

Alumni Impact Report 2017



Welcome

The European Molecular Biology Laboratory (EMBL) was founded more than 40 years ago to be a centre of excellence for Europe's most talented young scientists in the life sciences, and to provide outstanding training, services and infrastructure.

EMBL's culture is based on principles of cutting-edge research, innovation, interdisciplinarity, collaboration, creativity, independence, continuous staff turnover, internationality and diversity. This model of working defines EMBL's research and services, and characterises its global community of current and former staff members.

Since 1974, EMBL has employed many thousands of scientific, technical and administrative personnel. There are many advantages for EMBL and its staff to maintain relationships with EMBL alumni, and many of our alumni, in turn, have benefitted from staying connected with EMBL. These relationships are strengthened not only by our shared experiences, but also by a common interest in our continued success.

Here we share some of the substance behind these assertions. For the first time, we present a report on EMBL's impact through the activities, achievements and successes of our alumni – from their perspective. Their feedback to a 2015 survey has revealed why alumni are keen to retain their connection to EMBL and how they contribute to its success. The responses have also helped us understand the needs of alumni and how best to support them in their post-EMBL careers.

One of EMBL's primary purposes is to attract and train the best young scientists – and to send them into the research community to play a transformative role in the global future of the life sciences. The alumni survey and this report reveal evidence of EMBL's performance towards this objective.

The results from the survey give EMBL's global alumni community a collective voice. EMBL is committed to listening to this voice and ensuring that the advantages of being connected to EMBL continue long after colleagues leave the organisation.

The EMBL Alumni Impact Report was published in September 2017.

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Thank you to Anastasia Politou and EMBL alumni in Greece for their work on measuring the impact of EMBL alumni in their country, which served as a model for this report.

Special thanks also to alumni who participated in the survey and follow-up interviews, as well as EMBL staff who contributed to the survey questions and report, in particular the Strategy and Communications team.



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EMBL Director General

Jan Mark



Matthias W. Hentze
EMBL Director

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Measuring impact: **EMBL's response**

EMBL's 40th anniversary celebrations in 2014 and 2015 provided an ideal opportunity to strengthen relationships with alumni. Building on these events, we designed a survey in early 2015 to measure the impact of alumni as advocates for EMBL. We were interested to know how many alumni are:

- furthering life sciences worldwide through collaborative scientific networks, activities and inventions linked to EMBL
- · delivering successful outcomes using EMBL facilities and services
- contributing to life sciences training and education through EMBL courses and conferences and EMBL-inspired science communication
- · exporting aspects of EMBL's organisational model
- · serving as ambassadors for EMBL.

As this report reveals, the survey responses provide compelling evidence of the global impact of alumni and their role in EMBL's ongoing success. The data show that alumni are highly active and successful as a result of the training, facilities and networks available to them during and after their time at EMBL.

In response to the valuable feedback from alumni, EMBL has introduced:

- a contact management system, which will help EMBL and its alumni better engage with one another.
- a new position for a Volunteer Officer in the Alumni Relations team to work with colleagues across the institution in engaging EMBL's >7100 alumni.
- inaugural alumni events in Australia and the USA in 2017, organised in response to feedback that EMBL is not sufficiently known in these countries.
- events for groups who have felt excluded from alumni activities: an annual pensioners' meeting was launched in 2016, and an inaugural event for alumni in industry will take place in 2019.
- a brochure on EMBL resources for alumni.

We look forward to building on these important initiatives.

We are grateful to the EMBL alumni who completed the survey and to all EMBL alumni for their support. Your feedback helps us offer a relevant and meaningful programme and is always welcome and appreciated.



Mehrnoosh Rayner

EMBL Head of Alumni Relations

EMBL's Alumni Relations programme is designed to advance EMBL and life sciences research by fostering connections between alumni, staff, EMBL, its member states and the public.

