



Encounters



Delivering the right message

Interview with new EMBO Member and Nobel Prize laureate Katalin Karikó

EMBO Press goes full Open Access

All papers and source data will be freely accessible from 2024

Continuing careers despite displacement

Ukrainian scientists receive EMBO Solidarity Grants



The magazine of EMBO

#47

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Welcome to Encounters

#47

Editorial from the EMBO Director



Expansion creates opportunities—in particular for the community an organization serves. I am delighted that this issue of our magazine highlights some of the ways in which EMBO and EMBO Press have recently expanded to the benefit of the life sciences community.

The EMBO Membership has grown and now consists of more than 2,000 leading life scientists. New members and associate members were welcomed at the EMBO Members' Meeting ([pages 14 and 15](#)). We spoke with newly elected EMBO Member and recent Nobel Prize laureate Katalin Karikó about the inspiration behind her career and about being in the spotlight ([pages 16 and 17](#)).

The initiative to increase participation in the EMBO Programmes across Europe remains a focus area. It is funded by EMBC, the intergovernmental organization of 30 member states, and supports life scientists in or going to Croatia, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Luxembourg, Poland, Slovenia and Türkiye. In 2023 the EMBO Solidarity Grants scheme was able to support 27 displaced scientists from Ukraine to continue their careers in one of these countries ([pages 4 and 5](#)).

Full Open Access to all EMBO Press journals from 2024 is the latest step towards our Open Science vision ([page 6](#)). We expand upon the topic and consider how artificial intelligence can be applied to address challenges in Open Science ([page 20](#)). The preprint peer-review platform Review Commons continues to develop and is joined by new affiliate journals ([page 7](#)).

EMBO is an organization founded by scientists for scientists, and thus Encounters is also a forum for your news. The communities section presents some of your awards, publications, books and new initiatives, including two that expand into art ([pages 22 to 30](#)).

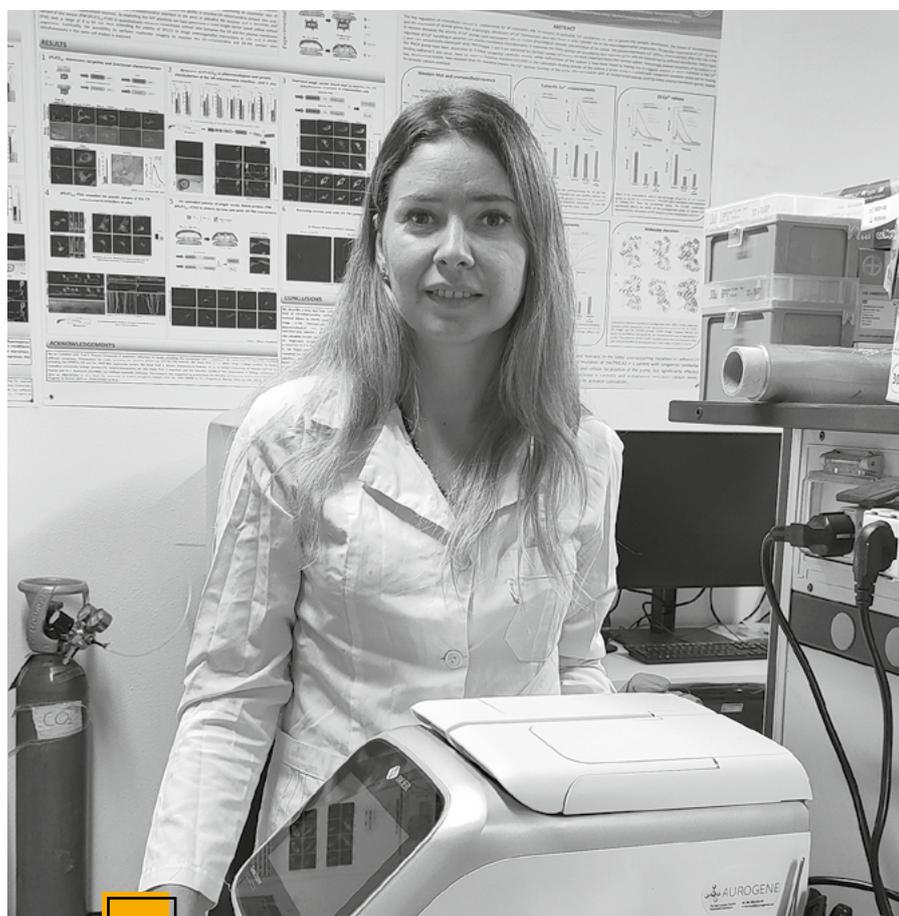
In 2024, EMBO will turn 60 and we will keep you informed about our newest activities. As always, we would love to hear your thoughts on them and your ideas for the next (anniversary) issue of Encounters.

Fiona M. Watt
EMBO Director

Continuing careers despite displacement

EMBO awards solidarity grants to life scientists affected by armed conflict

By Helen Sitar



“I want to return to Ukraine to work. But at the moment, it is not possible to perform experiments there,” explains Tetiana Tykhonenko, post-doctoral researcher at the University of Padua, Italy. When Russia invaded Ukraine, she was working as a researcher at the Palladin Institute of Biochemistry in Kyiv. In October 2022, she was able to move to Italy. This year, she is receiving an EMBO Solidarity Grant, as are 26 other life scientists affected by the Russian war on Ukraine. Tykhonenko is investigating organelle contact site dynamics in physiology and in neurodegeneration.

© Lucia Barazuol, University of Padua

Receiving this grant is a good experience for me. I can continue my scientific career despite the challenges and interruption of war.

Tetiana Tykhonenko



In 2022, EMBO initiated the solidarity grant scheme as an exceptional funding mechanism with the aim of supporting scientists displaced by armed conflict. In early 2023, 53 life scientists, one from Yemen and 52 from Ukraine, applied for a solidarity grant, and 33 applicants were selected. Ultimately, 27 researchers, all of whom are Ukrainian, accepted the offer of financial support for one year while conducting a life science research project in an EMBO subject area. Grantees also receive child-care allowances and can participate in training courses offered by EMBO Solutions.

Each grantee is hosted by a laboratory in a different institute in countries participating in the initiative to increase participation across Europe. The grants are funded by EMBC, the intergovernmental organization comprising 30 member states that funds the major EMBO Programmes and activities. Eleven grantees will be working in the Czech Republic, eight in Poland, three in Lithuania, two in Italy, and one in Hungary as well as in Türkiye. Most grantees are using the grant to begin or continue research at the postdoctoral level; one is conducting research at the group leader level and seven are undertaking a PhD project.



© Yaroslav Kolifko

This grant opened a new chance for self-realization.

Olena Yakushko

One grantee pursuing a PhD, Olena Yakushko, is researching the effects of neurodegenerative diseases on the cerebellum and retina in her doctoral work in histology and embryology. Previously, Yakushko established herself as a researcher at Poltava State Medical University, where she performed in-depth studies of diseases of the retina and optic nerve. Now living in Pilsen, Czech Republic, Yakushko says: “Thanks to Charles University I have the opportunity to continue my

work.” Regarding the EMBO Solidarity Grant, she says: “The grant is supporting me, my research and at the same time also my family—I have a small daughter. It opens a new path of development for me. For example, now I can attend an EMBO Laboratory Leadership Course for free, as well as an additional EMBO course or conference, which will help me grow as a researcher.”

Further schemes for increasing participation in the EMBO Programmes across Europe

In 2021, EMBO committed to increasing the participation of scientists across Europe in countries which benefit less from the EMBO Programmes. To achieve this, the initiative to increase participation scheme was launched in 2022. Since then, it has grown in both breadth and scope, and now provides support to researchers working in or moving to 11 countries. Until the end of 2024, life scientists in or going to Croatia, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Luxembourg, Poland, Slovenia and Türkiye can apply for:

Postdoctoral Fellowships

An interview is guaranteed to each applicant applying to work in a participating country, provided the application passes initial quality screening.

Advanced Collaboration Grants

A scheme for group leaders who wish to visit scientists in other EMBC Member States to develop or carry out collaborative projects, or to prepare joint grant proposals.

Early Career Lecture Courses

Funding for lecture courses to train PhD students and postdoctoral researchers.

Lecture Series

Funding to invite EMBO Members and Young Investigators to give lecture series.

Open Access publication

EMBO waives the Article Processing Charge (APC) for Open Access publication in the EMBO Press journals for corresponding authors based in the eligible countries.

Grants for participation in EMBO Courses & Workshops

Researchers can apply for a grant of up to 700 euros to cover registration fees, travel and accommodation.

EMBO Press goes full Open Access

From 2024 all papers published in EMBO Press journals and associated source data will be freely accessible

By Tilmann Kiessling



The EMBO Journal and EMBO Reports will switch from encouraging Open Access (OA) publication to applying Open Access to all published papers on 1 January 2024. In addition, all research papers published in all EMBO Press journals will include the source data underlying the figures as well as data availability sections. Data and preprint citation will be encouraged.

With the move, all EMBO Press journals will comply with the Open Science policies of the US National Institutes of Health (NIH), the White House Office of Science and Technology Policy (OSTP), the European Research Council (ERC) / Horizon Europe and CoalitionS / PlanS. The papers published in EMBO Press journals will be made available under a Creative Commons CC-BY license, which allows anyone to reuse, share or build upon the publications with appropriate citation.

“With the full conversion of all its journals to Open Access, EMBO is taking a major step in promoting Open Science for the benefit of the individual researchers, and also for institutions,” says Fiona Watt, EMBO Director. “The switch will help to advance the global discoverability, transparency and availability of published research outcomes.”

“Over the last decade, the EMBO Press journals have spearheaded key Open Science and transparency initiatives which have been adopted by other journals,” says Bernd Pulverer, Head of Scientific Publishing. “We started to encourage OA eight-

een years ago, but full OA and the inclusion of curated source data in all figures is an important step towards our larger Open Science vision.”

