EMBL

Annual Report

2022

embl.org

European Molecular Biology Laboratory

Providing for the future through science

EMBL embarks on its latest strategic programme, attracting collaborative engagement and launching a new era of life science research.

Created after Europe's 'brain drain' crisis following WWII, EMBL was built to withstand future crises. The world came to realise that science was a means for finding answers and solutions. That's still the case.

So, when I look back on 2022, I am struck by how our organisation – despite unexpected challenges – proved its mettle and value in conducting all-important research as well as delivering services, training, and innovation, more than ever before.

We launched our Molecules to Ecosystems programme that has already reaped benefits, garnered widespread support within and outside of the organisation, and most importantly, conveyed the necessary role molecular biology can and will play in understanding important global issues.

In this annual report, you will see numerous stories of harnessing our best molecular life science tools – from beamlines to cryo-EM to genomic sequencing to machine learning – all to shed light on the molecular basis of life from EMBL's unique, multidisciplinary, and international perspective.

The team behind TREC, our flagship planetary biology project, visited Iceland to prepare for the full expedition which will see EMBL's expertise and infrastructure traverse the European coastlines from 2023 onwards. EMBL scientists are, alongside some of our newest and oldest partners, gathering samples to view 'life in context' at the molecular level. In many ways, this can be seen as a discovery-driven expedition, akin to Darwin's Beagle voyage that led to one of the greatest theories in science. TREC has already drawn in many new collaborators from different disciplines around Europe. TREC also has sparked related EU-funded collaborative projects such as BIOcean5D and Blue Remediomics, where we are all eager to efficiently address environmental questions together. This illustrates compellingly how the EMBL Programme is attracting multidisciplinary collaborators across Europe, expanding our own scope as technological developments provide the opportunity to pursue exciting new avenues of research to understand life in context.

I believe that what truly sets EMBL apart is its people.

Our newest site head, Kristina Djinović-Carugo at EMBL Grenoble, will continue to enable world-class structural biology at our French site, in an era when this foundational research area of EMBL enters another phase of scientific revolution through the use of AlphaFold.

Kinga Lubowiecka/EMBL

At every level around EMBL, I witness the talent, creativity, flexibility, and resourcefulness of our staff, as well as the courage to take risks and try new approaches. EMBL groups and teams are carving the path for EMBL's vision for European science.

In the current context of a European financial crisis and geopolitical instability, the EMBL community has been active in nurturing the best science as well as making savings across all our sites, coming up with suggestions to reduce costs and energy consumption, yet still moving forward and adapting to changes, including the rapidly evolving science landscape. Our administrative units have all rallied to find operational solutions in record time. Once more, EMBL staff rise up to the latest challenges, with creative solutions!

EMBL represents the future of life sciences.

In the spirit of EMBL's founders almost 50 years ago, this organisation will support life sciences through the current challenges. EMBL will deliver its missions together with its partners, collaborators, and supporters because today's toughest scientific and societal questions demand our involvement.

Our founders wanted to provide an ecosystem to nurture talented, young life scientists so they could pursue and succeed at their independent research. That meant innovative research, top-notch facilities, and a creative, supportive training environment to secure this pursuit. And in the face of geopolitical crises, it's important to recognise that this is also the right formula to rise above the fray. EMBL's open science accelerates discoveries and knowledge, raising the level of Europe's life sciences everywhere – it's science without frontiers.

I look back at EMBL in 2022 with both pride at the organisation's accomplishments and optimism that we are launching a brand new era of life sciences.

It is important to remind ourselves that we truly are at an exciting crossroads and the opportunities are great as long as we continue to nurture curiosity, collaboration, and a caring environment to work in.

Edith Heard, FRS
Director General

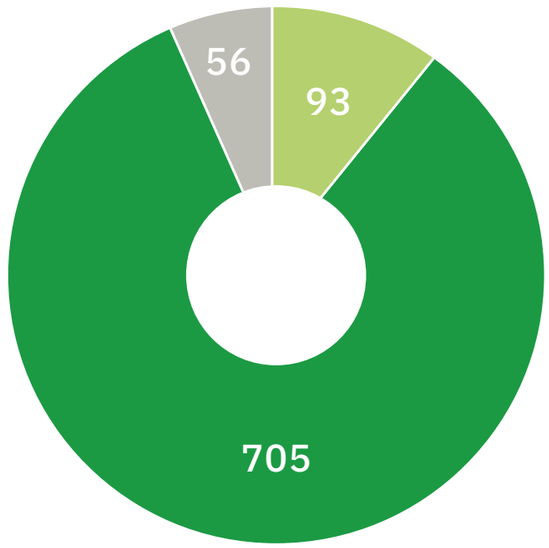
Research

To perform excellent fundamental research

EMBL's research aims to understand the basis of life at a molecular level and in the context of different environments. By exploring molecular mechanisms inside cells, organisms, whole populations, and ecosystems, EMBL scientists explore different scales through research themes that foster collaborative, multidisciplinary research.

COLLABORATIVE SCIENTIFIC PUBLICATIONS

EMBL's research groups and scientific service teams produce hundreds of scientific publications each year. In keeping with EMBL's collaborative spirit, the majority of its publications are produced in collaboration with scientists in EMBL member states or associate member states.



- By EMBL
- By EMBL in collaboration with organisations in member or associate member states
- By EMBL in collaboration with organisations in non-member states

Total 854

Molecular building blocks

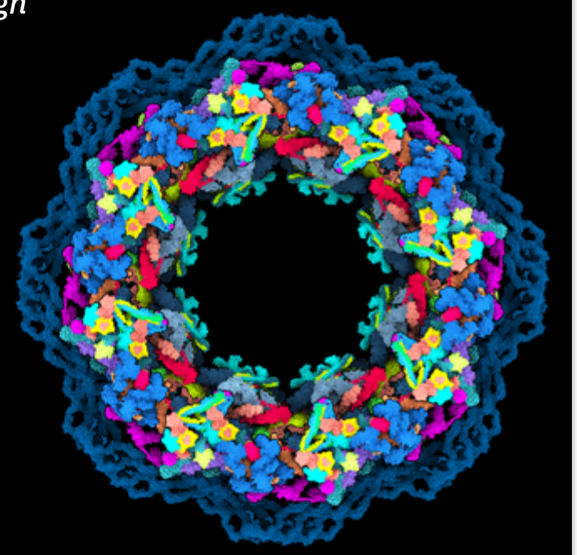
Solving a nuclear pore complex puzzle

Using AI and experimental methods, scientists solved several mysteries around the structure and function of a true molecular giant: the human nuclear pore complex.

