Collaborative Excellence in the European Research Area

COST Annual Report 2023

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EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

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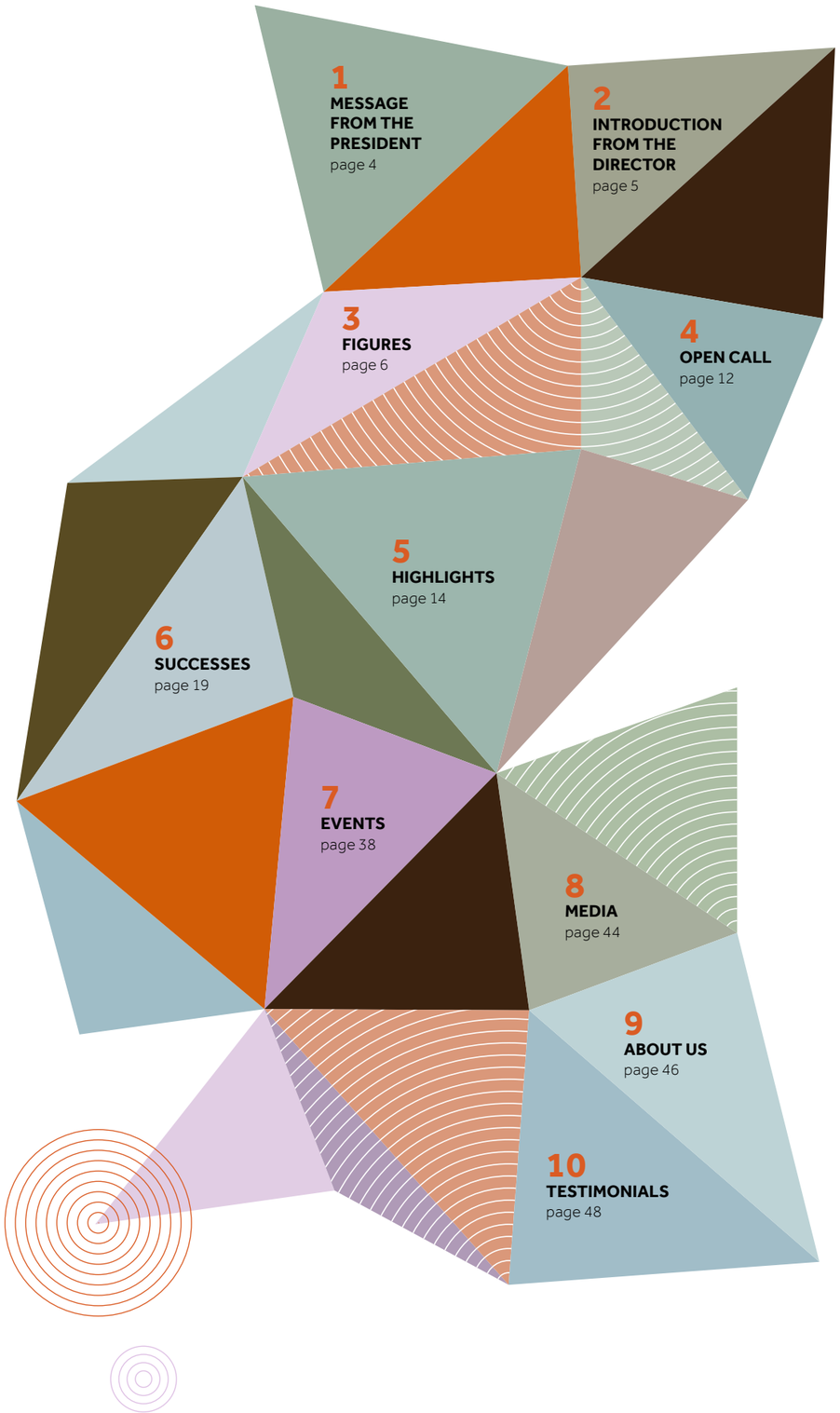

Message from the President

Collaborative research: the key to success

In my first year as COST President, I have witnessed how COST provides structural support to the European Research Area, widening the Research and Innovation base in Europe. Every year, more than 45,000 researchers are involved in COST networking activities, regardless of their career stage, country of origin, or professional background. It is astonishing how COST promotes the production of new knowledge, enhances breakthrough discoveries, and works towards circulation of both ideas and people across Europe and beyond.

As a scientist I have come to realise that individual research faces increasing limitations. International collaboration and collaborative research are now, more than ever, at the very heart of science and technology. By sharing insights, expertise, and facilities we make progress on a range of crucial societal challenges. 2023 was a year in which COST showed its strengths on the world stage by co-hosting an event at the EU Permanent Representation to the UN in New York, highlighting the excellent work of four COST Actions and their contribution to the United Nations' Sustainable Development Goals objectives. In addition, collaboration between NSF and COST helped teams make connections to leverage resources, exchange talent, and coordinate efforts in an unprecedented way. Such cooperation reduces fragmentation that arises from replicating efforts, it pools knowledge and resources, and identifies most productive pathways forward. It also lifts barriers to science by diversifying participation and removing inequities to research infrastructures.

Working together in COST Actions can lead to great success. COST remains a valuable and unique stepping stone to other EU funding schemes. Participation in COST leads to a significant follow-up in terms of the number of submitted proposals for collaborative research in the EU Framework Programmes. This translates in a success rate of 39% of these follow-up proposals and it amounts to over EUR 400 million of approved common research projects spin off from ending Actions on a yearly basis. Examples include Milena Cavic, a young researcher from Serbia, from the 'Translational Research for Prevention and Stratification of Colorectal Cancer' network who has received a Horizon Europe Twinning project and Ana Vaz Milheiro, an ERC grantee and the Chair of the COST Action 'European Middle Class Mass Housing'.

This annual report captures how COST Actions address salient scientific topics such as analysis of compound weather and climate events, focus on the world's dryland communities severely affected by climate change, and achieve better management practices and more cost-effective breeding for improved grapevine genotypes. In the Network of COST Actions against COVID-19, 76 Actions in 12 scientific fields showed how to quickly and effectively catalyse the efforts of scientists with different expertise and from different countries.

Thanks to its bottom-up, excellence-driven networks, COST offers a unique opportunity for young researchers to flourish within a vibrant and diverse community. They are encouraged to take on leadership roles within COST Actions and benefit from dedicated COST Academy trainings that boost self-confidence, motivation, and career development. COST also promotes 'brain circulation' within Europe through its highly appreciated Short-Term Scientific Missions, helping young researchers and innovators from all parts of Europe to gain collaborative, international experience.

As COST President, I am proud to say that COST continues to demonstrate its ability to adapt, guide, and strengthen collaboration between researchers and innovators to meet the scientific challenges of our time.

Prof. Salvatore Grimaldi,
President of the COST Association

Introduction from the Director

COST goes from strength to strength

The COST Actions are fully back in force, with the launch of 70 new Actions and some 3,000 participants in our first Management Committee meetings. About 90% of these new Actions are interdisciplinary. It is with great pleasure that I look back on the highly successful 2023 Open Call, where COST received 522 proposals, the second highest number ever, with an unprecedented 66% of proposers being new to the COST framework. In total, COST received proposals from main proposers in 40 European countries, which COST's inclusiveness and ability to reach researchers all over Europe. It is encouraging to see that of those main proposers, 46% are women.

COST empowers researchers at all stages of their career. This ranges from PhD students like Theo Cavalieri, who used his COST Action to collaborate with several industrial actors to develop large-scale research programmes on acoustic materials, to Nobel Prize Winners like Anne L'Huillier, who served as an active member and trainer in the 'Attosecond Chemistry' Action.

In all of our operations, the philosophy of stewardship remains central to COST. We aim to be a partner to the Actions, accompanying them along the way to achieve maximum impact. A good example of this philosophy is the COST Academy, which supports lifelong learning by teaching transferrable skills that not only benefit the Action, but also participants' career development. Especially young researchers are using this opportunity to develop critical skills for their further career. As an example, almost half of the young researchers who followed the COST Academy Leadership Programme ended up in leadership positions in new COST Actions. In addition, COST provides training in network management, communicating the results of the Action, engaging policymakers, and sustaining Action networks, to name a few. We see the results of this stewardship approach in the feedback we receive from the research community. This year's Customer Satisfaction Survey showed a steadily strong support for the COST principles and strategic objectives, while satisfaction with several aspects of COST services showed a further increase.

COST is about building bridges, and one of its particular strengths is the participation of Inclusiveness Target Countries (ITCs). On average, a COST Action has now more than three leadership positions from ITCs, and one in four Action Chairs are from an ITC. Yet, building bridges goes further than just spanning geographical barriers. COST is as well bridging the gap between science and industry, prioritising inclusive innovation through the award of 5 new COST Innovators Grants (CIGs). One successful CIG, the Software for Transnational Kidney Exchange Programmes, has developed a flexible and comprehensive software that optimises the process of kidney exchange, thus offering better perspectives for both patients and medical professionals. Thanks to the CIG, complementary funding from the ERC and industry partners has been achieved.

The examples just mentioned are just a few of the many successes the COST Actions have achieved over the last year. All in all, I am very confident that COST will continue to be a leading example in the European Research Area.

