



Barcelona Institute of
Science and Technology

OUTSTANDING PEOPLE BREAKTHROUGH SCIENCE



WHO WE ARE

The BIST is an institute of multidisciplinary research built on the capabilities and aspirations of seven Catalan research centres of excellence.

Our expertise covers the core and the intersections of disciplines such as genetics, photonics, high-energy physics, chemistry, nanotechnology, biomedicine and bioengineering. Our more than 2,400 researchers, scientific and technical staff labour at the edge of science to seek disruptive solutions to treat life-threatening diseases, design amazing medical devices, build the communications media of the future, and contribute to a more sustainable world by producing clean energies and transforming pollution into useful resources.

Our 172 Principal Investigators lead teams working in both basic research — diving deeply into the fundamentals of life and the Universe— and applied research, focusing in areas such as human health, energy and sustainable processes, information and quantum technologies, and advanced materials.

BIST is engaged with society and committed to planetary wellbeing, convinced science has a key role to play in finding solutions to the existential challenges we are confronting. We seek to form wide alliances with like-minded complementary public and private organisations to pursue highly ambitious goals for the benefit of both people and the environment.

Attracting the best talent and fostering the professional development of our diverse community of researchers are among our top priorities, as it is inspiring young people to pursue scientific careers. BIST accompanies its researchers in every step of their development and professional careers and is building innovative programmes to bring to bear scientific talent in sectors in need of its potential, such as education, business and entrepreneurship, public policy and science communication.

BIST is a growing community of very talented people working together to help people live in a better world.



FACTS & FIGURES



PEOPLE

2,464

BIST COMMUNITY (2018)

172

Principal Investigators

71

ICREA Research Professors (out of 172 PIs)

598

Postdoctoral Researchers

670

PhD Students

40%

International

44%

Women



NATURE INDEX (Tables 2019)

GLOBAL

#1 #2 #3 #4 #5 #6 ... #106

Chinese Academy of Sciences
Harvard University
Max Planck Society
French National Centre for Scientific Research
Stanford University
Massachusetts Institute of Technology
Barcelona Institute of Science and Technology

EUROPE

#1 #2 #3 #4 #5 #6 ... #23

Max Planck Society
French National Centre for Scientific Research
Helmholtz Association of German Research Centres
University of Cambridge
Swiss Federal Institute of Technology Zurich
University of Oxford
Barcelona Institute of Science and Technology



PUBLICATIONS

1,393

TOTAL (2018)



OUTREACH

400+

OUTREACH ACTIVITIES (2018)

30,000+

PEOPLE REACHED



ERC GRANTS

128

TOTAL GRANTS TO BIST RESEARCHERS (2007-2019)

37

PROOF OF CONCEPT GRANTS (2011-2019)



INNOVATION

28

ACTIVE SPINOFF COMPANIES (AS OF DECEMBER 2019)

40

NEW PATENT APPLICATIONS (2018)

INSPIRING SCIENTISTS

ATTRACTING TOP TALENT

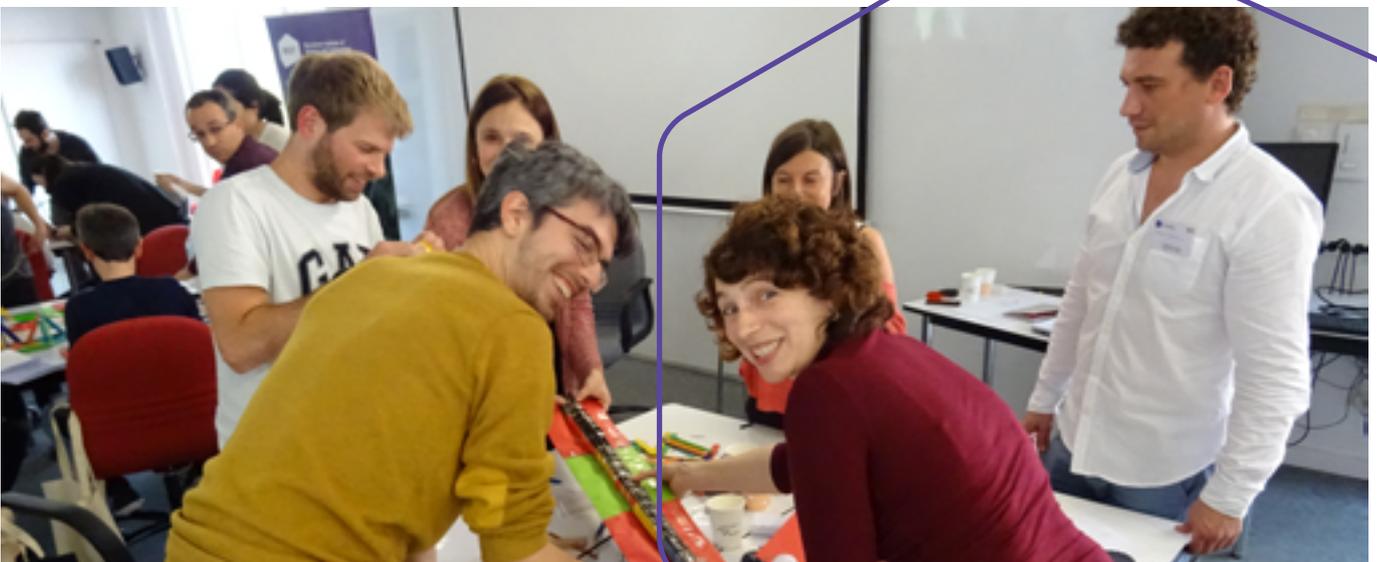
BIST aims to attract the brightest researchers from all around the world. Every year, BIST and its centres open competitive scholarship calls offering both supportive research conditions and excellent training programmes to build research careers. About 150 new PhD students and more than a hundred postdocs join every year the 1,500 researchers of the vibrant BIST Community.

