

Encounters





EMBO at 60

Fiona Watt looks at the past, present and future of EMBO in its sixtieth anniversary year

Stipends for science journalists

Launch of the Maria Leptin | EMBO Science Journalism Fellowships

EMBO Lab Sustainability Award

Recognizing pioneers of environmental sustainability in life science research



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Rosemary Wilson

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Welcome to Encounters #48

Editorial from the EMBO Director



I am delighted to welcome you to this anniversary issue of the Encounters magazine. In 2024, EMBO is celebrating 60 years of excellence in life sciences. Therefore, we are not only looking back over the past year, but also reflecting on the six decades of continuous development that have shaped the organization that EMBO is today.

The past achievements and current activities of EMBO have been made possible thanks to the ongoing funding of EMBO Programmes by EMBC, an intergovernmental organization of 31 countries. EMBC is celebrating its fifty-fifth anniversary in 2024 and has recently welcomed Latvia as its newest member state (page 13).

In this anniversary issue of Encounters, I reflect on the past, the present and the bright future of EMBO (<u>pages 18–19</u>). We also highlight two schemes launched in 2024: the Maria Leptin | EMBO Science Journalism Fellowships (<u>page 17</u>) and the EMBO Lab Sustainability Award (<u>pages 24–25</u>). These initiatives address the contemporary challenges of communicating research to the public and the environmental impact of life science research.

In an interview, historian Francesco Cassata considers the history of EMBO from an external perspective, and shares his insights into science diplomacy in Europe and the development of molecular biology as a distinct field (<u>pages 4–5</u>). The history timeline we include tells the story of the development of EMBO, its achievements and its impact over 60 years (<u>pages 4–25</u>).

We also provide our regular report on news from members of the EMBO communities. It features some of your exciting stories, including one that explores a historical connection to EMBO, as well as books, awards and publications (pages 26–34).

I hope you will enjoy this anniversary issue of Encounters. We will continue to inform you about the latest news from EMBO over the coming year and look forward to any feedback you may have.

M. Watt

Fiona M. Watt Director, EMBO

From EMBO to ERC

A historian's perspective on establishing molecular biology as a field and science diplomacy in Europe

Interview conducted by Astrid Gall

Francesco Cassata is a Professor of Contemporary History at the University of Genoa, Italy. From 2022 to 2025, he is working on the early history of EMBO, EMBC and EMBL as a Fellow in Residence at the Accademia Nazionale dei Lincei - Centro Linceo "B. Segre" in Rome.

How have you become interested in the history of EMBO?

I started from the establishment of the International Laboratory of Genetics and Biophysics in Naples by Adriano Buzzati-Traverso, who was also one of the founders of EMBO. I discovered that the EMBO history was more complex than I expected. It was not just a British story; it was a European story. It was also important for me to explore biology as a form of European integration on the political level.

Why were both the scientific and political levels important for establishing molecular biology in Europe?

The creation of an intergovernmental structure was considered a crucial means to secure international and political legitimacy for molecular biology at the European level, to ensure the survival of EMBO itself



and to establish it as the representative of the field in Europe. The value of molecular biology for understanding life was still unclear and challenged by traditional disciplines of biology. In contrast, the role of high-energy physics, the focus of the European Organization for Nuclear Research (CERN), was unquestionable among physical scientists.

The neeting at CERN

1962

Where has the analogy with CERN worked?

CERN was an important reference for the first steps of EMBO. It was a symbolic, diplomatic and political resource to be exploited. It provided facilities and technical support for EMBO and EMBC meetings before the establishment of the Heidelberg







The agreement establishing the European Molecular Biology Conference (EMBC) was signed at CERN, Geneva, on 13 February 1969.

offices. It was also a source of acronyms. In official documentation, EMBC (the European Molecular Biology Conference) was long called CEBM (Conférence Européenne de Biologie Moléculaire), and EMBL was called CERB (Conseil Européen de la Recherche Biologique).

Where has it not worked?

The analogy emphasizes the connection between big equipment and an intergovernmental laboratory as the only institutional framework for international cooperation in science and technology. But the institutional architecture of molecular biology in Europe was not just a mere replica of CERN. It was an original threedimensional model: a scientific organization (EMBO) made proposals to an intergovernmental organization (EMBC) funding its activities, and the laboratory (EMBL).

What have EMBO/EMBC meant for the establishment of the European **Research Council (ERC)?**

Three organizations, EMBO, EMBL and the Federation of European Biochemical Societies (FEBS), were fundamental for the discussion and creation of the ERC. It was an institutional collaboration, and part of a personal relationship between three figures at the time: Frank Gannon, Executive Director of EMBO; Fotis Kafatos, Director of EMBL, who became President of ERC; and Julio Celis, President of EMBC and FEBS. The organizations were crucial for establishing the European Life Sciences Forum in 2000 and the Initiative for Science in Europe in 2004, two arenas in which the ERC took shape.



Did you come across anything surprising in the history of EMBO?

It was amazing to explore the importance of language and translation in science diplomacy. The signing of the EMBC Agreement was delayed by the request from West Germany to include German as the third official language. When this was raised, Italy and Greece asked for their own languages to be recognized as official languages. It took several months to find a compromise. I quote a letter from an exhausted Max Perutz, Chairman of the EMBO Council: "International agreement is a difficult business even when all the interested parties are agreed on what they want to do!".

Francesco Cassata (2024): A 'heavy hammer to crack a small nut'? The creation of the European Molecular Biology Conference (EMBC), 1963–1970. Annals of Science. DOI: 10.1080/00033790.2024.2351511

EMBOreastered as a non-profit





Navigating change and fostering excellence

A recent survey offers insights into the evolution and impact of the EMBO Fellowship Programme

By Giorgia Gugliemli

Thousands of early-career researchers have benefited from the EMBO Fellowship Programme, which since its establishment in 1966 has given life scientists the opportunity to carry out their research projects abroad for up to two years. Over time, the programme has risen as the EMBO flagship initiative, largely fulfilling its mission of supporting talented researchers in Europe and beyond.

The results of a recent survey that collected feedback from more than 3,500 life scientists testify to the success of the EMBO Fellowship Programme. Current and former EMBO Fellows, along with their supervisors, agree on the programme's value in contributing to scientific advancement, the survey revealed. What's more, recent improvements to the programme have led to a more equitable distribution of fellow-



ships, further affirming the EMBO commitment to fostering research excellence.

Changing with the times

EMBO Postdoctoral Fellowships offer the opportunity to conduct research projects in laboratories worldwide to applicants from member states of EMBC, the intergovernmental organization that provides most of the funding for EMBO Programmes and activities. The fellowships are also available to applicants from non-EMBC Member States who seek postdoctoral training within an EMBC Member State.

The fellowships are granted to candidates who have demonstrated their potential to advance scientific knowledge through their doctoral research and publications in peer-reviewed journals. The evaluation process also considers the quality of the host laboratories and institutes to ensure that awardees receive top-notch training opportunities.



1966

1969

x Sweden Germany

* Switzerland



Several recent changes to the EMBO Fellowship Programme have led to increased fellowship opportunities for applicants across the globe. For example, the programme now accepts preprints with public indepth peer reviews as equivalent to peer-reviewed publications, broadening eligibility criteria. And in 2020, EMBO introduced a contract system within EMBC Member States, whereby EMBO Fellows receive their salary directly from the host institution. The transition from stipends to contracts has improved social security for fellows.

EMBO has also been proactive in addressing the challenges posed by unforeseen circumstances. During the early stages of the COVID pandemic, EMBO was one of the first organizations to offer extensions to postdoctoral fellows to mitigate the impact of disrupted research activities.

Helping researchers to thrive

Since its inception, the EMBO Fellowship Programme has sought feedback from the life sciences community. The most recent survey, which took place in 2021 and 2022, gathered insights from 634 current or former EMBO Postdoctoral Fellows, revealing the programme's global reach and the impact of the fellowships on career trajectories.

