

idiis

ANNUAL REPORT 2018

Health Research Institute of
Santiago de Compostela

EDITION AND PRODUCTION

Technical Secretary of the Health Research
Institute of Santiago de Compostela

Isabel Lista García. Quality Manager.

Yolanda Liste Martínez. Technical Management.

José Ramón Castro Ruibal. Technical Research
Management and Promotion.

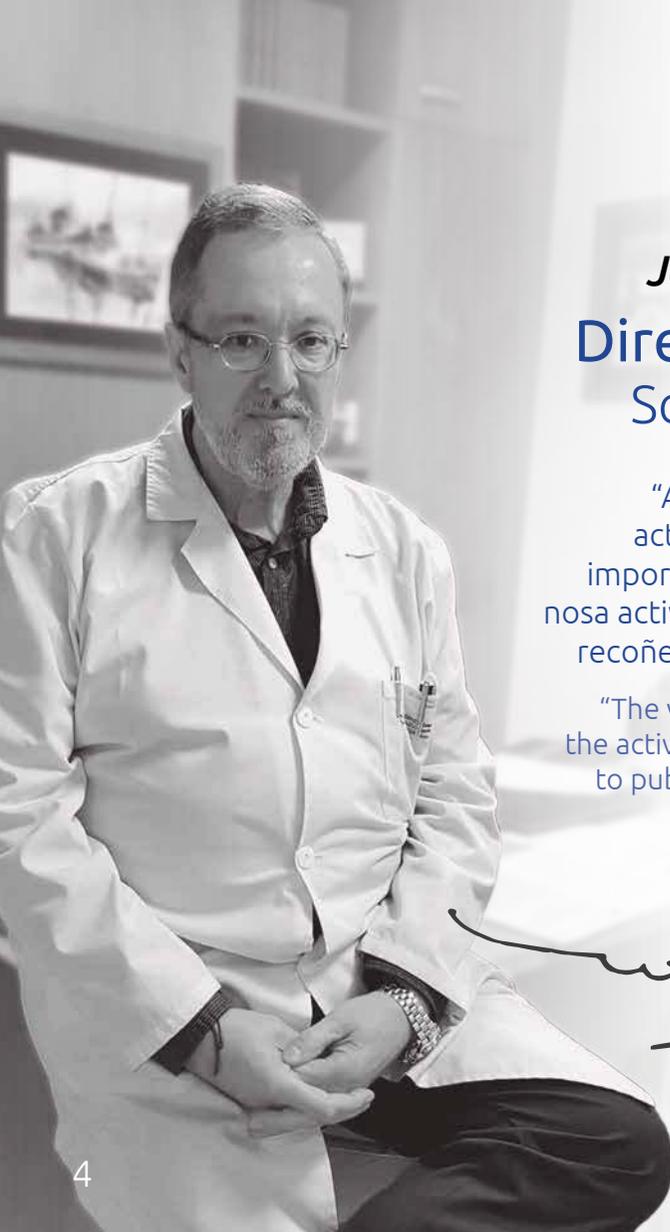
APROBATION

Direction Board of the institute met in **Santiago
de Compostela** on **15 March 2019**



ANNUAL REPORT 2018

Health Research Institute of
Santiago de Compostela



José Castillo Sánchez
Director científico
Scientific Director

“A visibilidade e difusión das actividades é un elemento de importancia para dar a coñecer a nosa actividade investigadora como recoñecemento do noso esforzo”

“The visibility and dissemination of the activities is an important element to publicize our research activity as recognition of our effort”

José Castillo Sánchez

Unha vez máis, é un pracer presentar a memoria do IDIS, esta ofrécenos unha panorámica das melloras implantadas, os avances obtidos e dos resultados acadados durante o 2018, pero tamén é un reflexo dos obxectivos aínda non alcanzados. É difícil sintetizar nun documento o traballo colectivo dos investigadores, técnicos e xestores que formamos o instituto, pero de algunha maneira, este informe pretende reflexar reflectir o rendemento de todos e o impulso que a investigación biomédica ten no ámbito asistencial e académico da área de Santiago de Compostela e Lugo.

A visibilidade e difusión das actividades é un elemento de importancia para dar a coñecer a nosa actividade investigadora como recoñecemento do noso esforzo. Pero o obxecto desta memoria, non só é útil para presentar os nosos logros, senón que é moi valioso para observar que cousas se teñen feito, en que medida acadamos os obxectivos, como o estamos facendo en comparación cos anos anteriores e que podemos mellorar, é dicir, ofrécenos a posibilidade de realizar unha análise estratéxica do desenvolvemento do instituto.

A nosa razón de ser consiste na aplicación dos resultados da investigación básica e clínica no sistema sanitario, e esta idea estase a afianzar nos nosos grupos que, cun marcado carácter multidisciplinar, enfocan

Once again, it is my pleasure to present the IDIS annual report. This is an overview of the implemented improvements, the progress made and the results achieved during the past 2018, but it is also a reflect of the unmeet goals. It is difficult to summarize in one single document the collective work of all researchers, technicians and managers that form the institute, but in some way, this report aims to reflect everyone's performance and the impetus that biomedical research has in the clinical and academic area of Santiago de Compostela and Lugo.

The visibility and dissemination of the activities is an important element to publicize our research activity as recognition of our effort. However, the purpose of this report is not only to present our achievements, but also to observe what have been done, to what extent we achieve the objectives, how we are doing in comparison with previous years and what we can improve. In summary, it offers the possibility of carrying out a strategic analysis for the institute's development.

Our raison d'être relies in the application of the results of basic and clinical research to the health system, and this idea is taking hold in our groups that, with a marked multidisciplinary nature, focus their work to respond to the demands arising from the clinic. Our contributions to science position



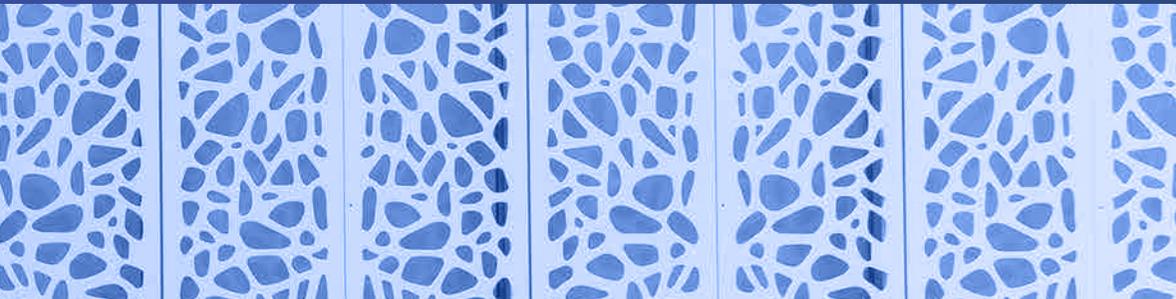
os seus traballos para dar resposta ás demandas xurdidas da área clínica. As nosas aportacións á ciencia nos sitúan na cabeza da investigación biomédica en Galicia e nunha destacada posición no ámbito nacional, ademais, o crecemento constante da participación dos membros dos nosos equipos en proxectos de investigación europeos danos unha forte proxección internacional.

A análise das actividades e os indicadores amósanos unha evolución positiva, seguindo a tendencia das anualidades anteriores. Todo isto foi posible grazas ao esforzo de todas as persoas que integramos o IDIS, así como do apoio institucional das entidades que o conforman. Podemos considerar que una das nosas grandes fortalezas é o excelente potencial humano, o seu coñecemento e implicación garanten a continuidade da nosa produción.

Ademais da produción científica, a transferencia de resultados e da captación de recursos, no noso informe podemos observar o compromiso da nosa institución coa formación en investigación biomédica. A implicación na dirección de teses de doutoramento e o apoio á incorporación de persoal na etapa de formación garanten a base do IDIS do futuro.

Podemos concluír que entre todos estase a facer un gran traballo, xerándose grandes expectativas de crecemento, e isto representa a mellor garantía de continuidade. Evitemos a miopía que pode suprimir a fragmentación; sen comportas o futuro está asegurado.

Moitas grazas.



us at the head of biomedical research in Galicia and in an outstanding situation in Spain. In addition, the constant growth of the number of members of our teams participating in European research projects gives us a strong international projection.

The activity analysis and the research indicators show a positive evolution, following the trend of previous years. Everything has been possible thanks to the efforts of all the people who make up the IDIS, as well as the institutional support. We can consider that one of our great strengths is the excellent human resources. Their knowledge and implication guarantee the continuity of our production.

In addition to the scientific production, the results transfer and the fundraising, in our report we can observe the

commitment of our institution with the training in biomedical research. The involvement in the direction of doctoral theses and the support for the incorporation of personnel in training stages guarantee the base of the future IDIS.

We can conclude that among all we are doing a great job, generating great expectations for growing, and this represents the best guarantee of continuity. Let's avoid myopia that can suppress fragmentation; without gates the future is assured.

Thank you.

SUMMARY

1

EXECUTIVE
SUMMARY

10

2

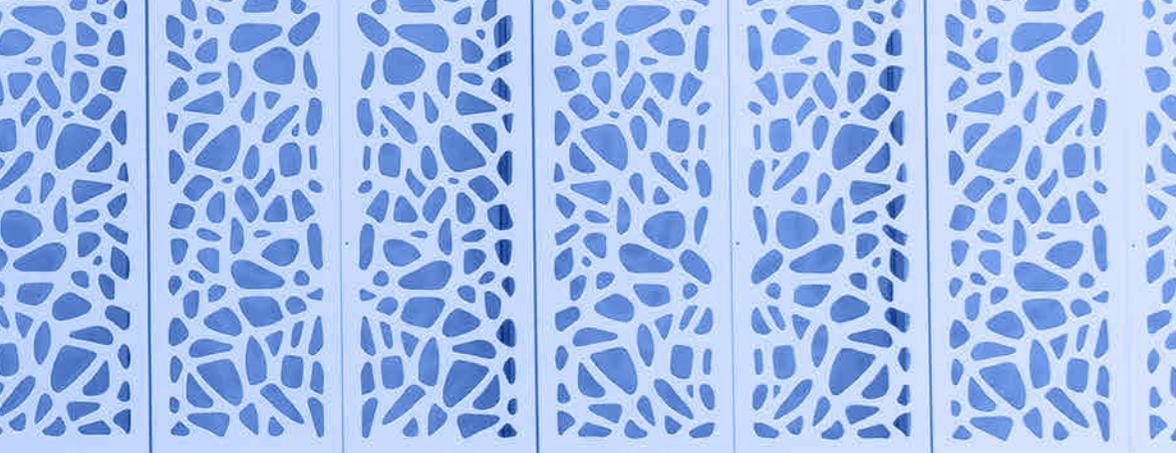
GLOBAL
ANALYSIS

14

3

STRUCTURE

36



4

RECURRENT
TRAINING

48

5

INNOVATION
AND TRANSFER

53

6

PLATFORMS

61

7

COMPETITIVE
FUNDING

69

8

STRATEGIC
ALLIANCES

75

9

AREAS

79

A large, dark blue, stylized number '1' is positioned on the left side of the page, partially overlapping the main title text.

