and Nutrition (EPIC) Study.

Journal of Nutrition, 2020, 150, 3241-3248, PMID: 32939531, FI: 4.281, Original

Druwe P, Benoit DD, Monsieurs KG, ..., **Salmeron PP** et al.

Cardiopulmonary Resuscitation in Adults Over 80: Outcome and the Perception of Appropriateness by Clinicians.

Journal of the American Geriatrics Society, 2020, 68, 39-45, PMID: 31840239, FI: 4.18, Original

Miro O, Llorens P, Jimenez S, **Pinera P** et al.

A case-control emergency department-based analysis of acute pancreatitis in Covid-19: Results of the UMC-19-S6.

Journal of Hepato-Biliary-pancreatic Sciences, 2020, 10.1002/jhbp.873 [doi], PMID: 33259695, FI: 4.16, Original

Christakoudi S, Tsilidis KK, Muller DC, ..., **Cirera L** et al.

A Body Shape Index (ABSI) achieves better mortality risk stratification than alternative indices of abdominal obesity: results from a large European cohort.

Scientific Reports, 2020, 10, 14541, PMID: 32883969, FI: 3.998, Original

Saberi Hosnijeh F, Koliijn PM, Casabonne D, ..., **Huerta JM** et al.

Mediating effect of soluble B-cell activation immune markers on the association between anthropometric and lifestyle factors and lymphoma development.

Scientific Reports, 2020, 10, 13814, PMID: 32796953, FI: 3.998, Original

Glantz MD, Bharat C, Degenhardt L, ..., **Navarro-Mateu F** et al.
The epidemiology of alcohol use disorders cross-nationally: Findings from the World Mental Health Surveys.
Addictive Behaviors, 2020, 102, 106128, PMID: 31865172, FI: 3.645, Original

Roset A, Jacob J, Herrero-Puente P et al. COLABORADORES: Fuentes M, Gil C, Alonso H, ..., **Pinera P** et al.
High-sensitivity cardiac troponin T 30 days all-cause mortality in patients with acute heart failure. A Propensity Score-Matching Analysis Based on the EAHFE Registry. TROPICA4 Study.
European Journal of Clinical Investigation, 2020, 50, e13248, PMID: 32306389, FI: 3.481, Original

Kramer A, Boenink R, Noordzij M, ..., **Santiuste de Pablos C** et al.
The ERA-EDTA Registry Annual Report 2017: a summary.
Clinical Kidney Journal, 2020, 13, 693-709, PMID: 32897277, FI: 3.388, Original

Stokes CM, Alonso J, Andrade LH et al. COLABORADORES: Aguilar-Gaxiola S, Al-Hamzawi A, Al-Kaisy MS, ..., **Navarro-Mateu F** et al.
Pre-marital predictors of marital violence in the WHO World Mental Health (WMH) Surveys.
Social Psychiatry and Psychiatric Epidemiology, 2020, 55, 393-405, PMID: 30993376, FI: 3.335, Original

Harms LM, Scalbert A, Zamora-Ros R, ..., **Huerta JM** et al.
Plasma polyphenols associated with lower high-sensitivity C-reactive protein concentrations: a cross-sectional study within the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort.
British Journal of Nutrition, 2020, 123, 198-208, PMID: 31583990, FI: 3.334, Original

Alquezar-Arbe A, **Pinera P**, Jacob J et al.
Impact of the COVID-19 pandemic on hospital emergency departments: results of a survey of departments in 2020 - the Spanish ENCOVUR study.
Emergencias, 2020, 32, 320-331, PMID: 33006832, FI: 3.173, Original

Pinera-Salmeron P*, Alvarez-Gutierrez FJ, Dominguez-Ortega J et al.
Referral recommendations for adult emergency department patients with exacerbated asthma.
Emergencias, 2020, 32, 258-268, PMID: 32692003, FI: 3.173, Original

Gil-Rodrigo A, Miro O, **Pinera P** et al.
Analysis of clinical characteristics and outcomes in patients with COVID-19 based on a series of 1000 patients treated in Spanish emergency departments.
Emergencias, 2020, 32, 233-241, PMID: 32692000, FI: 3.173, Original

Sanchez-Martinez MP, Bernabeu-Mora R*, Garcia-Vidal JA, ..., Medina-Mirapeix F.

Patterns and predictors of low physical activity in patients with stable COPD: a longitudinal study. *Therapeutic Advances in Respiratory Disease*, 2020, 14, 1753466620909772, PMID: 32336245, FI: 3.095, Original

Ana FA, Loreto MS, Jose LM, ..., **Myriam SA***.

Mobile applications in oncology: A systematic review of health science databases. *International Journal of Medical Informatics*, 2020, 133, 104001, PMID: 31706229, FI: 3.025, Revisión

Rudnicka A, **Adoamnei E, Noguera-Velasco JA, ..., Torres-Cantero AM.**

Vitamin D status is not associated with reproductive parameters in young Spanish men. *Andrology*, 2020, 8, 323-331, PMID: 31380611, FI: 2.86, Original

Kupcewicz E, Grochans E, **Mikla M** et al.

Role of Global Self-Esteem in Predicting Life Satisfaction of Nursing Students in Poland, Spain and Slovakia.

International Journal of Environmental Research and Public Health, 2020, 17, PMID: 32727049, FI: 2.849, Original

Kupcewicz E, Grochans E, Kaducakova H, **Mikla M** et al.

Analysis of the Relationship between Stress Intensity and Coping Strategy and the Quality of Life of Nursing Students in Poland, Spain and Slovakia.

International Journal of Environmental Research and Public Health, 2020, 17, PMID: 32599727, FI: 2.849, Original

Gonzalez Del Castillo J, Julian-Jimenez A, Gamazo-Del Rio JJ, ..., **Pinera Salmeron P** et al.

A multidrug-resistant microorganism infection risk prediction model: development and validation in an emergency medicine population.

European Journal of Clinical Microbiology & Infectious Diseases, 2020, 39, 309-323, PMID: 31720894, FI: 2.837, Original

Bernabeu-Mora R, Sanchez-Martinez MP, Montilla-Herrador J*, ..., Medina-Mirapeix F.

2011 GOLD Stages of COPD: Transitions, Predictor Factors and Comparison with 2017 GOLD Stages.

International Journal of Chronic Obstructive Pulmonary Disease, 2020, 15, 1519-1527, PMID: 32636620, FI: 2.772, Original

Bernabeu-Mora R, Oliveira-Sousa SL*, Sanchez-Martinez MP, ..., Medina-Mirapeix F.

Frailty transitions and associated clinical outcomes in patients with stable COPD: A longitudinal study.

Plos one, 2020, 15, e0230116, PMID: 32243447, FI: 2.74, Original

Alvarez Munoz FJ, Rubio-Aparicio M, Gurillo Munoz P, ..., **Navarro-Mateu F**.
Suicide and dementia: Systematic review and meta-analysis.
Revista de Psiquiatria y Salud Mental, 2020, 13, 213-227, PMID: 32507727, FI: 2.63, Revisión

de la Cuesta-Benjumea C, **Abad-Corpa E**, **Lidon-Cerezuela B** et al.
Situating Preventive Action in a Moral and Clinical Context: A Qualitative Synthesis on Fall Prevention.
Qualitative Health Research, 2020, , 1049732320921144, PMID: 32564706, FI: 2.623, Original

Padilla-Martinez JM, **Abad-Corpa E***, Gea-Sanchez M et al.
“Detection of factors influencing circadian rhythms on Intensive Care inpatients and hospitalization: Protocol for an observational study”.
Journal of Advanced Nursing, 2020, 10.1111/jan.14569 [doi], PMID: 32996642, FI: 2.561, Original

Monge S, **Garcia-Ortuzar V**, Lopez Hernandez B et al.
Characterization of the first autochthonous dengue outbreak in Spain (August-September 2018).
Acta Tropica, 2020, 205, 105402, PMID: 32088276, FI: 2.555, Original

Martin-San Agustin R, **Medina-Mirapeix F***, Casana-Granell J et al.
Tensiomyographical responsiveness to peripheral fatigue in quadriceps femoris.
Peerj, 2020, 8, e8674, PMID: 32161690, FI: 2.379, Original

Martin-Sanchez FJ, Llopis Garcia G, Gonzalez-Colaco Harmand M et al. COLABORADORES: Adrada ER, Santos MC, Salgado L, ..., **Pinera P** et al.
Identification of Senior At Risk scale predicts 30-day mortality among older patients with acute heart failure.
Medicina Intensiva, 2020, 44, 9-17, PMID: 30166245, FI: 2.363, Original

Sanchez-Ferrer ML, **Adoamnei E**, **Prieto-Sanchez MT**, ..., **Torres-Cantero AM**.
Health-related quality of life in women with polycystic ovary syndrome attending to a tertiary hospital in Southeastern Spain: a case-control study.
Health and Quality of Life Outcomes, 2020, 18, 232, PMID: 32677953, FI: 2.344, Original

Bielska-Lasota M, Rossi S, Krzyzak M et al. COLABORADORES: Hackl M, Ihle P, Van Eycken E, ..., **Chirlaque MD** et al.
Reasons for low cervical cancer survival in new accession European Union countries: a EURO CARE-5 study.
Archives of Gynecology and Obstetrics, 2020, 301, 591-602, PMID: 31853712, FI: 2.283, Original

Esteban Delgado P*, Alberca de Las Parras F, Lopez-Picazo Ferrer JJ, **Leon Molina J**.
Quality indicators in enteroscopy. Enteroscopy procedure.
Revista Espanola de Enfermedades Digestivas, 2020, 112, 299-308, PMID: 32193937, FI: 2.196, Original

Miro O, Llorens P, Jimenez S, **Pinera P** et al.

Frequency of five unusual presentations in patients with COVID-19: results of the UMC-19-S1.
Epidemiology and Infection, 2020, 148, e189, PMID: 32843127, FI: 2.152, Original

Husky MM, Alvarez Fernandez V, Tapia G, ..., **Navarro-Mateu F** et al.

Mental disorders and medical conditions associated with causing injury or death: A population-based study.

Psychiatry Research, 2020, 287, 112899, PMID: 32169724, FI: 2.118, Original

Orozco-Beltran D, Navarro-Perez J, **Cebrian-Cuenca AM*** et al.

The influence of hemoglobin A1c levels on cardiovascular events and all-cause mortality in people with diabetes over 70 years of age. A prospective study.

Primary Care Diabetes, 2020, 14, 678-684, PMID: 32605878, FI: 2.052, Original

Gonzalez-Gerez JJ, Bernal-Utrera C, Anarte-Lazo E, **Garcia-Vidal JA** et al.

Therapeutic pulmonary telerehabilitation protocol for patients affected by COVID-19, confined to their homes: study protocol for a randomized controlled trial.

Trials, 2020, 21, 588, PMID: 32600378, FI: 1.883, Original

Cirera L*, **Ballesta M**, Marquez-Calderon S, ..., **Salmeron D***.

Partial contributions and temporal trends of leading causes of death during the last four decades in Spain.

Public Health, 2020, 189, 81-90, PMID: 33188998, FI: 1.774, Original

Martinez-Gonzalez M*, **Montilla-Herrador J**, **Garcia-Vidal JA**, ..., **Medina-Mirapeix F**.

Intra- and inter-rater reliability of electrical impedance myography using adhesive electrodes in healthy volunteers.

Journal of Electromyography and Kinesiology, 2020, 55, 102456, PMID: 32905888, FI: 1.74, Original

Gomez-Acebo I, Dierssen-Sotos T, Palazuelos C, ..., **Chirlaque MD** et al.

Changes in individual and contextual socio-economic level influence on reproductive behavior in Spanish women in the MCC-Spain study.

Bmc Womens Health, 2020, 20, 72, PMID: 32293415, FI: 1.544, Original

Pastor-Bravo MDM*, **Almansa-Martinez P**, **Jimenez-Ruiz I**.

Postmigratory Perceptions of Female Genital Mutilation: Qualitative Life History Research.

Journal of Transcultural Nursing, 2020, , 1043659620962570, PMID: 33040712, FI: 1.441, Original

Orozco-Beltran D, Brotons Cuixart C, Aleman Sanchez JJ, ..., **Cebrian-Cuenca AM*** et al.

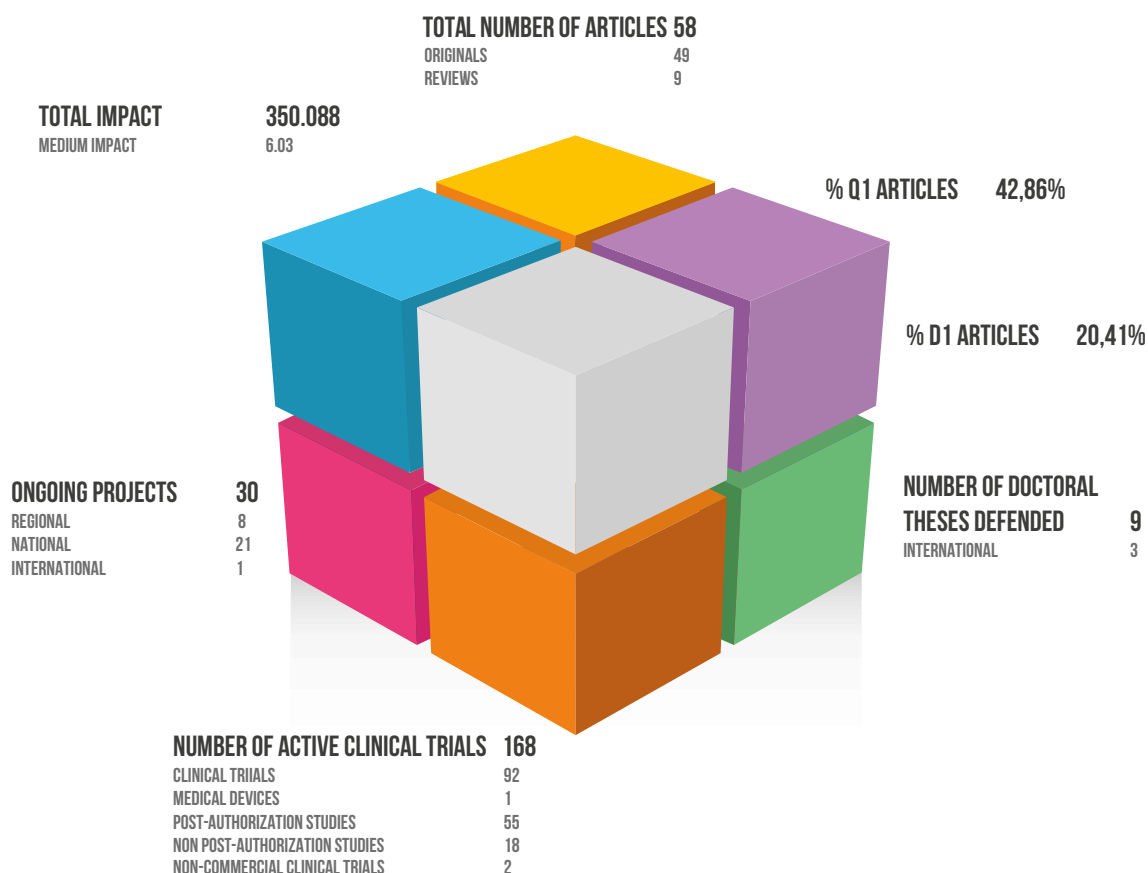
[Cardiovascular preventive recommendations. PAPPs 2020 update].

Atencion Primaria, 2020, 52 Suppl 2, 5-31, PMID: 33388118, FI: 1.087, Original

Pascual Lopez JA, Gil Perez T, **Sanchez Sanchez JA, Menarguez Puche JF.**
[Questionnaires of person centered care in primary care. A systematic review].
Atencion Primaria, 2020, 52, 738-749, PMID: 31883783, FI: 1.087, Original

AREA 6: IMMUNOLOGY, MICROBIOLOGY AND INFECTIOUS DISEASES

SCIENTIFIC PRODUCTION AREA



IMIB Area 6 consists of six research groups involved in the study of the clinical and basic aspects of the immune and inflammatory response, infection, cancer, cell therapy and transplantation of hematopoietic progenitor cells.

The group of Dr Alfredo Minguela (Immunology and immunotolerance in transplantation and immune-based diseases, HCUVA) investigates the regulatory mechanisms of the immune response that, because of excess or defect, causes the development of pathologies with an important impact in healthcare (transplantation, cancer, infections, inflammatory diseases, immunodeficiencies, and pathology of reproduction).

Dr Victor Mulero's group (Immunity, Inflammation and Cancer, UMU) studies in depth the molecular aspects and the role of cytokines and TLRs in inflammation, hematopoiesis, angiogenesis and pathologies such as psoriasis, cáncer. The group also uses zebrafish as a model of pre-clinical studies.

The group of Dr José M. Moraleda (Hematopoietic transplant and cell therapy, HCUVA) develops pre-clinical studies and clinical trials in cell therapy using hematopoietic progenitors, mesenchymal stem cells or amniotic membrane in a wide variety of pathologies and hematological conditions.

The group of Dr Pilar García-Peñarubia (Innate immunity in health and disease, UMU) studies basic aspects of endometriosis, liver cirrhosis and candidiasis, designing mathematical models of immune response, synthesis and biological activity of new anti-inflammatory drugs and the inhibitory role of CD33 and MHC-I receptors in cellular cytotoxicity.

In 2020, two groups merged, giving rise to the infectious pathology, clinical microbiology and tropical medicine group, led by Dr Genoveva Yagüe. This group studies the molecular bases of antimicrobial resistance, lipidomics of bacteria and diseases caused by trypanosomatids and Leishmania, biomarkers, as well as clinical parameters that allow improving clinical results, optimization of antibiotic treatments, prevention of nosocomial infections and the "syndromic approach" of patients with infections.

In addition, in 2020 the incorporation of a new associated clinical group, clinical and translational oncology, has taken place, led by Dr José Luis Alonso Romero, most of the clinical research in this group is focused on conducting different clinical trials in various pathologies (gynecological, gastric, lung, melanoma, etc.) and in different phases (I, II and III), with national and international cooperative groups.

It should be noted in 2020 that groups in this area have made a collaborative research effort against the pandemic caused by SARS-CoV2 and have participated in several ISCIII-Covid19 projects. Some of these works reflected in publications during 2020 and especially 2021.

Altogether, the 6 groups have 155 researchers. In 2020, the groups in the area have participated in 30 research projects (1 international, 20 national and 8 regional) and 168

clinical trials. The research activity of the groups in the area has generated in 2020 a total of 64 publications, of which 49 are original research articles and 9 reviews (21 in the first quartile, 43.75%) with a total accumulated impact of 350 .088. In addition, 9 doctoral theses have been defended (1 with international mention).

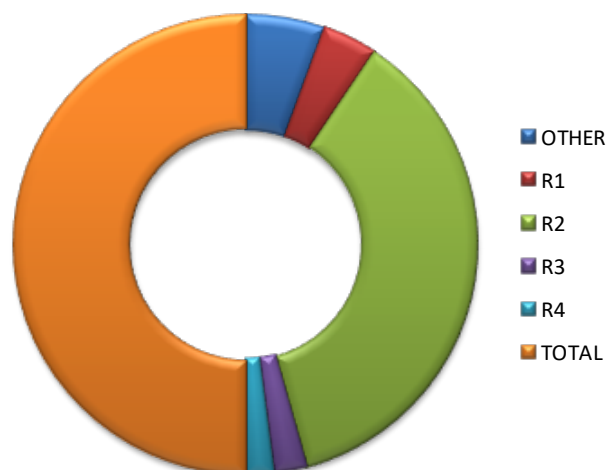


DR. ALFREDO MINGUELA PURAS

Area 6 has 6 reserach groups:

NAME OF GROUP	CATEGORY	GROUP LEADER
IMMUNOLOGY AND IMMUNOTOLERANCE IN TRANSPLANTS AND IMMUNOLOGICALLY BASED DISEASES	CONSOLIDATED	ALFREDO MINGUELA PURAS
IMMUNITY, INFLAMMATION AND CANCER	CONSOLIDATED	VICTORIANO MULERO MÉNDEZ
HEMATOPOIETIC TRANSPLANT / CELL THERAPY	CONSOLIDATED	JOSÉ M ^a MORALEDA JIMÉNEZ
CLINICAL MICROBIOLOGY AND TROPICAL MEDICINE	CONSOLIDATED	MARIA PILAR GARCÍA PEÑARRUBIA
INFECTIOUS PATHOLOGY, CLINICAL MICROBIOLOGY AND TROPICAL MEDICINE	CONSOLIDATED	GENOVEVA YAGÜE GUIRAO
CLINICAL AND TRANSLATIONAL ONCOLOGY	CLINICAL ASOCIATED GROUP	JOSE LUIS ALONSO ROMERO

These groups have a total of 155 researchers:



*OTHERS	R1	R2	R3	R4	TOTAL
17	12	113	7	6	155

Other*: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Rodriguez-Ruiz L, Lozano-Gil JM, Lachaud C, ..., Garcia-Moreno D*, ..., Mulero V*.