Dr Ronald de Bruin,
Director of the COST Association

Main Figures

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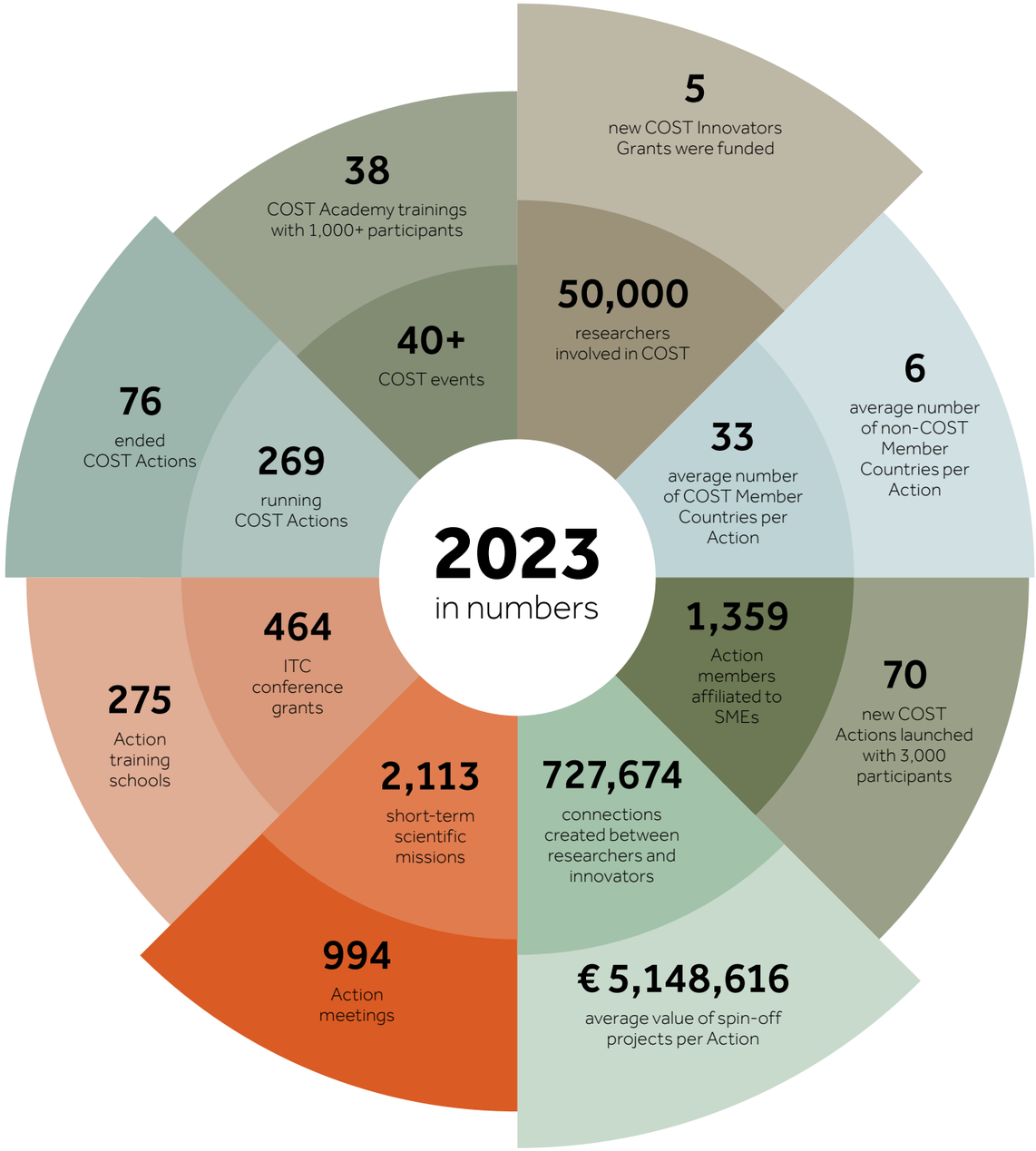
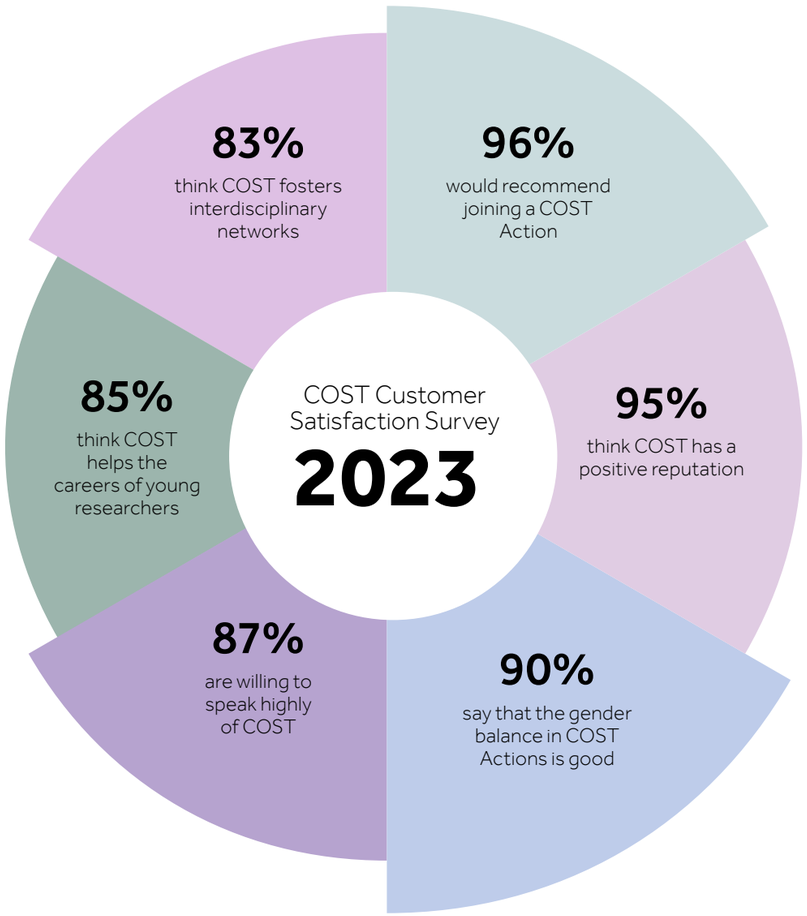
Annual Report 2021

Annual Report 2020





Financial overview

COST is financed as a Coordination and Support Action (CSA) in the form of Multi-Annual Specific Grant Agreements (SGAs) within a seven-year Framework Partnership Agreement (FPA) under Horizon Europe. The budget dedicated to COST stems from the Work Programme 11 Widening participation and strengthening the European Research Area. The total contribution in the first Multi-Annual Specific Grant Agreement (three years) totals EUR 153 million.

The second year of the Multi-Annual SGA covers the period from November 2022 to 31 October 2023 with a total budget of EUR 50,839,226.

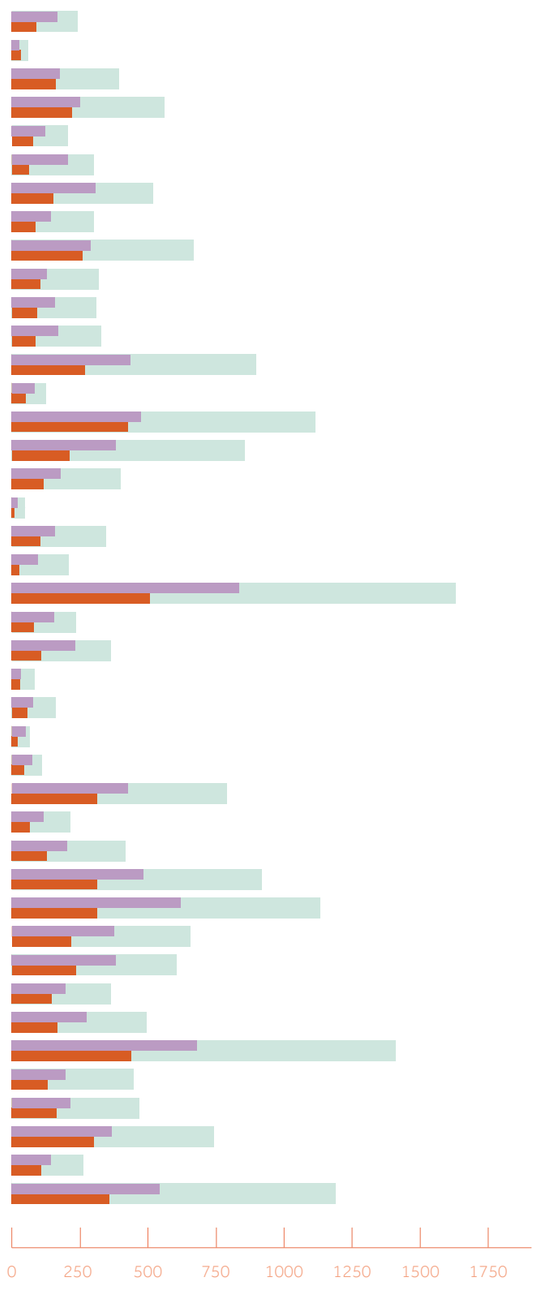
COST is a global framework whose core activity is the networking of researchers and stakeholders from public and private institutions, NGOs, industry, and SMEs. It carries out its activities on a multi-annual basis, which means the networks funded by the COST Association – the COST Actions – run for four years and are implemented under decentralised management, namely the COST Grant System.

Country participation

COUNTRY	NUMBER OF ACTIONS IN 2023 IN WHICH COUNTRY WAS ACTIVE
Albania	284
Armenia	76
Austria	285
Belgium	301
Bosnia and Herzegovina	307
Bulgaria	273
Croatia	317
Cyprus	234
Czech Republic	298
Denmark	283
Estonia	265
Finland	240
France	318
Georgia	60
Germany	336
Greece	335
Hungary	273
Iceland	142
Ireland	307
Israel	293
Italy	336
Latvia	230
Lithuania	255
Luxembourg	144
Malta	211
Moldova	191
Montenegro	152
Netherlands	302
North Macedonia	293
Norway	291
Poland	332
Portugal	339
Romania	315
Serbia	330
Slovakia	249
Slovenia	298
Spain	339
Sweden	279
Switzerland	293
Türkiye	336
Ukraine	142
United Kingdom	334

Proposers profile per country

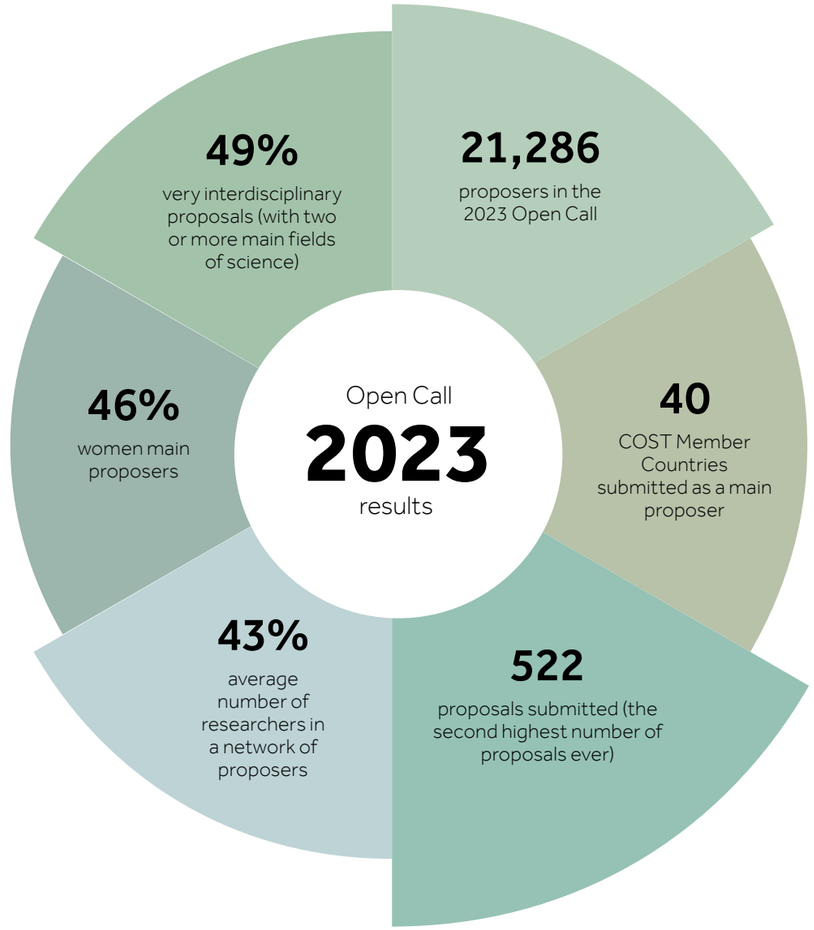
COUNTRY	MAIN AND SECONDARY	WOMEN	YOUNG RESEARCHERS AND INNOVATORS
Albania	241	167	91
Armenia	60	29	34
Austria	395	176	161
Belgium	560	251	221
Bosnia and Herzegovina	205	124	77
Bulgaria	302	205	62
Croatia	520	307	153
Cyprus	301	144	87
Czech Republic	668	290	260
Denmark	319	130	106
Estonia	310	160	92
Finland	329	172	86
France	898	436	269
Georgia	126	83	51
Germany	1116	475	427
Greece	856	383	211
Hungary	400	180	118
Iceland	49	23	11
Ireland	345	160	106
Israel	209	96	29
Italy	1629	836	508
Latvia	235	156	82
Lithuania	363	234	108
Luxembourg	83	33	31
Malta	163	78	56
Moldova	67	50	22
Montenegro	112	74	45
Netherlands	789	426	315
North Macedonia	215	117	66
Norway	417	204	130
Poland	917	483	314
Portugal	1132	620	313
Romania	655	375	217
Serbia	606	383	235
Slovakia	364	197	148
Slovenia	496	275	167
Spain	1410	681	438
Sweden	449	197	133
Switzerland	468	214	164
Türkiye	743	367	301
Ukraine	264	145	109
United Kingdom	1190	544	359



Open Call

Open Call oc-2023-1

Open Call oc-2022-1



Highlights

Calendar

JANUARY

First joint initiative with EIT and COST to further support researchers and innovators

The COST Association, in collaboration with the European Institute of Innovation and Technology (EIT), organised a workshop to assist COST Innovators Grant recipients in preparing applications for the EIT Jumpstarter scheme.