EMBL: A global community

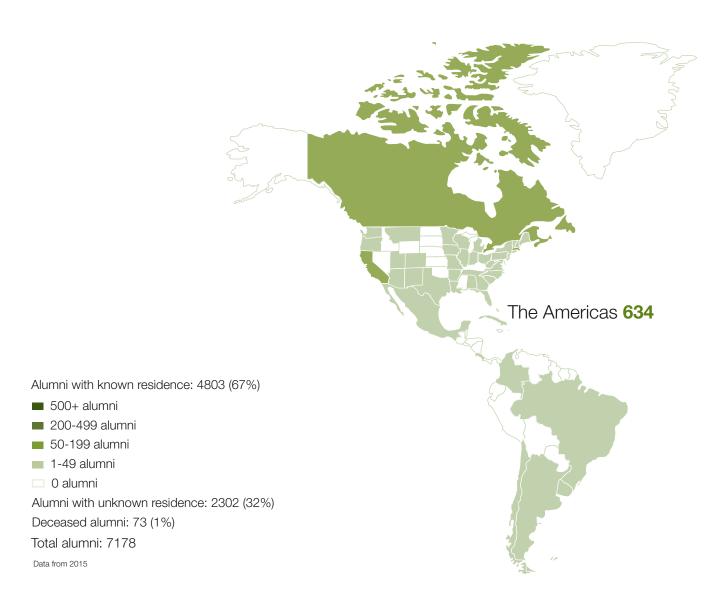
Established by
10 countries as an
intergovernmental
organisation in 1974,
EMBL is now supported
by more than 20 member
states.

Of the 3684 members of the EMBL Alumni Association invited to take part in the 2015 Alumni Impact Survey, 1232 (33%) respondents from around the world completed it. Given that respondents were not offered any material incentive to complete the survey, and the survey itself was not conducted in connection with any event, this high completion rate reflects the alumni community's strong and ongoing engagement with EMBL.

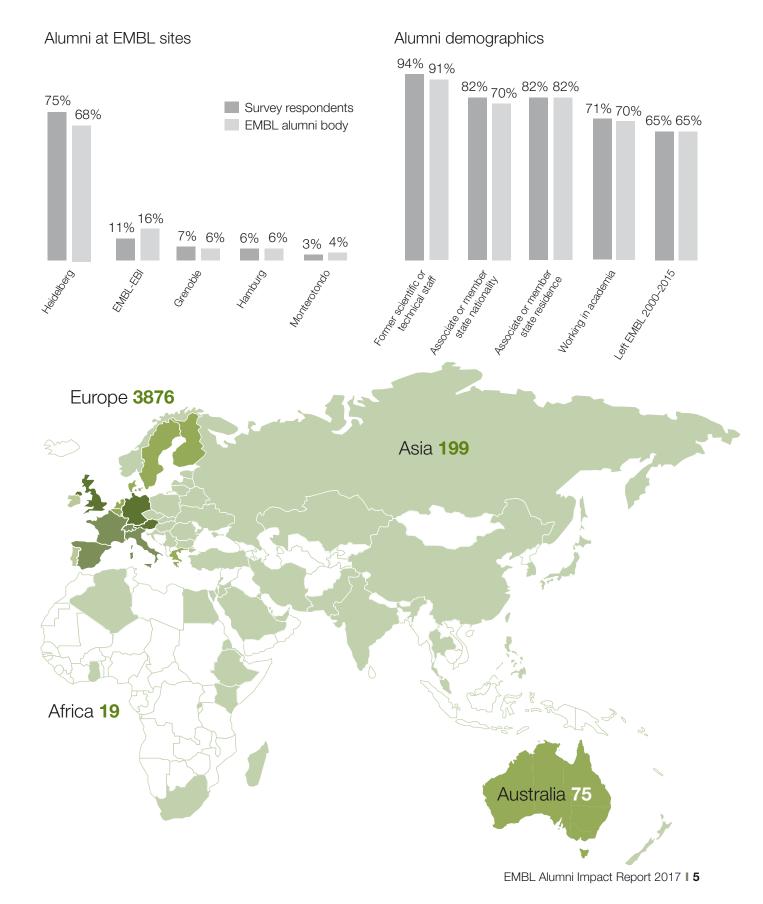
The survey respondents mirror the overall make-up of the EMBL alumni body in terms of their nationality and country of residence as well as staff category, EMBL site and departure date – making their feedback representative of alumni as a whole.