Zebrafish Models to Study Inflammasome-Mediated Regulation of Hematopoiesis.

Trends in Immunology, 2020, 41, 1116-1127, PMID: 33162327, FI: 13.422, Revisión

Garcia-Penarrubia P*, Ruiz-Alcaraz AJ, Martinez-Esparza M, ..., Machado-Linde F.

Hypothetical roadmap towards endometriosis: prenatal endocrine-disrupting chemical pollutant exposure, anogenital distance, gut-genital microbiota and subclinical infections.

Human Reproduction Update, 2020, 26, 214-246, PMID: 32108227, FI: 12.684, Revisión

Gimeno L, Serrano-Lopez EM, Campillo JA, ..., Minguela A*.

KIR+ CD8+ T Lymphocytes in Cancer Immunosurveillance and Patient Survival: Gene Expression Profiling.

Cancers, 2020, 12, PMID: 33076479, FI: 6.126, Original

Fuster JL*, Molinos-Quintana A, Fuentes C et al.

Blinatumomab and inotuzumab for B cell precursor acute lymphoblastic leukaemia in children: a retrospective study from the Leukemia Working Group of the Spanish Society of Pediatric Hematology and Oncology (SEHOP).

British Journal of Haematology, 2020, 10.1111/bjh.16647 [doi], PMID: 32314348, FI: 5.518, Original

Garcia-Bernal D*, Garcia-Arranz M, Garcia-Guillen AI et al.

Exofucosylation of Adipose Mesenchymal Stromal Cells Alters Their Secretome Profile.

Frontiers in Cell and Developmental Biology, 2020, 8, 584074, PMID: 33324641, FI: 5.186, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB):

Paiva B, Puig N, Cedena MT, ..., **Moraleda JM** et al.

Measurable Residual Disease by Next-Generation Flow Cytometry in Multiple Myeloma.

Journal of Clinical Oncology, 2020, 38, 784-792, PMID: 31770060, FI: 32.956, Original

Fatobene G, Rocha V, St Martin A, ..., **Moraleda JM** et al.

Nonmyeloablative Alternative Donor Transplantation for Hodgkin and Non-Hodgkin Lymphoma: From the LWP-EBMT, Eurocord, and CIBMTR.

Journal of Clinical Oncology, 2020, 38, 1518-1526, PMID: 32031876, FI: 32.956, Original

Willeit P, Tschiderer L, Allara E, ..., **Bernal E** et al.

Carotid Intima-Media Thickness Progression as Surrogate Marker for Cardiovascular Risk: Meta-Analysis of 119 Clinical Trials Involving 100,667 Patients.

Circulation, 2020, 10.1161/CIRCULATIONAHA.120.046361 [doi], PMID: 32546049, FI: 23.603, Original

Del Amo J, Polo R, Moreno S et al. COLABORADORES: Martinez EV, Sierra MJ, Sastre M, ..., **Bernal E** et al.

Incidence and Severity of COVID-19 in HIV-Positive Persons Receiving Antiretroviral Therapy : A Cohort Study.

Annals of Internal Medicine, 2020, 173, 536-541, PMID: 32589451, FI: 21.317, Original

Serrano-Villar S, Martinez-Sanz J, Ron R et al. COLABORADORES: Jarrin I, Moreno S, Alejos B, ..., **Bernal E** et al.

Effects of first-line antiretroviral therapy on the CD4/CD8 ratio and CD8 cell counts in CoRIS: a prospective multicentre cohort study.

Lancet hiv, 2020, 7, e565-e573, PMID: 32763219, FI: 14.813, Original

Camiolo G, Barbato A, Giallongo C, ..., **Garcia-Moreno D** et al.

Iron regulates myeloma cell/macrophage interaction and drives resistance to bortezomib.

Redox Biology, 2020, 36, 101611, PMID: 32863212, FI: 9.986, Original

Munoz-Unceta N, Zugazagoitia J, Manzano A, ..., **Ros S** et al.

High risk of thrombosis in patients with advanced lung cancer harboring rearrangements in ROS1.

European Journal of Cancer, 2020, 141, 193-198, PMID: 33166862, FI: 7.275, Original

Berenguer J, Ryan P, Rodriguez-Bano J et al. COLABORADORES: Aznar Munoz E, Gil Divasson P, Gonzalez Muniz P, ..., **Garcia Vazquez E** et al.

Characteristics and predictors of death among 4035 consecutively hospitalized patients with COVID-19 in Spain.

Clinical Microbiology and Infection, 2020, 26, 1525-1536, PMID: 32758659, FI: 7.117, Original

Perez-Martinez A, Ferreras C, Pascual A, ..., **Fuster JL** et al.

Haploidentical transplantation in high-risk pediatric leukemia: A retrospective comparative analysis on behalf of the Spanish working Group for bone marrow transplantation in children (GETMON) and the Spanish Grupo for hematopoietic transplantation (GETH).

American Journal of Hematology, 2020, 95, 28-37, PMID: 31625177, FI: 6.973, Original

Tang YW, Lozano L, Chen X, ..., **Moreno-Docon A** et al.

An Isothermal, Multiplex Amplification Assay for Detection and Genotyping of Human Papillomaviruses in Formalin-Fixed, Paraffin-Embedded Tissues.

Journal of Molecular Diagnostics, 2020, 22, 419-428, PMID: 31978559, FI: 5.553, Original

Alejos B, Suarez-Garcia I, Rava M et al. COLABORADORES: Moreno S, Jarrin I, Dalmau D, ..., **Bernal E** et al.

Effectiveness and safety of first-line antiretroviral regimens in clinical practice: a multicentre cohort study.

Journal of Antimicrobial Chemotherapy, 2020, 75, 3004-3014, PMID: 32667674, FI: 5.439, Original

Siriypagoudou P, **Galindo-Villegas J**, Dhanasiri AKS et al.

Pseudozyma Priming Influences Expression of Genes Involved in Metabolic Pathways and Immunity in Zebrafish Larvae.

Frontiers in Immunology, 2020, 11, 978, PMID: 32528473, FI: 5.085, Original

Alonso R, Cedena MT, Wong S, ..., **Moraleda JM** et al.

Prolonged lenalidomide maintenance therapy improves the depth of response in multiple myeloma.

Blood Advances, 2020, 4, 2163-2171, PMID: 32433744, FI: 4.91, Original

Bueno JL, Alegre A, Lopez-Villar O, ..., **Blanquer M** et al.

Agreements and uncertainties in autologous haematopoietic stem cell mobilization and collection. A Spanish consensus document.

Bone Marrow Transplantation, 2020, 55, 811-817, PMID: 31690809, FI: 4.725, Original

Ros-Martinez S, Navas-Carrillo D, **Alonso-Romero JL**, **Orenes-Pinero E***.

Immunoscore: a novel prognostic tool. Association with clinical outcome, response to treatment and survival in several malignancies.

Critical Reviews in Clinical Laboratory Sciences, 2020, , 1-12, PMID: 32175789, FI: 4.677, Revisión

Di Pierdomenico J, **Garcia-Ayuso D***, **Rodriguez Gonzalez-Herrero ME**, ..., **Villegas-Perez MP***.

Bone Marrow-Derived Mononuclear Cell Transplants Decrease Retinal Gliosis in Two Animal Models of Inherited Photoreceptor Degeneration.

International Journal of Molecular Sciences, 2020, 21, PMID: 33008136, FI: 4.556, Original

Sanchez Macarro M, Martinez Rodriguez JP, **Bernal Morell E**, ..., **Lopez-Roman FJ***.

Effect of a Combination of Citrus Flavones and Flavanones and Olive Polyphenols for the Reduction of Cardiovascular Disease Risk: An Exploratory Randomized, Double-Blind, Placebo-Controlled Study in Healthy Subjects.

Nutrients, 2020, 12, PMID: 32438719, FI: 4.546, Original

Garcia-Bernal D*, Palomo M, **Martinez CM**, ..., **Moraleda JM**.

Defibrotide inhibits donor leucocyte-endothelial interactions and protects against acute graft-versus-host disease.

Journal of Cellular and Molecular Medicine, 2020, 10.1111/jcmm.15434 [doi], PMID: 32519822, FI: 4.486, Original

Vega-Garcia N, Benito R, Esperanza-Cebollada E, ..., **Minguela A** et al.
Helpful Criteria When Implementing NGS Panels in Childhood Lymphoblastic Leukemia.
Journal of Personalized Medicine, 2020, 10, PMID: 33255984, FI: 4.433, Original

Liarte S, Bernabe-Garcia A, Nicolas FJ*.

Human Skin Keratinocytes on Sustained TGF-beta Stimulation Reveal Partial EMT Features and Weaken Growth Arrest Responses.
Cells, 2020, 9, PMID: 31968599, FI: 4.366, Original

Liarte S, Bernabe-Garcia A, Nicolas FJ*.

Role of TGF- in Skin Chronic Wounds: A Keratinocyte Perspective.
Cells, 2020, 9, PMID: 32012802, FI: 4.366, Revisión

Egui A, Lopez MC, Gomez I, **Simon M** et al.

Differential phenotypic and functional profile of epitope-specific cytotoxic CD8(+) T cells in benznidazole-treated chronic asymptomatic Chagas disease patients.
Biochimica et Biophysica Acta-Molecular Basis of Disease, 2020, 1866, 165629, PMID: 31816438, FI: 4.352, Original

Sanchez-Guijo F, Garcia-Olmo D, Prosper F, ..., **Moraleda JM***.

Spanish Cell Therapy Network (TerCel): 15 years of successful collaborative translational research.
Cytotherapy, 2020, 22, 1-5, PMID: 31866320, FI: 4.218, Revisión

Mateos Gaitan R, Boix-Palop L, Munoz Garcia P, ..., **Garcia Vazquez E** et al.

Infective endocarditis in patients with cardiac implantable electronic devices: a nationwide study.
Europace, 2020, 22, 1062-1070, PMID: 32390046, FI: 4.045, Original

Lopez-Guerrero AM, Espinosa-Bermejo N, Sanchez-Lopez I, ..., **Rodriguez-Ruiz L** et al.

RAC1-Dependent ORAI1 Translocation to the Leading Edge Supports Lamellipodia Formation and Directional Persistence.
Scientific Reports, 2020, 10, 6580, PMID: 32313105, FI: 3.998, Original

Rodriguez-Lozano FJ*, Lopez-Garcia S, **Garcia-Bernal D** et al.

Chemical composition and bioactivity potential of the new Endosequence BC Sealer formulation HiFlow.
International Endodontic Journal, 2020, 10.1111/iej.13327 [doi], PMID: 32412113, FI: 3.801, Original

Blanco JR, Negro E, **Bernal E** et al.

Impact of HIV infection on aging and immune status.
Expert Review of Anti-Infective Therapy, 2020, 10.1080/14787210.2021.1848546 [doi], PMID: 33167724, FI: 3.767, Revisión

Geijo-Barrientos E, Pastore-Olmedo C, De Mingo P, ..., **Martinez S**.
Intramuscular Injection of Bone Marrow Stem Cells in Amyotrophic Lateral Sclerosis Patients: A Randomized Clinical Trial.
Frontiers in Neuroscience, 2020, 14, 195, PMID: 32265627, FI: 3.707, Original

Tschiderer L, Seekircher L, Klingenschmid G, ..., **Bernal E** et al.
The Prospective Studies of Atherosclerosis (Proof-ATHERO) Consortium: Design and Rationale.
Gerontology, 2020, , 1-13, PMID: 32610336, FI: 3.54, Original

Rodriguez-Lozano FJ, Onate-Sanchez R, **Gonzalvez-Garcia M**, ..., **Garcia-Bernal D***.
Allogeneic Bone Marrow Mesenchymal Stem Cell Transplantation in Tooth Extractions Sites Ameliorates the Incidence of Osteonecrotic Jaw-Like Lesions in Zoledronic Acid-Treated Rats.
Journal of Clinical Medicine, 2020, 9, PMID: 32486396, FI: 3.303, Original

Sanz JL, Forner L, Llena C, ..., **Rodriguez-Lozano FJ***.
Cytocompatibility and Bioactive Properties of Hydraulic Calcium Silicate-Based Cements (HCSCs) on Stem Cells from Human Exfoliated Deciduous Teeth (SHEDs): A Systematic Review of In Vitro Studies.
Journal of Clinical Medicine, 2020, 9, PMID: 33260782, FI: 3.303, Revisión

Legaz I, Boix F, Lopez M, ..., **Muro M***.
Influence of Preformed Antibodies in Liver Transplantation.
Journal of Clinical Medicine, 2020, 9, PMID: 32151032, FI: 3.303, Original

Albendin-Iglesias H, Mira-Bleda E, Roura-Piloto AE, ..., **Garcia-Vazquez E**.
Usefulness of the epidemiological survey and RT-PCR test in pre-surgical patients for assessing the risk of COVID-19.
Journal of Hospital Infection, 2020, 105, 773-775, PMID: 32540464, FI: 3.271, Original

Migliori GB, Tiberi S, Zumla A et al. COLABORADORES: Arkub TA, Akkerman OW, Aleksa A, ..., **Bernal E** et al.
MDR/XDR-TB management of patients and contacts: Challenges facing the new decade. The 2020 clinical update by the Global Tuberculosis Network.
International Journal of Infectious Diseases, 2020, 92S, S15-S25, PMID: 32032752, FI: 3.202, Original

Martinez-Navarro FJ, **Martinez-Morcillo FJ**, **de Oliveira S**, ..., **Perez-Oliva AB***, ..., **Mulero V***.
Hydrogen peroxide in neutrophil inflammation: Lesson from the zebrafish.
Developmental and Comparative Immunology, 2020, 105, 103583, PMID: 31862296, FI: 3.192, Original

Martinez-Navarro FJ, **Martinez-Morcillo FJ**, **Lopez-Munoz A**, ..., **Perez-Oliva AB***, ..., **Mulero V***.
The vitamin B6-dependent enzymes PYGL and G6PD fuel NADPH oxidases to promote skin inflammation.
Developmental and Comparative Immunology, 2020, , 103666, PMID: 32126244, FI: 3.192, Original

Murray M, Antela A, Mills A, ..., **Bernal E** et al.

Patient-Reported Outcomes in ATLAS and FLAIR Participants on Long-Acting Regimens of Cabotegravir and Rilpivirine Over 48 Weeks.

Aids and Behavior, 2020, 10.1007/s10461-020-02929-8 [doi], PMID: 32447500, FI: 3.147, Original

Ghilotti J, Sanz JL, Lopez-Garcia S, ..., **Rodriguez-Lozano FJ** et al.

Comparative Surface Morphology, Chemical Composition, and Cytocompatibility of Bio-C Repair, Biodentine, and ProRoot MTA on hDPCs.

Materials, 2020, 13, PMID: 32397585, FI: 3.057, Original

Lucas Dato A, Pacheco-Tenza MI, Borrajo Brunete E, ..., **Garcia-Vazquez E** et al.

Strongyloidiasis in Southern Alicante (Spain): Comparative Retrospective Study of Autochthonous and Imported Cases.

Pathogens, 2020, 9, PMID: 32717912, FI: 3.018, Original

Lopez-Garcia S, Myong-Hyun B, Lozano A, ..., **Rodriguez-Lozano FJ***.

Cytocompatibility, bioactivity potential, and ion release of three premixed calcium silicate-based sealers.

Clinical Oral Investigations, 2020, 24, 1749-1759, PMID: 31399829, FI: 2.812, Original

Cascales Campos P, Martinez Insfran LA, Wallace D, ..., **Parrilla P**.

Identifying the incidence of respiratory complications following diaphragmatic cytoreduction and hyperthermic intraoperative intraperitoneal chemotherapy.

Clinical & Translational Oncology, 2020, 22, 852-859, PMID: 31392644, FI: 2.737, Original

Blanco JR, Morillo R, Abril V, ..., **Bernal E** et al.

Deprescribing of non-antiretroviral therapy in HIV-infected patients.

European Journal of Clinical Pharmacology, 2020, 76, 305-318, PMID: 31865412, FI: 2.641, Revisión

Perez-Anton E, Egui A, Thomas MC, **Simon M** et al.

Immunological exhaustion and functional profile of CD8(+) T lymphocytes as cellular biomarkers of therapeutic efficacy in chronic Chagas disease patients.

Acta Tropica, 2020, 202, 105242, PMID: 31669531, FI: 2.555, Original

Munoz Builes M, Vela Cuenca M, **Fuster Soler JL** et al.

Study protocol for a phase II, multicentre, prospective, non-randomised clinical trial to assess the safety and efficacy of infusing allogeneic activated and expanded natural killer cells as consolidation therapy for paediatric acute myeloblastic leukaemia.

Bmj Open, 2020, 10, e029642, PMID: 31919123, FI: 2.496, Original

Moya Sanchez J, Royo-Villanova Reparaz M, Andreu Ruiz A, ..., **de Gea Garcia JH** et al.

Portable gamma-camera for the diagnosis of brain death diagnosis.

Medicina Intensiva, 2020, 44, 1-8, PMID: 30270144, FI: 2.363, Original

Lopez-Garcia S, Pecci-Lloret MP, **Garcia-Bernal D**, ..., **Rodriguez-Lozano FJ**.

Are Denture Adhesives Safe for Oral Cells?

Journal of Prosthodontics-Implant Esthetic and Reconstructive Dentistry, 2020, 10.1111/jopr.13226 [doi], PMID: 32656785, FI: 2.187, Original

Vazquez C, **Garcia-Vazquez E**, **Carrilero B**, ..., **Segovia M***.

Pregnancy and Chagas Disease: Benznidazole's Impact on Pregnancy and Newborns: A Report of Four Cases.

American Journal of Tropical Medicine and Hygiene, 2020, 102, 1075-1077, PMID: 32207404, FI: 2.126, Original

Simon M, **Iborra MA**, **Carrilero B**, ..., **Segovia M**.

The Clinical and Parasitologic Follow-up of Trypanosoma cruzi-infected Children in a Nonendemic Country.

Pediatric Infectious Disease Journal, 2020, 39, 494-499, PMID: 32091491, FI: 2.126, Original

Alhuwaymil ZS, Al-Araj IQM, Al Dulayymi AR, ..., **Valero-Guillen PL** et al.

Mycobacterium alvei (omega-1)-methoxy mycolic acids: Absolute stereochemistry and synthesis. *Chemistry and Physics of Lipids*, 2020, 233, 104977, PMID: 32961166, FI: 2.094, Original

Suarez-Garcia I, Moreno C, Ruiz-Alguero M et al. COLABORADORES: Moreno S, Jarrin I, Dalmau D, ..., **Bernal E** et al.

Effectiveness of the combination elvitegravir/cobicistat/tenofovir/emtricitabine (EVG/COB/TFV/FTC) plus darunavir among treatment-experienced patients in clinical practice: a multicentre cohort study.

Aids Research and Therapy, 2020, 17, 45, PMID: 32690099, FI: 2.092, Original

Onate-Sanchez RE, Perez-Diaz S, **Rodriguez-Lozano FJ*** et al.

Prevalence of Apical Periodontitis in patients with Multiple Myeloma.

Medicina Oral Patologia Oral y Cirugia Bucal, 2020, 25, e383-e387, PMID: 32134898, FI: 1.596, Original

Mirones I, Moreno L, Patino-Garcia A, ..., **Moraleda JM** et al.

[Immunotherapy with CAR-T cells in paediatric haematology-oncology].

