

Brain circulation and empowering young researchers

Annual Report 2019

Contents

About us	4
Foreword	5
Interview with the President of the COST Association	6
Interview with the Vice-President of the COST Association	8
Highlights of the year	10
<hr/>	
Success stories	
Talking terms for green citizen action	14
'Math-a-thons' find solutions for companies and society	16
Microbes, MOBIEU and a meeting of minds	18
Meeting of minds connects micro-worlds	20
A career takes off – with drones adding lift	22
Study mission gives scent of career success	24
A solid platform for starting a career	26
Meetings drive forward bridge safety norms	27
<hr/>	
Key figures of 2019	28
Our events in a nutshell	34
Reaching the world	40

About us

COST provides networking opportunities for researchers and innovators in order to strengthen Europe's capacity to address scientific, technological and societal challenges. At COST, there are three strategic priorities: Promoting and spreading excellence, fostering interdisciplinary research for breakthrough science and empowering and retaining young researchers and innovators. COST implements its mission by funding bottom-up, excellence-driven, open and inclusive networks for peaceful purposes in all areas of science and technology.

Who can participate?

Researchers and innovators from universities, public and private institutions, NGOs, industry and SMEs. Particular emphasis is placed on activities involving researchers from less-research-intensive COST Countries (ITCs) with a view to increasing their participation.

Researchers from Near Neighbour Countries and International Partner Countries can also take part in a COST Action on the basis of mutual benefit.

How?

COST does not fund research, but provides support for networking activities carried out within COST Actions. In this way, it coordinates nationally funded research. COST invites researchers across Europe to submit proposals for Actions through a continuous open call, no matter what their field of interest.

Networking tools



Meetings, workshops and conferences – These are organised by the COST Action management committees in any COST country participating in the network and are open to the entire scientific community.



Short-term scientific missions (STSMs) – These are exchange visits between researchers in the network which enable scientists to visit an institution or laboratory in another COST country.



Training schools – They offer training in a relevant or new subject at one of the Action's laboratories which provides unique equipment and/or know-how.



Dissemination activities – COST encourages and supports Action participants to disseminate the outcome of their research to other COST science and technology networks, the wider scientific community, policymakers, the media, and society at large, through publications, electronic media, news releases, events, success story releases, etc.



Conference grants – These grants help PhD students and early-career investigators from Inclusiveness Target Countries attend international science and technology related conferences that are not organised by a COST Action.

Foreword



COST has long been, and remains today, one of the largest frameworks for transnational research collaboration in Europe. Since its creation in 1971, about half a million researchers have participated in the programme. Each COST networking activity had been designed to enable brain circulation long before the term even existed. Despite its long history, COST has never been so topical.

Sharing and spreading knowledge across scientific disciplines, countries and sectors advances ideas as much as it creates opportunities for people. One of COST's strategic priorities is to help young researchers and innovators to grow professionally. For them, training schools, ITC conference grants and short-term scientific missions (STSMs) are powerful tools.

In 2019, COST funded 2 100 STSMs, 210 training schools and 544 conference grants for young researchers from Inclusiveness Target Countries. The numbers give some idea about the financial and administrative commitment behind the management of the programme.

For several years now, COST has systematically placed the researcher at the centre of its attention. To better empower researchers, innovators, and science administrators, initiatives such as the COST Connect stakeholder events and the COST Academy were launched. These are extremely popular among the COST community because they meet genuine needs.

As part of the COST stewardship culture, we accompany Actions closely and help them perform at their best. We support the researchers in building solid networks that outlive the Action in which they participate. An impact study conducted in 2019 revealed that 37% of post-Action proposals submitted for collaborative research under Horizon 2020 were successful.

I am very proud to contribute to a programme that is so impactful and to help shape the organisation behind the programme to achieve an even better circulation of both ideas and people across Europe.

I hope you will enjoy reading our success stories which illustrate in a tangible way what I have mentioned above.

Dr Ronald de Bruin

Director of the COST Association

A stylized, handwritten signature in black ink, consisting of a large, sweeping initial 'R' followed by a series of connected loops and a long horizontal tail.

Interview with the President of the COST Association

Paulo Ferrão

On 21 June 2019, the COST Association welcomed Professor Paulo Ferrão as its new President. During his two-year mandate, Professor Ferrão will chair COST's General Assembly.

He is currently a full professor at the Instituto Superior Técnico, University of Lisbon, and co-founder of the IN+ Center for Innovation, Technology and Policy Research. Previously, he was President of the FCT, Fundação para a Ciência e a Tecnologia (Portuguese Foundation for Science and Technology) (2016-2019) and Director of the MIT-Portugal Program (1996-2016).

Here are some of Professor Ferrão's views on his COST presidency:

• How do you see the added value you can bring to the COST Association in your role as president?

During my mandate as President of the FCT it was clear that national funding of science is strongly benefited by well-established international networks. These are one of the most valuable assets for researchers and a key mechanism to improve their performance in many different dimensions. Coming from Portugal, a country at Europe's western boundaries, I can testify that an instrument such as COST is crucial for connecting our researchers to international reference networks both inside and outside Europe and for improving their ability to perform world-class research. With this in mind, I feel honoured to serve as the President of COST. I have been an active researcher and professor for more than 30 years and I realise the impact a well-established network can make, especially at the beginning of our careers.

• What do you consider to be the main priorities of your presidency?

2020 will be a crucial year for the EU's research and innovation landscape, when discussions on Horizon Europe will reach their final stage. Concluding a satisfying deal for COST with the EU institutions is one of the main priorities of my mandate. It is key that COST expands its global reach.

Over the years, COST has offered its participants a larger set of networking instruments and added-value activities, such as the COST Academy. COST is able to serve 45 000 researchers per year, although the demand is ever higher. Less than half of the proposals marked as excellent cannot be funded, therefore a reinforced budget is critical. With an increased budget, COST will be able to expand the number and reach of COST Actions and offer participants greater added value. Investing in COST is investing in the future of the European Research Area (ERA).

Furthermore, a new ERA Communication will be launched in 2020. During my presidency, I want to ensure that inclusiveness and brain circulation remain two of COST's key contributions to the ERA. As such, COST can be seen as an ERA living lab, where the sharing of knowledge and researchers is put into practice. In the spirit of the ERA, COST is characterised by a free circulation of research, knowledge and technology – creating a truly internal market for researchers and innovators.

• How can COST reinforce its role in the next Framework Programme for Research and Innovation (Horizon Europe)?

Since 1971, COST has established itself as a platform where people and ideas can grow, contributing decisively to the internationalisation process of the R&I communities and to significant scientific and technological breakthroughs in Europe and beyond.

In the next Framework Programme for Research and Innovation (Horizon Europe), COST wants to play an even more active role in this respect. As concerns about the innovation divide and brain circulation in Europe move up the agenda in

“ COST’s networking tools enable researchers to create international networks of excellence while remaining in their own institution or country. ”



the months to come, COST can play an even more important part in the effort to realise Europe’s potential in research and innovation. COST’s networking tools enable researchers to create international networks of excellence while remaining in their own institution or country.

In addition, through these tools and added-value instruments, such as the COST Innovators’ Grant, we are tapping into excellent research and innovation potential, leaving no one behind.

• In 2021, the COST Ministerial Conference will coincide with the Portuguese EU Council presidency. What commitments would you like to see from the member countries regarding the future of COST?

The Ministerial Conference in 2021 will be a milestone in the governance of COST, as it will ensure commitment to the programme at a ministerial level while guaranteeing its relevance in the long run. Renewal of the ERA and the growing importance of brain circulation will be crucial ingredients for science and innovation in the years to come. COST will play an indisputably important role in these debates, a role that needs to be strengthened and supported by all its members in the near future.

• In this report we show how COST contributes to brain circulation. In your opinion, how does COST empower and retain talent in Europe?

COST’s networking activities are an ideal way to encourage brain circulation across Europe and beyond. Researchers and innovators return to their home institutions empowered with new ideas and with links to excellent international networks that last beyond the COST Action life cycle. Among the most powerful tools are the short-term scientific missions, in which researchers develop an international network with access to excellent research institutions and universities across Europe. In turn, this is a mechanism that strengthens their own institutions. Other initiatives are the COST Academy (launched in 2018) and the COST Cross-Cutting Activity on Brain Circulation, which will be launched in 2020. Through these tools, COST is limiting the brain drain to research-intensive regions in Europe and is contributing to closing the research and innovation divide in Europe. COST is truly a unique tool in this respect.

Interview with the Vice-President of the COST Association

Tea Glažar



On 13 November 2019, Ms Tea Glažar, MSc, was elected as the COST Association's Vice-President during the 207th meeting of the Committee of Senior Officials held in Limassol, Cyprus. The appointment lasts for three years and the Vice-President will be responsible for chairing the Executive Board which oversees the COST Administration's activities.

Ms Glažar is currently Secretary of the Science Division, Science Directorate at the Ministry of Education, Science and Sport in Ljubljana. Here, among other roles, she is the Slovenian representative to the COST Committee of Senior Officials, as well as Delegate of the Republic of Slovenia to the CERN Financial Committee and Slovenia's adviser to the President of the CERN Council. She is also vice-president of the board of the Association for the support of the South East European International Institute for Sustainable Technologies (SEEIIST).

• How do you see your role as Vice-President of the COST Association in the next three years?

As Vice-President of the COST Association, I am responsible for the overall guidance of the Executive Board (EB). As chair of the EB, I have a supervision and monitoring role on how the Association functions. In close collaboration with the President and Director, the EB prepares the agenda for the Committee of Senior Officials (CSO) which is the supreme decision-making body.

Having been elected by the CSO, I am striving for continued and open dialogue between the EB, CSO and the Association. My aim is to guarantee a smooth decision-making routine to the benefit of COST Actions and Europe's scientific community at large.

In recent years, COST has taken some decisive and important steps towards Horizon Europe, the new Framework Programme for Research and Innovation, which enters into force in 2021. The CSO's adoption of the COST Ministerial Declaration in 2016 and the COST Strategic Plan in 2017 has set the strategic priorities for years to come, articulating COST's ambition to be at the heart of the European Research Area (ERA).

• What would you like to focus on during your mandate?