Most respondents (86%) were members of the scientific staff at EMBL, while 8% were technical staff and 6% comprised administrative and support staff.

They represent 63 nationalities (84% from member, associate member or prospect member states) and 53 countries of residence (83% living in member, associate member or prospect member states).



Survey respondents represent the **general EMBL alumni body**



Advancing life sciences:

Collaborations and inventions

Alumni continue to make important contributions to the life sciences after leaving EMBL.

Like the broader EMBL alumni body, most of the survey respondents work in academia or a research institute. This is the single most common sector: 76% of former scientific staff are in academia, compared with 52% of technical staff and 26% of administrative and support staff.* Industry is the next most popular sector for all staff categories, although there are greater proportions of technical (33%) and administrative and support (22%) staff there than scientific staff (16%).

* Technical staff includes bioinformaticians, curators, technicians and engineers. Administrative and support staff includes administrators as well as staff from training, communications and outreach.

Alumni work sectors



academia / research institute

industry (biotech / pharma) 13%

other* 6%

industry (other) 5%

government 3%

retired 2%

funding agency <1%

n/a < 1%

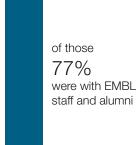
*includes software and IT, technology transfer and venture capital firms.

Respondents in industry (217) work mostly in pharmaceuticals (39%), biotechnology (32%) and other life science-related fields (17%). Almost 62% work in companies with more than 250 employees.

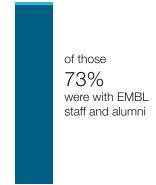
Alumni collaborations

79%

have done collaborative projects



74% have had a publication



After their time as scientific or technical staff at EMBL, 79% of survey respondents have been involved in collaborative projects, 77% of whom have done so with EMBL staff or alumni; and 74% of survey respondents have published their work. 73% of whom have done so with EMBL staff or alumni.

Based on 1156 scientific and technical staff.

Alumni inventions and start-ups



28% have been an inventor on a patent application



9% have had research lead to a start-up company



6% have created a start-up company

Based on 1156 scientific and technical staff.

More than a quarter of respondents have patented the results of their work and 9% have been involved in the creation of a start-up company – more than two-thirds of whom were a founder.

Examples of start-ups (co-)founded by EMBL alumni include:

Asper Biotech



Providing genetic diagnostic services.

Andres Metspalu (Estonian)
Professor of Biotechnology and CSO,
University of Tartu and Egeen Inc.,
Tartu, Estonia

EMBL Heidelberg Postdoctoral Fellow, 1985

Biomax Informatix 4



Designing software to integrate, manage and analyse data in the life sciences.

Hans-Werner Mewes (German)
Professor, Technical University Munich,
Germany

EMBL Heidelberg Predoctoral Fellow, 1983–1985

Cellzome



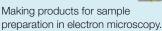
(now part of GlaxoSmithKline)

Developing proteomics technologies for use in drug discovery.

Gitte Neubauer (German)
Vice President Analytical Science,
GlaxoSmithKline, Heidelberg, Germany
EMBL Heidelberg Predoctoral Fellow,
1994-2000

Giulio Superti-Furga (Italian), Scientific Director, CeMM, Vienna, Austria EMBL Heidelberg Team Leader, 1991–2004

CryoCapCell



Xavier Heiligenstein (French)
Postdoctoral Fellow, Institut Curie,
Paris, France

EMBL Heidelberg Predoctoral Fellow, 2006–2011

Gene Bridges



Specialising in innovative *in vivo* DNA engineering using Red/ET recombination in particular.

Joep Muijrers (Dutch)

Partner, Life Science Partners, Waltham, MA, USA

EMBL Heidelberg Predoctoral Fellow, 1997–2001

Francis Stewart (Australian)

Professor, Biotec, Dresden University of Technology, BioInnovation Zentrum, Dresden, Germany

EMBL Heidelberg Group Leader, 1991–2001

Lipum



Developing drugs to treat chronic inflammatory diseases.