For structural biologists, the human nuclear pore complex (NPC) is an exciting 3D puzzle. Fundamental cell processes rely on the NPC, which impacts several diseases, including neurodegenerative disorders, cancer, and viral infections. With collaborators, EMBL Hamburg's Kosinski Group created the most complete model of the human NPC to date by combining AlphaFold2's protein structure prediction with techniques like cryo-electron tomography, cryo-electron microscopy, and integrative modelling.

"AlphaFold2 was a breakthrough moment for us. Before, we didn't know the structure of many proteins within the nuclear pore complex. You cannot assemble a puzzle when you don't know what the pieces look like. But AlphaFold2 combined with other approaches enabled us to predict those shapes."

Agnieszka Obarska-Kosińska, Visiting Postdoctoral Fellow, Kosinski Group at EMBL Hamburg

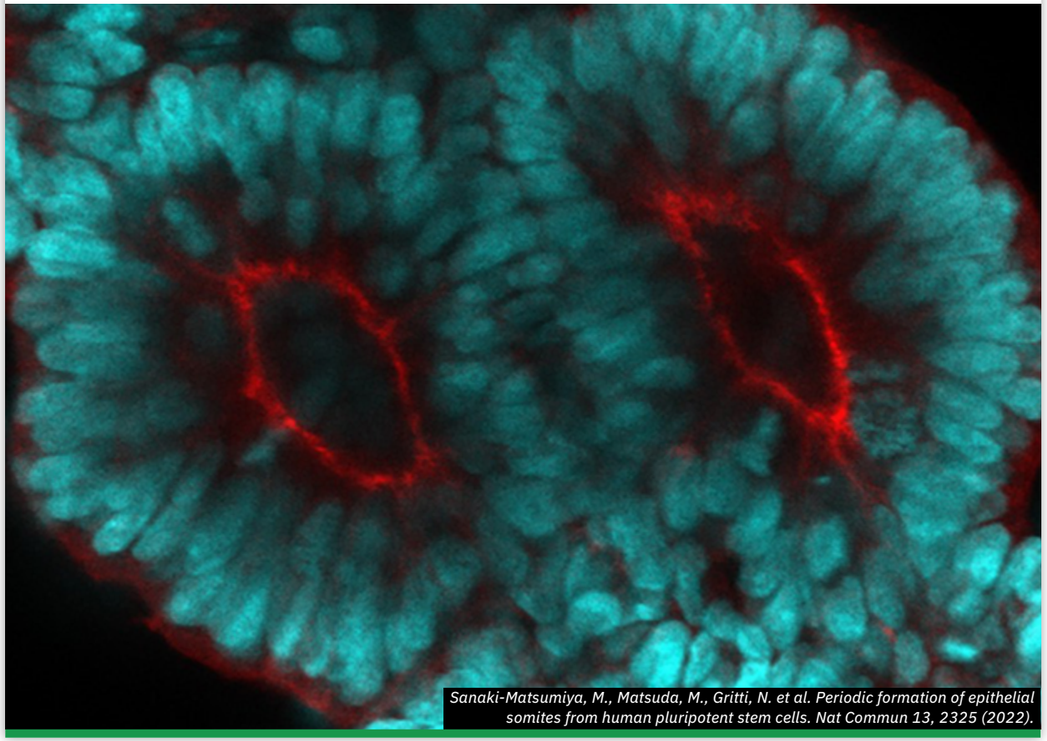


Multicellular dynamics

3D modelling and the origins of the human spine

EMBL Barcelona scientists created for the first time a 3D *in vitro* model that recapitulates periodic formation of human somites – structures that give rise to the spinal column.

Defects in spinal column development are known to cause rare hereditary diseases. Researchers from the Ebisuya Group at EMBL Barcelona have now created a 3D *in vitro* model that mimics how the precursor structures that give rise to the spinal column form during human embryonic development.

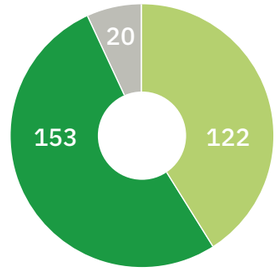


Sanaki-Matsumiya, M., Matsuda, M., Gritti, N. et al. Periodic formation of epithelial somites from human pluripotent stem cells. Nat Commun 13, 2325 (2022).

COLLABORATIVE GRANTS

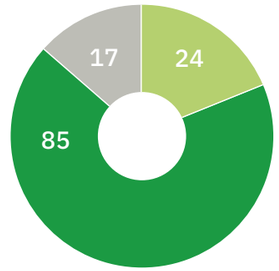
External grants support a large proportion of EMBL's research, technical, and service infrastructure, and training and outreach activities. These active grants complement EMBL's member state funding, enabling it to support the activities of scientists at EMBL, in EMBL member states, and beyond.

RESEARCH GRANTS



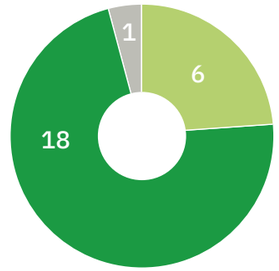
Total 295

INFRASTRUCTURE GRANTS



Total 126

TRAINING AND OUTREACH GRANTS



Total 25

EMBL

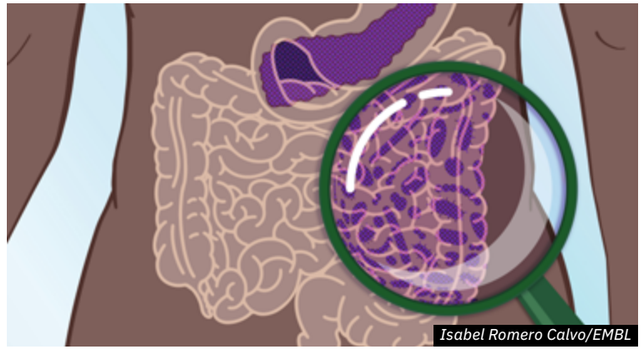
EMBL in collaboration with organisations in member or associate member states

EMBL in collaboration with organisations in non-member states

Microbial ecosystems

Detecting pancreatic cancer earlier

Microorganisms in stools help define high-risk populations for common pancreatic cancer.



Isabel Romero Calvo/EMBL

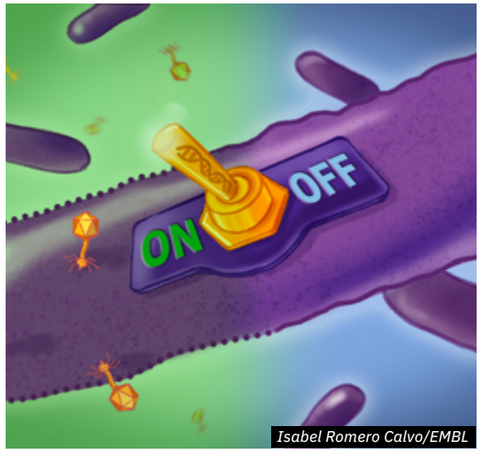
EMBL and the Spanish National Cancer Research Centre found a molecular signature in stool samples to predict whether patients are at high risk of the most common pancreatic cancer and diagnose patients at earlier stages.

