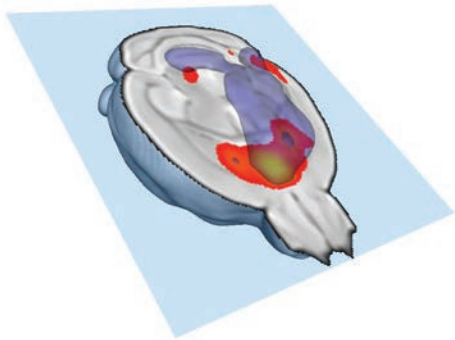


EMBL etcetera

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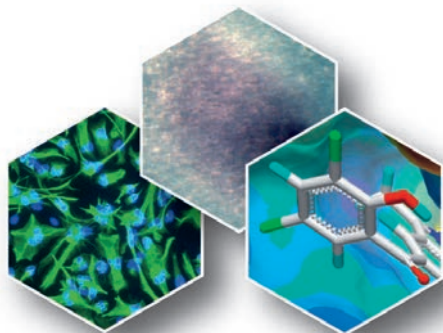


Information highway

Scientists in the Gross group at EMBL Monterotondo have led a study that suggests that by trimming surplus connections in the developing brain, cells called microglia allow remaining links to grow stronger, much like high-speed fibre optic cables carrying strong signals between brain regions.

The work demonstrated that if microglia fail to do their job at a crucial stage of brain development, brain regions are left with a weaker communication network. Published in *Nature Neuroscience*, the study could have implications for understanding neurodevelopmental disorders, such as autism.

[See page 4](#)



6

Lowdown on EMBL's 40th celebrations

Frameworks for success

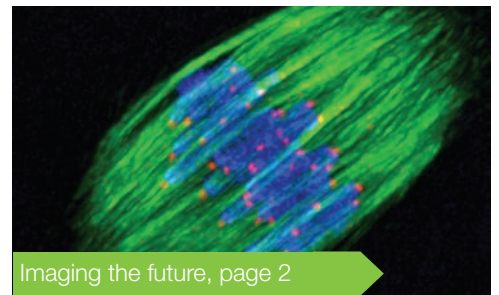
Partnerships that aim to match infrastructures with the pace of scientific research



[ELIXIR becomes official, pages 3 & 8](#)



[New Centre in Hamburg, page 2](#)



[Imaging the future, page 2](#)

Slovak Republic becomes first prospect member

Statement of intent signed in February paves the way to explore possibilities for long-term cooperation

The Slovak Republic has become the first country to join EMBL in its new prospect member scheme. The agreement gives the Slovak Republic observer status in the EMBL Council, while Slovak scientists will be able to access EMBL's facilities and services, and the country's early career researchers will be eligible for scholarships in the PhD and Postdoctoral programmes.

[Find out more on page 2](#)

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Exploring wheat genome ancestry

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Are papers still the optimal way to share data?

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Setting sail in Grenoble

First prospect member state

EMBL has welcomed the Slovak Republic as the first country to join its new prospect member scheme. In a Statement of Intent signed in February, the Slovak Republic and EMBL agreed to explore the possibilities for long-term cooperation, with a view to the country becoming a full member state within three years.

“We’re pleased to welcome the Slovak Republic as a prospect member state,” says Director General Iain Mattaj. “This new scheme eases the transition to full EMBL membership, as part of our continuous drive to integrate molecular biology research throughout Europe.”

As a prospect member state, the Slovak Republic will have observer status in the EMBL Council. Slovak scientists will be able to access EMBL’s state-of-the-art facilities and services, and the country’s early career researchers will be eligible for scholarships in the PhD and Postdoctoral programmes. Additionally, EMBL and the Slovak community will work together on raising the visibility of EMBL in the country, and promote cooperation between Slovak and EMBL researchers.

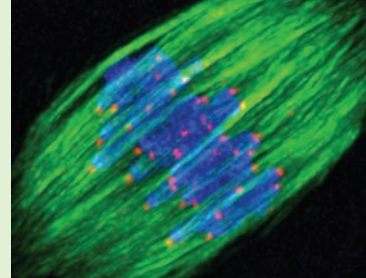
“It is my honour that Slovakia became the first prospect member of such a prestigious international organisation. This membership

represents a clear added value, in terms of increasing and improving the research and development potential of the Slovak Republic in the priority area of science and technology,” says Dušan Čaplovič, Slovak Minister for Education, Science, Research and Sport.