Lennart Lundberg (Swedish) Vice President, IP, AnaMar AB, Goteborg, Sweden EMBL Heidelberg Postdoctoral Fellow, 1985–1986

Miroculus



Designing a simple blood test for disease detection.

Fay Christodoulou (Greek)

Group Leader, Miroculus, San Francisco, USA

EMBL Heidelberg Predoctoral Fellow, 2005–2010

Numares Health



(formerly LipoFIT Analytic)

Developing diagnostic and analytical methods using NMR spectroscopy.

Werner Kremer (German)

Professor, University of Regensburg, Germany

EMBL Grenoble Predoctoral Fellow, 1989–1992

PreOmics



(formerly Precision Proteomics)

Producing technologies using ma

Producing technologies using mass spectroscopy-based proteomics in research and diagnostics.

Matthias Mann (German)

Managing Director, Max Planck Institute for Biochemistry, Martinsried, Germany EMBL Heidelberg Group Leader

EMBL Heidelberg Group Leader, 1992–1998

Advancing life sciences:

Facilities and services

EMBL supports the scientific success of its alumni through its facilities, services, courses, conferences, collaborations and networks.

Alumni use of facilities across EMBL sites

57% EMBL Heidelberg

35% EMBL-EBI

19% EMBL Grenoble

12% EMBL Hamburg

5% EMBL Monterotondo

Based on 452 scientific and technical staff who have used EMBL facilities since leaving the organisation.

EMBL facilities are available to alumni, and 39% of respondents who were scientific or technical staff have taken advantage of this benefit.

Of those using the facilities, most have visited EMBL Heidelberg, where the majority of the core facilities are situated.

Most survey respondents have used the facilities at only one site (77%), while more than one-fifth (22%) have visited two or three sites, and only a few (1%) have visited four sites.

Successful outcomes for alumni as a result of using EMBL facilities



52% have published their work



39% have submitted data to public databases



18% have received grants



17% have completed a PhD thesis



12% have established new facilities

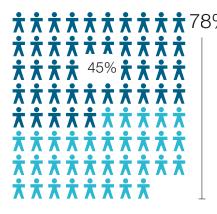
Based on 452 scientific and technical staff who have used EMBL facilities since leaving the organisation.

Of those alumni who have used EMBL facilities since leaving EMBL, 84% have had successful outcomes as a direct result. The work has led not only to publications, but also to grants, PhD theses, data deposition and the establishment of new facilities.

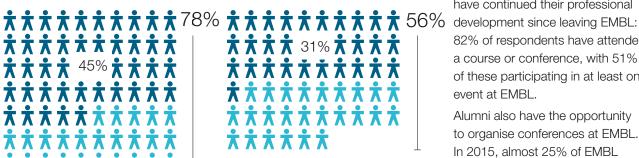


Alumni course and conference attendance

Conference attendance



Course attendance



Most scientific and technical alumni have continued their professional 82% of respondents have attended a course or conference, with 51% of these participating in at least one event at EMBL.

Alumni also have the opportunity to organise conferences at EMBL. In 2015, almost 25% of EMBL conference organisers were alumni.

Of 1156 scientific and technical alumni.

at EMBL at elsewhere



"It's absolutely great that we have international conferences here in Europe with EMBL's Advanced Training Centre, which are on a par with the best in the USA, like the Cold Spring Harbor Laboratory meetings and the Keystone Symposia. This is a fantastic resource for science in Europe."

Elisa Izaurralde (Swiss)

Scientific Director, MPI for Developmental Biology, Tuebingen, Germany EMBL Heidelberg Group Leader and Senior Scientist, 1999-2006



"I will be holding my fourth conference in the series 'The Complex Life of mRNA' at the EMBL Advanced Training Centre in 2016. We have held these every two years at EMBL, and they have always been fully booked. They have been very successful, and we have had very positive feedback. It's really easy to organise such conferences at EMBL, as the conference team handles almost all the administration, so there's limited effort compared to administration elsewhere."