During my three-year mandate, I would like to highlight some key challenges:

As Horizon Europe is just around the corner, it is important to focus on recognising COST as the leading open networking tool in ERA. Every year, more than 45 000 researchers (of whom over 45 % are early-career investigators) are involved in COST networking activities, regardless of their career stage, country of origin or areas of interest. Thus, COST provides structural support to the ERA, widening the research and innovation (R&I) base in Europe and promoting cooperation in science and technology. COST should maintain this leading role while strengthening close cooperation with other important ERA instruments and mechanisms in order to reinforce its added-value services, such as the COST Academy.

Another challenge is international cooperation. COST will foster near-neighbour-country participation in COST Actions and will further engage with a selected number of International Partner Countries through the new COST Partner Member status.

Over the last year, COST has launched several new initiatives which are currently in a pilot phase, such as the COST Innovators' Grant and the Cross-Cutting Activities. The thorough planning, implementation, monitoring and evaluation of these initiatives requires the necessary focus and follow-up.

“Many of our researchers report that COST is an easy-to-access instrument and an efficient pre-portal for following up European funding for R&I.”

On a more horizontal level, I will focus on the next COST Ministerial Conference scheduled for the first half of 2021. This is an important milestone for evaluating COST achievements over the last five years and an opportunity to set its future political and strategic challenges in the ERA and beyond.

• Having come from Slovenia and been in touch with its research world, what would you say is the main benefit for researchers from Inclusiveness Target Countries who participate in COST Actions? How does COST contribute to 'brain circulation' in Europe?

Researchers from Slovenia are highly active in COST Actions. According to a recent [COST Targeted Impact Assessment](#) (2019), researchers from ITCs benefit hugely from participating in COST Actions, and this is no different for Slovenian researchers and innovators.

Looking at Slovenia's representation in COST Actions, we can see a positive trend in rising yearly participation rates (from 55 % in all Actions in 2012 to 82 % in 2018). Here, the role of our Slovenian COST national coordinators has been very important.

COST operates in an inclusive manner, taking advantage of Europe's diverse, multicultural and highly skilled population. This approach connects Europe's 'pockets of excellence' providing structural support to the ERA, widening Europe's R&I base, and promoting cooperation in science and technology with other countries beyond its current membership.

Simple and low-barrier processes for universal access to networks of excellence have been developed, providing new participants with a highly rewarding start-up package in the R&I world. This concept of mutual benefit is an integral part of every COST Action and highly valued by participants.

COST Actions help younger researchers (doctoral students and postdoctoral researchers) to network with other researchers, which results in new projects, new ideas and new collaborations. The Actions enable researchers to develop and expand a research network with colleagues across Europe and beyond. Many of our researchers report that COST is an easy-to-access instrument and an efficient pre-portal for following up European funding for R&I.

In the case of Slovenia, we also see a positive trend in the annual increase in leadership positions in COST Actions, which is the result of new mechanisms for empowering researchers in leadership and enhancing science administration skills. Many researchers have mentioned that COST Actions have helped them to develop science management and leadership skills and to advance their careers.

As to brain circulation, I would rather use the term 'circulation of knowledge'. In my opinion, this is one of COST's key characteristics; enabling scientific breakthroughs.

A future ERA priority is to promote knowledge and brain circulation at all levels (national, EU, global) and help reduce the undesirable phenomenon of brain drain. COST serves as an appropriate instrument here, providing networking opportunities for researchers and innovators to strengthen Europe's capacity to address scientific, technological and societal challenges.

• How do you envisage the future of the COST programme in the European Commission's Horizon Europe?

Since 1971, COST has created an impact through networks by offering European researchers and innovators a simple and flexible pathway to participating in the best science and technology networks in Europe. Therefore, COST is one of the strategic instruments in Horizon Europe as it is committed to reinforcing its role as ERA's leading networking instrument while creating an even greater tangible impact on society.

In Horizon Europe, COST will be part of the Widening Participation and Spreading Excellence pillar, alongside instruments such as Teaming, Twinning and ERA Chairs. This part of the Framework Programme aims to reduce disparities in R&I performance by sharing knowledge and expertise across the EU. COST is ideally placed in this pillar.

As demands for scientific excellence in Europe and beyond are high and there are many societal challenges to be tackled, the role of COST and its budget in Horizon Europe must be strengthened. The attractiveness of COST has led to a success rate of 10 %, which means that plenty of excellent proposals are not funded. Increasing the budget to approximately EUR 600 million for the entire Horizon Europe period will enable a success rate of at least 15 %. It will give COST room to further strengthen its core business by expanding the number and reach of COST Actions and offering participants greater added value, such as the COST Innovators' Grant and the COST Academy. We believe that a budget increase for COST within Horizon Europe will also be reflected in more direct support for researchers from the countries that are members of the COST Association.

It is important that Horizon Europe funding is sufficiently flexible and sustainable to enable COST Actions to be timely and efficiently implemented and able to run without any difficulties.

Highlights of the year

 10-11 April 2019

South Africa: the first COST Partner Member

At its 206th meeting, held in Bucharest, Romania, on 10-11 April 2019, the Committee of Senior Officials, the COST General Assembly, approved South Africa's request to become the first COST Partner Member. By so doing, South Africa will maintain a budget dedicated to the participation of its nationals in COST Actions. This will give them more opportunities to participate in Actions and strengthen and establish mutually beneficial cooperation with European researchers, and vice versa.

As an International Partner Country, South Africa had already been actively involved in the COST programme, being one of four non-COST countries having a reciprocal agreement with COST between 2009-2014. In 2019, 19 COST Actions collaborated with numerous research institutions and universities based in South Africa, mainly focusing on health, raw materials, and the circular economy.

📌 Find out more: <http://bit.ly/2Sd7CBN>

 22 June 2019

New President at COST: Professor Paulo Ferrão

Professor Paulo Ferrão's mandate as President of the COST Association officially started on 22 June 2019.

He is currently a full professor at the Instituto Superior Técnico, at the University of Lisbon in Portugal and co-founder of IN+, the Centre for Innovation, Technology and Policy Research. The professor was President of Fundação para a Ciência e a Tecnologia (the Portuguese Foundation for

Science and Technology) from 2016 to 2019, and director of the MIT Portugal Programme from 1996 to 2016. He is also a member of the Rolls-Royce Environmental Advisory Committee.

📌 Find out more: *Diário de Notícias (in Portuguese)*: <http://bit.ly/31Pc4db>



📅 2 October 2019

Cross-Cutting Activity on Science Communication

On 2 October 2019, the kick-off meeting of the newly established COST Cross-Cutting Activity (CCA) on science communication took place in Brussels, Belgium. This CCA, which is running as a pilot from October 2019 to October 2021, aims to achieve high-quality, evidence-based and cross-sectoral science communication across Europe. This global objective is the key focus of the high-level CCA network, comprising researchers, journalists, policymakers, and representatives from public institutions. Through this initiative, COST provides CCA members with a platform for exchange between 43 organisations active in the wider field of science communication.

The COST Strategic Plan introduces the CCA as a tool to better connect policymakers and research and innovation (R&I) players to share best practices. The primary beneficiaries of the outcomes are COST Action participants and the wider R&I (policy) community across Europe. Other CCA initiatives foreseen for the future will also address horizontal topics in line with the European Research Area framework.

🔗 Find out more: <http://bit.ly/377Po8J>

📅 8 October 2019

COST researcher wins the Nobel Prize in Physics

On 8 October, Professor Didier Queloz, a member of COST Action ORIGINS - *Origins and evolution of life on Earth in the Universe*, was awarded the 2019 Nobel Prize in Physics together with James Peebles and Michel Mayor. Half of the prize was jointly awarded to Didier Queloz of the universities of Geneva, Switzerland and Cambridge, United Kingdom and Michel Mayor of the University of Geneva for their discovery of 'an exoplanet orbiting a solar-type star'.

Since their first discovery in 1995, more than 4 000 exoplanets have been found in the Milky Way, including Earth-like planets. The other half of the prize went to James Peebles of Princeton University for 'theoretical discoveries in physical cosmology', which formed the basis of our understanding of the universe's history after the Big Bang.

🔗 Find out more: <http://bit.ly/2UDFZ6w>





📅 23 October 2019

Engineering Emmy Award for COST Action Chair

The 71st edition of the **Engineering Emmy Awards** rewarded the Joint Photographic Experts Group (JPEG) of which Professor Touradj Ebrahimi, chair of COST Action Qualinet (European network on quality of experience in multimedia systems and services), is a member. The professor, who has participated in five different COST Actions, collected the award on behalf of the JPEG Standardisation Committee on 23 October 2019. These awards recognise individuals, companies or organisations for developments in broadcast technology.

🔗 Find out more: <http://bit.ly/2H93c8y>



📅 3 November 2019

The 'Oscars of Science' go to COST Action researchers

Two COST Action participants have been awarded the 2020 Breakthrough Prize in the field of life sciences, mathematics and fundamental physics, also known as the 'Oscars of Science'.

Professor Rezzolla, Chair of COST Action **NewCompStar: Exploring fundamental physics with compact stars**, was selected as an award-winning researchers for capturing the first-ever image of a black hole by the Event Horizon Telescope. The techniques and equations used for the research and capturing the image of a black hole were developed within the Action.

Dr Samaya Nissanke, working group leader in the COST Action **Gravitational waves, black holes and fundamental physics**, was awarded the New Horizons Prize in Physics together with Jo Dunkley from Princeton University, USA, and Kendrick Smith from the Perimeter Institute, Canada, "for the development of novel techniques to extract fundamental physics from astronomical data".

📌 Interview with Dr Nissanke on BBC news:
<https://bbc.in/2H8Elwb>



📅 13 November 2019

Tea Glažar becomes new COST Vice-President

At the 207th Committee of Senior Officials meeting, held in Limassol, Cyprus on 13 November 2019, Tea Glažar, MSc, was elected as the COST Association's Vice-President. The appointment, lasting for three years, includes the responsibility for chairing the Executive Board which oversees the activities of the COST Administration.

Tea Glažar is currently Secretary of the Science Division, Science Directorate at the Ministry of Education, Science and Sport in Ljubljana. Among other roles, she acts as the Slovenian representative to the COST Committee of Senior Officials, the Republic of Slovenia's delegate to the CERN Financial Committee, and Slovenia's adviser to the CERN Council.

📌 Find out more: <http://bit.ly/38gLIms>

📅 13 November 2019

COST Innovators Grant

In November 2019, the COST Association launched an Innovators' Grant pilot scheme, the aim of which is to enhance the pace and success of breakthrough innovations and to build bridges between the research in COST Actions and marketable applications and/or societal solutions. This Innovators' Grant complements existing initiatives on innovation in Horizon 2020 as it focuses on networking activities and is only available to participants in running

COST Actions. COST will maintain an interface with other relevant initiatives, such as the ERC Proof of Concept, the EIC, and FET Open, among others.

