PASSION FOR KNOWLEDGE

Nazioarteko Zientzia Jaialdia
Festival Internacional de Ciencia
International Science Festival

GENERAL PROGRAMME

2-7/10
2023
DONOSTIA /
SAN SEBASTIÁN
BILBAO

p4k.dipc.org

Donostia International Physics Center

Passion
For
Knowledge

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PASSION FOR KNOWLEDGE

Passion for Knowledge (P4K) is an international science festival open to the general public, organised by the Donostia International Physics Center (DIPC). With an innovative approach and an extensive programme of activities, the festival offers a meeting place between the scientific community and society at large.

The festival's main venue is the Victoria Eugenia Theatre in San Sebastian, although some activities are held also in other parts of the Basque Country, such as Bilbao and other cities. The festival´s fifth edition will take place from 2 to 7 October 2023.

The aim of Passion for Knowledge is to promote science as a key cultural activity that contributes to the wellbeing of future generations, and to highlight knowledge as the driver of scientific, technological and cultural progress.

The festival brings together many prestigious international scientists who are the brilliant minds behind some of the most important scientific discoveries of recent decades. Through their plenary lectures, we will learn how they managed to expand the frontiers of knowledge and contribute to the progress and wellbeing of society as a whole.

These lectures constitute the hallmark of the festival's extensive programme, which also includes a wide range of activities targeted at different audiences: encounters with secondary school students, Naukas sessions, workshops for children, shows, special sessions with streamers and screenings, among others.

On the occasion of the fifth edition of the fifth edition of the festival, the DIPC will also inaugurate the exhibition `STROM - Inclusive Astronomy´, an innovative project accessible to all to engage society about the cutting edge research in cosmology and astronomy.

(P4K)

SPONSORS AND COLLABORATORS

DIPC - BOARD OF PARTNERS

P4K · COLLABORATORS

STRØM · COLLABORATORS

	Monday 02 OCT	Tuesday 03 OCT	Wednesday 04 OCT
Morning			**OPENING OF INCLUSIVE ASTRONOMY EXHIBITION - STROM** 11:00 - 12:00 Interactive and multisensory exhibition with universal accessibility Tabakalera
Afternoon	**PLENARY LECTURES** 18:00 - 20:20 **Opening** **Institutions remarks** **Özlem Türeci**, Biotechnology **Donna Strickland**, Photonics **Ikerbasque awards ceremony** Victoria Eugenia Theatre	**PLENARY LECTURES** 18:00 - 20:00 **Juan Ignacio Cirac,** Quantum Physics **Sandra Myrna Díaz,** Biodiversity and Climate Change **Didier Queloz,** Astrophysics Victoria Eugenia Theatre	**PLENARY LECTURES** 18:00 - 20:00 **Francesca Ferlaino,** Quantum Technologies **Maria Vallet-Regí,** Biomaterials **Jean-Marie Lehn,** Supramolecular Chemistry Victoria Eugenia Theatre
		STREAMERS SESSIONS 20:00 – 20:30 Interview by **Eduardo Sáenz de Cabezón** to **Sara García,** Molecular Biology and Space Exploration Victoria Eugenia Theatre	**BERTSO PASSION** 20:00 - 21:00 **Amets Arzallus** **Andoni Egaña** **Nerea Ibarzabal** **Maialen Lujanbio** **Maite Berriozabal,** gai-jartzailea Victoria Eugenia Theatre
All day	**ORIGINS OF LIFE** Origins of Life Donostia Meeting 2023 Palacio Miramar		
Other cities		**ENCOUNTERS WITH STUDENTS** 9:00 - 12:30 **Donna Strickland,** Photonics **George Smoot**, Cosmology Bizkaia Aretoa (UPV-EHU)	
		PLENARY LECTURES 18:00 - 19:30 **Francesca Ferlaino,** Quantum Technologies **Jean-Marie Lehn,** Supramolecular Chemistry Euskalduna Conference Center	

VENUES

- **Victoria Eugenia Theatre, Donostia / San Sebastian**
- **Tabakalera, Donostia/ San Sebastián**
- **Palacio Miramar, Donostia / San Sebastián**
- **Bizkaia Aretoa UPV/EHU, Bilbao**
- **Euskalduna Conference Center, Bilbao**
- **CAF, Beasain**

Thursday 05 OCT	Friday 06 OCT	Saturday 07 OCT	Sunday 08 OCT
PHD TRAINING 10:00 - 13:30 **Jean-Marie Lehn,** Supramolecular Chemistry **Jocelyn Bell- Burnell,** Astrophysics Palacio Miramar	**ENCOUNTERS WITH STUDENTS** 9:00 - 12:30 **Maria Vallet-Regí,** Biomaterials **Jean-Marie Lehn,** Supramolecular Chemistry **Jack Szostak,** Aging and Artificial Life Victoria Eugenia Theatre	**PASSION TXIKI** 11:00 - 13:30 (Euskera) **I research,** Scientific circuit **The Life of a Star** Scientific Show Victoria Eugenia Theatre	**PASSION TXIKI** 11:00 - 13:00 (Spanish) **JakinLab,** Family workshop Tabakalera
PLENARY LECTURES 18:00 - 20:00 **Joaquin Gorrochategui,** Indo-European Linguistics Interview by **Pedro Miguel Etxenike** to **Jocelyn Bell-Burnell,** Astrophysics **Jack Szostak,** Aging and Artificial Life Victoria Eugenia Theatre	**PLENARY LECTURES** 18:00 - 20:00 **Cristina Uriarte,** Scientific Policy **Darío Gil,** Quantum Computing **Jean-Pierre Sauvage,** Molecular Machines and Motors Victoria Eugenia Theatre	**STREAMERS SESSIONS** 18:00 - 18:30 **José Luis Crespo,** Director and Founder of QuantumFracture Victoria Eugenia Theatre	
NAUKAS PASSION 20:00 - 21:00 **Javier Pelaez,** Presenter **Enrique Borja** **Clara Grima** **Iñigo Olalde** **Almudena M. Castro** **Joaquín Sevilla** **Isabel Moreno** Victoria Eugenia Theatre	**NAUKAS PASSION** 20:00 - 21:00 **Javier Pelaez,** Presenter **Susana Escudero y Guillermo Peris** **Marga Sánchez Romero** **Ignacio López-Goñi** **Iñaki Úcar** **Gemma del Caño** Victoria Eugenia Theatre	**PLENARY LECTURES** 18:30 - 20:20 **Adela Cortina,** Ethics and Philosophy **George Smoot,** Cosmology **Closing** Victoria Eugenia Theatre	
`STROM' - INCLUSIVE ASTRONOMY EXHIBITION 10:00 - 20:00 Interactive and multisensory exhibition with universal accessibility · Tabakalera FREE			
		PASSION TXIKI 17:00 - 19:00 (Euskera) **JakinLab,** Family workshop Tabakalera	
CAF LECTURE 10:00 **Jean-Pierre Sauvage,** Molecular Machines and Motors CAF, Beasain			

EVENT TYPE

Free registration · **Free access** · **Access by invitation**

PLENARY LECTURES

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The plenary lectures, which will be held every afternoon at the Victoria Eugenia Theatre, are the hallmark of the festival. For a week, the city breathes scientific spirit as we celebrate our passion for knowledge with all society.

Thanks to the presence of some of the leading figures on the international scientific scene, including several Nobel laureates, the public is immersed in the fascinating world of the advances and discoveries that have revolutionised the understanding of the world we live in. The plenary lectures combine both knowledge and excitement and invite the audience to share a unique experience.

Target audience:
General Public.

Language:
Basque, Spanish and English (Simultaneous translation into Basque, Spanish and English).

Main venue:
Victoria Eugenia Theatre. · Donostia / San Sebastian
(Capacity: **900 people**)

Dates and Time:
2- OCT, 18:00 - 20:20
3-6 OCT, 18:00 - 20:00
7 OCT, 18:30 - 20:20

Other venues:
Euskalduna Palace, Bilbao
(Capacity**: 305 people**)

Dates and Time:
3 OCT, 18:00 - 19:30

Streaming:
Live broadcasting on the website of the festival and eitb.eus (EITB Kosmos and EITB´s youtube channel)

Registration:
Free registration at p4k.dipc.org

BILBAO
Tuesday, 3 October (9:00-12:30)
Bizkaia Aretoa UPV/EHU

Guests Scientists:
Donna Strickland, Photonics,
Nobel Laureate in Physics 2018
George Smoot, Cosmology,
Nobel Laureate in Physics 2006

DONOSTIA / SAN SEBASTIAN
Friday, 6 October (9:00-12:30)
Victoria Eugenia Theatre

Guests Scientists:
Jean-Marie Lehn, Supramolecular Chemistry,
Nobel Laureate in Chemistry 1987
Jack Szostak, Ageing and Artificial Life,
Nobel Laureate in Physiology or Medicine 2009
Maria Vallet-Regí, Biomaterials,
Rey Jaime I prize in 2018

Target audience:
High School Students

Capacity:
250-300 people per encounter.

Language:
Basque, Spanish and English (simultaneous translation into Basque, Spanish and English).

Registration:
Free registration for schools.

ENCOUNTERS WITH STUDENTS

One of the star activities of the Passion for Knowledge festival is the top@DIPC – Zientziarekin solasean! an event that offers hundreds of secondary school students the opportunity to meet and talk to Nobel laureates and leading scientists. The main aim of the encounters is to awaken young people's curiosity about science and to inspire them to pursue a career in this field.

Each encounter will feature two or three internationally renowned researchers from different fields, specially selected from the P4K 2023 guest speakers, alongside Pedro Miguel Etxenike who will act as host and chair.

AWARD FOR THE BEST QUESTION

The most interesting question will be awarded a prize courtesy of the companies Telefónica and EDP naturgas energia.