The main reasons for junior researchers to apply for an EMBO Fellowship include the programme's reputation, the opportunities for career progression and the availability of appropriate funding, the survey revealed. Networking, soft skills training and mentorship opportunities were reported as additional factors for applying.

The survey also delved into the professional journey of current and former EMBO Fellows, revealing that nearly all respondents work in science-related fields—with the majority currently holding positions as postdoctoral researchers and 37% having advanced to assistant/associate professors or full professors.

These findings underscore the programme's ongoing success in nurturing excellence in the life sciences while creating an environment that allows fellows to thrive.



Pail United Kingdom



* Italy



Scientific exchange and training since 1966

The EMBO Courses & Workshops Programme has consistently supported life scientists and evolved with changing times

By Astrid Gall



EMBO Courses & Workshops have had a profound impact on tens of thousands of life scientists, especially early career researchers. The programme provides opportunities for exchanges about the latest developments in the life sciences and training in new techniques, equipping researchers in Europe and beyond with knowledge and skills essential for their careers. Established in 1966 with a first workshop and three courses, the EMBO Courses & Workshops Programme has grown significantly since then. In recent years, it has funded more than 80 meetings with more than 12,000 participants each year.

The EMBO Courses & Workshops Programme supports scientific interactions and training on an amazing breadth of topics across the molecular, cellular, organ, organismal and population scales. It is a privilege to support such a diverse community and participate in the development of early career researchers.

Nicolas Tapon, Chair of the EMBO Course Committee







* Ireland



The generous support we have received from EMBO has allowed us to offer two courses, Small brains, big ideas, an EMBO Global Lecture Course, and Developmental Biology, an EMBO Practical Course, and to cover all costs for students and participating faculty. Both courses have been offered every two years since 2010 and have trained approximately 150 students from all over Latin America.

John Ewer, course organizer and professor at Universidad de Valparaiso, Chile

Several unique features make the EMBO Courses & Workshops Programme stand out. Its bottom-up approach—courses and workshops organized by scientists for scientists—meets the evolving needs of the community. It also aims to enhance scientific progress rather than profit, provides funding for practical training and has broad eligibility criteria. Organizers can be of any nationality and based in any country, but the meeting must take place in an EMBC Member State or Associate Member State, in countries and territories covered by a cooperation agreement, or in countries eligible for support by EMBO and The Company of Biologists.

Over the decades, changes to the programme have widened access. As more member states and cooperation partners joined EMBC and EMBO, courses and workshops became available in more locations. Ewer notes that there are no similar courses in Latin America, so students would otherwise have to apply to courses in the US or Europe, which are difficult to get into and expensive. Further initiatives to improve access are childcare grants, travel grants, accessibility grants and registration fee waivers.

Partnerships have played a crucial role in the success and widened reach of the programme. The Federation of European Biochemical Societies (FEBS), a co-sponsor since 1966, co-funds lecture courses today; The Company of Biologists co-funds workshops, practical and lecture courses in Brazil, Canada, China, Japan, Mexico and South Korea; and the DBT/Wellcome India Alliance is a partner for lecture courses in India. The EMBO Courses & Workshops Programme has supported the life sciences community by fostering interactions and providing training that meets the evolving needs. With its flexible approach it will remain a cornerstone of exchange and training in the life sciences for years to come.

embo.org/conferences-training



* Finland



Competencies for career success

PhD students from labs of the EMBO Young Investigator Network complete training

By Helen Sitar

10



An intensive training course for PhD students of members of the EMBO Young Investigator Network took place from 17 to 28 March. The course offered opportunities to strengthen personal and professional competencies critical to career success. Focus was placed on communicating science to different target audiences. Participants practised writing abstracts, giving presentations, creating posters and drafting grant proposals. The interpersonal communication training, based on the curriculum of the EMBO Lab Leadership Course, dealt with resolving interpersonal conflicts and providing constructive feedback.

Sreesa Sreedharan, PhD student in the lab of EMBO Global Investigator Sunil Laxman, is currently completing the final year of her PhD. For her, the Night Science workshop, which focused on creative approaches to scientific questions, was particularly impactful. "This session changed my perspective of the scientific process. It was about how people come up with new ideas or new scientific questions. It was eye-opening. We have a new recipe for how to break down the process of scientific thinking," she said.

The 40 participants travelled to the EMBL campus in Heidelberg from all over Europe and from as far away as India, Singapore, Taiwan and Chile for the first week of training. The second week took place online and covered scientific integrity, peer review of manuscripts and applying design principles to figures. Special sessions were dedicated to mental health and gender in academia. Scientific talks and career talks provided insights into the breadth of career options in academic and non-academic environments.



EMBO Gold Medal awarded to Elvan Böke

Recognition for her pioneering research on mechanisms that enable oocytes to stay healthy over decades of dormancy

By Tilmann Kiessling

EMBO awarded the EMBO Gold Medal 2024 to Elvan Böke, group leader at the Centre for Genomic Regulation (CRG) in Barcelona, Spain. The award recognizes researchers under the age of 40 for outstanding contributions to the life sciences in Europe. The awardee receives a gold medal and a bursary of 10,000 euros.

Early-stage oocytes are exposed to biological and environmental factors for decades, which can make them susceptible to cumulative damage. At the same time, the growth phases associated with oocyte maturation could cause defects due to exposure to harmful substances or lifestyle factors.¹ "Elvan Böke's work has yielded ground-breaking insights into a key mechanism used by oocytes to reduce free radical damage," said Anthony Hyman, EMBO Member and director at the Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany. "She has built a unique research direction in the few years of her independence as a researcher."

Elvan Böke was an undergraduate student at Middle East Technical University, Ankara, Türkiye, and a graduate student at Cancer Research UK Manchester Institute, UK, before becoming a postdoctoral researcher at Harvard Medical School, Boston, USA. Since 2017, she has been leading a group in the quantitative cell biology programme at the CRG. She is also an EMBO Young Investigator.

She will give an award lecture at Cell Bio 2024, the ASCB | EMBO meeting taking place in San Diego, USA, from 14 to 18 December 2024.

1. crg.eu/en/news/when-do-oocytes-begin-experience-effectsage (retrieved 19 June 2024)



EMBO | Türkiye: Connecting life scientists

An event promoting scientific networking

By Tilmann Kiessling

In June, the Pera Museum in Istanbul hosted the EMBO | Türkiye: Connecting life scientists event, which brought together researchers from Türkiye and various European countries to foster collaboration and knowledge exchange. The event aimed to support life scientists in Türkiye and Europe, connect researchers across scientific fields, and promote networking as well as an interdisciplinary approach to life sciences. It provided detailed information about the EMBO Programmes that support life scientists in Türkiye and across Europe. Additionally, the event featured research accomplishments of Turkish scientists from the EMBO communities and highlighted their contributions to the global scientific community.

The EMBO communities in Türkiye are growing: seven scientists working in Türkiye are EMBO Members, 33 have received Installation Grants since the launch of the scheme, and one is an EMBO Young Investigator. Two EMBO Courses & Workshops have been conducted in Türkiye in recent years, more than 800 researchers from Türkiye attended EMBO events througout Europe over the last five years and more than 30 EMBO Scientific Exchange Grants supported Turkish life scientists during their research stays abroad.

The event was organized by Canan Atilgan from Sabanci University, Özlem Keskin-Ozkaya and Elif Nur Firat-Karalar from Koç University, Mehmet Somel from Middle East Technical University and the EMBO Fellowship Programme. A total of 160 participants attended, including life scientists from several European countries. Speakers included Hasan Mandal, President of TÜBITAK, members of the EMBO Fellowship Committee, further Turkish EMBO Members, Young Investigators and Installation Grantees.





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Latvia joins EMBC

The country becomes the 31st member state following approval of the accession agreement

By Adam Gristwood

Latvia has joined the intergovernmental funding body of EMBO, the European Molecular Biology Conference (EMBC). Latvia is the 31st country to join EMBC as a member state, enabling scientists in the country to benefit from the full suite of EMBO Programmes and strengthening the life science community in Europe and beyond.