David Tollervey (British)

Director, Wellcome Trust Centre for Cell Biology, Edinburgh, UK EMBL Heidelberg Group Leader, 1988-1997

Advancing life sciences:

Education and outreach

EMBL alumni demonstrate their ongoing commitment to science education and public engagement. More than half the survey respondents (62%) have contributed to science communication, science education or science and society activities since leaving EMBL. Of these, almost one-third (29%) have introduced a model inspired by EMBL.

Since leaving EMBL, alumni have made contributions to:



50% science communication

Science communication activities included delivering public outreach activities, creating podcasts, making school visits, participating in media interviews and designing online resources.



46% science education activities

Science education activities included organising teaching events for industry, hosting school visits, providing work placements, mentoring, participating in EMBO workshops, and using resources of EMBL's European Learning Laboratory for the Life Sciences (ELLS).



35% science and society activities

Science and society activities included running workshops and forums, combining science with media events such as art shows and films, and developing science and society policies and documentation.



"We do a lot of activities with schools. We learnt this approach from EMBL. How do we encourage younger children to come up with science questions? We go to their schools. For secondary school students, we bring them to the Institute to show them our labs. We also co-organise national debates on topics such as ethical issues in science, genetically modified organisms and therapeutics, and have presented career talks in schools. We want to make sure that people of all ages have science literacy and can engage in debate on scientific issues."

Sally Cudmore (Irish)

General Manager, APC Microbiome Institute, University College Cork, Cork, Ireland EMBL Heidelberg Predoctoral Fellow, 1992–1996



"My work mostly involves helping our medical staff develop and publish journal articles about their operational research. I also run manuscript writing workshops, so our staff can build their publication skills. Although I now work on very different topics than I did at EMBL, the skills needed haven't changed much. So I still draw daily on the training and experience gained during my EMBL years."

Patricia Kahn (American)

Medecins Sans Frontieres (Doctors Without Borders), New York, NY, USA EMBL Heidelberg Staff Scientist, 1983–1990

Adopting the EMBL model

Members of the alumni community are some of EMBL's greatest ambassadors. By sharing the best of EMBL, alumni are changing the life sciences landscape in their countries.

Inspired by their time at EMBL, alumni have introduced:

50% aspects of EMBL culture

43% new research directions or programmes

20% new facilities

18% science communication initiative / activity

13% new administrative structure or recruitment / turnover policy

2% other*

*includes rigorous scientific standards, new instruments and software, journal clubs, biosafety regulations, gender equality and ethnic diversity, and management strategies.

Based on 1232 scientific, technical, administrative and support staff.

Over 70% of survey respondents have introduced new research directions and programmes, aspects of the organisational model, facilities and practices – inspired by their time at EMBL.



"EMBL has inspired an important aspect of the Francis Crick Institute, which is why we will focus on younger researchers, or should I say early-career researchers, who will have a career stage at the Crick of up to 12 years but will not be tenure-tracked. This is an extension of EMBL's approach and is focussed on training group leaders to the very highest standards and then exporting them elsewhere."

Sir Paul Nurse (British)

Director & Chief Executive, Francis Crick Institute, London, UK

EMBL Member of the Scientific Advisory Committee, 1989–1994 and 2003–2008



"The work done at EMBL and the knowledge gained there drastically changed the research direction of the TU Dresden. A whole new impetus was gained, mostly because of the EMBL alumni who moved there in 2000. This includes Kai Simons, Francis Stewart and their whole labs, including many other support staff who accompanied the groups moving from EMBL Heidelberg."

 $\textbf{Michelle Meredyth-Stewart} \; (\textbf{Australian})$

Doctor, Technical University of Dresden, Germany

EMBL Heidelberg Administrative Assistant, 1997–2002

The introduction of the EMBL model into the working environments of alumni is a powerful indication of how EMBL influences not only what alumni do, but also how they do it.

Ambassadors

Today's staff members are tomorrow's alumni. Many members of personnel take EMBL's principles and elements of its culture with them when they leave the organisation. These characteristics describe the alumni community, and the way in which EMBL wants to engage colleagues after they leave.

Respondents described some of the benefits of being an EMBL alumnus/a



"It means staying connected to a world of knowledge building and sharing that I had the chance to experience. It means also staying connected to great friends and facilities."