EXECUTIVE SUMMARY

ANNUAL REPORT 2018

The **Biomedical Research Institute of Santiago de Compostela** is a translational research centre for innovation and transfer knowledge that optimizes existing synergies between the *Xerencia de Xestión Integrada de Santiago de Compostela* and the *University of Santiago de Compostela*. It is accredited as a medical research centre of the *National Health System by the Institute of Health Carlos III*.





TOTAL FUNDS RAISED

29.108.535,46 €

65

Projects

289

Donations

104

Clinical trials

58

Staff
contracts

415

Contracts and
provision of
services

178

Observational
studies

754

Published articles

24

Training exchanges

7

Granted patents

57

Thesis

220

Professional
training
placement

30

Requested
patents

79

Seminars

A large, dark blue, stylized number '2' is positioned on the left side of the page, partially overlapping the main title text.

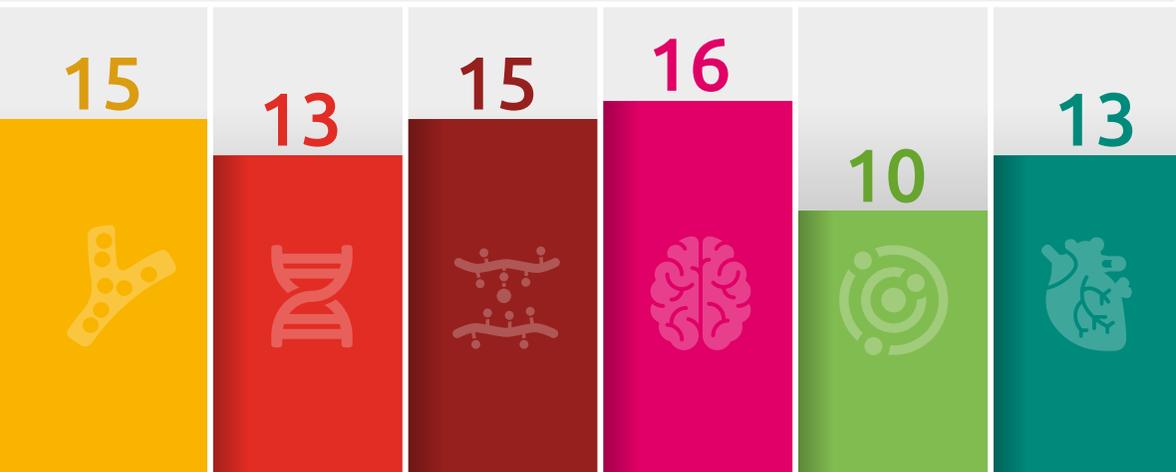
GLOBAL ANALYSIS

ANNUAL REPORT 2018

Number of **groups per area**

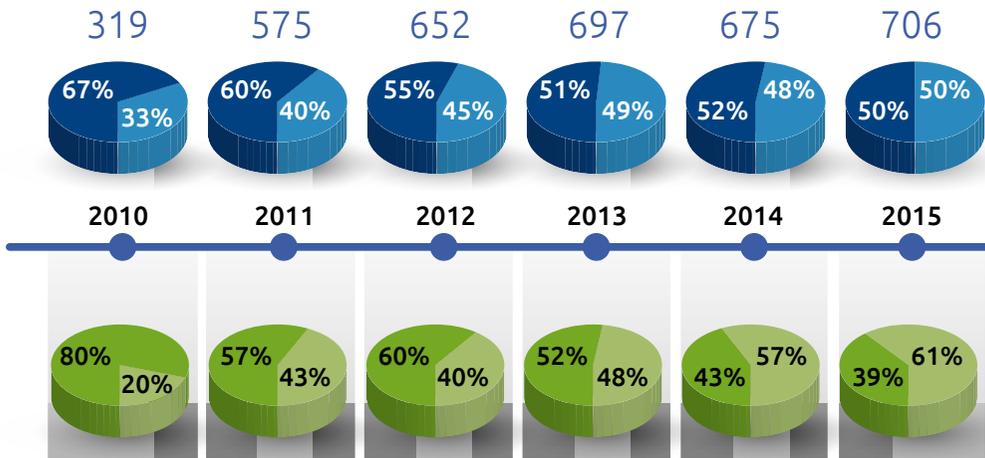
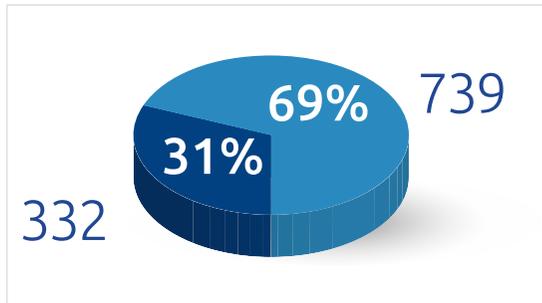
-  Oncology
-  Genetics and Systems Biology
-  Endocrinology
-  Neurosciences
-  Platforms and Methodology
-  Inflammation

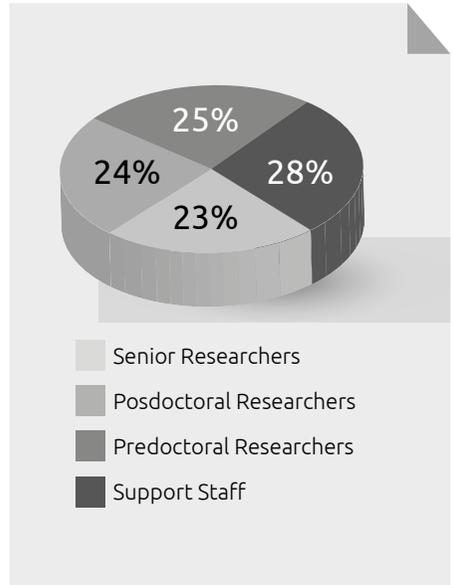
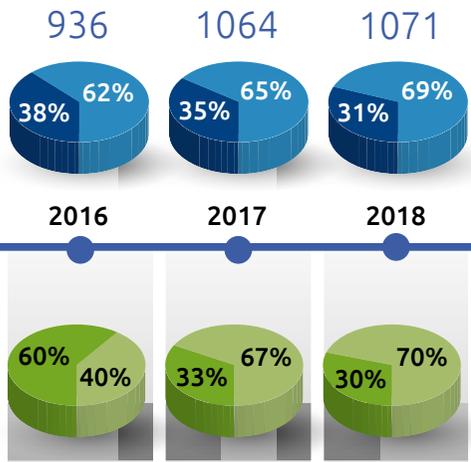
There is also a support área (*technical secretariat and common support platforms for research*) with 3 groups.



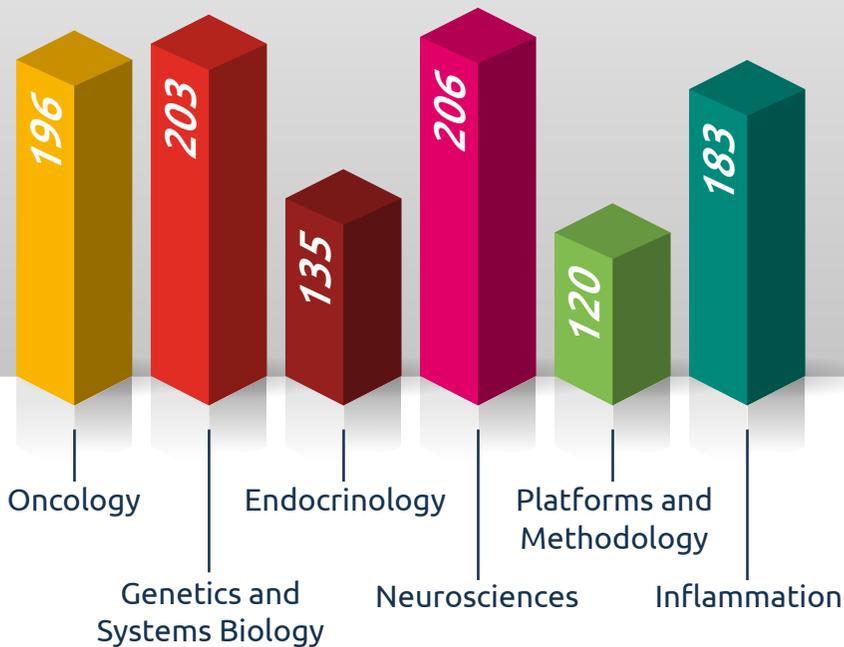
History of a joint venture: human resources in figures

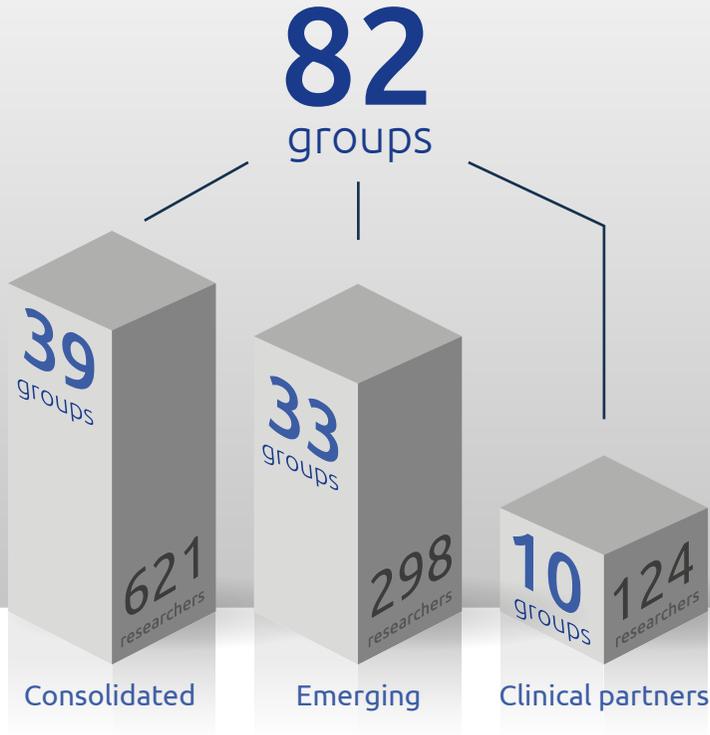
1.071
people





Number of researchers per area





Number of published articles each year

The Institute has published **754 original scientific articles, editorials and reviews** in 466 international journals indexed in the *Journal Citation Report* with an **cumulative impact factor of 3.569 points**.