Latvia's accession as an EMBC Member State, concluded on 17 November 2023, was agreed unanimously by the EMBC following presentations from representatives of the Ministry of Education and Science of Latvia and the Latvian Biomedical Research and Study Centre. The preceding step to the accession was an approval procedure in the Cabinet of Ministers in Latvia, which was completed on 17 October.

"Latvia's membership of EMBC marks a significant milestone in our commitment to advancing scientific research and innovation," said Jānis Paiders, Director of the Department of Higher Education, Science and Innovation at the Ministry of Education and Science of Latvia. Major life science centres in Latvia include the Latvian Biomedical Research and Study Centre, the University of Latvia, Rīga Stradiņš University, the Latvian Institute of Organic Synthesis, the Latvia University of Life Sciences and Technologies, and the University of Daugavpils, amongst others in both the public and private sectors. Latvia has three university hospitals active in various fields of translational research. Life scientists working in Latvia can now apply to EMBO Programmes, including postdoctoral fellowships, scientific exchange grants, courses and workshops, and the EMBO Young Investigator Programme.



Broadening the EMBC community to include Latvia benefits biology and biomedical research across Europe.

Leszek Kaczmarek, EMBC President





New EMBO Members 2024

As EMBO marks its sixtieth anniversary, 120 outstanding scientists are elected to the EMBO Membership

By Adam Gristwood

120 scientists from across Europe and beyond have been elected to the EMBO Membership, an honour that celebrates research excellence and outstanding achievements in the life sciences.

The new EMBO Members and Associate Members have been recognized for accomplishments that cover the spectrum of life science research, including work that has advanced understanding of how infectious disease spreads, the intricacies of ocean nutrient cycles, the mysteries of cellular signalling networks, the secrets of how plants survive in desert environments, and the links between the biology of our brains and our emotions.

To celebrate the sixtieth anniversary of EMBO, EMBO Council invited the EMBO Membership to elect 100 new EMBO Members and 20 EMBO Associate Members this year. The newly elected members and associate members reside in 37 countries/ territories. 49 of the 120 new members and associate members are women (41%), and 71 are men (59%).

The first EMBO Members were elected in 1964. That initial group of 169 life scientists has now grown into a community of more than 2,100 EMBO Members and Associate Members. 92 Nobel laureates are amongst those who have previously been elected to the EMBO Membership.



* Poland

1999



Elected to the EMBO Membership in 2024 are:

EMBO Members

EMBO Associate Members



>37 countries/territories



100 **EMBO** Members



20 EMBO Associate Members



Lumir **Krejci** Claudia Langenberg Zdeněk **Lánský** Tuuli Lappalainen Melissa H. Little Sally Lowell Erika L.F. Holzbaur Zoltán **Molnár** James C. Liao Ruth Nussinov Snezhana **Oliferenko** Silvia **Pastoreková** Nenad **Pavin** Arturas **Petronis** Corné M.**J. Pieterse** Gabriele **Procaccini** Britta **Qualmann** Asya **Rolls** Owen J. **Sansom** Mikhail M. Savitski Paola **Scaffidi** Mónica M. **Sousa** Tanja **Stadler** Ulrich **Technau** Jacco **van Rheenen** Teva **Vernoux** Steven West Leonie S. **Young** Ewelina **Knapska** Alena **Zíková** Pernanentoffices hedelberg

Karen **Adelman** Dominique C. Bergmann Helen M. **Blau** Miguel L. Concha Rodrigo A. Gutiérrez Luis Herrera-Estrella Tak Wah **Mak** Moustapha **Mbow** Hozumi **Motohashi** Zihe **Rao** Aviv **Regev** Shubha **Tole** Pablo **Wappner** Zhenbiao **Yang** Alpha S. **Yap**





Artificial Intelligence in the life sciences

EMBO hosts a workshop on landscapes, limits, opportunities and concerns

By Astrid Gall

The production of synthetic but realistic data by generative Artificial Intelligence (AI) methods has made extraordinary progress in recent years, and applications of generative models in biomedical research are numerous. On 8–9 February, 22 key stakeholders, including biologists, AI developers, funders, experts in the governance of emerging technologies and publishers, met at EMBO in Heidelberg, Germany, for a workshop on generative AI and foundation models in the life sciences.

While the extent of the capabilities of generative AI is not yet fully understood, it is already clear that the potential for accelerating scientific discovery is considerable. At the same time, the capabilities are raising concerns about potential misuse, including production of erroneous data or misleading results, development of biological agents of concern and loss of human oversight.

The aims of the workshop included mapping areas of the life sciences where AI is used, highlighting opportunities, exploring current limits and potential consequences of overcoming them, and identifying potential risks and concerns.

The workshop was organized by Thomas Lemberger, head of Open Science Implementation, and Sandra Bendiscioli, senior policy officer, at EMBO; Filippa Lentzos, associate professor in science & international security at King's College London; and Oliver Stegle, head of the computational genomics and systems genetics division at the German Cancer Research Center and visiting group leader at EMBL Heidelberg.



A recent editorial covered generative AI in scientific publishing: Thomas Lemberger (2024): AI to publish knowledge: a tectonic shift EMBO Reports 25:1687-1689. DOI: 10.1038/s44319-024-00119-4

Installation Grants aunched





Stipends for science journalists

The Maria Leptin | EMBO Science Journalism Fellowships support science journalists and life scientists entering careers as science journalists

By Tilmann Kiessling

© EMBL Photolab/Massimo Del Prete

In March 2024, EMBO launched the Maria Leptin | EMBO Science Journalism Fellowship scheme supporting science journalists across Europe. The fellowships are intended for life scientists who wish to pursue a career in science journalism and journalists who wish to deepen and broaden their knowledge of the latest research fields and technologies.

"Science journalism plays a key role at the interface between scientists and the public," says Fiona Watt, Director of EMBO. "The Maria Leptin | EMBO Science Journalism Fellowship scheme aims to promote high-quality, evidence-based science journalism in the life sciences."



Fellows will receive stipends for a duration of three to twelve months to fund stays in media outlets of any type, editorial offices or research institutions of their choice to help advance their careers.

Applicants must reside in one of the 31 EMBC Member States. Scientists can apply for opportunities to gain journalism experience, and journalists can apply for funds to be embedded in research institutions. There is no age restriction for applicants. Applications can be submitted throughout the year, with three selection rounds per year.

The scheme was made possible by a generous donation from Maria Leptin, former Director of EMBO.



EEES Award Bunched 2008

EMBO, MOLECHAR MEDICINE

EMBO at 60

The future of life sciences looks bright

By Fiona Watt

Celebrating 60 years of EMBO, and of excellence in the life sciences, is a great opportunity to reflect on achievements and look forward to what the future holds.

EMBO was founded in 1964, driven by the vision of eminent scientists to establish the first European organization representing molecular biology. In the following years, they obtained financial support from their national governments. This led to the establishment of the EMBC, the intergovernmental organization that has 31 member states today and currently funds the major EMBO Programmes.

As an EMBO Member since 1999 and EMBO Director since 2022, I've seen the EMBO Membership grow to more than 2,100 leading life scientists and thousands of postdoctoral fellows being funded. I've witnessed the immense impact of our networks, courses and workshops, and EMBO Press publications on scientific exchange. I've observed how EMBO fosters a research environment in which scientists can thrive.

An organization the size of EMBO can be agile and flexible. We are not afraid of exploring diverse ideas and starting "experiments", such as new funding schemes, training activities or Open Science initiatives. EMBO identifies challenges through constant communication with members of the EMBO community, whether they are EMBO Members or Scientific Exchange Grantees, and strives to respond quickly.

To address two contemporary challenges—environmentally sustainable life sciences research and communication of research outcomes to the public—EMBO has launched two initiatives in its sixtieth anniversary year: the EMBO Lab Sustainability Award and the Maria Leptin | EMBO Science Journalism Fellowships. We are also hosting discussions about Artificial Intelligence (AI) in the life sciences with key stakeholders.