Molecular Systems Biology from the EMBO Press suite of journals was launched as one of the world’s first OA journals in 2005. In 2012, EMBO Molecular Medicine was one of the first highly selective journals to convert to full OA. Life Science Alliance, co-published with Rockefeller University Press and Cold Spring Harbor Laboratory Press, launched as an OA journal in 2019. From 2024, all EMBO Press journals will be published through a new partnership with Springer Nature.

Review COMMONS

Review Commons expands

Extended funding supports the addition of new partner journals

By Stephen Pewter

Review Commons, the journal-agnostic preprint peer-review platform is expanding thanks to additional funding from the [Howard Hughes Medical Institute \(HHMI\)](#). HHMI has awarded EMBO a further year of funding, allowing the platform to increase its capacity for high-quality scientific review of preprints and move to a financially sustainable model for Review Commons.

The [Biochemical Journal](#) from the Biochemical Society, published by Portland Press; [Genes & Development](#) from Cold Spring Harbor Laboratory Press; [Genome Biology](#) from Springer Nature; and [Immunology & Cell Biology](#) from the Australia and New Zealand Society for Immunology, will become affiliate journals. The 21 journals affiliated with Review Commons, representing a diversity of publishers, including those mentioned above plus ASCB, The Company of

Biologists, eLife, EMBO Press, PLOS and Rockefeller University Press, all accept submissions directly from the Review Commons platform and commit to using reviewed preprints in their independent editorial decisions rather than starting peer-review afresh. If the editors decide to reject the work, the authors can reuse the peer-reviews for submission to additional journals, reducing re-reviewing and accelerating publication.

Thomas Lemberger, Review Commons project lead at EMBO, says: “This is great news for promoting reviewed preprints as an open and efficient way of disseminating research. With the support of HHMI, Review Commons is broadening its scope and its scale, thus serving a wider community of researchers by delivering high-quality peer-reviews for preprints.”

Since its launch in December 2019, Review Commons has grown into one of the world’s leading preprint peer-review platforms. Review Commons is supported by experienced editors at EMBO Press who run the peer-review of preprints in a journal-agnostic way. Reviewers are asked to focus on the scientific claims of a paper, the strength of the supporting evidence and its contribution to the field, irrespective of whether it is a good fit for a specific journal.

Review Commons will continue working with quality journals to further increase the number of affiliates. As an open and community-focused endeavour, the ability to seamlessly connect across platforms and publishers remains an integral part of Review Commons’ strategy.

reviewcommons.org

EMBO Fellows get together

Networking and discussion of science in Heidelberg

By Astrid Gall



The excitement at this year's EMBO Fellows' Meeting was palpable. The meeting on 3–4 July was the first after the pandemic that took place in-person. The fellows enjoyed meeting each other, discussing science and learning about related topics in a variety of sessions.

114 current and former EMBO Postdoctoral Fellows came together for the EMBO Fellows' Meeting 2023 in Heidelberg, Germany.

A networking activity promoted interactions between fellows working in related fields and stimulated many conversations. Talks about EMBO, research integrity and maintaining connections with EMBO after the fellowship allowed fellows to ask questions and find out more about these topics.



An animated discussion on career paths developed with members of the EMBO Scientific Exchange Grants Advisory Board. They provided advice on choosing an institution or location, balancing science and personal life, and negotiating a group leader position. The fellows also attended the symposium in honour of Maria Leptin.



A presentation on the preprint peer-review platform Review Commons sparked lively discussions. Topics included best practices in publishing and peer-review, advantages of publishing preprints and reviews, as well as barriers to making them publicly available.



The meeting is amazing. It's great to talk to a lot of people who are in a similar position: they have finished or are finishing their fellowships. I had interesting discussions with fellows from different backgrounds, nationalities and countries they are working in.



Amir Pandi, EMBO Postdoctoral Fellow at the Max Planck Institute for Terrestrial Microbiology, Germany, 2020–2022

Development and morphogenesis

Symposium in honour of Maria Leptin

By Astrid Gall

Maria Leptin was the EMBO Director from 2010 to 2021 and is now President of the ERC. A symposium to mark her life in science was held on 3–4 July 2023. Colleagues, collaborators and friends gathered to celebrate with Leptin and attend a scientific programme centred on her research interests. Perspectives from Nobel Laureates Christiane Nüsslein-Volhard and Eric

Wieschaus were followed by several presentations on evolution, morphogenesis, development, cancer and ageing.

Current EMBO Director Fiona Watt and EMBL Director General Edith Heard chaired a well-received session with messages from friends from throughout Leptin's career—from her PhD supervisor Fritz



Melchers to today's EMBO Secretary General Paul Nurse, the third Nobel Laureate who contributed to the symposium. It concluded with a closing address by Leptin who presented her most recent research on shape formation during wound healing. Leptin as well as the participants and speakers enjoyed the event that took place in Heidelberg.

Connections that drive science

Members of the EMBO Young Investigator Network reflect on inspiring scientific journeys that have brought minds together

By Adam Gristwood



Hind Medyouf

Successful search

When EMBO Young Investigator Hind Medyouf explored new directions for her research, she instinctively turned to the EMBO online directory of members and investigators. “My team investigates the role of the microenvironment in cancer, to uncover tumour-stroma interactions that can be exploited as vulnerabilities to improve therapies for patients,” says Medyouf, a group leader at the Georg-Speyer-Haus, Frankfurt, Germany. “Although our main focus is on leukaemia, some of our findings, such as the therapeutic benefit of targeting innate immune checkpoints, are likely relevant in other disease contexts.”

When Medyouf’s team started to explore the significance of their discovery in brain metastasis, she naturally looked for a partner within the EMBO community and found Manuel Valiente, an EMBO Young Investigator heading the Brain Metastasis Group at CNIO, Spain.

This collaboration has also led to RISEBrain, an EU-funded consortium co-ordinated by Medyouf and Valiente. “Within RISEBrain, we aim to revert immune suppression locally in the brain, to elicit effective immunotherapies in brain metastasis,” says Medyouf. “We also want to develop ways to identify the tell-tale signs, or biomarkers, of brain metastasis and those potentially predicting response to immunotherapies, to maximise treatment potential. For this, we needed to find a collaboration partner.”



Manuel Valiente

The interaction was immediately positive. Manuel shared his expertise and tools and even hosted us for short visits, supported by EMBO networking funds.



Hind Medyouf



Serap Aksu

The team turned to EMBO Installation Grantee Serap Aksu, a biophysical engineer at Koç University, Istanbul, Turkey. “Serap develops highly sensitive optical biosensors and point-of-care devices that can serve to detect disease biomarkers,” says Medyouf. “We arranged to talk in person at an EMBO annual meeting and have since formed a partnership that extends to RISEBrain and beyond. Building organ-on-a-chip models is our next challenge with Serap. When you contact someone in the EMBO network things just click—there is an immediate willingness to help.”



Florent Ginhoux

Trail talks

At an EMBO Young Investigator Programme retreat in Italy in 2018, Florent Ginhoux spontaneously arranged to go for a morning run with Matteo Iannacone from San Raffaele Scientific Institute, Milan, Italy. “After getting to know each other, the conversation naturally turned to science,” recalls Ginhoux, a group leader at the Gustave Roussy Cancer Campus, Paris, France. “It turned out Matteo and I were both working on the same cell type—Kupffer cell, a liver resident macrophage—from a metabolic perspective from my side, and relating to hepatitis and other liver infections from his side.”

The team carried out studies that led to the publication of back-to-back papers, one of several fruitful partnerships Ginhoux has enjoyed with current and former EMBO Young Investigators.

“Others include Ido Amit (Weizmann Institute of Science, Rehovot, Israel), Martin Williams (Ghent University, Belgium) and Sonia Garel (Collège de France, Paris),” adds Ginhoux, who is now an EMBO Member. “I initially reached out to Sonia just because she happened to be working a stone’s throw from my parents’ house. Through the programme there are so many ways to make that initial connection that can open up huge opportunities to learn and take research in exciting directions.”

people.embo.org

yip-search.embo.org



Matteo Iannacone

When we put our heads together, it was like one of those click moments where suddenly everything makes sense.

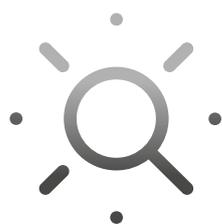
Florent Ginhoux

Responsible research assessment

EMBO is involved in international efforts to improve current approaches

By Sandra Bendiscioli

EMBO has joined the Coalition for Advancing Research Assessment (CoARA), an international initiative of more than 400 organizations to enhance research assessment. Among its aims is to broaden the range of research activities, practices and outputs that are considered in research assessment. It offers a platform for developing and piloting new approaches, sharing and learning.



CoARA
Coalition for Advancing
Research Assessment

In July, EMBO and 17 other organizations and funders, including cOAlition S, formed the working group Recognizing and Rewarding Peer-Review. This CoARA-endorsed group follows the 2022 workshop organized by EMBO on Referee Credit Mechanisms in Research Assessment and aims to develop process-

es to include peer-review activity of research papers, reviews and grants in research assessment. The working group will consider implementing research EMBO is currently doing on extracting value attributes from reviewers' reports.



DORA

As one of the founders of the Declaration on Research Assessment (DORA), EMBO has been at the forefront of discussions on the need to abandon the misuse of publication-based metrics, in particular the Journal Impact Factor, in judging researchers' quality, and to change research assessment practices towards a more qualitative, informed and transparent approach.

This year marked the 10th anniversary of DORA. EMBO and EMBL co-organized a panel discussion

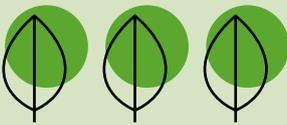
on current methods of research assessment and how they could be improved. The panellists included EMBO Members Karim Labib, chair of the EMBO Installation Grants Committee, Guillermina Lopez-Bendito, chair of the EMBO Young Investigator Committee, Wolfgang Huber, group leader at EMBL, and Bernd Pulverer, Head of EMBO Press, with moderation by Sandra Bendiscioli, senior policy officer at EMBO. They highlighted the need to value all contributors to a paper, not only first and corresponding author, to

assess research outputs beyond scientific papers, and to include activities such as mentoring, outreach and peer-review. The panel agreed that improving assessment practices will require a culture change and more transparency, openness and accessibility of review processes.

