Latvia and EMBO in numbers^a

22

researchers from Latvian institutions were awarded a Short Exchange Grant to another institution from 2019 to 2024

55

researchers from other nations received grants to attend Latvian institutions

24

attendees from Latvian institutions attended EMBO-funded courses and workshops

a At April 2025

Facts and figures

Latvia has six universities offering doctoral degrees in life sciences fields. The Riga Technical University founded in 1862 is the country's oldest higher education institution.² Around 46% of Latvian adults attain a tertiary education.³ In 2022, more than 6,400 people in Latvia were employed in R&D work.⁴

Gross expenditure on research and development (GERD) increased by 66% between 2019 and 2023 to reach 324 million Euro, translating into a 21% increase as a percentage of Gross Domestic Product to 0.82%.

The European Patent Office granted 14 patents to residents of Latvia in 2024.⁵

Life scientists in Latvia have access to a funding from the national research council⁶ and through Horizon Europe projects, European Research Council grants, and Marie Skłodowska-Curie Actions⁷, as well as EMBO.

EMBC Delegates

Mr. Uldis Berkis Ministry of Education and Science

Dr. Jānis Kloviņš

Latvian Biomedical Research and Study Centre

The EMBO Programmes are funded by the European Molecular Biology Conference (EMBC), an intergovernmental organization that comprises 31 members states.

Latvia has been an EMBC Member State since 2023.

Key figures

Population: 1.87 million¹

R&D spending as percentage of GDP: 0.82%⁴

People employed in R&D: 6,468⁴

Patents: 14⁵

Universities: 10²

Horizon Europe funding:⁷ 363 organizations including 55 SMEs involved in Horizon Europe projects 30 Marie Skłodowska-Curie Actions funded researchers

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EMBO opportunities in Latvia

EMBO Postdoctoral Fellowships

fund internationally mobile researchers for a period of up to two years. Applications open all year around.

EMBO Scientific Exchange Grants

fund research exchanges of up to three months. The grants facilitate collaborations with research groups with expertise, techniques or infrastructure that is unavailable in the applicant's laboratory. Applications open all year around.

The EMBO Young Investigator Programme

supports group leaders in the early stages of setting up their independent laboratories for a period of four years. Networking is a key aspect. Application deadline: 1 April.

EMBO Courses & Workshops

stimulate exchanges of the latest scientific knowledge and provide training in experimental techniques. Application deadlines: 1 March and 1 July.

EMBO Press

publishes five journals that serve the global life science community: The EMBO Journal, EMBO Reports, EMBO Molecular Medicine, Molecular Systems Biology and Life Science Alliance, which is published in partnership with Rockefeller University Press and Cold Spring Harbor Laboratory Press.



Find more EMBO schemes at *embo.org/funding*



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Focus on Latvia



Perspectives from Jānis Kloviņš

EMBC Scientific Delegate for Latvia | Member of the Latvian Academy of Science | Professor at the Faculty of Biology, University of Latvia | Head of the Scientific Council of the Latvian Biomedical Research and Study Centre



What is your current research focused on?

Our research team works on translational medicine, with a focus on understanding disease mechanisms and drug action, more specifically in the context of metabolic and gut-related diseases. We emphasize disease prevention and control, conducting clinical studies with targeted volunteer and patient groups. Our core research areas currently include Type 2 diabetes and long-COVID.

While conventional treatments address conditions after they emerge, we believe that meaningful impact lies in preventative healthcare. One of our most promising approaches has been through citizen science. In 2019, we launched the Latvian Microbiome Project to map the microbiome of the Latvian population and examine how diet and lifestyle influence its composition. With over 1,000 volunteers recruited through the National Biobank, the Genome Database of Latvian Population, this initiative has demonstrated strong public interest in preventive health research. People are usually willing to participate in research and discover mechanisms that can be used to find preventive biomarkers.

Where might this research lead? Our current emphasis is on identifying early markers and risks factors for Type 2 diabetes. We are investigating whether the genetic background influences dietary response and disease onset, and whether the microbiome plays a mediating role.

