



Encounters



Racing for a SARS-CoV-2 vaccine

Interview with EMBO Members Özlem Türeci and Uğur Şahin, BioNTech

"The international agenda of EMBO is important, more than ever before"

Interview with incoming EMBO Director Fiona Watt

Increasing participation throughout Europe



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Communities

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Welcome to Encounters #45

Editorial from the EMBO Director



This is my last preface for Encounters as the EMBO Director, with my term here ending in November.

I have seen the magazine changing in the last 11 years, and I hope it always provided an informative account about what was happening at EMBO and in the EMBO communities. Now I am excited to see the first issue in the refreshed EMBO design, which we presented with the launch of our new webpage in April ([page 6](#)).

Encounters is not the earliest print product in the new look though. We have started a series of country features ([page 9](#)), each focusing on one EMBC Member State. We and members of the EMBO communities in these countries use them to inform about the EMBO Programmes and their benefits for life scientists. The features are part of our efforts to raise awareness of our new initiatives for increasing participation of life scientists throughout Europe in the EMBO Programmes. You can find out about these initiatives that specifically support researchers working in Croatia, Czech Republic, Estonia, Italy, Lithuania, Luxembourg, Poland, Slovenia, and Turkey, on [page 8](#).

To evaluate the current EMBO Programmes, learn more about the needs of life scientists, and understand the perception of EMBO even better, we will be conducting a large-scale survey. You and your colleagues will soon receive an invitation to complete it. We hope that many of you will participate, and perhaps even ask your friends and colleagues to do the same, and we look forward to your responses.

The results of the survey will be used by Council together with the incoming EMBO Director, Fiona Watt, to develop the EMBO Programmes further. Please join me in welcoming Fiona. You can read about her views on EMBO and EMBO Press, career support for life scientists during the COVID pandemic and beyond, and her own research aspirations, in an interview ([pages 14 and 15](#)). I am grateful that Michael N. Hall, Chair of EMBO Council, has kindly stepped in as EMBO Director *ad interim* until Fiona takes up her appointment in early 2022.

Maria Leptin
Director, EMBO

Racing for a SARS-CoV-2 vaccine

BioNTech founders Özlem Türeci and Uğur Şahin have recently been elected to the EMBO Membership. Science journalist Kai Kupferschmidt spoke to them on this occasion.

Interview conducted by Kai Kupferschmidt

KK: Can you take me back to the beginning of 2020 when an article in *The Lancet* in early January reported the first cases of SARS-CoV-2 infections in China?

US: In January 2020, I read the publication in *The Lancet* that described the first cases of SARS-CoV-2 infections in Wuhan which displayed the full pattern of a pandemic threat: There were individuals who did not have symptoms, no fever, even though they were positive for the virus. In addition, there were no effective travelling restrictions for people at that time. In our global world, it was very clear to me that the virus causing this outbreak had already spread worldwide; that means we were already in a pre-pandemic phase and we had to act fast. I convinced Özlem and then the executive and supervisory team and together we decided to contribute with our technology to help develop a vaccine against the virus as fast as possible.

KK: I'm really struck that it was in January when you had this realization. What did you see that other people missed? What put you in a position to make that call?

US: First of all, I think many people, not only I and our team, saw that. But what limits us as human beings is the past experience. A pandemic

threat in this dimension did not happen in the past 50 years. It was a new situation with a new pathogen, which fulfilled the full pattern of a global outbreak. In addition, the combination of high infectivity, a more or less immune naive human population, a higher transmission rate and the pathology made it nearly impossible to control during that early stage. The mathematical evidence was there, and we decided early to act fast and not to lose time.

KK: What were the kinds of decisions that you made at the company? What changed in January 2020?

ÖT: On that weekend when we took this decision, we had already considered designing more than 20 vaccine candidates and the cloning of multiple constructs was initiated. In fact, we did many steps in parallel to save time without taking any shortcuts. Our teams worked in 24/7 shifts. Everything was initiated and put on track and then escalated and accelerated over time with more information on the reality of the pandemic coming in. In addition, we early started the dialogue with regulatory authorities and the

Federal Institute for Vaccines and Biomedicines, the Paul-Ehrlich-Institute (PEI). It was a race against time. Everyone involved pulled towards the same goal: develop a safe and effective vaccine as fast as possible.

KK: The first person was vaccinated at the end of 2020. We are now in a situation where we are vaccinating teenagers in Israel, Germany and the US. And then there are other places in the world where there is no vaccine even for frontline health care workers. What do you think about this, and where is your responsibility?

ÖT: The question is about equality of distribution and that has been important for us from the very beginning. No one is safe until everyone is safe. We are already working on sustainable solutions to foster a broader, a global supply and we decided to execute on a three step approach: As a first action, we signed the COVAX agreement to deliver 40 million doses at a not-for-profit price to low and lower middle-income countries. In parallel, we have increased our manufacturing capacity and decided to deliver 2 billion doses of our COVID-19 vaccine to low- and middle-income countries until end of 2022. The first 1.2 billion doses will be provided this year. This equals 40% of the manufacturing capacity of our and Pfizer's network.

US: Besides delivering vaccines to low-income countries, we believe it is important to enable qualified regions on the African continent and on other regions to have access to the technology. We have started the process of identifying partners to whom we can transfer our technology and build manufacturing capacity to ensure that low- and middle-income countries have everything in place to manufacture vaccines on their own. In the mid- to long-term, it is our goal to develop sustainable solutions and to establish a worldwide manufacturing network which is not only suitable to address COVID-19 but also to address potential future pandemics and other regional health threats. On the African continent for example, we are currently exploring possibilities to set up state-of-the-art mRNA manufacturing facilities.

KK: Özlem Türeci and Uğur Şahin, thank you for the interview.

The interview was edited for length and style by Holger Breithaupt and Astrid Gall. It is an excerpt of an interview originally published in *EMBO Molecular Medicine*: Türeci, Ö. and Şahin, U. (2021), Racing for a SARS-CoV-2 vaccine. *EMBO Mol Med* e15145. DOI: [10.15252/emmm.202115145](https://doi.org/10.15252/emmm.202115145)

The full interview is also available as a podcast: embo.org/podcasts/baptism-by-fire

EMBO Membership at a glance

- More than 1,800 leading life scientists in Europe and beyond, including 90 Nobel Laureates
- EMBO Members work in EMBC Member States, EMBO Associate Members join from countries in other parts of the world
- Members serve on EMBO Council, Committees and Advisory Editorial Boards, guiding the execution of all EMBO initiatives
- Annual nomination and election ensure that the scope of EMBO remains broad and open

people.embo.org



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A new look for EMBO

With the launch of the new webpage in April, EMBO presented its new visual appearance

By Adam Gristwood

The refreshed design includes a revitalized logo, colour palette, typeface, photography, and icon style, and will eventually cover every visual item – from stationery to social media. “EMBO’s visual image carries an essential message about the distinctive identity of the organization and its communities,” explains Tilmann Kiessling, EMBO Head of Communications. “Most scientists enjoy good design and some are even passionate about it. EMBO has a strong brand. It was our goal to build on that and evolve the EMBO visual identity in line with the organization’s values.”

The cornerstone of the new design system is an updated logo, hued with a warm yellow, which gives a nod to the previous theme of the logo while also conveying an overarching

representation of EMBO and the life sciences. “We hope people feel that the design update is modern, balanced, while staying true to who we are,” says Pauline Marchetti, the EMBO graphic designer who led the redesign. “We see the colour yellow as courageous, reliable, and intellectual – these are all great descriptions for EMBO, and the limited colour palette combined with geometric shapes and patterns reflects the sophistication of the EMBO communities,” she adds.

EMBO changed its typeface to the font Noto, which offers both good readability and versatility across printed publications and digital platforms. “We will use more real-life photos of our communities, and we will also be making use of scientific images submitted by our community

members as backgrounds, textures, and for other visual elements. We are literally embedding their work into our visual presence, improving the design,” says Marchetti.

The last major design update was in the 1990s, and the team hopes that the new design will have similar longevity and ensure brand consistency across multiple platforms. “The previous design system was developed when communications were dominated by print,” adds Kiessling. “Our new visual image will better cater for how people use digital media. Users of the new webpage can expect content to be aesthetic, appealing, and reader friendly – it’s an engaging design that reflects the spirit of the organization.”