EMBO actions include accepting reviewed preprints in applications for EMBO Postdoctoral Fellowships. The EMBO Press journals have stopped emphasizing impact factors and encourage author attributions at the level of individual figure panels, in addition to a machine-readable contributions section. EMBO has also formed an internal working group that is reviewing its funding processes to align with the commitments to CoARA.

coara.eu

sfdora.org



Making conferences more sustainable

A sustainability badge for EMBO Courses & Workshops

By Ayesha Asif

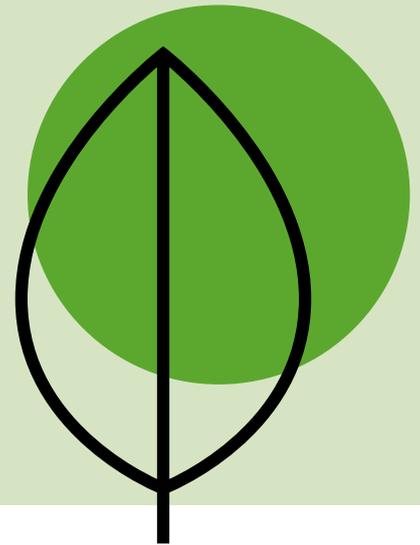
EMBO Courses & Workshops has introduced a sustainability badge for meetings that implement measures to reduce environmental effects. The aim of this initiative is to raise awareness about the impact conferences have on climate change and to encourage scientists to make more sustainable choices.

For the badge, we consider a variety of measures by which conference organizers can lessen the environmental impact of a scientific meeting: format (virtual, hybrid or in-person), location and venue, travel and local

transport, promotional material and badges, catering and advertising. Combining several measures will qualify an EMBO Course or Workshop for a sustainability badge.

As a funder of almost 90 meetings with more than 11,000 participants every year, EMBO encourages a discussion in the wider scientific community on how to reduce the environmental impact of conferences.

Read more at embo.org/blog/how-do-you-reduce-the-environmental-impact-of-scientific-meetings



Advancing collaborations between Europe and Japan

EMBO and the Japan Science and Technology Agency sign a memorandum of cooperation

By Tilmann Kiessling

The Japan Science and Technology Agency (JST) and EMBO have signed a memorandum of cooperation with the aim of promoting the life sciences in Europe and Japan, and providing support for international research endeavours. The collaboration will facilitate activities that

foster cooperation and knowledge exchange between scientists in the two regions.

The memorandum outlines the exploration and establishment of collaborative schemes that support

life scientists, scientific meetings and research exchanges between the two entities.

Currently, 21 life scientists working in Japan are EMBO Associate Members, making it the second largest community of members outside Europe, after the US.

We are excited to cooperate with JST in order to support a network of excellence involving the scientific communities in Japan and Europe.

Fiona Watt, EMBO Director



The EMBO Members at their annual meeting in Heidelberg, 25 – 27 October 2023

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A growing community of excellence

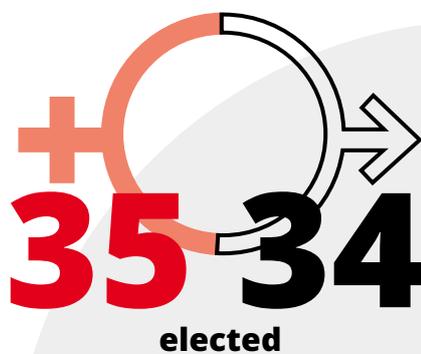
The newly elected EMBO Members gathered at the annual meeting

By Tilmann Kiessling

The annual meeting of new EMBO Members is a forum for them to meet each other, their nominators and EMBO staff, to present and discuss their work, and to learn more about the organization. As EMBO approaches the sixtieth anniversary of its foundation in 1964, the vision is for an organization that will be even better at delivering on its mission to foster the life sciences in Europe and beyond.

“Stimulating the creation and growth of scientific communities has been our remit from the beginning. EMBO Members form a vibrant international network for knowledge exchange and play a central role in supporting the next generation of life science researchers,” said Fiona Watt, EMBO Director.

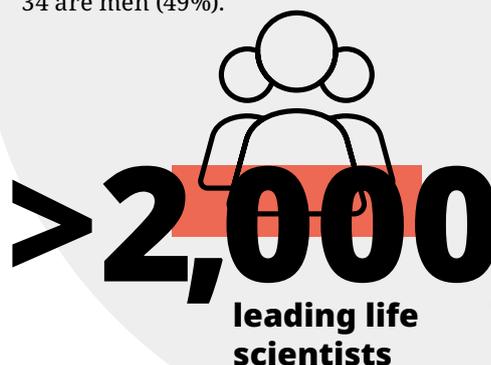
Election as an EMBO Member recognizes a scientist’s research excellence and outstanding achievements.



This year saw 60 members and nine associate members elected to the EMBO Membership, of which 35 are women (51%) and 34 are men (49%).



The new members reside in more than 20 countries, 17 of which are member states of the EMBC, the intergovernmental organization that funds the main EMBO Programmes and activities.



The researchers join a community of more than 2,000 leading life scientists making up the EMBO Membership today.

2023

The members elected in 2023 are:

EMBO Members

A
Simon Alberti
Canan Atilgan

B
Tom Baden
Marek Basler
Florence Besse
Rishikesh Bhalerao
Dalibor Blazek
Tiziana Bonaldi

C
Pedro Carvalho
Pilar Cubas

D
Bart Deplancke
Elke Deuerling
Sandra Duharcourt
Paul Dupree

E
Thijs Ettema

F
Angela Falciatore
Luísa M. Figueiredo

G
Luca Giorgetti
Electra Gizeli
Uri Gophna
Monica Gotta

Anne Grapin-Botton
Simonetta Gribaldo

H
Mohamed-Ali Hakimi
Muzlifah Haniffa
Hana Hanzlíková
Saskia A. Hogenhout
Wolfgang Huber
Meritxell Huch

J
Jacek Jaworski
Gáspár Jékely

K
Martin Kaltenpoth
Lukas Kapitein
Katalin Karikó
Manfred Kayser
Özlem Keskin

L
Gaëlle Legube
Julius Lukeš

M
Julia Mahamid
Ruth Massey
Marco Milán

N
Thorsten Nürnberger

O
Anna C. Obenauf
Faith H.A. Osier
Annette Oxenius

P
Anastassis Perrakis
Eugenia Piddini
Michael Potente

R
Katja Röper

S
Stephan J. Sigrist
David Staněk
Oliver Stegle
Nils Chr. Stenseth
Ildikò Szabò

V
Alessandro Vannini
Julien Vermot

W
Hedda Wardemann
Katja Wassmann
Cornelis Jan Weijer

Y
Maria Yazdanbakhsh

EMBO Associate Members

C
Kathryn S.E. Cheah

D
Diego De Mendoza

G
Yukiko Goda
Yukiko Gotoh

M
Sean J. Morrison

O
Erin K. O'Shea

P
Robert Parton

R
Michael Rapé

Y
Nieng Yan



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Delivering the right message

Nobel Prize laureate Katalin Karikó talks about her inspiration, career and being in the spotlight

Interview conducted by Adam Gristwood



Hungarian born Katalin Karikó pioneered mRNA techniques that helped pave the way for vaccines and therapeutics. In 2023, she received the Nobel Prize in Physiology or Medicine jointly with Drew Weissman and became an EMBO Member. Karikó is professor at Szeged University, Hungary, and adjunct professor at University of Pennsylvania, Philadelphia, USA.

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You have a new book out in October 2023: *Breaking Through: My Life in Science*. What do you hope that people will take away from reading it?

Over the course of my career, I have met many scientists, particularly women, who have had to give up their dreams due to factors out of their control. Yet we don't know what amazing discoveries we have missed out on as a result. I hope my book can shine a light on the importance of providing opportunities for women and other under-represented

groups. I also want to inspire young people to recognize the importance and wonder of immunology, and to encourage early career researchers to be resilient when things don't go to plan.

What inspired you to become a scientist?

In elementary school, I was asked to write an essay on the importance of naming and classifying living organisms. I learned how this allows scientists to know quickly without ambiguity that one is talking about

a certain animal or plant and what an interesting subject biology can be. I have been hooked ever since! I think that no matter your background, school plays such an important role in shaping your future.

How were your own school years formative?

I soon learned that no one is going to hand things to you on a plate, so I developed a strategy of setting goals, completing them, setting more ambitious ones, and most importantly being resilient in the face of setbacks. As an example, once a teacher introduced our class to stress theory. From this, I saw the benefits of managing stress proactively. Failure is part and parcel of scientific life, and I found it very useful to develop personal ways of turning 'bad' stress into 'good' stress and swiftly and determinedly moving on from failures.

In what way did this benefit your career?

My journey in science has not been smooth: in the 1980s, I couldn't find a position in Europe to continue



my work on RNA and when I was offered a job in the USA, I decided to move there with my young family. Due to restrictions at the time, when we left Hungary, we had to hide what little money we had in my daughter's teddy bear and hope that we did not get caught. We didn't. Unfortunately, I have never been able to secure grant funding or a permanent position.

I was always driven by the joy of scientific research: those rare yet amazing moments when you finally put together pieces of a puzzle

in the right way and realize you are the first person to understand something. Using that as a personal motivation, as well as the serendipitous encounters I have had with the people I have worked with along the way, have been essential components in my career.

Where do you turn to for inspiration?

A hobby of mine is to browse through historical research papers. Oftentimes scientists would candidly describe their thoughts to the point where you can really get an insight into their creative processes—how they were thinking and feeling, and the steps involved in proving or disproving a hypothesis.

One great example is a paper by Francis Crick, Sydney Brenner and colleagues, which details a series of intricate experiments that proved that the genetic code for proteins was a three-nucleotide code that does not overlap or share bases. Despite little being known about the nature of the genetic code at the time, they answered questions that have since underpinned advances in genetics and genomics.

