



ORGANISED BY CENTRES



# 100x CIENCIA

COMMUNICATING FRONTIER SCIENCE

La Palma, 7 to 9 October 2015



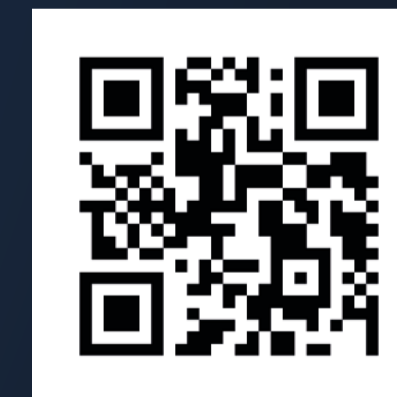
# PRESENTATION

The 100xCIENCIA Forum is being organised by the **20 Spanish institutions accredited by the Spanish Government as Severo Ochoa Centres of Excellence**. They have received this recognition because of their cutting edge scientific research and well established international reputations. These centres are both the scientific protagonists and the organisers of this **100xCIENCIA** Forum under the title "**Communicating Frontier Science**". Its main aim is to review and improve their current strategies for the dissemination of scientific results.

100xCIENCIA will gather together in **La Palma (Canary Islands, Spain)** interna-

tionally renowned journalists and experts in public outreach, outstanding scientists from the Severo Ochoa Centres of Excellence, as well as their staff responsible for scientific outreach. Their most recent research breakthroughs will be presented as the background for a discussion of strategies to improve their Public Outreach and their promotion of the understanding of science.

The Forum will facilitate an opportunity for discussion and to exchange best practice aimed at updating **the communication strategies** followed by a selection of Spain's finest R+D centres **to publicise the results of their research**.



[www.100xciencia.com](http://www.100xciencia.com)



# LECTURES ROUND TABLE DISCUSSIONS

The event will take the form of a series of Scientific Outreach Lectures and Round Table Discussions. The lectures and discussions will be given by **outstanding "Severo Ochoa" Centre scientists** as well as a selection of internationally renowned Science communication experts.

## LECTURES

The **Thematic Sessions** will present the **Severo Ochoa Centres' R+D activity** in an attractive and accessible way, focusing on the way recent results have been communicated, as well as on the future challenges they face.

The **Invited Lectures** will be an opportunity to share best practice and success stories in **science communication** and to discuss the role that the different parties involved need to play in a successful strategy for science communication.

## ROUND TABLE DISCUSSIONS

The **round table discussions** will bring together representatives of the science community, the media and the outreach experts, and will cover the following subjects:

- Presence of Science in the mass media.
- Science and solutions for 21st century problems and challenges.
- Impact of scientific outreach on society.
- Science policy in Spain and Europe. Support for excellence in R+D.



## INVITED DELEGATION

100xCIENCIA will be attended by an invited delegation of well known science communicators and representatives of the major national and international media who will take an active part in the meeting.

**PATRICIA FERNÁNDEZ DE LIS**

Editor in Chief of Science and Technology *El País*

**PABLO JÁUREGUI**

Scientific journalist *El Mundo*

**AMÉRICA VALENZUELA**

Scientific journalist

**PATRICK ILLINGER**

Scientific journalist *Süddeutsche Zeitung*

**HANNS J. NEUBERT**

President Emeritus *European Union of Science Journalists' Associations*

**ANTONIO CALVO ROY**

President *Asociación Española de Comunicación Científica*

**MICHELE CATANZARO**

Physicist, scientific communicator and journalist

**PERE ESTUPINYÀ**

Writer and Scientific Communicator

**PAMPA GARCÍA MOLINA**

Coordinator and Editor in Chief of the Spanish Scientific News and Information Service