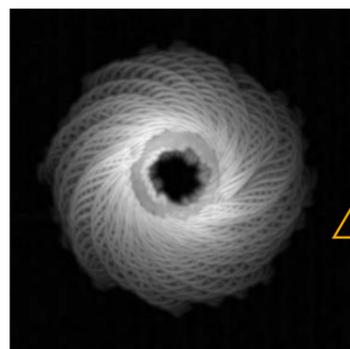
Your image as part of the EMBO design

By Astrid Gall

We would like a scientific image from your lab to be a part of the new look at EMBO! The new EMBO visual style uses more scientific imagery, and we would be proud to feature the images captured by EMBO community members in the course of their research.

If you would like to participate, please email communications@embo.org to find out how to submit your image. Images should be high resolution, clear, and high contrast. We can only consider images that you own and have the right to share with others and give permission to use.

In addition to the inclusion of your image into the new EMBO design, you will receive a poster with all submitted images.



The original scientific image provided by EMBO Member Carsten Janke, and its use in the EMBO Twitter header.

Launch of the EMBO New Venture Fellowships

The EMBO New Venture Fellowship supports early career scientists to explore alternative areas of research

By Adam Gristwood

A new fellowship for early career researchers has been launched in memory of Suzanne Eaton, an internationally acclaimed scientist and EMBO Member. The EMBO New Venture Fellowship supports young researchers from across the life sciences to enter a new field or bring a new direction to their work.

ment. Family and friends of Suzanne commented that her scientific identity and drive was inspired by her position at the Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, of which she was one of the founding members and a group leader for over 20 years.

the life sciences, use interdisciplinary approaches, and take the Fellow’s work in a new direction.

Up to six fellowships will be awarded across two calls; the first call ran from March to June 2021, and a second will run in spring next year. The travel costs and a daily subsistence allowance will be provided to the fellows. Applicants must have a minimum of two years’ experience at PhD level and no more than two years’ experience as a principal investigator. Fellowships are awarded for exchanges between laboratories in EMBO Member States, Associate Member States, and co-operation partners.



The EMBO New Venture Fellowship will open doors for young researchers to think about scientific puzzles in new ways.



Kelly Sheehan-Rooney

The aims of the New Venture Fellowship are to connect different perspectives, lead science down new avenues, and stimulate collaborations. They reflect Suzanne’s collaborative approach to research, which spanned cell biology, biophysics, biochemistry, genetics, and mathematical modelling. Suzanne united researchers to address key questions in areas such as cell signalling, metabolism regulation, and tissue formation. She also encouraged others to overcome the challenges of entering new fields for the benefit of intellectual and scientific advance-

ment. She died in 2019 under tragic circumstances. Following her death, people across the world paid tribute to her, remembering a pioneering scientist, inspiring mentor, and dear friend. A memorial fund was set up in this spirit and the EMBO New Venture Fellowship has been established thanks to some of the generous donations made.

EMBO New Venture Fellows can spend up to 90 days with a host group, working on research projects. Projects should address important problems or barriers to progress in

“Suzanne Eaton was a truly inspiring scientist, and her work underscored the benefits of bringing together different fields to answer complex life science questions,” says Kelly Sheehan-Rooney, Head of the EMBO Fellowship Programme. “The goal of the EMBO New Venture Fellowship is to support high quality candidates to explore feasible projects in fields outside their own area of expertise and generate the preliminary data that could help transform their research trajectory. It will also broaden views, sharpen insights, and build bridges between disciplines that we hope will lead to long-lasting collaborations.”

Increasing participation throughout Europe

EMBO adds activities to its programmes and launches new funding schemes for researchers in or going to one of nine countries

By Tilmann Kiessling

Life scientists in [EMBC Member States](#) and beyond have access to the EMBO Programmes. But researchers from the different member states do not participate equally: application and success rates vary between the countries.

“Our aim is to counterbalance this uneven spread in participation”, says Maria Leptin, EMBO Director. To increase participation of life scientists in or going to those countries that currently benefit less from its programmes compared with others, EMBO has added activities to existing programmes and is launching new schemes.

For the next three years, life scientists in or going to Croatia, Czech Republic, Estonia, Italy, Lithuania, Luxembourg, Poland, Slovenia, and Turkey are eligible to apply to these schemes. Other EMBC Member States can join this set of participating countries by decision of the EMBC, the inter-governmental organization that funds the major EMBO Programmes and activities.

There are four new and adapted schemes.

Five additional **EMBO Postdoctoral Fellowships** are now reserved for researchers applying to work in one of the participating countries. In addition, an interview by an EMBO Member or Young Investigator is now guaranteed to the researchers applying to work in those countries, provided their application passes initial screening for overall quality. These will thereby enter the final shortlist for consideration by the Fellowship Committee. Adaptations to this scheme are being implemented in the current selection round.

EMBO Advanced Collaboration Grants are a new scheme for group leaders in the participating countries who wish to visit scientists in other EMBC Member States to develop or carry out collaborative projects, or to prepare joint grant proposals. This scheme will start accepting applications by December 2021.

The **EMBO Lecture Courses** scheme provides funding for lecture courses to train PhD students and postdoctoral researchers in the participating countries. The application deadline is 1 March 2022.

The **EMBO Lecture Series** scheme provides funding to invite EMBO Members and Young Investigators to give lecture series in institutions in the participating countries. Applications by hosts of such lecture series are accepted throughout the year.

Excellence of the candidate and the research proposal are the main selection criteria for all schemes.

Find details about the schemes, including eligibility criteria, and apply for them at embo.org/funding/fellowships-grants-and-career-support/postdoctoral-fellowships

embo.org/funding/fellowships-grants-and-career-support/advanced-collaboration-grants

embo.org/funding/funding-for-conferences-and-training/lecture-courses

embo.org/funding/lecture-travel-and-childcare-grants/lecture-series

Research integrity initiatives at EMBO

By Kathy Weston

Promoting a healthy research culture is a crucial part of the remit of EMBO. To engage EMBO Members and their institutes in discussions of the systemic factors affecting research integrity, the EMBO Policy

team is now running a series of online meetings. Sessions explore how current methods for making research funding decisions may have unintended negative effects on research quality, and can drive questionable research practices. Possible policy solutions and international community-driven initiatives are discussed, including the roles of institutes and funders in creating culture change. The first two of these meetings, with researchers in Estonia and Lithuania, received enthusiastic feedback from participants. If you are interested in co-organizing a future session, please contact Senior Programme Officer at sandra.bendiscioli@embo.org.

This spring, EMBO also joined the European Network of Research Integrity Offices (ENRIO), a key player in advancing research integrity in Europe through partnerships and advocacy. ENRIO provides a platform for networking, peer-learning, and the exchange of information and experiences, promoting good practice through education, advice, events, and training. Being formally involved with ENRIO will help EMBO support its community to develop appropriate structures and policies to foster research integrity.

For further information on promoting research integrity, see embo.org/policy/research-integrity/resources-to-foster-research-integrity

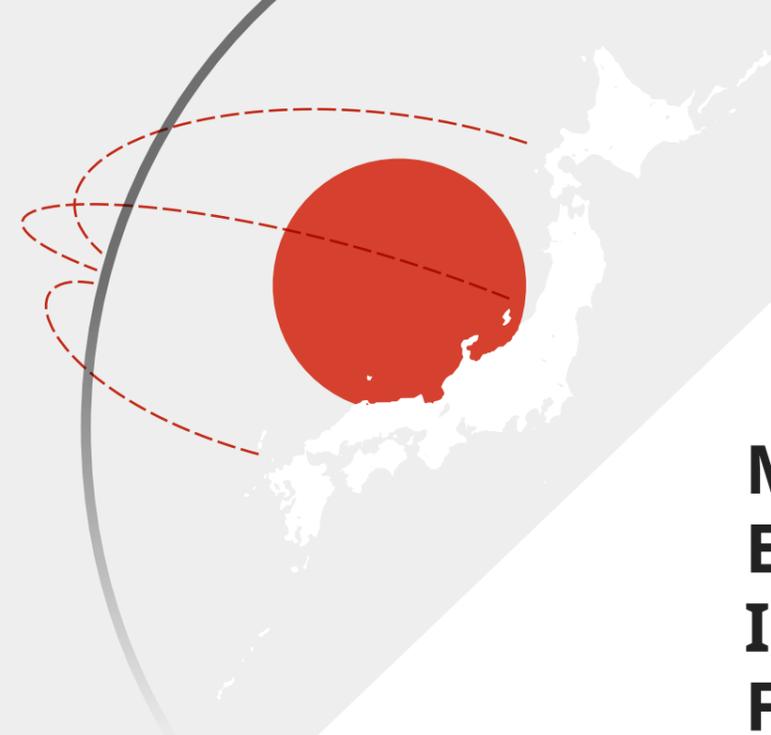
Country features

By Astrid Gall

EMBO has started a series of widely distributed country features focusing on one EMBC Member State each. They form part of our initiative to raise awareness of the new and adapted schemes to support life scientists throughout Europe. So far, we have published features for Estonia, Turkey, and Finland.

