



Barcelona Institute of  
Science and Technology

# Barcelona Institute of Science and Technology

An aerial photograph of Barcelona, Spain, showing the city's dense urban layout and the Mediterranean Sea. The image is overlaid with a semi-transparent blue rectangle. To the right of the image is a large, solid blue geometric shape that resembles a stylized mountain or a large letter 'A'.

■ November 2017

AN INITIATIVE OF SEVEN OF CATALONIA'S RESEARCH CENTERS OF EXCELLENCE THAT WANT TO INCREASE THEIR LEVELS OF COLLABORATION IN ORDER TO PROMOTE MULTIDISCIPLINARY, CUTTING-EDGE RESEARCH.



BIST centers belong to the CERCA research network



All 7 BIST Centers hold the Severo Ochoa Research Excellence accreditation



BIST lead investigators include 68 ICREA professors

## EXCELLENCE

BIST BRINGS  
TOGETHER  
SEVEN  
INTERNATIONALLY  
REPUTED RESEARCH  
CENTERS

## MULTIDISCIPLINARITY

GENOMICS,  
BIOENGINEERING,  
PHOTONICS,  
CHEMISTRY,  
NANOTECHNOLOGY,  
HIGH ENERGY  
PHYSICS,  
BIOMEDICINE

## CRITICAL MASS

147 PRINCIPAL  
INVESTIGATORS,  
88 ERC GRANTS,  
140 M€ BUDGET,  
+1000 PAPERS PER  
YEAR

Numbers current as of December 2016

**WE BELIEVE SOCIETAL CHALLENGES NEED TO BE  
ADDRESSED FROM A MULTIDISCIPLINARY APPROACH**

**BY COMBINING THE BIST CENTERS' CAPACITIES AND  
STRENGTHS WE CAN BECOME AN INTERNATIONAL  
REFERENCE IN EXCELLENT RESEARCH AND  
POSTGRADUATE EDUCATION, CREATE A STIMULATING  
AND SUPPORTIVE WORKING ENVIRONMENT AND  
MAXIMIZE OUR SOCIAL IMPACT**

# BIST AT A GLANCE

**20****ACTIVE  
SPIN-OFFS****565****POSTDOCTORAL  
RESEARCHERS****135****PhD  
THESIS****88****ERC GRANTS****147****PRINCIPAL  
INVESTIGATORS****618****STUDENTS  
(PRE-DOCTORAL)****+1000****PUBLICATIONS  
PER YEAR**

90% in Q1 journals,  
according to SJR ranking

**30****PATENT  
APPLICATIONS**

## OUTREACH PROGRAMS



Fundació  
Catalunya  
La Pedrera

ICIQ: CRAZY ABOUT CHEMISTRY

IFAE & ICN2: CRAZY ABOUT PHYSICS

IRB Barcelona: CRAZY ABOUT BIOMEDICINE



**Barcelona International  
Youth Science Challenge**

July 10<sup>th</sup> - 21<sup>st</sup> 2017

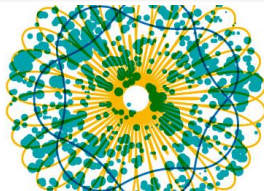


**FESTIVAL DEL MÓVIL  
CIENCIA+TECNOLOGÍA  
PARA JÓVENES**  
26 FEB - 1 MAR 2018



FESTA  
DE LA  
CIÈNCIA

barcelona.cat/barcelonaciencia



18 i 19 de Juny  
al Parc de la  
Ciutadella



## 21 ACTIVE SPIN-OFFS

out of 24 created

APPLIED NANOPARTICLES

BIOD, S.L.

COSINGO - IMAGINE OPTIC SPAIN

EARTHDAS GRAPHENE POWERED MOBILITY, S.L.

FUTURECHROMES, S.L.

GRAPHENICALAB, S.L.

HEMOPHOTONICS

INBIOMOTION

IPROTEOS

NANOTARGETING

NOSTRUM BIODISCOVERY

PAPERDROP DIAGNOSTICS

PROCARELIGHT

QGENOMICS

QUSIDE

RADIANTIS

ROB SURGICAL SYSTEMS

SENSIA, S.L.