**KENNETH CHANG**

Scientific Journalist, *The New York Times*

# SPEAKERS

<b>IAC</b>	Prof. RAFAEL REBOLO Director INSTITUTO DE ASTROFÍSICA DE CANARIAS
<b>ICFO</b>	Prof. LLUIS TORNER Director INSTITUTO DE CIENCIAS FOTÓNICAS
<b>IFAE</b>	Prof. MANEL MARTÍNEZ Scientific Director INSTITUTO DE FÍSICA DE ALTAS ENERGÍAS
<b>IFT</b>	Prof. LUIS IBÁÑEZ Scientific Director INSTITUTO DE FÍSICA TEÓRICA UAM-CSIC
<b>IFIC</b>	Prof. JUAN JOSÉ HERNÁNDEZ Scientific Director INSTITUTO DE FÍSICA CORPUSCULAR
<b>BCAM</b>	Prof. LUIS VEGA Director BASQUE CENTER FOR APPLIED MATHEMATICS
<b>ICMAT</b>	Prof. MANUEL DE LEÓN Director INSTITUTO DE CIENCIAS MATEMÁTICAS
<b>ICN2</b>	Prof. PABLO ORDEJÓN Director INSTITUTO CATALÁN DE NANOCIENCIA Y NANOTECNOLOGÍA
<b>ITQ</b>	Prof. AVELINO CORMA Scientific Director INSTITUTO DE TECNOLOGÍA QUÍMICA UPV-CSIC
<b>ICIQ</b>	Prof. MIQUEL A. PERICÀS Director INSTITUTO CATALÁN DE INVESTIGACIÓN QUÍMICA
<b>BSC-CNS</b>	Prof. MATEO VALERO Director BARCELONA SUPERCOMPUTING CENTER - CENTRO NACIONAL DE SUPERCOMPUTACIÓN
<b>Barcelona GSE</b>	Prof. TERESA GARCÍA-MILÀ Director Barcelona GRADUATE SCHOOL OF ECONOMICS
<b>IBEC</b>	Prof. JOSEP SAMITIER Director INSTITUTO DE BIOINGENIERÍA DE CATALUÑA
<b>IRB Barcelona</b>	Prof. JOAN J. GUINOVART Director INSTITUTE FOR RESEARCH IN BIOMEDICINE Barcelona
<b>CNIC</b>	Prof. VICENTE ANDRÉS, Prof. BORJA IBÁÑEZ Researchers CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES
<b>CNIO</b>	Prof. MANUEL SERRANO Director Prog. Molecular Oncology CENTRO NACIONAL DE INVESTIGACIONES ONCOLÓGICAS
<b>IN</b>	Prof. JUAN LERMA Director INSTITUTO DE NEUROCIENCIAS
<b>CRG</b>	Prof. MICHELA BERTERO Head of International and Scientific Affairs CENTRO DE REGULACIÓN GENÓMICA
<b>CNB</b>	Prof. CARMEN CASTRESANA Severo Ochoa Scientific Director CENTRO NACIONAL DE BIOTECNOLOGÍA
<b>EBD</b>	Prof. JUAN JOSÉ NEGRO Director ESTACIÓN BIOLÓGICA DE DOÑANA-CSIC

# PRELIMINARY PROGRAMME

## 6th Oct 2015

19:00 - 21:00 **REGISTRATION** and **WELCOME COCKTAIL**

## 7th Oct 2015

08:00 - 09:00 **REGISTRATION** (Severo Ochoa stands and audiovisual projections)

09:00 - 09:30 **OPEN CEREMONY**

09:30 - 10:00 Invited opening **LECTURE**

10:00 - 10:45 **SS 1A** Presentation IAC, ICFO, IFAE

10:45 - 11:15 **COFFEE** (Contemporary Art Museum)

11:15 - 12:10 **SS 1B** Presentation IFT, IFIC and Debate IAC, ICFO, IFAE, IFT, IFIC

12:10 - 13:15 **RT 1** The presence of science in the media: present and future

13:15 - 15:00 LUNCH

15:00 - 15:40 **SS 2** Presentation and Debate ICMAT, BCAM

15:40 - 16:10 Invited **LECTURE**

16:10 - 17:10 **SS 3** Presentation and Debate ICN2, ITQ, ICIQ

17:10 - 17:40 **COFFEE** (Contemporary Art Museum)