The features include concise information on EMBO Programmes and activities available in the country, an overview of the EMBO communities, facts and figures on the life sciences landscape, an interview with a leading scientist or policy-maker, and portraits of researchers from the EMBO communities.

To view the country features online, visit embo.org/the-embo-communities/embo-communities-in-embc-member-states/



Looking east: EMBO and Japan

By Astrid Gall

The highly active EMBO communities in Japan continue to grow. This year, two new associate members in Japan were elected, bringing the total number to 22, while another two Japanese scientists joined the membership.

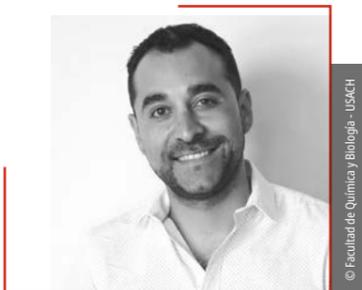
In 2020, EMBO took further steps in working closely with Japan. For example, EMBO co-organized a meeting with the Molecular Biology Society of Japan (MBSJ) at the EU Delegation to Japan, where more than 30 high-level experts from Europe and Japan discussed success factors for early career researchers, agreeing that strengthened ties would be very beneficial. Furthermore, EMBO Press editors gave talks, conducted training and consultation sessions at the MBSJ annual meeting, and the EMBO Director gave a keynote lecture at the annual conference of the Japanese Association for the Promotion of Research Integrity (APRIN).

To foster even closer ties, life scientists in, or wishing to go to Japan can exceptionally apply for EMBO Scientific Exchange Grants, Core Facility Fellowships and New Venture Fellowships in 2021. Organizers of workshops, practical and lecture courses in Japan can apply for funding through an agreement between EMBO and The Company of Biologists. The ongoing EMBO | Japan Virtual Lectures facilitate continued exchanges during the pandemic, are open to scientists in Japan and Europe, and followed by 'meet the speaker' sessions for early career scientists at the Japanese host institutes.

More initiatives from EMBO, its affiliated researchers and policy makers are set to deepen existing collaborations between EMBO and Japan.

Meet new EMBO Global Investigator Francisco Cubillos

By Giorgia Guglielmi



"A large part of my network is from abroad," Francisco Cubillos says. After a PhD at the University of Nottingham, UK, where he investigated the genetic architecture of complex traits in yeast (*Saccharomyces cerevisiae*), Cubillos moved to the INRA-Versailles Research Centre in Paris, France, to understand how non-coding regions of the genome allowed plants to adapt to extreme environments.

Now, as an Associate Researcher at the University of Santiago de Chile, Cubillos uses 'omics' approaches to understand the variability in genetic and physiological traits of *Saccharomyces eubayanus*, the 'parent' of the lager brewing yeast. Cubillos' team is isolating and characterizing *Saccharomyces eubayanus* strains for biotechnological applications. "We look for strains with the best potential, we improve their performance, for example for beer production, and then we work with local beer producers to get new beers out," he says. In the next years, his team will collect a large number of yeast strains from Patagonia to study their biotechnological potential, but also to try to understand the microbial diversity present in the South American region, which is likely a microbial "refuge" with astounding genetic variability, Cubillos says.

As an EMBO Global Investigator, Cubillos hopes that the financial support for collaboration and training activities will help him to consolidate his international research network, but also help his students grow as scientists. The programme, he says, "is going to provide them with tools for the future."

Andrea Ablasser awarded EMBO Gold Medal 2021

EMBO recognizes outstanding achievements of scientists under the age of 40 in Europe with the gold medal

By Tilmann Kiessling

Andrea Ablasser, Professor at EPFL, the Swiss Federal Institute of Technology in Lausanne, Switzerland, is the recipient of the EMBO Gold Medal 2021. With the medal and an award of 10,000 euros, EMBO recognizes outstanding achievements of scientists under the age of 40 in Europe.

Andrea Ablasser receives the award for her pioneering work on how cells recognize the inappropriate presence of double-stranded DNA in the cytoplasm as a danger signal and how the sensing of DNA initiates powerful innate immune responses. Her scientific work provides insights into newly discovered mechanisms

of innate immunity and may pave the way for therapeutic opportunities for the treatment of inflammatory conditions and cancer in humans.

Ablasser has been exploring the mechanisms and regulation of the DNA sensor cGAS, which upon activation produces the messenger molecule cGAMP. This messenger activates the receptor STING, which eventually activates the immune system through the production of cytokines. More recently, she has elucidated mechanisms by which this pathway is suppressed when encountering host DNA to avoid autoreactivity.

EMBO Member Douglas Hanahan, Distinguished Scholar of the Ludwig Institute for Cancer Research and former Director at the Swiss Institute for Experimental Cancer Research (ISREC), EPFL, says: "Andrea Ablasser is a remarkably creative and accomplished scientist. Each of her publications is a conceptual tour de force, clearly establishing her as an exceptional biomedical scientist of her generation."

The EMBO Gold Medal recipient has been invited to present her research at Cell Bio 2021, a joint online meeting by ASCB and EMBO, in December.



I always thought that the people who won the EMBO Medal were really excellent scientists that I looked up to, and so it's a very special honour to now also be a recipient of this award. I don't think it will change anything in my mindset or in the way I do science, but the positive feedback will maybe give me some confidence that what we have done in the past is good and has been appreciated by our community.



Andrea Ablasser



Sustainable conferencing beyond the pandemic

By Astrid Gall

Global CO₂ emissions dropped during the pandemic while environmental-friendly virtual meetings had become the norm for almost all scientists, but bounced back quickly. EMBO funds international scientific courses and workshops with more than 11,000 participants annually and is concerned about the environmental impact caused by the events and related travel. As travel restrictions are easing and vaccination rates rising, where do we go from here?

Resulting from discussions with organizers of EMBO Courses & Workshops, EMBO proposes sustainability measures to reduce the CO₂ footprint of in-person meetings. They are incorporated into the organizer guidelines for events that EMBO funds. Separate organizer guidelines for virtual meetings are provided. Interviews with conference organizers and participants formed the basis of our ongoing work on a white paper, which EMBO will use to inform conference funding policies in the future.

To support the measures, EMBO has taken several steps. We offer a virtual meeting platform to organizers that enables hosting of virtual and hybrid meetings as an alternative not only during the pandemic, but, should a hybrid format be chosen, also to reduce the environmental impact and enhance the inclusivity of conferences in general. EMBO also published suggestions on virtual meetings with advice to organizers so that they can make the most of virtual conferences. Fee waivers and childcare grants are available to participants (via the organizers) for virtual and hybrid EMBO Courses & Workshops.

Finally, news posts on the EMBO blog provide tips for virtual conferencing and invite further discussion of the topic.

embo.org/blog/tips-for-virtual-conferencing-agenda-planning

embo.org/conferences-training/sustainable-conferencing

A virtual meeting platform for EMBO Courses & Workshops

By Astrid Gall

A new platform for virtual meetings is available for organizers of EMBO Courses & Workshops. It is linked to the meeting webpage and abstract submission system that the EMBO Courses & Workshop Office provides for them.

The platform offers participants straightforward navigation of the virtual conference through an interactive agenda with easy access to abstracts, posters, and video recordings. It also shows the talk schedule with the local times for all participants and has a built-in chat with threading, video call, and private message options. Conference organizers will benefit from a documented back-end set-up of the agenda, bulk upload of the participant and speaker lists, and integration with external providers, e.g. for networking solutions and video recording.

“The platform proved to be very versatile and powerful, even though we needed a bit of time to get familiar with its logic. We particularly liked how easy it was to link the talks to the corresponding webinars, and that the programme and chat were generated automatically,” says Jérémie Rossy, co-organizer of the *EMBO Workshop on ImmunoBiophysics: From fundamental physics to understanding immune response*. “The virtual meeting ran very smoothly. The embedded chats were a great tool: We could see questions and answers going on long after the talks, which is not possible in an in-person meeting. Poster sessions as chatrooms worked well for us, leading to lively scientific discussions.”