SIGNADYNE

SIMUNE ATOMISTIC SIMULATIONS

SURGITRAINER



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# Research

# Achieving Critical Mass:

Joint Signature on Scientific Papers, October 2015 – March 2017

**1,236  
Publications**

**89,5%  
in journals in Q1**

**41,8%  
In D1 journals**

**66,9%  
international collaborations**

**h index = 21**

**Ranked 92nd in the  
world on Nature Index**

**Ranked 23rd in Europe  
on Nature Index**

(According to Weighted Fractional  
Count April 2017)



# Research Meeting Point

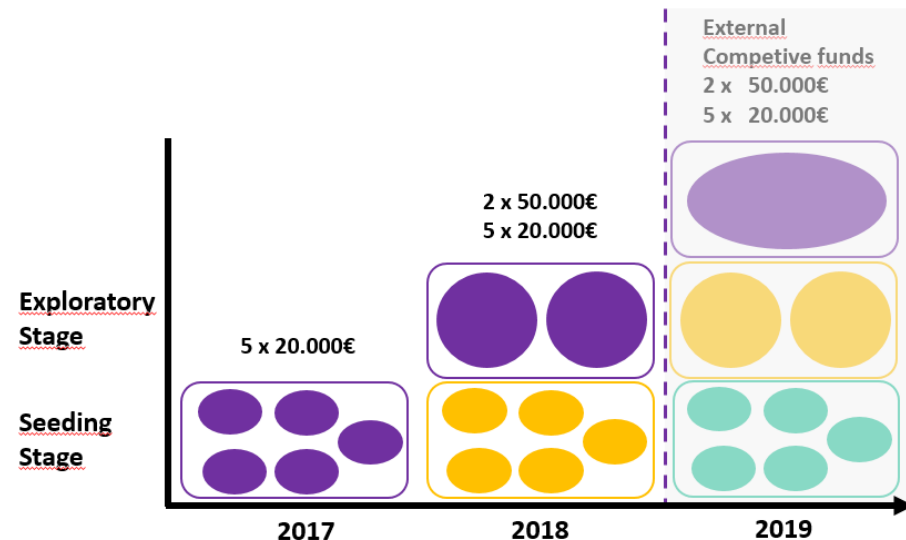
July 12, 2016

- ◆ First meeting with GLs from the 6 centers
- ◆ 33 group leaders and researchers
- ◆ Session designed and led by an open-innovation specialist
- ◆ Turning point in promoting multidisciplinary research & collaboration among the BIST centres



# Ignite Program

- Exploratory stage call opened 20 Dec 2016 – closed 1st March 2017
- Online submission process
- 21 proposals received – all centers involved (min 6 and max 11 proposals)
- Two stage evaluation with internal + external evaluators based on three criteria:
  - Multidisciplinarity and added value of the collaboration
  - Novelty and possible future impact of the idea
  - Viability, both in terms of time and objectives





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# **Education**

- Master of Multidisciplinary Research in Experimental Sciences
- COFUND Grant for PhD Students – PREBIST
- COFUND Grant for Postdoctoral researcher - PROBIST



BIST PhD Fellows Welcome Event

# Master in Multidisciplinary Research in Experimental Sciences

4 year Bsc

M<sup>2</sup>RES

PhD  
program

1 year (60 ECTs) of intensive research training designed to prepare students to undertake a PhD

Aims to promote interdisciplinary research

Complemented by training in effective research skills, statistics and data analysis, research ethics, scientific communication and transferrable skills



Universitat  
Pompeu Fabra  
Barcelona





# Master in Multidisciplinary Research in Experimental Sciences



Universitat  
Pompeu Fabra  
Barcelona



40  
ECTS

Research  
Training

20  
ECTS

Professional  
Skills

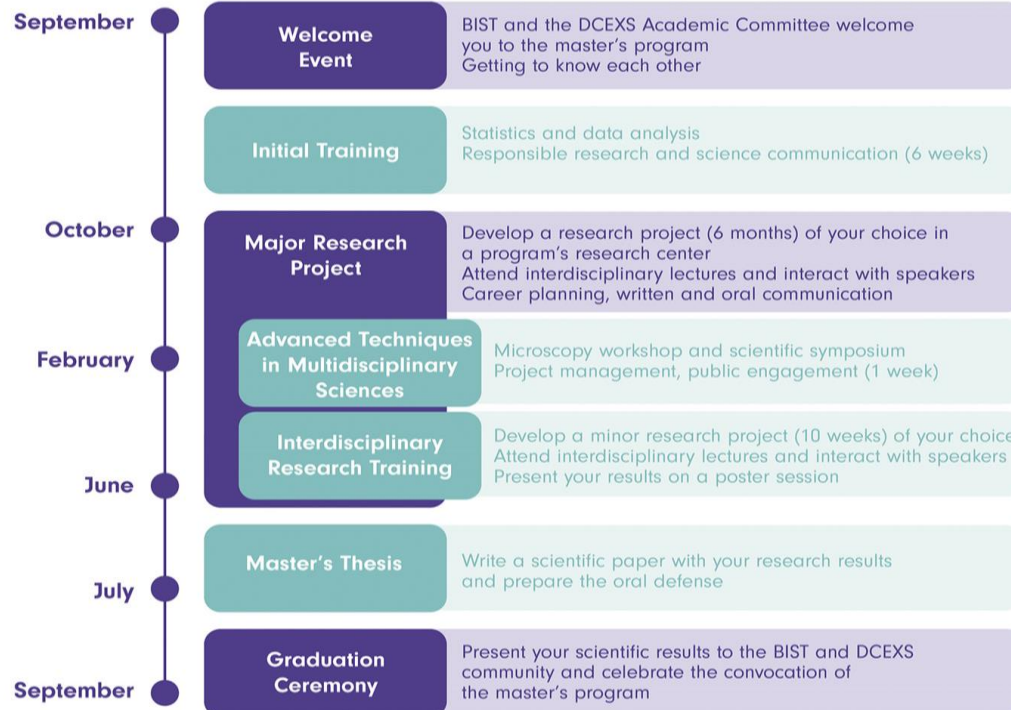
Major research project (20 ECTS)  
Cross-disciplinary research training (10 ECTS)  
Master's Thesis (10 ECTS)