17:40 - 18:40 **RT 2** Science and solutions for 21st Century problems and challenges

19:00 - 20:30 Public **LECTURE**

21:00 - 23:00 CONFERENCE DINNER

## 8th Oct 2015

09:00 - 10:00 **SS 4** Presentation and Debate BSC, Barcelona GSE, IBEC

10:00 - 10:30 Invited **LECTURE**

10:30 - 11:00 **COFFEE** (Contemporary Art Museum)

11:00 - 12:00 **SS 5** Presentation and Debate CNIC, CNIO, IRB Barcelona

12:00 - 13:00 **RT 3** The impact on society of activities to popularize science

13:00 - 15:00 LUNCH

15:00 - 19:00 **VISIT** to the Observatorio del Roque de Los Muchachos

## 9th Oct 2015

09:00 - 11:00 **EDUCATIONAL TALKS** in S/C de La Palma and Los Llanos de Aridane

09:00 - 10:20 **SS 6** Presentation and Debate CRG, CNB, IN, EBD

10:20 - 11:00 Invited **LECTURE**

11:00 - 11:30 **COFFEE** (Contemporary Art Museum)

11:30 - 12:30 **RT 4** Science policy in Spain and Europe. Support for excellence in R+D

12:30 - 13:00 **CLOSING CEREMONY** (Conclusions)

**SS**

SESSION

**RT**

ROUND TABLE



# PARTICIPANTS

This Forum will be attended by:

- The Directors, Scientific Directors, **outstanding scientists** and members of staff responsible for communications and outreach from the 20 Spanish Severo Ochoa centres of excellence.
- A number of **well known science communication professionals**.
- Representatives of major **Spanish and international media**.

They will all play an active role during the event, taking part in lectures

and/or round table discussions. The list of invited participants will also include **representatives of official organizations related to R+D**, such as Spain's Foundation for Science and Technology (FECYT), the Secretary of State for Research, Development and Innovation (Ministry of Economy and Competitiveness, MINECO) and the European Commission.

The forum will be also open to other participants from the scientific field, the media and groups interested to the dissemination of science.





# ORGANISERS

## SEVERO OCHOA CENTRES OF EXCELLENCE

**2011** Instituto de Ciencias Fotónicas (**ICFO**)  
Institute for Research in Biomedicine (**IRB Barcelona**)  
Instituto de Astrofísica de Canarias (**IAC**)  
Barcelona Supercomputing Center - Centro Nacional de Supercomputación (**BSC- CNS**)  
Instituto de Ciencias Matemáticas (**ICMAT**)  
Centro Nacional de Investigaciones Oncológicas (**CNIO**)  
Centro Nacional de Investigaciones Cardiovasculares (**CNIC**)  
Barcelona Graduate School of Economics (**Barcelona GSE**)

**2012** Instituto de Tecnología Química (**ITQ**)  
Centro de Regulación Genómica (**CRG**)  
Instituto de Física de Altas Energías (**IFAE**)  
Instituto de Física Teórica (**IFT**)  
Estación Biológica de Doñana (**EBD**)

**2013** Instituto de Neurociencias (**IN**)  
Centro Nacional de Biotecnología (**CNB**)  
Instituto Catalán de Investigación Química (**ICIQ**)  
Instituto Catalán de Nanociencia y Nanotecnología (**ICN2**)  
Basque Center for Applied Mathematics (**BCAM**)

**2014** Instituto de Bioingeniería de Cataluña (**IBEC**)  
Instituto de Física Corpuscular (**IFIC**)



# CENTROS EXCELENCIA SEVERO OCHOA <sub>1</sub>



## Instituto de Ciencias Fotónicas **ICFO**

ICFO (Institute of Photonic Sciences) is a research centre devoted to the science and technology of light with fundamental and applied research programs that address current issues such as health, renewable energies, information technologies, security and industrial processes. Through collaborations and active promotion of the creation of spin-off companies by ICFO researchers, the centre is constantly pushing its frontier research into new areas which will have a positive impact on society.