The COST Innovators' Grant activities funded under the pilot scheme will run from 1 May 2020 until 30 April 2021.

📌 Find out more: <http://bit.ly/20Enf2U>



Succes stories

Talking terms for green citizen action

What does it mean to be a good environmental citizen? A COST meeting has defined key concepts that help teachers and organisations to encourage people to care for the planet. An online database, book and global outreach add to the support.

Plastic pollution, climate change and the loss of biodiversity are just some of the many environmental issues in the news every day. Actions by citizens are central to EU plans to tackle these issues – for example, the proposed [European Green Deal](#) and the EU 2050 Strategy for a low-carbon Europe.

But first, people must agree on how citizen action should work. A meeting of the [European Network for Environmental Citizenship \(ENEC\)](#) – a COST Action – has defined “environmental citizenship”, the “environmental citizen” and

“education for environmental citizenship” to provide ground rules for bottom-up initiatives for the planet.

According to ENEC Chair, Dr Andreas Hadjichambis of the Cyprus Center for Environmental Research and Education, the concepts are new and until now, understood by researchers in often different and sometimes contradictory ways.

“ENEC’s definitions and outputs bring Europe to the forefront of attempts to achieve environmental citizenship ... We want our ideas to be disseminated on a global scale.”

Dr Andreas Hadjichambis, Scientific Director, Cyprus Center for Environmental Research and Education
PhD Biology, MSc Environmental Conservation Management



With over 130 experts from Europe, Israel, Australia and the USA in ENEC, the Action has created an international consensus that can be a framework for educators, researchers, NGOs and policymakers worldwide.

“This common language is an important and valuable step,” Hadjichambis explains. “ENEC’s definitions and outputs bring Europe to the forefront of attempts to achieve environmental citizenship.”

Global reach

The [full definitions](#) are based around the idea of environmental citizenship as “...the responsible pro-environmental behaviour of citizens who act and participate in society as agents of change”. Details specify citizens’ environmental rights, duties and how they should act to achieve sustainability and a healthy relationship with nature.

The texts were agreed at the [ENEC first meeting](#), a three-day event in Cyprus, following extensive literature review and expert communication. Participants first reviewed the existing approaches among scientists to environmental citizenship. With outside specialists from fields such as environmental sciences, education and law, groups then reviewed, analysed and debated concepts for the terms.

“Interdisciplinarity and transdisciplinarity were very important in our approach,” says Hadjichambis.

More widely, the Action is sharing knowledge about environmental citizenship. ENEC members have created “GAIA”, an [online database](#) of measures and actions, and published a [free online book](#), along with dozens of smaller publications, presentations and scientific posters.

Other outreach includes an international conference, ‘International Researchers of Education for Environmental Citizenship’ ([IREEC2019](#)), along with training schools and science cafés in different European countries.

In its next two years, ENEC aims to promote its perspective, propose policy measures and create a scientific community dedicated to the topic.

It is an ambitious plan.

“We want our ideas to be disseminated on a global scale,” Hadjichambis concludes.

View the Action:

📌 <https://www.cost.eu/actions/CA16229>

View the network website:

📌 <http://enec-cost.eu/>



'Math-a-thons' find solutions for companies and society

A COST Action has helped deliver innovative solutions to 80 organisations through the power of maths. Study Groups in MI-NET gave companies ways to increase production and showed non-profit bodies and governments how to better use resources.

Mathematics drives science and technology. With good access to maths experts, organisations can improve their processes and better use their resources. Enter COST Action 'Mathematics for Industry Network' (MI-NET), founded in 2015, to remedy this lack.

In addition to the workshops, short-term scientific missions and training events typical of COST Actions, mathematical scientists in the 32-country MI-NET network held 21 [European Study Groups with Industry](#) (ESGIs) across Europe.

The approach used in these groups was developed in the United Kingdom in 1968. During week-long meetings, maths researchers work on problems together with companies, NGOs and government authorities, such as ways to save materials or to better distribute health care.

Overall, MI-NET worked with 80 non-academic organisations. "Maths can be applied to any real-life challenge," explains Dr Katerina Kaouri of Cardiff University in the UK and lead organiser of two MI-NET ESGIs held in her home country Cyprus.

Experienced mathematicians screened problems submitted by businesses and organisations. "This allowed us to choose challenges with value for organisations and for researchers," says Kaouri.

"There is a lot of untapped potential in these Study Groups for companies. COST significantly increased the number of ESGIs and the range of real-life challenges they addressed," she adds.

Access to expertise

The [Cyprus groups](#) are testament to this potential. For example, an SME, [Engino](#), asked the island's [first ESGI](#) how to automatically generate toy assembly instructions to reduce costs and increase its product range. According to Kaouri, the research team quickly [published their](#) innovative approach in an academic journal and are discussing follow-on development of the concept with Engino.

In the [second ESGI in Cyprus](#), one team worked on improving innovative medical testing and air filters and another on

“There is a lot of untapped potential in these Study Groups for companies ... We activated this kind of academia-industry collaboration in parts of the world where this had not been done before.”

Dr Katerina Kaouri, Lecturer in Applied Mathematics, Cardiff University, UK



“The event has proved that high level mathematics can indeed be applicable to industrial problems and help companies move towards scientific and innovative solutions...A respectful «well done» again to all the team!”

Mr Costas Sisamos, CEO and founder of ENGINO Toy Systems

reducing tugboat fuel consumption in ports. A third identified barriers to women in science, potentially harming Cyprus' competitiveness. “This generated an important discussion in Cyprus,” Kaouri says.

Links with EU projects such as [SciShops](#) extended the maths-society collaboration. And to expand the use of ESGIs, MI-NET held 12 modelling weeks to train young researchers in industrial mathematics. It also created handbooks on how to set up [ESGIs](#) and [modelling weeks](#), along with a challenge [case-study booklet](#).

Non-academic organisations pay to take part in ESGIs, with SMEs and NGOs paying low or no fees.

“We wanted to provide R&D to organisations that would not otherwise have access to academic expertise,” Kaouri explains. “We activated this kind of academia-industry collaboration in parts of the world where this had not been done before.”

View the Action:

<https://www.cost.eu/actions/TD1409>

View the video:

<https://www.youtube.com/watch?v=UEvhzoEgCNM>

View the network website:

<https://mi-network.org/>



Microbes, MOBIEU and a meeting of minds

Exciting, daunting and intense: the conferences at which scientific communities convene are fabulous opportunities for newcomers. For Marcin Makowski, whose PhD research focuses on peptides, the chance to attend a congress in 2019 has led to a lasting collaboration.

“The conference I went to is Europe’s leading event in biophysics,” explains Marcin Makowski of molecular medicine institute IMM João Lobo Antunes in Lisbon. “It was an unparalleled opportunity to meet outstanding researchers in my field, show my work and gain new ideas.”

Makowski’s research is inspired by a looming public health emergency: the growing number of bacterial strains that are resistant to current antibiotics.

“I am studying a group of molecules called antimicrobial peptides,” he says. “These peptides have antibacterial,

antifungal and antiviral activities. Basically, they destroy the cell barriers of bacteria.”

Irresistible biophysics

Makowski benefited from a grant for his participation in the conference’s 2019 edition in Madrid, a joint event of the European Biophysical Societies’ Association (EBSA) and the International Union of Pure and Applied Physics (IUPAP). This support was awarded by COST Action MOBIEU (*‘Between atom and cell: integrating molecular biophysics approaches for biology and healthcare’*).

“Attending conferences is crucial for PhD students, and the COST grant scheme is extremely helpful in this respect. It enabled me to connect with researchers using techniques that seemed almost like science fiction.”

Mr Marcin Makowski, PhD student (Biomedical and Clinical Research), Instituto de Medicina Molecular João Lobo Antunes, MSc (Applied Microbiology)



MOBIEU fosters networking, synergies and clustering in biophysics research at the molecular scale. "This is the tiniest level of study in biology," Makowski explains. "It examines how molecules interact and how these interactions shape life – for example, how drugs interact with cells."

The event in Madrid was an opportunity to interact with researchers whose work he had admired from afar, gain inspiration and generally connect. It is not uncommon for PhD students to feel that they are working in isolation, Makowski points out, and a chance to experience the community in action helps restore a sense of collective momentum.

Makowski approached a number of speakers and participants, asking them to look at the work he was presenting in the poster session. Most did, engaging in a fruitful exchange that lasted nearly five hours, he recalls.

According to Makowski, one of these encounters – with two researchers from a team whose techniques seemed "almost like science fiction" – has developed into an ongoing collaboration. "They suggested experiments that I could do to strengthen my work hypothesis, and kindly invited me to their lab for a few months to perform some of those experiments."

The team studies the biophysics of the energetic membranes that compose the mitochondrion, which is often referred to as the cell's powerhouse, Makowski explains. "I think my peptide may hamper the activity of key proteins in the bacterial analogues of mitochondrial membranes."

This mechanism would starve the targeted bacteria of the energy they need to live, he notes. "I wanted to check if this is indeed the case," he says, commenting on the progress of the experiments as of December 2019 – during his stay at the lab, where the scope for a long-term collaboration was also being discussed. "So far, it does seem to be, which is very, very exciting."

Unlocking the power of peptides

At present, there are hardly any peptide-based antimicrobials on the market – notably because, as yet, peptides are harder and more expensive to produce than smaller molecules, Makowski notes.

However, this is about to change. "I foresee a success story in 5 or 10 years," says Makowski, who intends to contribute to this development. New types of drugs are needed urgently to defuse the ticking time bomb of antimicrobial resistance – and if the prospective Dr Makowski's research helps shape them, COST's conference grants will clearly have played a part.

View the Action:

📌 <https://www.cost.eu/actions/CA15126>

View the network website:

📄 <https://arbre-mobieu.eu>



Meeting of minds connects micro-worlds

When corrosion experts met in an e-MINDS COST Action workshop, they spotted an industry need for expert knowledge on nano- and microscale corrosion. The result was a Marie Curie Innovative Training Network, joining other projects and collaboration successes from the Action.

Small-scale devices such as micro and nanorobots are transforming healthcare, electronics and industrial processes. How can developers ensure they are stable over time?