Many parts of the world are currently experiencing political and financial instability. During this turbulent time, EMBO holds firm to its mission to promote excellence in life sciences in Europe and beyond. It supports life scientists and scientific exchange regardless of nationalities.

Looking ahead, I hope that the EMBO community will continue to diversify, reflecting the ongoing changes in the world. We will also need to ensure that trust in science is maintained despite the challenges ahead.

Watch the anniversary movie: youtube.com/@EMBOcomm

MH

Transparent Peer Review scientific Waita Lepin appointed Director The ENBO Meeting Bunched



2010

2009

EMBO Encounters #48 © EMBO 2024 18



EMBO is a wonderful organization, and I feel honoured to lead it. EMBO is 60 years young, and its future looks as exciting and full of promise as it did back in 1964.







The cost of scientific publishing

Transparent finances of the EMBO Press journals

By Astrid Gall

For the fourth time after 2019, 2021 and 2022, EMBO made the finances of its scientific publications public to provide transparency about the cost and the revenue from publishing the high-quality, selective journals The EMBO Journal, EMBO Reports, Molecular Systems Biology and EMBO Molecular Medicine. A fifth journal, Life Science Alliance, published in partnership with **Rockefeller University Press and** Cold Spring Harbor Press, is not included in this chart providing an overview of the cost and revenue structure of the four journals.

EMBO Press generated a total revenue of 5.92 million euros in 2023, mainly from subscriptions (2.78 million euros) and article processing charges (2.34 million euros). The total costs were 4.62 million euros. These consisted of office costs (2.54 million euros), mainly representing staff salaries, benefits and insurance, as well as costs for outsourced publishing services and digital platforms (2.08 million euros).

The surplus of 1.29 million euros is entirely reinvested into activities supporting life scientists, namely the EMBO Programmes and publishing innovations, e.g., Review Commons or the Open Science platforms SourceData, SDash and Early Evidence Base.







molecular systems biology **EMBO** Molecular Medicine



SOURCEDATA S
Dash





€5,916,098.00 total revenue	Other 793,769.00	Surplus (Reinvested into EMBO Programmes and publishing innovations) 1,294,597.00	€ 1,294,597.00 surplus
	APCs (article processing charges) and page charges 2,343,781.00		
		Outsourced publishing services and digital platforms 2,079,332.84	€4,621,501.00 total cost
			Journal promotion 810.00
			Production and service charges 92,005.00
			Digital platforms 618,769.59
	Subscriptions 2,778,548.00		Wiley publishing services (incl. production, sales and marketing) 1,367,748.25
		EMBO Press office costs 2,542,168.16	Academic editors and freelance writers 171,536.42
			Conference fees and travel (incl. 'communication') 77,556.28
			Office and administration costs 161,530.86
			Staff (incl. pension, health insurance, etc.) 2,131,544.60



Cooperation in the life sciences between Europe and Japan

The Japan Science and Technology (JST) Agency becomes an EMBC/EMBO cooperation partner

By Astrid Gall

EMBO and the Japan Science and Technology Agency (JST) have signed an implementation agreement to the memorandum of cooperation that had been agreed between the two organizations in July 2023.

The formal signing procedure was embedded into the JST | EMBO Matchmaking Workshop that took place at the Miraikan National Museum of **Emerging Science and Innovation in** Tokyo, Japan, from 13 to 15 March 2024.

"The joint workshop with JST was a great success and stimulated many connections between the scientists who attended. We are excited to take the cooperation further and foster even stronger ties between the life science communities in Japan and Europe," said Fiona Watt, EMBO Director.

"I am grateful for being able to participate in the signing of the joint implementation arrangement which will pave the way for future collaborative activities between JST and EMBO," comments Shigeo Morimoto, Vice President of JST.

Scientists funded by several JST programmes are now eligible to apply to EMBO Scientific Exchange Grants and the EMBO Young Investigator Programme through the implementation agreement. All eligible scientists wishing to move between Japan and an EMBC Member State can apply to EMBO Postdoctoral Fellowships. Funding for EMBO Workshops, Practical Courses and Global Lecture Courses for scientists in Japan is available through an agreement with The Company of Biologists.

* ANID of Chile on adleement









A graphic recording of the workshop was created to capture its spirit beyond a purely text-based protocol.

Funders on the case for sustainability

EMBO hosts the workshop: Funders' role in promoting environmentally sustainable lab research

By Sandra Bendiscioli and Philipp Weber

On 14 and 15 May, EMBO convened a workshop in Heidelberg to explore the critical role of funders in fostering environmentally sustainable research practices. It gathered funders, research institute representatives, tool developers and grassroots initiatives from across Europe, marking the first occasion on which they collaborated on this pressing issue.

The workshop aimed to assess the progress funders have made in developing environmental strategies. Discussions highlighted the importance of setting ambitious sustainability goals and incorporating them into funding schemes. There was a consensus on the urgent need for a unified, cross-sectoral approach to sustainability in European research. "The workshop represents a significant step towards aligning efforts across Europe to promote environmentally sustainable research. By fostering collaboration and developing a unified agenda, funders will strengthen their role in driving sustainable practices within the scientific community," said Fiona Watt, **EMBO** Director.

Funding agencies play a significant role in enabling researchers to conduct their work and are increasingly recognizing their responsibility towards sustainable research practices. They can influence what questions are tackled by research and to what extent research practices are sustainable.

The workshop was organized by Philipp Weber, sustainability officer; Sandra Bendiscioli, senior policy officer; and Gerlind Wallon, head of the Courses & Workshops Programme at EMBO.

Representatives from the following organizations attended:

Austrian Science Fund Cancer Research UK **Dutch Research Council** EMBL EMBO European Commission European Research Council Foundation for Polish Science French National Research Agency German Research Foundation Green Algorithms Initiative Green Labs Netherlands Institute for Bioengineering of Catalonia King's College London Labos 1point5 Medical Research Council National Committee of Scientific Research Science Foundation Ireland Swiss Federal Institute of Technology Lausanne University of Cambridge UK Research and Innovation Wellcome







EMBO launches Lab Sustainability Award

The new award recognizes pioneers of environmental sustainability in life science research

By Astrid Gall

The EMBO Lab Sustainability Award recognizes new and significant contributions to the development of sustainable wet and dry labs with a focus on their environmental impact. The award is made to an individual representing an initiative or project. The awardee will present their initiative or project at the Meeting of the EMBO communities, in Heidelberg, Germany, 29 October–1 November 2024, and at Cell Bio, the ASCB |

Nikola Čanigová

through fine art

challenges.

sakitheartist.com

PhD student, Institute of Science and

Upcycling science: transforming non-

recyclable lab waste into awareness

Scientists at ISTA collaborate with

plastics into functional art pieces

Saki the Artist to transform used lab

to raise awareness of sustainability

Technology Austria (ISTA), AT

Shortlist 2024

EMBO meeting in San Diego, USA, 14–18 December 2024. The winning project is supported with a grant of 10,000 euros.

Applications are assessed by the Lab Sustainability Award Advisory Board, which applies criteria inspired by the UN 2030 Agenda. These include the direct and indirect impact of the project on environment, institutional culture and community; the diversity of stakeholder groups involved in or affected by the project; and evidence of creative and visionary thinking that offers new perspectives.

The EMBO Lab Sustainability Award is one of the activities to support life scientists in Europe and beyond that EMBO has launched to celebrate its sixtieth anniversary.