Other historic papers guided me in my own work, including early research recognizing the impacts of immune response in disease, and in understanding what was causing that response. In many cases the re-

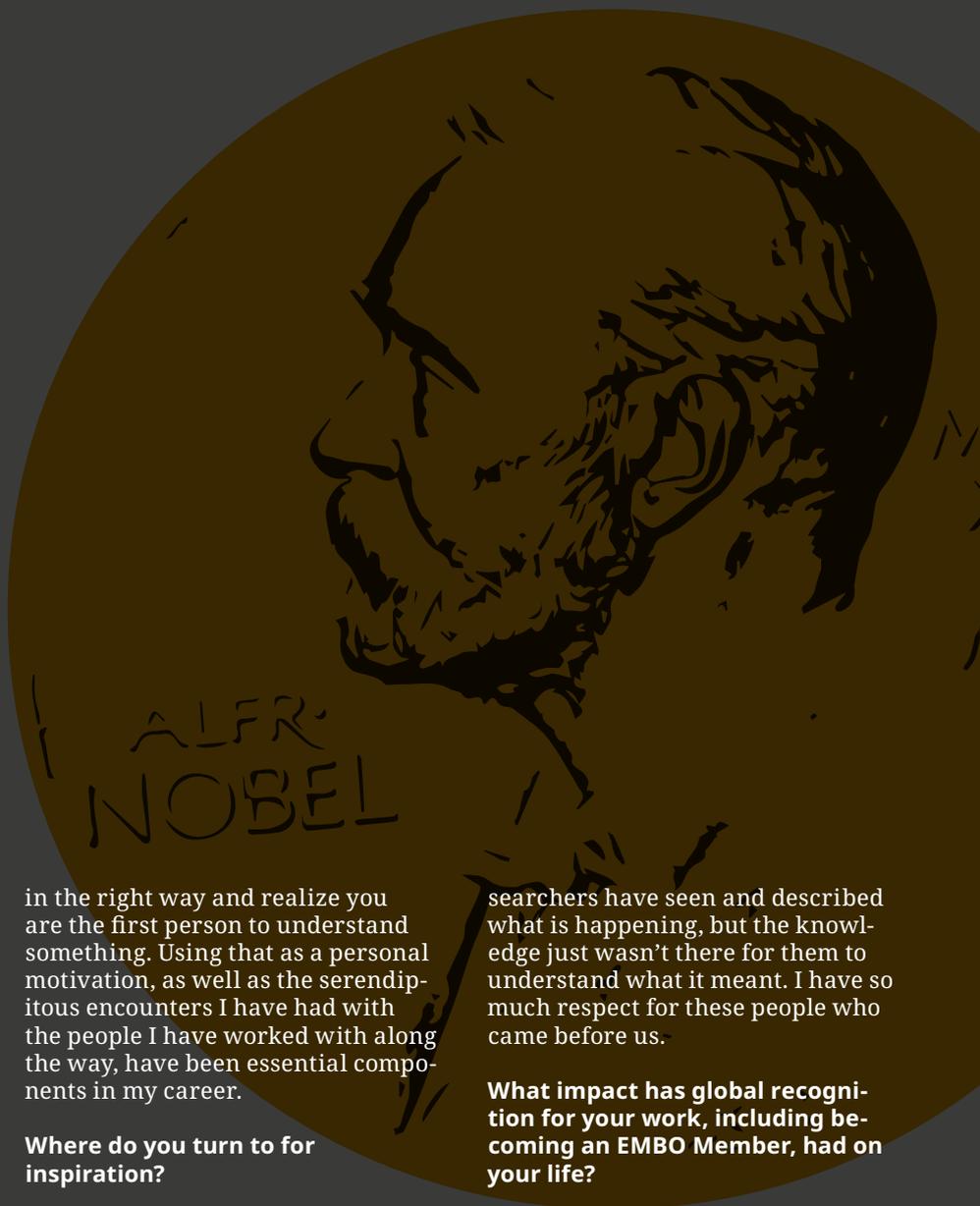
searchers have seen and described what is happening, but the knowledge just wasn't there for them to understand what it meant. I have so much respect for these people who came before us.

What impact has global recognition for your work, including becoming an EMBO Member, had on your life?

I won my first award in an open biology exam in 1973, and the next one didn't come until the 2020s. I have been proud to receive so many incredible prizes, with one of the highlights being elected as an EMBO Member. EMBO has been incredibly important in supporting researchers and driving advances in molecular life science research since it was founded in the 1960s.

Being in the spotlight does not come naturally to me: I was always very happy working in the lab. However, the honours I have received come with responsibilities and I want to help the next generation of scientists to remain motivated, to not get disappointed early on, to know that scientific life can be a lot of fun and to realize that if I can succeed so can they.

A longer interview was published in EMBO Reports (DOI: [10.15252/embr.202358261](https://doi.org/10.15252/embr.202358261))



Leadership, feedback and trusting relationships

Perspectives from the Head of Training at EMBO Solutions

By Samuel Krahl

There's an old joke in which a traveller asks for directions. The punchline, "If you want to get to there, I wouldn't start from here," makes a serious point in the context of leadership: how we begin our journey with someone—the attitude and behaviour we bring to the relationship—makes a huge difference to where we end up with them.

It has become relatively clear from research just how important giving and receiving feedback can be for learning and professional development. Yet this benefit is only experienced when feedback is given well and in the context of a trusting relationship. When done unskillfully, feedback can feel challenging, threatening or shaming, and the act is rife with potential miscommunication and misinterpretation.

An effective, flexible approach to feedback that we teach on the EMBO Laboratory Leadership course is driven by data, clarity and kindness.

It seeks a conversation and leaves space for the recipient to offer their perspective. It can be adapted to the audience's needs and has its roots in Non-Violent Communication.

The approach, which entails three steps, requires us to do our best to avoid interpreting the data or using judgemental language that might trigger shame and defensiveness in the recipient. Managing our language puts the recipient in the best possible position to hear the feedback, understand it and grow from it. If we inadvertently trigger overwhelming negative feelings, they will not hear or accept the help being offered.

Good working relationships take time and hard work. To give critical or developmental feedback that is effective, we must have supportive, trusting relationships. Investing that time pays dividends when things get hard. And in research, as in life, they often get hard.

Further reading

Buckingham, M. & Goodall, A. (2019) **The Feedback Fallacy**. Harvard Business Review.

Meyer, E. (2023) **When Diversity Meets Feedback. How to promote candor across cultural, gender, and generational divides**. Harvard Business Review.

Rosenberg, M. B. (2015) **Nonviolent Communication: A Language of Life** (3rd ed.). PuddleDancer Press.

Scott, K. (2018) **Radical Candor. How to get what you want by saying what you mean**. Pan Books.

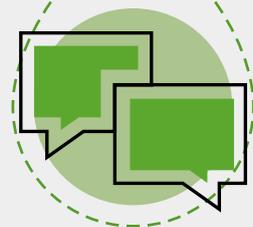
Stone Zander, R. & Zander, B. (2002) **The art of possibility**. Penguin Books.

lab-management.embo.org

1

Explain politely what you have observed

Avoid judgemental words or accusations. Be specific with data so that they understand. You are looking to raise their awareness, not trigger their defences.

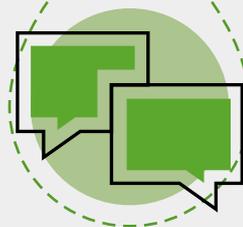


Discuss their experience of the situation. Be open to changing your view.

2

Explain actual or potential impact of their behaviour

Explain what kind of negative/positive impact their behaviour has had, or could have if it continues. Sometimes sharing how you feel about that impact helps them understand its importance.



Discuss how they feel about those impacts. Acknowledge their feelings without judging them.

3

Discuss future behaviour and strategy

You're looking to help them find a better way forward. Ideally, the idea for how they change comes from them. Collaboration is usually most effective, though sometimes you have to set a boundary or direction.

Unlocking secrets



Meet EMBO Installation Grantee Jelena Godrijan

By Adam Gristwood

When new EMBO Installation Grantee Jelena Godrijan first saw tiny microalgae called coccolithophores under an electron microscope, she recalls her astonishment at the beauty and diversity of this single-celled phytoplankton, whose distinctive bodies are covered with shells made of calcium carbonate. “Their cellular architecture is stunning, but they also play a major role in oxygen production and the global carbon cycle,” says Godrijan, who

is based at the Ruđer Bošković Institute, Zagreb, Croatia. “I immediately wondered how something so tiny can have such an important impact on the marine environment.”

Coccolithophores are the only microscopic organisms that carry out both photosynthesis and calcification. They alternate between two distinct life phases that are thought to help them adapt quickly to changing environments. “There are around

200 species of coccolithophores, but for the overwhelming majority we know little about their full life cycles,” Godrijan explains. “My team aims to solve some of the many remaining mysteries: hopefully, the work can contribute to a better understanding of their function in ocean ecosystems, nutrient cycles and how they are responding to climate change.”

It feels incredible to receive an EMBO Installation Grant [...] I will be able to establish and grow my team and work together with others in the EMBO communities.

Jelena Godrijan

Cruciplacolithus neohelis © Jelena Godrijan

Greece, Hungary & Luxembourg join the EMBO Installation Grant scheme

Funding and support now available in 11 countries

By Helen Sitar

Group leaders establishing a laboratory in Greece, Hungary or Luxembourg can now apply for an EMBO Installation Grant. This scheme provides funding, networking opportunities and training to life scientists establishing a laboratory in any of the 11 participating countries.