“This membership represents a clear added value in terms of increasing and improving the research and development potential of the Slovak Republic”

– Dušan Čaplovič

“Prospect membership of EMBL opens up a new window for the cooperative development of our ideas and skills in the European research area,” adds Silvia Pastorekova, delegate of the Slovak Republic at the EMBC and senior scientist at the Institute of Virology, Slovak Academy of Sciences.



Imaging infrastructure

Europe is uniting to make state-of-the-art imaging technologies accessible to biomedical researchers throughout the continent in a concerted manner. EMBL and nine countries – Belgium, the Czech Republic, Finland, France, Italy, Poland, Slovakia, the Netherlands, and UK – have signed the Euro-BioImaging Memorandum of Understanding. In the coming months, the signatories will work together towards the implementation and construction of this new pan-European infrastructure for imaging technologies. All European countries are invited to participate and several European nations are already set to follow suit.

“This is a very important step for Euro-BioImaging,” says Jan Ellenberg, EMBL Head of Unit and Euro-BioImaging’s Scientific Coordinator for biological imaging. “It’s a success based on three years of thorough planning by the scientific community, which has delivered a strong and tested infrastructure model.”

Directing attention to infectious diseases

The Centre for Structural Systems Biology (CSSB) in Hamburg is in an exciting new phase, with Matthias Wilmanns, Head of EMBL Hamburg, at its helm. Appointed the Centre’s founding director in January, he’s looking forward to the challenges and opportunities ahead.



How has the CSSB taken shape?

Discussions began a decade ago, in 2004. The aim was to complement existing and future infrastructures on the DESY campus – synchrotron and free electron laser facilities – with dedicated research activities. We refined the idea and developed a proposal for a multi-partner interdisciplinary research centre that will bring together biologists, physicists and physicians: the CSSB. The Centre is expected to employ almost 200 researchers, and will be housed in a dedicated building currently under construction; it is anticipated that the building will be ready in 2016.

About 20 percent of the future building will be reserved for what we call a ‘research hotel’,

for non-permanent groups and visiting scientists, as well as junior group leaders for up to five years. We’ve already recruited one junior group leader into the ‘virtual’ CSSB, from Sweden’s Karolinska Institute. The remaining 80 percent will belong to nine partners, at present: three universities from northern Germany, and six research organisations, including EMBL.

What will be the Centre’s main focus?

Our discussions over the years have led us to spotlight three key areas: (1) ‘hybrid’ structural biology – harnessing synchrotron, laser and x-ray based methods, complemented by state-of-the-art electron microscopy; (2) infection biology and the study of human pathogens – reflecting the number of well-established institutes in this field in the Hamburg area; (3) systems biology – a tool to bridge structural and

infection biology. This is an emerging field, with EMBL at its forefront; I am in contact with several EMBL colleagues for their advice and input on how to connect these areas.

What will your directorship involve?

My main focus will be creating leadership, looking for funding opportunities and actualising a research mission. We want to generate something that stands out at the international level, not only within Europe. It will be a challenge, but I look on this role as a project – I have been elected for four years, and then I expect to pass on leadership to a member of the Centre’s faculty. This role complements my responsibilities at EMBL, giving the Laboratory greater visibility and strengthening our position in Germany and worldwide.

➔ Learn more about the CSSB at www.cssb-hamburg.de.





ELIXIR becomes official

ELIXIR, the infrastructure for life science data in Europe, was formally launched at a ceremony in Brussels on 18 December, bringing together leading scientists and policy makers from across the continent. The launch marked the beginning of ELIXIR's permanent phase and eight countries and EMBL have now ratified the ELIXIR Consortium Agreement.

The programme aims to maximise the impact of big data in medicine, agriculture and the environment through the creation of a sustainable data infrastructure. EMBL and 17 countries have signed the ELIXIR Memorandum of Understanding, and during the launch participants emphasised the importance of the research infrastructure to the future of Europe's life science sector.

"ELIXIR has been establishing strong partnerships throughout Europe, building on the core competencies of many differ-

ent countries to establish a sustainable and forward-looking bioinformatics infrastructure for Europe's life science sector," explained Søren Brunak of the Technical University of Denmark and Chair of the Interim ELIXIR Board.

Also speaking at the event was Robert-Jan Smits, Director-General of the European Commission's Research and Innovation Directorate-General, who said: "I am certain that ELIXIR will put Europe at the front edge of life science research by helping the scientific community to address grand health challenges and to find innovative solutions for medical care." Janet Thornton, Director of EMBL-EBI added: "The commitment of these nations underscores, once again, the importance of biological information to every citizen."