In Autumn 2015, a group of researchers and industry partners were at the first workshop for the COST Action 'Electrochemical processing methodologies and corrosion protection for device and systems miniaturization' (e-MINDS). While sharing ideas on new methods to manufacture micro- and nanodevices and increase their durability, they realised that something important was missing.

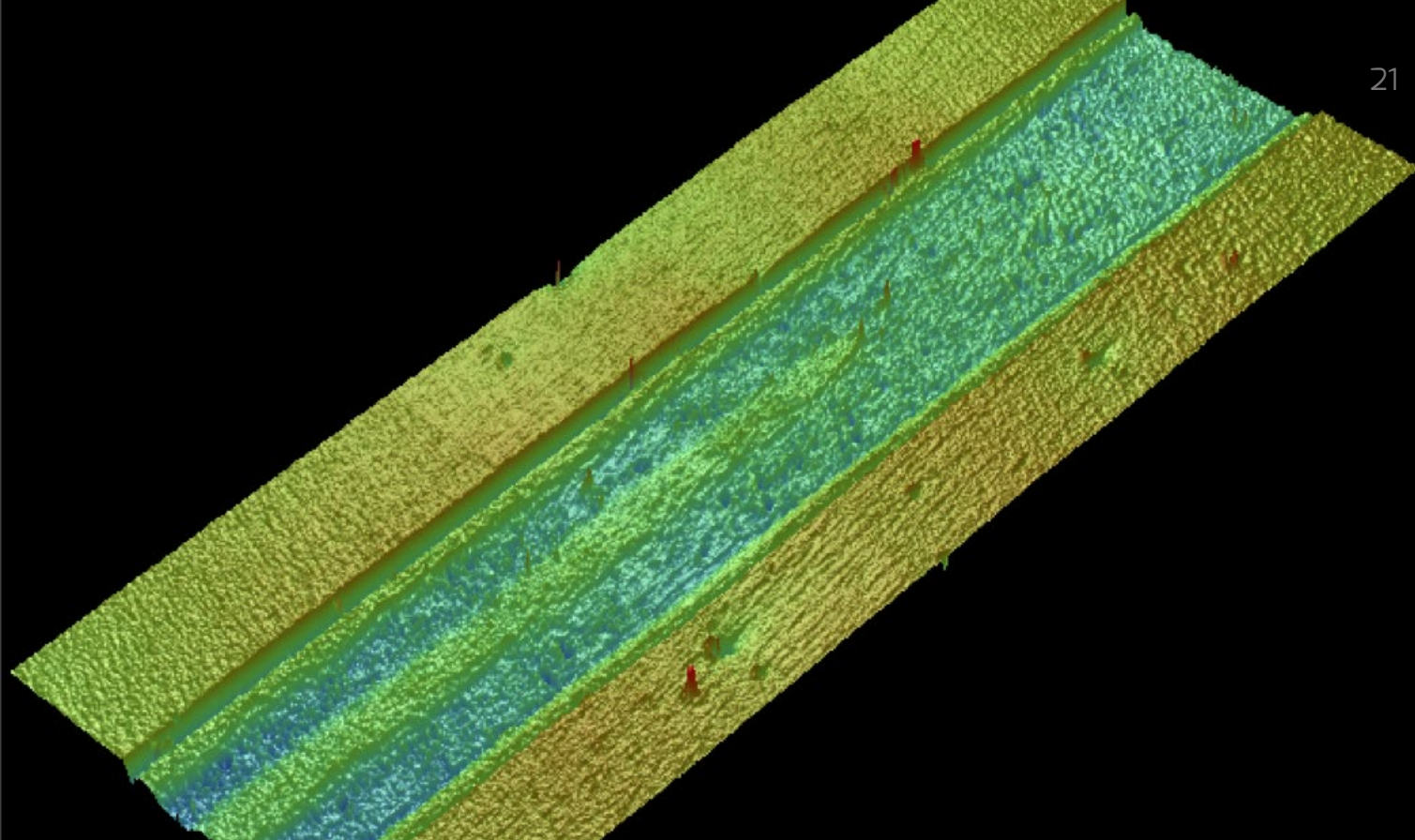
"Corrosion remains unexplored in the micro- and nanodomains," says e-MINDS Chair Salvador Pané of the Swiss Federal Institute of Technology (ETH).

"The rules that work on the larger scale cannot always be applied," adds Vice-Chair Eva Pellicer of the Universitat Autònoma de Barcelona.

With e-MINDS member Maria Lekka from the University of Udine and other Action participants, they decided to set up an EU-funded Marie Skłodowska-Curie Innovative Training Network (ITN) programme, [mCBEEs](#). The ITN is training

“We put together two worlds that do not easily communicate – electrochemical engineering and micro/nanotechnology. COST helped to bridge that gap.”

Prof. Dr Salvador Pané, Head of Materials for Robotics, ETH Zürich
PhD chemistry, MSc Chemistry



15 PhD students with research organisations and device manufacturers to limit micro- and nanoscale corrosion.

“We put together two worlds that do not easily communicate – electrochemical engineering and micro-/nanotechnology,” explains Pané. “COST helped to bridge that gap.”

Job well done

The consortium drafted the grant application over a year, including at the 2015 and 2016 e-MINDs workshops. In October 2017, the four-year mCBEEs programme began.

19 universities, research institutes and companies joined the network through e-MINDs and the [European Federation of Corrosion](#) (EFC), while the 15 trainees were chosen from 475 applicants worldwide. “It is a very international ITN,” says Lekka, the mCBEEs coordinator.

Students are researching mechanisms behind corrosion in micro- and nanodevices. They are also developing corrosion-resistant coatings and devices for biomedics, energy and electronics applications, such as novel energy-storing electrodes.

“The ITN is going well. Our mid-term check says the job is well done,” Lekka concludes.

eMINDs effect

In addition, five national and EU-funded projects have resulted from eMINDs, such as the [CONTAXENSE](#) project to develop a contact lens that can monitor eyes for glaucoma.

Meetings between scientists from different disciplines also had surprising results. For example, work with microfluidics professor Mustafa Ürgen of Istanbul Technical University and Dr. Josep Puigmarti-Luis at ETH Zürich led to proof of how corrosion in crevices works. “This could lead to safer buildings and machines,” Pané explains.

According to Pellicer, the Action even opened doors for some participants to join the prestigious [European Academy of Surface Technology](#).

She adds: “Every workshop was different. All gave good results.”

View the Action:

<https://www.cost.eu/actions/MP1407>

View the network website:

<https://www.e-minds.ch/>

ITN website:

<http://www.mcbees.eu>



A career takes off – with drones adding lift

How do you map invasive plants in inaccessible terrain? Two years ago, a Serbian student got involved in a COST Action training school to learn about unmanned aerial systems (UAS) as a way to advance his work. Now, he is lead author of a guide for their use in environmental monitoring.

When a COST Action on the harmonisation of UAS techniques for agricultural and natural ecosystems monitoring ([HARMONIOUS](#)) started in October 2017, Goran Tmušić of the University of Novi Sad's Department of Biology and Ecology decided to seize the opportunity.

From an initial e-mail to the Action Chair, his involvement quickly developed into a role at the heart of the Action. Participation in a training school in September 2018 was a first milestone in this journey, Tmušić notes.

The course, held in Reykjavik, brought together 18 trainees and 8 experts from around Europe for a full week of

activities dedicated to UAS techniques for the acquisition and pre-processing of data. Along with a theoretical introduction to the monitoring of vegetation and soil, it provided opportunities to gain practical experience through field experiments.

“The training school showed me how much there was to learn,” he says. “To use this tool correctly, you need to be familiar with many things I knew nothing about. I am a botanist, and I found myself dealing with drones using different types of sensors, different global navigation systems, etc.”

“I can't emphasise enough how important COST and its networking tools are for younger researchers, particularly from Inclusiveness Target Countries.”

Mr Goran Tmušić, PhD student, University of Novi Sad (Faculty of Sciences, Department of Biology and Ecology), Serbia, MSc Biology, Research trainee



How to use your UAS

His curiosity piqued, Tmušić set out to address the gaps in his understanding. During a short-term scientific mission to Italy in February 2019, he conducted a review of literature on the technology's use in vegetation surveys to produce an initial protocol. On the strength of this, he was invited to contribute to developing a first HARMONIOUS guideline on UAS in environmental monitoring.

As of December 2019, the paper – listing him as first author – is nearing completion. It will provide a framework for subsequent guidelines to be produced by HARMONIOUS, which will adapt the general recommendations to specific fields of study.

Dizzying heights

Harmonisation is needed to show how UAS technology can be used to best effect and unlock its full potential in environmental monitoring, Tmušić points out. “We are hoping to produce comprehensive guidance for all areas covered by the Action, so that other researchers won't find themselves in a fog the way I did.”

Being encouraged to play a central role in this process is an unexpected privilege for a beginner, says Tmušić, who is due to complete his PhD in 2021. It is also placing him in a better position to transfer UAS know-how to his home country, where it is currently in short supply.

“I would advise all young researchers to participate in COST,” Tmušić concludes. “It's a great opportunity to connect with scientists at all levels of expertise, from Europe and beyond, and build a strong network of people with a well-established tradition of working together.”

View the Action:
<https://www.cost.eu/actions/CA16219>

View the network website:
<https://www.costharmonious.eu>



Study mission gives scent of career success

A COST short-term scientific mission gave young chemist Halima Mouhib the experience she needed to advance her career. She is now an assistant professor at the Paris university that hosted her mission, leading research on how molecules produce scents.