Infection biology

The retron switch

EMBL researchers identified the function of elusive small DNA in bacteria.

Retrons have puzzled researchers since their discovery in the 1980s. Now, EMBL scientists have identified how bacteria use retrons as a defence mechanism against a virus attack on bacteria.



Isabel Romero Calvo/EMBL

Planetary biology

Coast to coast and beyond

EMBL's Planetary Biology flagship project, TREC, visited Iceland to finalise the expedition's plans.

For three weeks in 2022, EMBL researchers and collaborators fine-tuned systems that will allow them to explore the biodiversity of Europe's coastlines at the molecular level.

Hugo Berthelot/EMBL

Human ecosystems

New molecular tool maps breast cancer

EMBL researchers along with scientists from the UK, Germany, and Sweden created a tool that maps previously unseen details of breast cancer's spread.

Theory @ EMBL

Sea anemones and movement

The Ikmi group's interdisciplinary approaches uncovered an intimate relationship between sea anemone behaviour and body development.

Scientific Services

To offer access to research infrastructures and vital services to scientists in EMBL member states and beyond

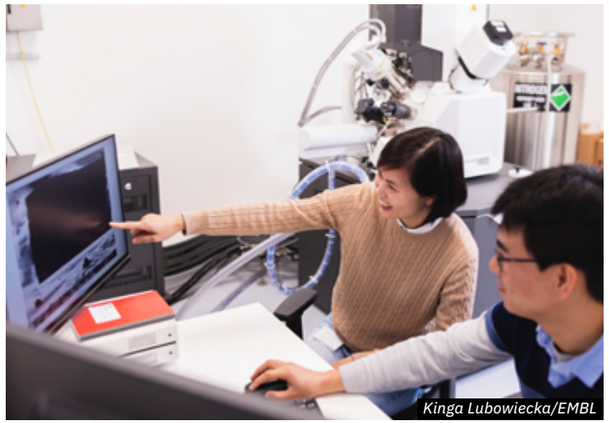
EMBL's scientific services encompass over 40 bioinformatics and data resources and over 20 experimental services in structural biology, imaging, genomics, proteomics, metabolomics, *in vivo* gene editing, and chemical biology.

Experimental services

EMBL Imaging Centre's first year

Users from EMBL's member states and beyond benefit from tailored support from microscopy experts.

With its opening in 2022, EMBL Imaging Centre offered external users support in the latest imaging technologies in light and electron microscopy, as well as correlative approaches. The EMBL Imaging Centre team supported over 100 projects from academic and industrial users across 18 different countries.



Kinga Lubowiecka/EMBL

WORLD-CLASS EXPERIMENTAL SERVICES

EMBL experimental services span a range of infrastructures and facilities that support academic and industry users in Europe and beyond. The scientific expertise and collaborative nature of the support provided, combined with state-of-the-art technical infrastructure, enables users to pose novel scientific questions and conduct more complex research that is shared with the scientific community.

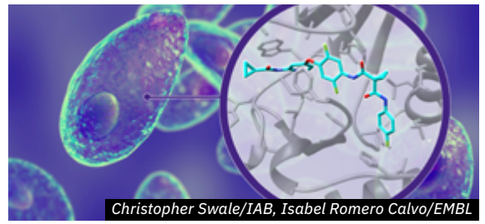
3,617
Users of experimental services

594
Scientific publications enabled

Getting closer to stopping toxoplasmosis infection

Studies with the Institute for Advanced Biosciences in France identified Altiratinib as a potential drug to stop toxoplasmosis infection and offer treatment options against malaria.

Supported by EMBL Grenoble's expertise in structural biology services, the study aimed to identify a potential drug molecule that could be repurposed to stop malaria's infection mechanism, by screening a large library of already approved drugs.



Christopher Swale/IAB, Isabel Romero Calvo/EMBL

Italian collaboration and drug targets

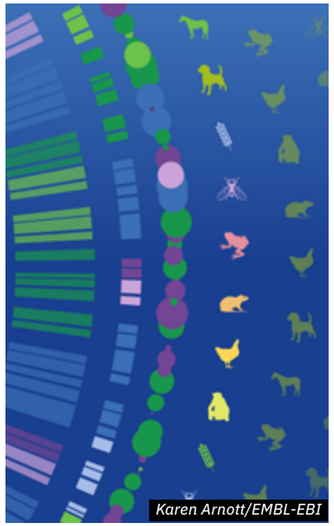
Sapienza University and EMBL Rome's Gene Editing and Embryology Facility (GEEF) generated a mouse model to identify new therapeutic targets to treat Amyotrophic Lateral Sclerosis (ALS).

Bioinformatics services

EMBL-EBI Highlights Report

Download the PDF

EMBL's European Bioinformatics Institute (EMBL-EBI) is international, innovative, and interdisciplinary, and a champion of open data in the life sciences. In 2022, EMBL-EBI's open databases, tools, and software aided researchers around the world to realise the potential of big data in biology, exploiting complex information to make discoveries that benefit humankind.


Karen Arnott/EMBL-EBI

EMBL-EBI and biodiversity data

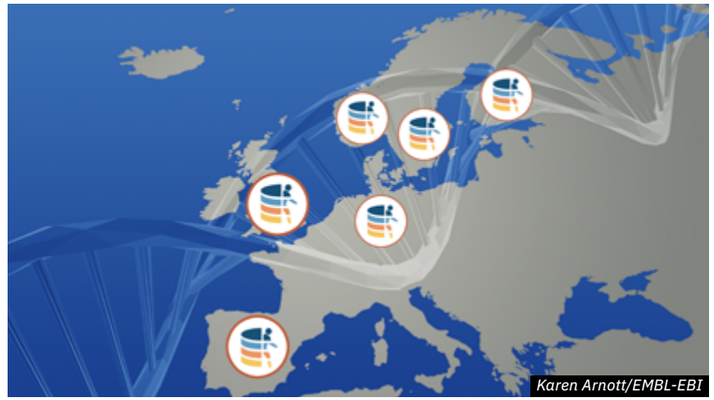
Ensuring open data from landmark biodiversity projects and smaller genome sequencing initiatives are readily available.

As major biodiversity projects increasingly use genomic sequencing to catalogue and understand species, EMBL-EBI is ensuring that data generated are available in a Findable, Accessible, Interoperable, and Reusable (FAIR) way. In 2022, these collaborations went from strength to strength.

