

The cover features a background of a sunset over the ocean with blue wavy overlays. A large light blue circle contains the title text. Below it is the 'idiis' logo, which consists of a dark blue circle containing the lowercase letters 'idi' in white, followed by the lowercase letters 'is' in dark blue.

ANNUAL
REPORT
2016



Health Research Institute of
Santiago de Compostela

ANNUAL
REPORT
2016





EDITION

José Castillo Sánchez

*Scientific Director of the Health Research
Institute of Santiago de Compostela*

APROBATION

Direction Board of the Institute met in
Santiago de Compostela on 07 April 2017

PRODUCTION

Technical Secretary of the Health Research
Institute of Santiago de Compostela

Isabel Lista García, Quality Manager

Yolanda Liste Martínez, Technical Management

Ricardo Julio Rodríguez Fernández,

Technical Research Management and Promotion

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José Castillo Sánchez
Scientific Director

SALUDO

Este nuevo compromiso anual de rendición de cuentas nos muestra que los demás, dentro y fuera de nuestro país, confían cada vez más en nosotros para usar los recursos que, entre todos, decidimos dedicar a la generación de nuevos conocimientos en salud. Durante 2016 los grupos del IDIS demostraron su liderazgo incrementando las publicaciones científicas de excelencia, el número de tesis doctorales, la participación en nuevos proyectos de investigación internacionales, la captación de recursos y su implicación en la

GREETING

This new commitment to annual accountability bears witness to the growing confidence that others, both at home and abroad, have in us to use those resources that we all together have decided to devote to generating new knowledge in health. Throughout 2016 the IDIS teams showed their leadership by increasing their publications in high impact journals, the number of doctoral dissertations, their contributions to new international research projects, their ability to attract funding and their involvement and devotion to the transfer of

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transferencia del conocimiento al desarrollo con más patentes solicitadas, concedidas y licenciadas, más spin off y más contratos con empresas. Esta fortaleza institucional del IDIS contrasta con la debilidad interna para asumir sin complejos nuestra marca de identidad. Presumir y defender al IDIS no va en contra de nadie, pero nos hará más consistentes para defender nuestros intereses, tanto los estrictamente científicos y económicos, como -sobre todo- los de nuestros investigadores. Cuanto más fuerte sea la marca IDIS mayor capacidad tendremos para influir en todas aquellas decisiones que apoyen nuestro objetivo fundacional.

Sabemos lo que es un instituto de investigación sanitaria: un concepto y un espacio de trabajo en el que los pacientes son quienes inspiran

knowledge towards development with an increase in the number of patent applications as well as in the number of patents granted and licensed, more spin-off companies and more contracts signed with companies. This institutional strength of the IDIS contrasts with an internal weakness to unapologetically embrace our identity mark. Praising and defending the IDIS is not to the detriment of anyone else but it will make us stronger in defending our interests whether they are strictly scientific or financial or – most importantly – the interest of our researchers. The stronger IDIS is as a brand the greater will be our ability to influence those decisions that support our founding objective.

We know what a health research institute is: a concept and a space of work where it is patients who inspire

las preguntas y nos plantean los problemas. Y siempre deberemos recordar que es el entorno hospitalario y de atención primaria el que mejor representa ese espacio. Todos nosotros - SERGAS y USC- nos organizamos como instituto porque compartimos esa idea y esa necesidad social, porque la consideramos útil para los demás y porque nos proporciona una ventana de oportunidad para financiar la investigación que debemos desarrollar. Y cada año demostramos que avanzamos decididamente en esa dirección.

Después de siete años presentando memorias de resultados -cada vez mejores gracias a todos, sin excepción de personas e instituciones- sabemos que podemos, pero nos falta todavía un punto de generosidad, de osadía y de responsabilidad para dotarnos del marco jurídico más adecuado, que debe regular y mejorar las relaciones entre nosotros y con los demás.

us the questions and raise the issues. And we must never lose sight of the fact that hospitals and primary care centres is where this environment is best represented. We - the SERGAS and the USC - have come together as an institute because we share that notion and that social demand; because we consider it useful for the members of the public and because it provides us with a window of opportunity to finance the research we must conduct. And with every passing year we show that we are firmly moving forward in that direction.

After seven years of reporting our achievements - better every year thanks to each and every person and institution - with no exception - we are aware that we can but we still lack some generosity, some boldness, some commitment to give ourselves a more adequate legal framework that should govern and improve the relations between us and those with third parties.

Debemos acumular y usar nuestro ingente capital personal en el IDIS. Es la única forma de asegurar el futuro. Las personas pasamos pero las instituciones permanecerán y se fortalecerán si aumentamos la generosidad de forma paralela al crecimiento de la experiencia. Hemos trabajado mucho y bien, hemos obtenido magníficos resultados, pero esto no es nada si tenemos en cuenta el tamaño de nuestro problema: la salud de nuestros conciudadanos. Sin perder de vista lo que somos y de dónde venimos, sigamos haciéndolo tan bien cómo sabemos y cómo podemos. Muchas gracias.

We must accrue and use our huge human assets at the IDIS. This is the only way to guarantee that there is a future. People come and go but institutions will remain and will grow stronger if we increase our generosity commensurate to the growth in experience. We have worked hard and well. We have obtained remarkable results, but they mean nothing if we do not take into account the size of our problem: the health of our fellow citizens. Without losing sight of who we are and where we come from, let us continue doing what we know and we can and being the best version of ourselves at that. Thank you very much.



José Castillo Sánchez

*Director Científico del IDIS
Santiago de Compostela, 7 de abril de 2017*

Scientific Director of the IDIS
Santiago de Compostela, 7 April 2017

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**EXECUTIVE
SUMMARY**

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.

MISSION

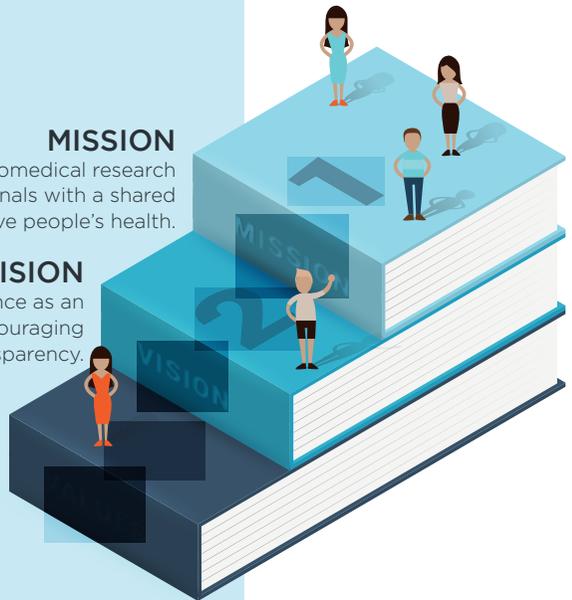
We are a translational biomedical research centre that joins professionals with a shared objective: to improve people's health.

VISION

We want to become a reference as an organizational and governance model, encouraging participation, collaboration and transparency.

VALUES

Responsibility, continuous improvement, horizontal communication, transformative research, integration and leadership.



EXECUTIVE SUMMARY

STAFF
CONTRACTS **40**

OBSERVATIONAL
STUDIES **157**

CONTRACTS AND
PROVISION OF SERVICES **283**

DONATIONS **121**

CLINICAL
TRIALS **107**

PROJECTS **73**



53
SEMINARS

151
TRAINEESHIPS

21
REQUESTED
PATENTS

6
LICENSED
PATENTS

12
GRANTED
PATENTS

613
PUBLISHED
ARTICLES

99
THESES

**TOTAL
FUNDS
RAISED**

23.638.401 €

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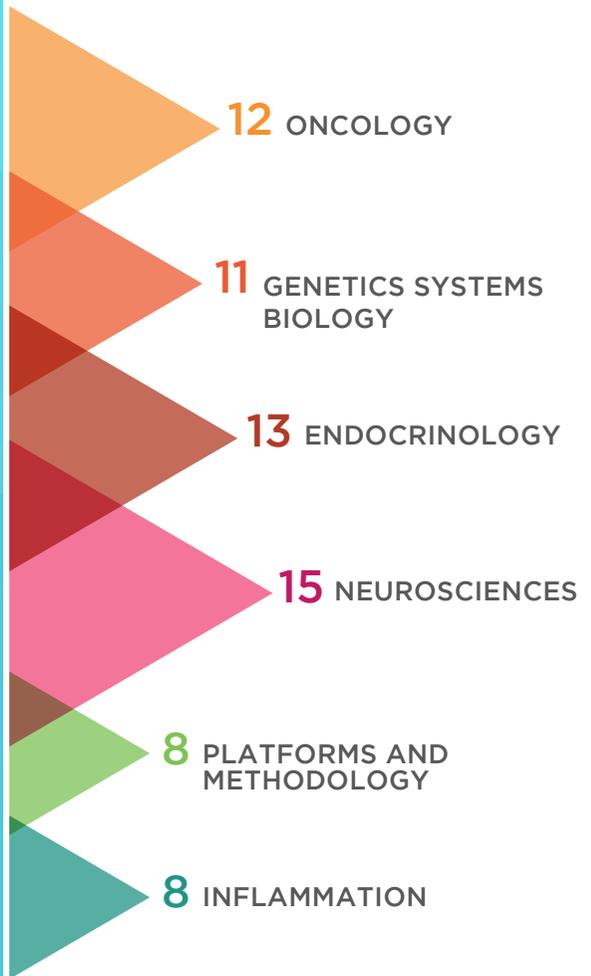