The cost of the platform can be covered by the funds EMBO provides to organizers of EMBO Courses & Workshops.

Scientific skills courses going virtual

EMBO Solutions report on experiences from moving scientific skills courses to a virtual format and plans for the future

By Samuel Krahl

In 2020, the COVID pandemic pushed the EMBO scientific skills courses online, and the benefits for participating scientists have been significant.

One challenge for scientists is the development of professional skills that help in the generation, analysis and communication of data and ideas. To address this need, EMBO Solutions launched a portfolio of courses for PhD students and postdoctoral researchers, designed by EMBO Press editors, in 2018. The courses improve various core research skills, including research integrity, communicating research, peer-reviewing, and figure design.

COVID brought many challenges. A particular one for EMBO Solutions was how to support early career researchers with our training and development programme remotely. We developed virtual versions of all our

courses, raising them to the same standard of quality, engagement, and effectiveness as our in-person training. How we made this shift, and some of the benefits of virtual training we have found, are outlined in an [EMBO feature article](#).

One specific benefit of working virtually is greater accessibility, especially for our one-day scientific skills courses. We have offered slightly more courses to more scientists in 2021 than in 2019 (15 courses delivered or still to come in 2021, compared to 13 in 2019), despite the fact that we have been unable to undertake in-person training. Virtual training does not require participants to travel long distances or arrange additional childcare, both of which can be barriers to participating in an in-person course. Because convening courses virtually is also easier, we have been able to offer a

series of ‘open registration’ courses, for which scientists can register as individuals, rather than depending on their institution to arrange a course for them. We now provide this option in addition to taking group bookings from institutes and universities.

Once the pandemic is ‘over’ and we can resume our in-person courses – which have additional, significant benefits around networking, socializing, and collaboration – our commitment to virtual training will remain strong, and we look forward to offering both formats to the research community. Our scientific skills courses are an important and growing part of the EMBO Solutions portfolio of support and development for scientists.

lab-management.embo.org



“The international agenda of EMBO is important, more than ever before”

Fiona Watt, the incoming EMBO Director, shares her views on EMBO and her own research aspirations

Interview conducted by Tilmann Kiessling and Astrid Gall

The British cell biologist Fiona Watt has been appointed Director of EMBO. She will join EMBO as its sixth director in January 2022, succeeding Maria Leptin who was recently appointed President of the European Research Council. Ahead of her office, we spoke with Fiona Watt about career support for life scientists, the role of EMBO Press in advancing scientific publishing, and her research.



For you as the incoming Director of EMBO, and as someone who is an EMBO Member and a scientist, what does EMBO stand for?

For me, EMBO stands for excellence in life science across boundaries, for fostering and promoting talent, and exchanging information regardless of where you live. The international agenda of EMBO is vitally important, today more than ever before. Our members are our strength. I've seen the transformative effect of an EMBO Postdoctoral Fellowship on a young person's career. The Young Investigator Network, which brings bright people together to learn from one another, is another huge career boost. I also think that the way the EMBO funds are spent is very effective. The funds are tailored to individuals, and they can make a lifetime's difference. The publishing innovations that have been led by EMBO are very exciting, too.

Mobility of scientists was one of the original ideas when EMBO was founded. Is it still important that there is an organization fostering mobility in the age of the internet, and during the pandemic when knowledge exchange became even more web-based?

Many scientists have been forced to work from home for over a year. To talk about mobility now may be a bit strange, but I've seen in my own lab

that creativity can suffer if people don't meet face to face and have unscheduled conversations. Mobility is important to exchange ideas. I believe you shouldn't think of science as an isolated activity – the topic and where the research is conducted are both important, so funding people to move between countries can be highly beneficial. There are important lessons – and lasting friendships – that an investigator gains from experiencing another culture. Nevertheless, the last year has shown that even when individuals can't travel they are still able to get access to great science. I'm seeing implementation of interesting software that allows virtual “water cooler chats”, but nevertheless enabling scientists to meet in a societal context remains important.

How does EMBO contribute to scientific publishing? In your view, what advances does the work of EMBO Press bring to the communities?

For the first time this year, my lab has submitted a manuscript through *Review Commons*. I said to my lab members “let's just jump down this watershoot”, because we didn't know what would happen, but thought it would be a fun ride. *Review Commons* is such a great idea. We got very constructive reviews for our paper. We are now revising our paper for our top choice journal.

Another area that I'm interested in is the interface between preprints and publications. Preprints have evolved a lot in the last year. But I still think that more needs to be done. When a reviewer of a paper checks whether the data are robust, it is late in the process. We know that reviewers may for instance miss technical flaws, because they're not experts in everything. I would like to explore how we can make sure that there is a check on robustness before a paper goes through the review process. EMBO has been so innovative in publishing. There are some really interesting things that we can work on in partnership with others.

You have a long track record not only in research, but also in the management of research and funding organizations. How do you balance your passion for research with the demands and expectations of the organizations?

I love doing science, but I'm also interested in how it's done. My adventures in publishing are because of my interest as a scientist in doing experiments, getting them published and sharing information. My role at the Medical Research Council has been very exciting and fulfilling for the last few years, but it is time to pass the baton on. Related to my personal research aspirations, being at EMBO, together with the fantastic

platforms available at EMBL, gives me the freedom to evolve my work on genetic models of wound healing in mice, my studies of cultured epidermal stem cells and my work on the Human Cell Atlas. I am also excited to progress my translational studies of injecting cells into the skin to resolve scars – does this really work in the clinic? If a commercial entity is the way to answer that question, it will be intriguing. I'm very, very much an experimentalist. But above all, taking the helm at EMBO and helping the organization execute its mission is a wonderful privilege.

Read more about Fiona Watt's appointment in our press release at embo.org/press-releases/fiona-watt-appointed-as-embo-director



New avenues for allocating research funding

By Yvonne Kaul

Peer review is the best established and most widespread mechanism for allocating research funding worldwide. Many consider it as the best way of assessing the quality of research proposals, but it is not perfect. Concerns about effectiveness, reliability, and transparency – to name just a few – have been growing.

Some funding agencies have already started to update their processes for distributing funding. Others are considering breaking new ground. To help them make informed decisions, the EMBO Policy Programme

published the publicly available report *Dealing with the limits of peer review with innovative approaches to allocating research funding*. The report looks at several mechanisms to examine their usefulness. For example, is partial randomization a good complement to peer review? Or does the strong-manager method, as implemented by some US agencies, tick all the boxes?

The report evaluates the pros and cons of modifications or complements to peer review that funding agencies have considered or tried out.

“Funders have the responsibility to make sure that they distribute resources in the most efficient and fairest way,” comments report co-author Sandra Bendiscioli from the EMBO Policy Programme. “We hope that our report will help them understand the possible effects of changes and encourage them to experiment with new ideas”.

embo.org/documents/science_policy/peer_review_report.pdf

DORA receives grant to accelerate research assessment reform

By Adam Gristwood

The Declaration on Research Assessment (DORA) has received a 1.2 million US dollar grant from Arcadia – a charitable fund of Lisbet Rausing and Peter Baldwin – to identify, understand, and make visible criteria that academic institutions use to make hiring, promotion, and tenure decisions. The three-year Tools to Advance Research Assessment (TARA) initiative will support the development of new policies and practices for academic career assessment. It will include an interactive dashboard with recruitment benchmarks used by institutions, a resource toolkit to support institutions working on improving policies, and a survey of US institutions to understand attitudes and approaches to research assessment reform better.



“Journal-based metrics are very limited quality criteria for judging research and researchers,” says Sarah de Rijcke, Director of the Centre for Science and Technology Studies at Leiden University, Netherlands, who together with Ruth Schmidt from the Illinois Institute of Technology in Chicago, collaborates with DORA on project TARA. “We want to shine a spotlight on how scholarly institutions are introducing more responsible forms of research assessment and develop a dashboard for them to make visible good practices.”