➔ For more on ELIXIR see page 8.

ERC grants

Four researchers have joined the growing ranks of EMBL scientists awarded prestigious five-year grants from the European Research Council.

RNA polymerase I machinery

Christoph Müller, joint head of the Structural and Computational Biology Unit, was awarded a 2.5m Euro advanced grant to study the RNA polymerase I transcription initiation machinery, aiming to gain insights that could stimulate future research on the machinery and its role in cancer.

Chemical biology tools

Group leader, Maja Köhn has been awarded a 1.2m Euro starting grant for research into the development of chemical biology tools for the elucidation of protein phosphatase-1 (PP1) substrates and holoenzymes, known to play a role in diseases such as cancer, diabetes and HIV.

Molecular mechanisms of cancer

Group leader, Jan Korbel has been awarded a 1.5m Euro starting grant to investigate the molecular mechanism of chromothripsis, a catastrophic DNA rearrangement process known to instigate the development of some aggressive forms of cancer.

Understanding innate fear

Cornelius Gross, Deputy Head of EMBL Monterotondo, has been awarded a 2.5m Euro advanced grant to study the functional wiring of the core neural network of innate fear, with the goal of answering fundamental questions about how neural networks control behaviour.



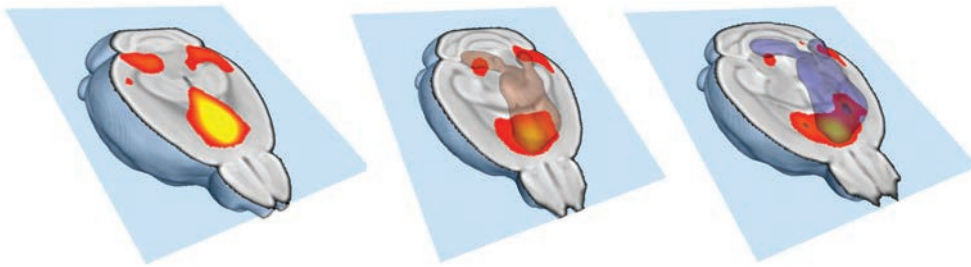
New vision for *EMBL&cetera*

For 15 years it has brought you the latest news, views and reviews from across EMBL. Now *EMBL&cetera* is set to become a full-fledged magazine, in print and online.

EMBL's newsletter began back in 1999, as a way to communicate news to staff and alumni, leading with the opening of the Monterotondo outstation. Over the years, as EMBL has grown, so has its newsletter –

expanding from an 8-page black-and-white publication to inform and entertain staff, to a 16-page full-colour edition packed with news, interviews, opinion, photos, and more. Today, it not only keeps EMBL's employees and alumni up-to-date on the happenings at the five sites and beyond, but also friends from institutions, governments, industry and the public, the world over.

This summer, *EMBL&cetera* will evolve once more: a modern and stylish print magazine will be complemented by fresh and dynamic online platforms, further supporting EMBL's leading role in discovery and discussion in the molecular life sciences and capturing the essence of the Lab. And as ever, the editors need your ideas to bring this to life. Watch this space.



Strongly connected brain regions. Credit: Alessandro Gozzi/IIT

Information highway

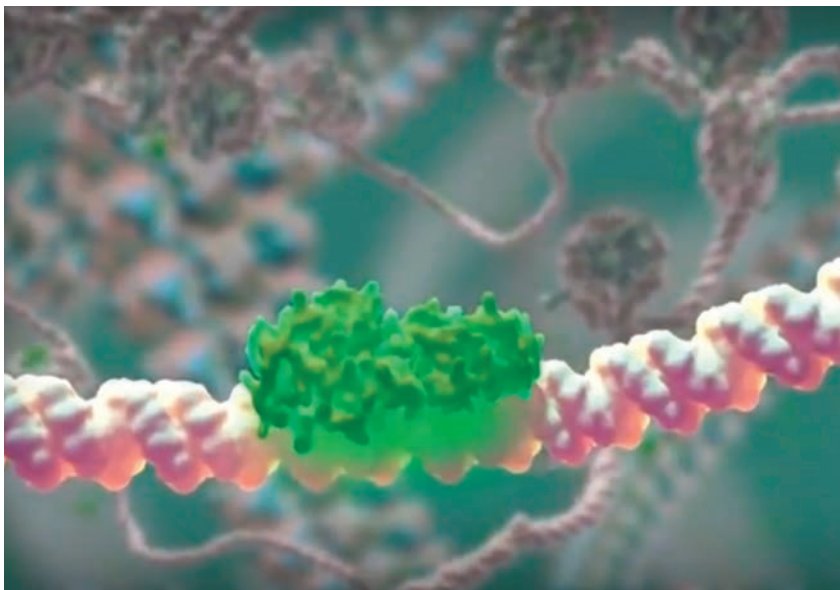
In many people with autism and other neurodevelopmental disorders, different parts of the brain don't talk to each other very well. Scientists in Cornelius Gross' group at EMBL Monterotondo have now identified, for the first time, a way in which this decreased cross-talk can come about. In a study recently published in *Nature Neuroscience*, they demonstrated that it can be caused by cells called microglia failing to trim connections between neurons.