After signing a Memorandum of Understanding last year, both institutions agreed to share their initiatives to support researchers and innovators in identifying areas of collaboration based on common interests.

FEBRUARY

COST Action research open to the world via Open Research Europe

To ensure that the scientific and technological results, outcomes, and impacts of COST Actions are widely shared with the research and innovation community, COST Actions have been invited to submit their network's research to Open Research Europe (ORE), the European Commission's Open Access publishing platform for research.

MARCH

Impact Assessment Study on Short-Term Mobility

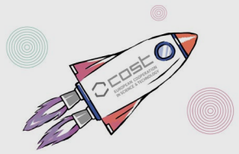
To gain a better understanding of STSMs and their contributions to the Actions, the COST Association commissioned an Impact Assessment Study on Short-Term Mobility. The study confirmed that COST STSMs are a valuable tool in enhancing research collaborations and knowledge exchange. They can have a profound impact on individual researchers, host institutions and COST Actions, and provide opportunities for researchers from Inclusiveness Target Countries (ITCs).

APRIL

COST Connect on Ageing in Europe: challenges and opportunities

This COST Connect event provided a platform for multi-stakeholder discussions and interactions on the topic. Representatives from COST Actions active in the field, as well as the European Commission, the European Institute of Innovation and Technology (EIT), and other stakeholders attended the event to raise questions and discuss potential opportunities with frontline researchers.

MAY



70 new COST Actions approved

The COST Committee of Senior Officials (CSO) confirmed the funding of 70 new COST Actions, which began in Autumn 2023.

JUNE

COST meets Near Neighbour Country representatives to boost collaboration

The purpose of the meeting was to update the Near Neighbour Country (NNC) representatives on the COST Programme, promote best practices, and express gratitude to these representatives for their work and commitment to making COST more visible and accessible to their research communities.

JULY

The COST Association welcomes Prof. Salvatore Grimaldi, the new COST President

The Committee of Senior Officials appointed Prof. Salvatore Grimaldi as the new President of the COST Association. He will serve in this role until 21 June 2025.

Five new COST Innovators Grants approved

The newly funded COST Innovators Grants cover diverse areas, including a global tsunami model, effective sharing of heritage data, innovations on aerogels for a circular economy, reference material for air particulates, and a quality assurance protocol for family support services in Europe.

AUGUST

Tips for submitting a winning COST Action proposal

This new video explains how to form a winning team, emphasises the relevance and timeliness of your proposal, and showcases your expertise. It also provides guidance on how to maximise your impact on science and society and deliver tangible results throughout a 4-year COST Action.

SEPTEMBER

Customer Satisfaction Survey 2023

The COST Association Customer Satisfaction Survey shows that COST's reputation remains overwhelmingly positive. 95% of respondents acknowledge its valuable contributions towards achieving the objectives outlined in its Strategic Plan.

COST Action contributions to United Nations objectives

COST attended the Science Summit at the United Nations General Assembly in New York. We hosted a reception for the international research and innovation community at the European Union's delegation to the United Nations to showcase how COST Actions contribute to United Nation objectives.

OCTOBER

The Nobel Prize in Physics 2023

Congratulations to Pierre Agostini, Ferenc Krausz & Anne L'Huillier on their Nobel Prize win. COST is proud to have welcomed all three winners in COST Actions over the years.

Open Call oc-2023-1 initial analysis

The interim analysis of submissions to oc-2023-1 revealed that this open call received the second-highest number of proposals submitted to a COST open call. Main proposers from forty COST Member Countries submitted interdisciplinary proposals that spanned two or more fields of science. In comparison to the 2022 Open Call, there were more women main proposers.

NOVEMBER

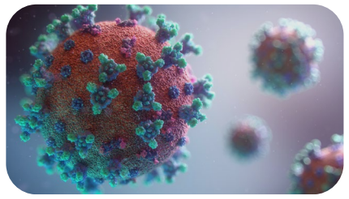
New COST Actions begin

This video demonstrates the human aspect of collaborative efforts, especially when people from diverse backgrounds unite to work towards a common vision that defines the initial stages of such collaborative initiatives.

DECEMBER

Actions against COVID-19, lessons and insights

The story of the COST COVID-19 network is an inspiring tale of resilience, teamwork, and innovation. Scientists united to confront the unprecedented challenges of the pandemic but this is not just a story about science, it is a story about humanity's collective strength in the face of the unknown.



Success Stories

Superfast science wins Nobel Prize

In October 2023, the Nobel Prize for Physics was awarded for "experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter". This burgeoning field of research and its practical application has benefitted greatly from the support of a series of COST Actions including the running Action 'Attosecond Chemistry' (AttoChem).

The 2023 prize was jointly awarded to Pierre Agostini of Ohio State University, Ferenc Krausz of the Max Planck Institute of Quantum Optics in Munich, and Anne L'Huillier of Lund University in Sweden, who is an active member of AttoChem.

COST is proud to have worked with all three Prize winners in one or more Actions that have helped build a thriving European research community in this important field.

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Prof. Anne L'Huillier of Lund University

ATTOSECONDS

An attosecond is one billionth of a billionth of a second. This is an incredibly short time: a flash of light takes around ten billion attoseconds to cross a room. But in the world of electrons, it is the time scale in which they move and change energy. To probe the dynamics of this world you need a tool that works on that same time scale of between one and a few hundred attoseconds.

For many years it was thought that such a tool would not be accessible. However, the work of the three prize winners showed that through combination of the overtones generated by the interaction of lasers passing through a gas, light pulses of attosecond duration could be generated.

The AttoChem COST Action coordinates experimental and theoretical efforts to exploit the enormous potential of attosecond techniques in chemistry. The results of this action could have a significant impact on several areas of chemistry including photovoltaics, radiation damage, catalysis, photochemistry and structure determination.

A EUROPEAN PRIZE

"I think this Action is very important," says Professor Anne L'Huillier. "I am strongly in favour of European networking, which is facilitated by this type of Action."

"There have been previous COST Actions in this field that have played a big role," she continues. "This field has been supported by COST Actions, Marie Curie networks and training sites, and before that by the European Science Foundation and this has been important to help young researchers, to support collaborations, and to ensure that people meet regularly. I am convinced this is one of the reasons that this 2023 Nobel Prize is very much a European prize. Europe is very strong in this important field and has been helped very much by COST Actions amongst other European Union activities."

In particular, Anne appreciates COST's short-term scientific mission funding, which enables younger researchers to travel for short visits to other laboratories, as very valuable to build and sustain the science community, exchange ideas and initiate collaborations.

Anne also believes that initiatives such as COST Actions might be helpful towards the daunting task of reducing the gender gap in science, and physics in particular. Only five women, including Anne, have ever been awarded the Nobel Prize in Physics since its inauguration in 1901.

"Only two women were awarded the Nobel Prize in Physics over its first 120 years or so," comments Anne. "Now there have been three more within five years, which is better, but it could be much better!"

In her Nobel Prize acceptance speech Anne highlighted the gender gap issue and said that she hoped her award would help inspire more women to be involved in physics. "The trend is that the gender gap is going to become less and less. But it takes time," she says.

"There are many women involved in the AttoChem Action," continues Anne. "And there are many incredibly good women in the field. I cannot say why but this is a field in physics where the gender gap is not so big and possibly again this type of Action and networking may help. COST Actions help ensure that young women scientists are visible and that they feel invited."

And Anne sees the research field rapidly expanding. "The AttoChem Action covers one big field in the research area – looking at the dynamics at the beginning of molecular processes – but the area is exploding into many different directions," she says. "You have chemistry, condensed matter, quantum technology, industrial applications, imaging, and many more."

Prof. Fernando Martin of the Universidad Autónoma de Madrid

CLOSE COLLABORATION

Professor Fernando Martin of the Universidad Autónoma de Madrid is Chair of the AttoChem Action and has been a close collaborator with Anne over the years and a co-author with her on several scientific papers.

Fernando is keen to highlight Anne's involvement in AttoChem. "Anne has actively participated in the Action," he says. "She has given plenary talks in our workshops and taught at our training school in Sicily that attracted over 100 participants - mainly young researchers."

He agrees that the 2023 Prize is a very European Nobel Prize. "It is 100 % European. The technology that allows one to generate attosecond pulses was developed in Europe in the late 80s and the 90s with a breakthrough, the measurement of attosecond pulses, at the beginning of this millennium," he explains. "So, then the question was how can we use these pulses? What are the possible applications? And this is where COST appears. Of course, it did not start with Attochem. There were other COST Actions before, but their focus was not exclusively on attosecond chemistry but, for example, on ultra-fast phenomena, atomic systems and materials."

"This 2023 Nobel Prize is very much a European prize"

"The very first application of the technology to molecules, related to chemistry, was a paper published in Nature in 2010," recalls Fernando. "The experiment was in Milan and Anne L'Huillier was involved as was I."

A Nobel Symposium in August 2023 gathered together thirty prominent scientists in the field to review progress. "It was amazing that eight of the authors of that 2010 paper attended the symposium," he continues. "This work opened the possibilities – showing explicitly that this technology could be used to follow the electronic motion of molecules and manipulate this electronic motion to do some exotic chemistry. This was the starting point of the AttoChem idea."

The Nobel symposium included six sessions: half dedicated to showing how attosecond pulses were developed and half to ongoing applications. "Attochem was well represented in one of the application sessions," says Fernando proudly. "Which shows you how significant the COST Action has been."

Nobel Prize Winners Symposium 2023

The AttoChem Action will come to an end in April, but new COST Actions in the field are being considered and one has recently started – appropriately entitled NEXT – which focuses on the use of free electron lasers – a new avenue of exploration for this prizewinning research area.