DORA was conceived at the 2012 American Society for Cell Biology meeting in San Francisco. It calls for improvements to the way science and scientists are evaluated and has been signed by around 20,000 individuals and institutions to date. “Research assessment reform is of vital importance for the scientific community and needs to valorize a richer set of activities that represent the scientific process holistically,” says Bernd Pulverer, Head of Scientific Publications at EMBO. “TARA will help add transparency to research assessment policies, aid in the spread of best practices and help prospective applicants find an institution that matches their expectations.”

sfdora.org

In remembrance of John Tooze

Deeply saddened by the loss we remember John Tooze who served as the EMBO Executive Secretary for two decades

We are greatly saddened by the loss of John Tooze (1938–2021). John was a scientist, an editor, and an administrator who for two decades served as EMBO’s Executive Secretary. John successfully steered EMBO through its turbulent middle years, when the organization’s continued funding and survival were by no means certain. His cynosure was an unwavering commitment to EMBO’s core mission of promoting excellence in European molecular biology.

John obtained his Ph.D. in Biophysics from King’s College London in 1965. He then spent two years at Harvard as a postdoc in Jim Watson’s lab. John returned briefly to King’s, but soon realized that he “was not happy doing lab science”. He was promptly recruited by John Maddox to join Nature as Assistant Editor. A few years later, when Michael Stoker was appointed Director of the Imperial Cancer Research Fund (ICRF), he recruited Tooze to be his research administrator and unofficial talent scout.

It was Stoker who suggested to John that he should apply for the EMBO Executive Secretary position in 1973. As John put it, “if your boss is telling you to apply for a job, it probably makes sense to do it.” Over the next twenty years, John ably administrated EMBO’s fellowship programmes, courses, and workshops; he also kept EMBO true to its core mission as it expanded. John’s influence on molecular biology transcended his role at EMBO. He represented EMBO at the 1975 Asilomar Conference and fiercely opposed the resulting NIH moratorium on certain types of recombinant DNA experiments. John lobbied against the restrictions and organized a 1978 EMBO/NIH workshop that was instrumental in changing the guidelines.

When EMBO Council tasked him with launching a journal, John was initially skeptical – was another journal necessary? He nonetheless proceeded to create *The EMBO Journal* essentially on his own, from finding a publisher to produce it, to editing the journal’s articles to the highest scientific standards. The first issue came out in January 1982. The following year, Daniel Koshland reviewed the fledgling journal for *Nature* and gave it his highest rating: *EMBO Journal* was worth stealing from academic libraries. John remained EMBO Journal’s Executive Editor until 2003.

John was the first recipient of the EMBO Gold Medal, in 1986. The prize was intended to encourage young molecular biologists and he referred to his winning the award as “an interim measure”. He also served as Scientific Coordinator (1982–1993) and Acting Director General (1993) of the EMBL. John left EMBO to return to the ICRF in 1994, and in 2004 he moved to Rockefeller University as Vice President of Scientific and Facility Operations.

It is impossible to list all of John’s achievements – we have not touched on his popular structural biology textbook, wonderful writing style, or his research – and one can only hope that a capable biographer comes along to tell his story with the detail it deserves. Although he left EMBO in 1993, John never stopped being interested in our activities and was always available to share his experience and wisdom with us.

Maria Leptin
EMBO, Director

Edith Heard
EMBL, General Director



Financial transparency at EMBO Press

Two years ago, EMBO made the EMBO Press journals' finances public. We now provide an update on our costs of scientific publishing in 2019.

By Thiago Carvalho

As EMBO Director Maria Leptin pointed out in her EMBO feature launching the publishing transparency initiative, "An open discussion of what it costs to run and maintain high quality, selective journals, and who should pay, is only possible on the basis of real data." EMBO's total publishing costs for 2019 were 4.23 million euros. The leading costs at EMBO Press are staff salaries and benefits, at 2.03 million euros. The second-largest expense (1.72 million euros) corresponds to publishing services and digital infrastructure. At EMBO Press much of this is provided by our publishing partners Wiley and Atypon. The remaining costs include administration, office costs, and editor conference travel (2020 figures were affected by the pandemic and will be discussed separately).

EMBO Press publishes two open access journals, *EMBO Molecular Medicine* (EMM) and *Molecular Systems Biology* (MSB), and two hybrid journals (subscription journals with an open access option), *The EMBO Journal* (TEJ) and *EMBO Reports* (ER) (*Life Science Alliance*, co-published with CSHL Press and Rockefeller University Press, is not included in this analysis). Article Processing Charges (APCs) in 2019 were 4,700 euros per article for TEJ and ER, and 3,300 euros per article for EMM and MSB. EMBO Press does not charge APCs for invited reviews, news pieces,

Number of papers published in EMBO Press journals	2019	2020
Primary research papers	472	631
Reviews	39	30
Opinions, editorials, News & Views	170	197
Total	681	858

or commentaries, which incur additional editorial and production costs, including for professional science writers and illustrators. In 2019, the total revenue for the four journals was 5,568,294 euros, of which subscriptions generated 3,665,947 euros. The remaining revenue (1,902,347 euros) consists mainly of APCs and page charges.

EMBO Press had a surplus of just over 1.3 million euros in 2019. This surplus is entirely reinvested in innovation – with a focus on developing tools for open science – and EMBO Programmes for the scientific community. For example, in 2019, EMBO launched *Review Commons*, a platform for journal-independent peer review of preprints. *Review Commons* has already received 890 manuscripts, of which 664 were sent out for review, and 220 have by now been published in affiliated journals. *Review Commons* remains a free platform, and it relies on EMBO Press editors to run its peer review process. It is only one of a suite of freely available open science platforms

developed at EMBO and EMBO Press, including *SourceData*, *SDash*, and the *Early Evidence Base*.

EMBO Press encompasses 17 professional scientific editors and six support staff who run its selection, peer review, and publication process. In 2019, our four journals published 472 research papers, but EMBO Press editors and staff handled 5,766 submissions. As the head of EMBO Press, Bernd Pulverer, explained in an [editorial*](#) in *TEJ* that "the cost of APCs has to scale with a journal's degree of selectivity." Disrupting this correlation of APCs with selectivity would require covering the costs of rejections by levying submission fees – an unpopular option.

EMBO Press invests in quality control and complements its thorough peer review process with a systematic scientific integrity and reproducibility screening service, as well as data curation and a nuanced, multi-tiered system for the correction of published articles. Our scientific editors assess data quality at all

stages of the manuscript review and publication process. EMBO Press has a dedicated data integrity analyst, and copyediting services at Wiley include three trained biologists who double-check statistics and figures. Some screening tasks may be automated – EMBO Press is currently developing AI-assisted approaches – but the process will still require expert human oversight.

The bottom line remains the same as two years ago: covering our basic publication costs would require raising APCs to just short of 9,000 euros per research article. Thus, a financially sustainable transition to a Gold OA model at all four EMBO Press journals would represent a challenge for many authors not supported by dedicated publication funds, effectively excluding them based on financial, and not scientific, criteria.