Anales de Pediatria, 2020, S1695-4033(20)30016-3 [pii], PMID: 32107177, FI: 1.313, Original

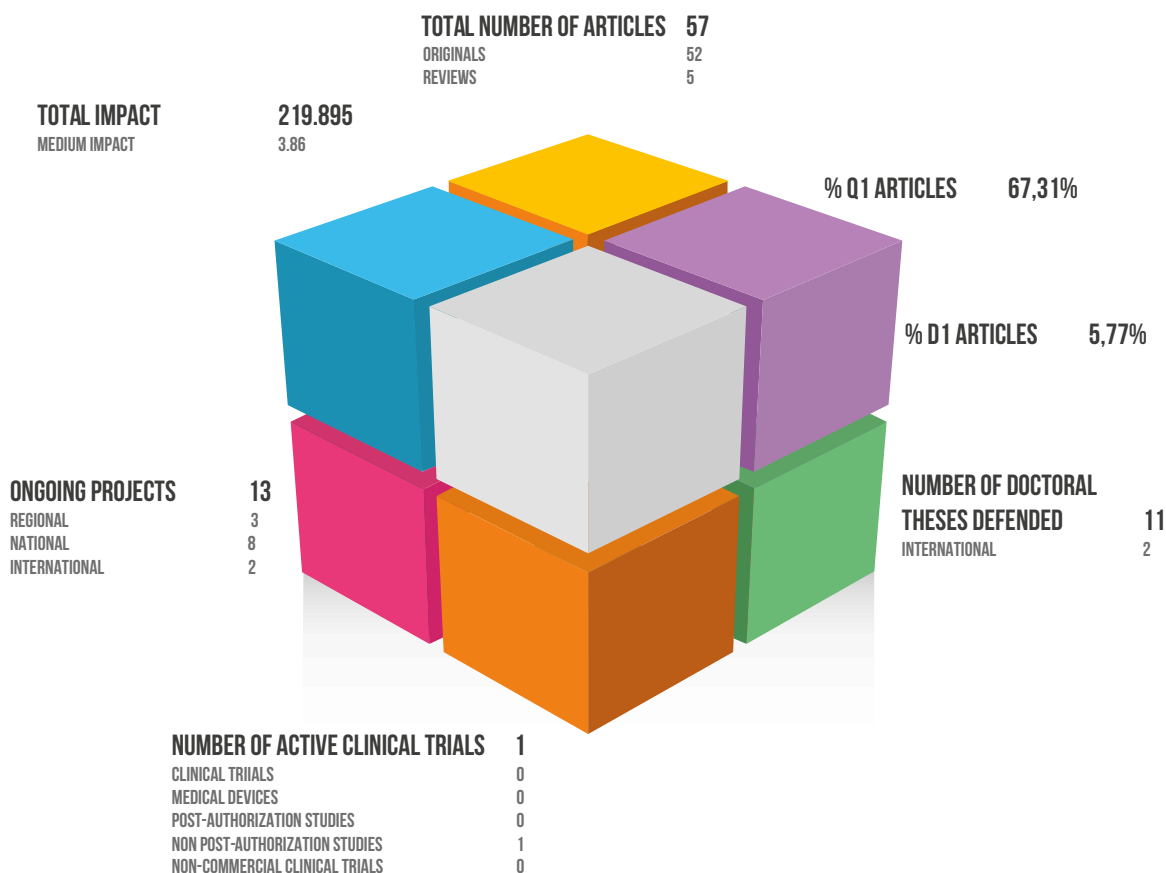
Martinez-Morga M, Medina-Corvalan C, Perez-Garcia C, ..., **Martinez S**.

[Mechanism of action of cell therapy in hereditary diseases].

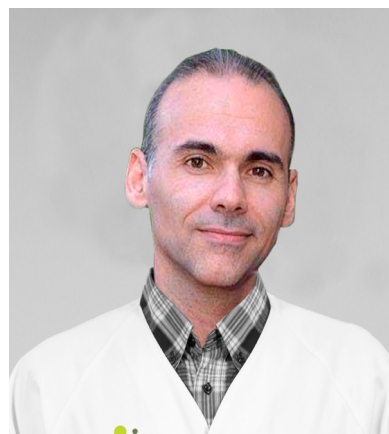
Medicina-Buenos Aires, 2020, 80 Suppl 2, 2-6, PMID: 32150704, FI: 0.46, Revisión

AREA 7: BIOTECHNOLOGY. HEALTH APPLICATIONS IN BIOSCIENCES

SCIENTIFIC PRODUCTION OF AREA



The Area 7 “Biotechnology. Health Applications of Biosciences” is a multidisciplinary area that includes seven groups with research interests such as biology, biochemistry, biomembranes, cellular signaling, physiology, enzymology, radiology, reproductive technologies, and the application of computational methods for supporting health research. Three research groups of this area have been recognized by the Fundación Seneca, the regional Science and Technology Agency, as Groups of Excellence: Biology of Reproduction, Biochemistry and Enzymatic Biotechnology, and Reproductive Physiology and Assisted Reproduction. Our main strengths are our expertise and specialization in the different areas of study and knowledge and the number and quality of international collaborations. 11 students have completed their PhD in this area in 2020. This is a satisfactory indicator, which shows our commitment to the training of the future researchers of the institute. 140 researchers have been involved in the research activities of this area, and are classified as 17 principal investigators, 93 postdoctoral researchers, 29 predoctoral researchers (R1) and 1 technician. 46% of the researchers are female and 20% also have clinical roles. In 2020, our research activity have been funded by 13 research projects (2 funded by international agencies, 8 by national agencies and 3 regional ones). One spin-off has been created by researchers of this area. We have published 57 articles, and 73% of the original contributions were published in first quartile/decile journals. The impact factor accumulated for these publications was 219,895. These results improve the last year ones in terms of number of publications and accumulated impact factor.

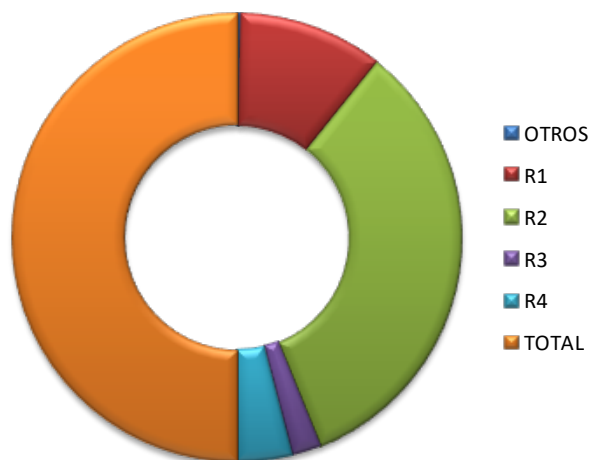


JESUALDO FERNÁNDEZ BREIS

Area 7 has 7 research groups:

NAME OF GROUP	CATEGORY	GROUP LEADER
REPRODUCTIVE BIOLOGY	CONSOLIDATED	EMILIO ARSENIO MARTINEZ GARCIA
BIOMEMBRANES AND CELL SIGNALING	CONSOLIDATED	JUAN CARMELO GÓMEZ FERNÁNDEZ
BIOCHEMISTRY AND ENZYMATIC BIOTECHNOLOGY	CONSOLIDATED	FRANCISCO GARCIA CARMONA
REPRODUCTIVE PHYSIOLOGY AND ASSISTED REPRODUCTION	CONSOLIDATED	PILAR COY FUSTER
MOLECULAR SYSTEMS BIOLOGY	CONSOLIDATED	MANUEL CANOVAS DIAZ
TECHNOLOGIES OF MODELING, PROCESSING AND KNOWLEDGE MANAGEMENT	CONSOLIDATED	RODRIGO MARTINEZ BEJAR
RESEARCH IN RADIOLOGY	EMERGING	MIGUEL ALCARAZ BAÑOS

These groups have a total of 140 researchers:



*OTHERS	R1	R2	R3	R4	TOTAL
1	29	93	6	11	140

Other*: Personnel hired for research projects, data managers, administrative personnel and laboratory technicians.

Selected publications based on the leadership of researchers and the last author or author of correspondence (marked with an asterisk) and ordered by the impact factor of the journal:

Guerrero-Rubio MA, **Escribano J, Garcia-Carmona F, Gandia-Herrero F***.
Light Emission in Betalains: From Fluorescent Flowers to Biotechnological Applications.
Trends in Plant Science, 2020, 25, 159-175, PMID: 31843371, FI: 14.416, Revisión

Matencio A, Navarro-Orcajada S, **Garcia-Carmona F, Lopez-Nicolas JM***.
Applications of cyclodextrins in food science. A review
Trends in Food Science & Technology, 2020, 104, PMID: -, FI: 11.077, Revisión

Franco M, Vivo JM, Quesada-Martinez M, ..., Fernandez-Breis JT*.
Evaluation of ontology structural metrics based on public repository data.
Briefings in Bioinformatics, 2020, 21, 473-485, PMID: 30715146, FI: 8.99, Original

Matencio A, Dhakar NK, Bessone F, ..., **Lopez-Nicolas JM*** et al.
Study of oxyresveratrol complexes with insoluble cyclodextrin based nanosponges: Developing a novel way to obtain their complexation constants and application in an anticancer study.
Carbohydrate Polymers, 2020, 231, 115763, PMID: 31888848, FI: 7.182, Original

Matencio A, Navarro-Orcajada S, Conesa I, ..., **Lopez-Nicolas JM***.
Evaluation of juice and milk “food models” fortified with oxyresveratrol and beta-Cyclodextrin
Food Hydrocolloids, 2020, 98, PMID: -, FI: 7.053, Original

List of remaining publications in the area during 2020 ordered by impact factor (at least the first author affiliated to the IMIB is identified in bold. In addition an asterisk indicates if the last or corresponding author is affiliated to the IMIB.

Mencacci NE, Reynolds R, Ruiz SG, ..., **Sanchez-Ferrer A** et al.
Dystonia genes functionally converge in specific neurons and share neurobiology with psychiatric disorders.
Brain, 2020, 143, 2771-2787, PMID: 32889528, FI: 11.337, Original

Gavira JA, Gumerov VM, Rico-Jimenez M, ..., **Ortega A** et al.
How Bacterial Chemoreceptors Evolve Novel Ligand Specificities.
Mbio, 2020, 11, PMID: 31964737, FI: 6.784, Original

Matencio A, Navarro-Orcajada S, Gonzalez-Ramon A, ..., **Lopez-Nicolas JM***.
Recent advances in the treatment of Niemann pick disease type C: A mini-review.
International Journal of Pharmaceutics, 2020, 584, 119440, PMID: 32428546, FI: 4.845, Revisión

Alvarez-Rodriguez M, **Martinez C**, Wright D et al.
The Transcriptome of Pig Spermatozoa, and Its Role in Fertility.
International Journal of Molecular Sciences, 2020, 21, PMID: 32106598, FI: 4.556, Original

Martinez CA, Cambra JM, Gil MA, ..., Martinez EA.

Seminal Plasma Induces Overexpression of Genes Associated with Embryo Development and Implantation in Day-6 Porcine Blastocysts.

International Journal of Molecular Sciences, 2020, 21, PMID: 32455957, FI: 4.556, Original

Sola Martinez RA, Pastor Hernandez JM, Lozano Terol G, ..., de Diego Puente T*.

Data preprocessing workflow for exhaled breath analysis by GC/MS using open sources.

Scientific Reports, 2020, 10, 22008, PMID: 33319832, FI: 3.998, Original

Padilla L, **Martinez-Hernandez J, Barranco I, ..., Parrilla I*.**

Granulocyte-macrophage colony stimulating factor (GM-CSF) is fully expressed in the genital tract, seminal plasma and spermatozoa of male pigs.

Scientific Reports, 2020, 10, 13360, PMID: 32770046, FI: 3.998, Original

Cambra JM, **Martinez CA**, Rodriguez-Martinez H, ..., **Gil MA.**

N-(2-mercaptopropionyl)-glycine enhances in vitro pig embryo production and reduces oxidative stress.

Scientific Reports, 2020, 10, 18632, PMID: 33122658, FI: 3.998, Original

Lozano-Perez AA, Pagan A, Zhurov V et al.

The silk of gorse spider mite *Tetranychus lintearius* represents a novel natural source of nanoparticles and biomaterials.

Scientific Reports, 2020, 10, 18471, PMID: 33116211, FI: 3.998, Original

Martinez-Hernandez J, Seco-Rovira V, Beltran-Frutos E, ..., Pastor LM*.

Proliferation, apoptosis, and number of Sertoli cells in the Syrian hamster during recrudescence after exposure to short photoperiod daggerdagger.

Biology of Reproduction, 2020, 102, 588-597, PMID: 31621831, FI: 3.322, Original

Gonzalez-Lopez A*, Campos-Morcillo PA, Vera-Sanchez JA et al.

Performance of a new star-bar phantom designed for MTF calculations in x-ray imaging systems.

Medical Physics, 2020, 47, 4949-4955, PMID: 32750161, FI: 3.317, Original

Gallego-Jara J, Lozano-Terol G, Sola-Martinez RA, ..., de Diego Puente T*.

A Compressive Review about Taxol((R)): History and Future Challenges.

Molecules, 2020, 25, PMID: 33348838, FI: 3.267, Revisión

Beltran FR, Gaspar G, Dadras Chomachayi M, ..., **Lozano-Perez AA** et al.

Influence of addition of organic fillers on the properties of mechanically recycled PLA.

Environmental Science and Pollution Research, 2020, 10.1007/s11356-020-08025-7 [doi], PMID: 32043250, FI: 3.056, Original

Ruiz-Morales C, Antonio Vera-Sanchez J, **Gonzalez-Lopez A.**

Optimizing the recalibration process in radiochromic film dosimetry.

Physics in Medicine and Biology, 2020, 65, 015016, PMID: 31746787, FI: 2.883, Original

Zapata-Carmona H, **Soriano-Ubeda C**, Paris-Oller E, **Matas C***.

Periovulatory oviductal fluid decreases sperm protein kinase A activity, tyrosine phosphorylation, and in vitro fertilization in pig.

Andrology, 2020, 8, 756-768, PMID: 31872543, FI: 2.86, Original

Vieira LA*, **Matas C**, **Torrecillas A**, ..., **Gadea J**.

Seminal plasma components from fertile stallions involved in the epididymal sperm freezability.

Andrology, 2020, 10.1111/andr.12944 [doi], PMID: 33185013, FI: 2.86, Original

Sola Martinez RA, **Pastor Hernandez JM**, Yanes Torrado O, ..., **de Diego Puente T*** et al.

Exhaled volatile organic compounds analysis in clinical pediatrics: a systematic review.

Pediatric Research, 2020, 10.1038/s41390-020-01116-8 [doi], PMID: 32919397, FI: 2.747, Revisión

Gonzalez-Lopez A*.

Uncertainties of a window mixing estimator for the noise power spectrum of digital signals.

Physica Medica-European Journal of Medical Physics, 2020, 72, 133-141, PMID: 32272421, FI: 2.485, Original

Parrilla I, **Martinez CA**, Cambra JM, ..., **Martinez EA***.

Blastocyst-Bearing Sows Display a Dominant Anti-Inflammatory Cytokine Profile Compared to Cyclic Sows at Day 6 of the Cycle.

Animals, 2020, 10, PMID: 33158034, FI: 2.323, Original

Lopes TP, Padilla L, Bolarin A, ..., **Roca J***.

Ovarian Follicle Growth during Lactation Determines the Reproductive Performance of Weaned Sows.

Animals, 2020, 10, PMID: 32532102, FI: 2.323, Original

Lopez-Arjona M, Padilla L, **Roca J*** et al.

Ejaculate Collection Influences the Salivary Oxytocin Concentrations in Breeding Male Pigs.

Animals, 2020, 10, PMID: 32722376, FI: 2.323, Original

Garcia-Galan A, Gomez-Martin A, Bataller E, **Gomis J** et al.

The Addition of Lactobacillus spp., Enrofloxacin or Doxycycline Negatively Affects the Viability of Mycoplasma bovis in Diluted Bovine Semen.

Animals, 2020, 10, PMID: 32414088, FI: 2.323, Original

Cambra JM, Jauregi-Miguel A, Alvarez-Rodriguez M, ..., **Martinez CA**.

Allogeneic Embryos Disregulate Leukemia Inhibitory Factor (LIF) and Its Receptor in the Porcine Endometrium During Implantation.

Frontiers in Veterinary Science, 2020, 7, 611598, PMID: 33330727, FI: 2.245, Original

Cambra JM, **Martinez CA**, Maside C, ..., **Cuello C***.

The cytokine platelet factor 4 successfully replaces bovine serum albumin for the in vitro culture of porcine embryos.

Theriogenology, 2020, 148, 201-207, PMID: 31748174, FI: 2.094, Original

Martinez CA, Cambra JM, **Parrilla I**, ..., **Gil MA***.

Three-to-5-day weaning-to-estrus intervals do not affect neither efficiency of collection nor in vitro developmental ability of in vivo-derived pig zygotes.

Theriogenology, 2020, 141, 48-53, PMID: 31518728, FI: 2.094, Original

Roca J, **Perez-Patino C**, **Barranco I**, ..., **Parrilla I***.

Proteomics in fresh and preserved pig semen: Recent achievements and future challenges.

Theriogenology, 2020, 150, 41-47, PMID: 32088031, FI: 2.094, Original

Kucuk N, Lopes JS, **Soriano-Ubeda C**, ..., **Gadea J***.

Effect of oviductal fluid on bull sperm functionality and fertility under non-capacitating and capacitating incubation conditions.

Theriogenology, 2020, 158, 406-415, PMID: 33038826, FI: 2.094, Original

Garcia-Martinez S, **Gadea J**, **Coy P**, **Romar R***.

Addition of exogenous proteins detected in oviductal secretions to in vitro culture medium does not improve the efficiency of in vitro fertilization in pigs.

Theriogenology, 2020, 157, 490-497, PMID: 32898824, FI: 2.094, Original

Ecija-Conesa A, **Gallego-Jara J**, **Lozano Terol G**, ..., **de Diego Puente T***.

An ideal spacing is required for the control of Class II CRP-dependent promoters by the status of CRP K100.

Fems Microbiology Letters, 2020, 367, PMID: 33095239, FI: 1.987, Original

Barranco I, Tvarijonaviciute A, Padilla L, ..., **Lucas X***.

Delays in processing and storage of pig seminal plasma alters levels of contained antioxidants.

Research in Veterinary Science, 2020, S0034-5288(20)31065-1 [pii], PMID: 33187679, FI: 1.892, Original

Alcantara-Neto AS, Fernandez-Rufete M, Corbin E, ..., **Coy P** et al.

Oviduct fluid extracellular vesicles regulate polyspermy during porcine in vitro fertilisation.

Reproduction Fertility and Development, 2020, 32, 409-418, PMID: 31775998, FI: 1.721, Original

Basioura A, Tsakmakidis IA, **Martinez EA**, ..., **Parrilla I**.

Effect of astaxanthin in extenders on sperm quality and functional variables of frozen-thawed boar semen.

Animal Reproduction Science, 2020, 218, 106478, PMID: 32507259, FI: 1.66, Original

Ruiz-Diaz S, Luongo C, Fuentes-Albero MC, ..., **Garcia-Vazquez FA***.

Effect of temperature and cell concentration on dolphin (*Tursiops truncatus*) spermatozoa quality evaluated at different days of refrigeration.

Animal Reproduction Science, 2020, 212, 106248, PMID: 31864493, FI: 1.66, Original

Luongo C, Garrappa G, Llamas-Lopez PJ, ..., **Garcia-Vazquez FA***.

Effect of boar seminal dose type (cervical compared with post-cervical insemination) on cooling curve, sperm quality and storage time.

Animal Reproduction Science, 2020, 212, 106236, PMID: 31864489, FI: 1.66, Original

Beltran-Frutos E*, Ferrer C, Seco-Rovira V, ..., Pastor LM.

Differences in the response in the dermis of the tails of young and old SD rats to treatment with bipolar RF.

Journal of Cosmetic Dermatology, 2020, 10.1111/jocd.13918 [doi], PMID: 33355972, FI: 1.621, Original

Martinez T*, Abella Tarazona A, **Garcia Aliaga A**.

Chromosome aberrations during in-vitro labeling of red blood cells with 99mTc: a study with cytokinesis block micronucleus assay in human peripheral blood lymphocytes.

Nuclear Medicine Communications, 2020, 10.1097/MNM.0000000000001286 [doi], PMID: 32941404, FI: 1.334, Original

Navarro-Serna S, Vilarino M, Park I et al.

Livestock Gene Editing by One-step Embryo Manipulation.

Journal of Equine Veterinary Science, 2020, 89, 103025, PMID: 32563448, FI: 1.1, Original

Parrilla I*, Martinez EA, Gil MA, ..., Martinez CA.

Boar seminal plasma: current insights on its potential role for assisted reproductive technologies in swine.

Animal Reproduction, 2020, 17, e20200022, PMID: 33029213, FI: 0.916, Original



Maternal and child Hospital



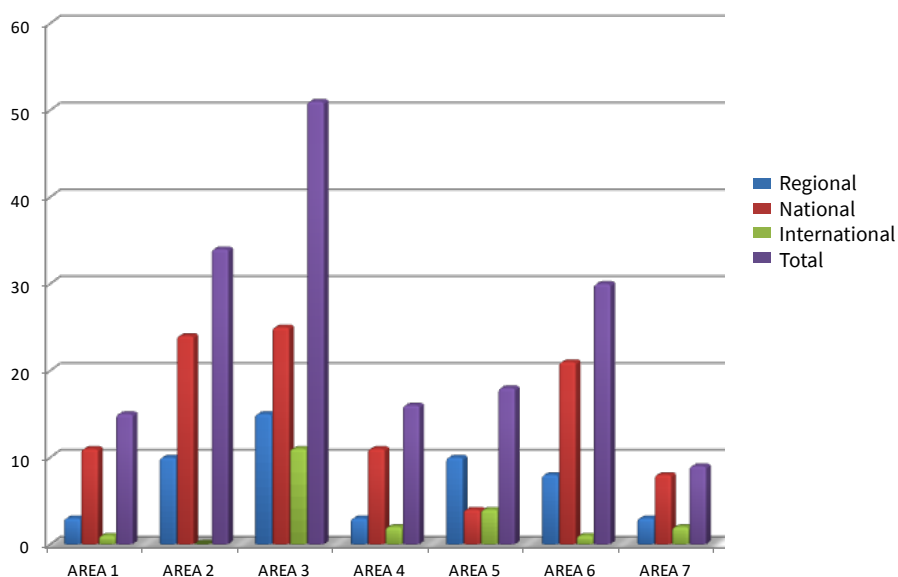
GROUPED RESEARCH ACTIVITY

In 2020, a total of 31 projects have been awarded to the institute, 13 regional, 15 national and 2 international.