Postdoc Yang Zhan discovered that, if microglia fail to do their job at a crucial stage of development, brain regions are left with a weaker communication network. This weaker connectivity in turn has lifelong effects on behaviour. Predoc Rosa Paolicelli

found that mice that had been engineered to have fewer microglia during development behaved differently, even as adults. "So a deficit in microglia during development leads to weak brain connectivity, decreased social behaviour, and increased repetitive behaviour – all hallmarks of autism," says Cornelius.

The findings indicate that, by trimming surplus connections in the developing brain, microglia allow the remaining links to grow stronger, like high-speed fibre-optic cables carrying strong signals between brain regions.

The work was a collaboration with scientists at the Istituto Italiano de Tecnologia and University of Rome La Sapienza.



Credit: François Parcy, CEA & Stroma Studios

(R)evolutionary tactic from LEAFY

A transcription factor called LEAFY is changing the way scientists think about the evolution of gene-controlling molecules. LEAFY has evolved different forms that control different genes: one in algae, another in mosses and a third in land plants. It appears to have done so by going through an intermediate version capable of controlling all three.

This evolutionary path, uncovered by Max Nanao, staff scientist in the McCarthy group at EMBL Grenoble, and colleagues, presents an alternative to the most common way for

transcription factors to evolve. Typically, this involves making a copy of the transcription factor, which can then be altered and take on new roles without compromising its initial task. "Our findings show that gene-control networks can evolve in an unexpected, but intuitive manner," Max concludes.

An animation depicting LEAFY's evolution, developed by Max's collaborator François Parcy, of the French Alternative Energies and Atomic Energy Commission (CEA), is available at youtu.be/Yvk3ond-WHk.

Plot twist

The Snail family of transcription factors have been known for a quarter of a century as repressors – proteins that dial down gene activity. But now the Furlong and Leptin groups have discovered that Snail can also activate a considerable number of genes.

"Initially, I was puzzled by our genomic data, as it didn't fit with Snail acting as a dedicated repressor," Lucia Ciglar, in the Furlong group, remembers. At the same time, a couple of floors up from the Furlong lab, Martina Rembold in the Leptin group was intrigued on a different level: inactivating Snail caused defects in embryonic development that couldn't be fully explained by a failure to repress its known targets. "We quickly came to the same hypothesis: that perhaps Snail could activate transcription," says Eileen. "So we joined forces in a very nice collaboration to investigate how that might happen."

"We quickly came to the same hypothesis: that perhaps Snail could activate transcription"

– Eileen Furlong

Their work indicates that Snail activates genes by acting in concert with other transcription factors, and points to new paths for studying Snail's key role both in development and in tumour metastasis. Published in *Genes & Development* in January, the study was among the most read articles on the journal's website in the first month after publication.

Martina Rembold



Lucia Ciglar





Whole-genome dataset for bread wheat

The most complete version yet produced of the bread wheat genome, recently assembled by the International Wheat Genome Sequencing Consortium (IWGSC), now has a home in Ensembl Plants. The new information will help researchers improve this vital crop's yield in different environments.

The bread wheat genome is at least five times larger than the human genome. It is derived from three different grasses, which hybridised during domestication. Modern wheat retains the three separate ancestral genomes, so it has three distinct 'sub-genomes', each of which contributes seven chromosomes. Trying to sequence each of these sub-genomes individually is as difficult as sequencing the genomes of a human, chimp and gorilla all at once. The IWGSC project sequenced the three sub-genomes one chromosome at a time, making it possible to assign each fragment to the correct sub-genome.