Cumulative impact factor

The upward trend of the cumulative impact factor is maintained and it moves from 1.308 in 2010 to **3.569 in 2018**.



Average impact factor

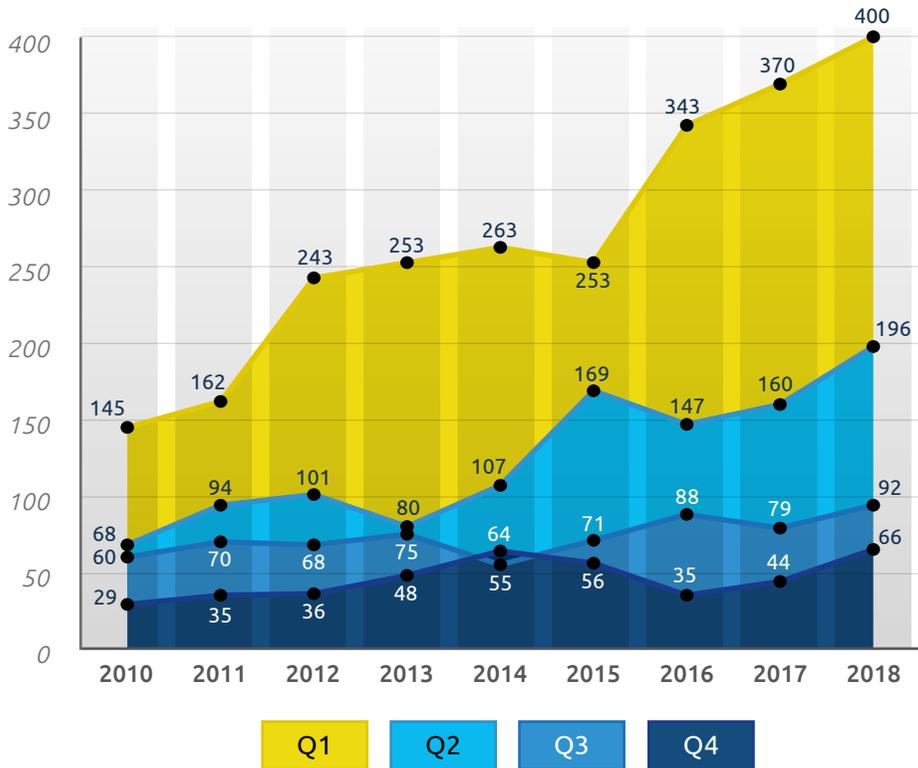


Number of **published articles in the first decile**

A remarkable increase in the first decile for the same period from 68 articles published in 2010 to **160 in 2018**.



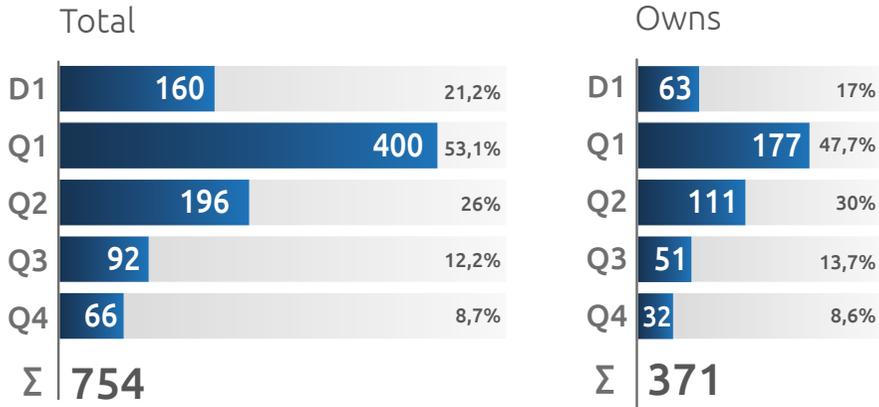
Number of articles by year published in each quartile



Number and % of the total number of publications and articles in 2018

The number of articles per quartile **increased gradually during the period of 2010-2018 almost in every quartile and every year.**

Taking into account the relevance of the authors in the articles signature, we identify those in which the first or the last author is assigned to an IDIS group. We define them as articles of our own.





312

Articles published in
collaboration between the
groups of the centres
outside of Spain

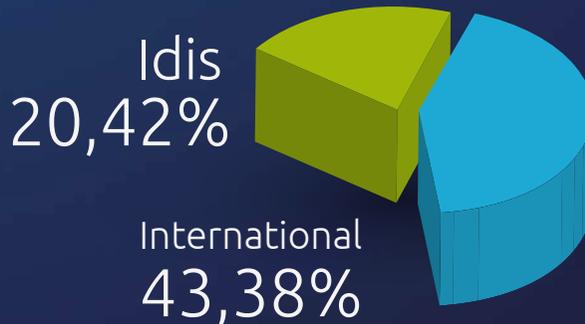
154

Articles published in
collaboration between
the IDIS groups

Number and % of articles published in collaboration between the IDIS groups and the groups of the centres outside of Spain.

In 2018, 20,42% of the work were carried out by teams in which members of more than one IDIS group were involved.

43,38% were done in collaboration with researchers from centres outside of Spain.



During 2018, the funds raised in competitive calls for **research projects, the recruitment of staff, infrastructures, agreements, contracts and provision of services, donations, clinical trials and observational studies** generated **29.108.535,46 €** which will complement the resources of the institutions that take part in IDIS.

AMOUNT

29.108.535,46 €

Summary of the funds raised in 2018

| CONCEPT | NUMBER | AMOUNT |
|--|--------|------------------------|
| Projects | 65 | 10.631.222,46 € |
| Human resources | 58 | 4.781.190,00 € |
| Donations | 289 | 1.040.133,81 € |
| Contracts and provision of services | 415 | 6.622.804,20 € |
| Transfer | 2 | 46.445,65 € |
| Infrastructure | 2 | 1.364.206,77 € |
| Studies (<i>Clinical Trials, Observational Studies</i>) | 282 | 4.622.532,23 € |

2018 AMOUNT RAISED

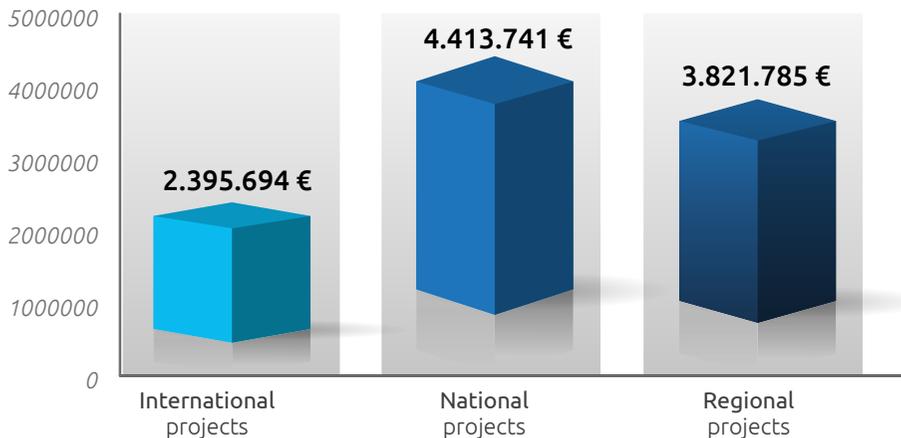
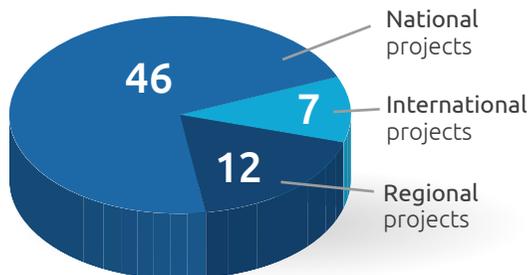
29.108.535,46 €