This year, there is a total of 173 active projects, 52 regional, 101 national and 20 international.

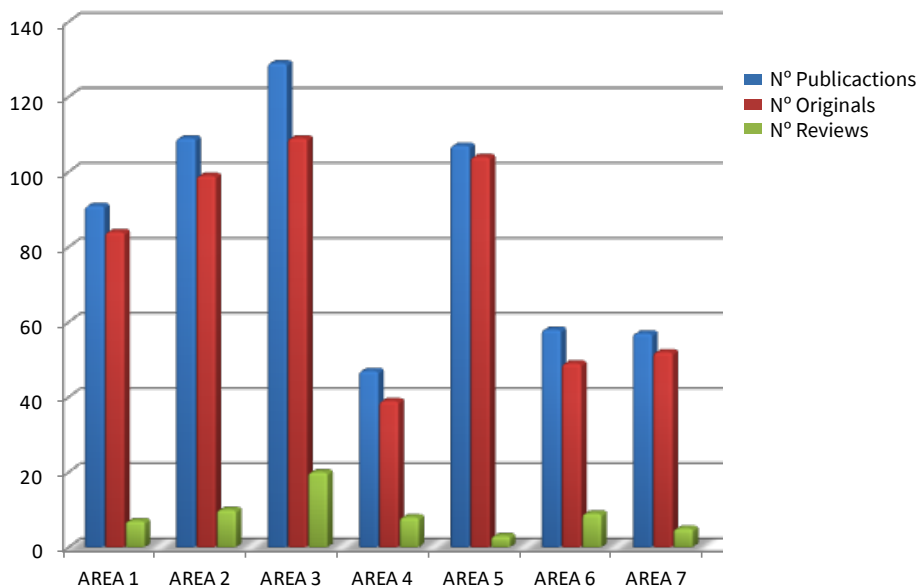
In the following graph and table, the active projects are shown grouped by areas and origin of the funds.

Area	Regional	National	International	TOTAL
AREA 1	3	11	1	15
AREA 2	10	24	0	34
AREA 3	15	25	11	51
AREA 4	3	11	2	16
AREA 5	10	4	4	18
AREA 6	8	21	1	30
AREA 7	3	8	2	9
TOTAL	52	104	21	177

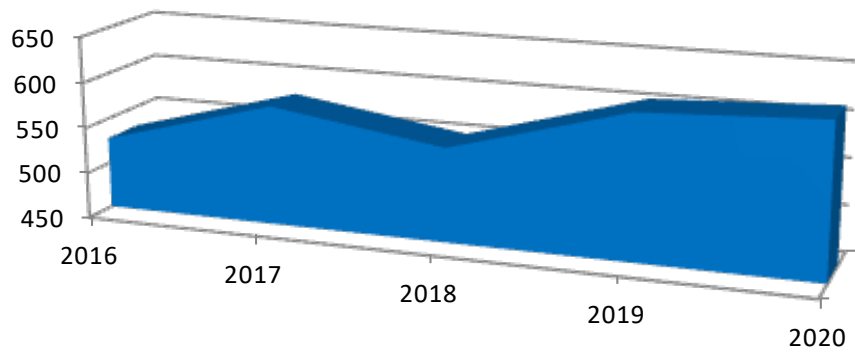


In the following graph and table are shown the number of scientific articles published in 2020, grouped by area and by type (original research articles, reviews).

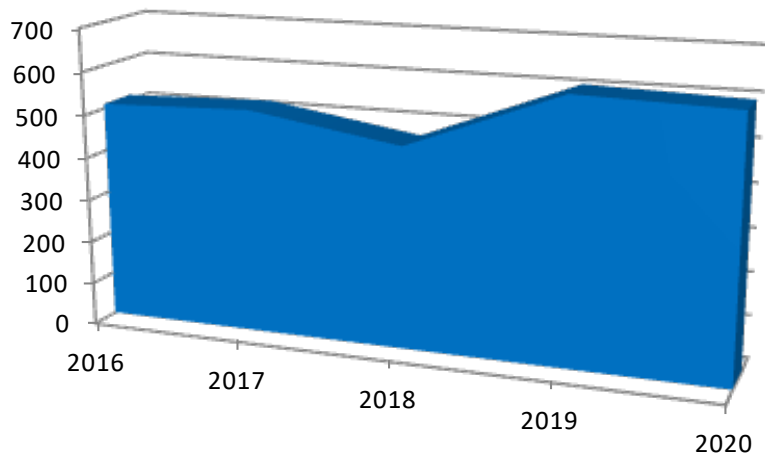
AREA	N Publications	N Originals	N Reviews
AREA 1	91	84	7
AREA 2	109	99	10
AREA 3	129	109	20
AREA 4	47	39	8
AREA 5	107	104	3
AREA 6	58	49	9
AREA 7	57	52	5
TOTAL	598	536	62



NUMBER OF ORIGINAL RESEARCH ARTICLES AND REVIEWS PUBLISHED IN ISI MEDIA (5 YEAR PROGRESSION)



STANDARD IMPACT INDICATOR/ CROWN INDICATOR (5 YEAR PROGRESSION)



The following table show the percentage of original publications published in first decile and first quartile journals in 2020 and grouped by areas.

Area	Nº Publications	1 st quartile	1 st decile	Otros
Area 1	84	32	16	36
Area 2	99	32	24	43
Area 3	109	36	18	55
Area 4	39	15	9	15
Area 5	104	45	37	22
Area 6	49	21	10	18
Area 7	52	35	3	14
TOTAL	536	216	117	203

IMIB runs and leads an important number of clinical trials with medicines and health products, both commercial and non-commercial, as well as other types of clinical studies (post-authorization studies and others).

Área	CT	CT MD	PAS	NO PAS	NC CT	TOTAL
Área 1	78	2	34	5	0	119
Área 2	36	18	24	20	0	98
Área 3	8	1	6	4	1	21
Área 4	25	6	13	3	0	47
Área 5	0	0	3	7	0	10
Área 6	92	1	55	18	2	168
Área 7	0	0	0	1	0	1
TOTAL	239	28	135	58	3	463

CT: Clinical Trials with Medicines
 CT MD: Clinical Trials with Medical Devices
 PAS: Post-Authorisation Studies
 NO PAS: No Post-Authorisation Studies
 NC CT: Non-Commercial Clinical Trials

During 2020, researchers from the institute have drafted three clinical practice guidelines (CPG). These guidelines have been published in indexed journals and are in the process of being implemented in the Health Centres of the Institute.

These CPGs refer to various pathologies and the approach to clinical issues such as intensive care care for COVID-19 patients; antiretroviral treatment in adults infected with HIV or hypertensive disorders in pregnancy.

The CPG published in 2020 are the following:

- › Rascado Sedes P, Ballesteros Sanz MA, Bodí Saera MA, Carrasco Rodríguez-Rey LF, Castellanos Ortega A, Catalán González M, López CH, Díaz Santos E, Escriba Barcena A, Frade Mera MJ, Igeño Cano JC, Martín Delgado MC, Martínez Estalella G, Raimondi N, Roca I Gas O, Rodríguez Oviedo A, Romero San Pío E, Trenado Álvarez J; Junta directiva de la SEMICYUC; Junta directiva de la SEEIUC. [Contingency plan for the intensive care services for the COVID-19 pandemic]. *Med Intensiva*. 2020 Aug - Sep;44(6):363-370. doi: 10.1016/j.medin.2020.03.006. Epub 2020 Apr 23. English, Spanish. PubMed PMID: 32336551; PubMed Central PMCID: PMC7180014.
- › Bernal Morell, Enrique. DOCUMENTO DE CONSENSO DE Ge SIDA/PLAN NACIONAL SOBRE EL SIDA RESPECTO AL TRATAMIENTO ANTIRRETROVIRAL EN ADULTOS INFECTADOS POR EL VIRUS DE LA INMUNODEFICIENCIA HUMANA. . ISBN: . 2020
- › De Paco Matallana, Catalina. Trastornos hipertensivos del embarazo. . ISBN: . 2020



GROUPED RESEARCH ACTIVITY

**IBIPO.THE INTERNATIONAL
BIOHEALTH PROJECT OFFICE**

The mainscope of the **International Biohealth Project Office – IBiPO** is to promote, stimulate and facilitate the participation of health professionals and researchers in the Region of Murcia (Consejería de Salud, SMS) in European and international biomedical initiatives, programs and projects. We do not add UMU because it has its own office for this purpose; OPERUM.

IBiPO carries out activities through the implementation of the “Work Plan” as an operational strategy aligned with institutional strategies (Regional Strategy for Biosanitary Research and Innovation - ERIIB and the IMIB Strategic Plan 2019-2023). The activities are organized in 5 general action lines:

- 1.The Office of International Biosanitary Projects (IBiPO)**
- 2.Technical, administrative and financial assessment and management**
- 3.Training and encouragement to participate in European and international biohealth projects**
- 4.Promotion of networking culture**
- 5.Dissemination, communication, visibility**

International Biohealth Project Office

E-mail: ibipo@ffis.es

Web page: <https://ibipo.imib.es>

During 2020, some of the actions carried out by the IBiPO were:

- › Update, together with the professionals responsible for European issues of the Ministry of Health (CS) and the Murcian Health Service (SMS), of the ***“Protocol to coordinate actions involving the European Union in the field of health in the Region of Murcia”***. The objective is to improve coordination on regional level when preparing new Project proposals, **establishing a standardized information circuit**.
- › Progress in the **design of internal tools** for the management of European projects.
- › Provision of assistance related to preparing of new project proposals.
- › **Active participation, management, monitoring** of the execution and justification of European biohealth projects underway.
- › **Collaboration with other organizations and institutions** on issues related to participation in European projects.
 - Space for coordinating European issues in the Regional Health System (CS - SMS - IBiPO / IMIB)
 - Collaborating networks with the Dirección General de Unión Europea de la

Consejería de Empresa, Industria y Portavocía of the Comunidad Autónoma Región de Murcia (CARM)/ Europe Direct; European projects offices of the University of Murcia (OPERUM), the Polytechnic University of Cartagena (OPECT), and the Development Agency of the Region of Murcia (INFO).

- Dynamization of the relationship with the National Contact Points for different European calls and issues and the Region of Murcia Brussels Office.

- › The IBIPO has published, through dissemination channels, information related to funding opportunities and participation in European and international biohealth programs and projects:

- Number of newsletters published: **12**
- Total number of Website visits (01/01/2020 – 31/12/2020): **10.468**
- Number of news of interest published: **89**
- Number of funding opportunities released: **55**

ACTIVE INTERNATIONAL COMPETITIVE PROJECTS

In 2020, the European projects led by IMIB researchers and the collaborative projects with IMIB researchers participation are listed below:

Leadership in EU funded projects / MONOCONTRACT

Regulation of inflammatory response by extracellular ATP and P2X7 receptor signalling: through and beyond the inflammasome (DANGER ATP)

Scientific field: medical and health sciences/health sciences/inflammatory diseases

Website: <https://cordis.europa.eu/project/id/614578/es>

- › PI: Dr. Pablo Pelegrín Vivancos (Investigador Area 3)
- › Start – end date: 01/09/2014 - 31/08/2020 (extension of implementation 1 year)
- › Call: EUROPEAN RESEARCH COUNCIL (ERC); FP7-IDEAS-ERC; ERC-2013-CoG
- › Grant Agreement number: 614578

Proof of concept of prognostic test for critical Septic Patients based in Early Detection of NLRP3 Inflammasome impairment activation (SPEDI-TEST)

Scientific field: Inflammation and immunity

Website: <https://cordis.europa.eu/project/id/614578/es>

- › PI: Dr. Pablo Pelegrín Vivancos (Investigador Area 3)
- › Start – end date: 01/10/2020 - 31/03/2022
- › Call: ERC-2019-POC; ERC Proof of Concept Grant

- › Grant Agreement number: 899636

Collaborative projects

Demand driven co-creation for public entities (InDemand)

Scientific Area: e-Health
Website: www.indemandhealth.eu

- › PIs: Gorka Sánchez Nanclares / M^a del Pilar López Acuña (Area de investigación 5)
- › Start – end date: 01/09/2017 - 30/11/2020
- › Regional participation: SMS (partner) / FFIS (linked 3rd party)
- › Consortium: 11 partners from 3 countries (Finland, France and Spain)
- › Call: H2020-SC6-CO-CREATION-2016-2017-SC6-CO-CREATION-2016-3
- › Grant Agreement number: 763735

Pilots for Healthy and Active Ageing (PHArA-ON)

Scientific Area: Active aging, telemonitoring
Website: www.pharaon.eu

- › PI: Gorka Sánchez Nanclares (Investigador Area 5)
- › Start – end date: 01/12/2019 - 30/11/2023
- › Regional participation: SMS (partner) / FFIS (linked 3rd party)
- › Consortium: 41 partners from 12 countries (Portugal, Spain, Slovenia, Italy, Holland,..)
- › Call: H2020 / Smart and healthy living at home (DT-TDS-01-2019)
- › Grant Agreement number: 857188

taRgeted thErapy for adVanced colorEctal cancer paTients (REVERT)

Scientific Area: Personalized medicine, biology and systems medicine
Website: <https://www.revert-project.eu/>

- › PIs: Pablo Conesa Zamora (Area de investigación 1)
- › Start – end date: 01/01/2020 – 31/12/2023
- › Regional participation: SMS (partner) / FFIS (linked 3rd party)
- › Consortium: 14 partners from 6 countries (Italy, Germany, Romania, Sweden, Spain, Luxembourg)
- › Call: H2020/ Systems approaches for the discovery of combinatorial therapies for complex disorders
- › Grant Agreement number: 848098

Joint Action on implementation of digitally enabled integrated person-centred care (JADECARE)

Scientific Area: Integrated care, digitally, original good practices, next adopters, transfer, policy makers, implementation, pilots
Website: <https://jadecare.eu/>

- › PI: M^a del Pilar López Acuña (Research Area 5)
- › Start – end date: 01/10/2020 – 30/09/2023
- › Regional participation: FFIS / IMIB (associated entity) and SMS (associated entity)
- › Consortium: 17 Competent Authorities with 31 affiliated entities from 17 countries (Spain, Italy, Bosnia & Herzegovina, Hungary, Greece, Croatia, Czech Republic...)
- › Call: 3rd Health Programme / HP-JA-03-2019 Joint Action on implementation of digitally enabled integrated person-centred care
- › Grant Agreement number: 951442

Hygiene in hospital, community and residential care settings: an innovative mobile vocational training for healthcare workforce (HYGEIA)

Scientific Area: Enfoques innovadores, tecnologías digitales para la enseñanza
Website: En proceso de desarrollo/

- › PI: M^a del Pilar López Acuña (Area de investigación 5)
- › Start – end date: 31/12/2020 – 29/04/2023
- › Regional participation: FFIS / IMIB (partner)
- › Consortium: 5 partners from 4 countries (Spain, Italy, Turkey, Sweden)
- › Call: ERASMUS +2014-2020 / KA202-Strategic Partnerships for vocational education and training
- › Grant Agreement number: 2020-1-SE01-KA202-077958



GROUPED RESEARCH ACTIVITY

INNOVATION AND TRANSFER

Innovation and biomedical transfer is a fundamental activity of an IIS. Any research result that is transferable to society, the industrial sector and the health system, may be of use to improve the health of the population. As a recent example we have the development of COVID19 vaccines.

INNOVATION COMMITTEE

The Innovation Committee (CINN) has incorporated a non-scientific key actor, from a company in the biomedical sector located in our region. The CINN has met four times during the 2020 financial year, and therefore, we would like to thank the members of the CINN for their effort, their time and all their contributions. The selection of the members of the committee has been done trying to achieve gender parity (60% women and 40% men)



MARÍA DEL MAR VÁZQUEZ DE PARGA CALVO

While experiencing the vicissitudes of the pandemic, the IMIB has continued to introduce an innovative culture within the Institution conducting training actions, processing and maintaining patents, utility models and spin-offs.

We can highlight the following actions in 2020:

- › Preparation of documents and patient recruitment of our first utility model. This is the result, of the effort of a group of nurses of the IMIB.

- › Review and preparation of our first spin-off where the IMIB will have a small percentage of ownership.
- › Achievement of three new patents and the license to a North American company of a patent prior to 2020.
- › Organisation of a conference in innovation and transfer held on December 1st, with great speakers from various research centres and companies.
- › Inclusion of an innovation section for the first time in the IMIB Annual Scientific Conference, we hope it will be something that is repeated every year.
- › Record and dissemination of a video of a spin-off of one of our institutions, the UMU. The three research groups that constitute the spin-off are part of the IMIB, therefore, this can be of help to our entrepreneurs.
- › Also, together with INFO, we held a workshop on entrepreneurship in the healthcare sector with 17 entrepreneurial researchers.
- › Preparation of paperwork to enter the EATRIS network.
- › Adhesion to AIISEM (Alliance for innovation and industrialization of the Mediterranean axis), where various health research and innovation Centres in the Balearic Islands, the Valencian Community and Catalonia collaborate on issues related to innovation, transfer and industrialization of the SNS.
- › Participation in the ITEMAS innovative culture working group, representing Network of Clinical Research Management Institutions (from Spanish, REGIC).
- › Dissemination of 10 training pills related to innovation, transfer and entrepreneurship.

Contact: innovacion@imib.es



IMIB Symposium in innovation and transfer



GROUPED RESEARCH ACTIVITY

TRAINING

In 2020, 48 theses were defended, 8 of which had international mention. The table below shows the theses defended by area.

Area	Without Mention	International Mention	TOTAL
AREA 1	1	2	3
AREA 2	17	0	17
AREA 3	6	1	7
AREA 4	1	0	1
AREA 5	2	2	4
AREA 6	8	1	9
AREA 7	9	2	11
TOTAL	44	8	52

TRAINING COMMITTEE

INTRODUCTION

The IMIB has a Training Committee, with 7 members (75% women and 25% men) who represent the different institutions that make the IIS: SMS, UMU, FFIS, and the IMIB itself.

The person responsible for the Training Committee is:



DRA. MARTA AGUDO BARRIUSO

This Committee has met a total of four times in 2020 and in addition to organizing the 2020 training activities, it has carried out the following:

- › Approval and implementation of the Training Plan, which includes the strategic lines of the IMIB in terms of training and scientific dissemination.
- › Approval and implementation of the Internal Operating Regulations of the Committee itself.
- › Incorporation of non-scientific key actors to the Committee

COMMITTEE ACTIVITY

- › Survey to evaluate needs in training
- › Creation of teacher portfolio
- › Research training

Despite the current pandemic, the IMIB has organised training activities using the virtual format in most cases, although some sessions have combined both in-person and virtual format. We have also disseminated training actions organized by other institutions or networks that we are part of, we have agreements with, or constitute the IMIB itself such as the UMU, the SMS, the regional government, etc. We have been able to offer a wide variety of training activities for IMIB professionals: researchers, technical, core facilities and managerial staff, etc...

TRAINING ORGANISED BY THE IMIB

IMIB Internal Seminars

Every 2 weeks. In 2020, 8 internal seminars were held.

These seminars are given by IMIB researchers. A rotation system is established so that each group shares projects, techniques and results approximately every 36-48 months.

January - June

1. Innate immune system and protection of the neurovascular unit in acute brain injuries (February 3rd). Fco Javier Egea Máiquez
2. Melanocortin receptor 1 (MC1R), photoprotection and melanoma (February 17). José Carlos García-Borrón
3. New therapeutic targets for chronic inflammatory skin diseases (March 3). Victoriano Mulero Méndez
4. Possible usefulness of dopamine D3 receptor antagonists in the treatment of addiction to substances of abuse / Design of nanoparticulate systems for the administration of morphine (June 8th). Cristina Núñez Parra and Pilar Almela
5. Application of omic techniques in the study of obesity and associated metabolic diseases (June 29th). Bruno Ramos Molina

October – December

1. Liver cancer and circadian rhythm: p38 as a putative regulator (October 19th). Antonia Tomás Loba
2. Research on cae, a comprehensive vision: from women's health, through the quality of sleep in hospitals to the management of nursing services (November 2nd). Eva Abad Corpa; M^a Fuensanta Hellín Gil; Yolanda López Benavente; M^a del Mar Pastor Bravo.
3. Update on the diagnosis and treatment of acute stroke. Role of Interventional Neuroradiology (November 16th). Mariano Espinosa.