By studying wheat's internal structure, scientists can also gain insights into how it was domesticated and how traits relating to pest resistance, and drought and stress tolerance, have developed. Extensive comparative analyses between wheat and other cereal genomes are available in Ensembl Plants. Paul Kersey, who leads non-vertebrate genomics resources at EMBL-EBI, says: "It is fantastic to be able to release these data in the public domain, and to provide tools that help researchers explore the ancestry of the wheat genome."

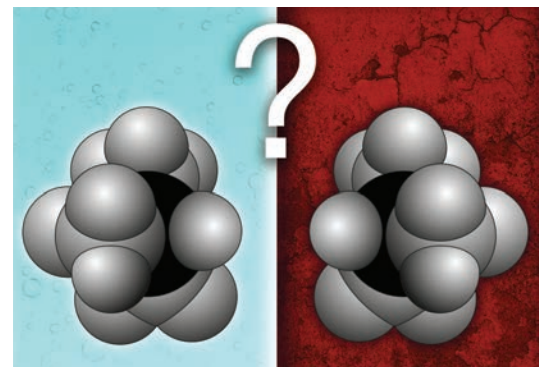
⇒ The EMBL-EBI exhibition booth travelled to sunny San Diego in January for the Plant and Animal Genomes conference. EMBL-EBI staff also presented several workshops and posters, and Joint Associate Director, Ewan Birney gave the opening plenary, describing the Institute's essential role in providing infrastructure for life science data.

Blast off for new enzyme software

Enzymes are involved in countless reactions, from breaking down wood to synthesising DNA, and developing new ones can be very useful for anything from drug discovery to biofuel production. But comparing thousands of different enzymes according to what they do can be a very time-consuming process. Now, software developed by scientists at EMBL-EBI makes it easy to compare a potentially useful enzyme against possibly all known reactions.

chemistry and other enzyme features," adds Syed Asad Rahman of EMBL-EBI. "We've created a binary fingerprint for these enzymes – a kind of reaction profile – that we hope will be very useful to people working in green biotech, drug discovery and many other areas."

⇒ You can try the new software and provide feedback at www.ebi.ac.uk/thornton-srv/software/rbl.



"We've created a binary fingerprint for these enzymes – a kind of reaction profile – that we hope will be very useful"

– Syed Asad Rahman

"If you are looking to swap one enzyme for another – say to make cheese differently or to break down sugar cane into ethanol – you would want to know exactly what reactions they are involved in, in which metabolic pathways," explains Janet Thornton, Director of EMBL-EBI. "EC-BLAST combines everything we know about biological catalysis: which enzymes form or break which bonds; as well as what the reaction centres and the enzyme's substrates and products are – it really provides an overview of the world of biochemical reactions."

The interdisciplinary group that developed EC-BLAST spent five years working on the software. "EC-BLAST integrates our knowledge about structures, chemical transformations, bond changes, stereo-

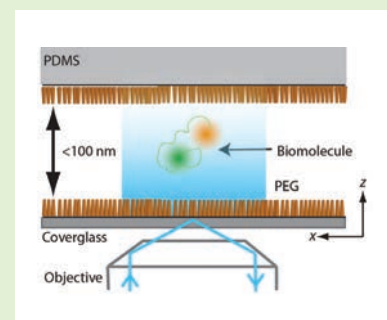
Research highlights

Mind the gap

Using yeast cells, researchers in the Häring group have identified the role that condensin plays in ensuring that daughter cells inherit the genetic material they need to survive. Their study, published online in *Developmental Cell* in December, revealed that without protein rings, chromosome arms can be broken by a 'closing door' that separates the cells, rendering them unable to divide again.

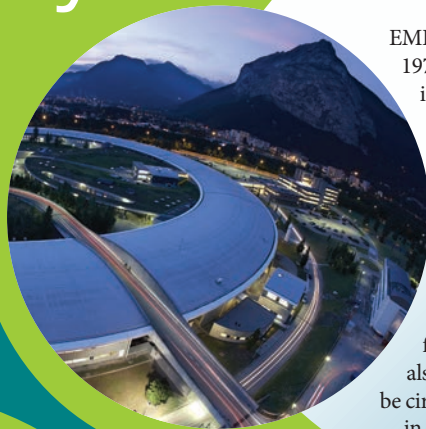
Long time, do see

Scientists in the Lemke group have developed a new high-throughput method to monitor individual large molecules for long periods of time. Called SWIFT, the new approach overcomes the shortcomings of currently available techniques. Developed by predoc Swati Tyagi and postdoc Virginia VanDelinder, the technique was published in *Nature Methods* in January.