Telefónica edp Fundación

The University of the Basque Country (UPV/EHU) is especially involved in the organization of the encounters with students.

Universidad del País Vasco Euskal Herriko Unibertsitatea

ASTRONOMY EXHIBITION

Imagine holding the planets of the solar system in your hands, touching the surface of the moon with the tip of your fingers or being so close to the sun that you can hear it. This and much more is part of the exhibition 'STROM - Inclusive Astronomy', produced for Passion for Knowledge festival by the DIPC in collaboration with Tabakalera, open to the public from 4 to 31 October on the third floor of Tabakalera.

Through interactive and multisensory experiences, the public will be able to understand basic concepts of astronomy and learn about frontier research in the field of astrophysics being carried out in the Basque Country.

One of the main goals of this exhibition is to ensure access for people with disabilities, especially the visually and hearing impaired communities and people with reduced mobility. For this purpose, tactile guides have been installed on the floor, tactile information panels with accessible text sizes, QRs with access to audio guides, audiovisuals with sign-guides, subtitling and magnetic loop, all in an exhibition space without physical barriers.

The exhibition will also include an attractive programme of complementary activities aimed at the general public that promotes the participation of people who normally have limited access to science outreach. The programme includes inclusive talks, round tables, workshops and guided tours for schools. In addition, DIPC researchers will be present at the exhibition every Tuesday and Thursday in October, starting at 18:30, to answer questions and satisfy the curiosity of those who attend.

The full programme of activities for the exhibition is available at p4k.dipc.org/strom

NAUKAS PASSION

Target Audience:
General Public

Capacity:
900 people

Language:
Spanish (simultaneous translation into Basque and English).

Dates and Time:
5 and 6 OCT, 20:00 - 21:00

Venue:
Victoria Eugenia Theatre · Donostia / San Sebastián

Streaming:
Live broadcasting on the website of the festival and eitb.eus (EITB Kosmos and EITB´s youtube channel)

Registration:
Free registration at p4k.dipc.org

The doors of the Victoria Eugenia Theatre will be wide open to the humour and scepticism of Naukas Passion, with the participation of acclaimed popular science figures and communicators from the Naukas platform. The event is organised in collaboration with the Chair of Scientific Culture of the University of the Basque Country (UPV/EHU).

Using a dynamic format of short talks that include various surprises and make scientific outreach highly entertaining, some of the Naukas platform's top speakers will be coming up onto the stage to share their unique view on a diverse range of scientific issues. The sessions will be held directly after the plenary lectures throughout the festival week.

BERTSO PASSION

In this new edition of Passion for Knowledge festival, we bring together some of the very best bertsolaris (verse improvisers) to delight your senses. The session at the Victoria Eugenia Theatre, which is open to everyone, will offer a new opportunity to admire this particular branch of improvised poetry and to enjoy the verbal sharpness of these masters of verse.

Target audience:
General Public

Capacity:
900 people

Language:
Basque (simultaneous translation into Spanish and English)

Dates and Time:
4 OCT, 20:00 - 21:00

Venue:
Victoria Eugenia Theatre Donostia / San Sebastián

Streaming:
Live broadcasting on the website of the festival and eitb.eus (EITB Kosmos and EITB´s youtube channel)

Registration:
Free registration at p4k.dipc.org

PASSION TXIKI

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Over the weekend, the festival will be packed with energy and excitement with Passion Txiki. This fantastic festival, specially designed for young audiences and their families, will plunge us into a world of discovery and fun, with activities planned in different places around Donostia / San Sebastián.

I RESEARCH
Scientific Circuit

Mad Science presents a set of educational activities that are great fun and highly participative, aimed at children and young people, to draw them into the world of science.

Club Room of the Victoria Eugenia Theatre
7 October 11:00-12:00, children aged 4-12, in Basque

THE LIFE OF A STAR
Scientific Show

As our scientists are at work in the laboratory, a telegram arrives to tell them a star is coming to visit. And while they're getting ready to welcome a celebrity, a star appears in the sky.

Club Room of the Victoria Eugenia Theatre
7 October 12:30-13:30, children aged 4-12, in Basque

JAKINLAB
Family Workshop

This session will combine science and philosophy for children. Starting out from a (brief) show/ explanation/experiment new knowledge will be built up through research and dialogue.

Kutxa Fundazioa Kluba (Tabakalera 1st floor).
Length: 120 min, Children aged 6-10
Basque session: 7 October 17:00 / 28 October 17:00
Spanish session: 8 October 11:00

Passion Txiki enjoys special support from Kutxa Fundazioa.

kutxa FUNDAZIOA

CAF LECTURE

As part of the Passion for Knowledge festival a special session has been organised at the headquarters of CAF (Construcciones y Auxiliar de Ferrocarriles), a board partner of the DIPC since its earliest days. Jean-Pierre Sauvage, creator of molecular machines, will be giving a lecture followed by an open discussion with company employees.

Jean-Pierre Sauvage is a French chemist who in 2016 won the Nobel Prize in Chemistry for his contributions to the design and synthesis of molecular machines. Some of the possible aplications of the molecular motors include: nanotechnology and nanorobotics, medicine and targeted therapy, catalysis and chemical synthesis, information storage and retrieval, molecular electronics and energy.

STREAMERS SESSIONS

This year, Passion for Knowledge festival welcomes a new format where the top Spanish streamers of scientific content take the stage of the Victoria Eugenia theatre to share what they know about the current state of knowledge in a range of scientific and technological fields.

Target audience:
General Public

Capacity:
900 people

Language:
Spanish (simultaneous translation into Basque and English)

Dates and Time:
3 OCT, 20:00-20:30
7 OCT, 18:00-18:30

Venue:
Victoria Eugenia Theatre Donostia / San Sebastián

Streaming:
Live broadcasting on the website of the festival and eitb.eus (EITB Kosmos and EITB´s youtube channel)

Registration:
Free registration at p4k.dipc.org

ON ZIENTZIA

On Zientzia is an audio-visual content creation project, focusing mainly on documentary-type pieces, in which citizen engagement plays a key role. The competition (which will be held for the 13th time this year) is run by Elhuyar and the DIPC, with the collaboration of Teknopolis, a popular science TV show produced by Elhuyar for the Basque public television network.

During this edition of Passion for Knowledge festival, a selection of some of the best videos will be screened in different cultural and recreational centres.

Dates, Time and venue:
5 OCT, 20:30, Tolosa Cinema Club, Leidor Cinema
3-7 OCT, afternoon, Victoria Eugenia Theatre

More information on the website www.onzientzia.tv

PHD TRAINING

Passion for Knowledge festival will include a training activity/session for PhD students, which will take place on the morning of October 5 at Palacio Miramar. The activity is organised within the framework of the Summer Courses of the University of the Basque Country (UPV/EHU) in collaboration with Euskampus Fundazioa.

The day combines a training session followed by a special meeting with the French chemist and father of supramolecular chemistry Jean-Marie Lehn, Nobel Prize in Chemistry 1987, and the British astrophysicist and pulsar discoverer Jocelyn Bell Burnell, Breakthrough Prize 2018.

Target audience:
PhD students

Date:
October 5, 10:00 – 13:30

Venue:
Palacio Miramar, Summer Courses of the UPV/EHU Donostia / San Sebastián

More information on the website p4k.dipc.org

ORIGINS OF LIFE

The scientific conference Origins of Life Donostia Meeting 2023 will bring together over a hundred prominent international researchers who specialise in the chemical processes that gave rise to our existence. The symposium forms part of the Passion for Knowledge 2023 festival programme and will be held at Miramar Palace (Donostia-San Sebastian) from 2 to 4 October, within the framework of the Summer Courses of the University of the Basque Country (UPV/EHU).

Target audience:
International Research Community

Language:
English

Dates:
2-4 OCT

Venue:
Palacio Miramar, Summer Courses of the UPV/EHU Donostia / San Sebastián

All the information can be found on the congress website: http://www.oldm2023.org/

LDM'2023 DONOSTIA ORIGINS OF LIFE

IKERBASQUE AWARDS

Ikerbasque 2023 Awards Ceremony will take place within the framework of Passion for Knowldge Festival 2023. This recognition, which is awarded annually by the Basque Government's Department of Education and Ikerbasque, makes the work of women researchers in the Basque Country visible, as an example and an inspiration to new generations of female researchers.

The awards ceremony will take place on October 2, the opening day of Passion for Knowledge festival at the Victoria Eugenia Theatre.

PLENARY LECTURERS

Jocelyn Bell Burnell

Astrophysics
Breakthrough Award 2018

Oxford University

PLENARY LECTURES
Interview by Pedro Miguel Etxenike with Jocelyn Bell, discoverer of the pulsar.
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

PHD TRAINING
Thursday, 05 OCT-Palacio Miramar, Donostia / San Sebastian

Discoverer of the pulsar

Dame Jocelyn Bell Burnell is an astrophysicist from Northern Ireland. While working as a research student at the University of Cambridge, she helped build a large radio telescope and in 1967 discovered a series of extremely regular radio pulses. Puzzled, she consulted her adviser, astrophysicist Antony Hewish, and their team spent the ensuing months eliminating possible sources of the pulses, which they jokingly dubbed LGM (for Little Green Men) in reference to the remote possibility that they represented attempts at communication by extraterrestrial intelligence. After she subsequently discovered several more regular patterns of radio waves and determined that they were in fact emanating from neutron stars. They had discovered pulsars: super-dense, highly-magnetic stars that spin rapidly and emit radio waves in an intense, narrow beam, not unlike a lighthouse.

The scientific discovery won a Nobel Prize in 1974, although despite being the first person to observe a pulsar, Bell was not included among the laureates, with the honour going instead to her supervisor, Antony Hewish, and the astronomer Martin Ryle.