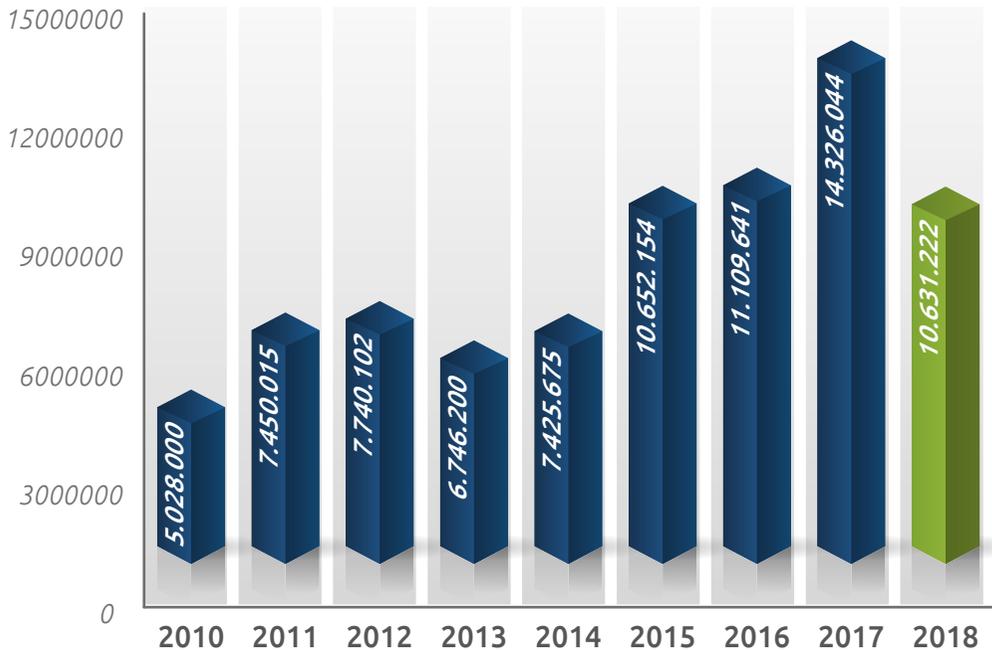


Number and amount of funds raised in 2018 for projects by location

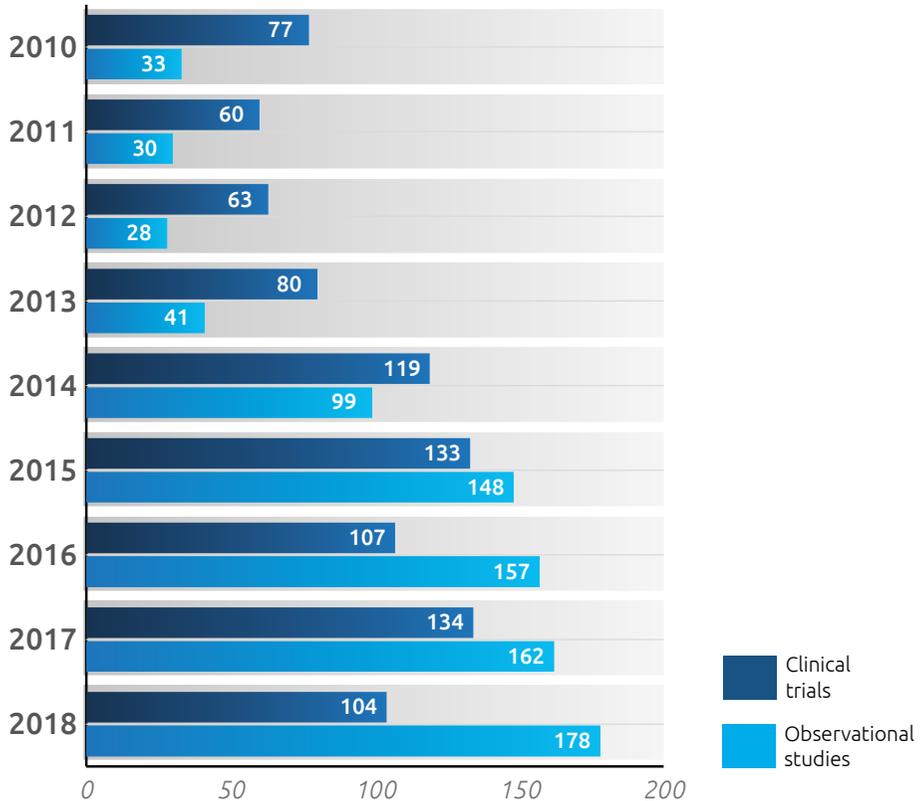
65 Projects
10.631.222,46 €



Amount of funds raised by year for projects



Number of **clinical trials** and **observational studies**



104

CLINICAL TRIALS

60 National
24 International
20 Local

178

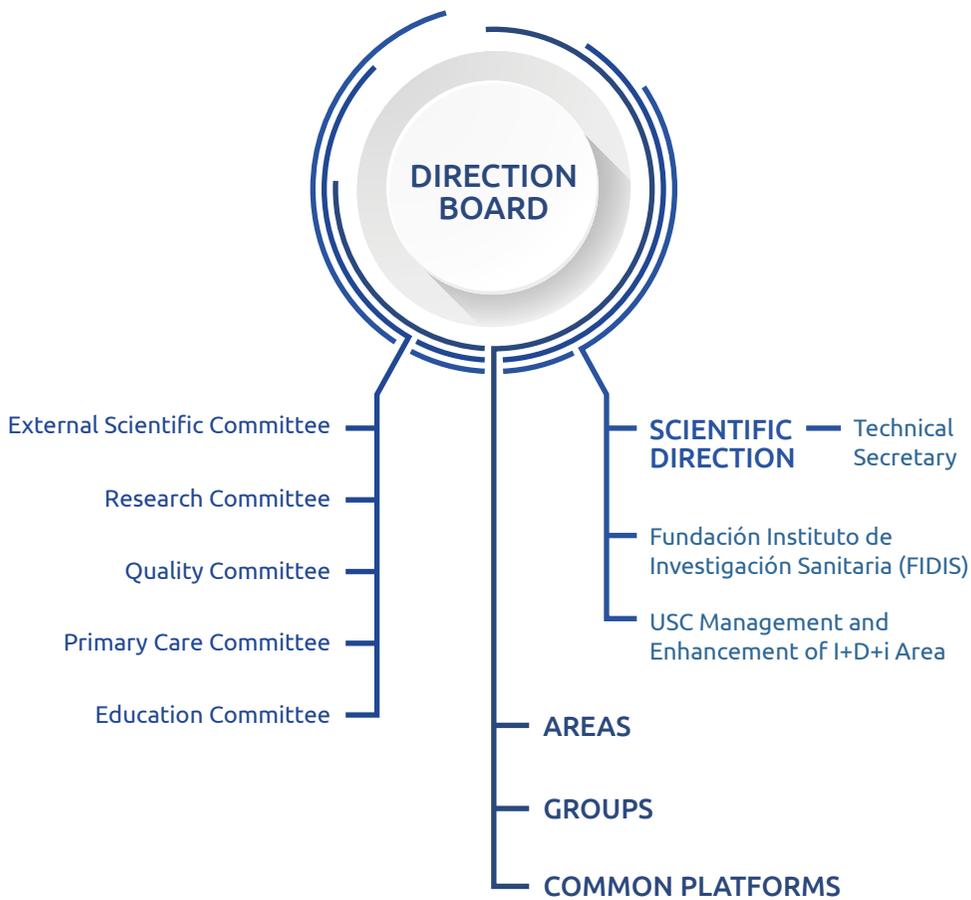
OBSERVATIONAL STUDIES

96 National
35 International
41 Local
6 Regional

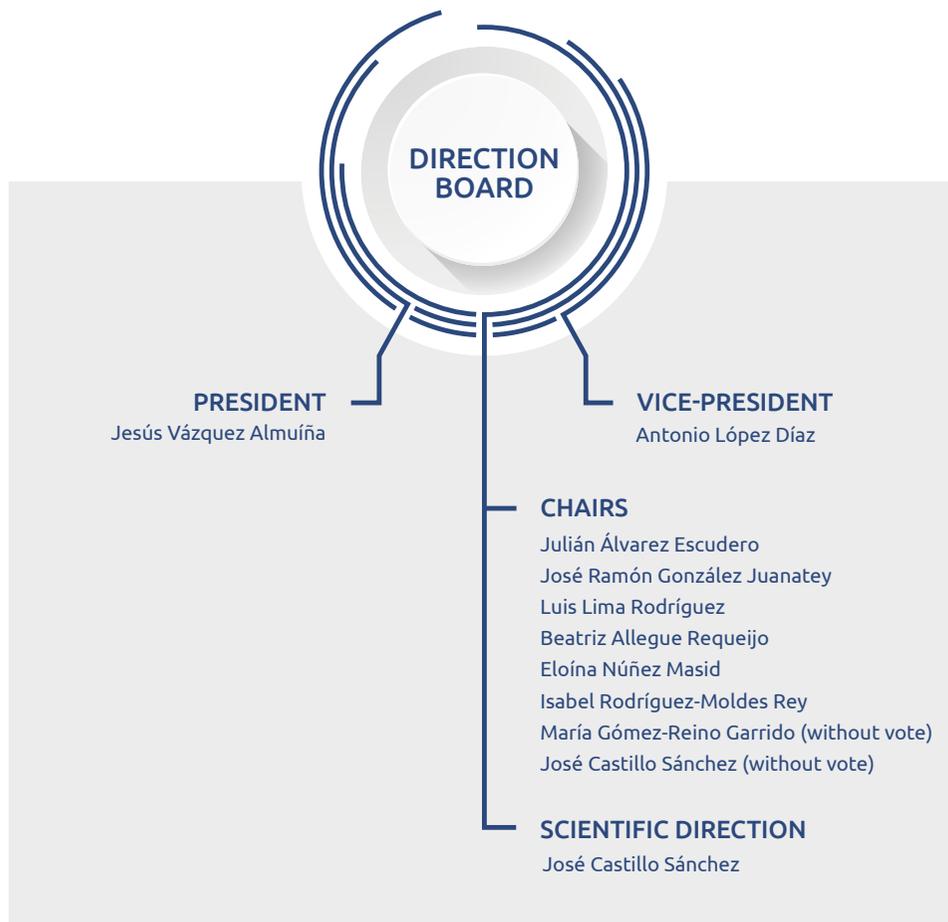


3

STRUCTURE



Government bodies



Advisory bodies



EXTERNAL SCIENTIFIC COMMITTEE

Ángeles Almeida Parra
Melchor Álvarez de Mon Soto
María del Carmen Ayuso García
Joan Xavier Comella Carnicé
Xosé García Bustelo