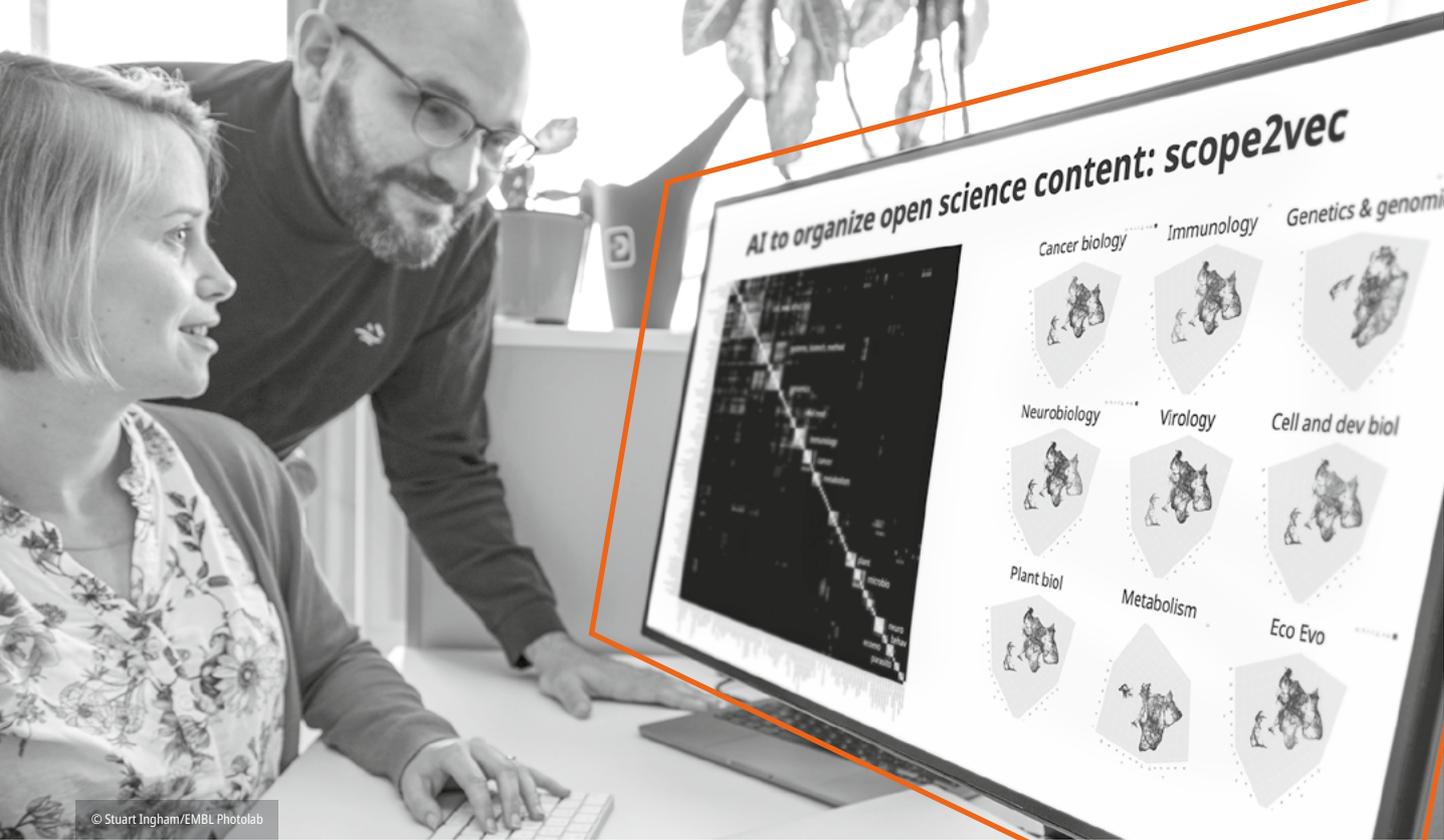
Installation grantees receive 50,000 euros annually for three to five years, training in lab leadership and responsible research conduct and can request funding for organizing conferences. Grantees are integrated into the EMBO Young Investigator

Network, which provides networking and training opportunities as well as assistance in establishing new collaborations. Recipients’ staff can access exclusive training, EMBL Core Facilities and travel grants to enable participation in scientific meetings. Grantees can also apply for grants of up to 10,000 euros per year from EMBO.

Early in 2023, the General Secretariat for Research and Innovation (Greece), the Hungarian Academy of Sciences (Hungary) and the Ministry of Higher Education and Research

(Luxembourg) joined the funding bodies of Croatia, the Czech Republic, Estonia, Lithuania, Montenegro, Poland, Portugal and Türkiye in offering support to researchers via the EMBO Installation Grant Scheme. The grants are co-funded by the ministry or funding agency in each participating country and EMBC, the intergovernmental organization comprising 30 members states, which funds the EMBO Programmes.

embo.org/funding/fellowships-grants-and-career-support/installation-grants



Applying AI to Open Science

Inside Open Science Implementation at EMBO

By Stephen Pewter

EMBO and EMBO Press have long been committed proponents of Open Science and its goal of making research accessible, promoting trust, and encouraging sharing of methods and data. Now, with rapid progress in the field of artificial intelligence (AI), the EMBO Open Science Implementation (OSI) team is applying AI to address challenges in Open Science.

Tasks such as the organization and curation of an increasingly large body of open research material are perfect subjects for machine learning algorithms. However, this raises practical and, sometimes, ethical questions. The EMBO OSI team works at this intersection of policy, publishing, and technology to facilitate the meaningful and responsible integration of AI into Open Science.

The Open Science implementation strategy

The OSI strategy at EMBO is to innovate by exploring the potential of new approaches and engaging in external collaborations to consolidate and scale them up. For example, one current project uses AI for the curation of datasets linked to figures in scientific papers. This approach significantly improves the efficiency and reliability of published data.

Another initiative uses AI to map the research themes covered by different journals, institutions and even individuals. This is valuable for investigating the evolution of research topics in journals, exploring the global landscape of open research by mining preprints, and identifying gaps in the publishing landscape.

AI can also provide practical help, for example in the peer-review process. The OSI team is experimenting with tools to suggest improvements to the tone and language of a review, to extract the significant themes

from reviews and to identify the parts of a manuscript that received most attention from reviewers.

Responsible AI: Balancing the risks and rewards

Extensive testing and evaluation are prerequisites to launching new tools, but AI comes with unique concerns around the accuracy and trustworthiness of generated content and whether AI should replace human input and oversight.

The focus of the OSI team is therefore to complement human expertise with AI tools, rather than aiming to replace human input. In addition, transparency about when and why AI has been used is important for accountability and increasing trust in generated content.

As AI continues to evolve, it has the potential to redefine many aspects of scientific communication. By focusing on a responsible approach to AI tool deployment, EMBO aims to take advantage of the benefits of these new technologies while minimizing its drawbacks.

Strengthening ties with scientists in India

EMBO visits institutes across the country

By Rosemary Wilson



© IIT Madras, Chennai

Visited institutes

- **Indian Institute of Science** Bengaluru
- **Institute of Microbial Technology** Chandigarh
- **Indian Institute of Technology** Chennai
- **Institute of Genomics & Integrative Biology** Delhi
- **Centre for Cellular & Molecular Biology** Hyderabad
- **Institute of Chemical Biology** Kolkata
- **Indian Institute of Technology** Mumbai
- **Indian Institute of Science Education and Research** Pune
- **Indian Institute of Science Education and Research** Thiruvananthapuram

In the week from 27 February to 3 March 2023, a delegation comprising 23 EMBO Members, Young Investigators and Global Investigators, and EMBO staff visited nine research institutes located across India with the goal of fostering collaboration and ties with scientists in the country.

The day-long programme at each location included scientific talks by EMBO community members as well as presentations informing Indian life scientists about EMBO opportunities available to them. Furthermore, EMBO Solutions trainers ran soft skills workshops, and EMBO Press editors discussed scientific publications. EMBO Associate Members from India joined the proceedings.

Participants had the chance to network and exchange ideas. The events were organized by EMBO together with scientists, their lab members and EMBO community members at the institutes in India. “All participants had an exciting time and felt enriched,” says EMBO

Global Investigator Aravind Penmatsa from the Indian Institute of Science in Bengaluru.

“I gratefully acknowledge the Department of Biotechnology and Indian scientists whose groundwork led to India becoming an Associate Member State of EMBC, the EMBO funding body, in 2016. The original aim of strengthening scientific interaction and collaborative research between scientists in India, Europe and beyond is being achieved,” says Fiona Watt, EMBO Director. EMBO delegates also met with officials in the Department of Biotechnology and other government and non-governmental agencies.

Researchers working in India are eligible to participate in all EMBO Programmes and activities, including EMBO Fellowships, Courses & Workshops and the Young Investigator Network. EMBO communities and networks extend around the globe and include scientists at all career stages.

events.embo.org/india



Sensory science

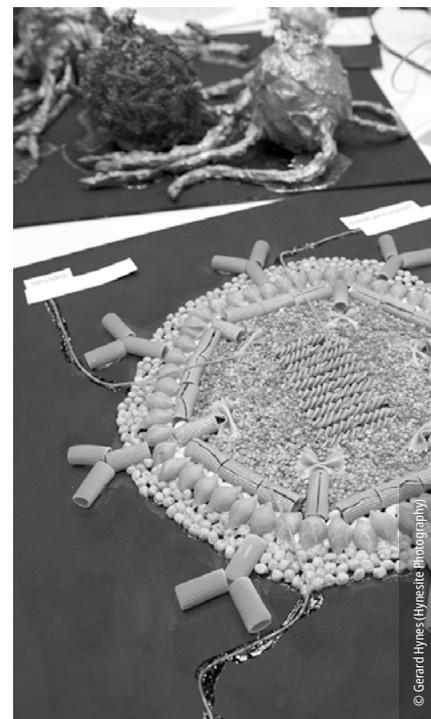
Art makes immunity accessible to blind, low vision and diverse needs audiences

The free *Monash Sensory Science Exhibition on Autoimmunity* was the most recent in a series of multisensory exhibitions for those who have low or no vision. More than 100 visitors learned how the body can mistakenly attack itself, resulting in diseases such as rheumatoid arthritis, type 1 diabetes and multiple sclerosis. They explored tactile 2D displays and handmade 3D sculptures, joined interactive workshop sessions, talked to scientists, and listened to immunology-inspired music and data sonification. They also learned from the newly launched multisensory science books, which are touched and felt while the text is being read out.