Statistics & Data Analysis (5 ECTS)  
Responsible research and sciences communication (5 ECTS)  
Multidisciplinary science in action (5 ECTS)  
Advance Techniques in Multidisciplinary Science (5 ECTS)

# Master in Multidisciplinary Research in Experimental Sciences



**Universitat  
Pompeu Fabra  
Barcelona**





## COFUND Grant

BIST received **€10 Million** from the H2020 COFUND Program

Overall budget for both programs is **€20 Million**

Program to supersede existing BIST PhD Fellows program

**5 year program**

**PREBIST: 28 PhD Positions, 2 calls**

**PROBIST: 61 Post-doctoral Positions, 4 calls**



# FOSTERING TALENT AT BIST

Training opportunities within the BIST community

Scientific Knowledge

Transferable Skills

Research Integrity

Innovation

Career Development



# VITAE Courses for PhD Students

## Effective Research Course, November 2016



24 new PhD Students  
2 day residential course

Effective Communication  
Project management  
Collaborative Research

## GRADSchool, June 2017



34 PhD Students  
3 day residential course  
Observers: BIST Trainers

Effective Communication,  
Team Working, Group  
Dynamics, Consulting and  
problem solving, ethics issues  
related to research

# Leadership in Action for Postdoctoral Researchers



- ◆ 34 Postdoctoral researchers
- ◆ 3 day residential course
- ◆ Leadership practice, Objective setting, Impact & influence, Problem solving, Coaching & feedback, Values & motivation, Communication skills, Presentation skills



# VITAE Courses

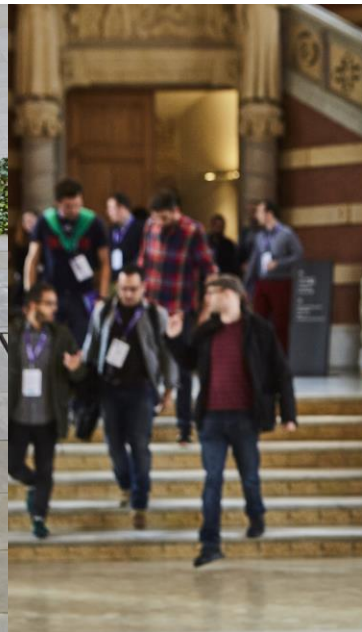
Experiential learning to develop effective and collaborative research leaders





# BIST Postdoc Day #1

- One day event organized by **postdoctoral researchers committee** from all 6 centers
- **Tailored agenda** with multidisciplinary speakers, round table on career progression, and the first **unconference session**
- **200 BIST postdoctoral researchers**



# From Science to Business

A course with the goal of accelerating the transfer of technologies developed in the BIST research institutes to the marketplace.

## INNOVATION & STRATEGY

- Provide a framework to understand the company from a strategic point of view
- Provide tools to analyze the general environment
- Understanding the role of innovation in framing strategy

## ENTREPRENEURSHIP

- Understand the process of developing and managing a scientific new venture
- Learning and practicing how to design and validate a business model for a new science business
- Learning how to prepare and use a business plan

## ENTREPRENEURIAL

- Understand the financial needs of a venture
- Learn how to develop a Financial Plan, estimate cash flows and determine the financial needs
- Get to know the financial resources for a science-based new venture

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[bist.eu/probist](http://bist.eu/probist)

## PROBIST Postdoctoral Fellowships

Boost your scientific career in our international postdoctoral program focused on excellent research in a multidisciplinary environment

Biomedicine

Physics

Chemistry

Nanoscience

personalized  
career development

Photonics

scientific training  
program

61 three-year  
fellowships available

Continuous calls  
until February 2019



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 754510.

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[bist.eu/prebist](http://bist.eu/prebist)

## PREBIST PhD Fellowships

Launch your scientific doctoral career in our international PhD focused on excellent research in a multidisciplinary environment

Biomedicine

Physics

Chemistry

Nanoscience

personalized doctoral  
career development

Photonics

scientific training  
program

28 four-year  
fellowships available

TWO CALLS:

1 Nov. 2017 (deadline 7 Jan. 2018)  
15 Mar. 2018 (deadline 14 May 2018)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 754558.



## **Barcelona Institute of Science and Technology**

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