IMIB external seminars.

Quarterly. In 2020 we planned to invite 5 external speakers of recognized prestige. Three external seminar took place prior to the state of alarm.

1. Innate immune system and protection of the neurovascular bundle in acute brain injuries. Francisco J. Egea Máiquez. Unidad de Investigación del Hospital Universitario Santa Cristina. IIS Hospital Universitario la Princesa. Madrid.
2. Striatal plasticity in Parkinson's disease and dyskinesias (30th November). Rosario Moratalla Villalba. Grupo Neurobiología de los Ganglios Basales. Instituto Cajal (CSIC). Madrid.
3. A new regulatory mechanism of protein phosphatase 2A activity via SET in acute myeloid leukemia (14th December). María D. Odero. Acute Leukemia Laboratory of the Hemato-Oncology Program of the Center for Biomedical Research (Cima). University of Navarra.

The rest of the planned seminars are postponed because of the COVID19 pandemic.

International seminars IMIB.

Quarterly. In 2020 we planned 3 presentations.

Prof. Rita Fior. Champalimaud Foundation. Lisbon, Portugal. 23rd April 2020, postponed by COVID19 pandemic.

Prof. Lachaud Christopher. CNRS, ATIP AVENIR. Paris, France. June 29th, 2020.

Prof Oliver Soelhnein from the Institute for Cardiovascular Prevention (IPEK), Ludwig-Maximilians-Universität Munich, Munich, Germany. November 19th, 2020.

Taught by prestigious international researchers, the speakers are proposed by Principal Investigators of the IMIB, and are selected according to quality criteria.

1. **Entrepreneurship workshop.** In January the Institute organized a face-to-face entrepreneurship workshop in collaboration with the INFO. In the sessions, participants learned, from BHV Partners, the key aspects to undertake transfer of technology, creation of spin-offs and companies (Partners' agreement, statutes, types of investment, ...) and negotiation skills with investors, etc

2. **I Seminar on real-time PCR. Duration 2h.** Taught by Dr César Flores Held on February 27th, 2020.
3. **I IMIB Research Conference for residents. PUVA. Virgen Arrixaca University Clinic Hospital. February 11, 2020.**
4. **I Course on biomedical research and biobanks. Towards research of excellence. Duration 20h.** Organized by IMIB Biobank Platform. May 18th to 27th, 2020. Postponed
5. **I and II Introductory course to statistics for research. Duration 8h.** Taught by Dr Guadalupe Ruiz. May 4th to 13th and from October 19th to November 9th. Postponed
6. **5th Annual IMIB Research Conference 23rd November 2020.** Every year for a whole day we offer presentations by our researchers, we reward communications submitted by our young researchers, we exchange experiences, services, etc., within the IMIB (This is an event open to the public).
7. **I IMIB Innovation and Transfer Conference. December 1st, 2020.** Expert speakers in biomedical innovation and transfer participated in the sessions where some of the most relevant talks were “Main trends in biohealth innovation. Needs and obstacles” by Marta del Amo (MIT-Massachusetts Institute of Technology) and “Personalized medicine as an example of innovation” presented by Teresa Ramos (Roche Farma). The session ended with a round table chaired by the IMIB with representatives from the main biohealth innovation leading institutions (Universities, SMS, Ministry of Health).

TRAINING DISSEMINATED BY THE IMIB TO IMPROVE THE TRAINING OF PROFESSIONALS DEDICATED TO RESEARCH AND/OR MANAGEMENT

We have carried out courses, workshops, seminar, pills, etc., organized by REGIC, ITEMAS, PONS, BIO-INNOVA CONSULTING, INFO, UMU, SMS, ISCIII, CDTI,... on COVID19, Innovation and transfer, various pathologies, different techniques and training, quality....



GROUPED RESEARCH ACTIVITY

QUALITY

QUALITY COMMITTEE

The IMIB Quality Committee is the expert advisory body that ensures quality in the activity developed in the different areas of the Institute. The committee aims at scientific excellence and continuous improvement. It is constituted by 10 members (40% women and 60% men) who represent the different bodies of the Institute. The person responsible for the committee is:



VICTORIANO SORIA ALEDO

Contact: calidad@imib.es

The Committee drafted the “IMIB 2019-2023 Quality and Improvement Plan” that defines the actions aimed at guaranteeing the correct functioning of the research and innovation processes within the Institute’s Quality Policy.

ACTIVITY OF THE COMMITTEE

Below are highlighted the most relevant tasks performed during 2020:

- › Adaptation of the composition and internal operating procedures to the needs of the IMIB and to the requirements of the Technical Guide for evaluations of the Institutes.
- › Review and adaptation of the documents that integrate the IMIB Quality Management System (Quality Policy, Quality Plan, Guide or internal code on good scientific practices, integrity and ethics in research).

- › **Active collaboration** with, other Committees of the Institute and IMIB platforms. Proposal of generic indicators for Platforms and SWOT review for Platforms.
- › Review and maintenance of the **website section dedicated to Quality**, mailbox for sending complaints and suggestions, as well as active communication through email: calidad@imib.es.

During this period the Quality Committee:

- › Held 2 monitoring and review meetings (online), 2 meetings with the IMIB Platforms and 4 with some of the Scientific Areas (Areas 1, 2, 4 and 7).
- › Reviewed 8 documents prepared by other IMIB Committees, Support Units and Platforms in relation to quality issues.
- › Fostered a culture of quality among researchers through the dissemination of the IMIB Quality Policy and Plan.
- › Identified 2 quality management training activities of interest based on the needs of researchers and other IMIB professionals. These training activities are likely to be included in the IMIB 2021 Training Plan.



GROUPED RESEARCH ACTIVITY

COMMUNICATION

COMMUNICATION COMMITTEE

The committee has seven members, five of which are women (71%). The following actions were developed in order to disseminate the activity of the institute to the general population. This was the main objective set in the communication plan drafted by this committee last year.

BROADCAST IN THE MEDIA

In 2020, the IMIB has been cited in a total of 469 news items mainly related to advances and developments of R & D & I carried out by researchers from the institute. Other items broadcasted were the promotion of conferences and activities organized by the institute, as well as the contribution of knowledge by experts for general topics.

Within this total volume of news, an increase of 284% compared to the previous year, 33 were international, and 177 were published in national media, both print and radio/TV, such as El País, Antena 3 or COPE. The remaining news, a total of 259, were broadcast in local media, such as La Verdad, Onda Regional, La Voz de Galicia, El Heraldo or 7 TV Región de Murcia.

Regarding the type of media that has covered news involving the IMIB, in first place we have traditional and digital press, with 321 news published. The IMIB has been the main subject in 36 items broadcast on regional and national TV channels. On the radio, 70 news items were broadcast on projects, progress and events related to the institute.

A large part of the published content has appeared in specialized health media, such as Diario Médico or Infosalud, with a total of 30 items.

The Communication team broadcast 28 press releases / announcements, and held 4 meetings with media institutions. Given the security measures imposed by the pandemic, the media organisations were invited to online events, such as the conference “What can IMIB researchers contribute to the investigation of COVID-19?”

SOCIAL MEDIA

During 2020 the IMIB continued to improve visibility on social networks, focusing on three channels: Twitter, Instagram and YouTube.

The Twitter account @IMIB_Arrixaca, created in November 2018, has continue to grow exponentially throughout 2020 to reach a total of 2,359 followers by the end of the year. The average number of tweets during this period has been 36.2 per month. Most of the tweets have been focused on publicizing the research promoted by scientists from the Centre, awards, conferences and seminars, and appearances in the media.

The use of twitter has been useful to obtain feedback from IMIB members and to connect with society in general. The average monthly prints of published content has reached an impact of 58,719.

We have also continued to grow the Instagram account @imibarrixaca, used by the institution to disseminate research and sections, such as the 'Ponnos Cara', in a more visual format. This channel provides information on the latest advances developed by the research groups of the Centre, appearances in the media and has been key to help the community to recognise members of the IMIB. During 2002, it has grown to 741 followers.

Regarding the YouTube channel, a total of 66 videos have been generated aimed at the dissemination of R & D & I by the centre's scientists and the 'Ponnos Cara' section.

All the content of interest collected on social networks, as well as the press releases, have been weekly included on the IMIB website. The website has been constantly updated with the latest research as well as the initiatives promoted by the institute.

Number of communication sessions	4	
	469	259 Regionals
Number of press releases		177 National
		33 International
News in other audiovisual media (Radio, TV)	106	70 Radio
		36 TV
Average number of tweets /month		36,2
Increased in Twitter followers		+ 1.300
Number of videos broadcast on YouTube		53
Increased in Instagram Followers		+ 341
Number of single visits to the IMIB website		401.165

DISSEMINATION AND COMMUNICATION OF SCIENTIFIC KNOWLEDGE

On November 23rd, the V IMIB Scientific Conference took place. This year, COVID-19 pandemic, the conference was held by videoconference. Despite this year's new online format, more than 200 scientists connected.

During the conference, researchers from the institute, both consolidated and in training, presented their results in oral communications. In addition, we had a plenary conference by Dr Elena Becker-Barroso (Editor of The Lancet Neurology), as well as a case of success in knowledge transfer by Dr Pablo Conesa (Principal Investigator of the Molecular Pathology group and Pharmacogenetics of the IMIB).

The best communications were selected and at the end of the conference received an award:

Begoña Albuquerque González

Researcher in the Molecular and Pharmacogenetic Pathology group (Area 1).

Oral Communication: "ANTITUMORAL EFFECT OF ANTIDEPRESSANT TOFRANIL® ON PRIMARY TUMOUR AND METASTASIS MOUSE MODELS".

Azahara María García Serna

Researcher of the Pediatrics group (Area 2).

Oral Communication: "CYTOKINES LEVELS OF DETECTION AT BIRTH IN CORD BLOOD AND PRENATAL EXPOSURE TO AIR POLLUTANTS: NELA STUDY".

Alejandro Eleazar Peñín Franch

Researcher in the group of Gastrointestinal, Endocrine Surgery and Abdominal Organ Transplantation (Area 3).

Oral Communication: "NLRP3 PROMOTES AN EARLY INFLAMMATION TRIGGERING TYPE I COLLAGEN PRODUCTION IN MICE ACHILLES TENDON".

Joaquín Cantón Sandoval

Researcher of the Immunity, Inflammation and Cancer group (Area 6).

Oral Communication: "OXIDATIVE STRESS PROMOTES PARP1 HYPERACTIVATION TO INDUCES SKIN INFLAMMATION THROUGH PARTHANATOS".

María Antonia Parreño González

Researcher at the Biomedical and Bioinformatics Informatics Platform.

Oral Communication: COVIPEDIA: “A REAL CASE OF USE OF A WEB PLATFORM FOR MASSIVE BIBLIOMETRIC ANALYSIS IN THE BIOMEDICAL FIELD”.



OTHER ACTIVITIES FOR THE DISSEMINATION OF SCIENCE TO SOCIETY:


- › Activity of the “Instituto de Fomento” for the Day of the Entrepreneur (December 3rd and 4th). Belén de la Morena.
- › Workshop on the importance of Communicating Science on October 14th representing the Region of Murcia in the EU Regions Week. Encarna Guillén.
- › Informative cycle ‘CleNZA’ in a debate on ‘Bioscience in the face of COVID-19. Current challenges’. Encarna Guillén.

INSTITUTIONAL VISIT OF THE KINGS OF SPAIN TO THE IMIB

In 2020, the Kings of Spain together with representatives from the local government, visited the IMIB. During the visit they were updated in ongoing clinical trials and research projects funded by the Carlos III Institute of Health, in particular the ones involving covid research. They were also informed about the therapies implemented by personnel of the Institute to mitigate the health impact of the covid-19 pandemic.



Institutional visit of the Kings of Spain to the IMIB



CENTRAL CORE FACILITIES/ INFRASTRUCTURES

The system of Central Core Facilities for research support of the IMIB is organized in eight Transversal Units, dependent on the SMS and integrated in the Institute, and the 11 centralized units of support for biohealth research provided by the Scientific and technical area of Research (ACTI) from the UMU. The human and material resources of the Central Core Facilities offer the ideal conditions to guarantee a research of excellence in the biomedical field. The staff members of the Central Core Facilities are highly qualified and accumulate extensive experience in providing research services, especially some ACTI units have more than 35 years of service within the UMU.

The IMIB Central Core Facilities depend on the IMIB Governing Board and they work in coordination under the direction of the Board of Directors executed by the scientific deputy directors of the institute Dr Pablo Pelegrín Vivancos (Deputy Scientific Director for basic research, pablo.pelegrin@imib.es) and Dr Jose Luís Alonso Romero (Deputy Clinical Scientific Subdirector, josel.alonso2@carm.es). The Central Core Facilities also work with the support of the managers of the different Central Core Facilities, represented by the Coordinación de Plataformas, since in 2019 Dr. Carlos Martínez Cáceres is responsible (coordinacionplataformas@imib.es) with the administrative support of Fátima Hernández Montesinos (fatima.hernandez@imib.es).

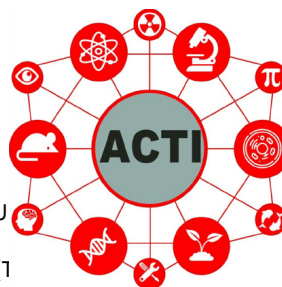
ACTI units are dependent of the UMU Vice-Rectorate for Research (Vice-Rector, María Senena Corbalán García (vicinves@um.es) and work in coordination under the direction of Roque J. Ortiz González (Head of Area, roque@um.es) and María Teresa Castells Mora (Deputy Head of Area, castells@um.es), with the administrative support of Encarnación Yelo Carrasco (responsible, Head of Business, yelo@um.es), Pedro Valera Pérez (Administrative, pvp@um.es), and Manuel Carlos Baños Celdrán (Administrative Assistant, mcbc@um.es).

The IMIB Central Core Facilities provided by the SMS are organized in the following units:

- › SPF Animal Facility Central Core Facility
- › Biobank Central Core Facility.
- › Clinical Trials Central Core Facility.
- › Genomics Central Core Facility.
- › Biomedical and Bioinformatics Computing Central Core Facility.
- › Pathology Central Core Facility.
- › Proteomics Central Core Facility.
- › White Room Central Core Facility.

The following IMIB Central Core Facilities are part of ACTI:

- › Tissue Culture Central Core Facility (SCT)
- › Animal Experimentation Central Core Facility (SEA)
- › Scientific Instrumentation Central Core Facility (SUIC)
- › Microscopy Central Core Facility (SUM)
- › Image Analysis Central Core Facility (UPS)
- › Statistical Support Central Core Facility (SAE)
- › Molecular Biology Central Core Facility (SBM)
- › Biotechnology Central Core Facility (SEAF)
- › Psychological Instrumentation Central Core Facility (SU)
- › Radioprotection and Waste Central Core Facility (SRR)
- › Central Core Facility for Research Support Workshops (T)



The structure, location, facilities, service portfolio and activities of each of the IMIB Central Core Facilities during 2020 are detailed below:



Bioscience Research Laboratories Building (LAIB).

CLINICAL TRIALS CENTRAL CORE FACILITY

CONTACT

Location: Plataforma de Ensayos Clínicos
Hospital Clínico Universitario Virgen de la Arrixaca.
Ctra Madrid-Cartagena s/n. CP 30120.El Palmar - Murcia. España.
1ª Planta Policlínico. Edificio de Investigación IMIB-AECC
Email: lola.serna@carm.es / maria.munoz@imib.es
Telephone: 968359763 / 968381290

PERSONNEL

Responsible: Dr. Lola Serna Guirao.
Co-Responsible and Project Manager: Dr. María Muñoz García.
CRA: Virginia Hurtado Hernández y Helena García-Pulgar Rielves.
CTA: Alba Sánchez Ibáñez y Raquel Bermúdez Tornel.
Technical Assistants Staff in training: Noelia Santillana Martínez

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology

Area 2

- › Clinical and Experimental Cardiology
- › Investigación en Pediatría

Area 3

- › Cirugía Digestiva, Endocrina y Trasplante de órganos abdominales
- › Research in Pediatrics

Area 6

- › Immunology and Immunotolerance in Transplants and Immunologically Bases Diseases
- › Hematopoietic Transplant / Cell Therapy
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine
- › Clinical and Translational Oncology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AN/OR PRIVATE COMPANIES

This platform has provided service to a total of 7 public research groups not belonging to the IMIB, including the CNIC and various health research institutes (INCLIVA, Jiménez Díaz Foundation Health Research Institute, La Fe Health Research Institute, La Princesa University Hospital Biomedical Research Foundation, Bellvitge University Hospital and Canarias University Hospital). In addition, the platform has provided services to clinical trials with private funds in the area of cardiology (Spanish Society of Cardiology) and in the area of Clinical and Translational Oncology.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Biobank Central Core Facility
- › Biomedical and Bioinformatics Computing Central Core Facility
- › Clean Room Central Core Facility

PARTICIPATION IN CLINICAL TRIALS

In 2020, the platform has started 4 new clinical trials as Sponsor, three of which are multicentre.

- › **DEFACOVID:** MultiCentre, randomised, parallel, double-blind, placebo-controlled, phase IIb prospective clinical trial to evaluate intravenous defibrotide infusion in the prevention and treatment of respiratory distress and cytokine release syndrome in patients with COVID-19.
- › **COLCOVID:** Randomised open-blind controlled trial to study the benefit of Colchicine in Patients with COVID-19.
- › **HITCLIF:** HIsTological and Clinical effects of Imipramine in the treatment of patients with cancer over-expressing Fascin1. Multicentre.
- › **REMOVE:** Withdrawal of pharmacological treatment in patients responding to cardiac resynchronization therapy. Randomised and open study.

It has also started a post-authorisation study (PAS):

- › **HER DATA BASE:** Multicentre prospective observational study to evaluate the efficacy and safety of neoadjuvant treatment based on double block with pertuzumab and the biosimilar of trastuzumab CT-P6 (Herzuma®) in early her2 positive breast cancer in routine clinical practice.

At the same time, it has managed the regulatory support and the start-up of a study as an external service.

- › **DAPA MODA:** Impact of the dapagliflozin in the atrial remodeling of patients with heart failure: MODA study.

The number of the studies started in 2020 is as follows: 23 contracts, 11 initiation visits and 55 monitoring visits, no closing visit has been carried out, 66 reports have been prepared and 1 Development Safety Update Report (DSUR) has been processed. Regarding the regulatory support, 8 modifications and amendments, 3 notifications of study initiation and one notification of end have been made, in addition to all the process of starting up each study.

Also, during 2020 the development of tasks corresponding to active and open studies in previous years has continued. These trials are listed below:

- › **COLICA:** Randomised double-blind trial to study the benefit of Colchicine in Patients with Acutely Decompensated Heart Failure.
- › **GUARDS:** Gestational treatment with Ursodeoxycholic Acid compared to Placebo to Reduce Severity of Gestational Diabetes Mellitus diagnosed at 24-28 weeks' gestation.
- › **B-BLOQUEANTE:** Withdrawal of Beta-blocker therapy in patients with Heart Failure with Preserved Systolic Function and Evidence of Chronotropic Incompetence: Effect on Functional Capacity and Life Quality.
- › **ELISPOT:** Phase IV clinical trial, randomised, controlled, open and multiCentre, with two parallel groups, to study the efficacy of a preventive strategy against cytomegalovirus infection in heart transplant patients, based on the specific baseline response of T-lymphocytes against cytomegalovirus.
- › **LINES:** Treatment for Neuroblastoma with low and medium risk.
- › **MOSCA FRAIL:** Randomised comparison between invasive and conservative strategies in frail elderly patients with non-ST-segment elevation myocardial infarct.
- › **SECURE:** Secondary prevention of Cardiovascular Disease in elderly patients.
- › **VITDAMI:** multicentre, randomised, double blinded, placebo-controlled clinical trial to evaluate the effect of VITamin D on ventricular remodeling in patients with Acute Myocardial Infarction.
- › **EVENTS:** Early vaginal progesterone for the preVention of spontaneous prEterm birth iN TwinS: A randomised, placebo controlled, double-blinded trial.
- › **STATIN:** Randomised controlled study with pravastatin versus placebo for the prevention of pre-eclampsia.
- › **FOREST:** Randomised, multicentre, open, controlled, phase III clinical trial to evaluate the efficacy of fosfomycin vs meropenem or ceftriaxone in the targeted treatment of multiresistant Escherichia coli bacteremic urinary tract infection.
- › **IMMUNOTOLERANCIA:** Multicentre, randomised, prospective study to define the clinic efficacy and the mechanisms of tolerance after the withdrawal of immunosuppression in liver transplantation.
- › **OMS/DES:** Multinational European Trial for Children with the Opsoclonus

Myoclonus Syndrome/Dancing Eye Syndrome.

