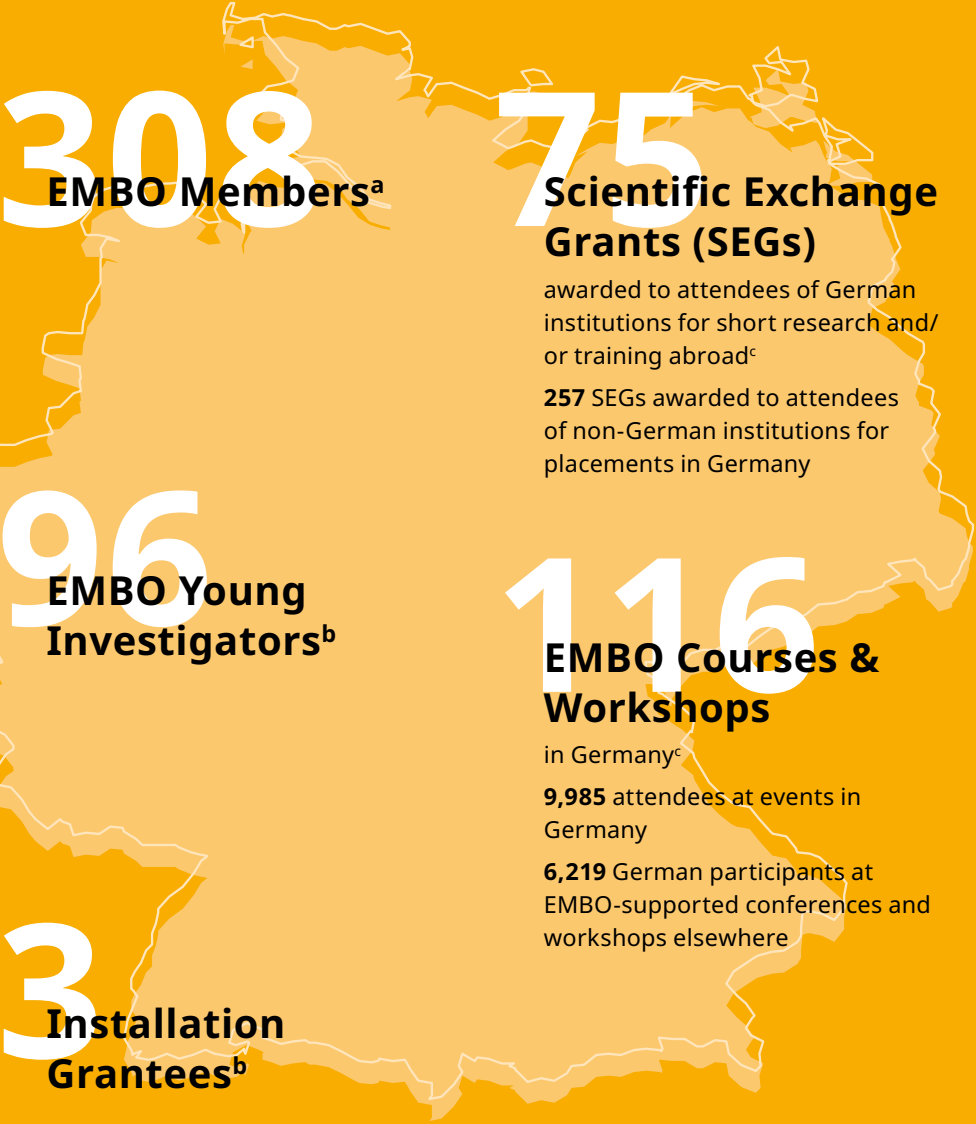


Germany and EMBO in numbers



^a Working in Germany
^b Former and current programme members, working in Germany
^c 2019 to April 2025

EMBC Delegates

Anna Wieser
Federal Ministry of Education and Research

Peter Becker
Ludwig-Maximilians-University

Andreas Ladurner
Ludwig-Maximilians-University

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

Germany was a founding EMBC Member State in 1969.

EMBO opportunities in Germany

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

embo.org
Information as of April 2025
Contact: communications@embo.org
Cover: Original image courtesy of EMBO Installation Grantee Jelena Godrijan

Facts and figures

Germany’s research and innovation ecosystem is the largest in Europe, and the country regularly ranks as one of the leaders in innovation globally.¹ Germany’s network of 408 universities, research institutions and research infrastructures supports research and teaching across all major scientific disciplines² and maintains strong international collaborative networks.