European institutes commit to data access across borders

Institutes in Finland, Germany, Norway, Spain, and Sweden became the first five nodes of the Federated European Genome-phenome Archive (Federated EGA).

The Federated EGA is one of the largest international networks for discovery and access to sensitive human data – jointly delivered by EMBL-EBI and the Centre for Genomic Regulation in Spain.


Karen Arnott/EMBL-EBI

OPENLY ACCESSIBLE DATA RESOURCES

EMBL-EBI maintains the world's most comprehensive range of freely available and up-to-date molecular data resources. Developed in collaboration with scientists worldwide, these open databases, tools, and software can be accessed by anyone around the world.

107 million

Requests to our data resource websites on an average day

41 million

Unique IP addresses

Training

To train scientists, students, and visitors at all levels

EMBL training aims to foster scientific inquiry and share knowledge among scientists, students, and visitors at all levels in the life sciences. Additionally, EMBL provides important science education programmes and public engagement efforts aimed at motivating young scientists.

Internal training

"There is a lot of support for career development, through complementary courses or individual career guidance sessions."

Hosna Baniadam, Predoctoral Fellow in Huber Group, EMBL Heidelberg

OUTSTANDING PHD TRAINING

The EMBL International PhD Programme trains students from EMBL member states and beyond. The programme gives PhD students the best starting platform for a successful career in science.

1,611	58	237	36
Applications	New PhD students	PhD students	Graduations*

*Some graduations were delayed due to the pandemic

"What I found very valuable about my postdoc time at EMBL was the easy access to state-of-the-art facilities and expertise across all EMBL sites."

Katharina Jungnickel, EIPOD postdoctoral fellow in the Löw Group and the Galej group

EIPOD made stronger with more member state engagement

EMBL's new EIPOD-Life in Context (EIPOD-LinC) postdoc programme aims to cultivate interdisciplinary research that explores 'life in context' through strong collaborations within EMBL and with member state organisations.

Academia, industry, or somewhere else?

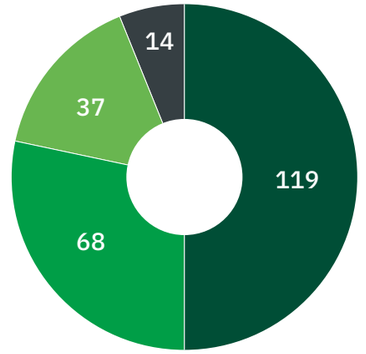
In a study analysing the career progress of more than 2,000 EMBL PhDs and postdocs, EMBL reports that skills developed at EMBL make them highly employable in roles that drive research and innovation in academia, industry, and other sectors.

MULTIDISCIPLINARY POSTDOC PROGRAMMES

EMBL welcomes talented postdoctoral fellows via several entry streams, including the EIPOD programme, which promotes multidisciplinary and multisectoral research in collaboration with national academic institutes, industry, and hospitals.

66
New postdocs

238
postdocs*



71
Postdocs leaving in 2022

*Does not include former PhD students finalising their projects via a bridging postdoc contract.

External training

One-of-a-kind forum spotlights postdoc research


Aleksandra Krolik/EMBL

EMBL's all-postdoc infection biology conference offered a way to showcase research and network more effectively.

A new virtual format featured science presentations from early-career scientists only, giving them the opportunity to shine a light on their cutting-edge infection biology research in front of representatives from Europe's top research institutions in nearly each of EMBL's member states.

Augmenting science


Stuart Ingham/EMBL

EMBL's Corporate Partnership Programme and Friends of EMBL ensure access to EMBL's world-class researchers and tools.

The research of early-career scientists from across EMBL member states is often enhanced by visits to EMBL. As part of EMBL's Scientific Visitor Programme, they gain access to world-class EMBL tools and expertise in collaborative, multidisciplinary environments.

SHARING SCIENTIFIC KNOWLEDGE

EMBL delivers on-site, hybrid, and virtual courses and conferences to ensure the widest possible reach. EMBL's Scientific Visitor Programme, which includes long-term visitors, continued to train scientists at all career stages.

COURSES AND CONFERENCES

8,736 participants from **94** countries attended courses and conferences hosted by EMBL

77% of participants were from EMBL member or associate member states

COURSES

46 courses

100% of courses rated as **'very good or excellent'** by the majority of participants

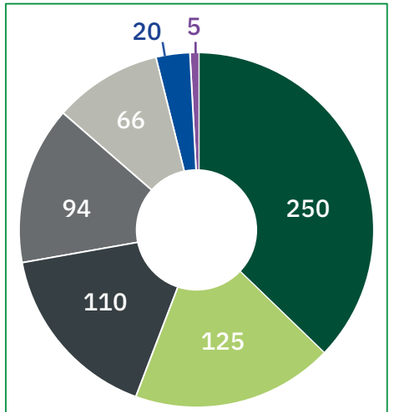
CONFERENCES

26 conferences

100% of conferences rated as **'very good or excellent'** by the majority of participants

SCIENTIFIC VISITORS

670 visitors



86% of visitors from EMBL member states

Science education and public engagement

CONNECTING COMMUNITIES

EMBL's public engagement activities bring society and EMBL science together by engaging young learners, the public, and teachers and educators. The newly integrated Science Education and Public Engagement office (SEPE) coordinates and delivers teacher training, workshops, talks at schools, and more, across EMBL member states. This variety of settings and engagement approaches reaches diverse and representative audiences to help ensure better science that is used for the public good.

68 Activities delivered

186 EMBL staff involved

45 Countries reached

Celebrating science in Grenoble

EMBL Grenoble introduced 1,225 children and adults to infection biology at Parvis des Sciences.

Organised by the GIANT campus as part of La Fête de la science, EMBL provided a glimpse of the fundamental research its scientists do and their state-of-the-art instrumentation, methods, and services in structural biology.

UtopikPhoto/EMBL

Summer in Science – life in a research lab

EMBL Rome's *Summer in Science* programme brought together 20 high school students for intensive two-week training.

Summer in Science, organised by Adamas Scienza with EMBL Rome, brought together Italian students for an intensive, hands-on lab training. The 2022 edition of this Summer School was dedicated to the memory of EMBL alumnus Prof. Riccardo Cortese and made possible thanks to contributions from family and friends.

Public outreach spotlights link between data science and eco-conservation

EMBL-EBI's Genome Analysis Team involvement in the UK-based Darwin Tree of Life data portal project included public engagement to convey data's importance to biodiversity and conservation efforts. This data portal will allow for a better understanding of different species and help future biodiversity and conservation research.