- › **MIMO:** Open-label, randomized, phase IV, multiCentre clinical trial of midazolam versus morphine in patients with acute lung edema.
- › **PG-NAION:** A prospective, single-Centre, randomised, parallel, double-blind, placebo-controlled phase IIb clinical trial to evaluate intravenous infusion of prostaglandins as therapy in patients with non-arteritic anterior ischemic optic neuropathy.
- › **SOLITENS:** Transcutaneous peripheral neuromodulation of the posterior tibial nerve (t-ptns) versus solifenacin 10mg. in the treatment of overactive bladder syndrome: a randomized phase IV non-inferiority trial.
- › **NORMOTERMIA:** Randomised controlled phase IV clinical trial to evaluate the effect of controlled temperature in patients with septic shock.
- › **TCIM-ELA II:** Phase II clinical trial of intramuscular infusion of autologous bone marrow stem cells in patients with amyotrophic lateral sclerosis.
- › **GIS-SUSANTI:** Suspension of anti-TNF treatment in patients with inflammatory bowel disease: multiCentre, prospective and randomized clinical trial.

In total, 25 clinical trials has been managed, 10 of which continue with open recruitment, 12 already have closed recruitment although follow-up visits continue to be carried out, and 3 are pending initiation.

Regarding the activity that has been carried out of all the studies managed in 2020, we can say that have been carried out: 34 contracts, 14 initiation visits, 88 monitoring visits, 3 closing visits, 105 reports, 203 patients have been recruited, 716 monitored and 10 DSURs have been processed.

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Funds: ISCIII with charge to the aid of the departure of personnel of the investigation project “ISCIII Platforms of support for the Clinical Investigation. Platforms of support to the investigation in sciences and technologies of the health (PT20/00115)” and with IMIB funds contribution SMS scientific research staff.

These grants are financed by the Instituto de Salud Carlos III, co-financed by the European Regional Development Fund, Spanish ERDF Pluriregional Operative Program (POPE) 2014-2020, and it will be governed in accordance with Regulation (EU) N°. 1303/2013 of the European Parliament and of the Council, of 2013 December 17.

- › Funds: ISCIII with charge to the aid of the departure of personnel of the investigation project “PLATFORM OF CLINICAL RESEARCH UNITS AND CLINICAL TRIALS. Platforms to support research in health sciences and technologies (PT17/0017/0008)” and with IMIB funds contribution SMS scientific research staff.

These grants are financed by the Instituto de Salud Carlos III, co-financed by the

European Regional Development Fund, Spanish ERDF Pluriregional Operative Program (POPE) 2014-2020, and it will be governed in accordance with Regulation (EU) N°. 1303/2013 of the European Parliament and of the Council, of 2013 December 17.

› Aid funds for hiring training-people with a superior level studies of vocational training by companies, universities and I+D+i entities in the Región de Murcia, for the 2020 financial year and IMIB funds for the contribution of SMS scientific research staff. These grants are financed by the Comunidad Autónoma de la Región de Murcia, through the Ministry of Employment, Research and Universities, and by the European Social Fund.

TEACHING ACTIVITY

During 2020, the Clinical Trials Platform has continued the training;

The CTA of the Unit has taken the following courses:

- › Health administrators, in the University of Nebrija.
- › Postgraduate course specializing in administrative management of clinical trials (CTA) in Euroinnova Formación.

A course on Good Clinical Practices, Edition 04, given by the Foundation for Biomedical Research of the Hospital Clínico de San Carlos, has also been taken by the members of the Unit.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 2 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/eecc.jsf>

HIGHLIGHTS 2020

In conclusion, during 2020, the Clinical Trials Unit IMIB-Arrixaca managed 25 clinical trials, including the following tasks:

- › 14 Kick-off visits.
- › 88 Monitoring visits.
- › 3 Closing visits.
- › 105 Reports.
- › 10 DSURs.
- › 716 Monitored patients.
- › Regulatory support and contracts in 47 Centres.

PATHOGEN FREE ANIMAL HOUSE FACILITY (SPF, SPECIFIC PATHOGEN FREE)

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Medical Oncology
- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Molecular and Pharmacogenetic Pathology

Area 2

- › Clinical and Experimental Cardiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation

Area 4

- › Experimental Ophthalmology
- › Brain Regionalization and Developmental Genes
- › Clinical and Experimental Neuroscience

Area 6

- › Immunology and Immunotolerance in Transplants and Immunologically Based Diseases
- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant / Cell Therapy

Area 7

- › Reproductive Biology

SERVICES PROVIDED TO NON-IMIB GROUPS FROM PUBLIC RESEARCH CENTRES

- › Edaphology and Applied Biology of Segura Centre (CEBAS)
- › Radiofarmaphy Service. Hospital Clínico Universitario Virgen de la Arrixaca.
- › Neurotransmisión Group, Neuroprotección y Neuroinflamación. Universidad Autónoma de Madrid.
- › Division of Infection, Immunity and respiratory medicine. University of Manchester.
- › Molecular Immunity Unit. University of Cambridge.

- › Departament of metabolism and cell signaling.

COLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Statistical Support Central Core Facility
- › Murciasalud Virtual Library
- › Biobank Central Core Facility
- › SPF Animal Facility Central Core Facility
- › Genomics Central Core Facility
- › Biomedical and Bioinformatics Computing Central Core Facility
- › Pathology Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Clean Room Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Call for procurement of scientific- technical equipment, 2019
- › Call for ISCIII platforms to support R+ D+ I in biomedicine and health sciences 2020

TEACHING ACTIVITY

- › Work under supervision for the training of personnel who use experimental animals (Order 566/ECC/2015) both research personnel and animal facility staff.

HIGHLIGHTS 2020

During 2020, at the Pathogen-Free Animal Facility, the mandatory meetings requested by the Authorized Body for the Evaluation of IMIB Projects, were held at the request of researchers and in the presence of the Competent Authority (Animal Welfare Service, Livestock, Fishing and CEBAS).

GENOMICS CENTRAL CORE FACILITY

CONTACT

Location: Campus de Ciencias de la Salud-Edificio LAIB-lab.0.16-0.24
email: genomica@imib.es
Telephone: 868 88 5003 / 5262

PERSONNEL

Director/Coordinator: Dr. Ana Isabel Anton
Staff with doctorate: Dr. Beatriz Revilla Nuin
Dr. Natalia Ruiz Lafuente
Dr. Antonio Parrado
Technical Assistants Staff: Noelia Navarro

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Morfofunctional Integration of Cells and Tissue

Area 2

- › Clinical and Experimental Cadiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation

Area 6

- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant / Cell Therapy
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine
- › Clinical and Translational Oncology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided services to external groups, from the University of Murcia, from the Department of Animal Production.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Animal Experimentation Central Core Facility SPF
- › Biobank Central Core Facility
- › Biomedical and Bioinformatics Computing Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMAS/SERVICES

- › Support for Technical Assistants in training funded by the Ministry of Employment, Universities and Business of the Region of Murcia 2020.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 4 publications in 2020. The list of these publications can be checked at: <https://www.imib.es/pubs2020/genomica.jsf>

HIGHLIGHTS 2020

Implementation of new applications and techniques: Detection of SARS-CoV-2 by a self-developed qPCR protocol, involving an accreditation by the Ministry of Science and Innovation to collaborate in coronavirus population screening for the Public Administration. Analysis of fungal diversity based on ITS (Internal Transcribed Spacer).

Development of a Quality System - 26 Standard Operating Procedures have been created for each of the techniques performed in the laboratory, as well as maintenance and cleaning instructions for equipment and other specific documents for the proper activity of the platform (data sheets, guides, etc.).

PATHOLOGY CENTRAL CORE FACILITY

CONTACT

Location: LAIB building, 2nd floor. Laboratory 2.18.
email: patologia@imib.es
Telephone: +34 868885037

PERSONNEL

Director/Coordinator: Dr Carlos Manuel Martínez Cáceres.
Technical Assistants / Staff in training: Miss Marina Carpes Ruis (Technical Assistant) and
Miss Estela Guillén Gómez (Staff in training).

ACTIVITY INDICATORS 2020

SERVICIES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morfofunctional integration of Cells and Tissues

Area 2

- › Clinical and Experimental Cardiology
- › Kidney Regulation and Blood Pressure

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation

Area 4

- › Clinical and Experimental Neuroscience

Area 6

- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy
- › Clinical and Trasnlational Oncology

Area 7

- › Reproductive Biology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 4 external groups of public research Centres, including the UMU, the Hospital del Mar Medical Research Institute (IMIM) and the Complutense University of Madrid. In addition, it has collaborated with the company BIOPATHOCID S.L. providing services

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Animal Experimentation Central Core Facility SPF
- › Murciasalud Virtual Library
- › Biobank Central Core Facility
- › Biomedical and Bioinformatics Computing Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Training Grant for Technical Staff, 2020 call (employment, research and University Council of Murcia). Call for proposals 2020.
- › Grant for Technical Staff, 2020 call (IMIB Financing)

TEACHING ACTIVITY

- › Curricular Internship for University Students (1 Student, University of Murcia, 280,5 Hours)
- › Extracurricular Internship for University Students (1 Student, 200 Hours)
- › External Internship for University Research Staff (1 Student, 1 Month)

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform produced a total of 6 publications in 2020. The list of these publications can be checked at:
<https://www.imib.es/pubs2020/patologia.jsf>

HIGHLIGHTS 2020

- › Coordinated ISCIII Grant for Central Cores in Biobanks and Biomodels.
- › Opening of Tissue Microarray and Digital Pathology sections.

CLEAN ROOM CENTRAL CORE FACILITY

CONTACT

Location: Hospital General Universitario Virgen de la Arrixaca

email: salablanca@imib.es

Telephone: 968381170

PERSONNEL

Coordinator / Technical manager: Dr Ana M^a García Hernández

Responsible for Quality Control: Dr Elena Tristante Barrenechea

Head of Production: M^a del Mar Molina Molina

Production technicians: Sandra López Caballero and Inmaculada Mompean Egea.

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 6

- › Immunology and Immunotolerance in Transplants and Immunologically Bases Diseases

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to the Jiménez Díaz Foundation as a public Centre outside the IMIB.

The clinical activity of the platform is highlighted by the production of treatment for a total of 279 patients during 2020.

PARTICIPATION IN CLINICAL TRIALS (CT)

- › PIC18 / 00015 Intramuscular injection of autologous mononuclear cells in ALS patients. A phase II clinical trial.
- › PIC18 / 00010 NOMA (No More Amputations). EudraCT No.: 018-002653-29.

- › PIC18 / 00001 Cell therapy for knee osteoarthritis. Comparison of treatments with autologous and allogenic mesenchymal stromal cells in a multicentre controlled randomized clinical trial (ARTROCELL).
- › PI19 / 00884 Immunology of donor lymphocyte infusion with ex vivo depletion of CD45A + T lymphocytes in patients at high risk of viral infection after allogeneic progenitor transplantation.

PUBLICATIONS IN WHICH THE TECHNICAL OR SCIENTIFIC ACTIVITY OF THE PLATFORM HAS COLLABORATED

The activity of this platform has resulted in a total of 5 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/salablanca.jsf>

HIGHLIGHTS 2020

The Cell Production Unit of the IMIB-Arrixaca is a pharmaceutical-type clean room in which advanced therapy drugs are produced for clinical use and prescription drugs such as platelet-rich plasma. We are part of the White Room Platform of the Spanish Network of Cell Therapy RD12 / 0019/0001 (Tercel).

We offer a comprehensive service that includes scientific advice for the basic development of new therapies, validation of research products and generation of documentation. Our work is essential so that advances in R & D & I finally revert to the health and quality of life of the population, facilitating the activity of the rest of the basic and clinical research areas of the IMIB, saving time and resources for researchers who request it.

BIOBANK CENTRAL CORE FACILITY

CONTACT

Location: Campus de Ciencias de la Salud. Edificio LAIB, laboratorios 0.25, 0.13 y 0.14.
email: biobanco@imib.es
Telephone: 868 88 50 84

PERSONNEL

Director: Luis García-Marcos Álvarez
Coordinator: Teresa Escámez Martínez
Attached to Coordinator: Esperanza García-Molina Sáez
Laboratory Manager: Ana Silvente Llorente
Technical Assistants Staff: Ruth Conde Garrosa, Melania Ramírez Olmos,
Natalia Vidal Garrido y Alberto Martínez Carrasco

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morfofunctional Integration of Cells and Tissues
- › Venous Thromboembolism
- › Molecular and pharmacogenetic Pathology

Area 2

- › Clinical and Experimental Cardiology
- › Research in Pediatrics
- › Medical Physiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Clinical, Technological, Cellular and Molecular Bases in Digestive Medicine
- › Nutrition and Food Science

Area 5

- › Research in Epidemiology and Public Health
- › Research Methodology in Health Sciences

Area 6

- › Immunology and Immunotolerance in Transplants and Immunologically Based Diseases
- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy
- › Clinical Microbiology and Tropical Medicine
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Reproductive Physiology and Assisted Reproduction
- › Technologies of Modeling, Processing and Knowledge Management

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has supported a total of 30 research groups belonging to public research Centres, such as CEBAS-CSIC, Santa Lucía, INCLIVA and the UMU. In addition, it has collaborated with the Universal Diagnostic company providing services since 2017

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Biobank Central Core Facility
- › Clinical Trials Central Core Facility
- › Genomics Central Core Facility
- › Biomedical and Bioinformatics Computing Central Core Facility
- › Pathology Central Core Facility
- › Proteomics Central Core Facility
- › Clean Room Central Core Facility

PARTICIPATION IN CLINICAL TRIALS

- › **DEFACOVID.** Prospective, multicentre, randomized, parallel, double-blind, placebo-controlled, phase IIb clinical trial to evaluate intravenous defibrotide infusion in the prevention and treatment of respiratory distress and cytokine release syndrome in patients with covid-19.
- › Influence of an educational intervention on the control of cardiovascular risk factors in patients with peripheral arterial disease (LEARN-IT Study)".
- › **STUDY OF THE APPEARANCE OF PULMONARY FIBROTIC CHANGES**

ASSOCIATED WITH SARS-cov-2 INFECTION.

- › **CARTBCMA** Clinical trial in Multiple Myeloma for microbiota study.
- › Evaluation of the efficacy of mouth rinses with commercial mouthwashes to decrease the SARS-CoV-2 viral load in saliva.
- › **CoV-TerCel** TerCel Project Prospective, multicentre, randomized, double-blind, placebo-controlled Phase II clinical trial to evaluate the intravenous diffusion of allogeneic mesenchymal stem cells (Allo-MS-C) in the treatment of respiratory distress and its impact on biological alterations in patients with COVID-19.
- › Randomized, open-label, controlled study to assess the benefit of Colchicine in patients with COVID-19 disease. COL-COVID
- › Gestational treatment with Ursodeoxycholic Acid compared to Placebo to Reduce Severity of Gestational Diabetes Mellitus diagnosed at 24-28 weeks' gestation.
- › Prospective observational multiCentre study to evaluate the efficacy and safety of neoadjuvant treatment based on double blockade with pertuzumab and trastuzumab biosimilar CT-P6 (Herzuma®) in early her2-positive breast cancer in routine clinical practice.

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Institution: ISCIII. Units of the ISCIII Platforms to support R&D&I in Biomedicine and Health Sciences of the Strategic Action in Health 2017-2020. Project: Biobanks and Biomodels Platform. Expedient: PT20/00109. Funding: 237,600.00. Duration: 3 years.
- › Institution: Seneca Foundation. Project: Adaptation of the IMIB Biobank Platform for the management and maintenance of the covid-19 collection of biological samples and clinical data of patients infected by SARS-COV-2 in the Region of Murcia for its use in biomedical research projects.
- › Institution: Regional Ministry of Employment, Research and Universities. Aid for internships. Title:
- › Biobank Unit, a gate to biomedical research of excellence

TEACHING ACTIVITY

- › Two students in curricular practices of the Biochemistry degree, from the University of Murcia and the University of Barcelona.
- › Two students who started their training practices at the Instituto Superior de Formación Profesional Sanitaria Claudio Galeno, for the specialty of Clinical and Biomedical Laboratory, but had to suspend them due to the pandemic situation.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 21 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/biobanco.jsf>

HIGHLIGHTS 2020

The biobank has been ISO 9001:2015 certified. The Biobank Platform has centralized the management of samples and clinical data of COVID patients by establishing new hospital circuits. Biosafety measures have been implemented and recommendations for the transport and handling of biological samples of COVID patients have been updated. The Biobank Platform is part of the RNBB as member of the Steering Committee, the Ethical-Legal Advisory Committee, the Quality Committee and the Events Committee. Participation in working groups: OPTIMARK and PROCURE projects. Participation in European Biobank Week and the Transporting Dangerous Goods course (Mayo Clinic Laboratories). Participation European Biobank Week y el curso Transporting Dangerous Goods (Mayo Clinic Laboratories). Assistance a conferences BBMRI; “Biobanking in times of covid-19: risks and opportunities for biobanks”.



IMIB Laboratory

BIOINFORMATICS AND BIOMEDICAL COMPUTATIONAL BIOLOGY CENTRAL CORE FACILITY

CONTACT

Location: LAIB Laboratory 2.2
email: bioinformatica@imib.es
Telephone: +34868885229

PERSONNEL

Director/Coordinator: Dr. Ángel Esteban Gil
Staff: Dr. María del Carmen Legaz García
Dr. Fernando Pérez Sanz
María Antonia Parreño González

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morphofunctional Integration of Cells and Tissues
- › Molecular and Pharmacogenetic Pathology

Area 2

- › Clinical and Experimental Cardiology
- › Research in Pediatrics

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Surgical Research in the Health Area

Area 5

- › Advanced Nursing Care

Area 6

- › Immunology and Immunotolerance in Transplants and Immunologically Bases Diseases
- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Reproductive Physiology and assisted Reproduction Technologies of Modeling, Processing and Knowledge Management

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided support to the CIBERCV Personalized Medicine Platform as an external public research Centre.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Animal Experimentation Central Core Facility SPF
- › Biobank Central Core Facility
- › Clinical Trials Central Core Facility
- › Genomics Central Core Facility
- › Pathology Central Core Facility

PARTICIPATION IN CLINICAL TRIALS

- › **DEFACOVID.** Defibrotide as Prevention and Treatment of Respiratory Distress and Cytokine Release Syndrome of Covid 19.
- › Trial to Study the Benefit of Colchicine in Patients with COVID-19 (COL-COVID)

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Application granted to the Data Science program to the IMPACT Call of the ISCIII.
- › Receipt of regional Feder Funds for the “COVID REGIONAL” project with a grant of 603,320€.

TEACHING ACTIVITY

We did not have any internship students during 2020.
A Master's thesis of the Bioinformatics Masters was tutored.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 21 publications in 2020. The list of these publications can be consulted at:
<https://www.imib.es/pubs2020/bioinformatica.jsf>

HIGHLIGHTS 2020

Six clinical studies have been supported by our Case Report Forms (four of them related to COVID), including the Regional COVID registry. In these studies and in those we have open, 1749 new cases have been recruited during 2020.

We have launched an application to analyze scientific production applied to COVID: <https://covipedia.imib.es> and to Liver Transplant Tolerance: <https://tolerance.imib.es>.

We have launched a new variant filtering system based on the technologies used by Genomic England to analyze exomes. More than eight million genomic variants are included in samples from six different studies.

PROTEOMICS CENTRAL CORE FACILITY

CONTACT

Location: LAIB Building (laboratory 0.15)
email: esteban.orenes2@carm.es; proteomica@imib.es
Telephone: 868-885243

PERSONNEL

Director/Coordinator: Dr. Esteban Orenes Piñero
Staff with doctorate: Dr. Esteban Orenes Piñero
Technical Assistants / Staff in training: Isabel Hernández Mármol

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 2

- › Clinical and Experimental Cardiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition

Area4

- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes

Area 5

- › Pediatric Environmental Health
- › Legal and Forensic Medicine. Health Legislation

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 2 UMU groups that do not belong to the IMIB and has collaborated in a MINECO project. In addition, it has collaborated with the CECOBA / INPOSSA company providing its services.

COLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Biobank Central Core Facility
- › Genomics Central Core Facility
- › Patology Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Sponsor for internships of graduates in vocational training degrees 2020.

TEACHING ACTIVITY

The Head of the Proteomics Platform, Dr Esteban Orenes Piñero is an Associate Professor of the Department of Biochemistry and Molecular Biology-A at the University of Murcia. He teaches 3 subjects, being the responsible professor in 2 of them: Biochemistry, in the Degree of Human Nutrition and Dietetics; Advanced Techniques in Biochemistry and Molecular Biology Applied to Pharmacy, from the Pharmacy Degree and Biochemistry and Molecular Biology Techniques Applied to Food Sciences from the Food Technology Degree.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 1 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/proteomica.jsf>

HIGHLIGHTS 2020

During the current pandemic, the Proteomics Platform have adapted to the new circumstances, carrying out new projects studying the dissemination of the SARS-CoV-2 virus and its elimination indoors. These studies have allowed the publication of a work in the prestigious international journal Science of Total Environment with an impact index of 6,551 in the First Decilee of its category (Environmental Sciences). In addition, and thanks to these contributions, the Head of the Platform was awarded with the “Society and Health Award” from the Royal Academy of Medicine and Surgery of the Region of Murcia.