Collaborating again with a cohort of volunteers from the Biobank, we are studying individuals with varying genetic susceptibility using polygenic risk scores, including people with both low and high-risk scores, as well as patients in pre-diabetic states. The goal is to identify biomarkers that can guide tailored interventions, whether we can provide patients with preventive diets, assess which types diets are more impactful on which type of population, or, when necessary, early-stage medication such as metformin in the case of glycemia dysregulation to delay or prevent disease progression.

Similarly, this idea of curating a list of preventive biomarkers would also help us on COVID-19 research and other infectious diseases. The pathways that we have chartered, such as leading to cardiovascular or pulmonary diseases, may be similar in the case of COVID-19 and other infectious disease and we would like to discover and understand their root causes. We are collaborating with a cohort of patients suffering from long-COVID symptoms and have identified a couple of biomarkers at the transcriptome level, which indicates if these gene transcripts were already present in the start of the disease. This would allow us to provide better healthcare treatments after the disease, develop additional tests and also to understand in which direction the long-term complications might develop.

What advice would you give to an early-career scientist starting in Latvia?

Latvian research institutes offer resources to support early-career scientists, from grant opportunities to access to advanced instruments. However, what the system cannot provide are the personal skills that are essential for a successful scientific career: clarity of mind, fortitude and initiative. It is critical for young researchers to take ownership of their projects and to think critically and creatively. I believe that this is then appreciated by most colleagues and supervisors that researchers would encounter in their career.

Are there challenges?

The Latvian research environment is marked by fragmented funding and lack of stable, tenure-track positions. Until recently, our funding system could not grant stable salaries for researchers even in case of permanent contracts and researchers were forced to juggle multiple projects with shortterm grants and deadlines as well as various sources of funding, which in turn did not allow to sustain a healthy focus on a specific research project. We are only now seeing some tenuretrack positions to appear in some universities and institutes. The work culture is still pretty much in a transition phase towards a more stable environment.

Latvia became a full EMBC Member State in 2023. How do you envision EMBO's role within the next few years in the country? I would be very happy to see that our researchers are informed and aware about the EMBO Programmes. As this is our first time participating in EMBO, there are many opportunities to explore, from funded courses and workshops to international mobility. Awareness of such mobility exchanges remains limited in our community, and EMBO can play a key role in addressing this gap.

A love for too many things

"Scientific editing is the best job one can imagine, if you thrive on knowledge," says Ieva Gailite who joined The EMBO Journal in 2016. Gailite originally hails from Latvia and did her undergraduate studies in biology at the University of Latvia. The creativity and out-of-the-box thinking she encountered at that time inspired her to move to Germany to gain knowledge in molecular biology during master's and doctoral studies in Göttingen.

At one of the conferences, Ieva had the opportunity to meet with Karin Dumstrei, back then a scientific editor at The EMBO Journal and currently head of the EMBO Fellowships Programme. "I asked Karin what I should be looking into to start working as an editor. Karin's advice was to do good science. And I still think it is true to this day."

Inspired by this advice and feeling the tug of scientific curiosity, Gailite moved on to a postdoctoral contract at the now Francis Crick Institute to work with Nicolas Tapon on the regulation of tissue growth via the Hippo pathway. "I feel very privileged to have had a chance to work in this top level institute and to contribute to the discoveries in this field of research. At the same time, I felt that I loved too many things in science to see myself focus on a specific field or topic.

Meet Ieva Gailite

Senior Scientific Editor at The EMBO Journal

Now a scientific editor for almost a decade, Ieva Gailite remembers that she found herself interested in scientific editing already during her PhD. She loved attending as many and various lectures as possible during the conferences she had the opportunity to attend and was already driven by the possibility of reading papers from all the labs around the world to follow all the new, emerging and uncanny discoveries.



As my postdoctoral time was coming to an end, I noticed that there was a vacant position at The EMBO Journal within the EMBO Press team, looking for somebody with a similar scientific expertise. I knew that various publication policies that I found very important, such as open peer review process, originated at EMBO Press. I applied and got the job."

Although she enjoys seeing new trends and methods appear, Gailite also recognizes that the feedback from scientific editors can be perceived as too distant. An interesting idea that she sometimes plays with is to allow scientific editors to go on a sabbatical and allow them to go back to the workbench. "I am not quite sure how it would work out, or even if it would be a good fit for all scientific editors", confides Gailite, "but I think that we do need to remember how much a heavy work science is. We deal on a day-to-day basis with the outcome of years of labour."