"It is important for me to understand that what I do is valuable for society; I don't just write code."

Alexey Sokolov, Project Lead in Genome Analysis Team, EMBL-EBI

Innovation and Translation

To engage in technology transfer and industry relations

EMBL's strengths in research, services, and training make it a perfect industry partner and a breeding ground for research that sows the seeds for technology transfer. EMBL's tech transfer arm, EMBLEM, is pivotal to that success.

EMBLEM IN NUMBERS

EMBL's innovation and translation activities include industry collaborations, public–private partnerships, forums for knowledge exchange, invention disclosures, and the creation of spin-off companies. Many of these activities are enabled by EMBLEM, EMBL's technology transfer arm that in 2022 helped develop and conclude collaborations between 51 industry partners and 25 EMBL scientists.

€17,733,000
income

569
licence and collaboration agreements concluded

26
inventions disclosed

7
priority patent applications filed

19
patents granted

Danish BioInnovation Institute: path to innovation

A new agreement with BioInnovation Institute (BII) in Denmark will smooth transitions from fundamental science to innovation. BII selected an EMBL project to start Bio Studio, a programme to nurture world-class life science start-ups.

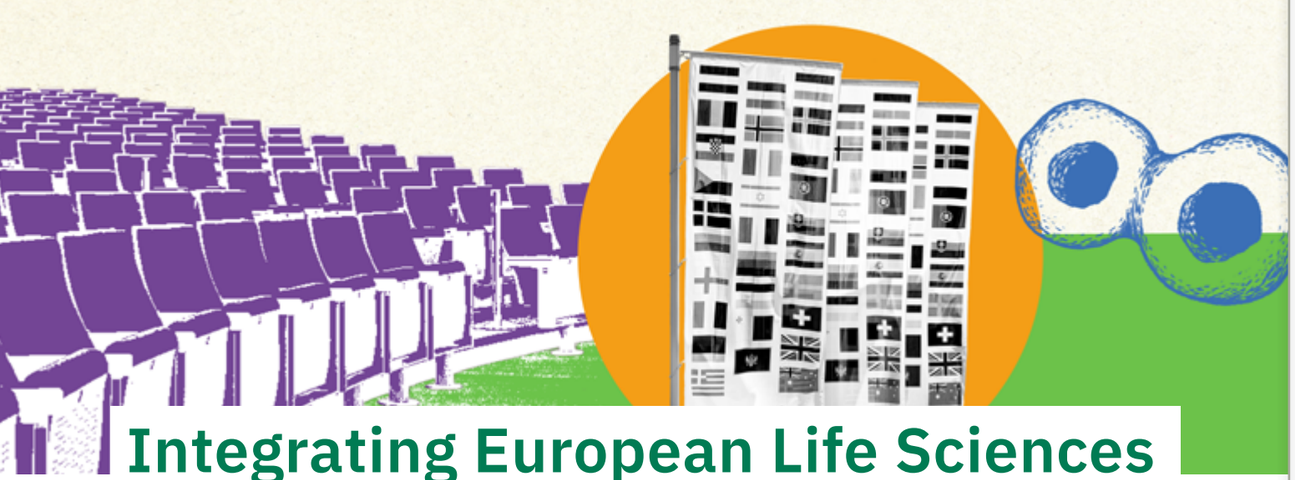
BD Biosciences and EMBL help cell sorting enter new era

Breakthrough technology combines cell sorting and imaging.

EMBL researchers, in collaboration with BD Biosciences, demonstrated a new technology that allows rapid image-based sorting of cells. The new technology represents a major upgrade to flow cytometry and has applications in diverse life science fields.

AlphaFold predicts most known protein structures

The AlphaFold database grew exponentially, continuing to provide an unprecedented look at the 3D protein universe. DeepMind also visited EMBL Heidelberg to discuss current and future implications of artificial intelligence for life science research.

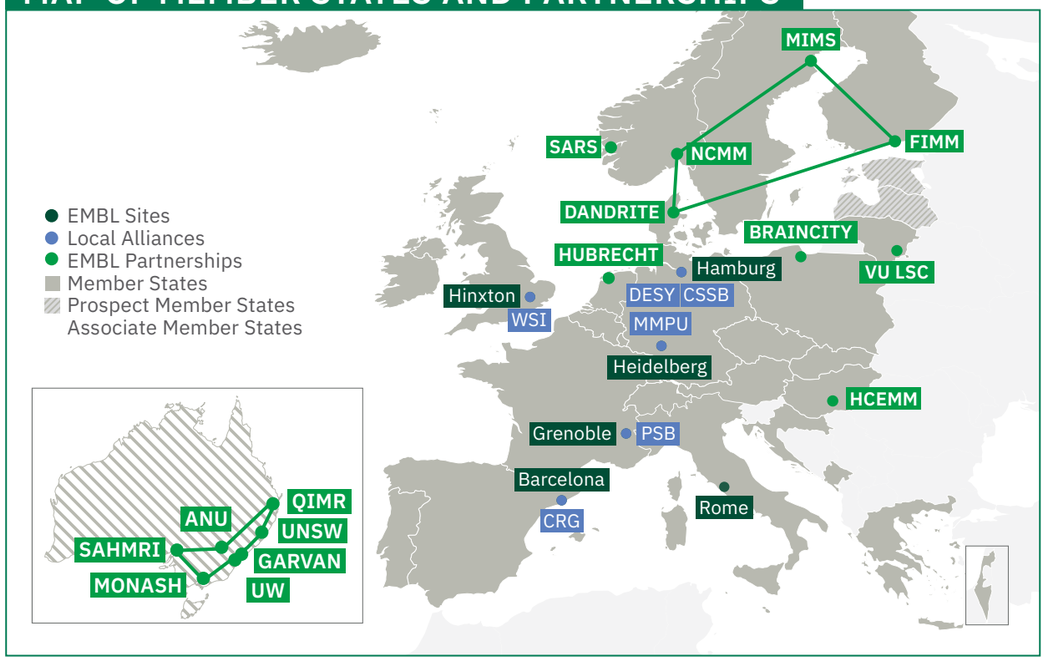


Integrating European Life Sciences

To foster collaboration between scientific communities in Europe and around the world

Internationality, openness, and collaboration are vital aspects of EMBL research, and EMBL works to establish links and initiate collaborative relationships between scientific communities in its member states and the wider world. Each year, EMBL connects with member state scientists, scientific organisations, policymakers, and political stakeholders, to elevate the level of life science research worldwide.