The exhibition took place at Monash University in Melbourne, Australia, in June 2023. Further exhibitions at the Statewide Vision Resource Centre in Melbourne were part of the Australian National Science Week. The people behind them are Jamie Rossjohn, an EMBO Associate Member and professor at Monash University, and Erica Tandori, a legally blind artist and academic.

Rossjohn relies on his vision and imaging technologies for his structural immunology research. He was looking for a way to bring the beauty of science and the light microscope to the low vision and blind community, when a conversation with his assistant, who has low vision, added to the idea. The larger aim is disability inclusion, including in the workplace. “I would like to make science more accessible, so that people who ordinarily don’t think of a career in science can consider it,” says Rossjohn, who also pioneered a programme for disability student scholarships and graduate internships in his laboratory.

Tandori explores the interface of art, science and vision loss. With her lived experience of blindness, she generates artwork that makes some of science’s most beautiful images tangible for blind, low vision and diverse needs audiences. She has been artist in residence in Rossjohn’s laboratory since 2017. Together they have hosted several sensory science exhibitions featuring tactile displays, large print and Braille text, sounds and even smells that covered topics from infection and immunity to vision and cancer.



rossjohnlab.com/monash-sensory-science

Nobel Prize awarded to Katalin Karikó

The EMBO Member receives the 2023 Nobel Prize in Physiology or Medicine

EMBO congratulates Katalin Karikó and Drew Weissman on jointly receiving the Nobel Prize in Physiology or Medicine. The Nobel Assembly at Karolinska Institutet awarded the prize “for their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19”.

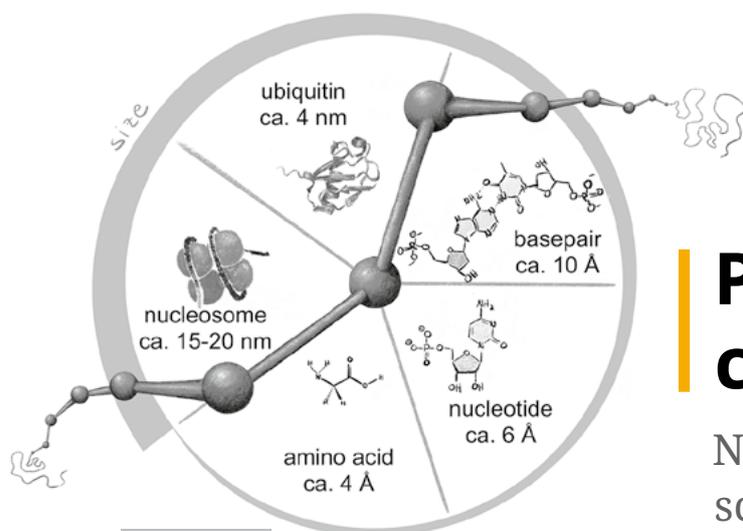
“This discovery has opened a new chapter for medicine. It is not only going to be useful for producing more vaccines against other infectious diseases—like malaria, RSV,

CMV and all the different viruses, including HIV maybe—but can also help us combat non-infectious diseases, for instance cancer,” says member of the Nobel Assembly Qiang Pan Hammarström.

Elected to the EMBO Membership in July, Karikó is now the 92nd Nobel Prize laureate among the EMBO Members and Associate Members. She is professor at Szeged University, Hungary, and adjunct professor at University of Pennsylvania, Philadelphia, USA.



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© Nike Hein/SFB1551

Polymers are molecules made up of many, often identical, building blocks. Essential biological macromolecules, such as DNA, RNA and proteins, are also polymers—so called biopolymers. Understanding cellular functions from the polymer perspective is the goal of the new collaborative research centre (CRC) funded by the German Research Foundation for a four-year period. The CRC was initiated in January under the lead management of Johannes Gutenberg University Mainz,

Germany. Its spokesperson is EMBO Member Edward A. Lemke. Participating researchers include EMBO Members René F. Ketting and Helle Ulrich from the Institute of Molecular Biology.

“We have put together outstanding teams of biologists and polymer scientists to study the polymer properties of DNA, RNA and proteins in order to understand how they interact on the biological level,” explains Lemke. According to him, the pol-

Polymer concepts in cellular functions

New research centre combines life sciences and polymer research

ymeric nature of these macromolecules has to date received insufficient attention. “All our research teams represent both perspectives, from polymer and life sciences, which I am particularly proud of,” he says. For him, the CRC is the completion of a long-cherished dream that began with the organization of the first EMBO I EMBL Symposium on the subtopic phase separation five years ago.

crc1551.com

A new era for life sciences in Poland

Recently established institute attracts talent

A new institute for life science research has been established in Poland with participation of several members of the EMBO communities. Research at the International Institute of Molecular Mechanisms and Machines (IMol) of the Polish Academy of Sciences covers a wide spectrum of disciplines including biology, biotechnology, bioinformatics, chemistry, pharmacology and related fields. Commercialisation activities complete its profile. The institute's director is EMBO Member Agnieszka Chacinska. Two junior group leaders are EMBO Installation Grantees. IMol also hosts three EMBO Postdoctoral Fellows.



We have a very broad interest in molecular biology, but what all our research groups share is their interest in mechanisms at the molecular level.



Agnieszka Chacinska

Research at IMol is guided by a scientific board consisting of eminent scientists from various academic institutions in Europe and the US. It includes EMBO Member Magda Konarska. “Poland needs this type of organization maybe more than other countries, because it helps attract promising scientists from abroad,” she explains. The board ensures

that leaders are selected based on their scientific excellence. The success of IMol proves it right: in just two years, the institute has managed to attract talent from Europe and beyond, reversing brain drain. It already holds a number of national and international grants.

imol.institute

| Symbiotic art

Interdisciplinary art initiative *¡vamos, symbiosis!* brings new perspectives

For Annika Guse, professor at Ludwig-Maximilians-Universität (LMU) in Munich, Germany, and former EMBO Young Investigator, it started with a realization: it was irrelevant how compelling the data was that she collected about the health of the oceans, if it was not being seen and understood by people outside of her scientific bubble. “We need to work together in bigger international teams to look at global problems from various angles and pool ex-

perience,” believes Guse, who studies the symbiotic relationship between algae and coral. Together with her sister Stephanie Guse, a fellow water-lover and artist based in Vienna, Austria, Annika created the art project *¡vamos, symbiosis!*, a call for a collaborative partnership with the seas and the people and ecosystems relying on them.

For three weeks at the end of 2022, the sisters invited scientists, artists, cooks, divers, fishers and politicians to join them in Águilas, Spain, for a unique workshop. The participants discussed issues such as climate change and ocean biodiversity, sharing observations, data and concerns. Artists helped translate the wide range of perspectives into a shared visual language and an exhibition was created, reflecting their collective experiences and inspiring action.



The exhibition itself was on display at the LMU earlier this year, and while the current project runs until the end of 2023 the sisters are keen to have a long-term and wide-reaching effect with their approach of addressing global issues. “My goal is to create a thinktank where people regularly come together across disciplines to break down larger topics,” says Annika. Her dream would be that students are immersed early on in their studies in interdisciplinary contexts, learning how to communicate across disciplines. “I believe these will be the future leaders of our societies,” she adds.

vamosymbiosis.org

Unlike cold, hard facts, art speaks to people on an emotional level.



Turning disaster into opportunity

After a devastating fire Cancer Research UK Manchester Institute moves into brand-new facility

Six years after the catastrophic fire that resulted in the relocation of the Cancer Research UK Manchester Institute to temporary premises, the institute returned to a new building on the original site at The Christie NHS Foundation Trust, having turned disaster into an opportunity to create a state-of-the-art facility that will lead world-class transformational cancer research. The Paterson Redevelopment Project was led by The Christie, Cancer Research UK and The University of Manchester with critical input from EMBO Members Caroline Dive and Iain

Hagan, leading to the vision for a new comprehensive cancer facility, the Paterson Building. The staff finally relocated in April, thanks to the resilience and enormous efforts of many people.

Starting afresh made it possible to rethink how they work. Fully interconnecting lab spaces across all floors removed barriers to researchers' movement, streamlining workflows and facilitating the sharing of equipment and ideas. A bridge linking the institute directly to The Christie will allow clinical samples



to reach the scientists more efficiently. The animal facility incorporates many features designed to support the highest standards of both animal and staff welfare. Colocation of researchers, clinicians and allied healthcare professionals will foster more powerful collaboration, accelerating progress for cancer patients in Manchester and across the world.

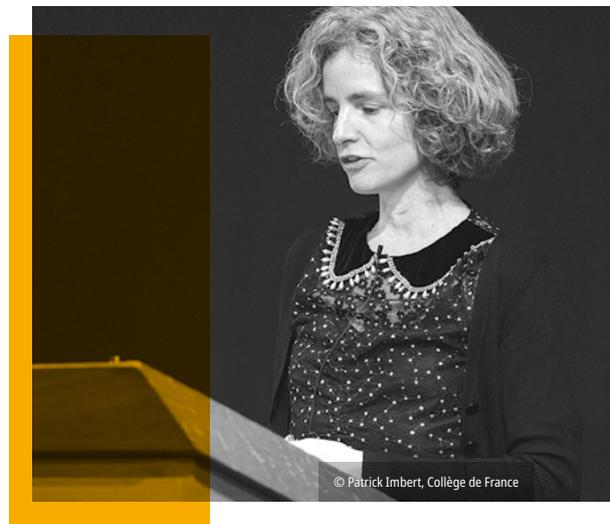
Thinking differently about living beings

Virginie Courtier-Orgogozo holds lecture series

"Facing a major biodiversity crisis, I chose to reflect on what has led us humans to the current situation, despite all the knowledge we have acquired," says EMBO Member Virginie Courtier-Orgogozo of the weekly lecture series she gave from February to April as the newly appointed annual chair of biodiversity and ecosystems at the Collège de France. The series, called *Penser le vivant autrement (Thinking differently about living beings)*, included weekly one-hour lessons by Courtier-Orgogozo on topics like genetics, evolution and domestication as well as seminars from rotating experts in related fields.