RESEARCH COMMITTEE

PRESIDENT

Federico Martinón Torres

SECRETARY

Isabel Lista García

Francisco Campos Pérez
Carlos Diéguez González
Miguel García González
María Gómez-Reino Garrido
Javier González Barcala
Julio Iglesias García
María Jesús Lamas Díaz
Carlos Peña Gil
Alberto Ruano Raviña
Antonio Salas Ellacuriaga

Advisory bodies

QUALITY COMMITTEE

PRESIDENT

Estrella López Pardo

SECRETARY

Isabel Lista García

Gerardo Atienza Merino
Ángeles Fernández Rodríguez
Uxía Ferrer Ozores
Carmen Ruth González Diéguez
Carlos Grande Sellera
Mar Lale Candal
Pablo Mosquera Martínez

EDUCATION COMMITTEE

PRESIDENT

Tomás Sobrino Moreira

SECRETARY

Isabel Lista García

Clara Álvarez Villamarín
Miguel Ángel Cañzos Fernández
Manuel Collado Rodríguez
Fernando Domínguez Puente
José Antonio Ferreiro Guri
Miguel Gelabert González
Arturo González Quintela
Francisco Gude Sampedro
Celia María Pombo Ramos
Anxo Vidal Figueroa

Advisory bodies



PRIMARY CARE COMMITTEE

PRESIDENT
Manuel Portela Romero

SECRETARY
Yolanda Liste Martínez

- Paula Antelo País
- Rosendo Bugarín González
- Rosa Ana Castelo Domínguez
- Sergio Cinza Sanjurjo
- Carmen Fernández Merino
- Pilar Gayoso Diz
- Daniel Rey Aldana
- Jesús Sueiro Justel
- Xoán Vázquez Lago
- Manuel Vidal Fernández Fernández



TECHNICAL SECRETARY

- Isabel Lista García
- Yolanda Liste Martínez
- José Ramón Castro Ruibal

A001 ONCOLOGY *Coordinator: Rafael López López***C010** Genetics of Human Diseases *Fernando Domínguez Puente***C011** Pathology *José Ramón Antúnez López***C025** NANOBIOFAR *María José Alonso Fernández***C030** Traslational Medical Oncology *Rafael López López***C032** Molecular Imaging *Álvaro Ruibal Morell***E004** Molecular Oncology *José Antonio Costoya Puente***E018** Cell Cycle and Oncology (CiClon) *Anxo Vidal Figueroa***E028** Stem Cells in Cancer and Aging *Manuel Collado Rodríguez***E031** Oncologic Endocrinology *Román Pérez Fernández***E032** Preclinical Animal Models *Laura Sánchez Piñón***E033** Viruses and cancer *María del Carmen Rivas Vázquez***E037** DNA Repair and Genome Integrity *Miguel González Blanco***AC01** Lymphoproliferative Disorders *José Luis Bello López***AC06** Intraocular Tumours in Adults *Antonio Piñeiro Ces***AC08** Surgical Oncology *Manuel Bustamante Montalvo*

A002 GENETICS AND SYSTEMS BIOLOGY*Coordinator: Ángel Carracedo Álvarez*

| | | |
|-------------|---|--------------------------------------|
| C005 | Genetics | <i>Ángel Carracedo Álvarez</i> |
| C009 | Translational Research in Digestive Diseases | <i>Juan Enrique Domínguez Muñoz</i> |
| C020 | Genetics, Vaccines, Infections and Paediatrics (GENVIP) | <i>Federico Martínón Torres</i> |
| E012 | Comparative Genomics of Human Parasites | <i>Julio Manuel Maside Rodríguez</i> |
| E015 | Population Genetics in Biomedicine (GenPoB) | <i>Antonio Salas Ellacuriaga</i> |
| E016 | Genetics of Neurological Disorders | <i>María Jesús Sobrido Gómez</i> |
| E017 | Cancer Genetics and Rare Diseases | <i>Ana Paula Vega Gliemmo</i> |
| E020 | Psychiatric Genetics | <i>Javier Costas Costas</i> |
| E021 | Genetics and Developmental Biology of Kidney Diseases | <i>Miguel Ángel García González</i> |
| E027 | Escherichia coli | <i>Jorge Blanco Álvarez</i> |
| E035 | Genetics of Gastrointestinal Tumours | <i>Clara Ruiz Ponte</i> |
| E036 | Stem Cells and Human Diseases | <i>Miguel Ángel Fidalgo Pérez</i> |
| E040 | Mobile Genomes and Disease | <i>José Manuel Castro Tubío</i> |

A003 ENDOCRINOLOGY *Coordinator: Felipe Casanueva Freijo*

| | | |
|-------------|--|---------------------------------------|
| C001 | Neoplasia and Endocrine Differentiation | <i>Clara Álvarez Villamarín</i> |
| C006 | Molecular Endocrinology | <i>Felipe Casanueva Freijo</i> |
| C008 | Obesity and Nutrition | <i>Carlos Diéguez González</i> |
| C012 | Metabolic Disorders | <i>María de la Luz Couce Pico</i> |
| C019 | Thyroid and Metabolic Disorders Unit (UETeM) | <i>David Araújo Vilar</i> |
| C022 | Paediatric Nutrition | <i>Rosaura Leis Trabazo</i> |
| C029 | Neurobesity | <i>Miguel López Pérez</i> |
| C031 | Molecular Metabolism | <i>Rubén Nogueiras Pozo</i> |
| E006 | Cytokines and Obesity (Citobes) | <i>María del Carmen García García</i> |
| E023 | Obesidomics | <i>María Pardo Pérez</i> |
| E025 | Cellular Endocrinology | <i>Jesús Pérez Camiña</i> |
| E026 | Endocrine Physiopathology | <i>Luisa María Seoane Camino</i> |
| E039 | Diabesity | <i>Sulay Tovar Carro</i> |
| E041 | Epigenomics in Endocrinology and Nutrition | <i>Ana Belén Crujeiras Martínez</i> |
| AC04 | Paediatric Endocrinology | <i>Manuel Pombo Arias</i> |

A004 NEUROSCIENCES *Coordinator: José Castillo Sánchez*

| | | |
|-------------|--|---------------------------------------|
| C004 | Neurobiology | <i>Antonio Canedo Lamas</i> |
| C007 | Clinical Neurosciences (LINC) | <i>José Castillo Sánchez</i> |
| C015 | Neurobiology of the Visual System | <i>Francisco González García</i> |
| C018 | Experimental Neurology of Parkinson´s Disease | <i>José Luis Labandeira García</i> |
| C026 | BIOFARMA | <i>María Isabel Loza García</i> |
| C033 | Design, Synthesis and Medical Evaluation of Bioactive Compounds and New Materials | <i>Antonio Mouriño Mosquera</i> |
| C034 | Physics of Polymers and Colloids | <i>Victor Mosquera Tallón</i> |
| C035 | R&D in Drugs Dose Forms and Delivery Systems | <i>Ángel Concheiro Nine</i> |
| C036 | Magnetism and Nanotechnology (NanoMag) | <i>José Rivas Rey</i> |
| C037 | Trace Elements, Spectroscopy and Speciation | <i>Pilar Bermejo Barrera</i> |
| C038 | Analytical Chemistry of Compounds of Alimentary, Environmental and Biological Interest | <i>Antonia María Carro Díaz</i> |
| E014 | Prion Diseases | <i>Jesús Rodríguez Requena</i> |
| E019 | Cell Stress | <i>Juan Bautista Zalvide Torrente</i> |
| E029 | Cognitive Neuroscience | <i>Fernando Díaz Fernández</i> |
| AC03 | Critical Patient | <i>Julián Álvarez Escudero</i> |
| AC11 | Life Support and Medical Simulation | <i>Antonio Rodríguez Núñez</i> |

A005 PLATFORMS AND METHODOLOGY*Coordinator: Juan Jesús Gestal Otero*

| | | |
|-------------|--|---|
| C002 | Experimental Surgery | <i>Miguel Ángel Caínzos Fernández</i> |
| C013 | Epidemiology, Public Health and Evaluation of Health Services | <i>Adolfo Figueiras Guzmán</i> |
| C017 | Research Methodology | <i>Francisco Gude Sampedro</i> |
| C021 | Clinical Analysis | <i>Santiago Rodríguez-Segade Villamarín</i> |
| C024 | Radiology | <i>Miguel Souto Bayarri</i> |
| E002 | Biostatistics | <i>Carmen María Cadarso Suárez</i> |
| E013 | Microbiology | <i>María Luisa Pérez del Molino Bernal</i> |
| E034 | Clinical Pharmacology | <i>María Jesús Lamas Díaz</i> |
| AC09 | Oral Sciences (OSRG) | <i>Inmaculada Tomás Carmona</i> |
| AC10 | Healthy ageing, fragility and chronicity. Research in Primary Care | <i>Juan Manuel Vázquez Lago</i> |

A006 INFLAMMATION *Coordinator: José Ramón González Juanatey*

| | | |
|-------------|---|--|
| C003 | Hypertension | <i>Carlos Calvo Gómez</i> |
| C014 | Rheumatology | <i>Juan Jesús Gómez-Reino Carnota</i> |
| C016 | Cardiology | <i>José Ramón González Juanatey</i> |
| C027 | Neuroendocrine Interactions in Rheumatic and Inflammatory Diseases (Neirid) | <i>Oreste Gualillo</i> |
| C028 | Experimental and Observational Rheumatology | <i>Antonio González Martínez-Pedrayo</i> |
| C039 | Biodiscovery HULA-USC | <i>Luis Miguel Botana López</i> |
| C040 | Oral Medicine and Surgery (OMEQUI) | <i>Pedro Diz Dios</i> |
| E001 | Cardiovascular Genetics | <i>María José Brión Martínez</i> |
| E009 | Cellular and Molecular Cardiology | <i>Francisca Lago Paz</i> |
| E030 | Platelet Proteomics | <i>Ángel García Alonso</i> |
| E038 | Musculoskeletal Pathology | <i>Rodolfo Gómez Bahamonde</i> |
| AC05 | Pneumology | <i>Luis Guillermo Valdés Cuadrado</i> |
| AC07 | Semergal | <i>Sergio Cinza Sanjurjo</i> |

ANNUAL REPORT 2018

4

RECURRENT TRAINING



Training activities in 2018

In 2018, 79 seminars were organized, 57 doctoral thesis were directed by IDIS' researchers, 220 professional training placement and 24 short training exchanges were organized in collaboration with the *Medicina Intercambios Galicia Association (ME.I.GA.)*, member of the *International Federation of Medical Students' Associations (IMFSA)*.