Since that time, Dame Jocelyn Bell Burnell has become a role model for young students and female scientists all over the world. She has been awarded many prizes and has garnered many prestigious accolades. Recently, she donated 3 million dollars, the entire proceeds of the Breakthrough Prize in Fundamental Physics that she was awarded in September 2018, to help women and people from minority groups wishing to become physics researchers.

Career and recognitions

After earning a Bachelor's degree in Natural Philosophy (Physics) from the University of Glasgow in 1965, she did her postgraduate studies at the University of Cambridge, earning a PhD in 1969. She was a visiting professor at the University of Princeton, in the US, and is currently a guest lecturer in astrophysics at the University of Oxford and a fellow of Mansfield College. She served as President of the British Royal Astronomical Society from 2002 to 2004, as President of the Institute of Physics from 2008 to 2011 and as pro-Chancellor at Trinity College Dublin. She was also President of the Royal Society of Edinburgh from 2015 to 2017.

Her many accolades include the Albert A. Michelson Medal of the Franklin Institute of Philadelphia in 1973, the Magellanic Premium of the American Philosophical Society in 2000 and the Royal Medal of the Royal Society in 2015. She has also received many honorary titles and is a Fellow of the Royal Society, as well as another five academic institutions. In 2007, she was made a Dame Commander of the British Empire by Her Majesty Queen Elizabeth II. In 2010, Dame Jocelyn Bell Burnell was awarded the Royal Society Michael Faraday prize for excellence in communicating science.

Juan Ignacio Cirac

Quantum Physics
Prince of Asturias Award 2006

Max Planck Institut für Quantenoptik

PLENARY LECTURES
Quantum technologies: from Schrödinger's cat to a new era in computing
Tuesday, 03 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

One of the pioneers of the quantum computer

Juan Ignacio Cirac is a Spanish physicist who has proposed some of the most important ideas for applying quantum physics to computing. He is one of the minds behind quantum computers. For the past 22 years he has been one of the directors of the Max Planck Institute of Quantum Optics and is a recipient of both the Prince of Asturias Award (2006) and the Wolf Prize (2013).

His research focuses on the quantum theory of information and quantum computing. Quantum computing has a different paradigm from current computing, which is based on bits and which processes information in only two states: zero and one (on or off). Quantum technology, on the other hand, works also by superimposing these states using 'quantum bits', also known as qubits. One key consequence of this is that certain problems which cannot be solved by a conventional computer would be feasible for a quantum one.

Career and recognitions

Ignacio Cirac earned a degree in physics from the Complutense University in Madrid in 1988 and a PhD in 1991. After lecturing at the Universities of Castilla-La Mancha (Spain) and Innsbruck (Austria), in 2001 he was appointed director of the Max Planck Institute of Quantum Optics (Garching, Germany) and is an honorary professor at the Technical University of Munich.

He is a Fellow of the Spanish Royal Academy of Sciences, as well as the German (Leopoldina) and Bavarian one, a correspondent of the Austrian, Zaragoza and Barcelona Academies of Science and a Fellow of the American Physical Society. He has won many awards for his work, including the Felix Kuschenitz Prize from the Austrian Academy of Sciences in 2001, the European Physical Society's Quantum Electronics Prize in 2005, the Prince of Asturias Prize in 2006, the Blas Cabrera National Research Prize in 2007, the BBVA Foundation's Frontiers of Knowledge Prize in 2009, the Franklin Medal in 2010, the Niels Bohr Medal in 2013, the Wolf Prize in 2013, the Hamburg Prize for Theoretical Physics in 2015 and, more recently, the German Physical Society's Max Planck Medal in 2018, and has received the John Stuart Bell Prize of University of Toronto and Micius Foundation's Micius Quantum Prize (China) in September 2019.

Adela Cortina

Ethics and Philosophy
National Essay Prize 2014

University of Valencia

PLENARY LECTURES
Ethics and technology
Saturday, 07 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Ethics facing intolerance

Adela Cortina is a Spanish philosopher, emeritus professor of Ethics and Political Philosophy at the University of Valencia, member of the Spanish Royal Academy of Moral and Political Sciences, and director of the Etnor Foundation, Business and Organisational Ethics.

In 2008 she became a member of the Royal Academy of Moral and Political Sciences, the first woman to be admitted to the academy.

She works on issues of ethics, both in terms of their basis and how they apply to business, politics, health, biotechnologies, the media, professions, education and artificial intelligence, as well as political philosophy, in areas such as citizenship, democracy and development. She has to her credit over fifty books on the theory of ethics. An iron determination emerges out of all of them: to apply ethics to life.

Career and recognitions

Adela Cortina is Professor of Ethics and Political Philosophy at the University of Valencia, the city where she was born and where she completed her undergraduate and PhD studies in Philosophy, which she pursued further at the Universities of Munich and Frankfurt.

In articles and lectures she has expressed her opinion on various aspects of life which, when examined, "deserves to be lived".

In 2007 she won the Jovellanos International Essay Prize with her work Ethics of Cordial Reason and in 2014 she won the National Essay Prize with her work What is Ethics really good for? A work in which, without mincing words, she declares that "no society can function if its members do not maintain an ethical attitude".

She came up with the word "aporophobia" and her latest published book is Cosmopolitan Ethics (Paidós, 2021)

Sandra Myrna Díaz

Biodiversity and Climate Change
Princess of Asturias Award 2019, Nobel Peace Prize 2007

National University of Córdoba

PLENARY LECTURES
About Plants and People: vegetable biodiversity and its connections with human beings.
Tuesday, 03 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Defending "the web of life" in the face of the climate crisis

Sandra Díaz is an Argentine biologist involved in research in the area of ecology. She is working on one of the least recognised aspects of climate change: how the climate crisis impacts on the plant sector of ecosystems. As Díaz points out, plants, which are also becoming extinct, are the basis on which animals, including humans, survive, and so if they change or disappear, it is only a matter of time before we do.

She received the Nobel Peace Prize in 2007 as a member of the Intergovernmental Panel on Climate Change, and the Princess of Asturias Award for Research in 2019 for her fight against climate change and defence of biodiversity.

She is a scientific reference in the area of ecology, specifically in botany. She has played a leading role in the theoretical development and practical implementation of the concept of functional diversity, its effects on ecosystem properties and its social significance. As a result of her work as a researcher, she has also developed a clear, critical voice against those who deny the climate crisis. She has also spoken out against poverty as something that is not natural and irreparable, but something that a part of the population has created and naturalised and that has to do with how we manage and conserve resources.

Career and recognitions

Díaz studied Biology in which she graduated in 1984 and received her PhD in 1989, both from the National University of Córdoba at the Centre for Ecology and Renewable Natural Resources. Shortly after getting her PhD, she joined the same university as a lecturer in 1993, where she continues to work today.

Dr Díaz has had a distinguished career in international scientific research institutions. Among the most significant, mention has to be made of her participation between 1995 and 1997 as co-coordinator of the Terrestrial Ecosystems Group of the Intergovernmental Panel on Climate Change (IPCC). Since 2005 she has been a member of the Scientific Steering Committee of the Global Land Project of the International Geosphere-Biosphere Programme.

Her scientific track record has earned her several distinctions and awards, the most significant of which is the Guggenheim Fellow in 2002, the Zayed Environment Prize in 2005 and the Cozzarelli Prize of the National Academy of Science USA, although the most important recognition is undoubtedly the Nobel Peace Prize, awarded in 2007 to all the members of the Intergovernmental Panel on Climate Change. In 2009 she was appointed Foreign Associate Member of the National Academy of Sciences of the United States.

Francesca Ferlaino

Quantum Technologies
Feltrinelli Award 2017

University of Innsbruck

PLENARY LECTURES
Atoms approaching absolute zero temperature: the hardware of future quantum technologies

Tuesday, 03 OCT-Euskalduna Conference Center, Bilbao

Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Discoverer of a new state of matter: solid and liquid at the same time

Born in Naples (Italy), she is an expert in quantum physics and she currently leads a research group at the University of Innsbruck in Austria. Ferlaino and her team recently achieved a milestone in science: the discovery of a new state of matter, called Supersolid, with both solid and liquid properties at the same time. This fluid has the structure of a crystal, but the particles inside it 'flow' like a liquid because they are quantum-mechanically delocalized and indistinguishable.

Her research activity explores quantum phenomena in atomic gases at ultra-low temperatures, with contributions covering topics such as the quantum matter of atoms and molecules and few-body and scattering physics. In recent years she has focused specifically on the strongly magnetic, rather unexplored atomic species Erbium and Dysprosium, achieving in 2012 the world's first Bose-Einstein condensation of Erbium, and in 2018 the first dipolar quantum merging of Erbium and Dysprosium. In 2019 she was able to prepare the first long-lived supersolid state, an elusive, paradoxical state in which superfluid flow and crystalline rigidity coexist. With these systems, she has explored a variety of many-body quantum phenomena dictated by long-range, anisotropic dipolar interaction among atoms. In 2021 she created supersolid states along two dimensions.

Career and recognitions

Francesca Ferlaino studied physics at the University Federico II of Naples. She received the PhD at the University of Florence and at the European Laboratory for Non-linear Spectroscopy (LENS). In 2007 she moved to the University of Innsbruck (Austria), where she became a research and teaching associate and set up her own research group. Since 2014 Francesca is professor of the University of Innsbruck and scientific director of the Institute for Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Sciences.

In recent years she has been awarded numerous prestigious prizes and distinctions, including the Erwin Schrödinger Prize, the Feltrinelli Prize, the Alexander-von-Humboldt Chair, the Science Prize of the City of Innsbruck, the Ignaz L. Lieben Prize and the Fritz-Kohlrausch Prize for Experimental Physics. She has also received a START Award, and three ERC Grants (starting, consolidator, and advanced grant).