Scientific coordinator, Circular Safe Hospitals, University Medical Centre Utrecht, NL

Green Labs NL Foundation for a just and sustainable science transition in the Netherlands and beyond

The foundation run by 11 individuals focuses its activities on lab practices, education and the funding landscape.

greenlabs-nl.eu







Research associate, University of Cambridge, UK

Green algorithms

The project promotes environmentally sustainable computational science by building tools for carbon footprint estimation and raising awareness.

green-algorithms.org



2022

2023

* Latvia



Martin Farley

Associate director of Environmental Sustainability Programmes, UK Research and Innovation, UK

LEAF and driving sustainable labs globally

Farley received the award for his pioneering work in driving lab sustainability across the sector, including developing tools to promote and incentivize sustainability in laboratories. He founded the Laboratory Efficiency Assessment Framework (LEAF) at University College London. LEAF provides standardized guidelines to enhance efficiency and sustainability, featuring an online tool which contains actions regarding reducing single-use plastic, energy and waste as well as calculators to quantify environmental, energy and financial impacts.

ucl.ac.uk/sustainable/take-action/ staff-action/leaf-laboratoryefficiency-assessment-framework



Benoit Nicolet

Postdoctoral researcher, Netherlands Cancer Institute, NL

Bringing a systematic data-driven approach to laboratory sustainability

Nicolet is conducting two collaborative studies on the footprint of biomedical research: comparing single-use and reusable plastic (or glass), and investigating the impact of irreproducible findings.

DOI: 10.1371/journal.pone.0283697



Postdoctoral laboratory manager, Sir William Dunn School of Pathology, University of Oxford, UK

Eco-friendly science: advancing laboratory sustainability at the Sir William Dunn School of Pathology, University of Oxford

The team implements protocols for cleaning and reusing plasticware, specifically for Drosophila research, amongst other projects.

dunnschoolgreengroup.wixsite.com/ insights/initiatives





Driginal image of Nikola čanigová 👁 Paul Pölleritzer | Loïc Lannelongue 🛇 Loïc Lannelongue | Benoit Nicolet 🛇 Benoit Nicolet | Saroj Saurya 🛇 University of Oxford Sustainability Team

Bianca R. Schell

PhD student, Sustainable Labs, TU Darmstadt and University of Konstanz, DE

Development and realization of active measures to cut down the environmental impact of life science laboratories

Schell's PhD project focuses on energy optimization, waste reduction and evaluation of green lab programmes to make laboratories more sustainable.





Learning bioinformatics in the midst of war



Wolfgang Huber and Fyodor Kondrashov set up an in-person summer school in Ukraine

It was the second time that young biologists from all over Ukraine came together for the two-week summer school *Biological Data Science* in the city of Uzhhorod in the west of the country. The event, co-organized by EMBO Member Wolfgang Huber and former EMBO Young Investigator Fyodor Kondrashov, took place at the local university, just like in 2023, from 7 to 20 July. More than 60 young bachelor's and master's students participated, undeterred by the in parts challenging journey across the war-torn country.

The whole idea started off as an online course. *Talk to the Scientist* was the name of a series in which high school students from Ukraine had a chance to talk to a researcher for a few hours. "It quickly became clear that in order to support individual students it is necessary to do something in-person," says Kondrashov. "You cannot do things online."

This is how the idea of organizing an in-person summer school in Uzhhorod, a medium-sized city in Ukraine near the Slovak border, was born. "We wanted to run the classes in rather than outside the country, because not everyone can travel. In fact, men are currently not allowed to," explains Huber. In addition to Huber and Kondrashov, several life scientists from various European and North American institutes got involved as organizers and faculty. The event was partly funded by EMBO.

Participants learned about the latest developments in bioinformatics. "You need this sort of event in a country that has so many incredibly talented young people," summarizes Kondrashov. "Data science, and its applications in biomedicine and biotechnology, are relevant for a modern economy and society," adds Huber. "Hopefully, the course spawns some networks and infrastructures that become self-sustained and effective in their own right."

The classes were filled with lectures, workshops and a lot of fun. And in the evenings, faculty and students spent their time talking life and science—just like in many other summer schools that took place all over Europe in the summer of 2024.

bds3.org

Bridging fundamental research and therapeutic applications

International project aims to make IIMCB a global leader

In 2023, the International Institute of Molecular and Cell Biology in Warsaw, Poland, (IIMCB), partnered with MRC-HGU, Edinburgh and VIB, Ghent to launch an ambitious project titled *RNA and Cell Biology – from Fundamental Research to Therapies* (RACE). Ranked first and awarded nearly 15 million euros, RACE is implemented under the Horizon Europe *Teaming for Excellence* programme 2022.

With RACE, by 2027, IIMCB will embrace 20 scientific groups with complementary expertise. It will host well-trained, entrepreneurial researchers, and sustainable core facilities offering services also to industry. A professional incubator for technology transfer and fully digitalized administration will further enhance institute's capabilities. By combining research excellence with efficient commercialization, IIMCB will play a pivotal role in strengthening the biomedical sector in Poland but also worldwide.

After just one year, the RACE project is already thriving. IIMCB has expanded by two new research groups, while its staff has received first advanced training at partner institutions. IIMCB successfully established a Technology Transfer Office and made significant progress in digitalization.

Two EMBO Members, Marta Miączyńska, Director of IIMCB and Co-chair of the EMBO Council, and Wendy Bickmore, Director of MRC-HGU, are key figures driving this transformative project that bridges fundamental research and therapeutic applications.

iimcb.gov.pl/en/race

The Kendrew connection

Zoltán Molnár traces the history of EMBO, EMBL and his college in Oxford

"It's a small world," says newly elected EMBO Member Zoltán Molnár, who is a professor of developmental neuroscience at the University of Oxford, UK. He was delighted to learn about a connection between EMBO and St. John's College, where he is an official fellow.

John Kendrew was one of the founding fathers of EMBO, first director general of EMBL, and president of St. John's College from 1981 to 1987. The biochemist and crystallographer shared the 1962 Nobel Prize in Chemistry with Max Perutz, the first Chairman of EMBO Council, "for their studies of the structures of globular proteins", carried out in Cambridge, UK. Kendrew was a generous benefactor to St. John's College in Oxford. Today the *Kendrew / Clarendon Scholarships* are available for applicants from economically less developed countries. The Kendrew Quadrangle of the college, which was opened in 2010, is named after him.

The smaller photo shows John Kendrew with the "forest of rods" model, which was used as a basis for building the atomic structure of myoglobin, in 1958. The larger shows Molnár standing next to the sculpture *Kendrew's Milestone* by artists Langlands & Bell, which is an interpretation of the myoglobin structure, in the Kendrew Quadrangle in 2024.



New research institute opens its doors in Portugal

The Gulbenkian Institute for Molecular Medicine aims to address global health challenges



A new institute for transdisciplinary research in the field of global health has been established in Portugal. Born out of a merger of the Instituto de Medicina Molecular João Lobo Antunes and Instituto Gulbenkian de Ciência, the Gulbenkian Institute for Molecular Medicine (GIMM) will focus on fundamental research as



well as translation into innovative healthcare solutions. Based in Lisbon and Oeiras, GIMM will operate on two sites. It hopes to attract young talent to the area by fostering a rich research and innovation environment where global issues can be tackled collaboratively. Another key area of work will be training future generations of scientists: GIMM offers PhD and postdoctoral programmes, as well as courses and internships for more junior levels. The institute hosts 38 research groups and around 700 researchers from over 40 nationalities, as well as several spin-offs and industry partners. EMBO Member Maria Mota, the CEO of GIMM, is keen to ensure the leading role of GIMM in shaping the R&D landscape within Portugal and Europe.

gimm.pt

Illuminating life

The *Astbury Conversation* combines an academic conference with public engagement

This April saw the return of the biennial Astbury Conversation that was established by EMBO Member Sheena Radford during her time as director of the Astbury Centre of the University of Leeds, UK. The event was built around the keynote speaker Xiaowei Zhuang, EMBO Associate Member at Harvard University, and the theme of illuminating life. Over 300 participants from all career stages came together from across the globe. Talks ranged from new cancer treatments to ways to visualize proteins in unprecedented detail within a cell and the role of disordered proteins. They were punctuated by a vibrant poster and networking event in the evening, which featured over 100 posters. Lively discussions continued into the night.