MAP OF MEMBER STATES AND PARTNERSHIPS



The EMBL connection

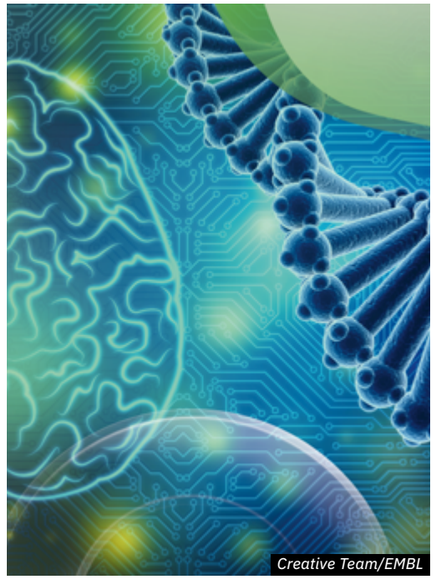
Conference fosters new research collaborations.

The fourth annual partnership conference highlighted the value of networks. Industry partners and researchers connected to share ideas, forge new links, and ultimately enrich research being undertaken.

Massimo del PreteEMBL

"EMBL's Partnership Conference brings together a fantastic network, a model that supports our research very well, and a lot of tradition. It's a window into various new developments: the EMBL Programme, of course, taking new steps, new methods that are always hallmarks of EMBL, and new imaging methods like those that apply to our neuroscience."

Poul Nissen, Director of the Danish Research Institute of Translational Neuroscience (DANDRITE), the Danish node of the Nordic EMBL Partnership for Molecular Medicine; Professor at the Department of Molecular Biology and Genetics, Aarhus University


Creative Team/EMBL

EMBL and IIT collaboration

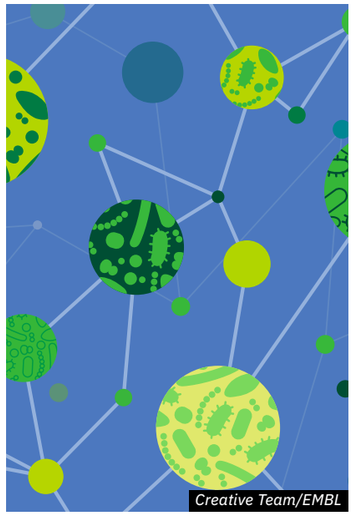
EMBL and the Italian Institute of Technology met to explore new opportunities for scientific exchange, including RNA biology, neuroscience, and more.

Since the signing of their Collaboration Agreement in 2021, the two organisations have actively explored new avenues for collaboration, particularly in the context of EMBL's programme Molecules to Ecosystems.

EMBL and CSIC working together

EMBL and Spain's CSIC discussed microbial communities in the context of One Health at first joint event since signing memorandum of understanding.

A workshop in Madrid brought together scientists to discuss how microbes are key to better understand global warming, depletion of natural resources, loss of biodiversity, and antimicrobial resistance.


Creative Team/EMBL

EMBL and Latvia deepen collaboration

A new agreement with Latvia's Biomedical Research and Study Centre has already boosted EMBL's engagement with Latvia through the creation of the Latvian Bioinformatics Forum.

More than 30 researchers came together at the Latvian Biomedical Research Study Centre (BMC) in Riga, Latvia, to discuss their bioinformatics needs and future research directions involving techniques such as whole genome sequencing, transcriptomics, and metagenomics.


Laura AnsoneEMBL

EIROforum Conference: Grand challenges in AI and data science

With over 340 participants, EMBL hosted its first EIROforum conference, 'Grand challenges in AI and data science'. Scientists discussed how to apply scientific progress for maximal societal and economic impact alongside policymakers and journalists.

EMBL and UNESCO: Residency in Infection Biology Research

EMBL signed a new agreement to support open science, build capacity, and develop scientific talent. In this context, EMBL looks forward to hosting an infection biologist with a primary affiliation to an Africa-based research group in the future.

People, Processes, and Places

EMBL is a community of hard-working individuals – each essential to pursuing organisational missions. Together we contribute to EMBL's strength as a world-class scientific institute. It's why EMBL strives to be an attractive, international employer of highly skilled scientists, technicians, and operational staff. Our alumni, who go on to have wide-ranging impacts around the world, are the greatest evidence of this success.

Open Science

Open science for climate justice

EMBL-EBI experts discuss open science for food security and preserving global biodiversity.

To discuss the role of open science in tackling global challenges, EMBL-EBI data experts took part in a panel discussion during Open Access Week 2022 to support researchers to use open and FAIR data.

"I wanted to work at EMBL as it is a mission-driven organisation that is trying to make science open and accessible to everyone."

Melissa Harrison, who joined EMBL in 2022 as Team Leader of Literature Services at EMBL-EBI

Equality, Diversity, and Inclusion

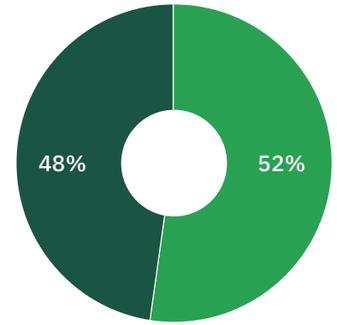
Implementing EMBL's Gender Equality Plan and more

Putting EDI strategy into action

For EMBL's EDI Office, 2022 included publishing its Gender Equality Plan and offering staff workshops around the organisation. It also marked the start of a second cohort of women involved in the Eppendorf-sponsored Leadership and Excellence for Aspiring Postdocs programme (LEAP).

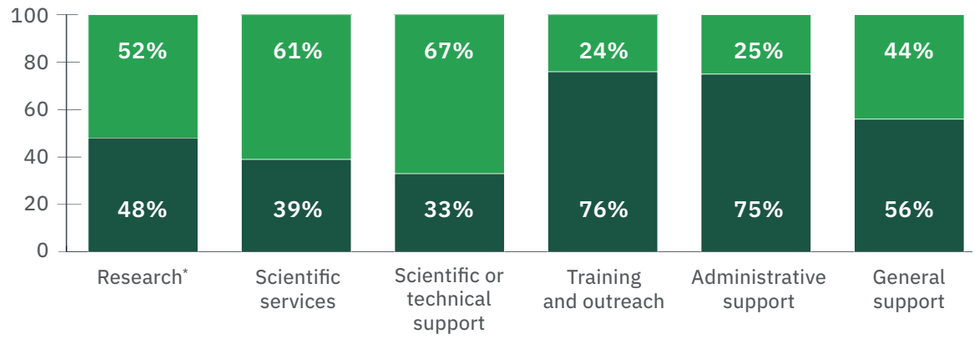
GENDER DISTRIBUTION AT EMBL

EMBL aims to be transparent about its gender distribution. While gender distribution is balanced across the organisation as a whole, the EDI strategy aims to balance the inequalities seen in some staff categories.