Read more about COST Action Attosecond Chemistry (AttoChem) here

Read more about the 2023 Nobel Prize in Physics here

Read more about COST Action An international network for Non-linear Extreme Ultraviolet to hard X-ray techniques (NEXT) here

COST: a career booster!

Analysis of COST Action membership indicates that 42% of Action participants are young researchers and innovators. The networking activities organised through COST Actions are hugely valuable opportunities for young participants to prepare for the next steps in their careers.

COST encourages younger researchers to take on leadership roles that can boost self-confidence and motivation. COST also promotes 'brain circulation' within Europe, through its highly appreciated short-term scientific missions, helping young researchers and innovators from all parts of Europe to gain international experience without the need for a permanent move from their home country.

COST is also very conscious of the need to address diversity and inclusion issues, in particular gender balance to ensure equal opportunities for career advancement.

A WELCOMING COMMUNITY

Ulf Kahlert is currently a professor of molecular and experimental surgery at Magdeburg University, Germany, but when he first joined the COST Action NANO2CLINIC he was a young independent group leader at Heinrich-Heine University Düsseldorf.

NANO2CLINIC focused on the potential use of nanomedicines as effective cancer therapies that may offer significant advantages over traditional drugs. The Action aimed to foster collaboration between academia and industry to accelerate the move of nanomedicines from the lab to become available treatments for cancer patients.

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Prof. Ulf Kahlert of Magdeburg University

"My focus at the time was looking for funding for my work on tumour models, and I was becoming interested

"The experience has taken me to a different level"

in nanomedicine," explains Ulf. "I joined the first Action meeting in Riga in late 2019 and it was like an adventure. I had little concrete knowledge of nanomedicine at the time, and I was joining a group of experts. But I took the chance and talked to people from the start. I was elected a vice-leader of one of the Action's Working Groups and was quickly part of the core group."

Ulf found that many researchers developing nanomedicines did not have links with clinicians. "This was the bridge, " he explains. "They needed clinical predictive cancer models to develop or validate their molecules, so it was relatively easy to connect."

He really appreciated the welcoming atmosphere of the Action and the support of the Action's Chair Professor Sabrina Pricl of Trieste University. "Sabrina was welcoming from the get-go," he says. "I remember discussions with Sabrina where she advised me on the focus of my research and how to achieve things. She gave me confidence that my path was right."

Sabrina also appreciated Ulf's input to the Action. "During the Action he grew a lot," she says. "He brought an enormous contribution to the Action. He was a real motor, and his personal expenditure of effort then brought him a significant reward in return."

NANO2CLINIC had a clear focus on young researchers and innovators with four of the Working Group vice leaders being younger researchers and, despite running through the COVID pandemic, organised some 93 short-term scientific missions and two training schools plus weekly hugely popular online seminars in direct response to the pandemic.

The Action also looked to have an impact at the regulatory level. "Nanomedicines are new forms of therapy and the route from laboratory to authorisation and clinical use is not straightforward," Sabrina explains. "The idea was to include nanomedicines and nanosimilars in the current review of authorisation procedures of medical products by the European Commission to ensure people know what you have to do."

The Action proposed amendments to the procedures and regulations and supplied supporting data. The Commission's proposal for a new directive in the area was published in April 2023 and is currently under consultation with the European Parliament and Council.

INTERNATIONAL MOBILITY

COST Action 'European Network on International Student Mobility: Connecting Research and Practice' (ENIS) is a large Action with more than 300 members. "It just keeps on growing," says Dr Christof Van Mol of Tilburg University, the Action's Chair. "We receive new applications to join every week."

Dr Christof Van Mol of Tilburg University

Organising such a large group, while remaining open and transparent could be challenging. "Fortunately, we have a good team of core members who manage the day-to-day activities and share the burden, " Christof explains. In addition, the Action quickly established clear rules, for example on reimbursement, to ensure opportunities were not limited and to avoid unnecessary friction.

The Action also developed a Gender Inclusion Action Plan. "From the very beginning of the Action we noted the persistent gender inequalities in research and also in corporate sectors," says Christof. "We addressed this by making sure all the leadership positions had an equal gender distribution and we also created some Top-up family grants for members with caregiving roles."

The Action started from the observation that there were a lot of people working on international student mobility that were not connected. In particular there was a lack of engagement between research and practice.

To help start building bridges the Action developed short policy briefs summarising relevant insights in a specific area and sent these to stakeholders. The Action also sought input from stakeholders on what knowledge they needed. This resulted in a co-creation process that has so far produced five Policy Briefs that are having an immediate impact.

"My involvement with COST changed my career quite a bit," concludes Christof. "The wonderful thing about COST is that it allows you to support so many other people's careers, which in terms of personal satisfaction is a great feeling. This also means that everyone knows me and, indirectly, I get more invites to talk and contribute to papers etc, so this has had a massive impact on my profile."

RADIATING SUCCESS

Another large Action is COST Action 'Multiscale Irradiation and Chemistry Driven Processes and Related Technologies' (MultIChem) that brings together some 200 researchers from 39 countries to improve the fundamental understanding of physicochemical processes induced by radiation in various molecular and nano-systems.

Participants of the MultIChem meeting in Boppard, Germany

The Action Chair is Dr Alexey Verkhovtsev of the MBN Research Center in Frankfurt and although the Action is only roughly halfway through, he already sees three principal accomplishments.

"Firstly, we have formed a European community of experts drawing from the many different research fields in this area including radiation physics and chemistry; computational modelling; atomic and molecular physics; biophysics; radiation biology; materials science; and nanotechnology, as well as industrial partners and representatives of radiotherapy centres," he says.

"Secondly we have organised a large number of different activities to maintain the right momentum," Alexey continues. "This includes two annual conferences and three training schools for young researchers. This is an important aspect of the Action: training the next generation of researchers."

The third achievement is the development of a comprehensive roadmap that provides an overview of this highly interdisciplinary research space. "The roadmap highlights several examples of recent advances in this field and also provides guidelines for the development of the research area for the next five to ten years," says Alexey.

The roadmap was authored by a large group of MultIChem participants and was submitted for publication in December 2023. "It is already available as a preprint online and is expected to be published in 2024," continues Alexey.

"Chairing the Action has helped me to improve different skills, especially in terms of communication and coordination skills. The experience, together with the constant feedback and advice from more experienced colleagues, has taken me to a different level," concludes Alexey.

Read more about COST Action Cancer nanomedicine - from the bench to the bedside (NANO2CLINIC) here

Read more about COST Action European Network on International Student Mobility: Connecting Research and Practice (ENIS) here

Read more about COST Action Multiscale Irradiation and Chemistry Driven Processes and Related Technologies (MultIChem) here

Western Balkans double up

Five Western Balkan countries are COST Members and are increasingly active in Actions. Serbia and Bosnia and Herzegovina are long-term members having joined in 1991, followed by North Macedonia in 2002, Montenegro in 2015, and Albania in 2018. Kosovo[1] is a COST Near Neighbour since 2018.

All six have small but vibrant research communities and their growing involvement in COST activities is highlighted by the doubling of their participation since the beginning of Horizon 2020.

Involvement in COST is a great opportunity for the scientific communities of the Western Balkans, and young researchers and innovators in particular, to benefit from training opportunities, capacity building and career growth.

Participation can also provide the springboard to becoming involved with further research and innovation funding opportunities in other European programmes. A range of EU-funded mechanisms have been developed over the last 50 years that have successfully connected pockets of excellence across Europe, including the Western Balkans, deepening and reinforcing the European Research Area.

OPPORTUNITY TO COMMUNICATE

Dr Lejla Gurbeta Pokvić is a Director at the Verlab Research Institute in Sarajevo and is the Science Communication Coordinator for the COST Action '3Rs concepts to improve the quality of biomedical science' (IMPROVE). This Action is establishing a network dedicated to the refinement, harmonisation and promotion of the 3Rs (Replacement, Reduction, Refinement) concepts in animal testing to improve the quality of biomedical science.

"I am by training an electrical engineer," says Lejla. "But I got my PhD in Biomedical Engineering so that interested me in getting involved with this Action." She was already working on some international projects and knew Professor Winfried Neuhaus, Chair of the IMPROVE Action. "He contacted me to be involved in the Action because Bosnia and Herzegovina doesn't currently have 3R centres and our team is good at networking in the country."

Lejla participated in writing the Action proposal and after its approval Professor Neuhaus suggested that, as Lejla was young, motivated and with some experience in science communication, she should apply to be the Action's Science Communication Coordinator.

"So basically, what I try to do is translate the very complex scientific research findings to be understandable for the general public," says Lejla. "I am in my early 30s, so it is a huge responsibility for me and was a huge leap into the unknown."

A main benefit of her involvement in IMPROVE has been training on leadership skills and especially communication expertise. "The media training helped me to understand what specific aspects I should pay attention to, for example, when doing an interview, and how to say something informative – but easily understandable – in just a couple of minutes," Lejla explains.

Lejla sees benefits for herself personally but also for Bosnia and Herzegovina. "I got to expand my professional network throughout Europe, but what is more beneficial is that I got to be recognised by my colleagues in Bosnia and Herzegovina as someone who can help connect with European partners," Lejla explains. "And through holding an IMPROVE meeting in Bosnia and Herzegovina we raised awareness on 3Rs and opened a new field for researchers in the country."

MACHINE LANGUAGE

The 'Enabling multilingual eye-tracking data collection for human and machine language processing research' (MultiplEYE) COST Action is bringing together research groups with the objective to create a comprehensive multilingual eye-tracking database. For Dr Evis Trandafili of the Polytechnic University of Tirana the Action is her first-ever engagement with COST.

Dr Evis Trandafili of the Polytechnic University of Tirana (in red)

"I had a part in writing the Action proposal as it aligned with my previous research background," she says. "When it was approved, despite being still a young researcher, I was appointed a Management Committee Member for Albania and later took a leadership position as the Science Communication Coordinator."

> *"I am grateful for the independence COST provides"*

"At that point it was all new to me," she confesses. "But the science communication leadership role made me grow professionally – it was like a school to me. My participation in MultiplEYE made me see things from a new perspective - to see the vital connection between research leadership and science communication and dissemination."

And Evis took full advantage of the training opportunities offered through the Action. "I have attended several trainings at the COST Academy and every time it has been an invaluable experience," Evis says. "My latest training was on WordPress, which gave me a practical skill that will help reduce costs and enable better management of the Action website." Like Evis, 44% of young researchers who followed the leadership programme of the COST Academy ended up in a leadership position.

Through the Action Evis has progressed personally but her institution has also benefited. "Traditionally universities in Albania have relied on formal publication channels for dissemination, but today we must increase the visibility of research to inspire students and researchers and enhance the reputation of academic staff and the universities," explains Evis. "It is not easy to make changes in a conservative culture, but I have managed to raise awareness and develop a new communication and dissemination strategy within my institution, which is a novel thing for public universities in Albania."

The COST Academy support the lifelong learning by teaching transferrable skills that not only benefit the Action, but also participants' career development.