Dario Gil

Quantum Computing
IBM Senior Vice President and IBM Research Director

IBM Research

PLENARY LECTURES
What´s Next in quantum computing
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Leader of the world's largest quantum computing laboratory

Darío Gil-Alburquerque is senior vice president of IBM and head at IBM Research. IBM Research is one of the largest and most influential corporate research laboratories in the world.

Gil leads research strategies in artificial intelligence, hybrid cloud, quantum computing and exploratory science. He also leads IBM's technical community and is responsible for the company's intellectual property and business strategy.

An advocate of collaborative research models, Gil co-chairs the MIT-IBM Watson AI Lab, which promotes basic research into artificial intelligence for the benefit of industry and society. He also co-chairs the Executive Board of the International Science Reserve, a global network of scientific communities providing specialised resources for preparedness and mitigation of the most urgent and complex global challenges.

Career and recognitions

Born in Murcia (Spain), Darío Gil went to the United States to do his final sixth form year at a high school in California. There he embarked on his university career at the Stevens Institute of Technology in New Jersey, where he graduated in engineering. He later specialized in nanotechnology at the Massachusetts Institute of Technology (MIT) in Boston. In 2003 he completed his PhD in electrical engineering and information technologies at the Massachusetts Institute of Technology (MIT), specializing in nanotechnology, and was recruited that year by IBM, where he has spent his entire professional career.

He is a member of the US National Science Board, the governing body of the National Science Foundation (NSF), the President's Research Council of the Canadian Institute for Advanced Research (CIFAR), the Dean's Advisory Council of the MIT School of Engineering, and the Boards of Directors of the Semiconductor Industries Association (SIA), the New York Academy of Sciences, the Aspen Global Cybersecurity Group and the New York Hall of Science, which offers educational activities to schools, families and neglected communities in New York through exposure to and outreach of science, technology, engineering and mathematics, popularly known as STEM.

Joaquin Gorrochategui

Indo-European Linguistics
Professor of Indo-European Linguistics

University of the Basque Country (UPV/EHU)

PLENARY LECTURES
On comparative linguistics and on the origin of Basque
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Jean-Marie Lehn

Supramolecular Chemistry
Nobel Laureate in Chemistry 1987

University of Strasbourg

PLENARY LECTURES
Steps towards complex matter: Chemistry!

Tuesday, 03 OCT-Euskalduna Conference Center, Bilbao

Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

PHD TRAINING
Thursday, 05 OCT-Palacio Miramar, Donostia / San Sebastian

ENCOUNTERS WITH STUDENTS
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

The lucky (sorieneku) discovery of Irulegi's hand

Joaquín Gorrochategui is professor of Indo-European Linguistics at the University of the Basque Country (UPV/EHU). His research activity focuses on the study of pre-Roman languages in Western Europe, in particular those spoken on the Iberian Peninsula. He has worked on various aspects of languages, from texts and inscriptions to secondary onomastic material, combining linguistic and historical data in his research.

This professor of Indo-European Linguistics is one of the people in charge of investigating the Irulegi hand. The finding of this unique, exceptional item is a discovery of great importance, not only for the Basque language, but also for all the ancient scripts and languages of the Iberian Peninsula.

Career and recognitions

Joaquín Gorrochategui graduated in 1982 in Classical Philology at the University of Salamanca, and completed his studies in Toulouse (France) and subsequently in Bonn (Germany).

He is a member of Jakiunde, urgazle (corresponding member) of Euskaltzaindia (The Royal Academy of the Basque Language) and corresponding academician of the Royal Spanish Academy (RAE). He is currently the President of the International Committee of the Colloquia on Palaeohispanic Languages and Cultures, and responsible for the Hesperia Data Bank for Palaeohispanic Languages and Epigraphy.

Father of supramolecular chemistry

Born in France, in 1987 Jean Marie Lehn shared the Nobel Prize for Chemistry with Charles J. Pedersen and Donald J. Cram, for his studies on the chemical basis of 'molecular recognition' (i.e., the way in which molecules recognize and selectively bind to each other), which also plays a fundamental role in biological processes. Over the years his work led him to the definition of a new field of chemistry, for which he has proposed the term 'supramolecular chemistry' as it deals with the complex entities formed by the association of two or more chemical species held together by non-covalent intermolecular forces. Subsequently, the area developed into the chemistry of "self-organization" processes and more recently towards 'adaptive chemistry', dynamic networks and complex systems.

Lehn studied chemistry at the University of Strasbourg, earning his PhD in 1963. He then spent a year in Robert Burns Woodward's laboratory at Harvard University, where he was part of the team working on the total synthesis of vitamin B12. He also took a course in quantum mechanics and began carrying out his first calculations with Roald Hoffmann. In 1964 he witnessed the first steps in what would later be known as the Woodward–Hoffmann rules.

Career and recognitions

In 1966 he became a lecturer at the University of Strasbourg and set up his own laboratory, where he focused his work on the physical chemistry of organic compounds, putting the experience gained in organic chemistry, quantum theory and physical methods into practice. In 1970 he was appointed Professor of Organic Chemistry at the Louis Pasteur University of Strasbourg and from 1979 to 2010 he was Professor at the Collège de France in Paris. He is presently Professor at the University of Strasbourg Institute for Advanced Study (USIAS).

Author of over 1000 scientific publications, Lehn is a member of many academies and scientific institutions and has won many international awards and prizes, including the Humboldt Prize (1983), the Royal Society's Davy Medal (1997) and the ISA Medal for Science (2006). He received the Order of Merit of the Federal Republic of Germany in 2009 and was named Grand Officer of the French Legion of Honour in 2014, among other accolades.

Didier Queloz

Astrophysics
Nobel Prize in Physics 2019

University of Cambridge

PLENARY LECTURES
The exoplanet revolution
Tuesday, 03 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Discoverer of the first exoplanet

Prof Didier Queloz, FRS, is Jacksonian Professor of Natural Philosophy at Cambridge Cavendish Laboratory and part-time professor of physics at ETH- Zurich.

He is at the origin of the 'exoplanet revolution' in astrophysics when in 1995 during his PhD with his supervisor they announced the first discovery of a giant planet orbiting another star, outside the solar system. They received the 2019 Nobel Prize in Physics for this spectacular discovery that kick-started the rise of exoplanet research.

Career and recognitions

Over the next 25 years, Didier Queloz scientific contributions have been to make progress in detection and measurement of exoplanet systems with the goal to retrieve information on their physical structure to better understand their formation and evolution and to compare with our Solar System. He participated and conducted various programs leading to the detection of hundred planets, include many breakthrough results.

More recently, his activity has focused on the detection of Earth like planets, establishing a comprehensive research program with the goal of making further progress in our understanding of habitability of exoplanets and life in the Universe.

He is the founding director of the Leverhulme Centre for Life in the Universe hosted by Cambridge University and more recently the ETHZ Centre for Origin and Prevalence of Life.

Jean-Pierre Sauvage

Molecular Machines and Motors
Nobel Laureate in Chemistry 2016

University of Strasbourg

PLENARY LECTURES
Molecular machines and motors: from biology to chemistry
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

CAF LECTURE
Thursday, 05 OCT
Beasain

Creator of molecular machines: nanorobots

Jean Pierre Sauvage is a French chemist known for his work in molecular sciences and nanotechnology, with which he has succeeded in triggering and controlling the movement of molecules. Professor Sauvage's team devised the first molecular muscle and, together with a team of experimental researchers, created an object measuring eight nanometres that contracts and relaxes when it receives a signal, and which could be used, for example, as an articulated mini-robot. For the design and synthesis of molecular machines, he was awarded the Nobel Prize in Chemistry in 2016, together with J. Fraser Stoddart and Ben L. Feringa.

Before his research it was believed that artificial molecules could not be set in motion in a controlled fashion; that was until he turned them into dynamic systems with a great capacity for movement. It is an innovative concept: molecules that can behave like motors to carry information. The possibilities are numerous; these mini-robots can, for example, might be used in medicine to attack malignant cells when they are injected into the blood.

Career and recognitions

Jean-Pierre Sauvage was born in Paris. He was awarded his PhD at the Université Louis-Pasteur in Strasbourg in 1971. During this period his supervisor was the researcher Jean Marie Lehn, who would later go on to receive the Nobel Prize in Chemistry (1987). Sauvage has worked at the French National Centre for Scientific Research (CNRS), where he was its director of research from 1979 to 2009. Right now, he is also professor emeritus of the Université de Strasbourg.

He was made a member of the French Academy of Sciences on 24 November 1997. He is a Knight of the Legion of Honour; his awards include a Centenary Prize and Medal of the Royal Society of Chemistry (UK), the Pierre Süe Prize of the French Chemical Society and the Blaise Pascal Medal in Chemistry 2012 of the European Academy of Sciences. He also joined the US National Academy of Sciences as a foreign associate in April 2019.

George Smoot

Cosmology
Nobel Prize in Physics
2006

DIPC, Lawrence Berkeley National Laboratory USA

PLENARY LECTURES
Current cosmology
Saturday, 07 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

ENCOUNTERS WITH STUDENTS
Tuesday, 03 OCT-Bizkaia Aretoa, Bilbao

The explorer of the origin of the universe

George Smoot is an American physicist who was awarded the Nobel Prize in Physics in 2006, together with John C. Mather, for the discovery of the black body form and the anisotropy of cosmic microwave background radiation. His studies demonstrated the existence of irregularities in the early Universe shortly after the Big Bang, and these led to the subsequent formation of galaxies.