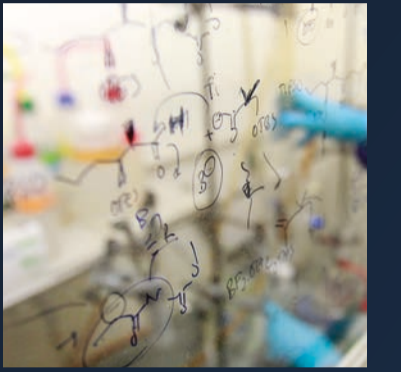


## Instituto de Astrofísica de Canarias **IAC**

IAC (Canarias Astrophysical Institute) is an internationalized Spanish research centre aiming to achieve major advances in the understanding of the laws that govern the origin and evolution of the various forms of matter/energy in the Universe. Outstanding results are expected in key areas of research such as Solar physics, Sun-Earth connections, Exoplanetary systems, Solar System, Stellar and interstellar physics, Formation and evolution of galaxies, Astroparticles and Cosmology.

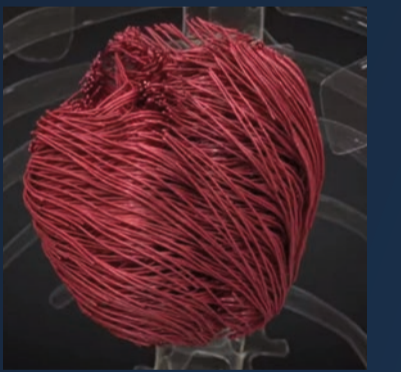
## Institute for Research in Biomedicine **IRB Barcelona**

IRB Barcelona is a world-class research centre engaged in basic and applied biomedical science. Researchers work within five multidisciplinary programmes, and are supported a wide range of cutting-edge scientific facilities and services. The convergence of biology, chemistry, and structural and computational biology is unique at IRB Barcelona and opens a strategic window to gain insight into basic molecular processes in diseases such as cancer and metastasis, diabetes, Alzheimer's and rare disorders.

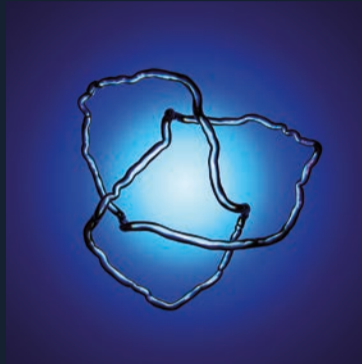


## Barcelona Supercomputing Center Centro Nacional de Supercomputación **BSC-CNS**

BSC-CNS is the national supercomputing centre in Spain. BSC specialises in high performance computing and its mission is two-fold: to provide infrastructure and supercomputing services to Spanish and European scientists, and to generate knowledge and technology to transfer to business and society. BSC's research is organized into four main research areas: Computer Sciences, Life Sciences, Earth Sciences and Computer Applications in Science and Engineering.



# CENTROS EXCELENCIA SEVERO OCHOA 2



## Instituto de Ciencias Matemáticas **ICMAT**

ICMAT (Institute of Mathematical Sciences) is a joint research centre formed by the Consejo Superior de Investigaciones Científicas - CSIC and three Madrid universities: the Universidad Autónoma de Madrid (UAM), the Universidad Carlos III de Madrid (UC3M), and the Universidad Complutense de Madrid (UCM). Its main objective is to stimulate excellence in mathematical research and interdisciplinary collaboration. Ten of its researchers have been awarded by the European Research Council.



## Centro Nacional de Investigaciones Cardiovasculares **CNIC**

The main mission of the CNIC (Spanish National Cardiovascular Research Center) is to bring together the best of Spanish cardiovascular research and provide it with a modern infrastructure and ample funding to carry out world-leading biomedical research. Through the creation of the Pro CNIC Foundation and the support of the Government, the CNIC stands as an innovative joint venture between the state and the private sector. The CNIC's three main areas of activity are Scientific Research, Translational Medicine, and Training.