**GLOBAL
ANALYSIS**

NUMBER OF GROUPS PER AREA

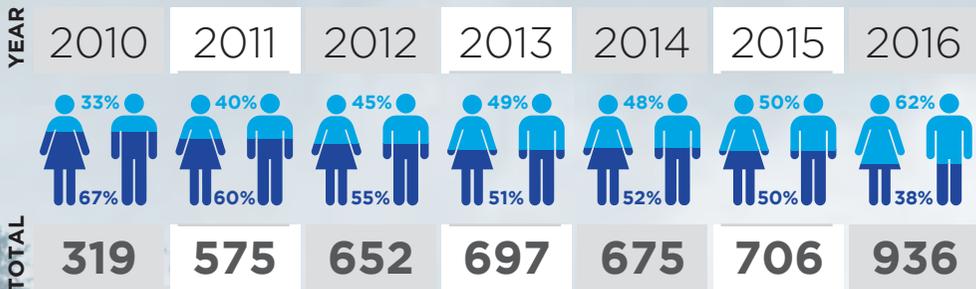
936 people are integrated in 67 groups organized in 6 research areas:

Oncology, 12 groups;
Genetics and Systems Biology, 11;
Endocrinology, 13;
Neurosciences, 15;
Platforms and Methodology 8;
and Inflammation, 8;
There is also a support area (technical secretariat and common support platforms for research) with 9 groups.

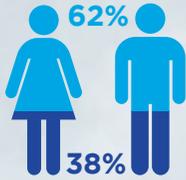


GLOBAL ANALYSIS

HISTORY OF A JOINT VENTURE: HUMAN RESOURCES IN FIGURES



2016



25%
SUPPORT
STAFF

936
PEOPLE

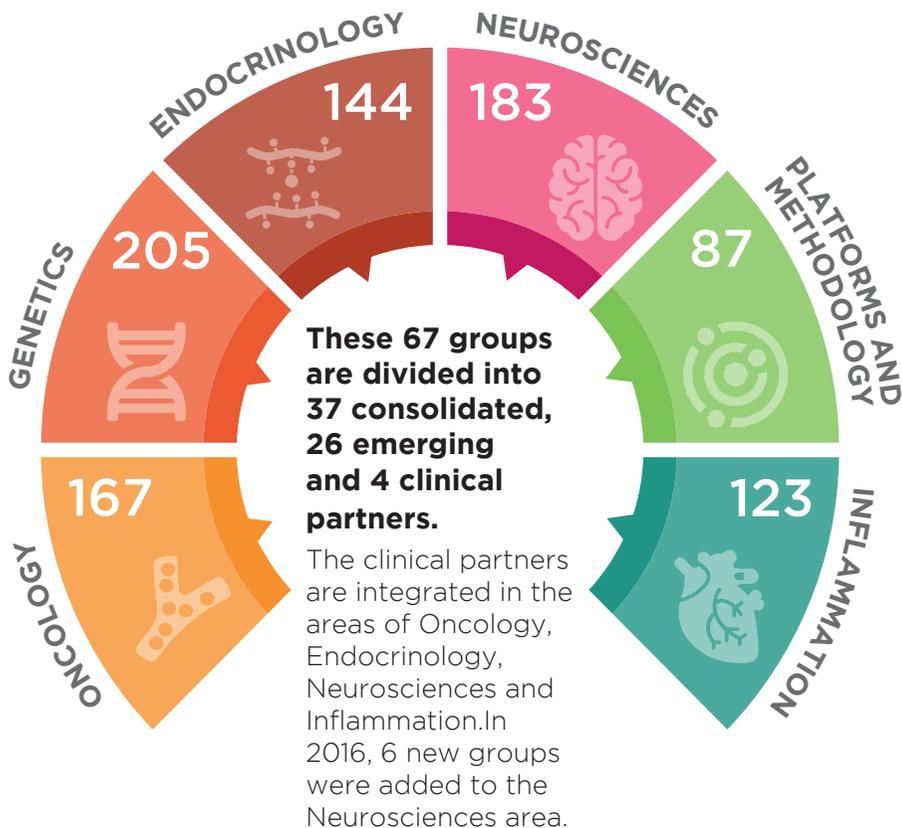
24%
SENIOR
RESEARCHER

30%
PREDOCTORAL
RESEARCHER

21%
POSTDOCTORAL
RESEARCHER

GLOBAL ANALYSIS

NUMBER OF RESEARCHS PER AREA



In 2016, **6 new groups** were added to the **Neurosciences area**.

67
GROUPS

4
**CLINICAL
PARTNERS**

26
EMERGING

37
CONSOLIDATED

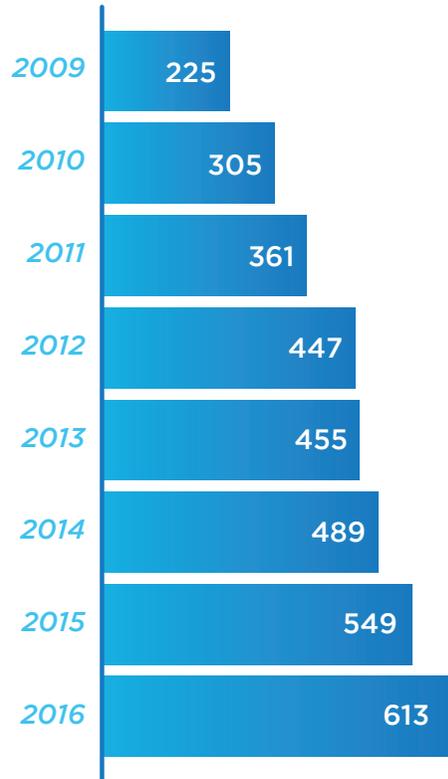


613
ARTICLES

NUMBER OF PUBLISHED ARTICLES EACH YEAR

The Institute has published **613 original scientific articles, editorials and reviews** in **363 international journals** indexed in the Journal Citation Report with an cumulative impact factor of **2.565 points** and an average impact factor of **4,18 points**.

An increase of the number of articles published: **225 in 2009 and 613 in 2016**, a remarkable duplication of its number since the establishment of the Institute.



GLOBAL ANALYSIS

CUMULATIVE IMPACT FACTOR

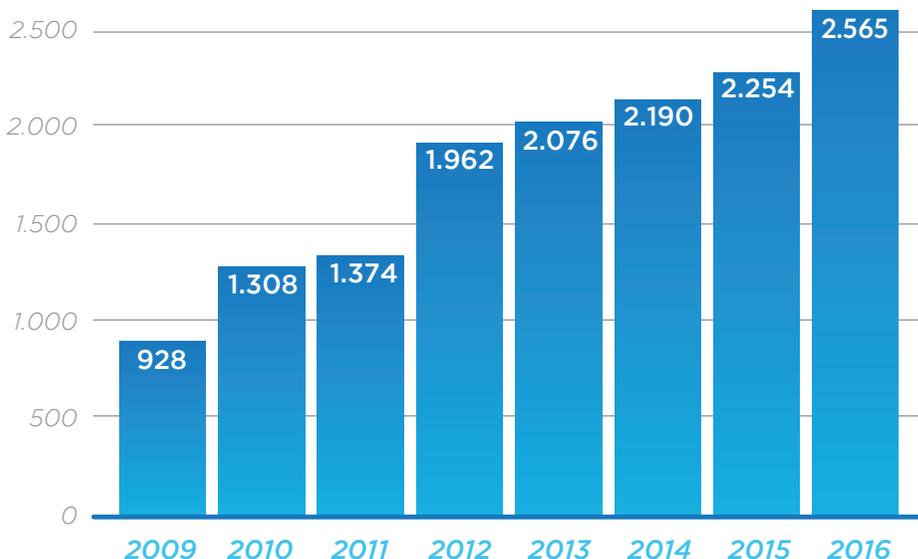
The upward trend of the cumulative impact factor is maintained and it moves from **928 in 2009** to **2.565 in 2016**. The average impact factor in 2016 was **4,18 points**.