George Smoot led a team of scientists in NASA's Cosmic Background Explorer (COBE) experiment, which aimed to measure fluctuations in cosmic microwave background radiation. The COBE experiment confirmed the existence of these fluctuations and provided solid evidence to support the Big Bang theory.

The results of the COBE experiment were ground-breaking and supported the inflationary model of the universe, which postulates a rapid expansion of space in the first moments after the Big Bang. These discoveries enabled scientists to better understand the formation of galaxies and large-scale cosmic structures.

George Smoot's contribution to our understanding of the universe has been invaluable. His work has provided crucial information about the origins and evolution of the cosmos, and his legacy continues to inspire future generations of scientists.

Career and recognitions

Smoot received his Degree in Mathematics in 1966 from the Massachusetts Institute of Technology (MIT) and subsequently wrote up his PhD in Physics at MIT in 1970. He then joined the Lawrence Berkeley National Laboratory in California, where he began investigating cosmic microwave background radiation (CMB). This radiation is the oldest light in the universe, originating approximately 380,000 years after the Big Bang and providing crucial information about the formation and evolution of the cosmos.

Professor Emeritus at the University of California Berkeley and Director of the Centre for Fundamental Physics at the Hong Kong University of Science and Technology (HKUST), he is also director of the Centre for Cosmological Physics at the Astroparticle and Cosmology Laboratory at the University of Paris. Since 2020 he has been a DIPC associate.

Donna Strickland

Photonics
Nobel Laureate in Physics
2018

University of Waterloo

PLENARY LECTURES
Generating high-intensity, ultrashort optical pulses
Monday, 02 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

ENCOUNTERS WITH STUDENTS
Tuesday, 03 OCT-Bizkaia Aretoa, Bilbao

Revolutionized laser physics

Donna Strickland is a professor in the Department of Physics and Astronomy at the University of Waterloo and one of the recipients of the Nobel Prize in Physics 2018, developing chirped pulse amplification with Gérard Mourou, her PhD supervisor at the time. They published this Nobel-winning research in 1985 when Strickland was a PhD student at the University of Rochester. She is the third woman in history to win the Nobel Prize in Physics, after Marie Curie in 1903 and Maria Goeppert-Mayer in 1963.

Career and recognitions

Canada-born Donna Strickland earned a B.Eng. from McMaster University in Hamilton, Ontario. She then went on to do a PhD in optics from the University of Rochester in New York. Strickland was a research associate at the National Research Council Canada, a physicist at Lawrence Livermore National Laboratory and a member of technical staff at Princeton University. In 1997 she joined the University of Waterloo, where her ultrafast laser group develops high-intensity laser systems for nonlinear optics investigations. She was named a 2021 Hagler Fellow of Texas A&M University and sits on the Growth Technology Advisory Board of Applied Materials.

Strickland served as the president of the Optica (formerly OSA) in 2013 and is a fellow of Optica, SPIE, the Royal Society of Canada and the Royal Society. She is an honorary fellow of the Canadian Academy of Engineering and the Institute of Physics, an international member of the US National Academy of Science and member of the Pontifical Academy of Science. Strickland was named a Companion of the Order of Canada. Her work and achievements have been a source of inspiration for women in science and have contributed significantly to the advancement of laser physics and its applications in various technological fields.

Jack Szostak

Aging and Artificial Life
Nobel Prize in Physiology or Medicine 2009

University of Chicago

PLENARY LECTURES
From DNA breaks and telomeres to the origins of life: endless fascinating puzzles in science
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

ENCOUNTERS WITH STUDENTS
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

On the cutting edge of life's creation

Jack Szostak is a British molecular biologist who received the 2009 Nobel Prize in Medicine, along with Elizabeth Blackburn and Carol Greider, for discovering how repetitive DNA strands, known as telomeres, protect our chromosomes together with the enzyme telomerase. Their work revealed how organisms rely on the enzyme to protect their genomes from degradation, and laid the groundwork for subsequent studies linking telomerase to cancer and aging-related conditions in humans.

Professor Szostak is currently exploring the possibility of creating artificial or synthetic life, as well as understanding the origin of life through the mechanisms that made the leap from chemistry to biology possible: the formation of the first molecules with the capacity to self-replicate.

Career and recognitions

Jack Szostak was born in London in 1952 and trained in the USA and Canada until he received his PhD from Cornell University in New York. A prominent feature in his biography is that he was in fact awarded his PhD very early on in his career, when he was only 19. Dr. Szostak is a University Professor and Professor of Chemistry at the University of Chicago, and a Howard Hughes Medical Institute Investigator. He is regarded as one of the leaders in the field of genetic studies coming out of his laboratory at the Howard Hughes Institute in the USA.

In addition to the Nobel Prize, Jack Szostak has received numerous awards, including the U.S. National Academy of Sciences Prize in Molecular Biology, the Sigrists Prize of the University of Bern, the Medal of the Genetics Society of America, the Heineken Prize in Biophysics and Biochemistry, the Harold Urey Medal of the International Society for the Study of the Origin of Life, and the Wheland Medal of the University of Chicago.

Szostak is a member of the National Academy of Sciences and the American Philosophical Society, as well as of the Royal Society, the American Academy of Arts and Sciences, and the American Association for the Advancement of Science.

Özlem Türeci

Biotechnology
Princess of Asturias Award 2021

BioNTech

PLENARY LECTURES
Molecular communication with the immune system
Monday, 02 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Key in the race for a Covid vaccine

Özlem Türeci, M.D., is a trained physician, academic researcher, and entrepreneur. As a Professor of Personalized Immunotherapy at the Helmholtz Institute for Translational Oncology (HI-TRON) and Johannes Gutenberg University Mainz, Türeci's research focuses on leveraging patients' immune system to fight cancer and prevent infectious diseases. Her early work made contributions to identifying human tumor antigens, developing monoclonal antibody therapies against novel targets, and creating clinical-stage personalized cancer immunotherapies based on non-synonymous mutations identified through next-generation sequencing. Türeci's contributions to the mRNA vaccine field include scientific groundwork, discoveries, technology development, translational and clinical research, as well as the development of the first ever approved mRNA drug. She and her partner, Prof. Ugur Sahin, M.D., overcame the challenge of poor mRNA potency through independent optimizations of structural elements in the mRNA scaffold and pioneering nanoparticulate mRNA vaccines, improving their potency and enabling their successful use in humans.

Career and recognitions

As a co-founder of multiple entrepreneurial ventures, including Ganymed Pharmaceuticals (acquired by Astellas Pharma) and BioNTech, she has translated science into medical applications. As Chief Medical Officer at BioNTech, Türeci leads the clinical development of various oncology approaches and oversees over 30 international clinical trials across the company's oncology and infectious disease pipeline. Remaining deeply rooted in academia, she serves as a speaker, lecturer, and mentor. Türeci has received dozens of prestigious awards for her work and holds over 540 international patents.

Cristina Uriarte

Scientific Policy
Commissioner for Science, Technology and Innovation

Basque Government

PLENARY LECTURES
Facing Basque Country's future: the transformative path of research and innovation
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Innovation, key to the development of the Basque Country

Cristina Uriarte, the commissioner for Science, Technology and Innovation in the Basque Government, has a PhD in Chemical Sciences and is a former Basque Government minister for Education, Language Planning and Culture. Her mission is to promote science, technology and innovation, which are fundamental activities in order to address the main challenges facing Basque society.
The furthering of scientific and technological research and innovation requires project development, funding programs, support services, major scientific infrastructures and the promotion of talent. Talent that contributes to high-level research and technological activity, to maximizing its impact, and to consolidating the Basque Country as an attractive location for generating cutting-edge science, technology and innovation.

Career and recognitions

Cristina Uriarte is from the Basque city of Bilbao and has a PhD in Chemical Sciences. Until she became a Basque Government minister, almost her entire professional career was linked to education and, specifically, to the University of the Basque Country (UPV/EHU). She was a lecturer at the Faculty of Chemistry in Donostia-San Sebastian, she has been responsible for external relations and dean of the Gipuzkoa campus. She was also vice-chancellor of the UPV/EHU's Gipuzkoa campus.

Maria Vallet-Regí

Biomaterials
Rey Jaime I prize in 2018

Complutense University of Madrid (UCM) CIBER-BBN

PLENARY LECTURES
Biomaterials: what they are and why we need them
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

ENCOUNTERS WITH STUDENTS
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

The bone regenerator

Maria Vallet-Regí is a pioneering researcher in the field of mesoporous ceramic materials and the scientist who discovered potential biomedical applications of these materials, particularly in the field of bone regeneration and controlled drug delivery systems. For her ground-breaking contributions in this field, she received the Rey Jaime I Award for Fundamental Research in 2018.

She is the director of the Intelligent Biomaterials Research Group (GIBI), CIBERBBN, of the Complutense University of Madrid; this group is developing various strategies to cure bone-related diseases such as cancer, osteoporosis or implant infections. In the case of cancer, they are using silica nanoparticles to transport drugs with selective methods that enable an impact to be made without damaging the surrounding healthy cells. Similarly, nanoparticles can carry antibiotics to cure infections, or customised implants can be created using 3D printers to grow stem cells capable of regenerating bone tissue.

Career and recognitions

Born in Las Palmas de Gran Canaria, in the Canary Islands, María Vallet-Regí studied chemistry at the Complutense University in Madrid, earning her PhD at the same institution in 1974. She is currently Emeritus Professor of Inorganic Chemistry and Director of the GIBI research group at the Complutense University of Madrid.

She has written over 700 scientific papers and has 13 patents and over 38,000 citations. According to the ISI Web of Knowledge, she was the most-cited Spanish scientist in the field of Materials Science in the last two decades.