## Centro Nacional de Investigaciones Oncológicas **CNIO**

CNIO (Spanish National Cancer Research Center) is a leading cancer research centre, whose main mission is to increase the knowledge about this disease and apply it to its prevention, diagnosis and treatment. The CNIO conducts basic and translational research, and its innovation programme ensures that the scientific discoveries reach the patient within the shortest time possible. According to the 2014 Scimago report, it is one of the first four monographic cancer research centres worldwide.



## Barcelona Graduate School of Economics **Barcelona GSE**

The Barcelona Graduate School of Economics is one of the top institutions worldwide for scientific cooperation for economic research and graduate education, subjected to the highest standards of its four founding academic units. The Barcelona GSE aims to contribute to economic growth through outstanding education and cutting-edge research and is committed to position the School as one of the leading clusters of Economics research in Europe and worldwide.

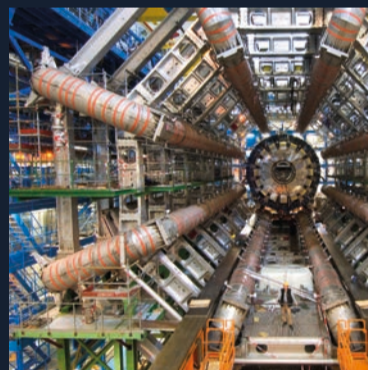


# CENTROS EXCELENCIA SEVERO OCHOA <sub>3</sub>



## Instituto de Tecnología Química **ITQ**

ITQ (Institute of Chemical Technology) is a joint research centre that belongs to the Polytechnic University of Valencia (UPV) and the Spanish National Research Centre (CSIC). The ITQ is an international reference centre in the area of catalysis, new materials and photochemistry. Due to its excellent fundamental and oriented research level and to its multidisciplinary character joined to an extraordinary flexibility and capability to adapt itself to new research challenges.

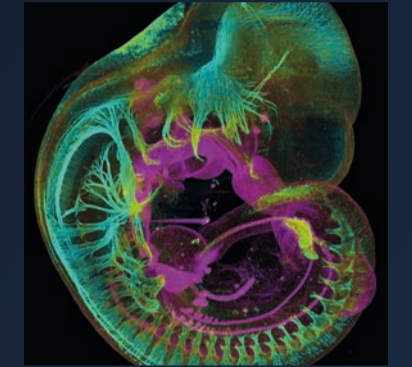


## Instituto de Física de Altas Energías **IFAE**

At IFAE (Institute for High Energy Physics) we conduct experimental and theoretical research at the frontiers of fundamental physics, namely in Particle Physics, Astrophysics and Cosmology. We are involved in the ATLAS project at the LHC, the T2K neutrino experiment in Japan, the MAGIC telescopes in La Palma and the Dark Energy Survey project in Chile, among others. We also work at the cutting edge of detector technology developing pixel detectors for High Energy Physics, telescope cameras and detectors for medical imaging and other scientific and industrial fields.

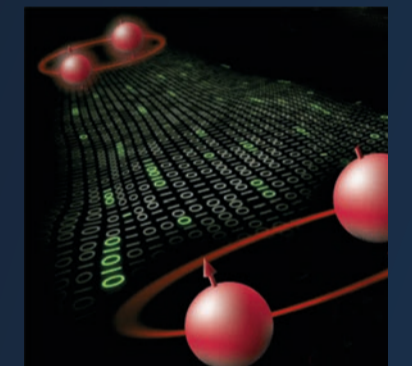
## Centro de Regulación Genómica **CRG**

The mission of the CRG (Centre for Genomic Regulation) is to discover and advance knowledge for the benefit of society, public health and economic prosperity. The CRG believes that the medicine of the future depends on the ground-breaking science of today. This requires an interdisciplinary scientific team focused on understanding the complexity of life from the genome and the cell up to an entire organism and its interaction with the environment, offering an integrated view of genetic diseases.