2.565

CUMULATIVE
IMPACT
FACTOR
2016

4,18

AVERAGE
IMPACT
FACTOR
2016



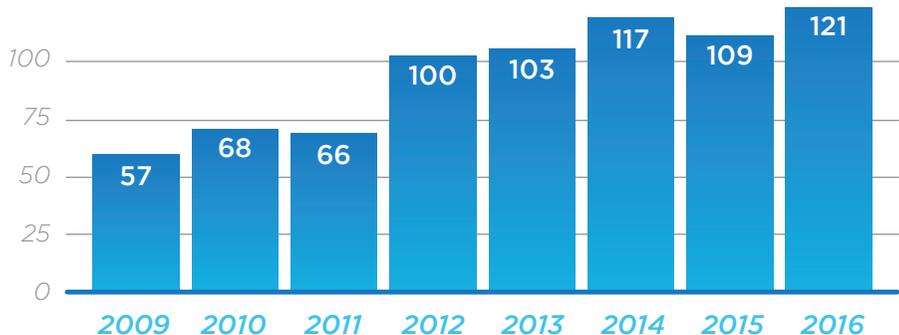
NUMBER OF PUBLISHED ARTICLES IN THE FIRST DECILE

A remarkable increase in the first decile for the same period from **57 articles published in 2009** to **121 in 2016**.



57
ARTICLES
2009

121
ARTICLES
2016



GLOBAL ANALYSIS

NUMBER OF ARTICLES PUBLISHED IN EACH QUARTILE

343

Q1

147

Q2

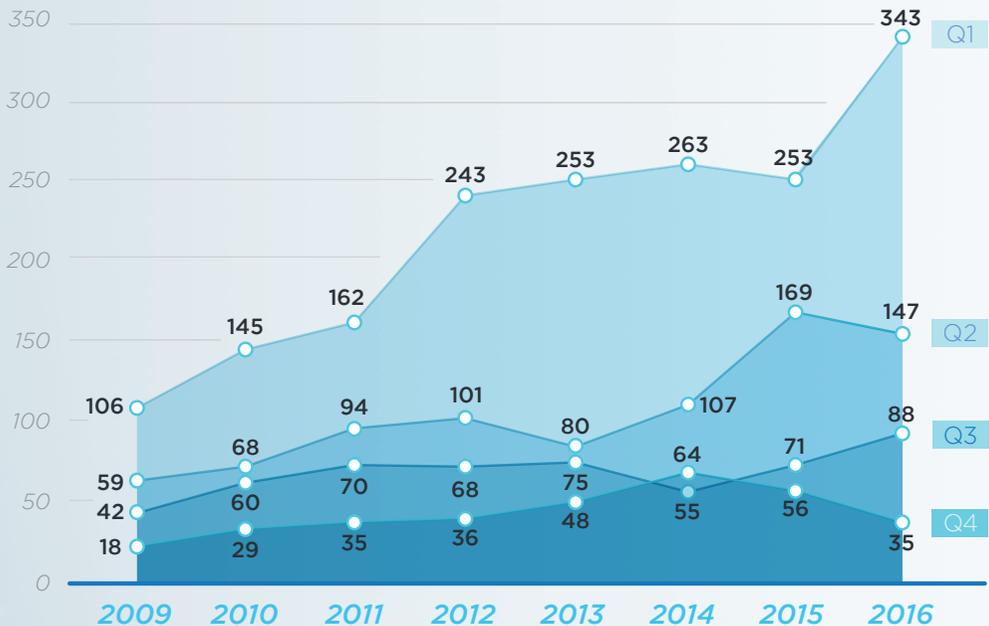
88

Q3

35

Q4

NUMBER OF ARTICLES BY YEAR PUBLISHED IN EACH QUARTILE

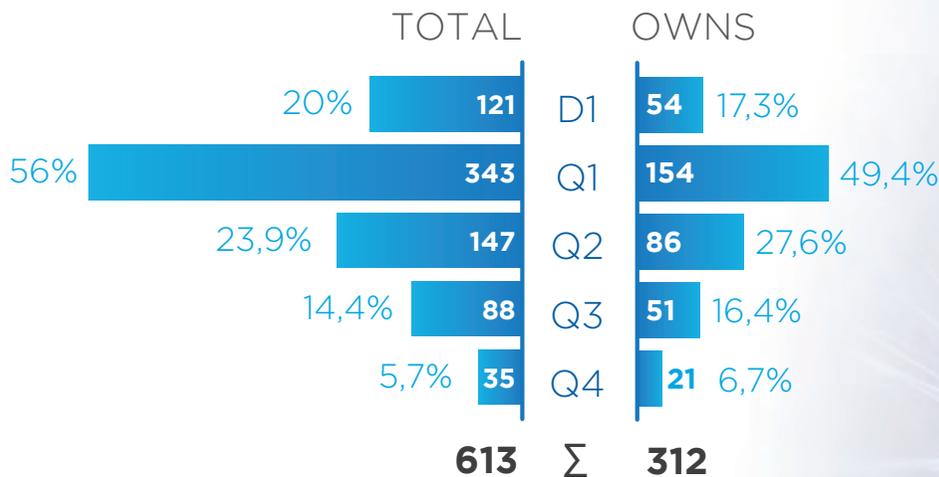


GLOBAL ANALYSIS

NUMBER AND % OF THE TOTAL NUMBER OF PUBLICATIONS AND ARTICLES IN 2016

The number of articles per quartile increases gradually during the period of 2009-2016 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.

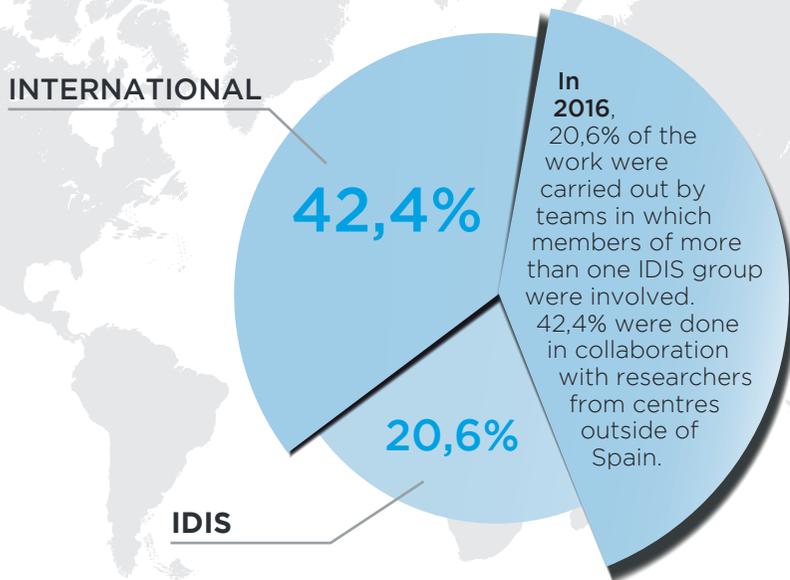


**In 2016, from a total of 613 articles,
312 were published by us (50,8%).**

From the 121 of the first decile, D1,
54 are of our own.