EMBL 40th anniversary overview

Autumn 2015
EMBL Grenoble, France



EMBL Grenoble was founded in 1975. The outstation is preparing an inspiring programme to celebrate this occasion with EMBL staff, alumni and its user community in Autumn 2015. To mark the EMBL 40th Anniversary in 2014, EMBL Grenoble will host a one-day science symposium organised by the PhD students and postdocs on 27 June. Additionally, a small event for staff and alumni on campus is also envisaged. More details will be circulated to staff and alumni in France later this year.

**27 April, 25 May, 29
June, 27 July, 26 October**

Mehr vom Leben (*More from life*)
lecture series, *EMBL Heidelberg, Germany*



Young EMBL researchers will share their passion for life science with the public in a special five-part lecture series. Talks will cover a variety of topics, from human origins to the future of data storage (in DNA), and lots in between: genes, genetics and genomes, 'friendly' bacteria, and the big contribution of one little fish. Given in the local language, these lectures are aimed especially at the general public. This series could be coming to you... check www.embl.org/40years for developments.

Members of the public will also get the opportunity for a hands-on experience of EMBL science at a special 'Research Camp' in July.

12 June
EMBL-EBI 20th

Anniversary, Genome Campus, UK



EMBL-EBI began with the creation of the world's first nucleotide sequence database at EMBL Heidelberg in 1980. In 1992, EMBL decided to locate EMBL-EBI on the UK's Wellcome Trust Genome Campus; in 1994, the new institute opened its doors. EMBL-EBI will celebrate its 20th anniversary with a day of inspiring talks and activities. It will be an opportunity for staff and alumni to connect, to look back on a remarkable two decades of growth and discovery and to share ideas about the future of bioinformatics. While these celebrations are by invitation, you are encouraged to get in touch (comms@ebi.ac.uk) if you would like to attend.



27–28 November

EMBL Hamburg,
Germany

From its very beginning, the structural biology unit in Hamburg has been an outgoing outpost, providing research services to a widespread international community. EMBL Hamburg will celebrate its 40th anniversary with past, present and future researchers and users of its structural biology platforms, and the fantastic alumni who supported and facilitated them over the past four decades.



12 & 13 September

Gala evening & public
preview, EMBL Heidelberg, Germany

Heidelberg festivities culminate in a celebration with the communities that have hosted its headquarters. Local and national public figures are invited to a gala evening on 12 September, featuring a panel discussion with Nobel Prize winners and alumni Christiane Nüsslein-Volhard and Eric Wieschaus, dinner and entertainment. The opening address will be delivered by Federal Minister of Education and Research, Johanna Wanka. The next day sees the public preview of Horst Hamann's photographic exhibition 'DNA', a unique portrait series of current and former staff. Horst and EMBL Director Matthias Hentze will discuss human individuality from the viewpoint of the photographer and the scientist. This exhibit runs until the end of our anniversary year.



18–19 July

EMBL 40th Anniversary
Reunion, EMBL Heidelberg, Germany

The EMBL 40th Anniversary Reunion is the central event for all staff and alumni worldwide, with both groups involved as organisers, speakers and participants. The reunion celebrates the people who have made EMBL what it is today, the people who continue to drive it forwards, and those who spread its impact worldwide in their institutes. The event will utilise creative and non-traditional formats to highlight how the EMBL community influenced and influences scientific discovery and culture. Sessions cover broad themes in the life sciences, with an exciting mix of young and established speakers. This event is also open to EMBO, EMBLEM and EMBL Ventures staff who are an integral part of this community. For further details, please see www.embl.org/40years/reunion.



7-8 July

EMBanniversary
AUSTRIA, Vienna, Austria

EMBanniversary AUSTRIA will serve as a gathering for the molecular biology community, starting with the EMBO/EMBL family, including scientists, policy-makers and stakeholders with a link to Austria. This scientific and social event, co-organised by the Chair of the EMBL Alumni Association, EMBO Member and Scientific Director of CeMM, Giulio Superti-Furga, is dedicated to the influence and contributions of EMBO and EMBL, which have both been integral to the progress of molecular biology in Austria. It also serves as a local reunion for EMBL alumni and aims to reach out to the life science community and its supporters.