Catarina da Silva (Portuguese)
Postdoctoral Fellow, CEA, Grenoble, France
EMBL Grenoble Postdoctoral Fellow,
2012–2014



"I'm very proud of my time at EMBL, it is a place of diversity and exciting science. It is a place of learning and moulding scientists and its impact is felt long after the person leaves EMBL."

David Venzke (American)
Research Assistant, University of Iowa,
Iowa City, USA
EMBL Heidelberg Research Technician,
1999–2006



"Whenever I read of outstanding scientific work performed at, or in collaboration with, EMBL (or former colleagues who get a Nobel Prize) I feel proud to have worked at this Laboratory."

Waltraud Ackermann (German) Retired, Alignan du Vent, France EMBL Heidelberg Personal Assistant, 1974–1998



"It is the contacts I have made while in EMBL that matter. They have resulted in post-EMBL collaborations with EMBL alumni and others that serve as the main basis of my research activities."

Evangelos Pafilis (Greek)

Research Fellow, Institute of Marine Biology, Biotechnology and Aquaculture, Hellenic Centre for Marine Research, Heraklion, Greece

EMBL Heidelberg Predoctoral Fellow, 2004–2009



"I am proud of it. It means I had some very good training, good references, and a good scientific network."

Magali Michaut (French)

Staff Scientist, Netherlands Cancer Institute, Amsterdam, the Netherlands EMBL-EBI Predoctoral fellow, 2007



"It means being part of a larger international community which goes beyond the duration of a contract. From the colleagues in the EMBL administration I learned a lot and I am still inspired by their sense of service."

Silvia Bertini (Italian)

Head of User Office, European X-Ray Free Electron Laser Facility (XFEL), Schenefeld, Germany

EMBL Hamburg Administrative Officer, 2004–2011



It is challenging to define the special characteristics of EMBL's culture, but several common themes emerged from the alumni responses: strong personal connections, pivotal scientific experiences, professional excellence and extensive networks of highly qualified colleagues.

Being an **EMBL alumnus/a means** ...



"... sharing the benefits of my stay at EMBL and its existence with the scientific community at home."

George Simos (Greek)

Biochemistry Faculty of Medicine, University of Thessaly, Larissa, Greece EMBL Heidelberg Postdoctoral Fellow,



"...appreciating the power of training and knowledge. EMBL changed my career path tremendously. It ignited my curiosity, it pushed me beyond my limit, and it opened terrific opportunities scientifically and personally. As an alumna, I'll continue to spread EMBL culture and values everywhere I go."

Elena Mancini (Italian)

Clinical Research Manager, Geistlich Pharma AG, Wolhusen, Switzerland EMBL Monterotondo Predoctoral Fellow, 2005-2010



"... having seen science at its best, and having the drive to do science up to these standards."

Manfred Koegl (Austrian)

Researcher, Boehringer Ingelheim RCV GmbH & Co KG, Vienna, Austria EMBL Heidelberg Predoctoral Fellow, 1990-1994



"... that I have a label of excellence to the outside. For myself, a clear reference on how scientific research should be conducted, managed and experienced."

Fulvia Bono (Italian)

Group Leader, Max Planck Institute for Developmental Biology, Tuebingen, Germany

EMBL Heidelberg Postdoctoral Fellow, 2001-2007



"...feeling part of a special community. A community of talented, international, dynamic people who are enthusiastically working on many science-related fronts to make the world a better place."

Alexandra Manaia (Portuguese)

Education & Advanced Training Executive Manager, Lisbon Medical School's Instituto de Medicina Molecular (IMM), Lisbon, Portugal

EMBL Heidelberg Education Officer, 2003-2009



"...continuing to be part of a great organisation, being able to take advantage of the resources and knowledge within it, and also helping out in whatever way I can."

Jamie Riches (Australian)

EMBL Heidelberg Senior Engineer,

Keeping in touch

EMBL uses multiple print and digital channels to reach alumni. The survey itself worked as a communication tool, as it alerted respondents to initiatives and resources that they didn't previously know about.