GLOBAL ANALYSIS

NUMBER AND % OF ARTICLES PUBLISHED IN COLLABORATION BETWEEN THE IDIS GROUPS AND THE GROUPS OF THE CENTRES OUTSIDE OF SPAIN



126 ARTICLES PUBLISHED in collaboration between the IDIS groups

260 ARTICLES PUBLISHED in collaboration between the groups of the centres outside of Spain

SUMMARY OF THE FUNDS RAISED IN 2016

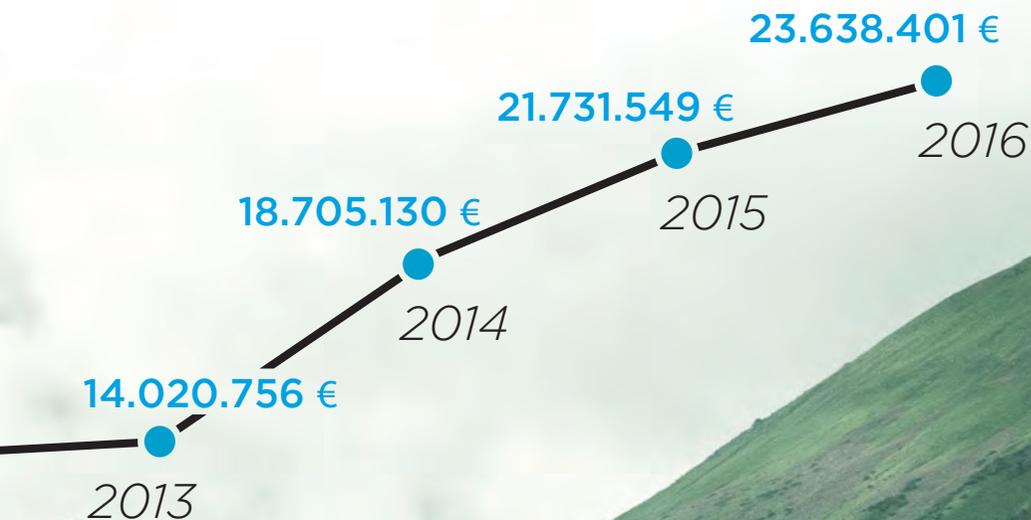
During 2016, the funds raised in competitive calls for research projects, the recruitment of staff, infrastructures, agreements, contracts and provision of services, donations, clinical trials and observational studies **generated 23.638.401 €** which will complement the resources of the institutions that take part in IDIS.

CONCEPT	NUMBER	AMOUNT
Projects	73	11.109.641 €
Infrastructures	1	1.160.814 €
Human Resources	40	2.574.702 €
Donations	121	846.402 €
Contracts and provision of services and agreements	283	3.830.262 €
Transfer	1	876.302 €
Studies (clinical trials, CT, Observational studies, OS)	264	3.240.275 €



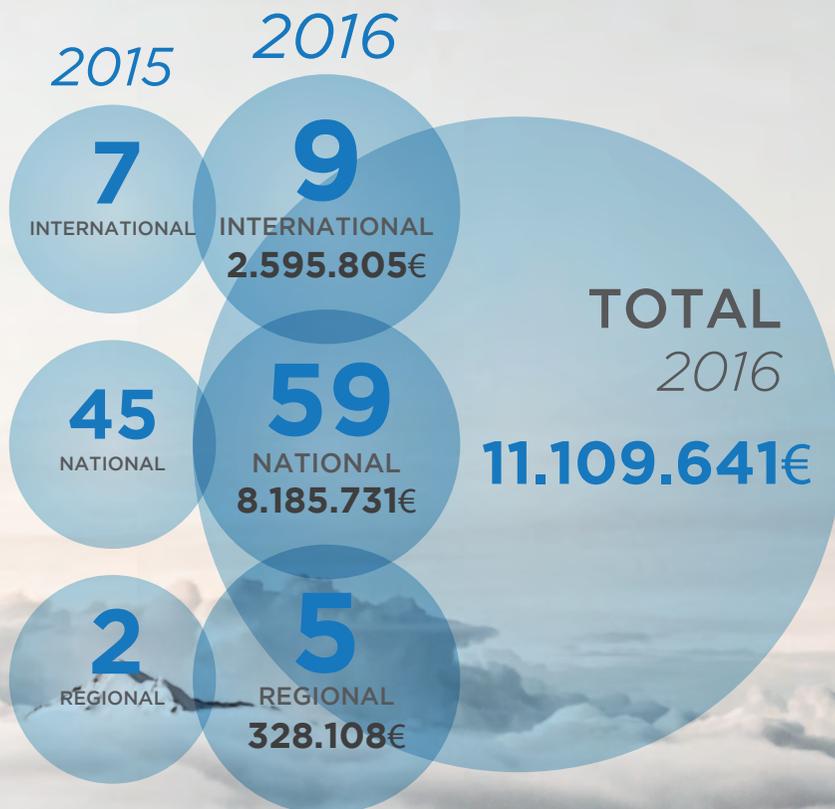
AMOUNTS RAISED



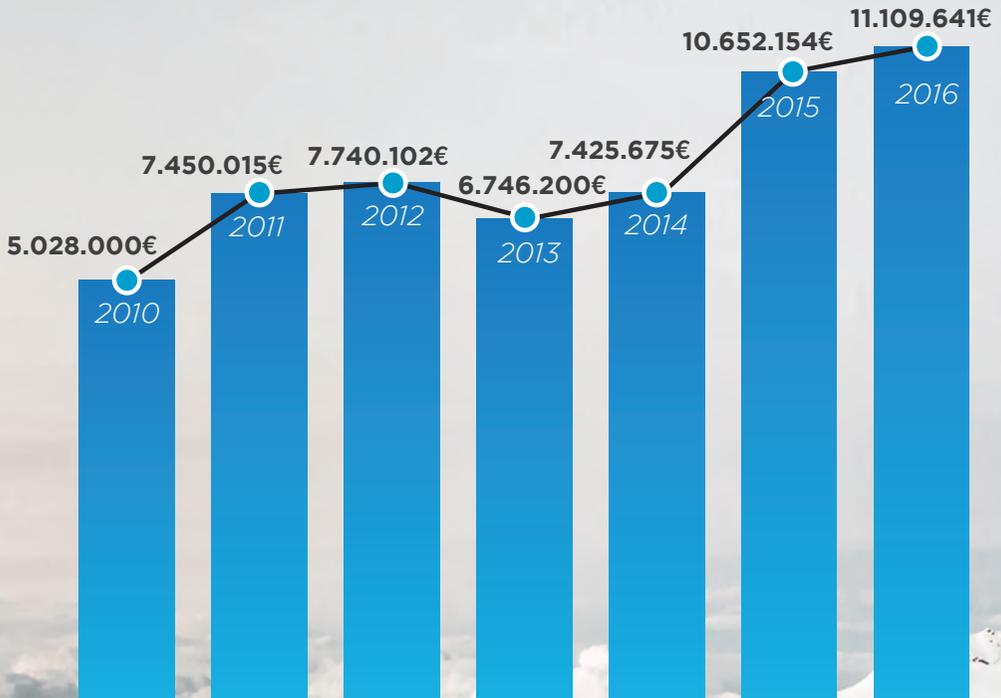


GLOBAL ANALYSIS

NUMBER AND AMOUNT OF FUNDS RAISED IN 2016 FOR PROJECTS BY LOCATION

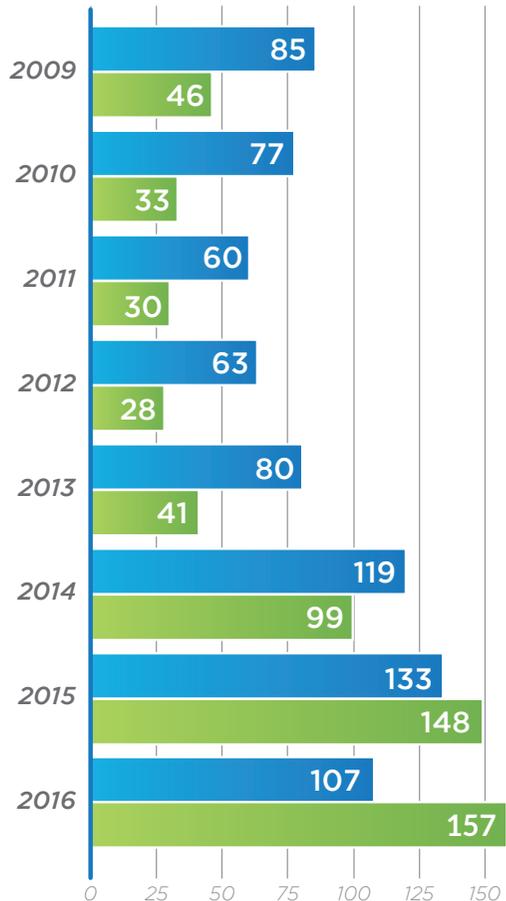


AMOUNT OF FUNDS RAISED BY YEAR FOR PROJECTS



GLOBAL ANALYSIS

NUMBER OF CLINICAL TRIALS AND OBSERVATIONAL STUDIES



TRAINING
ACTIVITIES
IN 2016



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2016
ACHIEVEMENTS

01

INTERNATIONAL LEADERSHIP AND PARTNERSHIP

IDIS integrates eighth European Union and public-private partnerships funded projects: PANA, MADIA, ZIKA, RESCEU, OliveNET, DARWIN, NANOFAR Y B-SMART.