TISSUE CULTURE CENTRAL CORE FACILITY

CONTACT

Location: LAIB building on the health campus (low level, (laboratories B1.0.07, 0.08, 0.09, 0.10, 0.28 y 0.29) y SACE building on the Espinardo Campus (first level, laboratories B1.1.007 to B.1.1.016)
email: acti.sct@um.es
Telephone: 868 887157

PERSONNEL

Coordinator / Person in charge: Dr Antonia Bernabeu Esclapez (Head of Service)
Doctors: José Muñoz Ramos (Facultative group A1)
M^a Pilar González Párraga (Specialist technician)
Silvia García Castillo (Specialist technician)
Facultative: Juana M^a García Reverte (Facultative group A2)
Specialist Technician: M^a Jesús Manzano Cascales
In training: Dr. M^a del Rosario Tudela Mulero (MINECO program superior technician)
Verónica Navarro Rodríguez (Specialist technician of the youth guarantee program)

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morfofunctional Integration of Cells and Tissues
- › Non-Conventional Anti-Tumor Metallodrugs

Area 2

- › Clinical and Experimental Cardiology
- › Research in Pediatrics
- › Kidney Regulation and Blood Pressure
- › Medical Physiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition
- › Clinical Technological, Cellular and Molecular Bases in Digestive Medicine
- › Dentistry
- › Minimally Invasive Dentistry
- › Nutitritron and Food Science
- › Toxicology and Risk Assessment

Area 4

- › Experimental Ophthalmology
- › Brain Regiolalization and Developmental Genes
- › Neuropathologies of the Cholinergic System
- › Psychobiology and Neurobiology of Behavior

Area 6

- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy
- › Innate Immunity in Health and Disease
- › Immunology and Immunotolerance in Transplants and Immunologically Bases Diseases
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Reproductive Biology
- › Biomembranes and Cell Signaling
- › Biochemistry and Enzymatic Biotechnology
- › Reproductive Physiology and Assisted Reproduction
- › Researcha in Radiology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 20 UMU groups that do not belong to the IMIB and 6 external groups, among which the CEBAS (Research Groups of the Centre for Soil Science and Applied Biology of Segura), the IMIDA (Research Groups of the Murcian Institute) stand out of Agricultural and Food Research) and the UPCT (Polytechnic University of Cartagena). In addition, it has collaborated with the companies CETEC and ALZHEIMUR 2012 S.L. providing their services. Within the private sector, it has also served 2 groups at UCAM.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › Animal Experimentation Central Core Facility SPF
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research Support Workshops Central Core Facility
- › Liquid Nitrogen Supply

R&D GRANTS AWARDED, PROJETS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Call for Help for Technical Support staff 2019: Obtaining a Senior Technician contract, with a duration of 3 years, starting to work on the Tissue Culture platform on December 28, 2020.
- › Youth Guarantee Contract: Continuity of the contract obtained in the 2019 call. This contract ends in May 2022.

TEACHING ACTIVITY

- › “Course in animal cell culture: Basic concepts and applied techniques (XXV edition)”. Postgraduate course. Organized by the Tissue Culture Service and taught by SCT staff, staff from the Microscopy, Image Analysis and Statistical Support platforms and also by faculty from the University of Murcia and the IMIB. 40 contact hours (20 theoretical and 20 practical), with a total of 4 ETCS credits.
- › Course at the International Doctoral School of the University of Murcia (EIDIUM): “Introduction to Scientific Instrumentation. Collaboration of the SCT staff in the subject “Instrumental Research Techniques in Experimental and Biomedical Sciences”, teaching a total of 6 hours in each of the two editions: January 20 and 27, 2020.
- › Collaboration in practical classes of the following degree studies:
 - Biotechnology (Subjects: Tissue Engineering and Advanced Instrumental Techniques II).
- › Collaboration in practical classes of the following master’s studies:
 - Master’s Degree for Teaching Staff (Subject: Technological Development and Risk Prevention in Workshop Classroom).
 - Master’s Degree in Mammalian Reproduction Biology and Technology.

- › Training of trainees in companies (Agreements with Professional Training Institutes). Two students from the higher degree training cycle in Pathology and Cytodiagnosis of the “Ramón y Cajal” Secondary Education Institute were tutored. The practices were interrupted due to confinement.
- › Organization of training seminars on the new equipment acquired, given by specialists from the commercial firm awarded the equipment:
 - Analysis of cell metabolism in real time.
 - Analysis of cell metabolism in real time with the Seahorse XFe96. Technical aspects.
 - Webinar on data analysis at the Seahorse (ERDF 2019). “Introduction to the Agilent Seahorse Analytics Software Platform, a Transformational Web-Based Data Analytics and Collaboration Platform.”
- › Dr M^a del Pilar González Párraga is associate PDI of the Department of Genetics and Microbiology (Knowledge area: Microbiology)

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 78 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ct.jsf>

HIGHLIGHTS 2020

The equipment “Platform for metabolic analysis in living cells” obtained in the ERDF 2019 call has been commissioned. The equipment was installed and fully operational in October 2020 and various training seminars were organized for users and to the technical staff of the platform responsible for its operation.

During the first phase of the pandemic, Dr Bernabeu participated in the process that culminated in the validation by the Carlos III Health Institute of the ACTI protocols and facilities for the detection of SARS-CoV-2 by RT-PCR.

ANIMAL EXPERIMENTATION CENTRAL CORE FACILITY

CONTACT

Location: Animal facility (Espinardo Campus), CEIB building (Health Sciences Campus) and primate and dog facilities (Veterinary Teaching Farm). University of Murcia.

email: acti.sea@um.es

Telephone: 868 88 72 45

PERSONNEL

Director/Coordinator: Carmen Lagares Martínez (Head of Service)

Dr Nuria García Carrillo (Veterinary Facultative)

Staff with doctorate (PhD): Dr Isabel Pujante Rodríguez (MINECO Higher degree)

Dr Enrique Bautista Muñoz (Technical specialist)

Technical Assistants Staff: Yolanda Martínez Verdú (Technical specialist)

Francisco José Zapata Nicolás (Technical specialist)

Manuel Nortes Pérez (Technical specialist)

Josefa Martínez Rabadán (Technical specialist)

Manuel J. Saura Pujante (Technical specialist)

José González Bautista (Technical specialist)

María Fermina Ros Romero (Technical specialist)

Technical Assistants / Staff in training: Consuelo Sánchez Rodrigo

ACTIVITY INDICATORS 2020

SERVICES PROVIDE TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors

Area 2

- › Clinical and Experimental Cardiology
- › Research in Pediatrics
- › Respiratory Therapies in Acute Respiratory Failure
- › Kidney Regulation and Blood Pressure
- › Medical Physiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition
- › Dentistry
- › Minimally Invasive Dentistry
- › Nutrition and Food Science
- › Toxicology and Risk Assessment

Area 4

- › Experimental Ophthalmology
- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes
- › Clinical and Experimental Neuroscience
- › Brain Aging and Dementia

Area 6

- › Innate Immunity in Health and Disease
- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has served 35 UMU groups that do not belong to the IMIB and the CEBAS-CSIC. In addition, it has collaborated with the private sector providing services to UCAM.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Animal Experimentation Central Core Facility SPF
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Central Core Facility for Research Support Workshops

R&D GRANTS AWARDED, PROJECTS AND/OR CONTRACTS OF THE PLATFORMS/SERVICES

- › Installation of the equipment for the “Biomodulo with safety and sustainability systems, for research in Biomedicine and Aquaculture” belonging to the 2019

ERDF call.

- › “High Resolution and Low Dose Computerized Micro-Tomography” team, belonging to the 2019 ERDF call.
- › MINECO Senior Graduate Contract of Isabel M. Pujante Rodríguez (second year in continuity of the 2018 call).
- › Consuelo Sánchez Rodrigo Youth Guarantee Contract (2019 call).

TEACHING ACTIVITY

The “Animal Experimentation for Doctoral Students” activity was given at the International Doctoral School during the 2019/2020 academic year.

The following webinars were organized:

- › New approaches for experimentation in in vivo imaging: PET / SPECT / CT and hyperspectral technology ”by Molecubes and Photon (organized by the SEA platform and the Izasa Scientific company).
- › Management and maintenance of aquarium racks for zebrafish (organized by the SEA platform and the company BIOSIS S.L. BIOLOGIC SYSTEMS).
- › Virtual meeting 2020 of microCT users (organized by the SEA platform and the Bruker company).

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 51 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ea.jsf>

HIGHLIGHTS 2020

During 2020, several rooms of the Espinardo Animal Facility have been adapted for the incorporation of research groups working with aquatic animals and plants. The Aquatic Environment area has been created and the User Centre of the platform, according to national and EU regulations, has communicated through the HAMELIN program (computer application of the Ministry) the performance of procedures on 7,307 animals within the development of 73 current projects and 11 new ones.

In addition, the staff of the platform is part of the Biosafety Committee in Experimentation and the Ethical Committee of Animal Experimentation-Authorized Body of the UM, as well as the Ethical Committee of Animal Experimentation of the Pathogen-Free Animal Facility, thus participating in the evaluation of numerous projects.

SCIENTIFIC INSTRUMENTATION CENTRAL CORE FACILITY

CONTACT

Location: SACE building. Espinardo Campus. Univesity of Murcia
email: acti.suic@um.es
Telephone: 868 887567

PERSONNEL

Director/Coordinator: D. José Rodríguez Martínez y Dr Delia Bautista Cerezo
Staff: Dr. Raúl A. Orenes Martínez y María José Gabaldón Martínez.
Technical Assistants / Staff in training: Isabel Buendía Hernández,
María Dolores Pardo Sánchez,
María Dolores Hernández Córdoba,
Diego Martínez Pérez y
Dr María del Mar Ortín Avilés.

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Non-Conventional Anti-Tumor Metallodrugs

Area 3

- › Nutrition and Food Science
- › Toxicology and Risk Assessment

Area 4

- › Cell and Molecular Pharmacology

Area 5

- › Legal and Forensic Medicine. Health Legislation

Area 6

- › Innate Immunity in Health and Disease
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Biochemistry and Enzymatic Biotechnology

SERVICES PROVIDE TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has served 40 UMU groups not belonging to the IMIB and with groups from the UPCT and CEBAS. In addition, it has collaborated with 9 private companies providing services, among which CETEM, Health bio acives s.l.u. and Kinsy S.L.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Animal Experimentation Central Core Facility SPF
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility
- › Liquid Nitrogen Supply

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

- › The SUIC obtained an aid from ERDF Funds of € 244,420 for the renewal of the 400 MHz NMR console in 2019 and said equipment was installed in 2020.

TEACHING ACTIVITY

Scientific Instrumentation Doctorate Course. Chromatography and Mass Spectrometry. International Doctoral School. University of Murcia. 30 hours. January 2020. The course was taught by Raul A. Orenes Martínez, María José Gabaldón Martínez and José Rodríguez Martínez.

Confinement prevented the completion of the second doctoral course taught by our platform on Rx, thermal methods and elemental analysis.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 71 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ic.jsf>

HIGHLIGHTS 2020

In 2020, the SUIC Platform has carried out more than 10,000 analyzes of different samples, highlighting more than 3,000 mass spectrometry, 500 chromatography, 40 structural determinations of new compounds by single crystal X-ray diffraction and nearly 3,000 hours of work in nuclear magnetic resonance equipment.

MICROSCOPY CENTRAL CORE FACILITY

CONTACT

SACE building (nº21) -1 Level. Espinardo Campus. University of Murcia
LAIB building, -1 Level. Health Science Campus. University of Murcia.
email: magaga@um.es
Telephone: +34 868 88 7169

PERSONNEL

Director/Coordinator: María García García (Jefa de Servicio)
Staff: Dr Manuela Bernal Albarracín (Facultativa A1)
Dr María Teresa Coronado Parra (Técnico especialista)
Technical Assistants Staff: Francisco Asensio Vidal (Facultativo A2)
José Joaquín Clares Ruiz (Técnico especialista)
Laura Guzmán Laorden (Técnico especialista)
María Victoria Serrano Gómez (Técnico especialista)
Technical Assistants Staff in training: Ghizlane Ennatiji Zourgani

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morphofunctional Integration of Cells and Tissues
- › Non-Conventional Anti-Tumor Metallodrugs
- › Molecular and Pharmacogenetic Pathology

Area 2

- › Clinical and Experimental Cardiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Minimally Invasive Dentistry

- › Nutrition and Food Science
- › Toxicology and Risk Assessment

Area 4

- › Experimental Ophthalmology
- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes
- › Clinical and Experimental Neuroscience

Area 6

- › Immunity, Inflammation and Cancer
- › Hematopoietic Transplant/Cell Therapy

Area 7

- › Reproductive Biology
- › Biomembranes and Cell Signaling
- › Reproductive Physiology and Assisted Reproduction

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has supported 37 groups belonging to public research Centres, such as CEBAS, IMIDA and UMU. In addition, it has collaborated with 4 private companies providing services, among which CETEC and UCAM stand out.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestry Research
- › SPF Animal Facility Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility
- › Liquid Nitrogen Supply
- › Análisis de Imagen

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

› Youth Guarantee Program: Ghizlane Ennatiji Zourgani

TEACHING ACTIVITY

Postgraduate course: Instrumental Research Techniques in Experimental and Biomedical Sciences.

Postgraduate course: Animal Cell Culture Course: Basic Concepts and Applied Techniques.

Collaboration in the co-direction of a Final Degree Project “Spurr low viscosity resin in the study of microalgae ultra-structure” in the Degree in Biology

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 52 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/microscopia.jsf>

HIGHLIGHTS 2020

In 2020 the Microscopy Service has organized seminars and online demos with the different commercial houses in confocal and widefield optical microscopy (Olympus, Zeiss and Leica among others) due to the granting of FEDER 2019 funds for a confocal microscope and another widefield microscope. In addition, other techniques that the Microscopy Service possesses have been made known through online training in cryotechniques with Dr Frederic Leroux, specialist in high-pressure cryo-fixation and cryosubstitution methods, and new standard working procedures have been implemented in the techniques of Transmission Electron Microscopy for cell suspensions and for the visualization of exosomes by negative staining, as well as Field Emission Scanning Electron Microscopy for nanoparticles.

IMAGE ANALYSIS CENTRAL CORE FACILITY

CONTACT

SACE building, 1 level, Espinardo Campus. University of Murcia
LAIB building, 0 level, Health Sciences Campus
email: acti.sai@um.es / mariagarcia@um.es
Telephone: 868887313/ 7197

PERSONNEL

Director/Coordinator: Dr María Inmaculada García García (Responsable de la sección)
Technical Assistants Staff: José María Fernández Seguí (Técnico especialista)

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Therapies and Biomarkers of Solid Tumors

Area 2

- › Clinical and Experimental Cardiology
- › Research in Pediatrics
- › Kidney Regulation and Blood Pressure

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition
- › Dentistry
- › Minimally Invasive Dentistry

Area 4

- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes
- › Neuropathologies of the Cholinergic System
- › Clinical and Experimental Neuroscience

Area 6

- › Immunity, Inflammation and Cancer

Area 7

- › Reproductive Biology
- › Biomembranes and Cell Signaling
- › Biochemistry and Enzymatic Biotechnology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has served 15 groups of the UMU and the CEBAS-CSIC. In addition, it has collaborated with UCAM providing its services to the private sector.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Application for the University of Murcia Portico Project: Management of microscopic virtual slides to share images in research, transfer and their use in tele-teaching.

TEACHING ACTIVITY

- › Course of instrumental research techniques in experimental and biomedical sciences. International doctoral school (University of Murcia).
- › XXV Animal cell culture course: basic concepts and applied techniques. Organized by the Tissue Culture Service of the Scientific and Technical Research Area (University of Murcia).
- › Co-tutoring of the veterinary degree final project (University of Murcia).
- › Teaching in image analysis within the Master's Degree in Mammalian Reproduction

Biology and Technology.

Organization of the following courses and webinars in collaboration with companies:

- › Course on ImageQuant TL Image Analysis Software.
- › Ensuring Quantitative Accuracy in PET.
- › Breaking the Limits in Photoacoustic Imaging: Deeper, Smaller, and More Colorful.
- › Angiostamp™800 - A Bimodal Fluorescent and Photoacoustic Targeted Contrast Agent for Oncology.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 19 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ai.jsf>

HIGHLIGHTS 2020

The Image Analysis section has transformed its work methodology to adapt to the current situation, facilitating remote work of all computer programs without detriment to its activity. Highlight the drastic increase in the use of the provision of virtual portals for its high demand in teaching in virtual mode. In addition, new features have been optimised such as the design of automatic execution macros that allow the execution of analyzes more quickly and efficiently in free software. Currently, a proprietary application of the University of Murcia is being developed in collaboration with ATICA for the management of microscopic virtual slides with the possibility of sharing images in research, transfer and their use in tele-teaching.

STATISTICAL SUPPORT CENTRAL CORE FACILITY

CONTACT

Location: SACE building. Espinardo Campus. University of Murcia.
email: acti.sae@um.es
Telephone: 868 88 7315

PERSONNEL

Director/Coordinator: Dr Francisco Javier Ibáñez López (Facultativo)
Staff in training: Irene Hernández Martínez (Facultativa)

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

- Area 1
 - › Morfofunctional Integration of Cells and Tissue
- Area 2
 - › Research in Pediatrics
- Area 4
 - › Cell and Molecular Pharmacology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 13 UMU groups that do not belong to the IMIB. In addition, it has collaborated with the private sector providing services to the General Council of Colleges of Dentists of Spain and the Central Sindical Independiente y de Servants (CSIF).

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Molecular Biology Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Youth Guarantee Contract of Irene Hernández Martínez

TEACHING ACTIVITY

- › CARLOS GARCÍA LOZANO and MARIO DÍAZ CUTILLAS, students of the Bachelor's Degree in Mathematics at the University of Murcia (subject "External Practices" of the 4th Grade in Mathematics, 6 ECTS, 120h) and PEDRO FRANCISCO GARCÍA LÓPEZ, student of the Degree in Physics at the University of Murcia (subject "External Practices I" of the 3rd Degree in Physics, 12 ECTS, 240 h).
- › JOSÉ ANTONIO CASTELLÓN GARCÍA, a student of the Master's Degree in Bioinformatics at the University of Murcia who carries out non-curricular internships within the framework of the "Internships in extracurricular companies" program of the Employment Orientation and Information Centre, COIE (www.um.es/coie, 750h).
- › Two training courses have been given at the International Doctoral School of the University of Murcia (EIDUM):
 - Course: Design of Experiments and Fundamentals of Data Analysis (I. Statistical Research Method: Introduction to R and Rstudio, 25h.).
 - Course: Design of Experiments and Fundamentals of Data Analysis (III. Hypothesis contrast methods and design of experiments, 20h.).
- › Dr Francisco Javier Ibáñez López is currently an associate professor in the Department of Quantitative Methods for Economics and Business of the Faculty of Economics and Business of the University of Murcia.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 2 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ae.jsf>

HIGHLIGHTS 2020

During the sanitary confinement of 2020, the platform for Statistical Support of the Scientific and Technical Research Area (ACTI-UMU-IMIB) continued to provide virtual services. Among the works from different branches of research, the study on the employment situation of dentists, hygienists and auxiliary personnel against COVID-19 at the national level for the General Council of Colleges of Dentists of Spain, with the preparation, analysis and interpretation of two surveys (during confinement and de-escalation phase). The person in charge of the platform is a member of the boards of directors of the Associations of Users and Users of R of Spain (R-Hispanic) and Murcia (UMUR).

MOLECULAR BIOLOGY CENTRAL CORE FACILITY

CONTACT

Location: CAID building, Espinardo Campus and LAIB building, Health Science Campus.
University of Murcia.

email: cesar@um.es

Telephone: 86888-8187

PERSONNEL

Director/Coordinator: Dr César Flores Flores

Staff with doctorate: Dr María José López Andreo

Dr Alejandro Torrecillas Sánchez

Dr Francisco Salazar Martínez

Dr Inmaculada Navarro González

Technical Assistants: Vanessa Cánovas Cánovas

Technical Assistants in training: María Gema Riquelme Rocamora

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Non-Conventional Anti-Tumor Metallodrugs
- › Molecular and Pharmacogenetic Pathology

Area 2

- › Kidney Regulation and Blood Pressure

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition
- › Clinical, Technological, Cellular and Molecular Bases in Digestive Medicine

- › Nutrition and Food Science
- › Toxicology and Risk Assessment

Area 4

- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes
- › Clinical and Experimental Neuroscience
- › Psychobiology and Neurobiology of Behavior

Area 5

- › Legal and Forensic Medicine. Health Legislation

Area 6

- › Innate Immunity in Health and Disease
- › Immunity, Inflammation and Cancer
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Reproductive Biology
- › Biomembranes and Cell Signaling
- › Biochemistry and enzymatic Biotechnology
- › Reproductive Physiology and Assisted Reproduction
- › Molecular Systems Biology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 54 UMU groups that do not belong to the IMIB and has collaborated with 8 other public research Centres, including CEBAS-CSIC, the Regional Hemodonation Centre (CRH), the Oceanographic Centre of Murcia (IEO), IMIDA, the Institute of Neuriciences of the UMH and the UPCT. In the private sector, it has collaborated with the Navarra Health Research Institute (IdiSNA) and with the UCAM. In addition, it has collaborated with 9 private sector companies providing their services, among which are Probelte SAU, Thader Biotechnology S.L. and Biomolecular Technologies S.L.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility

- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Youth Guarantee Contract: María Gema Riquelme Rocamora.