CHINA CALLING

Europe's relationship with China is a multifaceted, complex and often controversial topic and is the subject of COST Action 'China In Europe Research Network' (CHERN). This Action aims to pool existing research and knowledge on China's deepening ties with Europe to establish a more holistic view and help formulate effective policy responses and enable constructive engagement with China.

1 This designation is without prejudice to position on statues, and is in line with UNSCR 1244/199 and the ICJ Opinion on the declaration of independence.

Jelena Gledić from the University of Belgrade is a Serbian Management Committee Member and also Science Communication Coordinator for the Action.

Dr Jelena Gledić of the University of Belgrade

"As well as the usual benefits which one gets from any kind of international project, such as extending your international network, I am grateful for the independence COST provides," says Jelena. "The bottom-up mechanisms that COST has, minimises the red tape required for reimbursement and other administrative aspects."

"I was able to connect not only with scholars but also business people and policymakers and to understand better how science feeds into the more practical aspects of how society works - and all of this at a very interesting time in EU-China relations," she continues.

"This is my main field of interest and I have benefited immensely from the Action."

Specifically, the science communication role has opened a new direction for Jelena. "Through the role I have found a new vein of interest which is this gap in science communication when it comes to sensitive topics - such as China and also race and gender – where many people have strong opinions."

Due to COVID most of the COST Academy trainings Jelena experienced were online. "But that meant I could do all of them – which was amazing!" she says. And in each session, she could ask for specific advice on CHERN's communications issues. "The usual examples given from astronomy or biology are not appropriate when people have a lot of opinions and the advice was to look into crisis communication, which is a completely different area of communication," says Jelena.

The CHERN Action is ending in May, but Jelena is working on a COST Innovator Grant application to continue work on issues around polarisation in communication involving vital societal issues.

Read more about COST Action 3Rs concepts to improve the quality of biomedical science (IMPROVE) here

Read more about COST Action Enabling multilingual eye-tracking data collection for human and machine language processing research (MultiplEYE) here

Read more about COST Action China In Europe Research Network (CHERN) here

Excellent synergy

The European Research Council (ERC) and COST both contribute to the free flow of ideas and researchers across Europe. And both share a philosophy that welcomes individuals regardless of their scientific field, career status, or country of origin. The ERC has a focus on scientific excellence, while COST has a unique bridging role bringing together researchers and innovators to share and develop ideas with their peers.COST networking activities function as a stepping stone for complementary funding schemes covering all parts of a research career from Erasmus+ all the way to ERC Grants helping promising young talent to access and exploit these schemes.

HIGH IMPACT

Professor Wim Thiery is a climate scientist in his mid-thirties at the Free University of Brussels and was awarded an ERC Consolidator Grant for work on climate risk and impact attribution in November 2023. He has participated in two COST Actions: as the Science Communication Coordinator in COST Action 'Understanding and modelling compound weather and climate events' (DAMOCLES) and currently in COST Action 'Process-based models for climate impact attribution across sectors' (PROCLIAS).

Both Actions are closely linked to the work the ERC grant will support and Wim is clear that involvement in them was extremely influential in his successful ERC proposal.

"The first Action, DAMOCLES, looked at compound climate and weather events, when a combination of climate hazards occurs simultaneously or consecutively at different locations increasing risks," says Wim. "This was a very successful Action that really brought the community together on a very new topic that had not been on the radar of climate scientists and disaster experts."

Prof. Wim Thiery of the Free University of Brussels

The second Action, PROCLIAS, simulates the impacts of climate change with the goal to improve the modelling of these impacts on different sectors of society. "This Action brings together modelling teams and also statistical expertise to enable the identification of the human imprint on, for example, river floods, crop failures or wildfires - we want to quantify how much manmade climate change has affected these sectors," explains Wim. "My ERC project benefitted tremendously from both these Actions."

Wim's ERC project will study the impact of climate change across the lifetimes of different generations and to do this requires bridge-building between communities working on climate science, climate impact modelling and demography. "Both Actions enabled me to link up with key experts extending my personal network. The exchanges with these scientists were a key source of inspiration to develop my ideas for the ERC proposal," says Wim.

"Participation in my COST Action was really career-changing"

CAREER CHANGING

"Participation in my COST Action was really career-changing," claims Dr Ainhoa Martinez Medina. "At that moment I was an early-stage researcher, and it was a super important opportunity for me to be able to connect with important people in the field in a relaxed, informal environment. The atmosphere is very inspiring and allowed me to open my brain."

Dr Ainhoa Martinez Medina of the Institute of Natural Resources and Agrobiology in Salamanca

Ainhoa was also a recipient of an ERC Consolidator Grant in November for her project 'Exploring the Molecular Imprint of Microbe-Induced Plant Resistance in Plant-Associated Communities'. She is currently the Leader of the Molecular Agroecology Laboratory at the Institute of Natural Resources and Agrobiology in Salamanca, but in 2015 she was a researcher at the German Centre for Integrative Biodiversity Research in Leipzig and joined the COST Action CAMo.EU looking at interactions between plants, microbes and arthropods to enhance crop protection.

Ainhoa was the Science Communication Coordinator for the Action. "This was very important and also a lot of work, but it gave me great visibility," says Ainhoa. "You had to deal with many Action members, but all the members also knew who I was. And I learnt a great deal about communication and organisational skills."

Ainhoa remained in contact with many of the networks she established during the Action, and this was extremely helpful when she was thinking about her ERC project and developing the proposal. "They were like scientific mentors to me. We could discuss my ERC idea and they gave me lots of feedback," she says. "It was like a ready-formed support group."

INDIRECT LINKS

Professor Heidi Stöckl is Professor of Public Health Evaluation at Ludwig-Maximilians-University in Munich and before that she was a professor and Director of the Gender Violence and Health Centre at the London School of Hygiene and Tropical Medicine.

She is also the recipient of two ERC grants. The first was an ERC Starting Grant in 2017 to study predictors of intimate partner violence in a cohort of Tanzanian women that helped shape future global programmes to improve the lives of women and their families. The second, awarded in November 2023, is an ERC Consolidator Grant to investigate maternal and paternal risk factors for violence during pregnancy. She was also a very active memFber of the COST Action 'Femicide across Europe' that ran from 2013 to 2017.

"The COST Action definitely had an indirect link to the ERC grants through creating networks," Heidi says. "It was really useful to meet other people interested in quantitative research and with different perspectives who I otherwise would never have met."

Prof. Heidi Stöckl of Ludwig-Maximilians-University in Munich

"The Action helped in terms of the publications output," she continues. "And it also gave me more maturity on certain things, like how to collaborate in publications with lots of different authors. It also gave me knowledge on networks and how to work with others to maximise the benefits for everyone."

Heidi has fond memories of the group meetings during the Action, especially the smaller ones, and the social interactions. "These personal discussions on career advice or how you position yourself were very valuable to me. And gave me the confidence to actually go for high-level proposals like the ERC grants," she concludes.

QUANTUM LEAP

Another recent recipient of an ERC Consolidator Grant is Professor Nicola Poccia of the Leibniz Institute for Solid State and Materials Research Dresden (IFW-Dresden) for work on 3D Cuprate Twistronics as a platform for high-temperature topological superconductivity.

He is also an active participant in the running COST Action 'Superconducting nanodevices and quantum materials for coherent manipulations' (SUPERQUMAP), but his journey towards the ERC grant starts in an earlier COST Action 'Nanoscale Superconductivity: Novel Functionalities through Optimized Confinement of Condensate and Fields' (NanoSC -COST), that ran from 2012 to 2016.

Prof. Nicola Poccia of the Leibniz Institute for Solid State and Materials Research Dresden

"My first interaction with COST was at a training school organised in Rhodes called Vortex VIII," says Nicola. "I was a postdoc and it was for sure a very important moment in my career."

At the time Nicola was working on the physics of conventional superconductors. "During the school I met a renowned scientist, Valerii Vinokur, who I was able to share my data with and he noted some interesting features," he continues. "This helped me to discover an important effect in terms of the critical behaviour of the vortex states in superconductors that eventually led to a publication in Science."

Nicola focused on these novel superconductor architectures and how their physical configuration leads to the generation of interesting phenomena that could lead to applications in quantum technologies. Creating these "weird architectures" led him subsequently to Harvard to construct novel technologies for manipulating more complex superconducting materials in "lego twisted architectures" and to the ERC Consolidator grant.

The Action was also the spark for a joint professorship that Nicola is now starting between his institute in Dresden and the University of Naples "Federico II" where he will be helping to establish the Italian superconducting quantum computing node.

Read more about COST Action Understanding and modelling compound weather and climate events (DAMOCLES) here

Read more about COST Action Process-based models for climate impact attribution across sectors (PROCLIAS) here

Read more about COST Action Using three-way interactions between plants, microbes and arthropods to enhance crop protection and production (CAMo. EU) here

Read more about COST Action Femicide across Europe here

Read more about COST Action Superconducting nanodevices and quantum materials for coherent manipulations (SUPERQUMAP) here

Read more about COST Action Nanoscale Superconductivity: Novel Functionalities through Optimized Confinement of Condensate and Fields (NanoSC -COST) here

COST Actions Fighting Interstitial Lung Disease

Imagine a world where breathing is a luxury and coughs the sound of an inner battle. Interstitial Lung Disease (ILD), a condition characterised by inflammation and fibrosis, is a major cause of severe respiratory illness and can occur in children. While researchers have made progress in slowing the disease in adults, the situation for children remains grim: there are currently no effective treatments, and lung transplantation is their only hope for survival.

To enter the world of ILD is to enter a dark maze. Scientists are struggling to understand the natural history of the disease and its many forms, and the effectiveness of the treatments that have been discovered leaves much to be desired. ILD varies with age. Affected children often suffer from the moment of birth and die within months if they cannot receive a lung transplant. In adults, the progression of the disease is different, with symptoms starting subtly but worsening rapidly, typically resulting in death after just three to five years. Not only when the disease strikes, but who is at risk of developing it varies widely, even within families, adding another twist to the search for a solution. Researchers know that genetic factors and mutations play an important role, but the rarity of these mutations makes it difficult to accumulate the kind of knowledge that could point the way to more effective strategies. With so many layers of complexity to consider, scientists are forced to look for common factors that promise broader applicability. Prof Killian Hurley, Chair of Open-ILD at the Royal College of Physicians and Surgeons, sheds light on this complex issue.

The ground-breaking initiative *Open-ILD* (An Open Access Repository of Pluripotent Stem Cells from Children and Adults with Interstitial Lung Disease) took centre stage following the completion of the COST Action *ENTeR chILD* (European Network for Translational Research in Children's and Adult ILD). Working with organisations of patients, and a network of clinicians and scientists, this project secured a COST Innovators Grant. The vision was ambitious: to create a Europe-wide, open-access resource of patient-derived stem cells, intricately linked to patient data. The result was transformative, as Open-ILD helped to develop a robust preclinical model of ILD, leading to accelerated drug development pipelines and a reduction in toxic side effects.