There were more than 1.65 million students enrolled at universities in Germany in the 2024-2025 academic year.³ Gross domestic expenditure on research and development rose by 18% in the five years to 2023 reaching almost 130 billion euros, although as a percentage of national Gross Domestic Product remained steady at 3.11% - well above the European Union average of 2.13%.⁴ The private sector was the main funder of R&D (62.8% in 2021) followed by the public sector with 30%.⁴

Germany hosts EMBO and EMBC, and other intergovernmental research organizations including the European XFEL, EMBL, the European Southern Observatory, EUMETSAT and major centres of the European Space Agency.

Key figures

Population: 86.3 million⁵

R&D spending: 3.11% of GDP⁴

People employed in R&D: 498,500 full-time equivalent⁴

Patents issued in 2024: 15,541⁶

Universities and research institutions: 408²

University enrolment: 1,651,186³

Horizon 2020/Horizon Europe funding⁷:

46,012 signed grants
90,653 participating organizations
3,184 ERC principal investigators
1,464 Marie Skłodowska-Curie Actions funded researchers

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Focus on Germany



Perspectives from Asifa Akhtar

Vice President, Biology & Medicine Section, Max Planck Society |
Director, Max Planck Institute of Immunobiology and Epigenetics,
Freiburg | EMBO Member | Former EMBO Postdoctoral Fellow



© MPI of Immunobiology & Epigenetics, M. Reichert

How does your international background influence your work in Germany?

I was born in Pakistan, lived in the United Arab Emirates and France as a child, studied in the UK, and then moved to Germany. These influences have been enriching and have given me a sensitivity to cultural differences—whether in mentorship styles, teamwork, or how feedback is given and received. As research labs are international and cosmopolitan, that awareness has helped me to build a nurturing environment in my lab. Innovative ideas develop when people with diverse expertise and experiences come together.

What is your latest research focused on?

My group’s research focuses on the mechanisms of epigenetic regulation, especially through histone acetylation. We study the process of dosage compensation, where male fruit flies upregulate the single X chromosome to match expression levels in females. We examine how the involved protein complexes have evolved across flies, mice and humans. Our work has helped to understand rare neurodevelopmental syndromes in humans caused by mutations, such as the MSL3 (Basilicata-Akhtar) Syndrome. We also work with the MSL3 Syndrome Foundation to raise awareness. I advocate for curiosity-driven research, as fundamental knowledge of a healthy organism is important to understand what goes wrong in disease.

What are current trends and opportunities in the life sciences in Germany?

Germany is one of the best places to do research: more than 3% of GDP is invested into research and development. Of course, getting funding is competitive, but one can build a career in life sciences. There is a healthy balance of university funding and non-university organizations. This generates opportunities for scientists in academia, where they also teach, and in research-focused settings, which are either more curiosity-driven, such as the Max Planck Society, or application-driven, such as the Helmholtz Association or Humboldt Foundation. I am also interlinked with the University of Freiburg by Collaborative Research Centres of the German Research Foundation and an Excellence Cluster, and enjoy the interaction with students and the broader scientific community.

Are there challenges?

Ever-increasing bureaucracy in Germany is a burden and affects creativity. Paperwork can become daunting and make finishing experiments in a reasonable timeframe more difficult. This becomes a bottleneck as publications—the currency of science—are delayed, threatening continued funding. A language barrier can affect recruitment processes. Organizations should provide language courses to ensure that scientific and administrative staff have basic skills in German and English. Getting a place at a kindergarden can also be a challenge. If a parent must be at home for a year because childcare is not available, it poses a potential career setback.

If we want to help to develop careers in Germany, not just in academia, we will need the infrastructure that supports this. In today’s world, we need a culture of collaboration and team spirit, so that we all move forward together as one country.

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

Bringing passion and commitment is often all you need; Germany can provide the rest. The country values research as a driver of innovation, and compared to many other parts of the world, there is a strong investment in this area, which is great. Overall, the infrastructure is good, and top-level scientists are spread across the country, creating a really high standard nationwide. As a result, the specific region becomes less of a deciding factor. The entire country remains a highly attractive destination for researchers and, yes, this leads to strong competition for positions long-term. Still, scientists should see Germany as a place where meaningful, well-supported research careers can truly flourish.

What role does EMBO have in supporting researchers in the country?

I like the European, not country-centric, view of both EMBO and EMBL. I am a European at heart, and EMBO carries exactly that in its core mission. I think that organizations such as EMBO and EMBL, if anything, should be expanded, because they go beyond boundaries and look for possibilities to promote science without borders.