02

TEN RESEARCH GROUPS TO CONSOLIDATE IDIS BET ON NANOMEDICINE

“Molecular Endocrinology”, “Neurology”, “Genetics of Human Diseases”, “BIOFARMA”, “Design, Synthesis and Medical Evaluation of Bioactive Compounds and New Materials”, “Physics of Polymers and Colloids”, “R&D in Drugs Dose Forms and Delivery Systems”, “Magnetism and Nanotechnology (NanoMag)”, “Trace Elements, Spectroscopy and Speciation” and “Analytical Chemistry of Compounds of Alimentary, Environmental and Biological Interest”. IDIS holds now an impressive set of interdisciplinary expertise, multifaceted approaches, technology transfer and successful spin-offs creation for researching on the diagnosis and treatment of prevalent diseases as cancer, neurological disorders and obesity.



03

NEW EFFORT TO CAPTURE AND FORMING SCIENTIFIC TALENT

Call and resolution of the IDIS VI Predoctoral Grants Program. Three new trainees integrate Cardiology, Metabolic Disorders and Experimental and Observational Rheumatology research groups.

04

RENEWAL OF ALL FOUR CONSULTANCY COMMITTEES

Primary Care, Research, Education and Quality to promote participation in the identification of gaps and planification of corrective, preventive and continuous improvement actions.

05

INDEPENDENT EVALUATION

Twelve research groups defended their performance and explained their plans for the future before IDIS's External Scientific Committee

06

IDIS HOSTED THE FOURTH EDITION OF BIOINTEGRASAÚDE, BIS 2016

Born in Santiago de Compostela in 2013 and after a whole turn across Galician health research institutes, IDIS hosted the fourth edition of BioIntegraSaúde, BIS 2016, a regional event gaining national and international relevance.

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STRUCTURE

DIRECTION BOARD

External Scientific Committee

Research Committee

Quality Committee

Primary Care Committee

Education Committee

SCIENTIFIC DIRECTION

Technical Secretary

Fundación Ramón Domínguez

USC Management and Enhancement of I+D+i Area

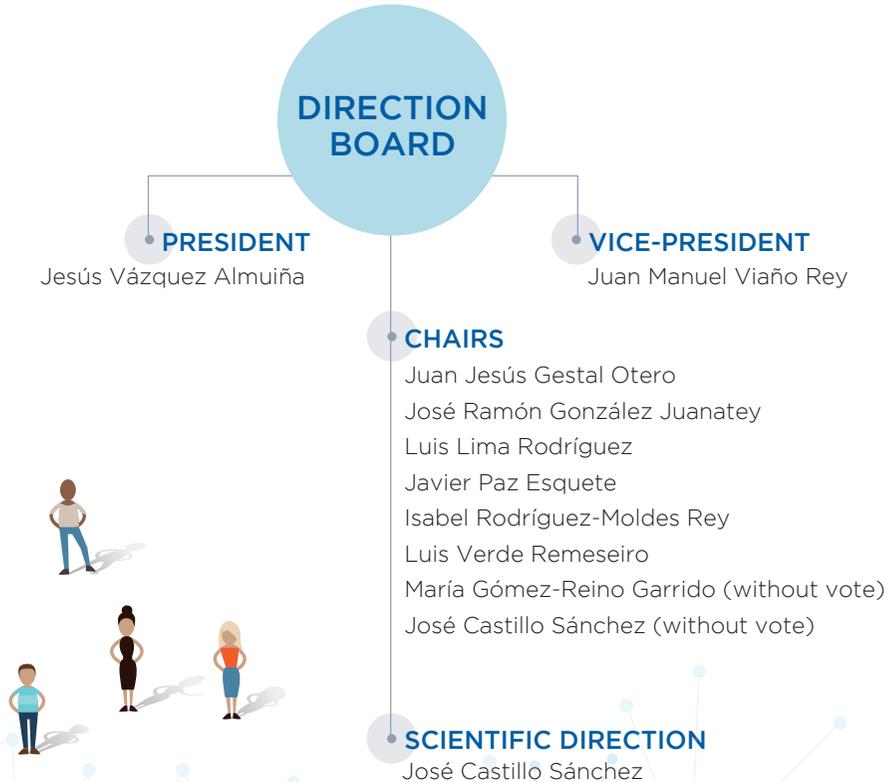
AREAS

GROUPS

COMMON PLATFORMS



GOVERNMENT BODIES



ADVISORY BODIES

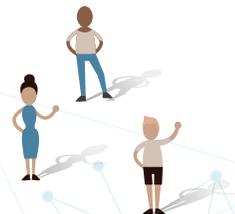
EXTERNAL SCIENTIFIC COMMITTEE

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

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



QUALITY COMMITTEE

PRESIDENT

Estrella López Pardo

SECRETARY

Isabel Lista García

MEMBERS

Gerardo Atienza Merino
Ángeles Fernández Rodríguez
Uxia 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

MEMBERS

Clara Álvarez Villamarín
Miguel Ángel Caínzos 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

MEMBERS

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

MEMBERS

Isabel Lista García
Yolanda Liste Martínez
Ricardo Julio Rodríguez
Fernández





STRUCTURE

ONCOLOGY A001

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	Carmen Rivas Vázquez
AC01	Lymphoproliferative Disorders	José Luis Bello López

GENETICS AND SYSTEMS BIOLOGY A002

Coordinator: Ángel Carracedo Álvarez

C005	Genetics	Ángel Carracedo Álvarez
C009	Digestive Pathology	Juan Enrique Domínguez Muñoz
C020	Genetics, Vaccines, Infections and Paediatrics (GENVIP)	José María Martinón Sánchez
E001	Genetics of Cardiovascular and Eye Diseases	María José Brión Martínez
E012	Comparative Genomics of Human Parasites	Julio Manuel Maside Rodríguez
E015	Population Genetics in Biomedicine (GenPoB)	Antonio Salas Ellacuriaga
E016	Genetics of Neurological Disorders	María Jesús Sobrido Gómez
E017	Cancer Genetics	Ana Paula Vega Gliemmo
E020	Psychiatric Genetics	Javier Costas Costas
E021	Genetics and Developmental Biology of Kidney Diseases	Miguel Ángel García González
E027	Escherichia coli	Jorge Blanco Álvarez

STRUCTURE

ENDOCRINOLOGY A003

Coordinator: Felipe Casanueva Freijo

C001	Neoplasia and Endocrine Differentiation	Clara Álvarez Villamarín
C006	Molecular Endocrinology	Felipe Casanueva Freijo
C008	Obesity and Nutrition	Carlos Diéguez González
C012	Metabolic Disorders	María Luz Couce Pico
C019	Thyroid and Metabolic Disorders Unit (UETeM)	David Araújo Vilar
C022	Paediatric Nutrition	María Rosaura Leis Trabazo
C029	Neurobesity	Miguel Antonio López Pérez
C031	Molecular Metabolism	Rubén Nogueiras Pozo
E006	Cytokines and Obesity (Citobes)	M ^a del Carmen García García
E023	Obesidomics	María Pardo Pérez
E025	Cellular Endocrinology	Jesús Pérez Camiña
E026	Endocrine Physiopathology	Luisa María Seoane Camino
AC04	Paediatric Endocrinology	Manuel Pombo Arias

NEUROSCIENCES A004

Coordinator: José Castillo Sánchez

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

STRUCTURE

PLATFORMS AND METHODOLOGY A005

Coordinator: Juan Jesús Gestal Otero

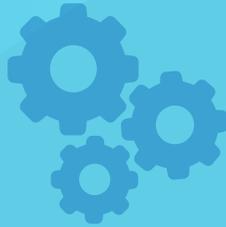
C002	Experimental Surgery	Miguel Ángel Cainzos Fernández
C013	Epidemiology, Public Health and Evaluation of Health Services	Juan Jesús Gestal Otero
C017	Research Methodology	Francisco Gude Sampedro
C021	Clinical Analysis	Santiago Rodríguez-Segade Villamarín
C024	Radiology	Miguel Souto Bayarri
E002	Biostatistics	Carmen María Cadarso Suárez
E013	Microbiology	Benito José Regueiro García
E034	Clinical Pharmacology	María Jesús Lamas Díaz