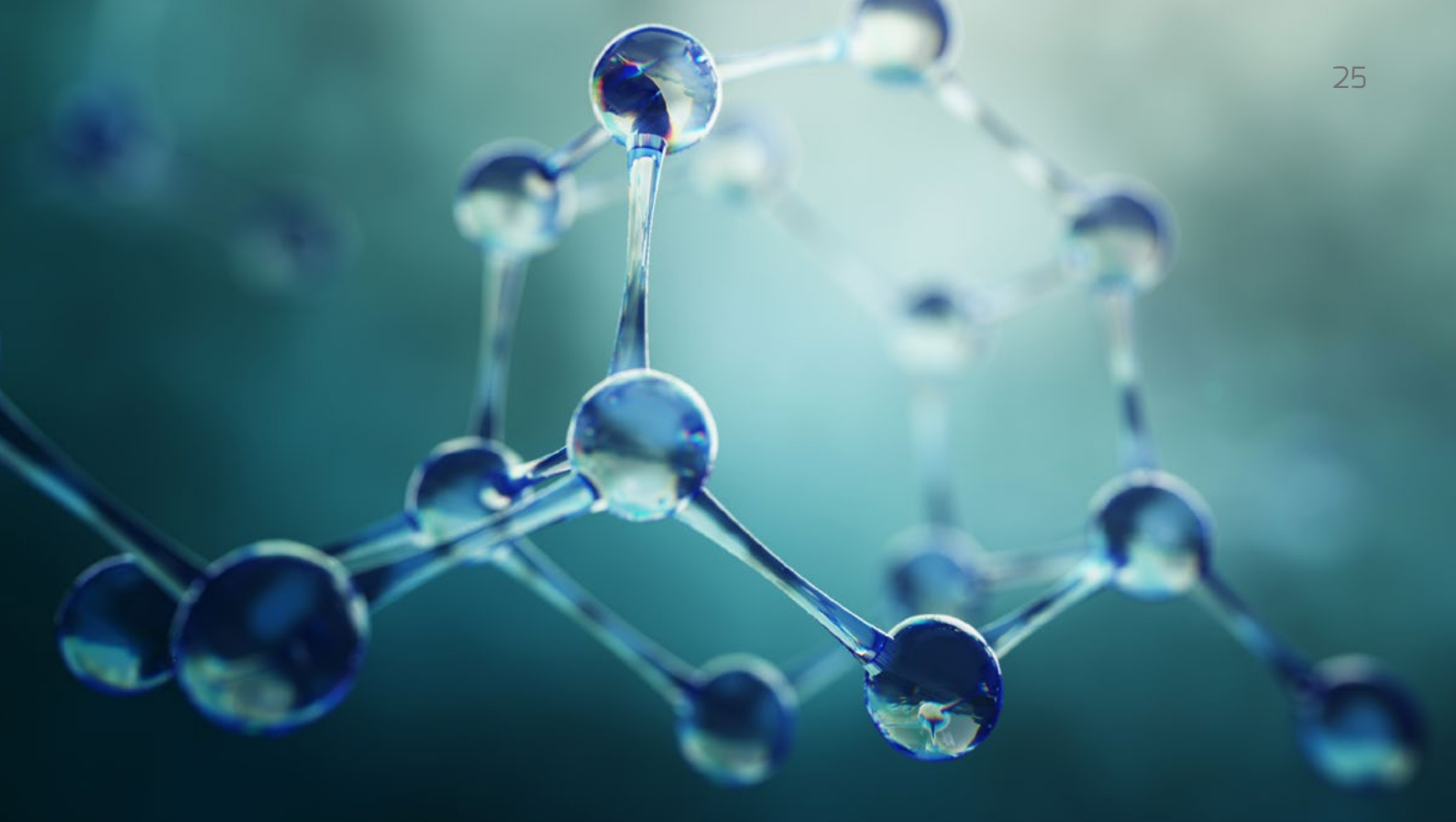
Mouhib specialises in understanding the chemical structure of molecules that generate tastes and smells. As part of the 'Molecules in motion' (MOLIM) COST Action (2014-2019), she carried out a two-month short-term scientific mission (STSM) at the University of Paris-Est Créteil in France while still a research and teaching associate at the RWTH Aachen University in Germany. Experience from the STSM on molecule simulation helped her to win an assistant professorship at the host's sister University of Paris-Est Marne-la-Vallée (UPEM) just nine months later.

"The project showed that I already knew the French academic system and life in Paris and that a collaboration there had worked out well," the German says.

Contacts made with biologists during her COST mission bore additional fruit. In less than a year, the young researcher set up a cross-departmental, international [discussion meeting](#) at UPEM with CECAM, an EU-wide organisation for simulation technology research. In 2019, she in turn hosted an STSM for another COST participant, Tunisian doctoral student Rahma Dahmani.

“You can integrate a mission into an ongoing project, foster future collaborations and transfer knowledge at the same time ... I can finally build up my own research line in a stable environment.”

Dr Halima Mouhib, Assistant Professor, University Gustave Eiffel (formerly University of Paris-Est Marne-la-Vallée), France, PhD Physical Chemistry, University Diploma in Chemistry



Mouhib sees many advantages to STSMs compared to standard two- or three-year research projects. “You can integrate a mission into an ongoing project, foster future collaborations and transfer knowledge at the same time.”

And the most important personal outcome for Mouhib? “I can finally build up my own research line in a stable environment.”

Pushing forward projects

MOLIM brought together more than 300 scientists to develop computer tools to study nuclei in molecules. It produced over 60 short-term research missions.

While MOLIM meetings introduced Mouhib to many new contacts from across Europe, the STSM gave her the chance to learn technology not available at her home university.

“Paris had a more developed code for analysing molecules. It could explain patterns that we couldn’t analyse in Aachen,” she adds. “We looked at the structural dynamic of a molecule, e.g. how a long chain can stretch or bend in different conditions ... to get a fundamental understanding of what is happening in an experiment.”

Mouhib’s focus is on how chemical structure impacts biological action.

“Perfume and flavour industries are always interested in this. How can we link molecular structure to a scent? This can also be transferred to drug design and some diseases,” she says.

The fast, simple COST application procedure allowed her to concentrate on the science.

“I was able not only to push forward my project on odorants and fragrances but also to discuss and develop future projects with other local scientists,” Mouhib concludes.

View the Action:

📌 http://www.cost.eu/COST_Actions/cmst/CM1405

View the network website:

📌 <http://cost-molim.eu/>

Watch first-hand accounts of Action participants in STSMs:

📺 https://www.youtube.com/watch?v=FpA640_QY7w

📺 <https://www.youtube.com/watch?v=WEHBFhKieV4>



A solid platform for starting a career

Life imitates science in SARCOS, a COST Action on self-healing concrete. A young researcher strengthened her career by starting the network, while its 'thesis clinic' has helped PhD students to learn new approaches to their research.

Dr Mercedes Sánchez Moreno has built a 10-year career investigating how to make concrete more durable. She and colleagues wanted to attract leading experts to a new line of research on the preventative repair of new and existing concrete structures, both by self-healing concrete – which self-repairs cracks – and innovative external techniques.

In a bold move, they proposed a COST Action, "Self-healing as Preventive Repair of Concrete Structures" (SARCOS). Sánchez Moreno chaired the Action. The experience helped her land one of Spain's highly competitive Ramón y Cajal postdoctoral fellowships.

Sánchez Moreno had already been the top runner-up for one of these five-year contracts three times.

"The main difference this time was that I had obtained the COST Action as main proposer and been selected as Chair," she explains.

She is now pursuing her fellowship at the University of Córdoba where she expects to progress to an Associate Professor position.

Support for young researchers

SARCOS did not neglect other young researchers. It organised a special workshop where doctoral and early-career investigators (ECIs) could solve each other's research issues and learn new lab techniques.

Feedback was so positive that the Action is organising a second PhD-ECI meeting at the March 2020 convention of the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM).

“I would recommend this type of event to any Action. Meetings for young people positively affect other COST tools such as the training schools and the STSMs.”

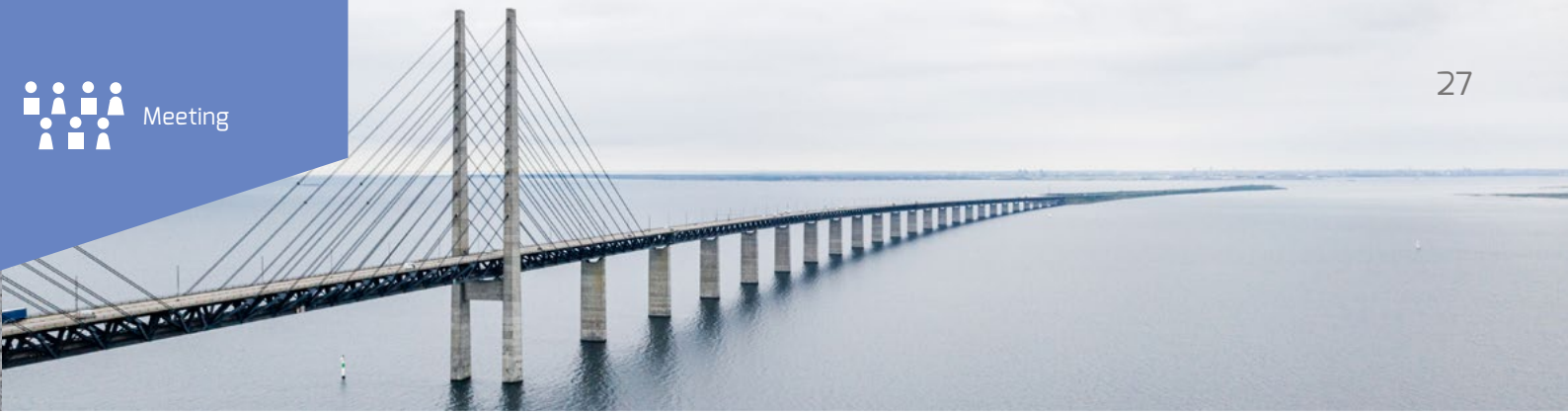
Dr Mercedes Sánchez Moreno, Ramón y Cajal researcher, University of Córdoba, Spain
PhD Chemistry, MSc Chemical Engineering

View the Action:

<https://www.cost.eu/actions/CA15202>

View the network website:

<https://www.sarcos.eng.cam.ac.uk>



Meetings drive forward bridge safety norms

Safer road bridges are in sight thanks to the BridgeSpec COST Action. Inspection procedures from its meetings are being included in international norms, while publications, courses and a professional association sustain the Action's achievements.

Dramatic events, such as the Genoa road bridge collapse in Italy in November 2019, are a reminder that high standards of bridge maintenance are essential to preserve lives. A network of researchers from 43 countries – COST Action on 'Quality specifications for roadway bridges, standardization at a European level' (BridgeSpec) – has developed a quality control procedure that is influencing international standards.

The procedure resulted from BridgeSpec meetings and workshops involving bridge owners, engineers and international standards experts. It could help road-bridge inspectors to identify problems when there is still time to correct these safely and cost-effectively.

Raising standards

This close collaboration has led the International Organization for Standardization (ISO), the European Committee for Standardization (CEN), the Joint Committee on Structural Safety and The International Federation for Structural Concrete (fib) to adopt parts of the quality control procedure, to build safer road bridges worldwide.

Another outcome is the founding in March 2019 of the European Association on Quality Control of Bridges and Structures – EUROSTRUCT. This organisation allows researchers to continue the valuable cooperation started during the COST Action meetings.