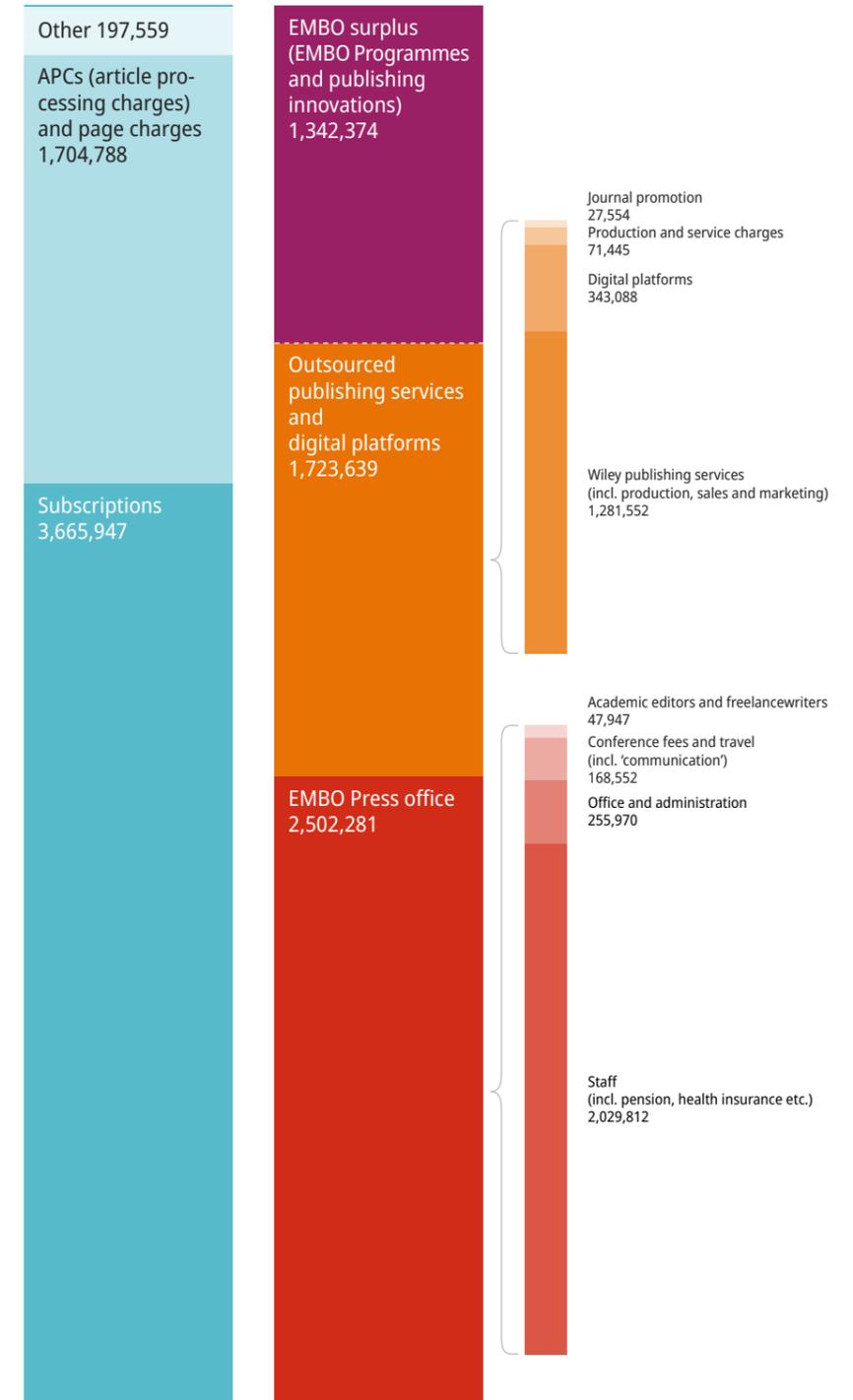
The scientific community and its funders must decide if – or literally how much – they value high-quality selective journals, open access, open science, and journalistic content. Through transparency, EMBO and EMBO Press want to contribute to grounding this debate in the financial realities of scientific publishing.

- reviewcommons.org
- sourcedata.embo.org
- sdash.sourcedata.io
- eeb.embo.org

2019
€ 5,568,294
total revenue

€ 1,342,374
EMBO surplus

€ 4,225,920
total cost



EMBO Press finances 2019 with publishing cost breakdown

EMBO engagement with the life sciences community in Europe and beyond

The EMBO communities are spread across 42 countries and growing. We want to know them better and bring them closer, and we set about doing just that.

- **Country features:** We launched a series of features with an in-depth focus on each of the EMBC Member States. Each feature includes an overview of the life sciences, portraits of researchers from the EMBO communities, and information on EMBO opportunities available for scientists in the country.

- **Conversations:** We want to know what interests you and how you would like to engage with EMBO. Scientific and technical reviews? Foresight and strategy? Ethical debate? Interacting with your national funders, regulators, and policy-makers? Community engagement? Serving on advisory boards and working groups? Mentoring?

- **Survey:** We are keen to understand your awareness and perceptions of EMBO and its offerings, learn about your needs, and ensure we are responsive in engaging with and supporting you. To this end, we will invite you and your colleagues to complete the *EMBO Survey* soon.

If you are interested in having a conversation, please write to the Senior Community Engagement Officer at vid.nukala@embo.org

We are listening to you!



Marja Makarow assumes Presidency of the Academia Europaea

Former EMBC President, Finnish EMBC and EMBL Delegate Marja Makarow has been elected as the next President of the Academia Europaea, the pan-European academy for sciences, humanities and letters.

Makarow brings formidable experience to the job. After a PhD at the University of Helsinki, and a period of EMBO-funded postdoctoral research with Kai Simons at EMBL, she became a successful PI back in Finland. But in 2003, after terms as EMBC President and subsequently Vice President for Research at the

University of Helsinki, she decided to move beyond bench science into the wider field of international research governance and funding. Since then, she served as Chief Executive of the European Science Foundation, sat on numerous highly influential advisory councils, and was until recently Director of the Biocenter Finland.

Makarow sees the Academia Europaea as an influential voice in promoting innovation, but also in safeguarding funding for fundamental research and researcher training.

She is also a passionate advocate of diversity and inclusion: "Talent is everywhere [but] it needs an enabling environment to blossom", she says. "I am a believer in inclusiveness and the role of diversity in increasing collective intelligence. I am committed to mobilize, support and nurture individual talent and institutional intelligence, crossing geographical, gender, career age and disciplinary borders."



EMBO @Nanyang Technological University Mini Colloquium

This year saw a further three members of Nanyang Technological University (NTU) Singapore faculty appointed as EMBO Global Investigators, bringing the total number of members of the EMBO Young Investigator Network at the university to six. To celebrate this impressive achievement, Philip Ingham from the university's Lee Kong Chian School of Medicine organized and hosted the 'EMBO@NTU Mini Colloquium' as a showcase for the research of the EMBO Global Investigators and Young Investigators at NTU. The colloquium, which was held both online and on-site in the learning studio of the Experimental Medicine Building on 15 April 2021, attracted around 100 participants

from various NTU schools as well as local healthcare institutions.

The event began with opening remarks by the organizer, who highlighted the contributions of several EMBO Members, notably Sydney Brenner and David Lane, to the life sciences research landscape in Singapore. Subra Suresh, NTU President, spoke of the importance of international cooperation in scientific research, as exemplified by EMBO. Maria Leptin, EMBO Director, joined remotely, and expressed her gratitude for the engagement of NTU and the Singapore biosciences research community with EMBO. Then, the six investigators Wu Bin, Luo Dahai, Tan Meng How, Yasunori Saheki,

Miao Yansong, and Xia Yun, gave well-received presentations on their fascinating research topics.

The colloquium was a great success, marking a welcome return to live presentations in front of a real audience at NTU. It was gratifying that technology allowed the EMBO Director to join the meeting and indeed to bring it to a close with her final remarks. In doing so, Maria expressed her admiration for the quality of the science that had been presented as well as her hope that everyone involved will be able to meet again in person before too long for more EMBO-Singapore events.

Sponsorship for new group leaders at the Dunn School of Pathology

The Sir William Dunn School of Pathology at the University of Oxford is known for its pioneering work on penicillin and continues to be a thriving environment for research on the molecular mechanisms underlying disease. It also contributes to supporting the next generation of scientists, such as by offering sponsorships for postdoctoral researchers wishing to establish their research group.

Following a successful pilot, the department introduced a new open call system, inviting talented early

career researchers to submit a simple expression of interest to be considered for sponsorship for externally funded fellowships. Successful applicants are fully mentored and supported by the department in their applications. "I was keen to establish this scheme because open calls are fairer and more transparent for the applicants," says Head of Department, EMBO Member and EMBO Council Member Matthew Freeman. "It also encourages a more diverse pool of candidates." The pilot proved very successful: Almost 60 scientists applied from all over the world.

Early career researchers who manage to secure a fellowship from external funding agencies then establish their independent group at the Dunn School, benefiting from a generous support package.

path.ox.ac.uk/content/cdf

Launch of the International Society for Regenerative Biology

While most vertebrates are unable to repair lost body parts, the axolotl can mobilize stem cells at the site of injury and rebuild entire limbs, the spinal cord, and even parts of the brain. EMBO Member Elly Tanaka, senior scientist at the Research Institute of Molecular Pathology (IMP) in Vienna, Austria, has worked for decades to unveil the molecular mechanisms behind this exceptional phenomenon. In 2021, her lab has published a refined version of the axolotl genome, revealed some of the mechanisms that prevent other amphibians from regenerating limbs, and investigated the early stages of spinal cord regeneration at the cellular level. The lab employs a host of cutting-edge molecular and imaging approaches to push the frontiers of knowledge in regenerative biology.