Female personnel Male personnel

*One personnel member identified as non-binary.



Sustainability

Energy savings at EMBL

Teams across EMBL sites played their parts to reduce EMBL's total energy usage.

Energy-saving measures included increasing the temperature of deep storage freezers as part of the launch of the Laboratory Efficiency Assessment Framework (LEAF) and improving the efficiency of EMBL data centres by limiting CPU speeds that reduced the demand for cooling.

Brendan Rouse/EMBL

REDUCING ENERGY USE

EMBL-wide energy-saving measures significantly reduced total energy usage compared to 2021. The results reflect our commitment as an organisation to reduce our environmental impact and embrace sustainability principles.

-5%
Annual change in energy-related carbon footprint

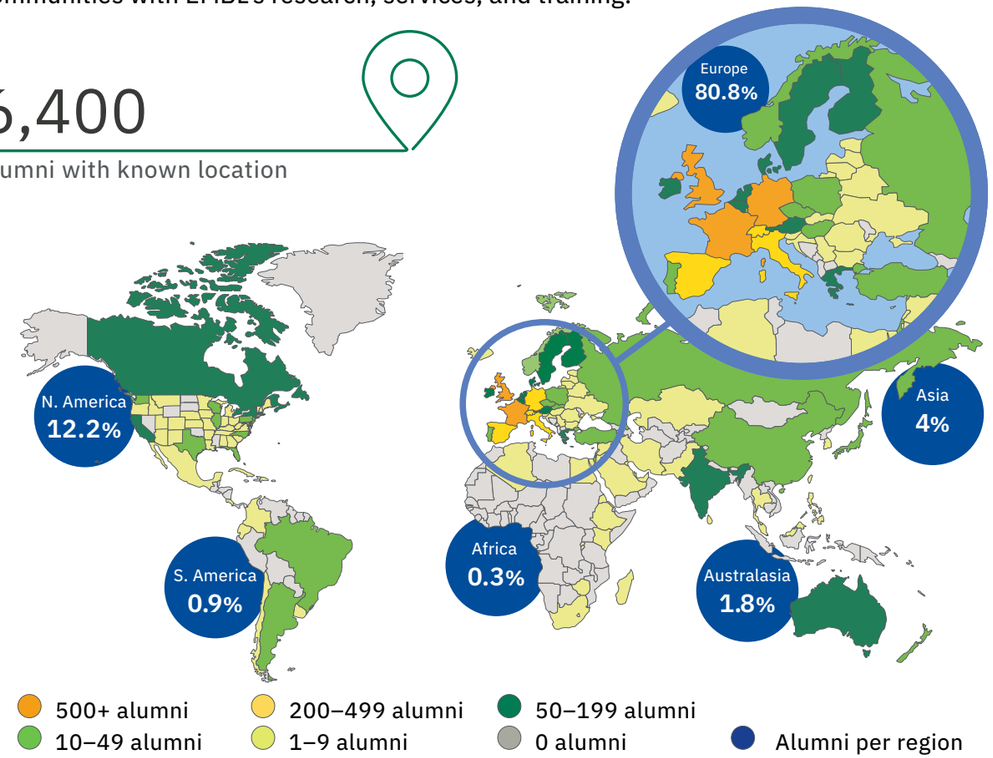
17%
Annual change in energy intensity

3,400 mWh
Amount of energy saved

EMBL alumni relations

EMBL's alumni are a network of highly trained scientists and other professionals, 82% of whom live in EMBL member states or associate member states. These alumni bring the EMBL model of research to member state institutions and help to connect local scientific communities with EMBL's research, services, and training.

6,400
alumni with known location



2022 EMBL Alumni Awards

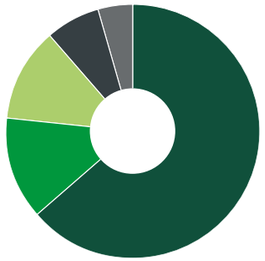
Maria Tosches received the 2022 John Kendrew Young Scientist Award for work in brain evolution, while Sara Courtneidge was awarded the Lennart Philipson Award for her cancer research.

Personnel statistics

EMBL's success depends on its greatest asset: the people. EMBL personnel are a diverse mix of researchers, scientific service staff, training and engagement specialists, and staff providing scientific, technical, administrative, and operational support.

PERSONNEL

PERSONNEL CATEGORIES

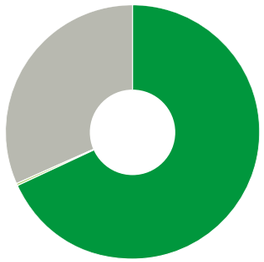


- 1,264 Staff members
- 261 Postdocs
- 237 PhD students
- 136 Supernumeraries and ancillaries
- 88 Diploma students and trainees

STAFF CLASSIFICATION

- 774 Research
- 551 Scientific services
- 252 Scientific or technical support
- 124 Training and outreach
- 156 Administrative support
- 129 General support

STAFF NATIONALITIES



- 1,357 EMBL member or associate member states
- 4 EMBL prospect member states
- 625 Non-member states

Total 1,986

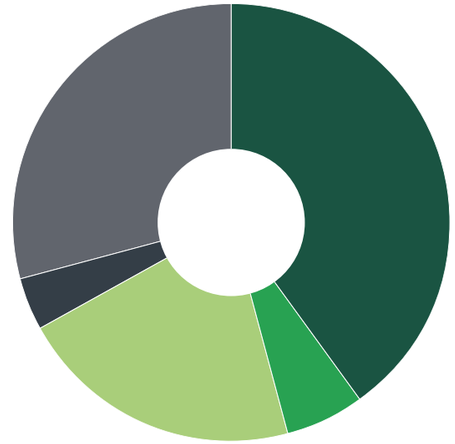
in full-time equivalent (FTE)

Financial report

EMBL is primarily funded by contributions from its member states, although it still relies heavily on external support from a range of grant funding bodies and philanthropic donations to provide for the full extent of its missions.