INFLAMMATION A006

Coordinator: José Ramón González Juanatey

C003	Hypertension	Carlos Calvo Gómez
C014	Rheumatology	Juan Jesús Gómez-Reino Carnota
C016	Cardiology	José Ramón González Juanatey
C027	Neuroendocrine Interactions in Rheumatic and Inflammatory Diseases (Neirid)	Oreste Gualillo
C028	Genetics of Osteoarticular Disorders	Antonio González-Martínez Pedrayo
E009	Cellular and Molecular Cardiology	Francisca Lago Paz
E030	Platelet Proteomics	Ángel García Alonso
AC05	Pneumology	Luis Guillermo Valdés Cuadrado

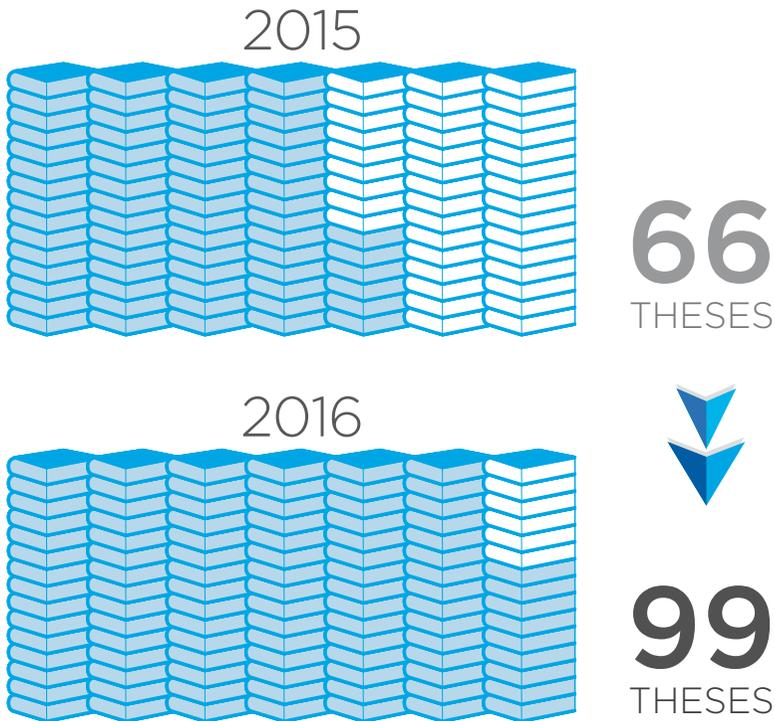
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**RECURRENT
TRAINING**

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In 2016, **53 seminars** were organized, **99 doctoral theses** were directed by IDIS' researchers, **144 professional training placement** and **7 short training exchanges** were organized in collaboration with the Medicina Intercambios Galicia Association (ME.I.G.A.), member of the International Federation of Medical Students' Associations (IMFSA).



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**INNOVATION
AND
TRANSFER**

INNOVATION AND TRANSFER

THE MAIN INITIATIVES OF TECHNOLOGY TRANSFER DURING 2016

PARTNERING

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.

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.

PRIS Program: valorization program of SERGAS, Galician Public Healthcare Provider.

CaixaImpulse Program: funding for creating and implementing a valorisation and commercialisation plan aimed at making use of protected or protectable assets resulting from research.

DISSEMINATING OUR RESEARCH

BIOSPAIN: the largest biotech event organized by a national bioindustry association in Europe.

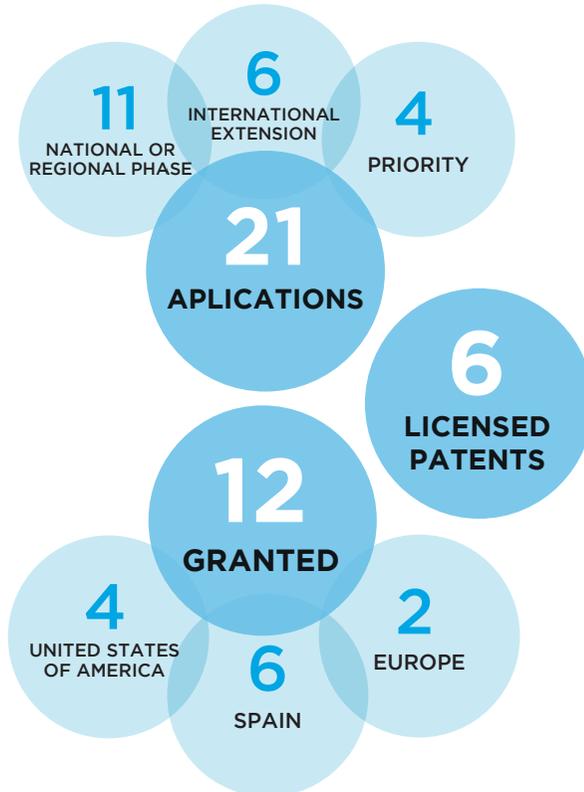
BIOINVESTOR DAY: training and networking, a meeting point for researchers, investors and technology transfer experts.

ADOPTING THE PUBLIC-PRIVATE PARTNERSHIP MODEL

Three P3 ongoing initiatives where public IDIS partners share risks with private investors...

- Roche-CHUS, **Precision Oncology** Joint Unit.
- Esteve-USC, **Drug Discovery** Joint Unit.
- Everis-Gradient-CHUS, **e-Health** Joint Knowledge Centre.

ENSURING AND ENFORCING PROPERTY RIGHTS EFFECTIVELY TO ENSURE THE STIMULATION OF INVESTMENT IN RESEARCH AND INNOVATION...



CLINICAL TRIALS AND OBSERVATIONAL STUDIES

Clinical Trials and Observational Studies were as follow: during the past year 2016, IDIS recorded a total of 107 clinical trials (16 national, 89 international and 2 local) and 157 observational studies (109 national, 20 international, 1 regional and 27 local).



ANNUAL
REPORT
2016



PLATFORMS

PLATFORMS

EPIDEMIOLOGY
AND CLINICAL
RESEARCH UNIT



SERVIZO
GALEGO
de SAÚDE

PROTEOMICS

CITOMETRY

ciMUS

MICROSCOPY

PET RADIOPHARMACY
UNIT GALICIA
CYCLOTRON

IMAGING

USC
UNIVERSIDADE
DE SANTIAGO
DE COMPOSTELA



CAMPUS VIDA
CAMPUS DE EXCELENCIA INTERNACIONAL

RADIOPHYSICS
LABORATORY

LIQUID BIOPSY
UNIT

MOLECULAR IMAGING UNIT
MICROPET/SPECT/CT SCAN

BIOBANK

9,4 MAGNETIC
RESONANCE



EXPERIMENTAL
BIOMEDICINE CENTRE
(CEBEGA)

SEQUENCING AND
FRAGMENT
ANALYSIS UNIT

DRUG SCREENING
PLATFORM (USEF)

GENOMICS

:Bibliosaúde



PROTEOMICS



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.

Susana Belén
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LIQUID BIOPSY UNIT



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.

Laura
Muínelo Romay
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CONFOCAL MICROSCOPY



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

Marta
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FLOW CITOMETRY



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.

Tomás
Sobrino Moreiras
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BIOBANK



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.

The specific aims of Santiago's Biobank are:

- * To increase the quantity and quality of the samples available to the scientific community.
- * To manage the specific collections linked to projects and research groups that increase the added value of the Biobank.
- * To serve as support and advice platform for researchers who work on projects that require collecting human samples.
- * To promote the intrahospital integration and the central management of the CHUS' samples collections.
- * To integrate the Biobank as support platform for the IDIS' researchers.
- * To unify standard operating procedures and policies for quality assurance applicable to all collections managed by the Biobank.

Lydia Fraga Fontoira (Manager)

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MOLECULAR IMAGING UNIT

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.

Neurology: brain metabolism (FDG-PET), perfusion imaging (HMPAO-SPECT), in vivo hypoxia (FMISO-PET) and in vivo quantification of the dopamine receptors (DATSCAN-SPECT) in rodents.

Oncology: evaluation of tumours and therapies follow-up in rodents based on the "gold standard" in clinical oncology (FDG-PET) and also Choline-PET, proliferation (FLT-PET) and hypoxia imaging (FMISO-PET). Monoclonal antibody (mAb) PET imaging with Zr-89 is still in testing.

Pharmacokinetics and drug development: biodistribution studies from different routes of drugs administration such as intravenous, intraperitoneal, intravitreal and topical.

Pharmacokinetics studies providing an extensive kinetic modelling analysis, such as biopermanence studies of ophthalmic formulations.

Inflammation: metabolism (FDG-PET) and CT imaging of intestinal inflammation rat models.