Courtier-Orgogozo, who is also a director of research at CNRS, says she took a critical look at the discipline of biology, and tried to examine some of our human biases and how to overcome them. In her talks, she considers the use of metaphors to explain intricacies of the living world and the folly of relying on simplistic constructs ill-fitted to the complexities of living systems. Video recordings of the 16 lessons are freely available in the original French language.

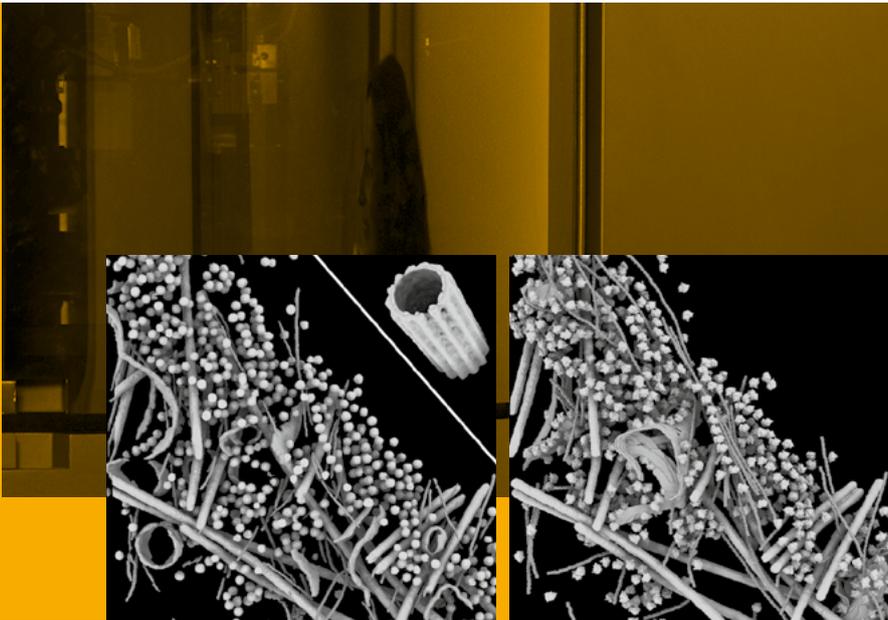
college-de-france.fr/fr/agenda/cours/penser-le-vivant-autrement



© Patrick Imbert, Collège de France

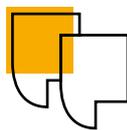
AI helps to decipher cellular structures

New tool for cryo-electron tomography by EMBO Gold Medalist Julia Mahamid and colleagues



To the untrained eye, a cryo-electron tomogram looks more like traces in sand than the detailed snapshot of a cell that it is. Specialists trained in powerful microscopy techniques can use the image to study the location and shape of cellular organelles, and structures of large molecular complexes. As a result, researchers can gain insight into a cell's inner workings, both in healthy and diseased states. However, the approach has a major drawback: while trained specialists can be very good at recognizing and labelling different cellular structures in tomograms, the process is extremely time-consuming.

This is why the Zaugg, Mahamid, Kreshuk and Diz-Muñoz groups at EMBL Heidelberg, Germany, have created an artificial intelligence-based method to annotate cellular structures in cryo-electron tomograms rapidly and efficiently. They described this tool in a recent publication (DOI: [10.1038/s41592-022-01746-2](https://doi.org/10.1038/s41592-022-01746-2)) and have made it openly available for the scientific community to access and use.



Now we have shown that this works, we are excited about making the software available to the research community. We hope that such deep learning approaches will become established as a gold standard in cryo-electron tomography.



Julia Mahamid

DeePiCt (Deep Picker in Context), a deep learning framework, can recognize and label organelles and molecular complexes substantially faster than the human eye and without human bias, producing richly detailed cellular images. The software combines two types of convolutional neural networks, deep learning algorithms that can find patterns and differentiate objects in an image. Once it is trained to recognize a specific particle in a set of tomograms, it can then identify the same particles in new tomograms

it has never seen before, including those of cells belonging to a different species. This means DeePiCt can be used by researchers using cryo-electron tomography on many different sample types.

Full article originally published at embl.org/news/science/ai-helps-scientists-decipher-cellular-structure

Awards

A selection of prizes awarded to members of the EMBO communities



Oğün Adebali

Mustafa Parlar Research Encouragement Award
Parlar Foundation

The award recognizes his work on computational genomics, genome integrity and mutagenesis.



Dario Alessi

Jeantet-Collen Prize for Translational Medicine 2023
Louis-Jeantet Foundation

He is awarded the prize of 500,000 Swiss francs for elucidating the molecular basis of neurodegenerative disorders and developing new approaches to therapeutic intervention in Parkinson's disease.



Frances M. Ashcroft

Manpei Suzuki International Prize for Diabetes Research 2022
Manpei Suzuki Diabetes Foundation

She is recognized for advancing our understanding of insulin secretion from pancreatic beta-cells in both health and disease by the prize worth 150,000 US dollars.



Ivet Bahar

Vehbi Koç Award 2022
Vehbi Koç Foundation

She receives the award, which is given to individuals or organizations that have contributed significantly to the development of Türkiye, for the computational molecular and systems biology studies she has pioneered.



Elvan Böke

Vallee Scholar Award 2023
The Vallee Foundation

She is one of six early-stage researchers appointed the award and receives 340,000 US dollars to develop her research on egg cells and female fertility further.



Piet Borst

Lasker~Koshland Scientific Achievement Award in Medical Science 2023
Lasker Foundation

The physician-scientist receives the award for his exceptional 50-year career of scientific discovery, mentorship and leadership.



Patrick Cramer

Shaw Prize in Life Science & Medicine
Shaw Prize Foundation

Patrick Cramer and Eva Nogales share the prize of one million US dollars for their significant contributions to elucidating gene transcription through structural biology.



Ivan Dikić and Brenda Schulmann

Louis-Jeantet Prize for Medicine 2023
Louis-Jeantet Foundation

They share the prize of 500,000 Swiss francs for their contributions to our understanding of the functions of ubiquitin and the mechanisms of ubiquitination.



Miki Ebisuya

Alexander von Humboldt Professorship 2023
Humboldt Foundation

She receives the award, which brings top international researchers to German universities, for her research in developmental biology.



Jan Ellenberg

Honorary doctorate
Stockholm University

He receives the doctorate for his research in cell biology and his contributions to the establishment of advanced imaging facilities in Europe.



Anne Ephrussi

Lifetime Achievement Award
Society for Developmental Biology

The award recognizes her research contributions to our understanding of RNA localization and translation in development.



Sarah-Maria Fendt

Fondation ARC Léopold Griffuel Award
ARC Foundation

The award recognizes her innovative approach to treating the formation of cancer metastasis as a metabolic disease.

Franco-Collen Prize
Franco Foundation

She receives the prize, which is awarded to scholars under 50 years of age, for her fundamental research on metastasis of cancer cells.

**Edith Heard**

Honorary doctorate 2022
University of Cambridge

She receives the doctorate in recognition of her work in epigenetics and developmental biology, as well as her dedication to science.

**Stephen P. Jackson**

Knight Bachelor
King's Birthday Honours 2023

He was knighted for his services to innovation and research as part of the King's first birthday honours list.

**Johanna Joyce**

Pezcoller-Marina Larcher Fogazzaro-EACR Women in Cancer Research Award
Pezcoller Foundation

She receives the award for her research on the tumour microenvironment and the influence of non-cancerous cells on tumour progression, metastasis and therapeutic response.

**Guillermina López-Bendito**

King Jaume I Prize for Medical Research/Clinical Medicine 2023
La Fundación Valenciana Premios Rei Jaume I

The prize, which must be partly reinvested into research and entrepreneurship in Spain, acknowledges her studies of the formation of neuronal connections.

**Marcin Nowotny**

FNP Prize in the area of life and earth sciences 2022
Foundation for Polish Science

He receives the prize for the explanation of the molecular mechanisms of DNA damage recognition and repair.

**Stefan Pfister**

Gottfried Wilhelm Leibniz Prize 2023
German Research Foundation

He is awarded the prize of 2.5 million euros in recognition of his research in the field of paediatric oncology.

**Erin Schuman**

The Brain Prize 2023
Lundbeck Foundation

She receives the prize worth 1.3 million euros jointly with Michael Greenberg and Christine Holt for revealing how neurons regulate thousands of different proteins.

Lewis S. Rosenstiel Award for Distinguished Work in Basic Medical Research
Rosenstiel Basic Medical Sciences Research Center

Erin Schumann and Christine Holt are honoured for their pioneering work on the role of local protein synthesis in neuronal development and function.

**Benjamin Schumann**

Early Career Research Award 2024
Biochemical Society

He is awarded for his study of glycans, which cover every cell in the human body and are involved in processes that are essential for life.

RSC Carbohydrate Dextra Award 2023
Royal Society of Chemistry

The award recognizes his research into chemical glycan-based tools in quantitative biology.

**Jonathan Slack**

Wolpert Medal 2023
British Society for Developmental Biology

The medal recognizes his contributions to teaching and communication of developmental biology in the UK, namely as an author of several influential books.

**Janet Thornton**

Honorary Doctorate
Stockholm University

She receives the doctorate for increasing the fundamental understanding of the structure and function of proteins, and how they contribute to disease and ageing.

**Athanasios Typas**

Liliane Bettencourt Prize for Life Sciences 2022
Fondation Bettencourt Schueller

The prize for a researcher under the age of 45 rewards the excellence of his work and his contribution to gut microbiome research.

**Manuel Valiente**

Banco Sabadell Foundation Award for Biomedical Research
Banco Sabadell Foundation

He is recognized for his research into the mechanisms that generate brain metastases and the identification of therapeutic targets.