EXPANDING CAREERS

The scientific career is a long and very competitive journey requiring the development of personal skills and competences to complement research talent. With its programmes, BIST supports the professional growth of its researchers while increasing the social contribution of scientific talent by facilitating the incorporation of science professionals to sectors such as education, business and public policy.

GRADUATE CENTRE

The BIST Dolors Aleu Graduate Centre, accredited in 2019 by the University Pompeu Fabra (UPF), serves as the host for our postgraduate programmes, such as the Master of Multidisciplinary Research in Experimental Sciences. The MMRES, which is already in its third year, is unique in Spain because of the number of training credits earned in a laboratory setting. Almost three quarters of MMRES graduates have continued to a doctoral programme, either at a BIST centre or in other institutes of international excellence.



SPANNING FUNDAMENTAL AND APPLIED RESEARCH

BIST focuses on six major areas of study, two within fundamental research and the other four in the realm of applied research. The first two are principles of life and of the universe, while health, advanced materials, energy and sustainable processes, and information and quantum technologies are the four belonging to the applied category. These areas of study frame the work of more than 1,500 researchers within the BIST community, led by 172 principal investigators.

The strength of BIST comes from combining the diverse capacities and perspectives of

our researchers. This allows us to develop strategic programmes in areas such as personalized medicine, with a special focus on life-threatening diseases including cancer and metastasis and age-related pathologies, and energy and environmental sustainability, with a focus on fighting environmental deterioration and climate change through clean energy production. BIST also develops strategic projects in areas such as chemical biology, big data, graphene and precision microscopy, always seeking to articulate the interests of and benefits to the entire research ecosystem.

PRINCIPLES OF THE UNIVERSE

PRINCIPLES OF LIFE



HEALTH

CENTRES OF THE BARCELONA INSTITUTE OF SCIENCE AND TECHNOLOGY

CRG

CENTRE FOR GENOMIC REGULATION

CRG is a Barcelona-based international biomedical research institute at the forefront of life sciences research. Its excellence is based on an interdisciplinary, motivated and creative scientific team supported by high-end and innovative technologies.

IBEC

INSTITUTE FOR BIOENGINEERING OF CATALUNYA

IBEC conducts interdisciplinary research of excellence at the frontiers of engineering and life sciences. Researchers generate new knowledge by combining fields like nanomedicine, biophysics, biotechnology, tissue engineering and the applications of health information technology.

ICFO

THE INSTITUTE OF PHOTONICS SCIENCES

ICFO conducts frontier research in diverse areas in which photonic sciences play an enabling role, also fostering the translation of the newly generated knowledge to industry, hospitals and society at large.



BIST

ADVANCED MATERIALS

ENERGY & SUSTAINABLE PROCESSES

INFORMATION & QUANTUM TECHNOLOGIES

ICIQ

INSTITUTE OF CHEMICAL RESEARCH OF CATALONIA

ICIQ is committed to research of excellence at the frontier of knowledge in two main areas: Catalysis and Renewable Energy. Research groups work on computational chemistry, CO₂ recycling, renewable fuels, catalysis and artificial photosynthesis.

ICN2

CATALAN INSTITUTE OF NANOSCIENCES AND NANOTECHNOLOGY

ICN2 is a leading research institute devoted to the generation of knowledge, materials and devices at nanoscale for use in the broad fields of information and communication technologies, health, energy and the environment.