Other results from BridgeSpec networking include over 60 journal papers, more than 20 special sessions at international conferences and 11 EU-funded and national projects, along with training and new research to continue to develop road bridge safety.

“The workshops and general meetings allowed us to collect new ideas and different points of view, including from invited worldwide speakers.”

Dr José C Matos, Assistant Professor, University of Minho, Portugal
PhD in Civil Engineering, Master's in Structures of Civil Engineering

View the Action:

<https://www.cost.eu/actions/TU1406/#tabs|Name:overview>

View the network website:

<https://www.tu1406.eu/tag/website>

Key figures of 2019

294
running Actions

88%

of participating researchers indicating career advancement

37%

Success rate of spin-off proposals in H2020

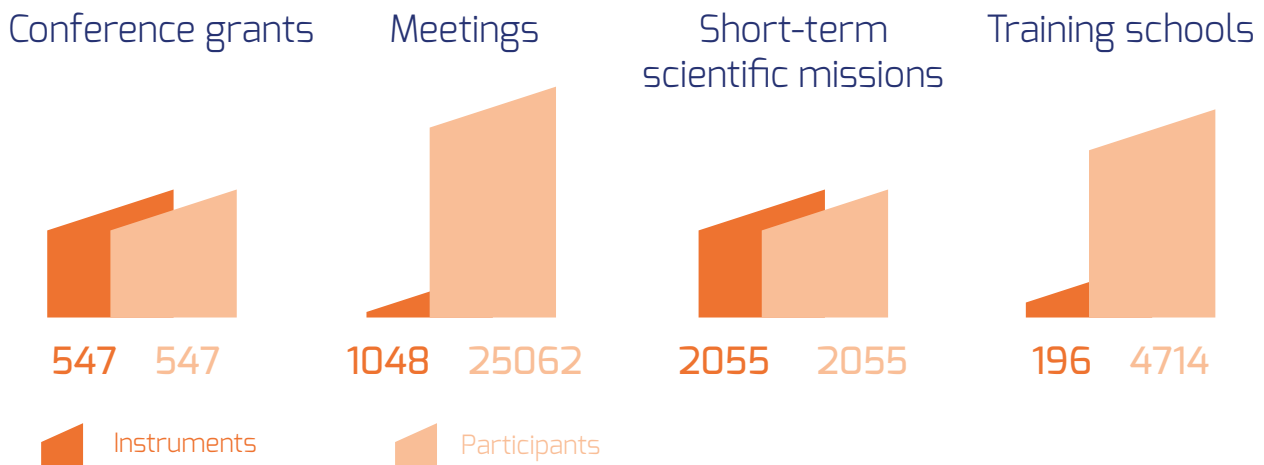
30

COST countries per Action

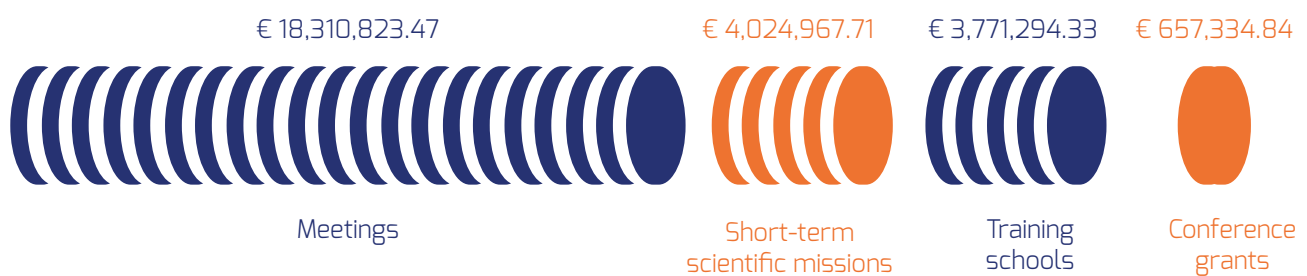
€ 6M

Average value of spin-off projects, per Action

Number of instruments and participants



Budget spent per networking tool



€ 26,764,420.35

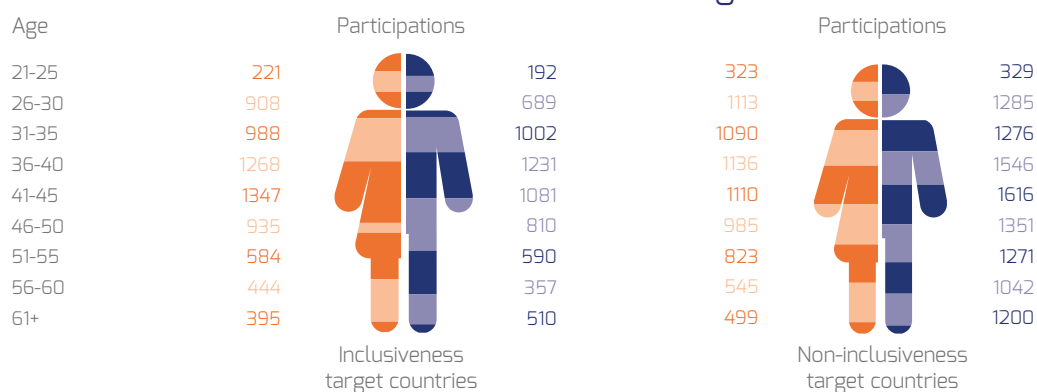
budget expenditure

Country participation in running Actions

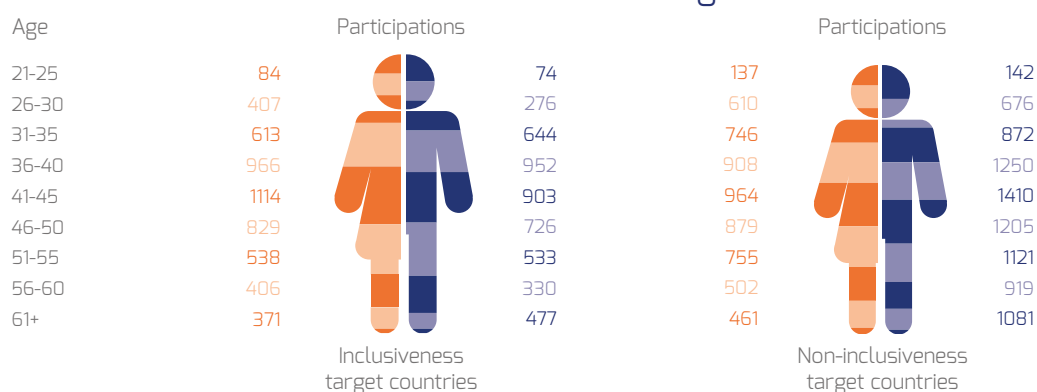
	Participation in Actions	Chairs	Vice-chairs
Spain	292	37	24
Germany	292	26	18
Italy	291	39	29
France	290	22	21
Portugal	288	14	17
United Kingdom	287	32	42
Greece	285	6	14
Poland	277	8	8
Serbia	271	1	6
Croatia	270	1	7
Belgium	267	10	13
Netherlands	262	22	13
Turkey	259	0	1
Denmark	257	6	8
Israel	254	1	3
Switzerland	253	6	10
Norway	251	11	6
Ireland	251	9	8
Slovenia	248	4	3
Romania	244	0	3
Austria	243	11	4
Sweden	241	8	5
Bosnia and Herzegovina	240	1	0
Czech Republic	233	4	7
Hungary	227	1	6
Bulgaria	218	0	0
Finland	211	2	3
North Macedonia	210	1	2
Estonia	207	2	1
Lithuania	190	0	0
Malta	188	1	1
Slovakia	185	0	1
Cyprus	171	3	5
Latvia	163	1	0
Montenegro	121	0	0
Iceland	118	0	2
Albania	105	0	0
Luxembourg	95	2	0
Moldova	69	0	0