She is a full professor at the Complutense University and a numbered fellow of the Royal Academy of Engineering (RAI) and the Royal National Academy of Pharmacy (RANF). She is also a Fellow of Biomaterials Science and Engineering at the International College of Fellows of Biomaterials Science and Engineering (ICF-BSE) and a Fellow of the American Institute for Medical and Biological Engineering (AIMBE).

She has won many national and international prizes, including the National Research Prize in 2008, the Jaume I Prize for Basic Research in 2018, the Societé Française de Chimie's Prix Franco-Espagnol 2000, the RSEQ 2008 Prize in Inorganic Chemistry, the FEIQUE Research Prize in 2011, the RSEQ Gold Medal in 2011, the IUPAC 2013 Distinguished Women in Chemistry/Chemical Engineering, the Miguel Catalán Research Prize in 2013, the Lilly Distinguished Career Award in Chemistry in 2016 and the Julio Peláez Prize for Pioneering Women in Physics, Chemistry and Mathematics, awarded by the Tatiana Pérez de Guzmán el Bueno Foundation in 2017. She also has a Gold Medal for Merit in Research and University Education and is Doctor Honoris Causa at the Jaume I University and the University of the Basque Country.

INVITED LECTURERS

NAUKAS PASSION

Enrique Borja

Physics / Philosophy
Freelance

NAUKAS PASSION
The pleasure of not understanding
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Enrique F. Borja has a PhD in physics. After a career in research and as a university lecturer, he has now turned his attention to dissemination. He is now trying his hand at television. His first programme as a creator was Una Matemática Viene a Verte.

Gemma Del Caño

Nutrition

NAUKAS PASSION
When alcohol managed to save a life
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Graduated in Pharmacy with a specialisation in R&D+i and Industry. Master's in Biotechnology, Innovation and Food Security. She has been working for 10 years in the food industry, both in the quality department, as R&D+i director, and currently as technical director. She is an associate professor on the Nutrition and Dietetics degree course at the Miguel de Cervantes European University in the subjects of Food Legislation and Food Policy. Her communication activities include:
- Blog collaborator with Atresmedia and Revista Mía
- Radio Nacional de España (food and food security segment on the 'A media mañana' programme).
- Collaboration on the CyL 8 TV programme 'Vamos a ver' and on MeteoRed
- Author of a blog at: farmagemma.naukas.com and the book No comemos como antes, y menos mal (We don´t eat like before, and just as well).

Susana Escudero

Forensic Anthropology, Genetics
Canal Sur

NAUKAS PASSION
JB55: 19th Century Vampires
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

A journalist of the Canal Sur broadcasting corporation, and associated with radio since the beginning of her professional career, Susana Escudero has a degree in English Philology and a Master's degree in Physical and Forensic Anthropology. With expertise in science dissemination, she produced "El Radioscopio" on Canal Sur Radio together with Emilio García (IAA-CSIC), for which they received around ten awards, including 3 Prismas and the Andalusia Prize for Journalism. On Canal Sur Television, and together with José Mª Montero, she produced "Más Desafío Ártico", bringing science to prime-time television. With the firm intention of "spreading the virus", she provides communication training for research staff. She is a regular at dissemination events such as Desgranando Ciencia, Las que Cuentan la Ciencia and, of course, Naukas.

Clara Grima

Mathematics
University of Sevilla

NAUKAS PASSION
I believe you and I don't see you
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Clara Grima (Coria del Río, Spain. 1971) holds a PhD in Mathematics and is a tenured lecturer in Applied Mathematics at the University of Seville. Since 2010 she has been combining her teaching and research with intensive scientific dissemination work in various print and audiovisual media, always using mathematics as a pretext. Her dissemination books have been translated into French, Italian, Czech, Hungarian, Korean, Chinese and other languages. She presents the programme "Una matemática viene a verte" broadcast by the RTVE. She gives hundreds of talks a year and is convinced that everyone likes maths even though some are not yet aware of it.

Ignacio López Goñi

Yeasts and Bacteria
University of Navarra (UNAV)

NAUKAS PASSION
The first miracle of Jesus
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

He has a PhD in Biology, is Professor of Microbiology and Director of the Science Museum of the University of Navarre. His research has focused on the study of bacterial virulence and the development of new vaccines. He is the author of the "microBIO" blog. He has published several dissemination books: "¿Funcionan las vacunas?" (Premio Prismas 2018), "Microbiota, los microbios de tu organismo", "Virus y pandemias", and "Preparados para la próxima pandemia". In collaboration with his daughter, he has also written "Princesas de cristal" dealing with the problem of juvenile anorexia. In 2021 he received the Lilly Foundation Prize for the Dissemination of Science, the COSCE Prize for the Dissemination of Science, and the CSIC-BBVA Foundation Prize for Scientific Communication. In 2023 he received the Spanish Award for Science Communication.

Almudena M. Castro

Physics and Aesthetics
Naukas

NAUKAS PASSION
The threads of the rainbow
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Almudena Martín Castro is a graduate in Fine Arts and in Physics. She combines her digital design work with intense communication activities. She received the Tesla Science and Technology Award in 2017 and the award for Best Use of Science in the NASA Space Apps Challenge in 2018. In 2020, together with Iñaki Úcar, she solved the mystery of Beethoven's metronome, which had a great national and international impact. She has just published her first book, with HarperCollins. In La lira desafinada de Pitágoras (Pythagoras' Out-of-Tune Lyre) she tells of how music inspired science to understand the world.

Isabel Moreno

Climate Change Physicist,
Meteorologist and communicator

NAUKAS PASSION
To the future with no way back?
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Isabel Moreno-Muñoz. She is a Physics graduate, has a Master's in Meteorology and Geophysics (UCM-Complutense University of Madrid) and is a specialist in communicating climate change. She is the author of the book "Cambio Climático para Principiantes", published by Penguin Random House. Since 2016, she has been working in different media as a meteorologist and weather presenter, in particular the RTVE programme "Aquí la Tierra". What is more, she has been combining this work with training and dissemination relating to climate change; she is a speaker on UNED (Open University) courses, giving lectures at major conferences and seminars, as well as collaborating with various television programmes, radio, written press and other network formats.

Iñigo Olalde

Archeogenetics
University of the Basque Country (UPV/EHU)

NAUKAS PASSION
Pre-historic "Sálvame": family entanglements 6000 years ago
Thursday, 05 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Iñigo Olalde (Vitoria-Gasteiz, Basque Country, 1987) has a degree in Biology from the University of Navarre and a PhD in Palaeogenomics (2016) from the Pompeu Fabra University. He was a postdoctoral researcher in Dr David Reich's group at Harvard University, and a "La Caixa" Junior Leader at the Institute of Evolutionary Biology (CSIC-UPF). In 2021 he joined the University of the Basque Country (UPV/EHU) as a Ramón y Cajal researcher and an Ikerbasque Research Fellow. His lines of research focus on the recovery and analysis of DNA from ancient human remains in order to study the demographic changes that took place on the European continent during the Holocene, as well as the evolution of the social organisation of human societies in the past.

Javier Peláez

Presenter
Naukas.com /
RTVE

NAUKAS PASSION
Thursday, 05 OCT-Victoria Eugenia
Theatre, Donostia / San Sebastian

NAUKAS PASSION
Friday, 06 OCT-Victoria Eugenia
Theatre, Donostia / San Sebastian

Javier Peláez (Puertollano, Spain, 1974) is a writer and science communicator. Author of "500 años de frío. La gran aventura del Ártico" (Crítica, 2019) and "Planeta Océano" (Crítica, 2022). He is one of the founders of the Naukas.com platform and a scriptwriter for the RTVE programme "El Cazador de Cerebros". He won the National Ondas Radio Award for the "Catástrofe Ultravioleta" podcast.

Guillermo Peris

Forensic Anthropology, Genetics
Universitat Jaume I
in Castellón

NAUKAS PASSION
JB55: 19th Century Vampires
Friday, 06 OCT-Victoria Eugenia
Theatre, Donostia / San Sebastian

Guillermo Peris-Ripollés has a PhD in Chemical Sciences from the Universitat Jaume I in Castellón, where he currently works as a tenured lecturer in the university's Department of Computer Languages and Systems. His research focuses on the bioinformatics analysis of non-coding RNA, in particular repetitive elements and microRNAs, both in tumour cells and in 22q11 deletion syndrome. He collaborates with the LINE-1 Retro-element Biology group at the GENYO centre for genomics and oncology research in Granada. Since 2015 he has been devoting part of his time to writing informative articles for the Naukas.com portal, giving talks in "Desgranando Ciencia" and at various Naukas events.

Marga Sánchez Romero

Archaeology
University of
Granada

NAUKAS PASSION
Women - what people thought about us: Archaeology and Discourses of Inequality
Friday, 06 OCT-Victoria Eugenia
Theatre, Donostia / San Sebastian

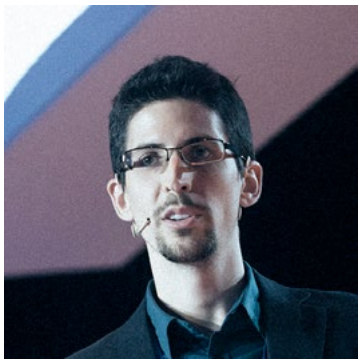
Margarita Sánchez Romero (Madrid, 1971) is a senior lecturer in the Department of Prehistory and Archaeology, a communicator, and Vice-Rector for Outreach, Heritage and Institutional Relations at the University of Granada. Her main interest as a researcher is to assert the importance of the role of women and childhood in prehistoric societies. With other colleagues, she created the project 'Pastwomen', which gives visibility to the research in archaeology and history linked to the material culture of women. She is regular collaborator on the programme 'El condensador de fluzo', broadcast on the La 2 channel of the Spanish Radio and Television Corporation (RTVE). She received the 'Carmen de Burgos' Feminist Dissemination Award from the University of Málaga and was also awarded the 'Granada: City of Science and Innovation' Award, in the Women in Science category. She is author of Prehistorias de mujeres (Prehistories of Women), published by Destino.