## Instituto de Física Teórica **IFT**

The IFT (Institute for Theoretical Physics) develops research in the frontiers of Elementary Particle Physics, Astroparticles and Cosmology, in order to understand the fundamental keys of Nature and the Universe. The researchers at IFT lead many research projects, both at national and international level. The IFT is part of the strategic line 'Theoretical Physics and Mathematics' of the Campus of International Excellence (CEI) UAM+CSIC established in 2009. The IFT also performs intensive training of young researchers and professionals through the graduate program in Theoretical Physics with mention of excellence from the CEI and the Ministry of Education.

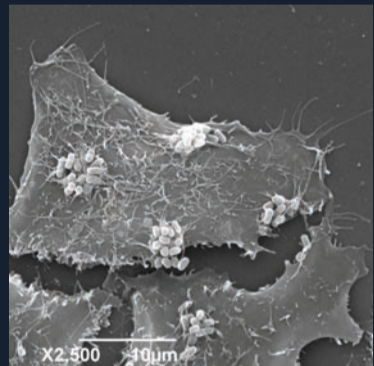


# CENTROS EXCELENCIA SEVERO OCHOA 4



## Estación Biológica de Doñana **EBD**

Founded as a small research institute to provide scientific advice for the management of the Doñana National Park, the EBD-CSIC (Doñana Biological Station) has grown into a respected academic institution whose fundamental mission is to carry out multidisciplinary research directed to understanding, from an evolutionary viewpoint, the way biodiversity is generated, maintained, and how it deteriorates, as well as the consequences of its loss and the possibilities of its conservation.

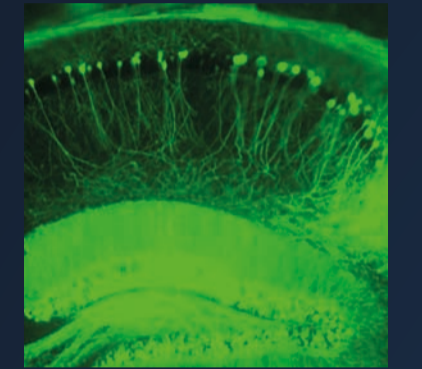


## Centro Nacional de Biotecnología **CNB**

At the CNB (Spanish National Biotechnology Centre), we are more than 600 people who work in 70 multidisciplinary research groups to unlock the secrets of living things. Our common goal is to apply our research results to the development of new compounds and technologies that will allow us to provide innovative solutions to four big challenges, namely infectious diseases, inflammation and cancer, sustainability of food production, and environmental pollution.

## Instituto de Neurociencias **IN**

The mission of the IN (Institute for Neurosciences) is to investigate the development, structure and function of the nervous system in normal and pathological conditions. Our general objective is to understand the functioning of the healthy brain, in order to shed light on malfunctions leading to disease. This goal is recognized as one of the main challenges faced by modern biology. We aim to generate fundamental knowledge to answer the most important questions in neuroscience, because it is imperative to continue research efforts to understand how the brain works at the most basic level if we are to uncover insights that may help us correct problems in the brain.



## Instituto Catalán de Investigación Química **ICIQ**

ICIQ (Institute of Chemical Research of Catalonia) research groups focus their work on applying chemistry at the frontiers of knowledge in two main areas: Catalysis, which aims at discovering new and useful catalytic processes for the development of cleaner and more efficient industrial processes and the synthesis of bioactive substances, and Renewable energies, focused on the sustainable generation of hydrogen from water, the development of more efficient photovoltaic devices and the CO<sub>2</sub> conversion into liquid fuels and feedstock for the chemical industry.

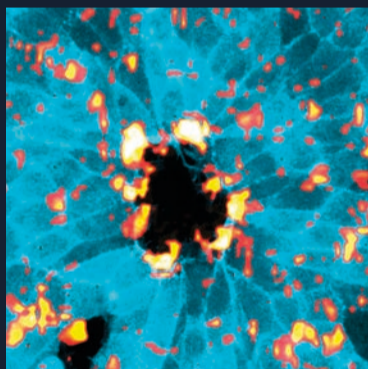


# CENTROS EXCELENCIA SEVERO OCHOA 5



## Instituto Catalán de Nanociencia y Nanotecnología **ICN2**

Our research lines focus on the newly discovered physical and chemical properties that arise from the fascinating behaviour of matter at the nanoscale. The Institute promotes collaboration among different disciplines to develop basic and applied research, always seeking interactions with local and global industry. Recent discoveries in nanoscience may lead to a change of paradigm in areas such as medicine, energy, or micro-electronics. The frontier research developed at ICN2 (Catalan Institute of Nanoscience and Nanotechnology) has enormous potential to change everyday life.