2.8

As in previous years the Astbury Conversation ended with a public lecture by the keynote speaker. It was attended, amongst others, by several students from the University of Leeds Reach for Excellence scheme. This widening participation scheme provides opportunities for students, who may not have considered a research intensive university, to take part in higher education activities. They were inspired by Zhuang's talk about the broader aspects of her work and the impact it has had on our ability to see into the cell. The *Astbury Conversation* looks forward to welcoming everyone to the next conference, so look out for announcements including the new topic for 2026.

eu.eventscloud.com/website/11502/ home



New MSc Programme in Digital Health

The two-year programme at Tel Aviv University is part of the EU *Digital Europe Programme*

A new Master of Science Programme has been launched at the Faculty of Medical and Health Sciences of Tel Aviv University, Israel. The two-year MSc Programme in Digital Health, which is co-organized by EMBO Member Karen B. Avraham, is part of the EU Digital Europe Programme, a funding programme focused on bringing digital technology to a range of different fields. The new MSc programme will focus on digital transformation in healthcare organizations, and data science in healthcare for improved healthcare delivery in Israel and around the world. It aims to provide future researchers, physicians and health system leaders with the knowledge and skills to implement novel digital technologies, such as artificial intelligence, robotics, or cyber and quantum computing into processes within the health sector.

Within the framework of the EU Digital Europe Programme, Tel Aviv University collaborates with six universities as well as eight research centres and industrial partners from across Europe, encouraging networking across disciplines and borders. The network will provide students with a foundation in technological development and innovation, as well as research and clinical application. Another key aspect of the programme will be training in how to assess the social and ethical aspects of digital transformation processes. The first intake of students will begin in autumn 2024.

international.tau.ac.il/Digital-Health-MSc



Educational computer game released

DEGRADATOR teaches concepts of ubiquitination and protein degradation



EMBO Installation Grantee Wojciech Pokrzywa and his group at the International Institute of Molecular and Cell Biology in Warsaw, Poland, have released an educational computer game that illustrates details of ubiquitination and the protein degradation process. *DEGRADATOR* is aimed at teenagers aged 12 and up, as well as adults with an interest in science.



The game is designed to provide the public with a learning tool to visualize and understand the molecular processes involved in protein turnover. Over ten levels, players dive deeper and deeper into the world of cell biology, taking on the role of the E3 enzyme, whose job is to break down proteins. The developers hope the game will not only aid understanding of these concepts, but also ignite an interest in molecular biology. The game is free and available for download on Google Play or can be played directly online.

degradator-game.com

RNAmed: Future Leaders in **RNA-based Medicine**

A holistic approach to training young scientists in the area of RNA therapeutics

The graduate programme *RNAmed— Future Leaders in RNA-based Medicine* aims to equip doctoral students with cutting-edge skills in RNA-based medicine, a field set to revolutionize disease treatment and prevention. Launched in 2022 by EMBO Member Jörg Vogel and funded by the Elite Network of Bavaria, the programme will enrol up to 20 PhD students in Würzburg, Munich or Regensburg, Germany.

Adopting an interdisciplinary approach, *RNAmed* enables students to explore diverse research areas including RNA modification and delivery, CRISPR-Cas technology, non-coding RNAs, RNA biology of

infections and RNA chemistry. The international cohort of PhD students is trained to think critically and work collaboratively through structured mentoring, summer schools, industry internships, and workshops on both technical and soft skills. This holistic approach prepares them for varied careers in academia, industry, entrepreneurship or policy-making.

The programme also features joint visits, such as to the winter retreat of *RNA-DECO* at the University of Innsbruck, Austria. *RNA-DECO*, coordinated by Michael Jantsch, comprises twelve Austrian research groups that study the effects of RNA

modification on RNA structure and metabolism. During the retreat, students had the opportunity to attend multidisciplinary talks, present their work and exchange ideas with leading researchers.

Promoting academic excellence and fostering an open, international spirit, *RNAmed* encourages active networking and extracurricular engagement. By nurturing enthusiasm for RNA science and its societal impacts, *RNAmed* aims to drive the future of precision medicine and targeted molecular therapies forward.

helmholtz-hiri.de/en/jobs-talents/ rnamed



Books A selection of books by or about members of the EMBO communities

Alfonso Martinez Arias

The Master Builder: How the New Science of the Cell is Rewriting the Story of Life

Basic Books, 2023 ISBN-10: 1541603273

EMBO Member Alfonso Martinez Arias suggests in his book that cells, not DNA, hold the key to understanding history, present and future of life. While genes are important, he argues that nothing in our genes explains why the heart is on the left side of the body, or how many fingers we have. At the heart of the book is a new concept of the essence of life.

Jordi Casanova i Roca

Dones? Homes? Sexe i gènere, biologia i cultur

Publicacions i Edicions de la Universitat de Barcelona, 2023 ISBN-10: 849168915X

In his book, EMBO Member Jordi Casanova i Roca analyzes the relationship between biological sex and social gender. Are we women and are we men because we are born as such? Or because society makes us grow up as women and men? Do we have to deny the existence of differentiated sexual characteristics to combat gender roles? This book does not intend to offer ultimate answers, but rather to approach the issues raised by these and many other questions.

Katalin Karikó

Breaking Through: My Life in Science

Crown, 2023 ISBN-10: 0593443160

This autobiography by EMBO Member Katalin Karikó, recipient of the 2023 Nobel Prize in Physiology or Medicine, tells the story of an extraordinary woman who never wavered in her belief that an underappreciated molecule, messenger RNA, could change the world. She sacrificed nearly everything for this dream and encountered many difficulties. Through indefatigable motivation, she succeeded, and her decades-long research led to COVID vaccines.

Kate Zernike

The Exceptions: Nancy Hopkins, MIT, and the Fight for Women in Science

Scribner, 2023 ISBN-10: 1982131837

Written by the Pulitzer Prize-winning journalist Kate Zernike, who broke the story for The Boston Globe, the book chronicles a history-making fight for equal opportunity in world-class science. It is the story of molecular biologist and cancer researcher Nancy Hopkins who led a group of sixteen brilliant women, including EMBO Associate Member Ruth Lehmann. The book describes how their campaign prompted MIT to make the historic admission that it had long discriminated against its female scientists.





omniscellula





Awards

A selection of prizes awarded to members of the EMBO communities



Karen B. Avraham

Shambaugh Prize for Excellence in Otology Research

Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum (CORLAS)

The prize is awarded every second year by the CORLAS Board to a member who has accomplished remarkable work in the field of otology and related basic research.



Lucia Banci

Richard R. Ernst Prize in Magnetic Resonance 2023 Euromar

She receives the prize in recognition of her contributions to paramagnetic Nuclear Magnetic Resonance and its application to intracellular transport of metal ions. The prize, worth 15,000 euros, rewards groundbreaking applications of techniques in all areas of magnetic resonance.



Elena Conti

Kafatos Lecturer 2023 EMBL/Bodossaki Foundation

The Kafatos Lecture series honours the legacy of Fotis Kafatos, former EMBL Director General and first President of the European Research Council. The lecture brings groundbreaking, accessible and relevant life science research to the worldwide public. Conti's lecture had the title Should it stay or should it go: how cells control the life and death of mRNA molecules.



Stephen Cusack

Ivano Bertini Award 2023 Bruker BioSpin

He is the first recipient of this award that recognizes a significant achievement in frontier research utilizing an integrative structural biology approach. It honours Cusack's work on the structure of protein-RNA complexes and proteins involved in host-pathogen responses. The award commemorates Bertini who built a world-class Centre for Magnetic Resonance in Florence.



Eileen Furlong

UCD Alumni Award in Research, Innovation and Impact 2023 University College Dublin

She is recognized by her *alma mater* for her work in the fields of transcription, chromatin biology, developmental biology and genomics. The award celebrates her groundbreaking research and recognizes her societal contributions.



Dirk Görlich

Louis-Jeantet Prize for Medicine 2024

Louis-Jeantet Foundation

He is awarded the prize for elucidating how the directionality of cargo transfer between the cytoplasm and nucleus is achieved and for his discovery of the selective FG phase that governs transport through nuclear pores.



Matthias Hentze

Pioneer Award 2023 The International Council for Caring Communities

He is recognized for his contributions as a world-class scientist in RNA biology, leadership and commitment to finding solutions for environmental issues through molecular biology. The award was established to acknowledge leaders whose visionary thinking, exceptional leadership and creative initiatives have improved our society.