79

Seminars

57

Doctoral
thesis

220

Professional
training
placement

24

Short training
exchanges

Number of **thesis** each year



ANNUAL REPORT 2018

5

INNOVATION AND TRANSFER





A ciência é a alma da prosperidade das nações
e fonte de vida de todo progresso
Louis Pasteur

- 
- Transfer acceleration through public funding and private investment.
 - Adopting the Public-Private Partnership Model.
 - Partnering.
 - Disseminating our research.
 - Intellectual property.



Transfer acceleration through public funding and private investment

ITEMAS network

Innovation in Medical and Health Technologies Network funded by the Instituto de Salud Carlos III.

CÓDIGO MÁIS project

Valorization program of SERGAS and USC.

GNICIA

The IGNICIA Proof of Concept programme of the Galician Innovation Agency (GAIN) aims to enhance and support the transfer of research results generated by knowledge centres. IGNICIA seeks to accelerate and increase technology transfer, detecting projects with innovative and market potential, contributing to the profitability of public investment in research.

IDIS requested 16 projects and one of them was granted.

Atlantic Ket Med

Atlantic KET Med (AKM) is an Interreg funded, coordinated action aiming to establish a Transnational Advanced Pilot Manufacturing Ecosystem for Future Biomedical Products. Featuring partners with expertise in the Key Enabling Technologies (KETs), AKM plans to provide bottom-up support to the ecosystem through direct support of SMEs as well as top-down support through educational and infrastructure policies.

IDIS joins the ecosystem and it's the only Spanish research centre that participates in AKM.



Two P2 ongoing initiatives where public IDIS partners share risks with private investors.

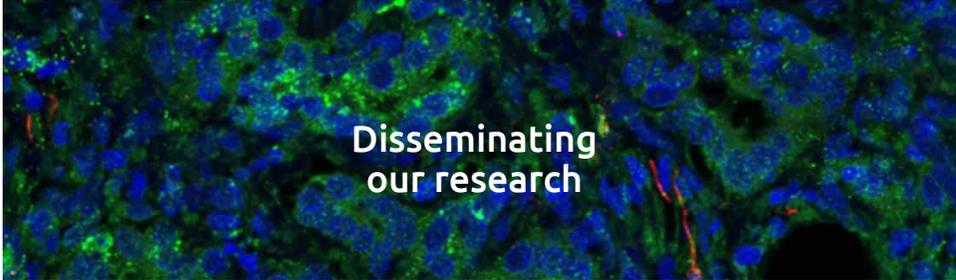
Roche-CHUS, Precision Oncology Joint Unit.

Esteve-USC, Drug Discovery Joint Unit.



TITTAN

A European Network for Technology, Innovation and Translation in Ageing, it aims to tackle that challenge, by improving the quality and performance of the European regional healthcare systems in relation with the healthy and active ageing. IDIS participates acts as a stakeholder.



Disseminating our research

BioInvestor Day

BIOSPAIN is the first biotech country based event in Europe organized by a national bioindustry association and one of the largest in the world by number of one-to-one meetings and number of participants companies.

Following the success of previous editions, BIOSPAIN 2018 (celebrated in Sevilla, Spain) hosted 773 attendees, more than 773 companies and institutions and over 1,550 delegates from 31 countries. Participating major companies, institutions, research centers of the Spanish biotechnology sector.

IDIS participated in Biospian and made contact and interviewed more than 30 potential partners.

BioINCUBATECH

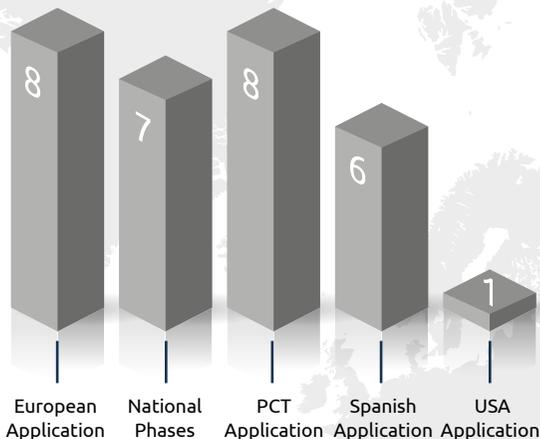
BioIncubaTech is the High Technology Incubator for the promotion of innovation and biotechnology transfer in the field of health and food technologies to micro-SMEs. BioIncubaTech belongs to "High Technology Incubators for the promotion of innovation and technology transfer to micro-SMEs" Project, aimed to modernize the regional productive fabric. These Incubators are created as traction instruments aligned with the objectives of the EU 2020 and Horizon 2020 Strategy and will promote inter-regional cooperation, as well as collaboration between public and private sector agents at international level.

IDIS collaborates since the beginning of this proposal and helped to create the project.

Intellectual property

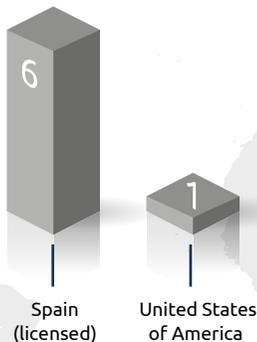
30 Request

- 8 European Application
- 7 National Phases
- 8 PCT Application
- 6 Spanish Application
- 1 USA Application