Tanaka plays an active role in promoting research and education in regenerative biology. She co-founded the International Society for Regenerative Biology in 2021, and the EMBO Workshop series *The molecular and cellular basis of regeneration and tissue repair* in 2002. Tanaka has received many awards, including the FEBS | EMBO Women in Science Award 2020, and started the Suzanne Eaton Memorial Fund together with EMBO Associate Member Ruth Lehmann and Anne Classen.

internationalsocietyforregenerativebiology.org

© Theodor Hammes



Cracking the plant SUMO code

The project SUMOcode, which started in early 2021, aims to understand how a small group of proteins known as Small Ubiquitin-like Modifiers – or SUMO – functions in plants. Plants are very vulnerable to changes in their environment, therefore a fast response to stresses such as heat and drought is vital. SUMO proteins play a key role in this response mechanism, so a comprehensive understanding of SUMOylation is crucial.

The five-year project, funded by the BBSRC with 5 million euros, brings together researchers from four UK universities: Durham, Liverpool, Cambridge and Nottingham. The group is led by Ari Sadanandom and includes EMBO Members Malcolm Bennett, who is Chair of the Fellowship Committee, and Kathryn Lilley.

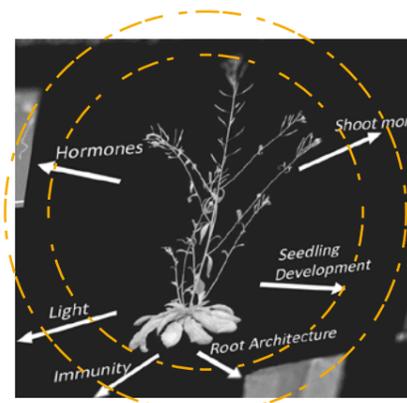
Using a multidisciplinary approach, it will explore the SUMOylation molecular response machinery in the model plant *Arabidopsis*.

“The SUMO code project will create a plethora of resources to dissect SUMOylation responses in different cell types, development stages and temporal scales,” explains Bennett, based at the University of Nottingham. “Our goal is to provide researchers from a range of disciplines with datasets and tools to improve plant resilience and help future-proof crops against climate change.”

Within SUMOcode, Bennett will create a cell atlas, localizing SUMO proteins and their targets within root tissue and identifying their precise role in the plant stress response.

Kathryn Lilley, who is based in Cambridge, will use mass spectrometry techniques to map SUMO protein targets, and explore why some proteins are found in multiple locations.

sumocode.org



New Euro-BioImaging node in Israel

A node of the Euro-Bioimaging (EuBI) infrastructure has been established in Israel. EuBI is the European landmark research infrastructure for biological and biomedical imaging as recognized by the European Strategy Forum on Research Infrastructures (ESFRI). It provides life scientists with access to high quality technologies, offering unique instrumentation and expertise, data management services and training opportunities. “It is a great pleasure for us, in EuBI, to watch the growth of the network of EuBI nodes, and we congratulate the Israeli bioimaging community on joining,” says Prof Benjamin Geiger, who is the Chair of the EuBI Board and an EMBO Member since 1984. “We are looking forward to successful participation of Israel in EuBI activities.”

The Israeli node is a distributed node that is hosted by seven universities throughout the country. Michal Neeman, Chair of Israel Bioimaging, says: “We are thrilled to have Israel Bioimaging join the EuBI network, and look forward to taking part in advancing cutting edge international collaborative research.” Israel Bioimaging offers a wide portfolio of methods, from imaging marine life to high field MRI and analytical tools. Israel is one of the 15 founding members of EuBI.

eurobioimaging.eu



Hans Ellegren will head the Royal Swedish Academy of Sciences

Hans Ellegren, Professor of Evolutionary Biology at Uppsala University, has been elected as the new Secretary General of the Royal Swedish Academy of Sciences, starting a four-year term at the beginning of 2022. As Secretary General, Ellegren will oversee the Academy’s activities, which include the annual awarding of the Nobel Prizes in Physics and Chemistry and the Prize in Economic Sciences.

Ellegren, an EMBO Member since 2014, studies how genomes diverge as populations and species differentiate, and how mutation, selection and recombination mould DNA sequence evolution, in species ranging from flycatchers to wolves.

Speaking of his new appointment, Ellegren says, “I am delighted and honoured to be entrusted with this role, perhaps the most enjoyable, most important and finest position anyone could have in academic Sweden.” While acknowledging the illustrious history of the Academy, Ellegren attaches equal importance to its vital role in the present day. “We can be active in setting research policy, but also in outreach, providing society with relevant knowledge on important issues”, he says. “Between them, our 600-plus members are a repository of an enormous amount of knowledge and wisdom. We need to get out there and tell people how important the sciences are!”



© Mikael Wallerstedt

DANEMO – Communicating EMBL and EMBO opportunities in Denmark

DANEMO is a new Danish research support and communication platform with the aim to increase the attention of Danish researchers to the numerous opportunities at EMBO and EMBL.

DANEMO was launched by the Danish Ministry of Higher Education and Science on the basis of a large-scale survey on the existing use of and interactions with EMBL and EMBO. Conclusions were that Denmark has important benefits of the EMBL and EMBO membership, in particular from resources and facilities. It was also clear that opportunities such as PhD and postdoctoral fellowships, and research/support positions, could be exploited further, and that increased awareness was the immediate solution.

DANEMO's steering committee is led by Poul Nissen, EMBO Member and Director of DANDRITE (an EMBL partnership), Aarhus University, and also includes Kaare Teilum, EMBL Council Member and EMBC Delegate, University of Copenhagen.

danemo.au.dk

DANEMO



© Lief Bolding

DANEMO will promote the use of the core facilities at EMBL sites and nourish collaborations between research groups in Denmark and at EMBL. DANEMO will also encourage scientists to apply to the PhD, fellowship, young investigator, and group leader programmes and to take advantage of career development and networking opportunities at EMBL and EMBO.

Kaare Teilum

Books

New books by or about members of the EMBO communities

Plant Lipids

Dorothea Bartels and Peter Dörmann

Humana Press, 2021
ISBN 978-1-0716-1362-7

EMBO Member Dorothea Bartels and Peter Dörmann edited this book in the *Methods in Molecular Biology* format exploring analytical methods to study complex lipid mixtures from plants and algae.

Trajectories of Genetics

Bernard Dujon and Georges Pelletier

Wiley-ISTE, 2020
ISBN: 978-1-119-72039-3

EMBO Member Bernard Dujon and Georges Pelletier edited this book covering the trajectories of the subject through more than a century and from humans to animals, plants, and microorganisms.

Ahead of the Curve - Women Scientists at the MRC Laboratory of Molecular Biology

Kathleen Weston

Cold Spring Harbor Laboratory Press, 2021
ISBN 978-1621824527

LMB alumna Kathleen Weston spotlights the scientific achievements of pioneering female scientists at the LMB, including EMBO Director Maria Leptin and Nobel Prize awardee and EMBO Member Elizabeth Blackburn, within the context of their lives outside the lab.

Communities

Communities

Mechano-genomics virtual seminar series

Driven by developments in bioengineering, imaging, genomics and AI, the emerging field of mechano-genomics explores how mechanical and biochemical signals influence health and disease, from the molecular to the tissular scale. When EMBO Associate Member G. V. Shivashankar started his group at the ETH Zurich and Paul Scherrer Institute in 2020, he intended to organize an EMBO Workshop on

the subject. The pandemic put these plans on hold, so Shivashankar established the fortnightly virtual 'Mechano-Genomics Seminar Series', creating a platform for exchange.

Since September 2020, the series brings together scientists from across the globe. Talks have explored the link between mechanical stress and cancer, organ chips and personalized medicine, how skin

stem cells cope with stress, and much more. Building on the series, Shivashankar plans to now organize the second EMBO Workshop on mechano-genomics together with Caroline Uhler (MIT), Marco Foiani (IFOM, Milan) and Viola Vogel (ETH Zurich).

psi.ch/en/mgg/mechano-genomics-seminar-series



© Markus Fischer, Paul Scherrer Institute

Awards to EMBO Members

A selection of prizes recently awarded to EMBO Members

2022 Croonian Medal and Lecture

EMBO Members **Stephen O'Rahilly** and **Sadaf Farooqi**, University of Cambridge, UK, have been announced as winners of the Royal Society's 2022 Croonian Medal and Lecture "for their seminal discoveries regarding the control of human body weight, resulting in novel diagnostics and therapies, which improve human health". The medal is awarded annually and is accompanied by a gift of 10,000 British pounds.

2021 Gottfried Wilhelm Leibniz Prize

Asifa Akhtar, Max Planck Institute of Immunobiology and Epigenetics and Vice President of the Max Planck Society, receives the 2021 Leibniz Prize by the German Research Foundation (DFG). The award recognises her groundbreaking cell-biological work on mechanisms of epigenetic gene regulation. It is considered the most prestigious research award in Germany and provides each recipient with up to 2.5 million euros in research funding.