Centenary Award 2023 Biochemical Society

He receives the award for his discoveries in RNA biology.



Julia Mahamid

Michael and Kate Bárány Award 2024 Biophysical Society

She is recognized for her contributions, both technical and biological, to the field of cryo-electron tomography. The award recognizes an outstanding contribution by a person who has not achieved the rank of full professor at the time of nomination.

S 32 EMBO Encounters #48 ◎ EMBO 2024



Wojciech Pokrzywa

Team Award for Significant Achievements in the Field of Scientific Activity

Polish Ministry of Science and Higher Education

Pokrzywa and his team from the International Institute of Molecular and Cell Biology in Warsaw received this award at the Polish Science Gala.



David Rubinsztein

Movement Disorders Research Award 2024 American Academy of Neurology

American Academy of Neurology

The award recognizes his outstanding work in the field of Parkinson's disease and other movement disorders.



Erin Schuman

Körber European Science Prize Körber Foundation

She receives this prize worth one million euros. Her research has shown that proteins critical for neuron communication, memory storage and overall brain development are produced locally at synapses.



Arun Kumar Shukla

Infosys Prize in Life Sciences 2023 Infosys Science Foundation

He is awarded for his outstanding contributions to understanding the biology of G-protein coupled receptors. The prize is worth 100,000 US dollars and endeavours to elevate the prestige of science and research in India and inspire young Indians to choose a vocation in research. It is given annually in six categories.



Giulio Superti-Furga

Lennart Philipson Award 2024 EMBL

He receives the award in recognition of his impact as researcher, mentor, founder of companies and inventor of tools and methods, which he shares with the life sciences community.



Charles Swanton

Jeantet-Collen Prize for Translational Medicine 2024 Louis-Jeantet Foundation

He is awarded the prize for his groundbreaking discoveries in cancer genetics and evolution, leading to insights into how tumours evolve, spread and develop resistance to drugs.



Bernt Eric Uhlin

H. M. The King's Medal in the 8th size in the ribbon of the Order of Seraphim King of Sweden

The medal honours his achievements in the development of microbiology research. This royal medal of Sweden was established in 1748 and is awarded for service that benefits society or service of a humanitarian nature.

Research!Sweden Honorary Award 2023

Stiftelsen Forska!Sverige

He receives the award for his long and dedicated work in building a world-leading and sustainable scientific environment in molecular infection medicine.

Good reads

A selection of publications by members of the EMBO communities

Non-stem cell lineages as an alternative origin of intestinal tumorigenesis in the context of inflammation

Lauri Aaltonen, Riccardo Fodde and colleagues Nature Genetics / 20 June 2024 DOI: 10.1038/s41588-024-01801-y

A synthetic differentiation circuit in Escherichia coli for suppressing mutant takeover Uri Alon and colleagues

Cell / 15 February 2024 DOI: <u>10.1016/j.cell.2024.01.024</u>

Time-resolved single-cell transcriptomics defines immune trajectories in glioblastoma Ido Amit and colleagues Cell / 4 January 2024 DOI: 10.1016/j.cell.2023.11.032

Molecular profiling of sponge deflation reveals an ancient relaxant-inflammatory response Detlev Arendt and colleagues Current Biology / 4 January 2024 DOI: <u>10.1016/j.cub.2023.12.021</u>

Human histone H1 variants impact splicing outcome by controlling RNA polymerase II elongation Gil Ast and colleagues

Molecular Cell / 2 November 2023 DOI: 10.1016/j.molcel.2023.10.003

Ordered and disordered regions of the Origin Recognition Complex direct differential *in vivo* binding at distinct motif sequences Naama Barkai and colleagues Nucleic Acids Research / 10 June 2024 DOI: 10.1093/nar/gkae249

Hepatocyte regeneration is driven by embryo-like DNA methylation reprogramming

Yehudit Bergman and colleagues *PNAS / 8 April 2024* DOI: <u>10.1073/pnas.2314885121</u>

Differential SNARE chaperoning by Munc13-1 and Munc18-1 dictates fusion pore fate at the release site

Debasis Das and colleagues Nature Communications / 16 May 2024 DOI: 10.1038/s41467-024-46965-7

Synaptobrevin2 monomers and dimers differentially engage to regulate the functional trans-SNARE assembly

Debasis Das and colleagues Life Science Alliance / 18 January 2024 DOI: 10.26508/lsa.202402568

Uracil/H+ Symport by FurE Refines Aspects of the Rockingbundle Mechanism of APC-type Transporters George Diallinas and colleagues

The last two transmembrane

helices in the APC-type FurE

concentrative ER-exit

infection in diabetes

transporter act as an intramo-

lecular chaperone essential for

George Diallinas and colleagues

Microbial Cell / 5 January 2024

DOI: 10.15698/mic2024.01.811

Lung dendritic-cell metabolism

underlies susceptibility to viral

DOI: 10.1038/s41586-023-06803-0

VWD domain stabilization by au-

Enhancer-promoter interactions

transition from cell-fate specifica-

Eileen Furlong and colleagues Nature Genetics / 31 January 2024

DOI: 10.1038/s41588-024-01678-x

High Quantum Yield Amino Acid

Carbon Quantum Dots with Un-

paralleled Refractive Index

ACS Nano / 8 January 2024 DOI: <u>10.1021/acsnano.3c10792</u>

Therapeutic potential of co-sig-

naling receptor modulation in

DOI: 10.1016/j.cell.2024.05.038

Matteo Iannacone and colleagues

Antibody-independent protection

against heterologous SARS-CoV-2

challenge conferred by prior in-

Matteo Iannacone and colleagues

DOI: 10.1038/s41590-024-01787-z

ZP2 cleavage blocks polyspermy

Luca Jovine and colleagues

DOI: 10.1016/j.cell.2024.02.013

Deep learning insights into the

architecture of the mammalian egg-sperm fusion synapse Luca Jovine and colleagues eLife / 26 April 2024 DOI: 10.7554/eLife.93131.3

Cell / 14 March 20204

by modulating the architecture of

hepatitis B

Cell / 18 June 2024

fection or vaccination

Nature Immunology /

14 March 2024

the egg coat

Ehud Gazit and colleagues

become more instructive in the

tion to tissue differentiation

tocatalytic Asp-Pro cleavage

Deborah Fass and colleagues Protein Science / 21 February 2024

DOI: 10.1002/pro.4929

Eran Elinav and colleagues

Nature / 13 December 2023

1 October 2023

mechanisms Johanna A. Joyce and colleagues Cancer Cell / 18 January 2024 DOI: 10.1016/j.ccell.2023.12.018 Journal of Molecular Biology / DOI: 10.1016/j.jmb.2023.168226

Microenvironmental reorganization in brain tumors following radiotherapy and recurrence revealed by hyperplexed immunofluorescence imaging Johanna A. Joyce and colleagues Nature Communications / 15 April 2024 DOI: 10.1038/s41467-024-47185-9

Interrogation of endothelial and

mural cells in brain metastasis

reveals key immune-regulatory

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 Iune 2023 DOI: 10.1186/s12929-023-00941-3

RNA activators of stress kinase PKR within human genes that control splicing or translation create novel targets for hereditary diseases

Raymond Kaempfer Int. Journal of Molecular Sciences / 22 January 2024 DOI: <u>10.3390/ijms25021323</u>

Loss of EIF4G2 mediates aggres-siveness in distinct human endometrial cancer subpopulations with poor survival outcome in patients Adi Kimchi and colleagues

Oncogene / April 2024 DOI: <u>10.1038/s41388-024-02981-x</u>

Oncostatin M signaling drives cancer-associated skeletal muscle wasting

Serkan Kır and colleagues Cell Reports Medicine 16 April 2024 DOI: 10.1016/j.xcrm.2024.101498