IFAE

INSTITUTE FOR HIGH ENERGY PHYSICS

IFAE conducts experimental and theoretical research at the frontiers of fundamental physics, namely particle physics, astrophysics and cosmology. It also works on cutting-edge detector technology, putting its know-how to use for practical challenges.

IRB BARCELONA

INSTITUTE FOR RESEARCH IN BIOMEDICINE

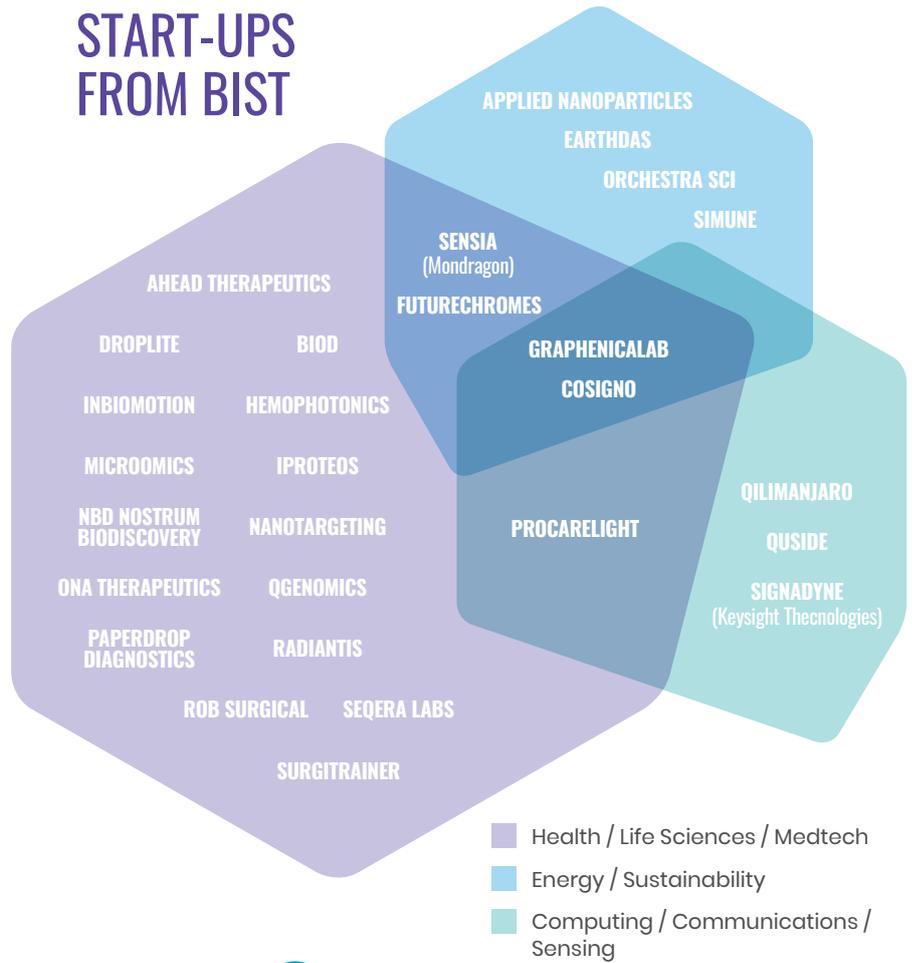
IRB Barcelona is a world-class research centre devoted to providing ground-breaking solutions for unmet medical needs. It hosts 26 research groups whose major research challenges are cancer and ageing.

ECONOMIC & SOCIETAL IMPACT

Converting the knowledge generated in laboratories into products and services for the broader society, and responding to important social challenges is what gives meaning to our work. To this end, BIST centres have helped to create 31 spin-off companies since 2004, 28 of which are still active in areas such as health, energy and sustainability, as well as communication and computational technologies. Together these companies offer attractive opportunities for highly qualified personnel to join a growing innovation ecosystem.

Bringing science closer to society and fostering a scientific vocation in the younger generations through educational and outreach activities is another one of our priorities. Each year, BIST centres reach over 30,000 people with outreach activities. We also aim to bring science to a broad audience through international media, exemplified by a recent article prominently featured in the Science section of The New York Times.

START-UPS FROM BIST



CONTACT

The Barcelona Institute of Science and Technology

Carrer del Comte d'Urgell 187. Building 12A (BIST)

Barcelona 08036

T. +34 938 293 603

info@bist.eu

bist.eu



@_BIST



@BISTCommunity



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