EMBanniversary AUSTRIA
VIENNA,
July 7 - 8th 2014



2-3 July

EMBO-EMBL Anniversary
Science and Policy Meeting,
EMBL Heidelberg, Germany

2014 is also the 50th anniversary of EMBO, and the 45th anniversary of the European Molecular Biology Conference, which supports EMBO and promotes molecular biology in the member states and beyond. This meeting – focused on science, policy and politics – recognises the contributions of EMBO, EMBC and EMBL to the advancement of molecular biology in Europe. The event features scientific talks from leading researchers, the participation of European science ministers, and sessions concentrating on policy issues in areas such as biotechnology and research infrastructures. For further details, please contact anniversary-embo@embo.org.



20 June

EMBL Monterotondo, Italy

EMBL Monterotondo will celebrate the Laboratory's 40th anniversary with a symposium focusing on EMBL's contribution to European science. The event will spotlight the impact of research at the Mouse Biology Unit on a national and international scale, and the important role – past, present and future – of EMBL's alumni in Italy. Distinguished current EMBL life scientists and alumni, including former group leaders and fellows, will join Head of Outstation Philip Avner to discuss cutting edge science and the role of EMBL in furthering such research. Presentations will be followed by a buffet dinner and fireworks.



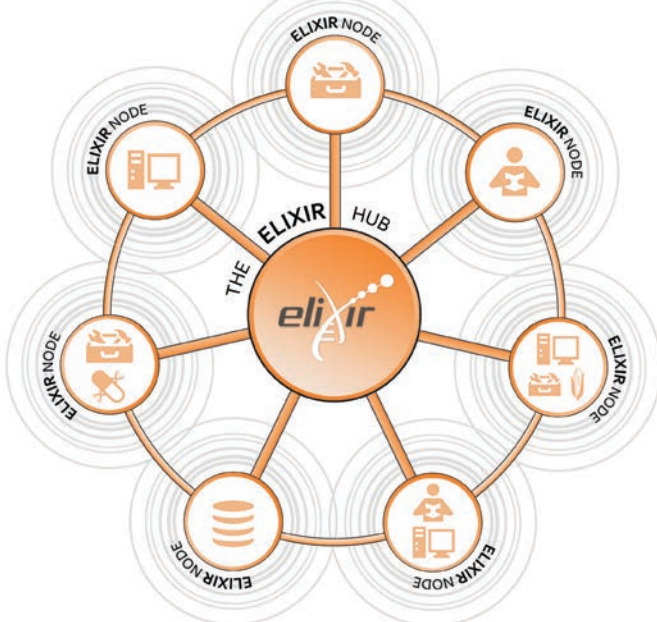
Building data highways

As biologists look to uncork new bottlenecks created by massive and diverse datasets, the ELIXIR initiative is proving a sparkling example of how partnership, shared expertise and international collaboration can be used to tackle some of the challenges presented by 'Big Data'. Connecting public and private bioscience facilities across Europe, ELIXIR aims to create a modern data 'highway' system that will help researchers to safeguard and share information. Leading the project's implementation is Director Niklas Blomberg, a genial Swede tasked with bringing the diverse European bioinformatics community together under a sustainable, coherent and distributed service infrastructure.

An information science

"The growth of 'omics and systems approaches mean that the challenges of storing, processing and moving information is no longer just the domain of astronomy and high-energy physics," explains Niklas, who did his PhD at EMBL Heidelberg in the 1990s and joined ELIXIR last year following more than a decade at AstraZeneca. "There is a fundamental recognition that biology is becoming an information science and that diverse data need to be professionally managed, retained and sustained for a long time."

In essence, ELIXIR is a 'hub and nodes' infrastructure that will link up facilities and promote shared responsibilities for collection, curation, storage, archiving, integration and deployment of data. "ELIXIR will bring together the core competencies of many countries, and different nodes will take on different aspects of services," Niklas explains.



"Finland, for example, has been driving technical services, Switzerland and EMBL-EBI have taken a lead on data resources, while the UK is spearheading training. In many cases, our preparatory phase has helped to catalyse the formation of national bioinformatics infrastructures and the infrastructure will also support resources such as databases and computing facilities in individual countries."

Strong momentum

During the preparatory phase, led by EMBL-EBI Director Janet Thornton, ELIXIR gained significant momentum, securing the signatures needed to turn the project into reality. "Data will be standardised on a Europe-wide scale and this means that industry will have a lot more confidence in their investments, service providers will have a clearer picture on how to provide more robust services, and it will become easier for researchers to find the right tools for the problem at hand,"

he explains. "Many service users might not notice any change at all – the value to them comes from ensuring that their bioinformatics analysis tools are both stable and scalable, but for service producers this will make a big difference."