Prof. Killian Hurley, of the Royal College of Physicians and Surgeons

BETWEEN TRANSPLANTS AND DRUGS

For adults, there are currently only two drugs that slow the rate of decline in lung function, but they are unable to stop the disease from progressing, let alone offer a cure. And even this benefit is often accompanied by side effects, some of which, such as nausea or diarrhoea, are very close to the side effects of chemotherapy. "Because of these severe side effects, many patients stop taking their medication," says Killian Hurley, "so we need better treatments for these patients".

Open-ILD meeting in Dublin

For children, treatments include steroids and hydroxychloroquine, but there is much uncertainty about the best approach. While lung transplantation remains a viable option, it trades one set of challenges for another and offers an average life expectancy of only five years post-transplant. According to Professor Hurley, "Transplantation is a balance of benefits and risks. And so, it's a very personal, individual decision for each patient as to whether it's a good choice for them".

The financial burden is significant, with drug costs ranging from € 20,000 to € 30,000 per year per patient for adults, and intensive care and follow-up costs for children.

A STANDING OVATION FOR RESILIENCE

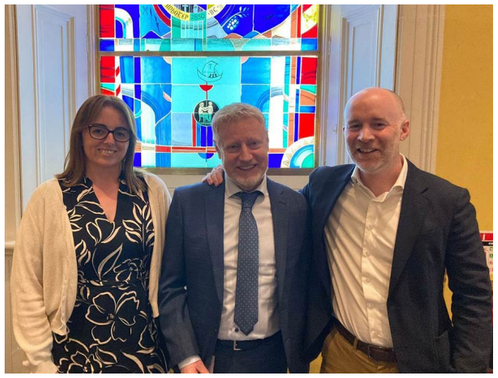
The story of Open-ILD is intertwined with personal experience, where passion meets purpose. Killian Hurley tells the powerful story of a patient with a rare form of genetic lung disease. "This patient, not only a double lung transplant survivor but also a marathon runner, embodies resilience", says Killian.

"He gave an amazing talk about his life, how his family was affected by the disease and how he overcame these challenges in his life. He went on to have a lung transplant and has run several marathons to raise money for research into better treatments. He is an inspirational person and at our meeting, there was a standing ovation for several minutes after he spoke. We continue to meet, and he has helped many other patients cope with their lung disease", concludes Killian.

This patient's stem cells of are now the focus of research to develop a targeted drug for him and his family. The standing ovation reflects the profound impact of these stories and inspires commitment to a collective effort.

ENTER-CHILD AND OPEN-ILD: FROM VISION TO REALITY

The achievements of ENTeR-chILD and Open-ILD have gone beyond simply raising awareness, as important as that is, and have succeeded in driving research efforts worldwide. With over 300 participants, including doctors, scientists and affected families, ENTeR-chILD has developed protocols for clinical trials and initiated two such trials in the last five years. A major achievement has been the creation of a web-based biobank, chILD-EU, for the secure storage of medical data, identification details and biomaterials. It is freely accessible to all participants and prioritises patient wellbeing by incorporating quality of life questionnaires.



Prof. Hurley with a patient attendee at the Open-ILD meeting in Dublin

ENTeR-chILD evolved into Open-ILD with the support of a COST Innovators Grant. This follow-on project focused on genetic causes and building a model to unravel the complexities of genetic pulmonary fibrosis. This innovative testing platform, using patient-derived stem cells, accelerated drug discovery for interstitial lung disease. What's more, Open-ILD has fostered collaboration between scientists and physicians and helped to amplify the voices of patients.

EUROPE-WIDE COLLABORATION IN THE DESIGN OF BETTER TREATMENTS

The research landscape is further strengthened by the European Research Council Starting Grant STARTEL, which was awarded to Prof Hurley and seeks to identify new personalised treatments for patients with pulmonary fibrosis. This five-year project will develop innovative stem cell models to test the effectiveness and understand the potential side effects of new treatments before administration to patients.

Participants of the Open-ILD meeting in Dublin

The sharing framework and research network established by the Open-ILD COST Innovators Grant has also supported a European consortium successfully funded by a Horizon Pathfinder Grant called POLINA. Based on the understanding that cell behaviour is dependent on the environment, a part of this ambitious project led by Prof Andreas Heise in the Royal College of Surgeons in Ireland aims to develop new testing platforms for interstitial lung disease and to design biocompatible materials that mimic the conditions inside a patient's body. Such materials would facilitate the use of high-throughput screening (HTS), allowing researchers to test many drug candidates simultaneously.

TOWARDS A FUTURE OF HOPE: SPECIFIC TREATMENTS ON THE HORIZON

In the dawning era of precision medicine, the focus is shifting to the development of drugs tailored either to individual patients or to specific genetic mutations. Inspired by the success story of cystic fibrosis, where gene-targeted drugs have transformed outcomes, scientists are hoping for similar breakthroughs in interstitial lung disease.

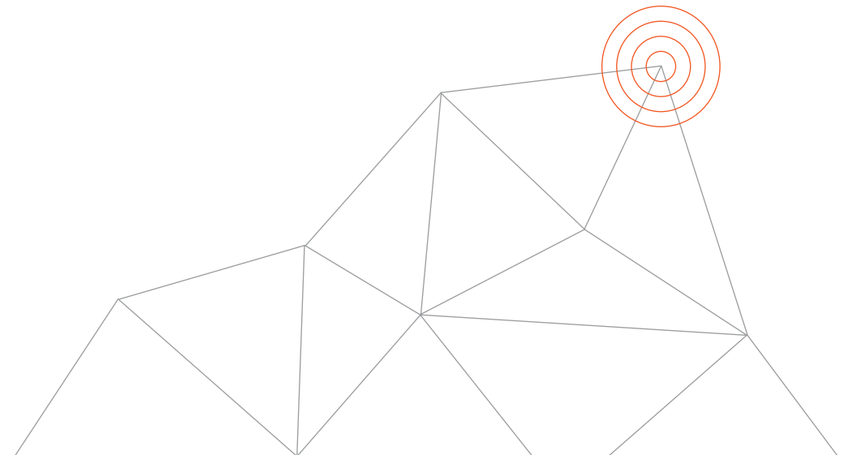
As the journey continues, the vision is clear: within three to five years, says Professor Hurley, the prospect of targeted treatments will usher in a new era of hope for patients with interstitial lung disease. Open-ILD remains at the forefront, not just as a research initiative, but as a testament to the power of collaboration, resilience, and the pursuit of transformative treatments.

Read more about Open-ILD (An Open Access Repository of Pluripotent Stem Cells from Children and Adults with Interstitial Lung Disease) here

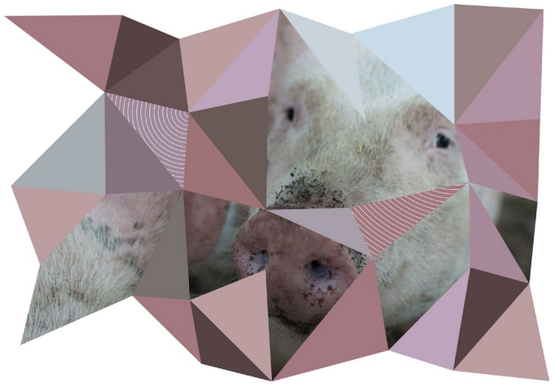
Read more about ENTeR chILD (European Network for Translational Research in Children's and Adult ILD) here

Starting Grant | ERC (europa.eu)

ERC Starting Grant success amongst COST participants



From stable to table: just how safe is our meat?



Europe has experienced several meat-industry scandals over the years, including Mad Cow disease from 1986 to 2001, the horse meat scandal in 2013, and Germany's Listeria outbreak in 2019, which resulted in several deaths. What measures are being taken to address these issues?

COST interviewed Dr Bojan Blagojevic, a scientist at the forefront of meat control and Chair of 'Risk-based meat inspection and integrated meat safety assurance' (RIBMINS) COST Action, about the future of food safety, his COST Action, and why the next food scandal is inevitable. Read more here.

Colorectal cancer – can it be cured? Answers from COST Action TRANSCOLONCAN

Colorectal cancer (CRC) is a significant global health concern that affects millions of people worldwide and is the second leading cause of cancer-related deaths. Although it can affect anyone, it is most commonly found in individuals over the age of 50. Early detection and treatment are crucial in combating this disease, making regular screening an essential step. A healthy lifestyle, including a high-fiber diet and regular exercise, can also help reduce the risk.

This interview discusses the accomplishments of the research network 'Identifying Biomarkers Through Translational Research for Prevention and Stratification of Colorectal Cancer' (TRANSCOLONCAN), in the fight against CRC. Dr. Sergi Castellví-Bel, Chair of the Action, shares insights on the significant progress made in identifying novel biomarkers for CRC and the future of this exciting field of research. Read more here.

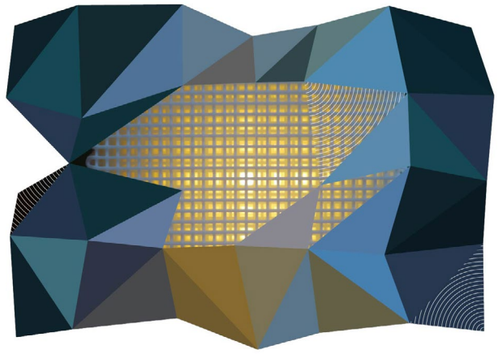
COST CephsInAction's Octopus Teacher

Cephalopods are truly unique creatures, with their alien-like appearance and impressive cognitive abilities. They have been studied for their remarkable abilities to regenerate tissues, learn from each other, and use tools. These animals play a crucial role in the ecosystem and are a source of inspiration for scientists and the public alike. They have the potential to teach us so much.

In this article, Dr Giovanna Ponte, Chair of the COST Action 'A network for improvement of cephalopod welfare and husbandry in research, aquaculture and fisheries' (CephsInAction), shares her insights into the world of octopuses, their significance, and the importance of preserving these amazing creatures. Read more here.

DENORMS: for the future of noise control

Excessive noise can cause serious health issues such as hearing loss, increased stress, and even heart disease. However, there are innovative solutions that offer hope for a quieter and healthier world. One of the most promising solutions is acoustic metamaterials, which have a wide range of applications. These materials can insulate aircraft engines and soundproof homes, among other possibilities. Thanks to researchers such as Dr Theo Cavalieri, a young scientist from the 'Designs for Noise Reducing Materials and Structures' (DENORMS) COST Action, we are gaining a better understanding of the potential of this revolutionary technology. Read more here.



COST Action Blog: SeaWheat present why and how you should be eating more Ulva

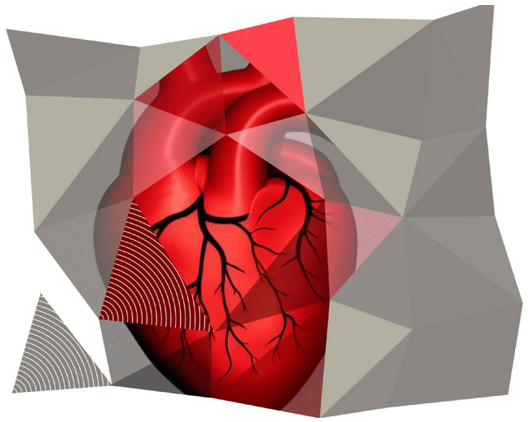
It is widely acknowledged that climate change is putting pressure on food production. When we consider the impact of droughts, floods, and heatwaves, along with the fact that world food production needs to increase by 70% to feed the global population by 2050, it becomes clear that we must explore alternative food sources and production methods. Have we considered our oceans? Seaweed offers a new, sustainable food source and bioproducts for both human and animal consumption.