Profile of COST Action participants

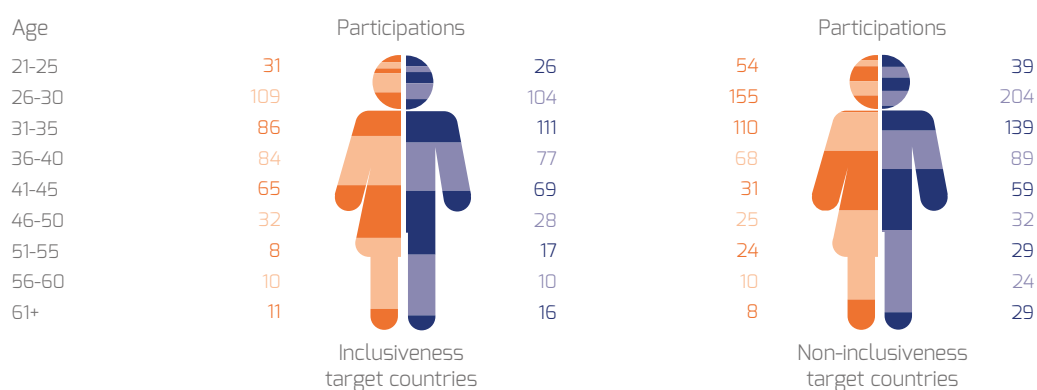
All networking tools



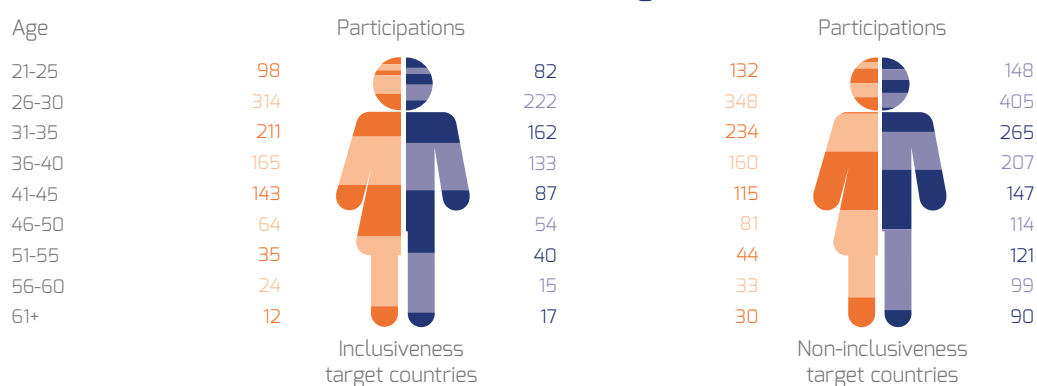
Meetings



Short-term scientific missions



Training schools



Countries hosting short-term scientific missions (STSMs) and conference grants

COST Members

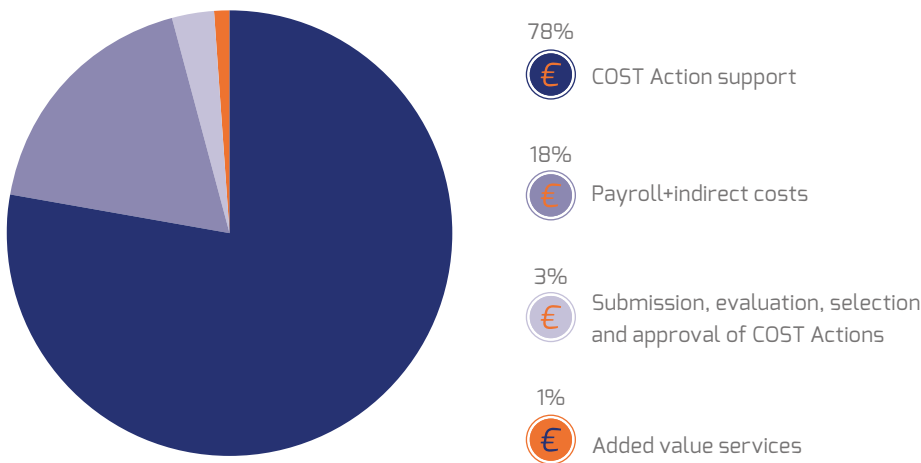
	STSMs	Conference grants
Albania	1	0
Austria	67	27
Belgium	53	8
Bosnia and Herzegovina	8	7
Bulgaria	9	7
Croatia	36	17
Cyprus	30	5
Czech Republic	34	15
Denmark	48	9
Estonia	14	2
Finland	41	6
France	145	32
Germany	169	29
Greece	57	18
Hungary	35	1
Iceland	7	1
Ireland	28	9
Israel	34	0
Italy	181	28
Latvia	13	1
Lithuania	13	2
Luxembourg	6	0
Malta	14	1
Moldova	0	0
Montenegro	6	2
Netherlands	91	27
North Macedonia	4	1
Norway	29	7
Poland	62	17
Portugal	97	28
Romania	17	5
Serbia	46	9
Slovakia	15	3
Slovenia	40	15
Spain	159	50
Sweden	57	7
Switzerland	104	6
Turkey	12	16
United Kingdom	205	29

Financial overview

COST is financed as a Coordinated and Support Action (CSA) in the form of yearly renewed Specific Grant Agreements within a seven-year Framework Partnership Agreement (FPA) under Horizon 2020.

The budget dedicated to COST comes from two Horizon 2020 Work Programmes, namely Work Programme Part 13 (Europe in a changing world – inclusive, innovative and reflective societies) and Part 15 (Spreading Excellence and Widening Participation). The total contribution of Horizon 2020 for the period between May 2018 and April 2019 amounted to € 45 389 000. COST is a global framework whose core activity is the networking of researchers and stakeholders from public and private institutions, NGOs, industry and SMEs. It carries out its activities on a multiannual basis, which means the networks funded by the COST Association – the COST Actions – run for four years and are implemented under decentralised management, namely the COST Grant System.

Expenses financial year May 2018-April 2019 (€ 45 389 000)



Contributions by COST Members



€ 40,022,000

Total contribution by COST Members to the COST programme

*Volunteer contribution by national research communities

Our events in a nutshell

 24-25 February 2019

Marie Curie Alumni Association Annual Conference

Vienna, AT

The **Marie Curie Alumni Association** held their 6th General Assembly and Annual Conference on the theme 'Research and Innovation, Beyond the Information Age'. The conference looked at the challenges and opportunities technology presents and how it is revolutionising people's lives, including the impact on the work of researchers. COST hosted a stand and took part in a presentation with three other initiatives supporting researcher mobility.



 20 May 2019

Success factors of H2020 widening instruments in Slovakia: lessons learnt and future outlook

Žilina, SK

This workshop was co-organised by **ERAdiate** and COST. The aim was to portray successful Horizon 2020 Widening projects (such as the ERA Chair project ERAdiate at UNIZA, the University of Žilina) and COST Actions with participation from Slovakia and neighbouring countries (Slovenia and

Croatia). Slovak participants from the various Widening instruments (ERA Chairs, Twinning, Teaming, COST) came together to share their experience and knowledge to assess the success factors resulting from participating in H2020.

📅 17-19 June 2019

Smart Digital Futures Conference

St Julian's, MT

Representatives from COST and COST Actions participated in this multi-conference event on issues related to cutting-edge smart systems: innovation in medicine and healthcare, intelligent decision technologies, intelligent interactive multimedia systems and services, agent and multi-agent

systems and smart technology-based education and training, and smart transportation technologies. COST organised a workshop about the programme and its funding opportunities and three COST Actions presented their work.

📅 17-21 June 2019

European Sustainable Energy Week (EUSEW)

Brussels, BE

The **EUSEW** is the biggest European conference dedicated to renewables and efficient energy use in Europe. Sessions organised by the European Commission and energy stakeholders focused on sustainable energy issues, new policy developments, best practices, and sustainable

energy ideas. Multiple COST Actions participated in some of the debates: chemistry of smart energy carriers and technologies, mining in the European anthroposphere, and European energy poverty: agenda co-creation and knowledge innovation.



📅 17-21 June 2019

European Conference on Networks and Communications (EuCNC) and Global 5G Event

Valencia, ES

EuCNC2019 was the 28th edition of a successful series of conferences on telecommunications, sponsored by the IEEE Communications Society and the European Association for Signal Processing and supported by the European Commission. The conference focused on various aspects of 5G communication systems and networks, including cloud and virtualisation solutions, management technologies, and vertical application areas. COST had a booth in the exhibition and hosted a session on how to grow innovative ideas and careers.

 26-28 June 2019

Week of Innovative Regions in Europe (WIRE X)

Iasi, RO

This is the main European policy forum for innovation and regional development. The 10th edition took place in Iasi, under the Romanian EU Council Presidency 2019, with the support of the European Commission and the Ministry for Research and Innovation in Romania. It gathered stakeholders from the EU research and innovation

community, such as policymakers, representatives from the regional and national authorities, the private sector and academia. COST held two sessions: one on pockets of excellence and the importance of creating synergies among programmes, projects and people; and a COST Academy workshop on communication skills for researchers.

 7-8 July 2019

National Science Summit

Lisbon, PT

The COST programme was present in two conferences during the summit and had a booth. On 8 July, the President of COST, Professor Paulo Ferrão and COST Director, Dr Ronald de Bruin participated in a session about the COST programme. Among others, Stefan Weiers, Deputy Head of the Unit 'Spreading Excellence and Widening Participation' at the European Commission, Helena Pereira, President of the Portuguese Foundation for Science and Technology and Eduardo Maldonado, President of the Portuguese National Agency for Innovation, took part in the session. On 10 July, two COST Action participants (IRACON and RECORDIS) made presentations during the session on industry, innovation and infrastructures.



 18 September 2019

Start of the SEEIIST Design Phase

Budva, ME

The South East European International Institute for Sustainable Technologies (SEEIIST) is a large-scale competitive research infrastructure aiming to further mitigate tensions between countries in the region. It does this by encouraging scientists to work together towards a common goal. SEEIIST's primary objective is to promote

'science for peace'. The purpose of this high-level event was to inform the public about progress in the SEEIIST project, which is in the design phase. COST's Director presented the COST mission and strategic goals, emphasising its role in networking and capacity building, as well as the relevance of the COST Connect event to cancer research in SEEIIST.



📅 19-20 September 2019

ICT Proposers' Day

Helsinki, FI

The Digital Excellence Forum @ ICT Proposers' Day provided an excellent opportunity to present and discuss the main policy drivers behind the digital transformation of European industry and society and how the EU research and

innovation agenda can best contribute to these objectives. The conference was organised by the European Commission and presented the Horizon 2020 Work Programme. COST had a stand at the exhibition.

📅 24-26 September 2019

Graphene Week

Helsinki, FI

Graphene Week is an annual conference hosted by the **Graphene Flagship**, which features global leaders and experts in research and development into technologies based on graphene and related materials. COST was present at the exhibition and organised a session on funding opportunities and collaboration.



📅 7-10 October 2019

European Week of Regions and Cities (EWRC)

Brussels, BE

The **EWRC** is an annual event in which cities and regions showcase their capacity to create growth and jobs, implement European Union Cohesion Policy and prove the importance of the local and regional level for good

European governance. COST was present during a dedicated session portraying cases where COST Actions had an impact at the regional level and, more generally, networking opportunities for local and regional authorities.

📅 4-6 December 2019

Science Forum South Africa (SFSA)

Pretoria, SA

2019 marked the fifth year of the popular Science Forum South Africa event which aimed to 'ignite conversations about science between researchers, policymakers, industry representatives and the general public'. COST's Director was a panellist during the session 'Mind the gap! The role of professional, globally connected research and innovation (R&I) managers in advancing scientific impact'.



COST CONNECT

📅 13-14 February 2019

COST Connect on data sharing - Sharing is Daring?

Brussels, BE

In recent decades, data has taken an increasingly prominent role in society and in science and technology. This sharp rise in its importance has led to new challenges on data sharing. This event brought together representatives of COST Actions and relevant stakeholders to share best practices, raise awareness about data sharing and exchange, and promote the principles of data management.



📅 21-22 May 2019

COST Connect - Beating cancer in 2030: mission impossible?

Brussels, BE

Mr Wolfgang Burtscher, Deputy Director-General DG R&I opened this Connect event which paved the way towards closer cooperation between research networks and other relevant stakeholders, such as European institutions and other organisations working on cancer research. The event provided an interactive forum for participants involved in cancer research to identify the needs and gaps in this field to achieve effective treatments.

 5-6 June 2019

COST Connect on innovative education and learning practices

Brussels, BE

This workshop enabled a debate between researchers, policymakers and funding organisations on innovative learning and formal and non-formal education. Innovative education learning practices are crucial for creating resilient societies, leading to more social cohesion and

open societies. Learning practices should be adapted to fast-changing environments, where both digitisation and demographic changes create the need for enhanced critical thinking and creativity.