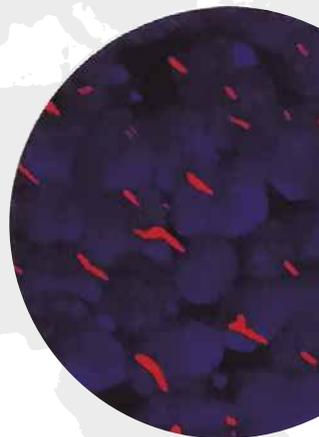


7 Granted

- 6 Spain (licensed)
- 1 United States of America



2 Software



5
INNOVATION
AND TRANSFER

6
PLATFORMS

7
COMPETITIVE
FUNDING

8
STRATEGIC
ALLIANCES

9
AREAS

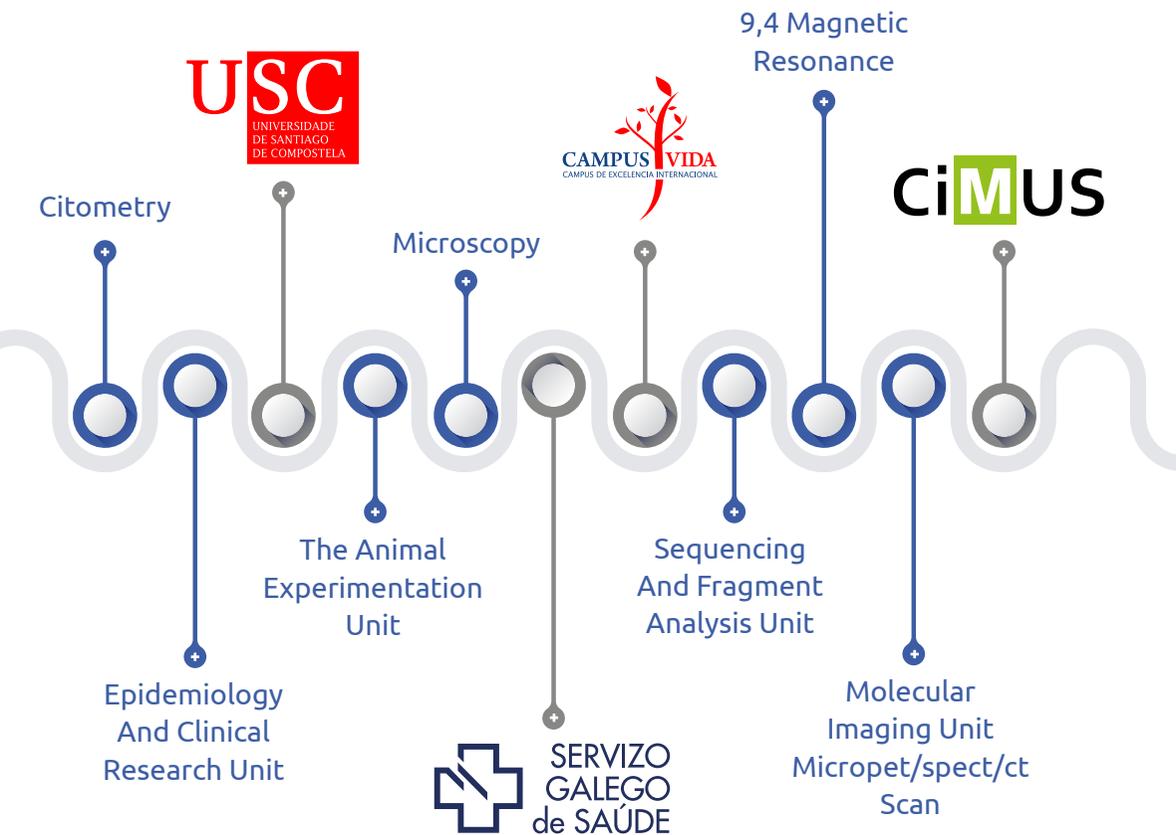


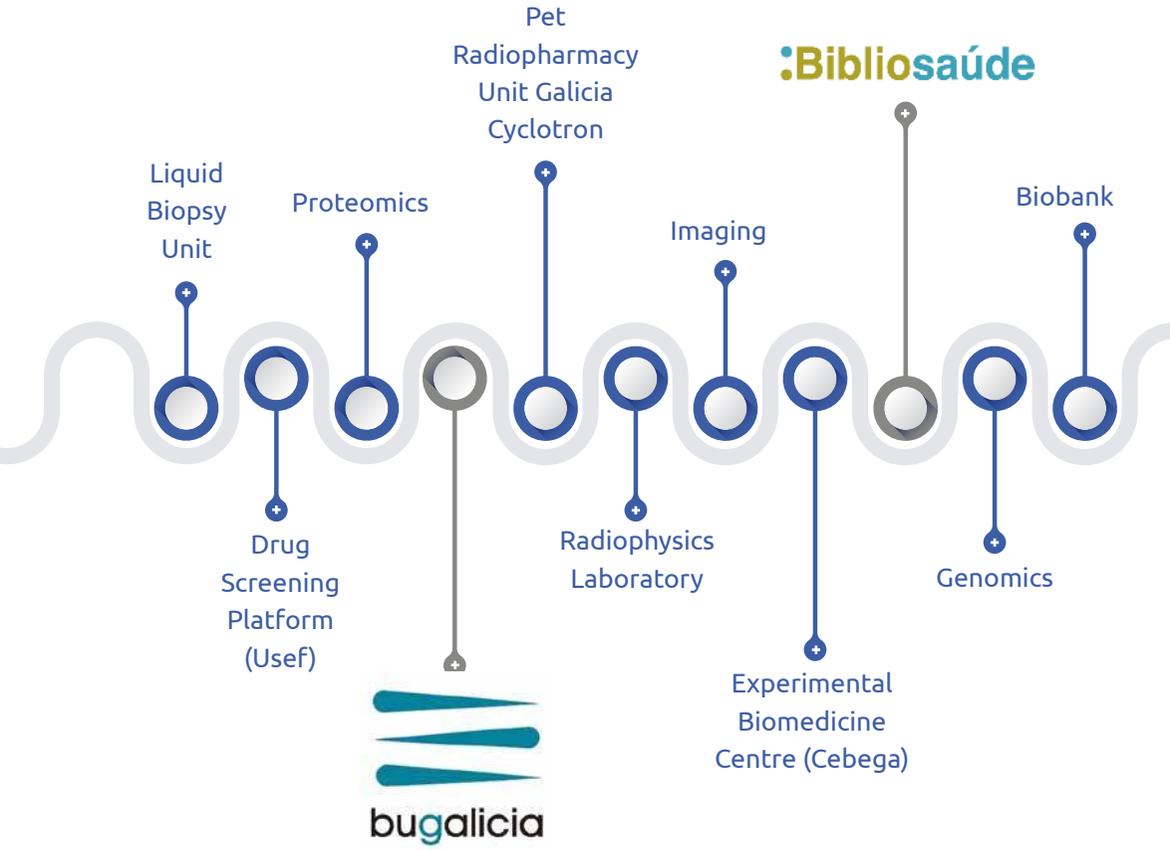
ANNUAL REPORT 2018

6

PLATFORMS









Proteomics

Susana Belén Bravo López

susana.belen.bravo.lopez@sergas.es

The proteomics platform was created to enhance, give support and offer a complete infrastructure in the field of proteomics to the Institute's researchers and other public and private bodies. It is equipped with the latest generation technology that allows the development of both studies of characterisation of complete proteomes as well as studies of analysis of differential expression.



Liquid Biopsy Unit

Laura Muinelo Romay

laura.muinelo.romay@sergas.es

The service for the analysis of circulating cells works with the CellSearch™ system (Veridex) that allows, through the use of immunomagnetic techniques of enrichment and identification by immunofluorescence, isolate and quantify present cells in peripheral blood. Its main application is aimed to the detailed analysis of circulating tumor cells (CTC), even though the computer also allows identify other kind of cells such as endothelial. In addition, the platform has the capacity to carry out studies with circulating DNA.

Flow Cytometry

Tomás Sobrino Moreiras

tomas.sobrino.moreiras@sergas.es

It is a technique of cells analysis that allows one to measure the characteristics of light scattering and fluorescence that cells have when they pass through a ray of light. This platform's main aims are:

- To advise users of the IDIS on the principles and applications of flow cytometry analysis and cell sorting.
- To develop, optimize and perform new analytic applications demanded by the users of the IDIS.
- To do cellular isolation through cell sorting.
- Quantify different soluble cytokines using multiplex tests.

Magnetic Resonance Imaging

Ramón Iglesias Rey

ramon.iglesias.rey@sergas.es

Magnetic Resonance Imaging is perhaps the most versatile neuroimaging technique that exists today. The use of this platform in its different variants (anatomical, functional, spectroscopy and molecular imaging) allows one to perform a complete follow-up, non-invasive (in vivo) and longitudinal in time of the process associated with neurovascular diseases and other such as plasticity, reorganization and functional recovery in animal models.

Biobank

Lydia Fraga Fontoira (Manager)

Phone. (+34) 981 955 148

biobanco.apa.santiago@sergas.es
lydia.fraga.fontoira@sergas.es

It is a store of biological samples associated with clinical information, which are collected, processed and handled with quality and excellence criteria. The objective is to implement them, in a non-profit way, to serve the medical community in order to promote biomedical research. Biobanks can be directly aimed at diseases (e.g., Bank of Tumours) or at population and epidemiological outbreaks.

Biobanks are essential tools to make biomedical research easier. That is why they are so relevant and also for the increasing demand of the highest quality biological samples in order to develop research processes.

Molecular Imaging Unit

Pablo Aguiar Fernández

pablo.aguiar.fernandez@sergas.es

Our mission is to bridge the gap between in vitro biomedical research and in vivo preclinical and clinical imaging, providing novel molecular imaging biomarkers and imaging probes to gain information about physiology and pathology in vivo. We offer a core facility to provide opportunities for in vivo molecular imaging based on PET, SPECT and CT technologies.

The Animal Experimentation Unit

Francisco Campos Pérez

francisco.campos.perez@sergas.es

The Animal Experimentation Unit provides support in biomedical research with several animal models for IDIS research groups, in strictly controlled sanitary and environmental conditions. The Animal Experimentation Unit is accredited by the Ministry of Rural Environment of the Xunta de Galicia. It has rat and mouse housing facilities, surgery rooms and specialized qualified personnel, in accordance with current regulations. It also has an Ethics Committee on Animal Experimentation. It obtained the corresponding accreditation as an Authorized Body to carry out the evaluation of projects from a scientific or educational point of view.

It is responsible for advice on issues related to animal welfare, review of internal operational processes, issuance of reports and monitoring of projects. Its objective is to promote research, and to develop and implement biomedical training, providing professionals with the necessary resources for the development of these initiatives.

Confocal Microscopy

Marta Picado Barreiro

marta.picado.barreiro@sergas.es

The confocal scanning microscope is well-known for its ability to perform optical sectioning: a thin plane or section within a thick turbid medium is non-invasively imaged with high resolution and contrast. Real-time in vivo confocal fluorescence microscopy. Nuclear, cellular and morphologic detail is imaged in living intact tissue without having to excise physically and prepare thin sections or cultures.

The services include the infrastructure and specialised staff to perform analysis as...

- 3D imaging reconstruction
- Multiple labeling
- Colocalization
- In vivo fluorescence imaging

ANNUAL REPORT 2018



COMPETITIVE FUNDING



During 2018, **29.108.535,46 €** were raised in the following concepts: projects, human resources, transfer, donations, contracts, infrastructures, provision of services, agreements and studies.

TOTAL

29.108.535,46 €**65**

Projects

10.631.222,46 €**289**

Donations

1.040.133,81 €**58**

Human resources

4.781.190,00 €**415**Contracts and
provision of services**6.622.804,20 €****282**Studies (Clinical Trials,
Observational Studies)**4.622.532,23 €****2**

Transfer

46.445,65 €**2**

Infrastructures

1.364.206,77 €

65 PROJECTS

10.631.222 €

2.395.694 €

7

International projects

4.413.741 €

46

National projects

3.821.785 €

12

Regional projects

58 Human resources
4.781.190,00 €

| CONCEPT | NUMBER | AMOUNT |
|-------------------------------|--------|-----------------------|
| FPU Grant | 5 | 397.986,12 € |
| Juan de la Cierva | 2 | 116.000,00 € |
| Juan Rodés | 1 | 180.000,00 € |
| MA-E Grant | 1 | 6.000,00 € |
| Río Hortega | 3 | 161.196,00 € |
| Predoctoral i-PFIS Grant | 1 | 82.400,00 € |
| Predoctoral PFIS Grant | 3 | 247.200,00 € |
| Postdoctoral Grant | 12 | 1.037.106 € |
| Predoctoral Grant | 26 | 2.263.637,34 € |
| Bioinforming Technician | 1 | 53.732,00 € |
| MARIE CURIE_Ind.Fellowship | 1 | 160.932,48 € |
| Technical Assistant PTA Grant | 2 | 75.000,00 € |

2017
40 Human resources
3.418.075 €

2018
58 Human resources
4.781.190 €



Postdoctoral Grant



Predocctoral Grant

ANNUAL REPORT 2018



STRATEGIC ALLIANCES



PLATFORMS

3

RED BIOBANCOS
ITEMAS ISCIII
SCREN. Spanish Clinical Research Network ISCIII

Red Biobancos
Instituto de Salud Carlos III

ítemas isciíí



Spanish Clinical Research Network ISCIII

NETWORKS FOR COOPERATIVE RESEARCH IN HEALTH

6

CIBER

CIBEROBN (1),
Physiopathology of Obesity and Nutrition
CIBERER, Rare Diseases
CIBERESP, Public Health and Epidemiology
CIBERCV: Cardiovascular Diseases
CIBERONC: Cancer
CIBER CIBERNED: Neurodegenerative Diseases

cíberobn

cíberer

cíberesp

cíbercv isciíí

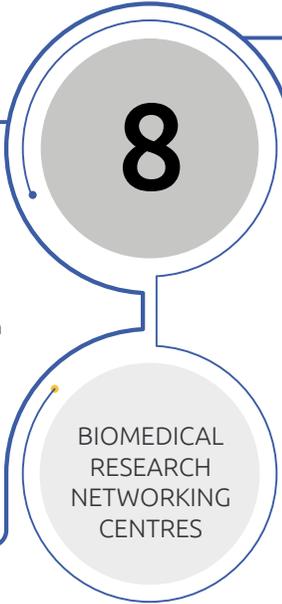
cíberonc isciíí

cíberMed isciíí

Centro Investigación Biomédica en Red Enfermedades Neurodegenerativas

(1) Scientific Direction IDIS

RETICS

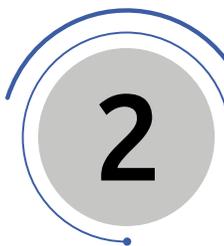


8

BIOMEDICAL RESEARCH NETWORKING CENTRES

- INVICTUS (1), Cerebrovascular diseases (stroke)
- RIC, Cardiovascular Diseases
- OFTARED, Eye Diseases
- REDIAPP, Research Network on Preventive Activities and Health Promotion in Primary Care
- RIER, Rheumatic Diseases
- REDINREN, Kidney Diseases
- Cell Therapy Network
- BIOBANK