EMBL alumni receive EMBL news through:

74% Etcetera e-newsletter

50% Etcetera magazine

30% EMBL website

25% EMBL alumni network

19% colleagues

6% social media

3% don't receive it, but would like to

2% prefer not to

Based on 1232 scientific, technical, administrative and support staff.

EMBL alumni share EMBL news:

53% verbally with their network

50% e-mail

28% verbally with the EMBL alumni network

14% social platforms

3% other

Based on 840 respondents who share EMBL news.

Many respondents reported that keeping up to date with EMBL research and activities is one of the benefits of being a member of the EMBL alumni community. Almost all survey respondents (95%) receive EMBL news in at least one format, primarily through the *Etcetera* e-newsletter and magazine. Many respondents (68%) share EMBL news through their own networks, both online and offline.



"The news from EMBL keeps me motivated to do better."

Lakshmi Sumitra Vijayachandran (Indian)

Assistant Professor, Amrita Institute for Nanoscience and Molecular Medicine, Kochi, India

EMBL Grenoble Postdoctoral Fellow, 2008–2010



"I like staying in contact with things happening at EMBL because EMBL is at the absolute forefront in the life sciences."

Volkard Helms (German) Professor, Saarland University,

Professor, Saarland University, Saarbruecken, Germany

EMBL Heidelberg Predoctoral Fellow, 1992–1996

Are you an EMBL alumnus/a?

Whether you spent time at EMBL in an administrative, technical or scientific capacity, whether you are working within science or another field, and wherever you are in your career, you and your networks can benefit from and support EMBL and its community.

Benefit from your ongoing connection with EMBL

EMBL laboratories and facilities

- Contact the Visitor Programme to visit EMBL laboratories and core facilities: www.embl.de/training/visitor-programme
- Take advantage of travel and accommodation fellowships for visiting any of the facilities across EMBL's sites: www.embl.org/boulin-fellowship

Conferences

- Organise your own conference for up to 500 participants at the EMBL Advanced Training Centre (ATC) with the help of the Course and Conference Office (CCO): www.embl.de/training/cco
- Take advantage of travel grants and registration fee waivers for EMBL conferences: www.embl.org/events/fellowships

Courses

- Organise your own course in the EMBL training labs: www.embl.de/training/cco
- Participate in courses and activities run by the European Learning Laboratory for Life Sciences (ELLS), and set up similar programmes at your institute: www.embl.org/ells
- Benefit from EMBL-EBI online bioinformatics learning and bespoke off-site workshops: www.ebi.ac.uk/training

Strengthen the EMBL alumni network

- Stay visible and accessible to EMBL and its community: Join the EMBL
 Alumni Association, at no cost, by contacting alumni@embl.org, and keep
 your profile up to date: www.embl.org/alumni/record-update
- Attend, speak at or organise EMBL alumni events: www.embl.org/alumni/events

Support and promote EMBL's ongoing success

- Make your link to EMBL visible: Include your time at EMBL in your online biographies, link to EMBL in your social media profiles, credit EMBL for EMBL-related discoveries in interviews, and wear your EMBL t-shirts!
- Follow EMBL online and share news within your own networks. EMBL is now on Facebook (www.facebook.com/embl.org), LinkedIn, YouTube (www.youtube.com/user/emblmedia), Twitter (@embl), Instagram (@embl_org) and Google+ (https://plus.google.com/+EMBLorg).
- Share your recent initiatives, discoveries or awards by filling in a short online survey about alumni achievements: www.surveymonkey.com/r/reason-to-celebrate
- Help us preserve and share your contribution to EMBL and to life sciences by submitting your stories and material to the EMBL archive: www.embl.org/archive
- Promote the Friends of EMBL, a philanthropic group dedicated to ongoing support of research in the life sciences, to your colleagues, friends and family: www.embl.org/friends

For more information and resources, visit: www.embl.org/alumni/resources

EMBL in 2017

6 sites

>7100 alumni

1600 staff and fellows

23 member states

2 associate member states

3 prospect member states

European Molecular Biology Laboratory

For further details on this report, please contact:

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