Cardiology: ECG-based gated FDG-PET for myocardial viability studies in rats.

Urology: in vivo quantification of renal function in mice with dimercaptosuccinic acid labeled with ^{99m}Tc (DMSA-SPECT) and metabolic imaging of renal lesions (FDG-PET).

Molecular imaging biomarkers: great effort is being invested to provide quantitative molecular imaging biomarkers as end result of each experiment using well-known imaging analysis software like PMOD (PMOD, Switzerland).

Translational molecular imaging: our facility also provides infrastructure for clinical PET and dedicated breast PET imaging, regularly involving physicians and scientists from the Nuclear Medicine Department at CHUS, thus ensuring studies planning which allow truly translational studies from mouse to man.

Pablo
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MAGNETIC RESONANCE IMAGING

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.

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**COMPETITIVE
FUNDRAISING**

During 2016, **23.638.401 € were raised** in the following concepts: projects, human resources, infrastructures, transfer, donations, contracts, provision of services, agreements and studies.

CONCEPT	NUMBER	AMOUNT
PROJECTS		
International	9	2.595.805 €
National	59	8.185.731 €
Regional	5	328.108 €
SUBTOTAL	73	11.109.641 €
Infrastructures	1	1.160.814 €
Human Resources	40	2.574.702 €
Donations	121	846.402 €
Contracts and provision of services and agreements	283	3.830.262 €
Transfer	1	876.302 €
Studies (clinical trials, CT, Observational studies, OS)	264	3.240.275 €
TOTAL		23.638.401 €

COMPETITIVE FUNDRAISING

RESEARCH PROJECTS

CONCEPT	NUMBER	AMOUNT
International	9	2.595.805 €
National	59	8.185.731 €
Regional	5	328.108 €
TOTAL	73	11.109.641 €

HUMAN RESOURCES

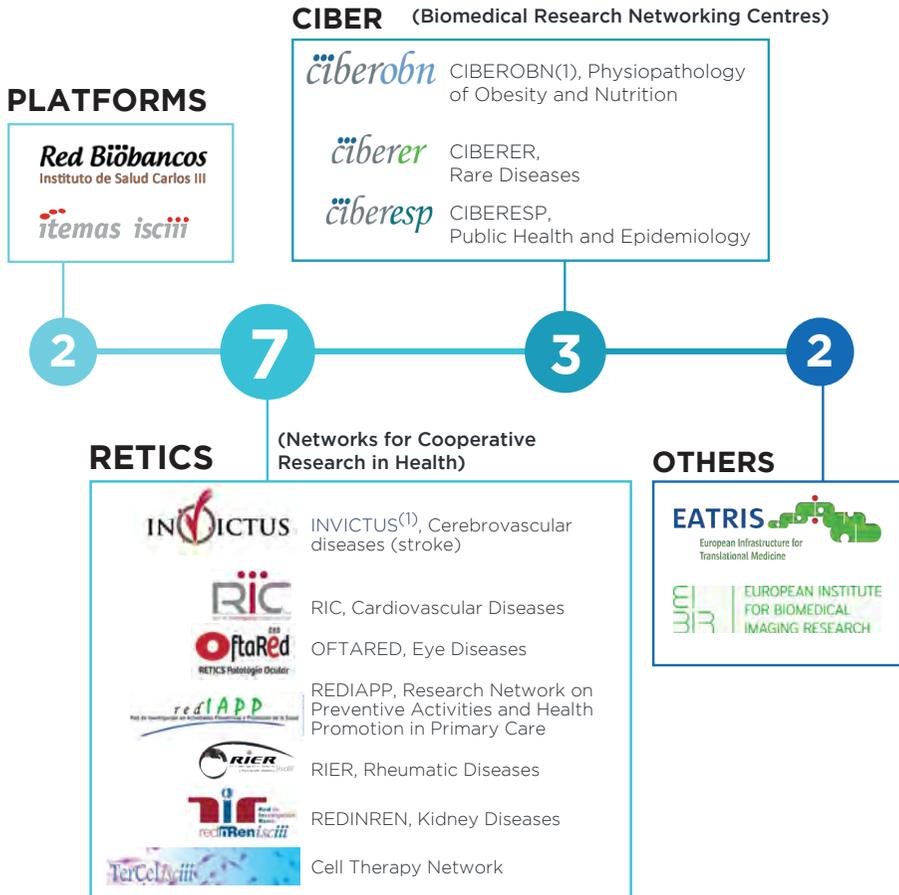
CONCEPT	NUMBER	AMOUNT
FPU Grant	2	131.376 €
M-AE Grant	2	18.000 €
Miguel Servet I	1	324.000 €
Miguel Servet II	2	273.000 €
Postdoctoral Grant	8	631.081 €
Predocctoral Grant	15	682.681 €
PRINCIPIA Grant	5	67.721 €
Ramón y Cajal	1	213.915 €
Research intensification	1	18.000 €
Río Hortega	1	53.732 €
Sara Borrell	2	161.196 €
TOTAL	40	2.574.702 €