Good reads

A selection of publications and books by members of the EMBO communities

The interplay of 3D genome organization with UV-induced DNA damage and repair

Ogun Adebali and colleagues

Journal of Biological Chemistry / May 2023

DOI: [10.1016/j.jbc.2023.104679](https://doi.org/10.1016/j.jbc.2023.104679)

A stem cell zoo uncovers intracellular scaling of developmental tempo across mammals

Miki Ehisuya and colleagues

Cell Stem Cell / 6 July 2023

DOI: [10.1016/j.stem.2023.05.014](https://doi.org/10.1016/j.stem.2023.05.014)

Phenotypic diversity of T cells in human primary and metastatic brain tumors revealed by multiomic interrogation

Johanna A. Joyce and colleagues

Nature Cancer / 22 May 2023

DOI: [10.1038/s43018-023-00566-3](https://doi.org/10.1038/s43018-023-00566-3)

HIV co-opts a cellular antiviral mechanism, activation of stress kinase PKR by its RNA, to enable splicing of rev/tat mRNA

Raymond Kaempfer and colleagues

Cell & Bioscience / 11 February 2023

DOI: [10.1186/s13578-023-00972-1](https://doi.org/10.1186/s13578-023-00972-1)

Positive regulation of splicing of cellular and viral mRNA by intragenic RNA elements that activate the stress kinase PKR, an antiviral mechanism

Raymond Kaempfer

Genes / 26 April 2023

DOI: [10.3390/genes14050974](https://doi.org/10.3390/genes14050974)

The homodimer interfaces of costimulatory receptors B7 and CD28 control their engagement and pro-inflammatory signaling

Raymond Kaempfer and colleagues

Journal of Biomedical Science /

28 June 2023

DOI: [10.1186/s12929-023-00941-3](https://doi.org/10.1186/s12929-023-00941-3)

EDA2R–NIK signalling promotes muscle atrophy linked to cancer cachexia

Serkan Kir and colleagues

Nature / 10 May 2023

DOI: [10.1038/s41586-023-06047-y](https://doi.org/10.1038/s41586-023-06047-y)

Attractor dynamics drives self-reproduction in protobiological catalytic networks

Doron Lancet and colleagues

Cell Reports Physical Science /

17 May 2023

DOI: [10.1016/j.xcrp.2023.101384](https://doi.org/10.1016/j.xcrp.2023.101384)

Modular antibodies reveal DNA damage-induced mono-ADP-ribosylation as a second wave of PARP1 signaling

Ivan Matic and colleagues

Molecular Cell / 18 May 2023

DOI: [10.1016/j.molcel.2023.03.027](https://doi.org/10.1016/j.molcel.2023.03.027)

Androgen receptor coordinates muscle metabolic and contractile functions

Daniel Metzger and colleagues

Journal of Cachexia, Sarcopenia and Muscle / August 2023

DOI: [10.1002/jcsm.13251](https://doi.org/10.1002/jcsm.13251)

Hypoxia-inducible factor 1A inhibition overcomes castration resistance of prostate tumors

Daniel Metzger and colleagues

EMBO Molecular Medicine /

7 June 2023

DOI: [10.15252/emmm.202217209](https://doi.org/10.15252/emmm.202217209)

Facial neuromuscular junctions and brainstem nuclei are the target of tetanus neurotoxin in cephalic tetanus

Cezare Montecucco and colleagues

The Journal of Clinical Investigation

Insights / 9 May 2023

DOI: [10.1172/jci.insight.166978](https://doi.org/10.1172/jci.insight.166978)

Age-dependent nuclear lipid droplet deposition is a cellular hallmark of aging in *Caenorhabditis elegans*

Nektarios Tavernakis and colleagues

Aging Cell / 31 January 2023

DOI: [10.1111/accel.13788](https://doi.org/10.1111/accel.13788)

Local coordination of mRNA storage and degradation in the vicinity of mitochondria modulates *C. elegans* ageing

Nektarios Tavernakis and colleagues

The EMBO Journal / 10 July 2023

DOI: [10.15252/emboj.2022112446](https://doi.org/10.15252/emboj.2022112446)

Nucleophagy delays aging and preserves germline immortality

Nektarios Tavernakis and colleagues

Nature Aging / 23 December 2022

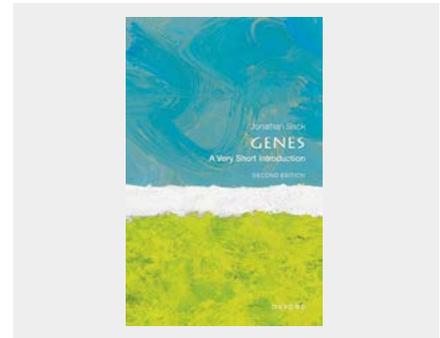
DOI: [10.1038/s43587-022-00327-4](https://doi.org/10.1038/s43587-022-00327-4)

Machine learning identifies experimental brain metastasis subtypes based on their influence on neural circuits

Manuel Valiente and colleagues

Cancer Cell / 11 September 2023

DOI: [10.1016/j.ccell.2023.07.010](https://doi.org/10.1016/j.ccell.2023.07.010)



Jonathan M.W. Slack

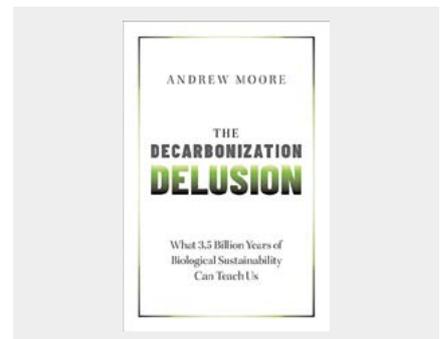
Genes: A Very Short Introduction

Second Edition

Oxford University Press, 2023

ISBN: 9780192856708

EMBO Member Jonathan M.W. Slack looks at the discovery, nature, and role of genes in both evolution and development. He explains genetic variation in human populations, and how DNA is used for tracing ancestry and migration, for the generation of medical profiles and in forensic science.



Andrew Moore

The Decarbonization Delusion: What 3.5 Billion Years of Biological Sustainability Can Teach Us

Oxford University Press, 2023

ISBN: 9780197664834

This book by former EMBO programme manager and associate editor Andrew Moore offers a novel perspective on carbon and its role in sustainability efforts. He suggests looking to the earth, which has used carbon in sustainable ways for 3.5 billion years, as a model for how humans can use carbon sustainably.

Events

Practical Courses

AU-Lorne | 4–7 February 2024 | *P. Czabotar*
49th Lorne Conference on protein structure and function

ES-Valencia | 28 January–3 February 2024 | *A. Bombarely*
Hands-on course in genome sequencing, assembly, and downstream analyses

DE-Heidelberg | 27 February–1 March 2024 | *B. Velten*
Integrative analysis of multi-omics data

IT-Genoa | 7–12 April 2024 | *E. Bechara*
iCLIP2: An advanced technique for protein-RNA interaction mapping

DE-Martinsried-Planegg | 14–22 April 2024 | *J. Plitzko*
In situ structural biology by Cryo-FIB and Cryo-ET

DE-Heidelberg | 15–19 April 2024 | *V. Hamel*
Ultrastructure expansion microscopy

IT-Milan | 8–16 May 2024 | *F. Jug*
Deep learning for microscopy image analysis (EMBO-DL4MIA)

FR-Grenoble | 25 May–1 June 2024 | *W. Galej*
Structural characterisation of macromolecular complexes

Workshops

DE-Heidelberg | 6–9 December 2023 | *J. Kosinski*
Computational structural biology

IN-Bhubaneswar, Odisha | 9–12 January 2024 | *K. Panigrahi*
International symposium on plant photobiology (ISPP)

IN-Lonavala | 19–23 February 2024 | *A. Ray Chaudhuri*
Evolution and diversity of the DNA damage response

DE-Heidelberg | 20–23 February 2024 | *J. Backs*
The new cardiobiology

CL-Valparaiso | 17–20 March 2024 | *M. Concha*
Latin American developmental biology conference

IT-San Servolo (Venice) | 8–12 April 2024 | *M. Iannaccone*
Pathogen immunity and signaling

FR-Nice | 9–12 April 2024 | *E. Gilson*
Developmental circuits in aging

IT-Sardegna | 16–19 April 2024 | *G. Shivashankar*
Nuclear mechano-genomics

SG-Singapore | 23–26 April 2024 | *C. Vallot*
Chromatin biology in cancer 2024

ES-Barcelona | 6–8 May 2024 | *M. Bernabeu*
Building networks 2024: Engineering in vascular biology

GR-Heraklion | 13–17 May 2024 | *J. Elegheert*
Molecular neurobiology

IE-Bantry | 13–18 May 2024 | *P.V. Baranov*
Recoding and the diversity of genetic decoding

PT-Alcobaça | 14–17 May 2024 | *M.G. Pinho*
Archaeal and bacterial cell division: Beyond the Z-ring

IT-Genoa | 21–24 May 2024 | *A. Sierra*
Microglia in health and disease

BE-Namur | 28–31 May 2024 | *A. Dennis*
Workshop to establish state-of-the-art mollusc genomics

IT-Rimini | 29–31 May 2024 | *A.C. Obenauf*
The many faces of cancer evolution

EMBO | EMBL Symposia

DE-Heidelberg | 12–15 March 2024 | *C. Courtney*
AI and biology

DE-Heidelberg | 19–22 March 2024 | *C. Stocks*
Biological oscillators: rhythms and synchronisation across scales

DE-Heidelberg | 9–12 April 2024 |
Diversity of plants: From genomes to metabolism

DE-Heidelberg | 15–18 April 2024 | *M. Bacadare*
The mechanics of life: from development to disease

DE-Heidelberg | 23–26 April 2024 | *C. Stocks*
Organismal physiology

DE-Heidelberg | 14–17 May 2024 | *C. Stocks*
Cellular mechanisms driven by phase separation

EMBO | FEBS Lecture Course

GR-Spetses | 26 May–1 June 2024 | *E. Breukink*
Membranes, lipids and proteins in organelle biogenesis

Upcoming deadlines

Gold Medal, Early Career Lecture Courses
1 February

Courses and Workshops
1 March

Young Investigator Programme
1 April

Installation Grants
15 April

FEBS | EMBO Women in Science Award
15 May

Global Investigator Network
1 June

Pushing the boundaries of Open Science

Reproducible open data
EMBO Press

The preprint peer-review platform
Review Commons

Combining human expertise with AI
Early Evidence Base

Implementing Open Science
SourceData