(1) Scientific Direction IDIS



OTHERS

EMIR

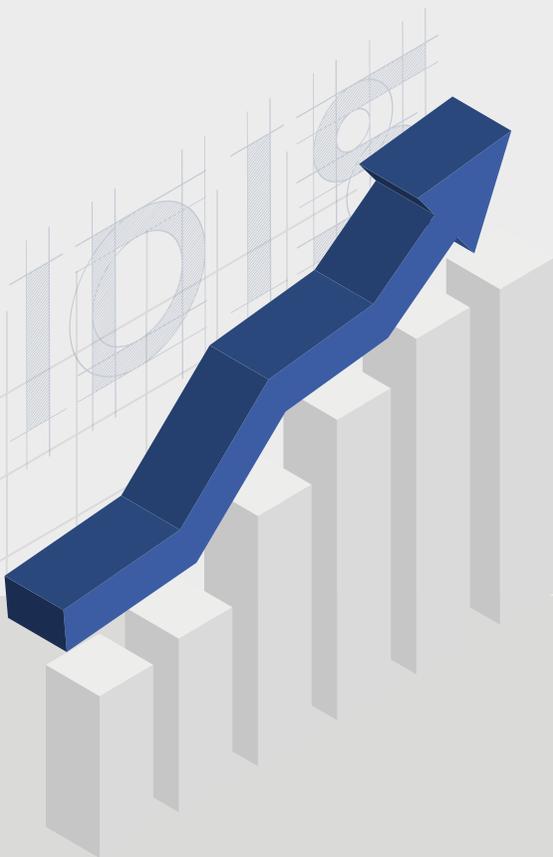
EUROPEAN INSTITUTE FOR BIOMEDICAL IMAGING RESEARCH

ANNUAL REPORT 2018

9

AREAS



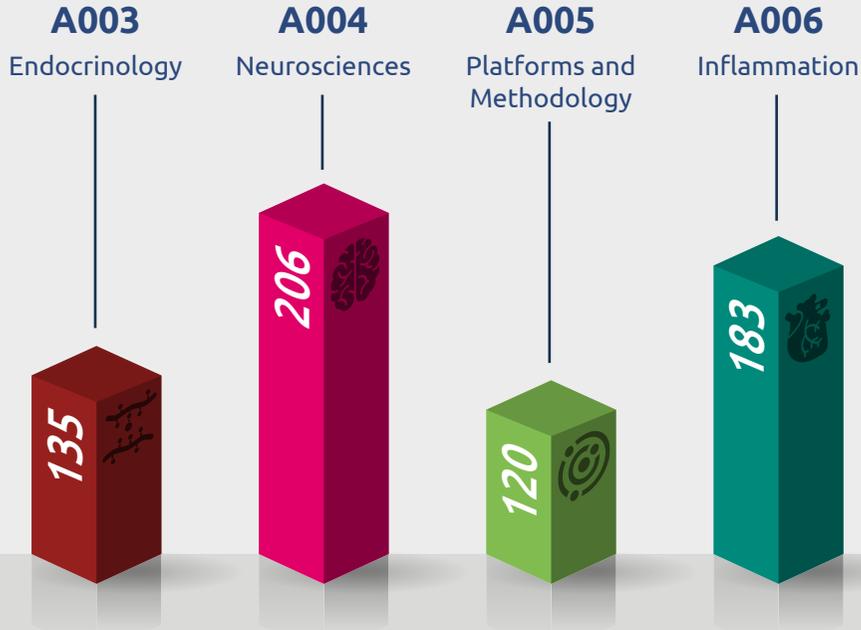


A001
Oncology



A002
Genetics and
Systems Biology





PEOPLE

1.071

are integrated in **82 groups**

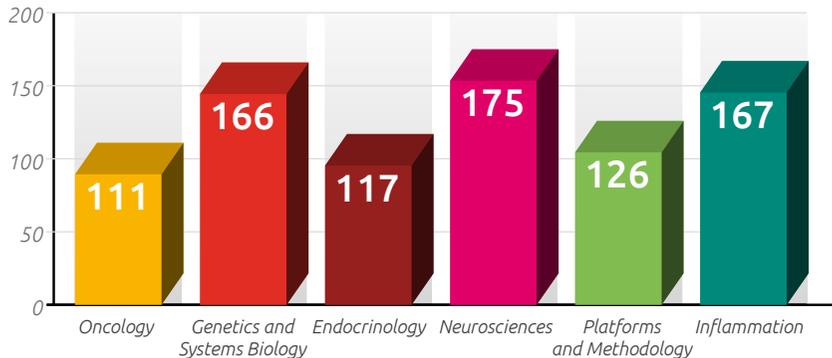
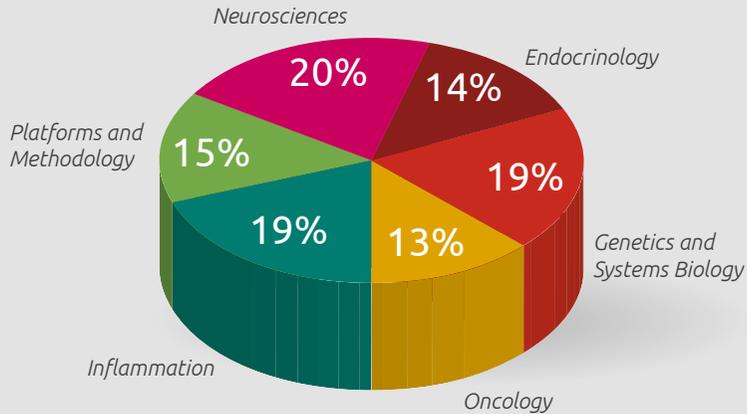
6 RESEARCH AREAS

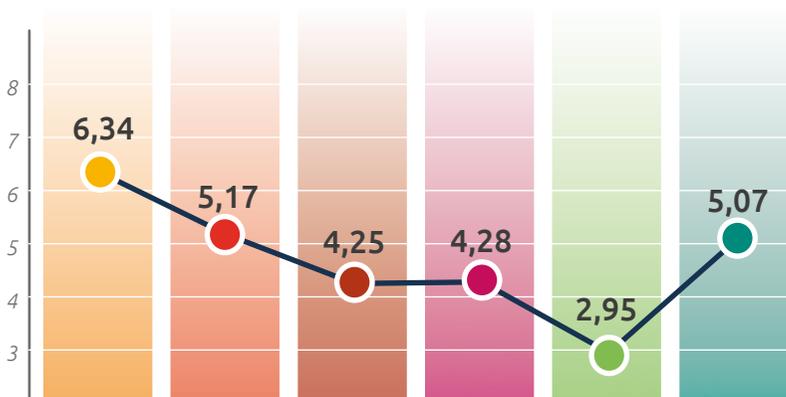


754
Publications

Publications

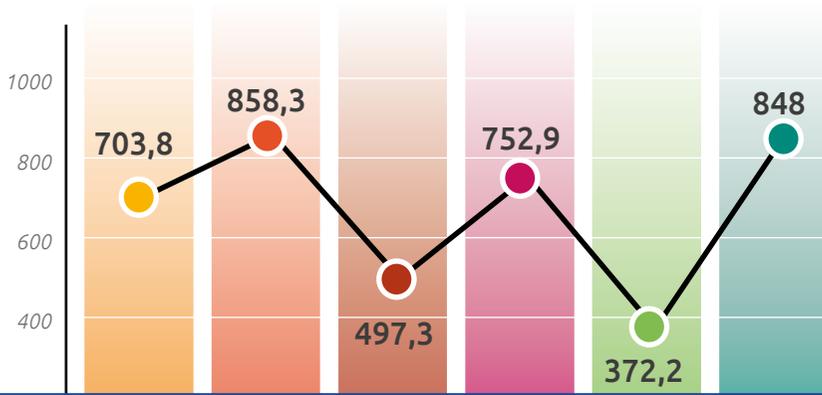
in 2018





Oncology Genetics and Systems Biology Endocrinology Neurosciences Platforms and Methodology Inflammation





Oncology

Genetics and Systems Biology

Endocrinology

Neurosciences

Platforms and Methodology

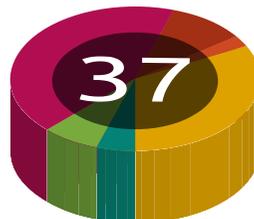
Inflammation

$$\sum f_i$$

- Oncology
- Genetics and Systems Biology
- Endocrinology
- Neurosciences
- Platforms and Methodology
- Inflammation



Thesis

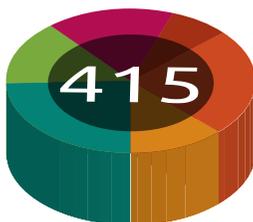


Patents



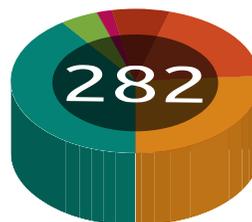
Projects

10.631.222,46€



Contracts

6.622.804,20€



Clinical Trials

4.622.532,23€

5
INNOVATION
AND TRANSFER

6
PLATFORMS

7
COMPETITIVE
FUNDING

8
STRATEGIC
ALLIANCES

9
AREAS





ANNUAL REPORT **2018**



XUNTA DE GALICIA
CONSELLERÍA DE SANIDADE