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2016



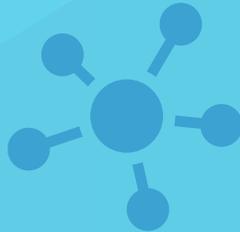
**STRATEGIC
ALLIANCES**

COOPERATIVES AND NATIONAL NETWORKS

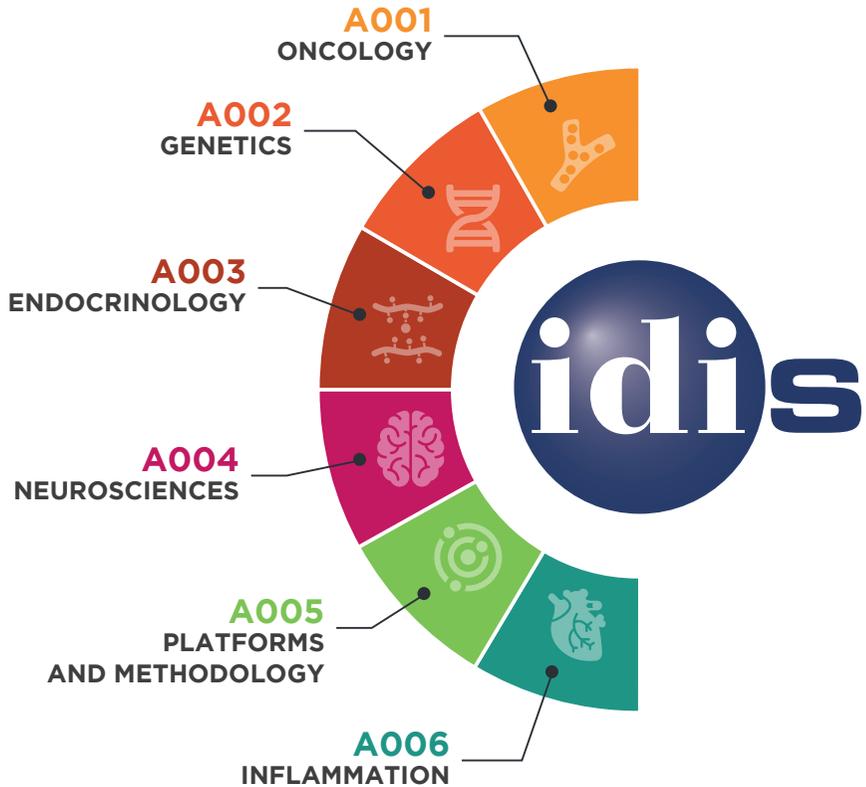


(1) Scientific Direction IDIS

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AREAS



AREAS

MEMBERS



ONCOLOGY
167



GENETICS
205



ENDOCRINOLOGY
144



NEUROSCIENCES
183

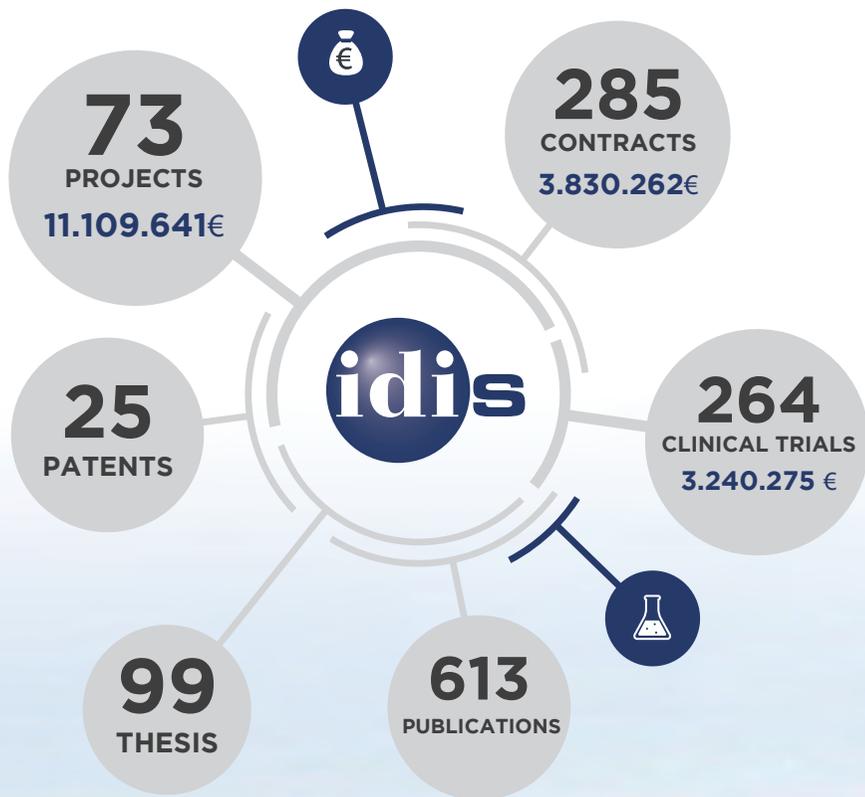


PLATFORMS
AND METHODOLOGY
87



INFLAMMATION
123



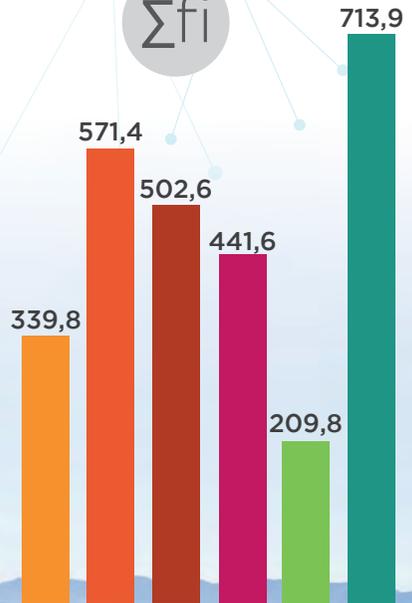


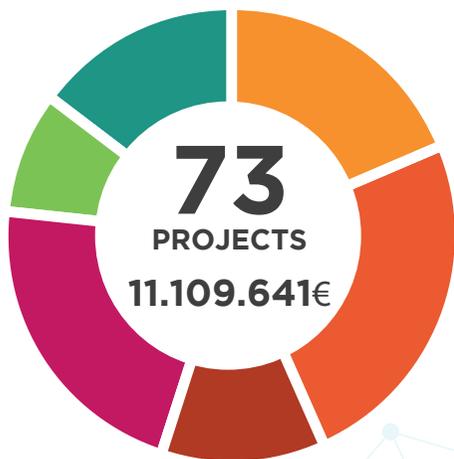


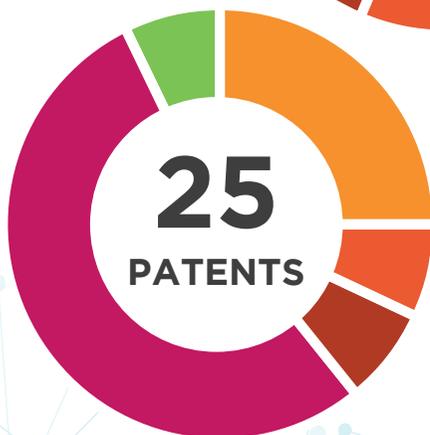
\bar{f}_i



Σf_i







	n	$\sum f_i$	\bar{f}_i	AMOUNT
Articles published	79	339,83	4,31	
Projects	13			1.769.379 €
Contracts and Agreements	45			657.818 €
Clinical Trials	44			
Patents	7			
Theses	19			

- Genetics of Human Diseases (C010)
- Pathology (C011)
- NANOBIOFAR (C025)
- Traslational Medical Oncology (C030)
- Molecular Imaging (C032)
- Molecular Oncology (E004)
- Cell Cycle and Oncology (CiClon) (E018)
- Stem Cells in Cancer and Aging (E028)
- Oncologic Endocrinology (E031)
- Preclinical Animal Models (E032)
- Viruses and Cancer (E033)
- Lymphoproliferative Disorders (AC01)



GENETICS AND SYSTEMS BIOLOGY A002

	n	$\sum f_i$	\bar{f}_i	AMOUNT
Articles published	131	571,4	4,36	
Projects	17			3.753.546 €
Contracts and Agreements	80			1.606.092 €
Clinical Trials	35			
Patents	2			
Theses	18			

- Genetics (C005)
- Digestive Pathology (C009)
- Genetics, Vaccines, Infections and Paediatrics (GENVIP) (C020)
- Genetics of Cardiovascular and Eye Diseases (E001)
- Comparative Genomics of Human Parasites (E012)
- Population Genetics in Biomedicine (GenPoB) (E015)
- Genetics of Neurological Disorders (E016)
- Cancer Genetics (E017)
- Psychiatric Genetics (E020)
- Genetics and Developmental Biology of Kidney Diseases (E021)
- Escherichia Coli (E027)

ENDOCRINOLOGY A003

	n	$\sum f_i$	\bar{f}_i	AMOUNT
Articles published	96	502,6	5,23	
Projects	8			1.128.602 €
Contracts and Agreements	15			220.215 €
Clinical Trials	15			
Patents	2			
Theses	19			

- Neoplasia and Endocrine Differentiation (C001)
- Molecular Endocrinology (C006)
- Obesity and Nutrition (C008)
- Metabolic Disorders (C012)
- Thyroid and Metabolic Disorders Unit (UETeM) (C019)
- Pediatric Nutrition (C022)
- Neurobesity (C029)
- Molecular Metabolism (C031)
- Cytokines and Obesity (Citobes) (E006)
- Obesidomics (E023)
- Cellular Endocrinology (E025)
- Endocrine Physiopathology (E026)
- Paediatric Endocrinology (AC04)

NEUROSCIENCES A004

	n	Σfi	\bar{fi}	AMOUNT
Articles published	123	441,6	3,59	
Projects	15			2.809.776 €
Contracts and Agreements	30			1.231.685 €
Clinical Trials	6			
Patents	15			
Theses	19			

- Neurobiology (C004)
- Neurology (C007)
- Neurobiology of the Visual System (C015)
- Experimental Neurology of Parkinson's Disease (C018)
- BIOFARMA (C026)
- Design, Synthesis and Medical Evaluation of Bioactive Compounds and New Materials (C033)
- Physics of Polymers and Colloids (C034)
- R&D in Drugs Dose Forms and Delivery Systems (C035)
- Magnetism and Nanotechnology (NanoMag) (C036)
- Trace Elements, Spectroscopy and Speciation (C037)
- Analytical Chemistry of Compounds of Alimentary, Environmental and Biological Interest (C038)
- Prion Diseases (E014)
- Cell Stress (E019)
- Cognitive Neuroscience (E029)
- Critical Patient (AC03)

PLATFORMS AND METHODOLOGY A005

	n	$\sum fi$	\bar{fi}	AMOUNT
Articles published	88	209,8	2,38	
Projects	6			624.872 €
Contracts and Agreements	55			208.852 €
Clinical Trials	8			
Patents	2			
Theses	20			

- Experimental Surgery (C002)
- Epidemiology, Public Health and Evaluation of Health Services (C013)
- Research Methodology (C017)
- Clinical Analysis (C021)
- Radiology (C024)
- Biostatistics (E002)
- Microbiology (E013)
- Clinical Pharmacology (E034)

INFLAMMATION A006

	n	$\sum f_i$	\bar{f}_i	AMOUNT
Articles published	156	713,9	4,57	
Projects	10			799.545 €
Contracts and Agreements	20			433.952 €
Clinical Trials	32			
Patents	16			
Theses	18			

- Hypertension (C003)
- Rheumatology (C014)
- Cardiology (C016)
- Neuroendocrine Interactions in Rheumatic and Inflammatory Diseases (Neirid) (C027)
- Genetics of Osteoarticular Disorders (C028)
- Cellular and Molecular Cardiology (E009)
- Platelet Proteomics (E030)
- Pneumology (AC05)



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