TEACHING ACTIVITY

Participation in the following master's degrees:

- › “Master in wildlife management; microbiological and parasitological diagnostic techniques”, in coordination with Dr Nieves Ortega Hernández from the Animal Health Department of the Veterinary School of the University of Murcia. January 2020.
- › “Master's degree in molecular biology and biotechnology” (biomembranes course), in coordination with Dr Francisco José Aranda Martínez from the Department of Biochemistry and Molecular Biology A at the University of Murcia. January 2020.
- › “Master's degree in molecular biology and biotechnology” (electrophoretic techniques course), in coordination with Dr Francisco J. Campoy Méndez and Dr Encarnación Muñoz Delgado from the Department of Biochemistry and Molecular Biology A at the University of Murcia. February 2020.
- › “Master's degree for teachers, course: technological development and risk prevention in the classroom”, in coordination with Dr Francisca Tomás Alonso from the Department of Chemical Engineering. January 2020.
- › “University master's degree in fine and molecular chemistry. Subject: High-resolution instrumental techniques: Applications in metabolomics”, in coordination with Dr Natalia Campillo Seva of the Department of Analytical Chemistry of the Faculty of Chemistry of the University of Murcia. November and December 2020.
- › “University master's degree in bioinformatics: current trends in biological research”, in coordination with Dr Alberto Cuesta Peñafiel from the Department of Cell Biology of the Faculty of Biology of the University of Murcia. November 2020.

The SBM platform has organized the following seminars:

- › Seminar on data analysis in massive sequencing from single cell (single cell sequencing) (SBM and the companies 10XGenomics and Bonsai Advanced Technologies).
- › Low volume microcalorimetry (SBM and IESMAT company).

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 75 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/bm.jsf>

HIGHLIGHTS 2020

During 2020, the Molecular Biology platform has implemented its offer with applications of single cell sequencing (Single Cell Sequencing) and massive Next Generation sequencing (NGS) with the instrumentation acquired in the 2018 FEDER call, two high-resolution and sensitivity microcalorimeters ITC and DSC and a nanocapillary system for the Q-TOF mass spectrometer cofinanced with ERDF 2019. In addition, RT-PCR tests for the qualitative detection of SARS-CoV-2 nucleic acid have been implemented in an NCB2 laboratory accredited for such effect on our facilities in the CAID building. The starting point that allowed the culmination of this project was the validation of the ACTI protocols and facilities for the detection of SARS-CoV-2 by RT-PCR by the Carlos III Health Institute.

BIOTECHNOLOGY CENTRAL CORE FACILITY (SEAF)

CONTACT

Location: CAID building, 30100, Espinardo Campus. University of Murcia.
email: almudena@um.es
Telephone: 868887608

PERSONNEL

Director/Coordinator: Dr Almudena Gutiérrez
Staff with doctorate (PhD): Dr Carlos Linares
Technical Assistants Staff: José Antonio Sánchez
María del Mar Santiago
Ana María Fernández
Technical Assistants Staff in training: D. Francisco Sandoval López

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology
- › Molecular Therapies and Biomarkers of Solid Tumors

Area 3

- › Nutrition and Food Science

Area 7

- › Biochemistry and Enzymatic Biotechnology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has provided service to 10 UMU groups that do not belong to the IMIB and has collaborated with 6 other public research Centres, among which CEBAS-CSIC and the UPCT stand out. In addition, it has collaborated with 4 companies in the private sector providing their services, among which stand out I crops Box S.L., Microgaia biotech S.L. and Thader

biotechnology S.L.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility
- › Liquid Nitrogen Supply

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Grant of Aid for Technical Support Personnel, Ministry of Science, Innovation and Universities. Carlos Linares Pérez, physician (Group A).

Granting of Aid for Hiring Internships for People with Higher Level Vocational Training Qualifications. Francisco Sandoval López (Specialist Technician, Group C).

TEACHING ACTIVITY

Dr Almudena Gutiérrez and M del Mar Santiago: Participation in the doctoral course Instrumental Research Techniques in Experimental and Biomedical Sciences.

Dr Almudena Gutiérrez is an associate professor in the Department of Didactics of Experimental Sciences of the Faculty of Education.

The staff of the unit has participated in the teaching of numerous practices in different university degrees and master's degrees.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 19 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/agroforestal.jsf>

HIGHLIGHTS 2020

The culture of microorganisms in a bioreactor under anaerobic conditions has been implemented and different techniques related to the downstream of fermentation processes have been developed.

In addition, all biosafety standard operating procedures have been carried out at our facilities (GMOs and Biological Agents).

Dr Almudena Gutierrez actively participated in the process that allowed the Carlos III Institute to validate the ACTI protocols and facilities for the detection of SARS-CoV-2 by RT-PCR.

PSYCHOLOGICAL INSTRUMENTATION CENTRAL CORE FACILITY

CONTACT

Location: SACE building, Espinardo Campus, University of Murcia
email: acti.suip@um.es
Telephone: 868887503

PERSONNEL

Director/Coordinator: Pedro Castell Gallud
Staff with doctorate (PhD): Dr Pedro Castell Gallud
Technical Assistants Staff: Juan Manuel Vivancos Molinero
Technical Assistants Staff in training: Juan José Pérez Salar

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

- Area 2
 - › Clinical and Experimental Cardiology
- Area 3
 - › Nutrition
- Area 4
 - › Clinical and Experimental Neuroscience
- Area 6
 - › Infectious Pathology, Clinical Microbiology and Tropical Medicine

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestry Research Central Core Facility

- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Internship contract for a technician with a degree in professional training in 3D animations, games and interactive environments: Juan José Pérez Salar.

Technical Support Project for Psychological Treatments and Education-Museums: Preparatory work for the project fp: phobia of flying.

TEACHING ACTIVITY

Dr Castell has taught in the following master's degrees at the UM:

- › Master Orophacila Pain and Temporomandibular Disorders. Faculty of Dentistry.
- › Master Museums and Education. Education Faculty. Seminar.
- › Master's Degree in Health Psychology.

HIGHLIGHTS 2020

In 2020, during the lockdown, the unit staff has carried out numerous standard work protocols related to the development of new work systems and optimization of the management of the available resources in the unit.

New techniques related to augmented reality and 360 tours have been incorporated into the offer of the platform. Specifically, immersive scenarios and 360 tours have been developed for the transmission of knowledge between museums and students in the Murcia region, and participation in the elaboration of psychophysiological processes for the objectification of allodynia in palpation of the mandibular elevation musculature.

RESEARCH SUPPORT WORKSHOPS CENTAL CORE FACILITY

CONTACT

Location: CAID building, Espinardo Campus. University of Murcia
email: acti.taim@um.es
Telephone: +34 868 88 75 53

PERSONNEL

Coordinador/Responsable: Juan Miñarro García (jmg@um.es)
Fernando Ruiz Abellán (Electronics Workshop, fra@um.es)
Técnicos: Juan Francisco Miñarro Jiménez (Mechanical workshop, jfmj@um.es) y
Alfonso Guzmán García (Glass Workshop, aguzman@um.es).

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Haematology and Clinical-Experimental Medical Oncology

Area 2

- › Kidney Regulation and Blood Pressure
- › Medical Physiology

Area 3

- › Nutrition
- › Nutrition and Food Science
- › Dentistry

Area 4

- › Experimental Ophthalmology
- › Cell and Molecular Pharmacology
- › Clinical and Experimental Neuroscience
- › Brain Aging and Dementia

Area 5

- › Physiotherapy and Disability
- › Legal and Forensic Medicine. Health Legislation

Area 6

- › Immunity, inflammation and Cancer

Area 7

- › Reproductive Biology
- › Reproductive Physiology and Assisted Reproduction
- › Research in Radiology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has served research groups of the UPCT and CEBAS-CSIC. In addition, it has collaborated with a total of 9 private companies providing its services, among which Kronohealth, Cimworks, Hitachi and Navantia stand out.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Statistical Support Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Psychological Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Radioprotection and Waste Central Core Facility

TEACHING ACTIVITY

Participation of Juan Francisco Miñarro Jiménez as a teacher in the online course “Introduction to design with Solidworks” for the PAS and PDI of the University of Murcia.

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 30 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/ainv.jsf>

HIGHLIGHTS 2020

During 2020 we have continued to optimise, together with the Image Analysis platform, the procedures for the development of anatomical models and prostheses using 3D printing techniques and preclinical image analysis.

Likewise, we have collaborated throughout the Covid-19 crisis with the main health Centres in the region within the “AI-RE” project, manufacturing protection screens, masks, non-return valves for ICUs and we have developed in collaboration with the company “Inbentus” the initial prototype of the SAV-19: the first artificial respirator “made in Murcia”.

RADIOPROTECTION AND WASTE CENTRAL CORE FACILITY

CONTACT

Location: SACE building, 1 level, Espinardo Campus. University of Murcia.

email: alcazar@um.es

Telephone: 868887568

PERSONNEL

Director/Coordinator: Dr María Dolores Alcázar Fernández

Staff with doctorate: Dr Régulo Ángel Cánovas Ciller

Technical Assistants in training: Antonia Yolanda Álvarez Portella

ACTIVITY INDICATORS 2020

SERVICES PROVIDED TO IMIB GROUPS

Area 1

- › Molecular Control of Proliferation and Differentiation
- › Molecular Therapies and Biomarkers of Solid Tumors
- › Morphofunctional Integration of Cells and Tissues
- › Non-Conventional Anti-Tumor Metallodrugs

Area 2

- › Clinical and Experimental Cardiology
- › Kidney Regulation and Blood Pressure
- › Medical Physiology

Area 3

- › Gastrointestinal Surgery, Endocrine and Abdominal Organ Transplantation
- › Nutrition
- › Nutrition and Food Science
- › Dentistry
- › Minimally Invasive Dentistry
- › Toxicology and Risk Assessment

Area 4

- › Experimental Ophthalmology
- › Cell and Molecular Pharmacology
- › Brain Regionalization and Developmental Genes
- › Clinical and Experimental Neuroscience
- › Psychobiology and Neurobiology of behavior

Area 5

- › Research Methodology in Health Sciences
- › Legal and Forensic Medicine. Health Legislation

Area 6

- › Immunity, Inflammation and Cancer Inmunidad, Inflamación y Cáncer
- › Hematopoietic Transplant/Cell Therapy
- › Infectious Pathology, Clinical Microbiology and Tropical Medicine

Area 7

- › Reproductive Biology
- › Biomembranes and Cell Signaling
- › Biochemistry and Enzymatic Biotechnology
- › Reproductive Physiology and Assisted Reproduction
- › Molecular Systems Biology
- › Research in Radiology

SERVICES PROVIDED TO NON-IMIB GROUPS OF PUBLIC CENTRES AND PUBLIC AND/OR PRIVATE COMPANIES

This platform has served a total of 71 UMU groups that do not belong to the IMIB.

COLLABORATION WITH OTHER IMIB/ACTI CORE FACILITY UNITS

- › Image Analysis Central Core Facility
- › Biobank Central Core Facility
- › Molecular Biology Central Core Facility
- › Tissue Culture Central Core Facility
- › Agroforestral Research
- › SPF Animal Facility Central Core Facility
- › Genomics Central Core Facility
- › Scientific Instrumentation Central Core Facility
- › Microscopy Central Core Facility
- › Pathology Central Core Facility
- › Proteomics Central Core Facility
- › Radioprotection and Waste Central Core Facility
- › Research support Workshop Central Core Facility

R&D GRANTS AWARDED, PROJECTS AND / OR CONTRACTS OF THE PLATFORMS/SERVICES

Senior Technician of the 3rd year MINECO program: Antonia Yolanda Álvarez Portela.

TEACHING ACTIVITY

SEMINAR FOR NEW USERS OF THE RADIOACTIVE INSTALLATION (Ira-1684) (6 Hours).

PUBLICATIONS WHERE THE CORE FACILITY UNIT HAS CONTRIBUTED PROVIDING TECHNICAL OR SCIENTIFIC SUPPORT

The activity of this platform has resulted in a total of 17 publications in 2020. The list of these publications can be consulted at: <https://www.imib.es/pubs2020/rr.jsf>

HIGHLIGHTS 2020

During 2020, the staff from the Unit has drafted 20 standard operating procedures related to laboratory safety. In addition, the verification, control of radiation and radioactive contamination of the units belonging to the authorized radioactive facility, as well as of the laboratories where uranyl acetate is handled, has been carried out. Removal and provision of containers and labels for the 31 IMIB groups, 13 platforms and 71 non-IMIB groups has been managed on a weekly basis, as well as radioactive waste generated in authorized laboratories.

Dr Alcázar is the supervisor of the UM Radioactive Facility and a member of the UM Health and Safety and Biosafety in Experimentation Committees.



GLOSSARY OF ABBREVIATIONS

A

ACTI: Área Científica y Técnica de Investigación

AECC: Asociación Española Contra el Cáncer

AIISEM: Alianza de innovación e industrialización del eje mediterráneo

ARADYAL: Asma, Reacciones Adversas y Alérgicas

C

CABD: Centro Andaluz de Biología del Desarrollo

CAID: Centro de Apoyo a la Investigación y Desarrollo

CARM: Comunidad Autónoma de la Región de Murcia

CCE: Comité Científico Externo

CCI: Comité Científico Interno

CDTI: Centro para el Desarrollo Tecnológico Industrial

CEBAS: Centro de Edafología y Biología Aplicada del Segura

CEIB: Centro Experimental de Investigación Biosanitaria

CEIm: Comité Ético de Investigación Clínica con Medicamentos

CIBER-CV: Centro de Investigación Biomédica en Red - Enfermedades Cardiovasculares

CIBER-ER: Centro de Investigación Biomédica en Red - Enfermedades Raras

CIMUS: Centro Singular de Investigación en Medicina Molecular y Enfermedades Crónicas

CINN: Comisión de Innovación

CNIC: Centro Nacional de Investigaciones Cardiovasculares

CRH: Centro Regional de Hemodonación

CS: Consejería de Salud

CSIC: Consejo Superior de Investigaciones Científicas

CSIF: Central Sindical Independiente y de Funcionarios

CSUR: Centros, Servicios y Unidades de Referencia del Sistema Nacional de Salud

CT: Tomografía Computerizada (CT por las iniciales de su nombre en inglés, Computerized Tomography)

CTA: Especialista en Gestión Administrativa de Ensayos Clínicos (CTA por las iniciales de su nombre en inglés, Clinical Trial Assistant)

D

DSC: Calorimetría Diferencial de Barrido (DSC por las iniciales de su nombre en inglés, Differential Scanning Calorimetry)

DSUR: Informe Anual de Seguridad (DSUR por las iniciales de su nombre en inglés, Development safety update report)

E

EATRIS: Infraestructura Europea para la Medicina Traslacional (EATRIS por las iniciales de su nombre en inglés, European Advanced Translational Research Infraestructure)

EECC: Ensayos Clínicos

EIDUM: Escuela Internacional de Doctorado de la Universidad de Murcia

EPA: Estudios Post Autorización

ERN: Red Europea de Referencia (ERN por las iniciales de su nombre en inglés, European Reference Network)

F

FEDER: Fondo Europeo de Desarrollo Regional

FFIS: Fundación para la Formación e Investigación Sanitaria

G

GPC: Guías de Práctica Clínica

H

HCUVA: Hospital Clínico Universitario Virgen Arrixaca

I

I+D+i: Investigación, Desarrollo e innovación

IBIPO: Oficina de Proyectos Internacionales Biosanitarios (IBIPO por las iniciales de su nombre en inglés, International Biohealth Project Office)

IdisNA: Instituto de Investigación Sanitaria de Navarra

IEO: Instituto Español de Oceanografía. Centro Oceanográfico de Murcia

IIS: Instituto de Investigación Sanitaria

IMIB: Instituto Murciano de Investigación Biosanitaria de la Región de Murcia

IMIDA: Instituto Murciano de Investigación y Desarrollo Agrario y Medioambiental

IMIM: Instituto Hospital del Mar de Investigaciones Médicas

IMPACT: Infraestructura de Medición de Precisión asociada a la Ciencia y la Tecnología

INCLIVA: Instituto de Investigación Sanitaria del Hospital Clínico de Valencia

INFO: Instituto de Fomento de la Región de Murcia

IPEK: Instituto de Prevención Cardiovascular

ISCI: Instituto de Salud Carlos III

ISI: Instituto de Información Científica (ISI por las iniciales de su nombre en inglés, Institute for Scientific Information)

ITC: Calorimetría de Titulación Isotérmica (ITC por las iniciales de su nombre en inglés, Isothermal Titration Calorimetry)

ITEMAS: Plataforma de Innovación en Tecnologías Médicas y Sanitarias

ITS: Espaciador transcrito interno (ITS por las iniciales de su nombre en inglés, Internal Transcribed Spacer)

L

LAIB: Laboratorio de Investigación Biosanitaria

M

MICINN: Ministerio de Ciencia e Innovación

MINECO: Ministerio de Economía y Empresa

MIT: Instituto de Tecnología de Massachusetts (MIT por las iniciales de su nombre en inglés, Massachusetts Institute of Technology)

O

OMG: Organismos Modificados Genéticamente

OPECT: Oficina de Proyectos Europeos de la Universidad Politécnica de Cartagena

OPERUM: Oficina de Proyectos Europeos e Internacionales de la Universidad de Murcia

P

PAS: Personal de Administración y Servicios

PDI: Personal Docente e Investigador

PET: Tomografía por Emisión de Positrones (PET por las iniciales de su nombre en inglés, Positron emission tomography)

PNC: Puntos Nacionales de Contacto

PNTs: Procedimientos Normalizados de Trabajo

PUVA: Pabellón Universitario Virgen Arrixaca

R

REGIC: Red de Entidades Gestoras de Investigación Clínica

RETICS: Redes Temáticas de Investigación Cooperativa en Salud

RICET: Investigación Colaborativa en Enfermedades Tropicales

RIS: Red de Investigación en Sida

RMN: Resonancia Magnética Nuclear

RRHH: Recursos Humanos

RT-PCR: Reacción en Cadena de la Polimerasa con Reverso Transcripción

S

SACE: Sede de diversas secciones y servicios del Área Científica y Técnica de Investigación

SAE: Plataforma de Apoyo Estadístico

SAI: Plataforma de Análisis de Imagen

SAMID: Red de Salud Materno Infantil y del Desarrollo

SBM: Plataforma de Biología Molecular

SCT: Plataforma de Cultivo de Tejidos

SEA: Plataforma de Experimentación Animal

SEAF: Plataforma de Biotecnología

SMS: Servicio Murciano de Salud

SPECT: Tomografía Computarizada por Emisión de Fotón Único (SPECT por las iniciales de su nombre en inglés, single photon emission computed tomography)

SPF: Libre de Patógenos Específicos (SPF por las iniciales de su nombre en inglés, Specific Pathogen Free)

SPRINT-COST: Red Internacional para trasladar la Investigación sobre Derivados Perinatales en Enfoques Terapéuticos (SPRINT-COST por las iniciales de su nombre en inglés, The International Network for Translating Research on Perinatal Derivatives into Therapeutic Approaches)

SRR: Plataforma de Radioprotección y Residuos

SUIC: Plataforma de Instrumentación Científica

SUIP: Plataforma de Instrumentación Psicológica

SUM: Plataforma de Microscopía

T

TAI: Plataforma de Talleres de Apoyo a la Investigación

TERCEL: Red de Terapia Celular

TICS: Tecnologías de la Información y Comunicación

TNF: Factor de Necrosis Tumoral (TNF por las iniciales de su nombre en inglés, Tumoral Necrosis Factor)

TV: Televisión

U

UCAM: Universidad Católica San Antonio de Murcia

UCI: Unidad de Cuidados Intensivos

UE: Unión Europea

UMH: Universidad Miguel Hernández

UMU: Universidad de Murcia

UMUR: Asociación de Usuarios de R Murcia

UPCT: Universidad Politécnica de Cartagena

USC: Universidad de Santiago de Compostela