EMBL TOTAL INCOME

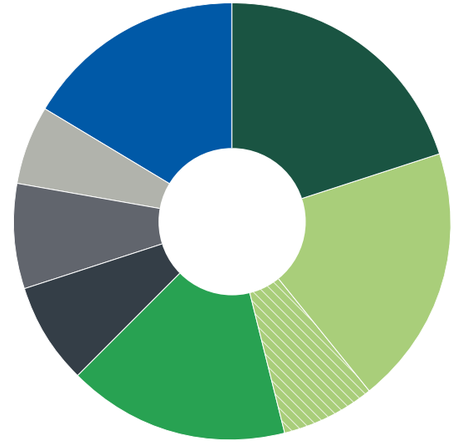
€315 million



- 40% Member state contributions
- 6% Member state special contributions[1]
- 21% External grant funding
- 4% Other external grant funding[2]
- 29% Other receipts[3]

EXTERNAL GRANT FUNDING

€67.2 million



- 21% NIH
- 20% EC
- 7% ERC
- 17% Wellcome Trust
- 8% BBSRC
- 6% BMBF
- 4% DFG
- 17% Others

1. Includes additional contributions from the UK government for the Technical Hub and European Data Centre on the EMBL-EBI campus, and from the German government for the EMBL Imaging Centre on the Heidelberg campus.
2. Includes ELIXIR member state contributions.
3. Includes items such as philanthropic donations, contributions from EMBO, course and conference fees, internal tax, and income from the Heidelberg canteen, cafeteria, and guesthouses.

MEMBER STATE CONTRIBUTIONS

Ordinary contributions

	× €1,000	%
Austria	2,651	2.2
Belgium	3,140	2.6
Croatia	367	0.3
Czech Republic	1,173	1.0
Denmark	2,126	1.8
Finland	1,564	1.3
France	17,287	14.3
Germany	24,752	20.4
Greece	1,319	1.1
Hungary	782	0.6
Iceland	134	0.1
Ireland	1,417	1.2
Israel	2,321	1.9
Italy	12,755	10.5
Lithuania	243	0.2
Luxembourg	269	0.2
Malta	61	<0.1
Montenegro	24	<0.1
Netherlands	5,424	4.5
Norway	2,724	2.2
Poland	2,678	2.2
Portugal	1,319	1.1
Slovakia	466	0.4
Spain	8,601	7.1
Sweden	3,555	2.9
Switzerland	4,936	4.1
United Kingdom	19,205	15.8
	121,293	100.0

Currency adjustment

	× €1,000
for sterling adjustments	(179)

Entry fees

Lithuania	66
Poland	733
Slovakia	100
	899

Associate member state contributions

Australia	3,050
	3,050

Additional contributions

Germany	1,123
United Kingdom	18,896
	20,019

EMBL TOTAL EXPENDITURE

EMBL's expenditure prioritises research, scientific services, and training activities, all of which are geared towards collaborating with, scientifically supporting, or training member state scientists.

€319 million

EXPENDITURE

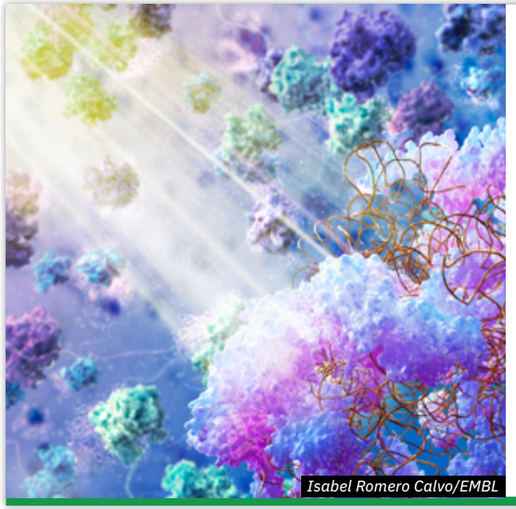
- 63% Staff costs
- 29% Operating costs
- 8% Equipment expenditure, including depreciation

EXPENDITURE BY AREA OF ACTIVITY

- 32% Research
- 29% Scientific services
- 11% Scientific or technical support
- 8% Training and outreach
- 8% Administrative support
- 12% General support

EMBL Unit Reviews

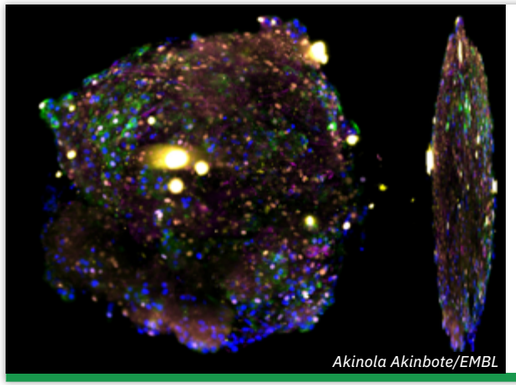
Each year, international experts review EMBL's research, service, and training units. Read the reviews and responses from EMBL's Director General.



Isabel Romero Calvo/EMBL

EMBL Structural and Computational Biology

This unit pursues a rigorous, imaginative, and transdisciplinary research programme in integrated structural and computational systems biology. Themes include structural cell biology, systems biology, microbiome research, spatial metabolomics, single-cell genomics, multi-omics, data integration, and structural bioinformatics.



Akinola Akinbote/EMBL

EMBL Barcelona

EMBL's newest site, opened in 2017, focuses on tissue biology and disease modelling, including questions about the molecular control of embryonic tissues and applied projects which model a wide range of disease types using 3D *in vitro* human tissues.

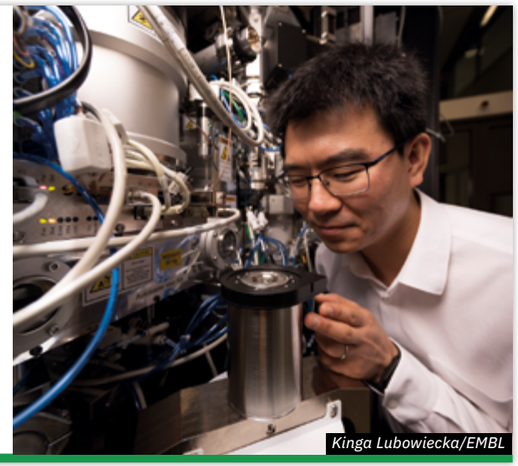
EMBL Training

EMBL's multifaceted training programme targets all career stages in the life sciences. Alongside PhD training, postdoctoral schemes, courses, conferences, and more, EMBL's Science Education and Public Engagement Office (SEPE, formerly ELLS) shares scientific discoveries with young learners and teachers.

Yvonne Yeboah/EMBL

EMBL Core Facilities

EMBL's core facilities in Heidelberg provide life science researchers in Europe and beyond with access to the very latest in scientific expertise and technologies, spanning the fields of light and electron microscopy, chemical biology, metabolomics, proteomics, genomics, flow cytometry, and protein expression and purification.



Kinga Lubowiecka/EMBL

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complete annual report

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EMBL member states and associate member states

Austria | Belgium | Croatia | Czech Republic
Denmark | Finland | France | Germany | Greece
Hungary | Iceland | Ireland | Israel | Italy | Lithuania
Luxembourg | Malta | Montenegro | Netherlands
Norway | Poland | Portugal | Slovakia | Spain
Sweden | Switzerland | United Kingdom | Australia