The COST Action 'Wheat of the Sea: Ulva, a model for innovative mariculture' (SeaWheat), aims to introduce Ulva as a new, sustainable, and safe food item to the traditional European diet and taste. Its goal is to promote a green economy by increasing Ulva mass production and utilisation within the European community and beyond. Read more here.

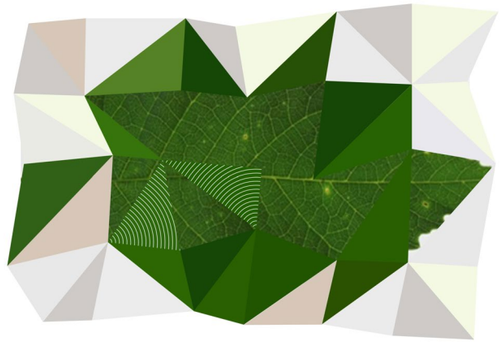
COST catalyses cardiovascular research

COST Actions often provide a platform for further collaboration, and the network 'Catalysing Transcriptomics Research in Cardiovascular Disease' (CardioRNA) is a prime example. They created an interdisciplinary network to accelerate the understanding of transcriptomics in cardiovascular disease, the leading cause of death worldwide, and to facilitate the translation of research into useful applications to improve patient outcomes.

The human transcriptome, the set of all RNA produced in a cell, is a complex area of research and requires a coherent dialogue between researchers, healthcare professionals, and patients to ensure that the results generated by research activities are robust, reproducible, suitable for clinical application, and adopted by clinicians and patients. CardioRNA has provided opportunities for multidisciplinary collaboration, allowing the functions of different RNAs involved in cardiovascular disease to be unravelled more quickly and translated into clinical contexts. Read more here.



Fighting for Europe's crops



In 2010, the olive groves of southern Italy started to suffer from a mysterious wasting condition. Since then, over 20 million olive trees have been lost to this plant plague with a devastating impact on the area. The cause was a bacterium from the Xanthomonadaceae family: destructive plant pathogens that pose a major challenge to global food security. They can infect all kinds of crops, from cereals and vegetables to fruit and even lawn grasses.

The appearance of this pathogen, Xylella fastidiosa, in Italy was a first for Europe and immediate action was needed to study the species, understand the life cycle, and develop strategies to sustainably protect plants and reduce the damage caused. The COST Action 'Integrating science on Xanthomonadaceae for integrated plant disease management in Europe' (EuroXanth) was part of this response, bringing together an interdisciplinary network to tackle this major threat to European flora and agriculture. Read more here.

Beneath our feet: conservation and empowerment of Europe's underground heritage

Have you travelled into the depths of Europe's most enchanting caves at the Caves of Han-sur-Lesse, or immersed yourself in the lunar-like landscape of Göreme-Cappadocia's ancient rock cones and historic cave dwellings? These remarkable underground sites have captivated countless visitors and are a testament to our rich heritage. However, their conservation is more than preserving the past; it is a gateway to knowledge, a catalyst for local prosperity and a bridge to sustainable cultural and economic transformation.

The COST Action 'Underground Built Heritage as a Catalyser for Community Valorisation' (Underground-4value) promoted the conservation and valorisation of the underground built heritage. Giuseppe Pace, Chair of Underground4value, gives an insight into the importance of preserving underground heritage and how to empower local communities. Read more here.

Tackling animal diseases in Europe: the power of SOUND-control

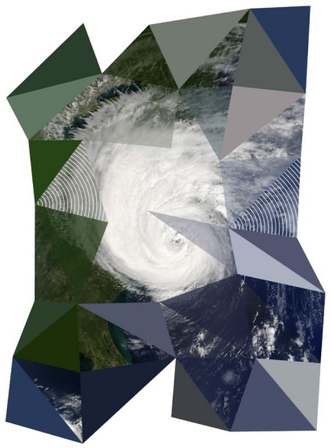
Europe has had its fair share of animal health crises, such as the outbreaks of foot-and-mouth disease, avian influenza in the Netherlands (2003) and African swine fever. But what about the diseases present in many countries that don't make the headlines? That's where the COST Action 'Standardising output-based surveillance to control non-regulated diseases of cattle in the EU' (SOUND-control) comes in.

SOUND-control worked to improve animal welfare, reduce the use of antibiotics, ensure safe trade, and reduce the burden of animal diseases on society. By standardising surveillance methods, this initiative allows us to compare how different European countries deal with non-regulated bovine diseases. Read more here.

Understanding compound events in a changing climate

Climate change has increased the frequency and intensity of extreme weather events around the world. Although our understanding of climate extremes and their impacts continues to improve, events that overwhelm the coping capacity of social and environmental systems often take us by surprise. This is partly because current climate and impact modelling efforts are very limited in their ability to model compound events, making it difficult to plan appropriate adaptation options.

The COST Action 'Understanding and modelling compound climate and weather events' (DAMOCLES) has succeeded in changing this situation. It raised awareness of the importance of compound events and their impacts across different scientific disciplines. It also created a new community bringing together experts in climate science, climate impact research, hydrology, and statistics. Bart van den Hurk, Vice-Chair of the Action, talks about the successes and challenges of DAMOCLES. Read more here.



Multi-target paradigm in the drug discovery process

Everyone, at some point in their lives, may need to take drugs to treat a disease or illness. By finding new and better ways to make drugs, the COST Action 'Multi-Target Paradigm for Innovative Ligand Identification in the Drug Discovery Process' (MuTaLig) has helped to improve the efficacy and safety of drugs, which can ultimately benefit people's health and well-being.

Inspired by the Paul Ehrlich Euro-PhD network and successfully launched in 2015, MuTaLig focused on innovative drug discovery. Researchers have embraced the 'multi-target paradigm', developing drugs that can interact with multiple protein targets using a single compound. This strategy increases drug efficacy, minimises resistance and reduces side effects. As a result, these compounds can better combat complex diseases such as cancer, Alzheimer's and diabetes, leading to improved health outcomes and quality of life for patients. Read more here.

Long read: exploring the oceans with the European Tracking Network

Imagine a perfect day full of excitement and wonder. Picture yourself snorkelling in crystal clear waters, surrounded by an array of colourful fish. Later, enjoy a delicious lunch at a cosy seafood restaurant. But there's more to this idyllic scene than meets the eye. As well as enhancing the beauty of our oceans, thriving fish populations play a vital role in our society and economy. They attract tourists and support fishing industries. In the quest to understand, protect and manage our marine life, the Action 'European Tracking Network' (ETN) is leading the way.

It tracks the movements of aquatic animals across Europe, unlocking the secrets of our underwater world. Dr Jan Reubens, Chair of ETN, shares with us his exciting journey at the helm of this network, diving into the mysterious depths of our oceans. Join us on a voyage of discovery where snorkelling dreams merge with the important mission of preserving our precious marine ecosystems. Read more here.

Events

January

17/01 Info session targeted to Marie Skłodowska-Curie Actions National Contact Points network

19/01 Joint event with the European Institute of Innovation and Technology (EIT) (COST Innovators Grant -EIT Pre-Jumpstarter training programme)

24/01 COST Academy Grant Holder workshop

February

9/02 COST Academy Grant Holder workshop

14/02 COST Academy Grant Holder Manager seminar

16/02 COST Academy event: Sustainability of COST Actions

17/02 COST Academy training: How to present your research with impact

22/02 COST Academy mobile video workshop for science communication coordinators

March

4/03 COST- Open Research Europe drop-in sessions for COST Actions participants

14/03 COST Academy Grant Holder Manager forum

14-16/03 COST Academy training: Media skills for science communication coordinators and Action chairs

28/03 COST Academy Grant Holder workshop

29-30/03 COST Academy training: Storytelling for science communication coordinators

COST Academy supports Actions in managing their networks by offering training, workshops, and webinars on topics highly relevant for the performance of the networks.

April

18/04 COST Academy training: Understanding EU decision-making processes – How to advocate your interest

19/04 French Info Day, Paris

20/04 COST Academy Grant Holder Manager seminar

20-21/04 COST Connect: Ageing in Europe - Challenges and opportunities

25/04 Belgian Info Day, Brussels

27-28/04 COST Connect: Data sharing in European research networks

COST Connect is a series of thematic workshops providing an open space for COST Actions, policymakers, and the broader research and innovation community to network on science and policy-related topics. Topics are defined along the lines of the current EU policy agenda and societal challenges.

May

8, 10/05 COST Academy COST Action Chairs forum

22/05 Belgian Info Day for Dutch speaking universities, Ghent

24/05 General COST Info Day, online

24/05 COST Communication seminar for science communication coordinators

COST Info Days are organised to promote COST and its opportunities among the research community in the various COST Member countries. They are organised in close cooperation with the COST National Coordinators, the national contact points in the country.

June

1/06 COST Academy training: How to coordinate international research networks

14/06 Spanish Info Day, online

14, 21/06 COST Communication seminar for science communication coordinators

15/06 Cypriot Info Day, online

15/06 COST Near Neighbour Country correspondents' meeting, Brussels

27/06 Swiss Info Day, online

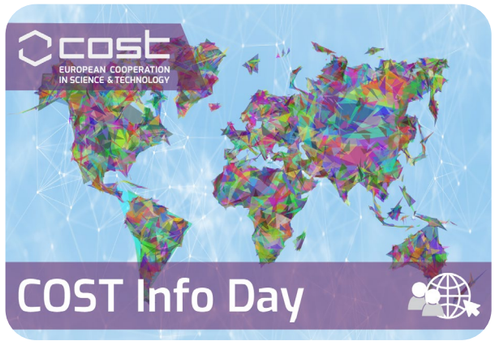
27/06 COST Academy Science for Policy workshop

27-28/06 COST Academy Science Diplomacy training

29-30/06 COST Connect: Coordinating cancer research in Europe: collaborating for progress

COST Global Networking reinforces collaboration with COST Near Neighbour Countries (NNCs) and promotes COST globally.