Meet scientists from the EMBO communities



Cheng-Han Ho A first international experience through EMBO

Postdoctoral researcher at the
University of Tokyo | 2025 Scientific
Exchange Grantee

“A short-term fellowship through a Scientific Exchange Grant is the perfect fit at my career stage right now”, says Cheng-Han Ho, a postdoctoral researcher at the Institute for Quantitative Biosciences (IQB) in Tokyo, Japan. With a childhood spent in Taiwan and New Zealand, and scientific training completed in Japan, Cheng-Han Ho’s stay at EMBL is his first international scientific experience. His first introduction to EMBO came through EMBO Press, when he gave a presentation at the first Japan Science and Technology Agency (JST)| EMBO workshop in March 2024. “The participation to this workshop helped me connect with other researchers and gave me a first-hand, in-person exposure to science in an international setting.”

Cheng Han Ho specializes in cryo-electron microscopy to explore the fundamental structures of chromatin. “Cryo-electron tomography (cryo-ET), an evolving method which works like a CT scan, capable of creating a full 3D volume,” he explains. This technique allows for a more detailed internal view of cells. Cheng-Han Ho is planning to master cryo-ET at EMBL in Heidelberg and then bring back the technique to his lab in Japan.

His experience at the JST | EMBO workshop encouraged him to apply for a Scientific Exchange Grant. “The process from proposal to acceptance was surprisingly fast”, notes Cheng-Han Ho. “I submitted my proposal in October 2024 and was already in Heidelberg in January 2025. I think this is a good, short-term commitment way to see if a place or technique fits. We, as researchers, also have family or personal imperatives, and long-term commitments sometimes do not align with other priorities in your personal life.”

Cheng-Han Ho finished his short-term exchange at EMBL in March 2025. He is now looking forward to reconnecting with his colleagues and share his newly learned state-of-the-art techniques in cryo-ET.



Christian Schwartz From Fellowship to laboratory leadership

University Hospital Erlangen |
Former EMBO Postdoctoral Fellow

Dr. Christian Schwartz leads a working group at the University Hospital of Erlangen, Germany. The group integrates basic research with clinical applications. His primary focus is on the type 2 immune response, historically linked to parasitic infections and its emerging role in conditions like obesity. “It is quite interesting and diverse,” Schwartz explains, highlighting the broader implications of this connection. “By conducting animal research, we have learnt that the immune cells

involved in parasitic infections play a crucial role in maintaining healthy fat tissue. We now collaborate with the obesity clinic in Erlangen, where we collect clinical samples from patients with obesity.”

A former EMBO Postdoctoral Fellow at Trinity College in Dublin, Christian Schwartz is not shy of stating that the EMBO Fellowship has been pivotal in his career development, offering not only financial support but also professional independence and networking opportunities. The fellowship allowed him to work with greater autonomy and connect with leading experts. Additionally, the EMBO Lab Leadership Course has been instrumental in the transition to leadership: “I often refer back to that course now that I manage my own team.”

In addition to his research projects, Christian Schwartz joined the EMBO Scientific Exchange Grants Advisory Board in October 2024. He is interested in supporting early-career researchers, as international mobility and exposure to different research environment was a game changer for his career. “It is always great to see how other labs operate. Even when the experience is not ideal, you learn from it, and it broadens your perspective.”



Ingrid Lohmann Twenty-five years of EMBO experiences

Professor of Developmental
Biology, University of Heidelberg |
EMBO Member

Ingrid Lohmann first crossed paths with EMBO when she was awarded an EMBO Postdoctoral Fellowship in 1999 which allowed her to study at

the University of California San Diego, after a PhD in Munich. “At the time the German academic system had fewer opportunities for junior group leaders and limited autonomy for early career researchers,” she says. “In contrast, the United States fostered a more collaborative and supportive research culture that promoted knowledge exchange.”

Able to develop her own research Lohmann decided to focus on better understanding the molecular mechanisms of gene expression and in particular how Hox proteins orchestrate different aspects of development, with a special focus on stem cell maintenance.

After returning to Germany, initially to Tübingen, Lohmann created her own research group at the University of Heidelberg in 2008. Since 2012 she has been a full professor and head of the Department for Developmental Biology at the university’s Centre for Organismal Studies. She was elected an EMBO Member in 2024.

“EMBO makes a difference in the life sciences,” Lohmann says. “As a fellow, I had the rare opportunity to be supported in my desire of exploring fundamental scientific questions and to lay the foundation for important discoveries. And today, as a member, I have the opportunity to act on a bigger scale.”

Her experience in the United States reinforced her belief in the importance of collaborative and constructive scientific processes, and she seeks to foster this approach in her own research group.