Joaquín Sevilla

Science of Everyday Life
Public University of
Navarra

NAUKAS PASSION
Guidelines for sleeping well on any planet
Thursday, 05 OCT-Victoria Eugenia
Theatre, Donostia / San Sebastian

Joaquín Sevilla, PhD in physics, is professor of electronic technology at the Public University of Navarre (UPNA). His current research focuses on the design of photonic structures for sensor and solar energy applications. He has also worked on technology geared towards people with disabilities. He directs the UPNA chair for the dissemination of scientific knowledge and culture, as well as the UPNA-UPV/EHU-University of the Basque Country Master's Degree in Scientific Culture. Prior to that, he was Vice-Chancellor and Director of the G9 Shared Virtual Campus among other positions. Very active in science dissemination, he is a regular contributor to local radio and television stations, writes blogs and participates in YouTube videos. He has recently published "Los males de la ciencia" together with Juan Ignacio Pérez.



Iñaki Úcar

Scientific Method and Biases
Carlos III University of Madrid

NAUKAS PASSION
The day Maxwell missed the gorilla
Friday, 06 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Engineer, musician and scientist in equal measure. Visiting Professor of the Statistics Department and researcher at the Big Data Institute of Carlos III University of Madrid, where he studies various topics such as the interpretability of machine learning algorithms and the application of data science to social network problems, collective behaviour, inequality and disinformation.

BERTSO PASSION

Amets Arzallus

Versifier,
Basque Country

BERTSO PASSION
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

He was born in Hendaye. Inspired by the atmosphere at home, he became involved in Basque verse-making from an early age. He was graduated in Journalism at the University of the Basque Country. He has contributed mostly to the magazine Argia and also to the newspaper Berria and the Euskadi Irratia public radio station. He has been engaged in all kinds of activities: talks, critical thought and reflection in public, writing and making statements for public events, etc. Furthermore, he has taught at the Verse-making School of Hendaye; he has won numerous verse-writing competitions; he has written the lyrics for various songs; he has combined extempore verse-making with other expressions of culture (dance, Basque diatonic accordion playing, poetry, music, etc.). He has won the Basque Verse-making Championship of Navarre four times. On another four occasions he was the runner-up in the Xilaba Verse-making Championship, and in the National Verse-making Championship in 2009 and 2022, and winner in 2013. In 2019, in collaboration with Ibrahima Balde of Conakry Guinea, he published the book "Miñan".

Andoni Egaña

Versifier,
Basque Country

BERTSO PASSION
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Zarautz (1961). He has a degree in Basque Philology. Nowadays, his is fully dedicated to creation works: not only he is well-known for being a Basque improvised verse singer (a bertsolari as they are known in the Basque language), but also for his writings and his television scripts. He has experimented with various different literary genres and has collaborated and collaborates often with the Basque press, writing opinion articles. He has been one of the most respected and recognised names in the world of Basque improvised sung poetry. He stands out as well for his work as a researcher, scholar and theoretician, and has made seminal contributions to the analysis and dissemination of the creative process involved in Basque improvised poetry. He has participated in numerous experiences seeking to bring together the world of improvised verse singing and other forms of expression such as dance, accordion (or trikiti) playing, poetry and music, etc. He won the Bertsolari Championship of the Basque Country four times, in 1993, 1997, 2001 and 2005.

Nerea Ibarzabal

Versifier,
Basque Country

BERTSO PASSION
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Nerea Ibarzabal Salegi (Markina-Xemein, 1994). She studied Journalism and is a bertsolari (Basque verse improviser) and writer. She has also worked as a screenwriter and media contributor. She has been involved in creation since a young age. She started going to bertso-eskola (bertsolari school) at the age of 11, and advanced through competitions and championships for young bertsolaris. She is currently the Bizkaia champion, and in 2022 was finalist in the Bertsolaris Absolute Championships. In 2022 she published Bar Gloria, her first novel.

Maialen Lujanbio

Versifier,
Basque Country

BERTSO PASSION
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

A Basque extempore verse-maker, born in Hernani in 1976. She has a degree in fine arts. She has had a career spanning over 30 years performing in public. On three occasions she has been the Basque Country's Verse-making champion, most recently in 2022. She is the current champion. In addition to her usual verse-making, she has been involved in other lines of research and artistic proposals. She has done performances based on sound, voice and the word. She has a relationship with the world of art and has frequently collaborated with sound and plastic artists. She has done highly productive work on the radio as a talk show guest. She has also contributed to the print press and other print activities.

Maite Berriozabal

Gai-jartzaile,
Basque Country

BERTSO PASSION
Wednesday, 04 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Maite Berriozabal-Berrizbeitia (Berriz, Basque Country, 1987) graduated in Advertising and Public Relations. She currently works for the Azkue Foundation coordinating initiatives designed to support the Basque language. She has worked as the theme prompter for the participants in Basque verse-making. Today, she is involved in all kinds of sessions as the theme prompter, and has also given various courses and talks linked to theme prompting.

STREAMERS SESSIONS

José Luís Crespo

Director and Founder of QuantumFracture
Quantum Fracture

STREAMERS SESSIONS
A triangle. A lot of science
Saturday, 07 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

José Luis Crespo Cepeda is a physicist and founder and creative director of the YouTube scientific dissemination channel 'Quantum Fracture'. With around three million followers, he is currently one of the most influential Spanish-speaking science communicators. His animated videos are part of the 'Órbita Laika' programme, he was one of the outreach staff at the Institute of Theoretical Physics in Madrid and organiser of Cultube, an annual event that brings together different YouTubers to give visibility to different forms of outreach on YouTube. Today, Quantum Fracture is an audiovisual production company specialising in scientific content and which promotes scientific culture on social networks.

Sara García Alonso

Molecular Biology and Space Exploration,
CNIO eta ESA

STREAMERS SESSIONS
From cancer research to space exploration. Interview with Sara García
Tuesday, 03 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Sara García-Alonso (León, Spain, 1989) is a researcher specializing in cancer, and the first Spanish woman to be selected for the European Astronaut Corps (class of 2022, reserve pool). With a degree in Biotechnology and a PhD with Distinction in cancer molecular biology and translational medicine, she has received several awards for academic excellence. She works at the Spanish National Cancer Research Centre (CNIO) as a staff scientist, leading an experimental oncology project focusing on drug discovery at Mariano Barbacid's laboratory. Sara is also active as an ambassador for space exploration and STEM careers, promoting the dissemination and vocation of science and technology, which has earned her awards and distinctions.

Eduardo Sáenz de Cabezón

Mathematician and Computation Founder of Derivando
University of La Rioja

STREAMERS SESSIONS
From cancer research to space exploration. Interview with Sara García
Tuesday, 03 OCT-Victoria Eugenia Theatre, Donostia / San Sebastian

Eduardo Sáenz de Cabezón (Logroño, Spain, 1972) has a PhD in Mathematics and is a tenured lecturer in the Department of Mathematics and Computer Science at the University of La Rioja. His research focuses mainly on the area of computer algebra, to which he has contributed a wealth of scientific papers and in which he works actively with national and international teams. He is also involved in intensive science dissemination work through various media, such as YouTube (his channel "Derivando" has approximately 1.5 million subscribers), television (where he presents the programme Órbita Laika on the RTVE La2 channel), podcasts, books, conferences, courses and collaborations with the press and radio. He has received various awards for his dissemination work in Spain and Latin America.

PUBLIC PROGRAMME IN VICTORIA EUGENIA THEATRE

PLENARY LECTURES, NAUKAS PASSION, BERTSO PASSION, AND STREAMERS SESSIONS

Venue: **Victoria Eugenia Theatre, Donostia / San Sebastián**

Master of Ceremonies: **Javier Aizpurua & Alaitz Ochoa de Eribe**

Session Language: **Basque (EU) | Spanish (ES) | English (EN)**

Simultaneous translation: **EU, ES, EN**

Monday, October 2

18:00-18:40 OPENING

18:00 Kukai Dance performance

18:10 Opening Ceremony
Iñigo Urkullu President of the Basque Government
Eider Mendoza President of the Provincial Council of Gipuzkoa
Eneko Goia Mayor of Donostia/San Sebastián
Pedro Miguel Etxenike Professor Emiritus at the University of the Basque Country (UPV-EHU)

18:40-20:00 PLENARY LECTURES

18:40 Özlem Türeci, Biotechnology, BioNTECH, Germany
Molecular communication with the immune system (EN)
19:20 Donna Strickland, Photonics, University of Waterloo, Canada
Generating high-intensity, ultrashort optical pulses (EN)

20:00-20:20 IKERBASQUE AWARDS

Tuesday, October 3

18:00-20:00 PLENARY LECTURES

18:00 Juan Ignacio Cirac, Quantum Physics, Max-Planck-Institut Für Quantenoptik, Germany
Quantum Technologies: from Schrödinger's cat to a new era in computing (ES)
18:40 Sandra Myrna Díaz, Biodiversity and Climate Change, National University of Córdoba, Argentina
About plants and People: vegetable biodiversity and its connections with human beings (ES)
19:20 Didier Queloz, Astrophysics, University of Cambridge, England
The Exoplanet Revolution (EN)

20:00-20:30 STREAMERS SESSIONS

From cancer research to space exploration. Interview with Sara García (ES)
Sara Garcia Alonso, Molecular Biology and Space Exploration , CNIO) researcher and member of the ESA Astronaut Reserve.
Eduardo Sáenz de Cabezón, Mathematician and Computation,University of La Rioja