In vitro production of cat-restricted Toxoplasma pre-sexual stages Hakimi Mohamed-Ali and colleagues Nature / 13 December 2023 DOI: 10.1038/s41586-023-06821-y

p53 deficient breast cancer cells reprogram preadipocytes toward tumor-protective immunomodulatory cells Moshe Oren and colleagues Proc Natl Acad Sci USA

26 December 2023 DOI: 10.1073/pnas.2311460120

Continuous glucose monitoring and intrapersonal variability in fasting glucose

Eran Segal and colleagues Nature Medicine / 30 May 2024 DOI: 10.1038/s41591-024-02908-9

Bacterial SNPs in the human gut microbiome associate with host BMI

Eran Segal and colleagues Nature Medicine / 2 November 2023 DOI: 10.1038/s41591-023-02599-8

Phages overcome bacterial immunity via diverse anti-defence proteins

Rotem Sorek and colleagues Nature / 22 November 2023 DOI: 10.1038/s41586-023-06869-w

Ribosomal protein L24 mediates mammalian microRNA processing in an evolutionarily conserved manner

Hermona Soreq and colleagues Cellular and molecular life sciences / 23 January 2024 DOI: <u>10.1007/s00018-023-0508</u>8-w

Longitudinal machine learning uncouples healthy aging factors

from chronic disease risks Amos Tanay and colleagues Nature Aging / 7 December 2023 DOI: 10.1038/s43587-023-00536-5

A concept for international societally relevant microbiology education and microbiology knowledge promulgation in society Kenneth Timmis, Martin Kaltenpoth, Judith P. Armitage and colleagues Microbial Biotechnology / May 2024 DOI: 10.1111/1751-7915.14456

Systematic analysis of drug combinations against Gram-positive bacteria

Athanasios Typas and colleagues Nature Microbiology / 28 September 2023 DOI: 10.1038/s41564-023-01486-9

Phage proteins target and co-opt host ribosomes immediately upon infection

Jörg Vogel and colleagues Nature Microbiology / 4 March 2024 DOI: 10.1038/s41564-024-01616-x

RNA-based medicine: from molecular mechanisms to therapy Jörg Vogel and colleagues

The EMBO Journal / 20 September 2023 DOI: 10.15252/embj.2023114760

Events

Practical Courses

DE-Heidelberg | 4–8 November 2024 | B. Ramasz The Fundamentals of High-End Cell Sorting

DE-Heidelberg | 17–22 November 2024 |

R. Stripecke Humanized mice: immunotherapy and regenerative medicine

DE-Hamburg | 17–24 November 2024 | J. Kosinski

Integrative structural biology: Solving molecular puzzles

CL-Valpariso | 3–17 January 2025 | R. Mayor EMBO Practical Course on Developmental Biology

DE-Heidelberg | 9–14 February 2025 | R. Mellwig In-situ CLEM at room temperature and in cryo

DE-Heidelberg | 23–28 February 2025 | A. Hendrix Extracellular vesicles: from biology to biomedical applications

DE-Heidelberg | 23–28 March 2025 | S. Leidel Measuring translational dynamics by ribosome profiling

DE-Heidelberg | 9–14 March 2025 | C. Ludwig Quantitative proteomics: strategies and tools to probe biology

DE-Heidelberg | 7–14 April 2025 | J.E. González-Pastor

Microbial metagenomics: a 360° approach

Workshops

IN-NISER-Bhubaneswar | 5–8 December 2024 | P. Singru Neuropeptides and behavioural flexibility

DE-Heidelberg | 4–7 February 2025 | J. Ries In-situ structural biology: expanding the toolbox for structural cell biology

IN-Hyderabad, Telangana | 9–12 February 2025 | V. Nandicoori Host and pathogen heterogeneity in tuberculosis

ES-Torremolinos | 10–13 February 2025 | G. Sabio

Energy balance in metabolic diseases

IT-Assisi | 11–14 February 2025 | S. Rompani Subcortical Sensory Circuits: from perception to behavior

TW-Taipei | *14–18 March 2025* | *Y. Chern* Neural Development and Neurodegeneration

AT-Radstadt | 16–21 March 2025 | M. Zerial From molecules to organisms: An integrative view of cell biology

CL-Maitencillo | 7–11 April 2025 | M. Sousa Emerging Concepts of the Neuronal Cytoskeleton (7th Edition)

PT-Lisbon | 13–16 April 2025 | M. Bettencourt-Dias

Integrating cell and planetary scales to address climate resilience

IT-Venice | 14–18 April 2025 | L. Civiero ASTROCYTES 2025 - From Molecules to Systems

IT-Stresa | 27–30 April 2025 | S. Santaguida Chromosome Segregation and Aneuploidy

FR-Les Houches | 27 April–2 May 2025 | B. Treanor Immunobiophysics: from fundamental physics to understanding the immune response.

EMBO | The Company of Biologists Workshop

JP-Kobe | 6–8 November 2024 | I. Chambers Molecular mechanisms of developmental and regenerative biology

Early Career Lecture Course

GR-Nafplion | 3–6 *November* 2024 | *N. Vakirlis* Evolutionary and Comparative Genomics

India | EMBO Lecture Course

IN-Pune | 24–28 February 2025 | S. Banerjee RNA-protein complexes: from molecular assembly to physiological functions and disease

EMBO | EMBL Symposia

DE-Heidelberg | 5–8 November 2024 | A. Groth, T. Halazonetis, H. Ulrich DNA replication: from basic biology to disease

DE-Heidelberg | 18–21 March 2025 | J. Berman, M. Ralser, L. Carvalho, M. Rodnina Mechanisms of drug resistance and tolerance in bacteria, fungi, and cancer

DE-Heidelberg | 8–11 April 2025 | S. Coelho, G. Dey, M. Dorrity, N. Dubilier, F. Vincent Wild frontiers of model organisms

Upcoming deadlines

Cell Bio 2024 Early registration 30 September

Final abstract submission (poster) 15 October

ascb.org/cellbio2024



Gold Medal 1 February

Courses and Workshops 1 March, 1 July NEW

Young Investigator Programme 1 April **Installation Grants** 15 April

Global Investigator Network 1 May NEW

FEBS | EMBO Women in Science Award 15 May



Celebrating excellence in life sciences

Meeting of the EMBO communities 25 October – 1 November 2024 | Heidelberg, Germany

Asaph Aharoni Ariel Amir Gad Asher **Amirhoushang Bahrami** Baskar Bakthavachalu Ana Banito **Pavel Baranov** Wendy S. Barclay Allison J. Bardin Elias Barriga Oded Béjà Pedro Beltrao Uri Ben-David **Dominique Bergmann Ramray Bhat** Shruti Bhatt **Oliver Billker** Valérie Borde Joshua M. Brickman Silvia Bulgheresi Aydan Bulut-Karslioglu Francesco Cassata **Debojyoti Chakraborty** Hsu-Wen Chao Maciej Cieśla Miguel L. Concha Ana Luisa Correia László Csanády **Debasis** Das **George Davey Smith Christos Delidakis** Ádám Dénes **Omaya Dudin Guillaume Duménil Julien Duxin** Arnaud Echard Alejo Efeyan

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Speakers

Kinga Kamieniarz-Gdula Dennis Kappei Katalin Karikó Serkan Kır Adam Kłosin **Ewelina** Knapska Gou Young Koh Lumír Krejči Chuan Ku Christina Kyrousi Madeline A. Lancaster Nick Lane **Claudia Langenberg Tuuli** Lappalainen Maria Leptin **Ottoline** Leyser James C. Liao **James Lightfoot** Sally Lowell Leif Ludwig Hansong Ma Wenbo Ma **Ewelina Małecka** Sebastian Marquardt Maria Dolores Martin-Bermudo Ivan Matić **Christian Mayer** Nicholas McGranahan Hind Medyouf Zoltán Molnár Andreas Moor Anna Moroni **George Mosialos Christian Münch** Nur Mustafaoglu László G. Nagy Yuki Nakamura

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Host: Fiona M. Watt, EMBO Director

More information at embo.org/meeting-of-the-embo-communities