2021 Louis-Jeantet Prize for Medicine

Patrick Cramer, Director at the Max Planck Institute for Biophysical Chemistry in Göttingen, has been awarded the 2021 Louis-Jeantet Prize for Medicine. With this prize, the Louis-Jeantet Foundation honours his pioneering work in the field of gene transcription. Cramer's research focuses on the molecular machines, called RNA polymerases, that control this fundamental process of life. The award is one of the most prestigious in Europe and consists of 500,000 Swiss francs.

Selman A. Waksman Award

Pascale Cossart, Pasteur Institute, has received the 2021 Selman A. Waksman Award in Microbiology for her discoveries on bacterial pathogens that benefit human health worldwide. Established by the Waksman Foundation for Microbiology, the Selman A. Waksman Award is a prize of 20,000 US dollars that is presented to recognize a major advance in this field.

2022 Feldberg Prize

Anne Ephrussi, European Molecular Biology Laboratory, has been awarded the German Feldberg Prize 2022 in recognition of her outstanding research. Her scientific work focuses on understanding how RNA molecules are transported and their translation regulated in animal development. The prize is awarded annually by the Feldberg Foundation for Anglo-German scientific exchange to one researcher in Germany and one in the United Kingdom.

German and European Cancer Prize

Andrea Ablasser, Swiss Federal Institute of Technology in Lausanne, is the winner of the German and European Cancer Prize in the experimental cancer research category. Ablasser was honoured for the discovery of a mechanism that explains how our body recognizes viruses and bacteria, but also degenerate tumour cells. The prize consists of 7,500 euros.

Anders Jahre Senior Medical Prize 2021

Poul Nissen, Aarhus University, Denmark, is this year's recipient of the Anders Jahre Medical Prize, one of Scandinavia's most prestigious research honours. The prize has been awarded in recognition of Professor Nissen's groundbreaking research on the structure and function of membrane proteins. His work has advanced our understanding of a variety of diseases, including cancer, cardiovascular disease and psychiatric disorders. The prize is accompanied by a cash award of one million Norwegian kroner (appr. 100,000 euros).

Award of the City of Vienna

Meinrad Busslinger, Research Institute of Molecular Pathology, has received a special award from the City of Vienna. Since 1947, the City of Vienna honours residents distinguished in a range of disciplines with the "Preis der Stadt Wien" for their life achievements. Meinrad Busslinger was chosen as the laureate of 2020 in the field of mathematics, informatics, science and technology.

2020 Imperial Prize and Japan Academy Prize

EMBO Associate Member **Mitunori Saitou** of Kyoto University has been selected as the recipient of the 2020 Imperial Prize and the Japan Academy Prize. He received the prize for his research on mechanisms and in vitro reconstitution of germ cell development.

Avanti Polar Lipid Award

Elina Ikonen, University of Helsinki, is the winner of the Avanti Award by the European Biophysical Societies' Association (EBSA) in 2021 for her outstanding work on lipid biophysics and lipid biology. The award is accompanied by a grant of 3,000 US dollars.

Michael Bruno Memorial Award

Yardena Samuels, Weizmann Institute of Science, is the recipient of the Michael Bruno Memorial Award from the Israel Institute for Advanced Studies at the Hebrew University of Jerusalem. The Michael Bruno Memorial Awards are presented each year to Israeli scholars and scientists who display exceptional promise, and whose achievements to date suggest future breakthroughs in their respective fields.

2021 Lasker Awards

EMBO Members **Dieter Oesterhelt** and **Peter Hegemann** together with Karl Deisseroth are awarded the 2021 Albert Lasker Basic Medical Research Award. They are honoured for the discovery of light-sensitive microbial proteins that can activate or silence individual brain cells and for their use in developing optogenetics, a revolutionary technique for neuroscience. EMBO Associate Member **David Baltimore** receives the 2021 Lasker-Koshland Special Achievement Award in Medical Science as one of the premier biomedical scientists of the last five decades, who is renowned for the breadth of his discoveries in virology, immunology, and cancer. He has provided visionary academic leadership at multiple institutions and has mentored trainees who have later become prominent scientists in their fields.

Good reads

A selection of publications by members of the EMBO communities

Antibody-mediated clearance of serum HBsAg has minimal impact on CD8⁺ T cell responses in mouse models of HBV pathogenesis
Matteo Iannacone and colleagues
Journal of Experimental Medicine | 2 November 2020
DOI: [10.1084/jem.20200298](https://doi.org/10.1084/jem.20200298)

Global human-made mass exceeds all living biomass
Ron Milo and colleagues
Nature | 9 December 2020
DOI: [10.1038/s41586-020-3010-5](https://doi.org/10.1038/s41586-020-3010-5)

Anti-tumour immunity induces aberrant peptide presentation in melanoma
Yardena Samuels, Reuven Agami and colleagues
Nature | 16 December 2020
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Molecular Cell | 27 September 2021
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Events

Practical Courses

Virtual | 4–8 October 2021 | *S. Capella-Gutierrez*
Research to service: Planning and running a bioinformatics core facility

Virtual | 25–29 October 2021 | *F. Silva*
Biomolecular interaction analysis 2021: From molecules to cells

Virtual | 25 October–3 November 2021 | *D. Svergun*
Solution scattering from biological macromolecules

Virtual | 29 November–3 December 2021 | *E. Sabidó*
Targeted proteomics: Experimental design and data analysis

CL-Valparaiso | 5–17 January 2022 | *R. Mayor*
Developmental biology

DE-Heidelberg | 22–25 February 2022 | *B. Velten*
Integrative analysis of multi-omics data

DE-Heidelberg | 13–18 March 2022 | *A. Hendrix*
Extracellular vesicles: From biology to biomedical applications

Workshops

Virtual | 4–7 October 2021 | *M. Kole*
Axons 2021: Structure and function

ES-Badalona (Hybrid) | 6–8 October 2021 | *M. Graupera*
Vascular malformations: From fundamental biology to therapeutic opportunities

ES-Santander | 6–9 October 2021 | *A. Rada-Iglesias*
Enhanceropathies: Understanding enhancer function to understand human disease

DK-Copenhagen | 10–13 October 2021 | *J. Andersen*
Centrosomes and spindle pole bodies

Virtual | 18–21 October 2021 | *A. Bonvin*
Advances and challenges in biomolecular simulations

Virtual | 21–24 October 2021 | *E. Baena-Gonzalez*
Target of rapamycin (TOR) signaling in photosynthetic organisms

Virtual | 28–29 October 2021 | *S. Garel*
Microglia 2021

JP-Ibaraki (Hybrid) | 23–26 November 2021 | *R. Nakao*
Bacterial membrane vesicles: Biogenesis, functions and medical applications

ES-Barcelona (Hybrid) | 29 November–1 December 2021 | *C. Muñoz-Pinedo*
Cancer immunometabolism

Lecture Courses

EMBO | FEBS Lecture Course

IL-Rehovot | 28 November–2 December 2021 | *R. Scherz-Shouval*
Susan Lindquist school on proteostasis

India | EMBO Lecture Course

IN-Pune | 8–11 February 2022 | *A. Majumdar*
RNA binding proteins: From RNA binding to condensation and aggregation

EMBO | EMBL Symposia

Virtual | 5–8 October 2021 | *J. Ellenberg, J. Lippincott-Schwartz, A. Miyawaki*
Seeing is believing: Imaging the molecular processes of life

Virtual | 13–15 October 2021 | *I. Bozzoni, V. Narry Kim, G. Storz, I. Ulitsky*
The non-coding genome

Virtual | 17–20 November 2021 | *T. Alexandrov, A. LaDurner, J. Mellor, E. Pearce*
Metabolism meets epigenetics

DE-Heidelberg | 6–9 March 2022 | *A. Aulehla, H. Herzel, E. Marder, U. Schibler*
Biological oscillators: Design, mechanism, function

DE-Heidelberg | 21–23 March 2022 | *G. Karsenty, I. Miguel-Aliaga, M. Soares*
Inter-organ communication in physiology and disease

Upcoming deadlines

Gold Medal
1 February

Courses and Workshops
1 March

Young Investigator Programme
1 April

Installation Grants
15 April



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15 November:
Networking session sign-up deadline

23 November:
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