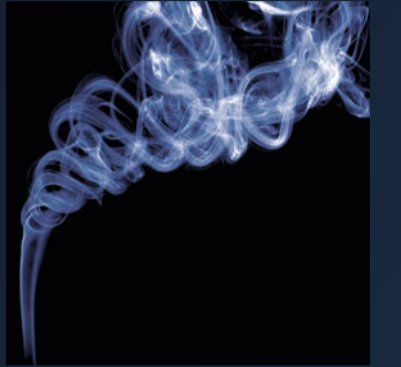


## Instituto de Bioingeniería de Cataluña **IBEC**

At IBEC (Institute for Bioengineering of Catalonia), excellent interdisciplinary research at the frontiers of engineering and life sciences is combined with specific transfer targets to produce new applied technologies. We have the versatility to generate excellent research and, at the same time, work with industry to develop new diagnostic or treatment systems. The expertise that exists in the 17 IBEC research groups is structured in three broad avenues of knowledge: nanomedicine, cellular and tissue engineering and ICT for health. These are placed at the service of science and society to progress in three major application areas, Bioengineering for future medicine, Bioengineering for regenerative therapies, and Bioengineering for active ageing.

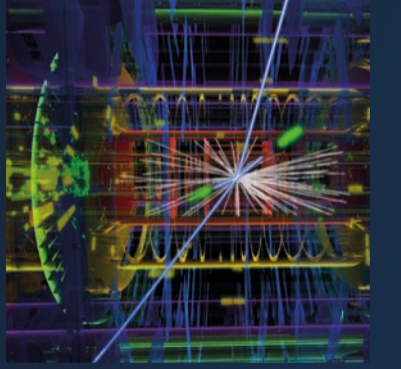
## Basque Center for Applied Mathematics **BCAM**

Basque Center for Applied Mathematics, Bilbao, Basque Country (Spain), is a world-class interdisciplinary research centre of Applied Mathematics that started operations as a Basque Excellence Research Center (BERC) in September 2008. Since its establishment it has already produced some significant results that consolidate as an international reference. The Severo Ochoa distinction is a great achievement encouraging us to continue our commitment to carrying out high quality research at the frontier of Mathematics and in the service of society.



## Instituto de Física Corpuscular **IFIC**

IFIC (Corpuscular Physics Institute) is a joint institute of the CSIC and the University of Valencia, leader in experimental and theoretical research in Particle, Astroparticle and Nuclear Physics. Among its important goals are the study of the Higgs boson, the top quark, the search for new particles and models of matter, the study of neutrinos and their use as cosmic messengers, nuclear physics and its applications, as well as the development of technology for new particle detectors and accelerators.





## LOCATION

The central location for the 100xCIENCIA: Communicating Frontier Science Forum will be **Santa Cruz de La Palma**, capital of the Canary Island of La Palma. The presentations and round table discussions will be held at the **Circo de Marte Theatre**, a 19th century building which was declared of Great Cultural Importance in 1997 and has recently been refurbished. The Theatre regularly hosts arts and culture related events.

The Island has been declared a Biosphere Reserve and is known as "La isla bonita" (pretty island) for its landscapes.

Its wonderful dark sky, which is protected by law, is amongst the best in the world for astronomy. 100xCIENCIA will offer its participants a guided tour of the **Roque de los Muchachos Observatory (ORM)**, which is recognised as one of the best astrophysical Observatories in the world. This Observatory, which is on the edge of the Caldera de Taburiente National Park has the world's largest optical telescope, the **Gran Telescopio CANARIAS**.

### Circo de Marte Theatre

C/ Virgen de la Luz nº 5  
Santa Cruz de La Palma  
La Palma, Canary Islands