 13-14 June 2019

COST Connect - The Blue Planet - What future for European Ocean Research?

Brussels, BE

This workshop paved the way towards a closer cooperation between research networks and relevant stakeholders, such as European institutions, [JPI Oceans](#) and Horizon 2020 projects on a sustainable blue economy, maritime security, marine protection and climate change. It brought together

researchers and innovators and industrial communities. Furthermore, it fed into the ongoing discussions on Horizon Europe, in which the future of oceans is identified as one of the missions in Horizon Europe.

 28-29 November 2019

COST Connect - Action for Standards

Brussels, BE

This event was organised with [CEN-CENELEC](#) and the European Commission's [Joint Research Centre](#). It contributed to highlighting and promoting the active engagement of

COST Actions in standardisation activities and enabled a debate between researchers, standardisation bodies, policymakers and other relevant stakeholders in this sector.



Reaching the world

479 articles

Specialised magazines and scientific reviews

290 articles

Mainstream online news & media

COST Actions in 479 specialised publications and reviews*



The COST programme and Actions appeared 290 times in mainstream online media^{7*}



TOP stories reaching millions of readers in mainstream media^{7*}

COST Action Gravitational waves, black holes and fundamental physics

12.8M*

02/05/2019

BBC News

View the full story here:
<https://bbc.in/2H8E1wb>

BBC NEWS

Home Video World UK Business Tech Science Stories Entertainment & Arts Health World News TV More

Science & Environment

Gravitational waves hunt now in overdrive

2 May 2019

Mansi Kasliwal & Samaya Nasarke: "From discovery to making precision measurements"

Scientists working to detect gravitational waves switched on their instruments for a third time at the beginning of April and immediately began to register events that could be interpreted as cosmic collisions. All the trigger events still need confirmation. The BBC's Roland Pass examines how telescopes worldwide are helping.

The alert on Mansi Kasliwal's phone went off at two in the morning. Shuffling off the sleep, she squinted at the message. It was from LIGO, the Nobel Prize-winning scientific collaboration that operates gravitational wave detectors.

A far-off violent event had sent ripples in space-time through the Universe, to be picked up by LIGO's sensor in Louisiana, and it looked from the data like there should be visible "fireworks", too.

Top Stories

- Italy's far-right leader Salvini to face trial
- Phone showcase cancelled over coronavirus fears
- The volunteer putting himself at risk in Wuhan

Features

- The virus that threatens everything in China
- Could written sexual consent stand up in court?

*Monitoring throughout 2019 – Source: Meltwater.

COST Action Indoor Air Pollution Network

23.2M*

10/05/2019

La Vanguardia

View the full story here:
<http://bit.ly/37i4uc5>

ESTUDIO DEL CSIC **La polución de los diésel salta a la escuela**

• Detectados altos niveles de contaminantes en los centros escolares, mientras los expertos denuncian el escaso control de sustancias peligrosas en el interior de los edificios



ANTONIO CERRILLO | 10/05/2019 16:58 | Actualizado a 17/05/2019 20:24

La contaminación del **aire interior** de los edificios puede ser superior a la que se registra en el exterior. Los datos de la

Diário de Notícias

Ex-presidente da FCT Paulo Ferrão lidera organização europeia para cooperação científica

Lisboa, 27 Jun 2019 (Lusa) - O ex-presidente da Fundação para a Ciência e Tecnologia (FCT) Paulo Ferrão é o novo líder da COST, organização europeia para a cooperação na ciência e tecnologia, informou hoje o Instituto Superior Técnico (IST), onde é professor catedrático.

Paulo Ferrão, que assumiu o cargo na sexta-feira, vai cumprir um mandato de dois anos. O anúncio foi feito na reunião do Conselho Executivo da organização.

Criada em 1971, a COST apoia a criação de redes de cooperação transnacional entre cientistas, engenheiros e académicos na Europa.

Com sede em Bruxelas, na Bélgica, a organização tem 38 países-membros, incluindo Portugal.

Paulo Ferrão, especialista em energia e ecologia industrial, foi presidente da FCT, principal entidade que financia a investigação científica em Portugal, entre fevereiro de 2016 e abril de 2019. De 1996 a 2016 foi diretor do Programa MIT-Portugal.

RENovar? SIM POR FAVOR!

Não Perca

- DINHEIRO: Bruxelas põe Estado português em tribunal por causa do ISV
- DINHEIRO: Pausas para café e cigarros? Empresas portuguesas podem descontar no salário
- DINHEIRO: Tribunal espanhol dá razão à Galp. Pausas para café e cigarros podem ser...
- DINHEIRO: Liberty fecha quase todos os escritórios e avança com despedimentos
- DESPORTOS: Surfista Alex Botelho está "estável" após ser tirado inanimado das ondas da...

Vintage Chinese Style Linen Shirt

Investir au Portugal

Guide à consulter : Investissement Immobilier au Portugal Maison au Portugal

OUVRIR

New president nomination in the Portuguese national newspaper

2.32M*

27/06/2019

Diario de Noticias

View the full story here:
<http://bit.ly/31Pc4db>

Mokslas Mokslas Technologijos Gyvybės mokslas Login 2020

Sumažinkite savo elektros išlaidas.
Išgykite dalį nutulusios saulės elektrinės.



ignitis saulės parkai

Užsisakykite

DELFI Mokslas > Technologijos

Susitinkame su draugais, bet nosys – telefonuose: juose praleidžiame daugiau laiko nei atostogaujame (63)

Vytautė Merkytė
2019 m. rugsėjo 13 d. 05:30



„Būna, kad sėdi kavinėje su visais savo artimiausiais draugais, bendraujį, o akys ir rankos vis krypta į telefoną. Puikiai žinau, kad man niekas neparašė – iuk visi žmonės. kurie aalētu parašvti. sėdi su



COST Action European Network for Problematic Usage of the Internet

3.04M*

13/09/2019

Delfi web news portal

View the full story here:
<http://bit.ly/31QgHmU>

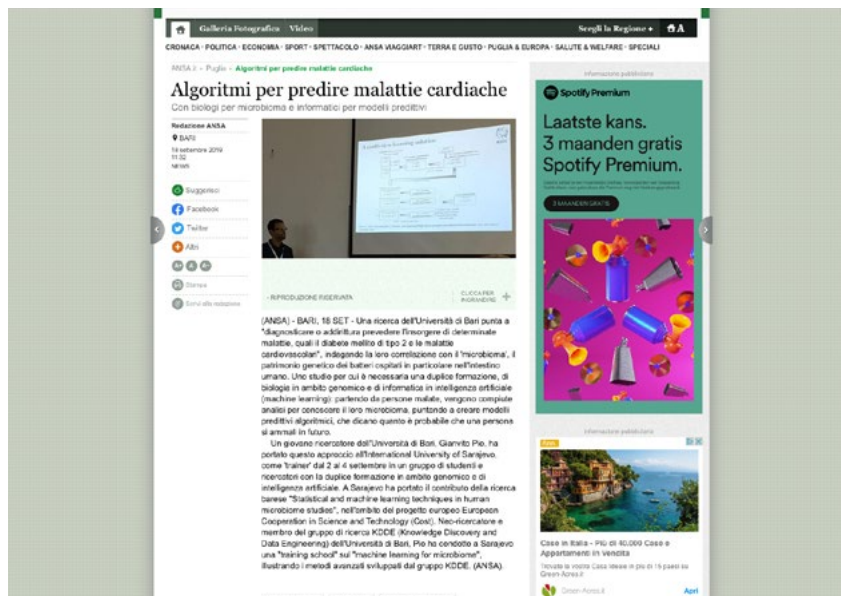
COST Action Statistical and machine learning techniques in human microbiome studies

10.2M*

16/09/2019

Delfi web news portal

View the full story here:
<http://bit.ly/39ytRHR>



Algoritmi per predire malattie cardiache
Coti biologi per microbioma e informatici per modelli predittivi.

10.2M*
16/09/2019
Delfi web news portal

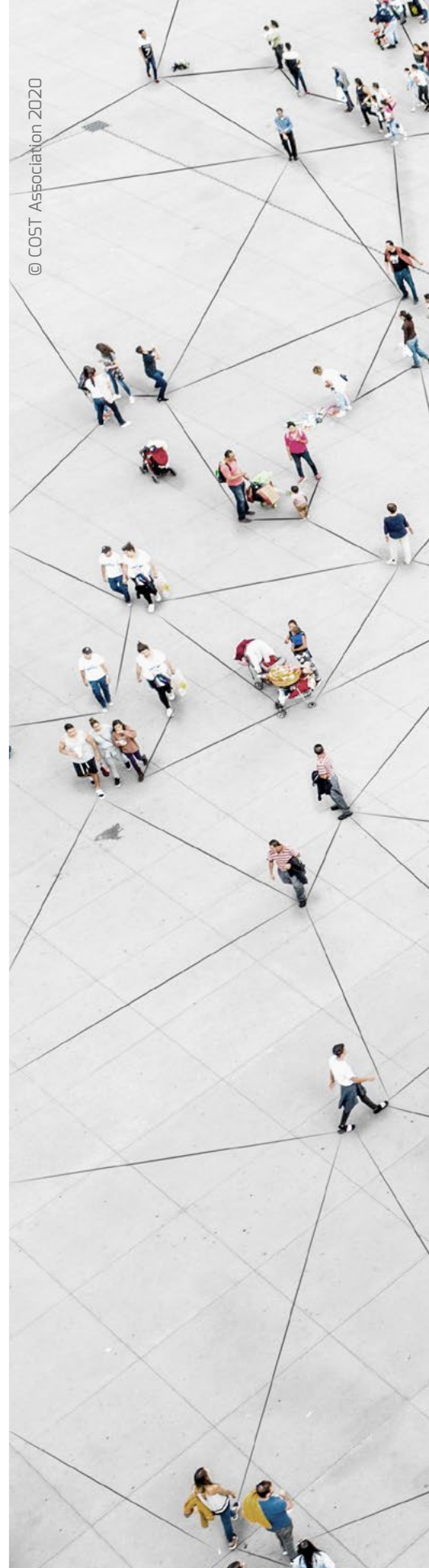
View the full story here:
<http://bit.ly/39ytRHR>

*Monitoring throughout 2019 – Source: Meltwater.

COST Association
Avenue Louise 149
1050 Brussels, Belgium
T +32 (0)2 533 3800
office@cost.eu
www.cost.eu



COST is supported by the
EU Framework Programme Horizon 2020



© COST Association 2020