July



2/07 UK Info Day, online

September

5-6/09 and 8/09 COST Academy Leadership workshops

13/09 COST at the Science Summit under the 78th UN General Assembly EU Delegation to the UN, New York, USA

15/09 COST Academy training: Social media for science communication coordinators

15/09 Joint session organised by COST and the Accelerating Research through International Network (AccelNet) Program, New York, USA

21-22/09 COST Connect: Connecting the energy research landscape: leveraging networks for future solutions

25/09 COST Academy training: WordPress for science communication coordinators

October

5/10 COST Academy training: How to coordinate international research networks

6/10 EURAXESS Africa webinar

16/10 COST Academy training: Understanding EU decision-making processes – How to advocate your interest

20/10 COST Academy webinar on international scientific cooperation in COST Actions

24-25/10 COST Connect: Advancing mental health research through networking and collaboration in Europe

25/10 Albanian Info Day, online

27/10 Ukrainian Info Day, online

27/10 COST Academy training: Social media for Action chairs

November

14/11 Macedonian Info Day, Skopje

27/11 Faroe Islands in COST – European Commission Joint S&T Committee meeting

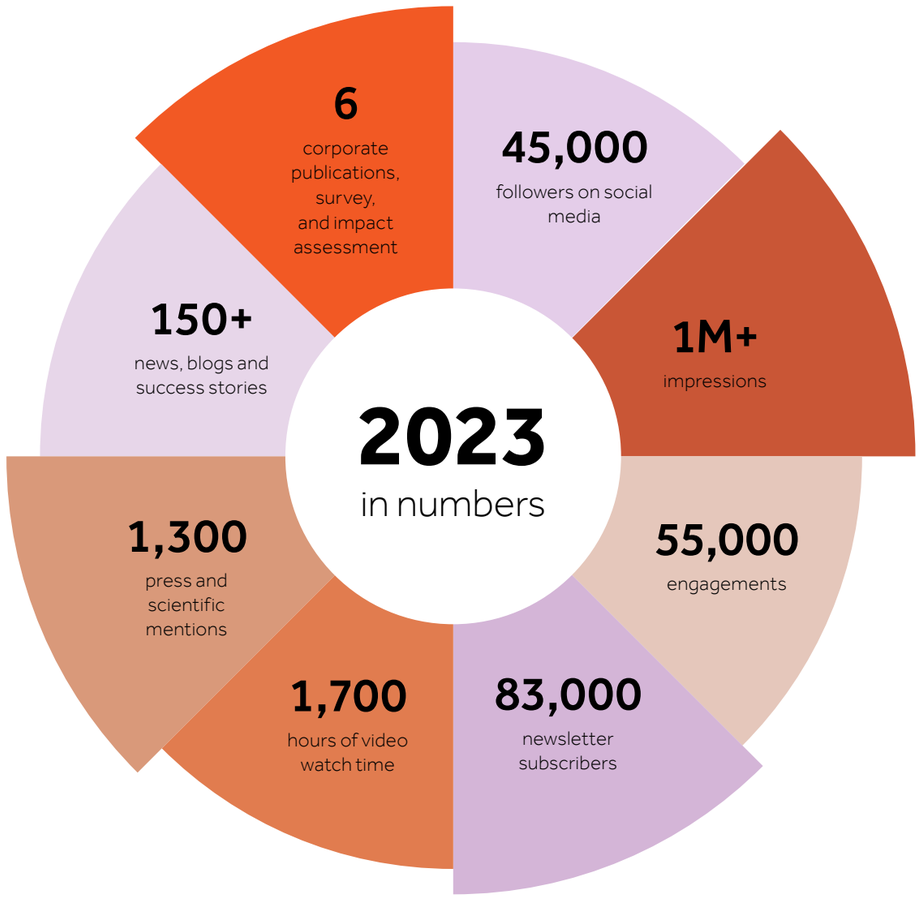
December

6/12 Horizon Europe info event, Yerevan, Armenia

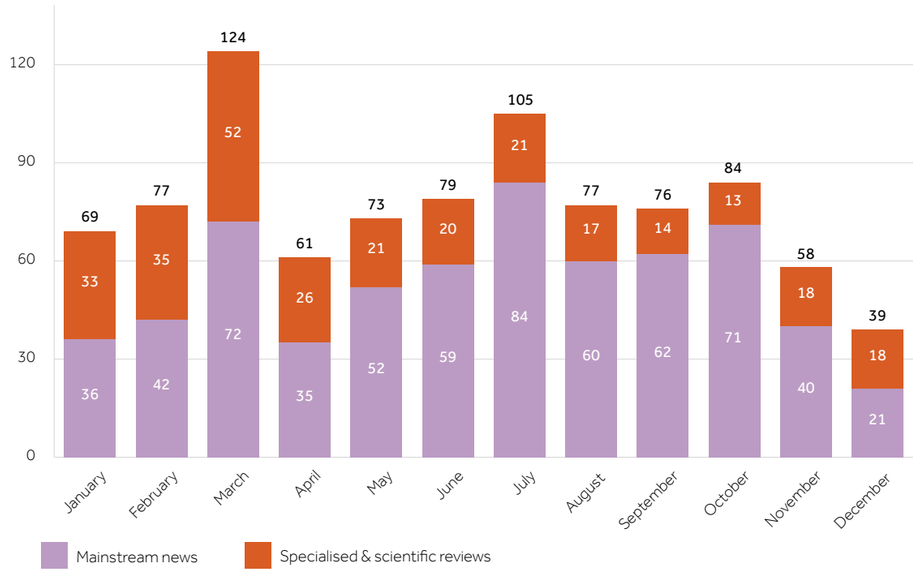
7/12 COST Young Researchers session, Lithuania

13/12 COST Academy workshop on setting up a Diamond standard Open Access journal

Media & Communication



COST Actions in the news and specialised publications



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.

WHAT ARE COST ACTIONS

A COST Action is an interdisciplinary research network that brings researchers and innovators together to investigate a topic of their choice for four years.

WHO CAN PARTICIPATE?

Researchers and innovators coming from all types of institutions: academia, public institutions, SMEs/industry, NGOs, European/international organisations. Participants can apply at any stage of their career.

COST Actions are based on the principle of inclusivity and actively promote the participation of researchers and innovators based in less-research-intensive COST Member countries, known as COST Inclusiveness Target Countries (ITC).

Researchers from Near Neighbour Countries and Third States can also take part in a COST Action.

HOW TO APPLY?

Participants are invited to submit a COST Action proposal contributing to the scientific, technological, economic, cultural or societal knowledge advancement and development of Europe. Proposals from all fields of science and technology are encouraged (including interdisciplinary and new and emerging fields). Proposals for new COST Actions can be submitted to our annual COST Open Call via e-COST, our dedicated grant management tool.

WHAT DO WE FUND?

COST does not fund research, but provides support for networking activities carried out within COST Actions. In this way, it compliments nationally funded research.

Find out more on the COST website:

Growing ideas through networks

Join our European research networks

COST Member Countries

Action Networking tools

Video 'Tips for submitting a COST Action proposal'

Testimonials

From COST participants

The future lies in the hands of all the early career researchers we trained. I still get messages from colleagues or students telling me how the Action meetings or STSMs changed their career for the better. So, hurrah for COST!

Prof. Vitor Cardoso,
Instituto Superior Técnico, Portugal,
Chair of GWniverse

France, Portugal and Spain grow a lot of walnuts and the new species was named Xanthomonas euroxanthea – so our COST Action will now live forever.

Dr Ralf Koebnik,
Institute of Research for Development in Montpellier, France, Chair of EuroXanth

In unity we find not only answers, but the potential to change healthcare for the better.

Prof. Chiara Riganti,
Università degli Studi di Torino, Italy,
Chair of STRATAGEM

I'm amazed at what a group of people can achieve by working together in a COST Action, and I'm grateful for the opportunity to chair SOUND-control.

Dr Inge Santman-Berends,
GD Animal Health, Netherlands,
Chair of SOUND-control

Networking in science is not only fundamental – it is the best part of the work, the part that gives us a sense of purpose.

Dr Manuela Gomes,
University of Minho, Portugal, Chair of TENET

Being part of the ENCKEP and KEP-SOFT projects meant that I had access to a multidisciplinary network that helped advance publications and impact, which simply would not have been possible without COST funding.

Prof. David Manlove,
University of Glasgow, UK, Chair of ENCKEP and KEP-SOFT COST Innovators Grant

The COST Action and the research projects that derived from it have constituted the backbone of my research in the last decade of my career. They surely helped strengthening my position in the institute and gave me visibility at national and international level. Similarly, the Action gave me big opportunities in science outreach communication.

Dr Angelo Camerlenghi,
National Institute of Oceanography and Applied Geophysics (OGS), Italy, Chair of MEDSALT

COST initiated and continuously supports my scientific development. With each new Action, I acquire new knowledge and experiences, and through EpiLipidNET, I realize the importance of communicating scientific knowledge to non-specialists and the general public.

Prof. Tatjana Ruskovska,
Goce Delcev University, North Macedonia,
Vice Working Group Leader in EpiLipidNET

When we started the COST Action, the community was then able to discuss all the details and, since then, publications have gone up very significantly and the field has really established itself. I think it is largely due to the COST Action we all participated in.

Dr Kareem Elsayad,
Medical University of Vienna, Austria,
Chair of BioBrillouin

The COST Action I participated in allowed me to stay in constant contact with experts in veterinary epidemiology, which not only benefited my PhD work and my career, but also brought the best expertise and knowledge from abroad to my country. You find excellent people all over Europe, and our COST Action brought them together.

Dr Tanja Knific,
University of Ljubljana - Veterinary Faculty, Slovenia,
Management Committee Member in HARMONY

The EuroSoftCalcNet COST Action has had a positive impact on the recognition and awareness of ectopic calcification, leading to improvements in diagnosis and treatment.

Prof. Olivier Vanakker,
Ghent University, Belgium,
Working Group Leader in EuroSoftCalcNet

Participation in COST Actions was a gamechanger for my career.

Prof. Belma Kalamujić Stroil,
University of Sarajevo - Institute for Genetic Engineering and Biotechnology,
Bosnia & Herzegovina,
Grant Awarding Coordinator of G-BIKE

This year I started an ERC grant which is the first grant of the University of Science and Technology in Poland in Cracow. I am the first one to receive it. And COST really helped me to that point.

Prof. Urszula Stachewicz,
AGH University of Krakow, Poland, Management Committee Member in FLAVOURsome

By taking up a leadership role in this Action I hope to give something back to the community – especially for young and female researchers – that it has given me.

Prof. Margot Deruyck,
Ghent University, Belgium, Science Communication Coordinator of INTERACT

I truly believe that the fact that I was the Chair of a COST Action helped me with the appointment into my permanent position in Portugal.

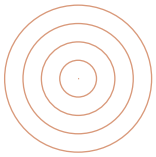
Dr Raquel Conceição,
Instituto de Biofísica e Engenharia Biomédica, Portugal, Management Committee Member in MyWAVE

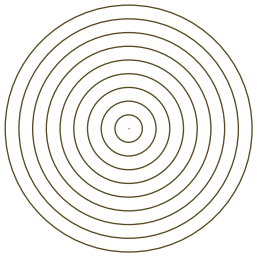
OpenMultiMed brought together disciplines which never meet each other. It took a while, but we understood each other and our needs. It was a mutual education. This glued us together and enabled us to apply for major European funding within the Horizon Europe Framework Programme.

Prof. Harald Schmidt,
Universiteit Maastricht, Netherlands,
Chair of OpenMultiMed

The COST Action WEMov is helping to address, inform and make an impact with policymakers on gender issues.

Dr Marie Ruiz,
University of Picardie, France, Chair of WEMove





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