Wednesday, October 4

18:00-20:00 PLENARY LECTURES

18:00 Francesca Ferlaino, Quantum Technologies, University of Innsbruck, Austria
Atoms approaching absolute zero temperature: the hardware of future quantum technologies (EN)
18:40 Maria Vallet-Regí, Biomaterials, Complutense University of Madrid, Spain
Biomaterials: What they are and why we need them (ES)
19:20 Jean-Marie Lehn, Supramolecular Chemistry, University of Strasbourg, France
Steps towards complex matter: Chemistry! (EN)

20:00-21:00 BERTSO PASSION

Versifiers:
Amets Arzallus, Andoni Egaña, Nerea Ibarzabal, Maialen Lujanbio

Gai-jartzailea: Maite Berriozabal

Thursday, October 5

18:00-20:00 PLENARY LECTURES

18:00 Joaquín Gorrochategui, Indo-European Linguistics, University of the Basque Country - Euskal Herriko Unibertsitatea (UPV/EHU)
On comparative linguistics and on the origin of Basque (EU)

18:40 Interview with the astronomer who discovered the pulsar (EN)
Jocelyn Bell-Burnell, Astrophysics, University of Oxford
Pedro Miguel Etxenike, Physics, DIPC, University of the Basque Country- Euskal Herriko Unibertsitatea (UPV/EHU)
19:20 Jack Szostak, Aging and Artificial Life, University of Chicago, USA
From DNA breaks and telomeres to the origins of life: Endless fascinating puzzles in science (EN)

20:00 - 21:00 NAUKAS PASSION (ES)

Presenter: Javier Peláez
Lectures:

- Enrique Borja, Physics / Philosophy · *The pleasure of not understanding*
- Clara Grima, Mathematics University of Sevilla · *I believe you and I don't see you*
- Iñigo Olalde, Archaeogenetics, University of the Basque Country (UPV/EHU) · *How was a Neolithic family organised 6000 years ago?*
- Almudena M. Castro, Physics and Aesthetics · *The Threads of the Rainbow*
- Joaquín Sevilla, Science of Everyday Life, Public University of Navarra (UPNA) · *Guidelines for sleeping well on any planet*
- Isabel Moreno, Climate Change · *Into the future with no way back?*

Friday, October 6

18:00-20:00 PLENARY LECTURES

18:00 Dario Gil, Quantum Computing, IBM Research
What´s Next in Quantum Computing (ES)

18:40 Cristina Uriarte, Scientific Policy, Eusko Jaurlaritza – Basque Government
Facing the future of the Basque Country: the transformative path of Research and Innovation (ES)

19:20 Jean-Pierre Sauvage, Molecular Machines and Motors, University of Strasbourg, France
Molecular Machines and Motors: From Biology to Chemistry (EN)

20:00 - 21:00 NAUKAS PASSION (ES)
Presenter: Javier Peláez
Lectures:

- Susana Escudero, Forensic Anthropology and Genetics, Canal Sur & Guillermo Peris, Forensic Anthropology and Genetics, University of Jaume I of Castellón
  JB55: 19th Century Vampires
- Marga Sánchez Romero, Archaeology, University of Granada
  What people thought about women: Archaeology and Discourses of Inequality
- Ignacio López-Goñi, Yeasts and Bacteria, University of Navarra
  The miracle of Jesus
- Iñaki Úcar, Scientific Method and Biases, University Carlos III of Madrid
  The day Maxwell missed the gorilla
- Gemma del Caño, Nutrition
  When alcohol managed to save a life

Saturday, October 7

18:00-18:30 STREAMERS SESSIONS

José Luis Crespo, Director and Founder of Quantum Fracture channel
A triangle. A lot of science (ES)

18:30-19:50 PLENARY LECTURES

18:30 Adela Cortina, Ethics and Philosophy, University of Valencia, Spain
Ethics and Technology (ES)
19:10 George Smoot, Cosmology, Donostia International Physics Centre (DIPC), Lawrence Berkeley National Laboratory, USA
Cosmology Today (EN)

19:50-20:20 CLOSING

PUBLIC PROGRAMME IN BILBAO

PLENARY LECTURES

Venue: **Euskalduna Palace, Room 0D, Bilbao**

Session Language: **Basque (EU) | Spanish (ES) | English (EN)**

Simultaneous translation: **EU, ES, EN**

Tuesday, October 3

18:00-19:30 PLENARY LECTURES

18:00 Francesca Ferlaino, Quantum Technologies, University of Innsbruck, Austria
Atoms approaching absolute zero temperature: The hardware of future quantum technologies (EN)
18:40 Jean-Marie Lehn, Supramolecular Chemistry, University of Strasbourg, France
Steps Towards Complex Matter: Chemistry! (EN)

COMMITTEE

Pedro Miguel Etxenike

Chairman of P4K 2023
President of DIPC and Professor Emeritus at the University of the Basque Country (UPV/EHU)

Emeritus Professor of Condensed Matter Physics at the University of the Basque Country (UPV/EHU), President of Donostia International Physics Centre (DIPC) and of the Materials Physics Centre (MPC). He is also Honorary President of Jakiunde, the Basque Academy of Sciences, Arts and Letters, member of the Royal Academy of Sciences and the Académie Royale de Belgique, and honorary member of the European Physical Society.

He has received numerous awards and distinctions, including the Euskadi Research Prize (1996), the Prince of Asturias Award for Scientific and Technical Research (1998), the Max Planck Physics Prize (1998), the Blas Cabrera National Research Prize (2005), the Gold Medals of the City of San Sebastian (2000) and of Navarra (2016) among others. He is also Doctor in Science from the University of Cambridge (1998) and has been named Doctor Honoris Causa by another six universities.

In addition to his work as a researcher, with over 400 papers published in specialized journals and over 200 invited talks given at international conferences and prestigious universities and institutions all over the world, in recent years he has dedicated much effort to promoting science as an economic and cultural activity and to highlighting the importance of a scientifically well- informed society.

Ricardo Díez Muiño

Chairman of P4K 2023
Director of DIPC, Ikerbasque
Research Professor

Ricardo Diez Muiño is Ikerbasque Professor and since 2013, the Director of the Donostia International Physics Centre (DIPC). He was also Deputy Director between 2005 and 2011 and Director between 2011 and 2015 at the Materials Physics Centre (CFM). He graduated with a degree in Physics from the Autonomous University of Madrid in 1991 and with a PhD in Physics from the University of the Basque Country (UPV/EHU) in 1996. He has worked at the University of Bordeaux and at the Lawrence Berkeley National Laboratory in California. His main field of specialisation is the theoretical physics of condensed matter and in particular electronic dynamics in solids, surfaces and nanostructures. He has published more than 120 scientific articles, including contributions to journals such as Science, Nature and Physical Review Letters, in addition to being co-author of one book and co-editor of another.

GENERAL COORDINATION

Nora González Lacunza,
Head of Scientific Communication and Dissemination at DIPC

Amaia Arregi,
Dissemination and Communication at DIPC

EXECUTIVE COMMITTEE

Silvia Bonoli,
Ikerbasque Research Fellow, DIPC

Igor Campillo,
Director of Euskampus Fundazioa

Aitzol García-Etxarri,
Ikerbasque Research Fellow, DIPC

Idoia Mugica,
Head of Communication at CFM (CSIC – UPV/EHU)

Itziar Otegui,
Head of Communication at CIC nanoGUNE

Juan Ignacio Pérez,
Coordinator of the Chair of Scientific Culture at the UPV/EHU

Valentina Rodríguez,
Dissemination and Communication at DIPC

Kepa Ruiz-Mirazo,
Professor and Researcher at the UPV/EHU

Eduardo Sáenz de Cabezón,
Professor of the Department of Mathematics and Computer Science, University of La Rioja

Marta Vega de Seoane López de Goicoechea,
Dissemination and Communication at DIPC

Manex Urruzola,
Head of Elhuyar's Communication Unit

DIPC

The Donostia International Physics Centre (DIPC) is a research centre whose mission is to carry out and catalyse cutting-edge research in physics and similar disciplines, and to promote scientific awareness in society at large.

Located in Donostia/San Sebastian, DIPC was set up in the year 2000 as the result of a strategic alliance between public institutions and the private sector. Its Board of Partners currently includes the Basque Government, the Gipuzkoa Provincial Council, the San Sebastian City Council, the University of the Basque Country (UPV/EHU), Kutxa Fundazioa, CAF, Telefónica and EDP Foundation.

Since 2008, DIPC has been officially recognised by the Basque Government's Department of Education as a 'Basque Excellence Research Centre' (BERC). In 2019, it was also recognised as a Severo Ochoa Centre of Excellence by the Spanish Ministry of Science and Innovation

Excellence in Research,
Excellence in Communication.

Our research interests are always changing as we constantly push forward the frontiers of knowledge. We currently focus on four main research areas: quantum, nano, life and cosmos. DIPC also carries out numerous initiatives to foster knowledge exchange and creativity among scientists from all over the world.

Moreover, its extensive outreach programme helps establish a fluid, ongoing dialogue between science and society. The dissemination of science cannot be separated from other branches of knowledge, and DIPC therefore works to build bridges between its research and other activities and disciplines.

Passion for Knowledge festival is the flagship of the extensive work carried out by DIPC in the area of scientific communication and outreach.

BERC
EUSKO JAURLARITZA
GOBIERNO VASCO
HEZKUNTZA SAILA
DEPARTAMENTO DE EDUCACIÓN

EXCELENCIA SEVERO OCHOA

PASSION FOR KNOWLEDGE

Nazioarteko Zientzia Jaialdia
Festival Internacional de Ciencia
International Science Festival

2-7/10/2023
DONOSTIA / SAN SEBASTIÁN
BILBAO

Donostia
International
Physics Center

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