Realising the vision

For Niklas, the focus now is on building the infrastructure. "Our challenge is to align the strategies of national nodes with the goals of a distributed organisation," explains Niklas. "We are representing a lot of bioinformatics expertise and are engaging on important issues such as computing capacity, training programmes, skills gaps, and data security. We are also working together with other major biomedical research infrastructures through the BioMedBridges project to ensure that users have Europe-wide access to technology platforms. Ultimately, it is about joining up data so that users can access it efficiently and push on with their research."

'I've spread the word to at least 6 000 people'

And the word was Ensembl – Bert Overduin reflects on nine years of teaching, training and travel as an outreach officer

My first workshop as an Ensembl Outreach officer was in Leeds in April, 2005. The browser supported 17 humble species and allowed access to a small amount of genomic information. I could never have predicted the great expansion of the scope of what and where I would teach. At the time of writing, Ensembl supports 77 species, millions of sequence variants, ENCODE data, tools and much more. I have taught to a worldwide audience at more than 300 Ensembl training events in 85 different cities on five continents. Each workshop is on average 20 people, so I've personally spread the word about this joint EMBL-EBI/Wellcome Trust Sanger project to at least 6 000 people!

I've taught alongside EBI trainers both at Hinxton and abroad, and I've brought Ensembl to two-thirds of the EMBL member

states (including associate member state Australia)! My job took me to exotic destinations, including the Faroe islands, Vietnam, Kenya, New Zealand, and South Africa. I weathered out Hurricane Sandy in Cold Spring Harbor Labs. But it hasn't been all work. Surprising myself, I've cage-dived with great whites in Cape Town and jumped from a plane in New Zealand, inspired by the local adventures one can have in these great places.

Now I come to the end of my nine years, I must sadly put down my Ensembl hat and say goodbye to EMBL-EBI. However, I don't have to say farewell to either travel or training in genomics – my next job is Training and Outreach Bioinformatician at Edinburgh Genomics. So you might see me presenting a power-point somewhere in the world, just before cliff-diving...



At a workshop in Ho Chi Minh City, Vietnam



Skydiving during a trip to New Zealand



Left: Participants during a pre-launch event at the EMBL Advanced Training Centre. Right: Head of Scientific Publications Bernd Pulverer. EMBO Press is partnering with Wiley, which contributes the production process, and High Wire Press, which provides the online platform

Pressing matters

Is the traditional research paper the optimal way to share data? Should the editorial process be more accountable? Are there alternatives to journal impact factor? Is Open Access compatible with adding value? It was with such questions in mind that EMBO unveiled EMBO Press in December, a new, editorially independent publishing platform. Following the launch event at the ASCB meeting in New Orleans, Head of Scientific Publications Bernd Pulverer reflects on the road ahead.

“The new platform aims to connect a transparent editorial process with innovative design and technology”

– Bernd Pulverer

What are the main goals?

We need mechanisms to ensure that published science is reliable, accessible and useful to the community. While we continue to focus on research excellence – filtering the best research is essential in navigating the flood of scientific information – the new platform makes the publication process more straightforward, connecting an informed, fair and transparent editorial process with innovative design and technology across the four EMBO publications. This approach is crucial: authors rightly expect to understand why editorial decisions are made and to discuss what revision might be required to achieve publication in a timely manner, while readers need to be able to rely on research that is well supported and reproducible. As research is growing in quantity, diversity and complexity, journals have a responsibility to develop ways for readers to effectively find, navigate and share information. EMBO Press addresses this by optimising the presentation of research data while also aiming to increase accessibility – we publish two open access journals and offer open access options on the other two, without compromising on quality.

One major concern is overreliance on journal name and Impact Factor as a proxy for the quality and importance of research – the pressure to publish in just a small number of journals risks slowing down scientific progress. We are trying to help address this – for example EMBO Press was involved in

drafting the San Francisco Declaration on Research Assessment (DORA), signed by more than 10 000 individuals and institutions including EMBL and EMBO.

How will it work?

We have further developed our transparent editorial process in the past five years. For example, we publish referee reports anonymously together with editorial communication and author responses, encourage named co-refereeing, discourage ‘confidential comments to the editor’, and provide detailed revision requirements to authors. We also invite referees to comment on each other’s reports before making a decision, focus only on essential experimental revision and may consult authors prior to decisions.

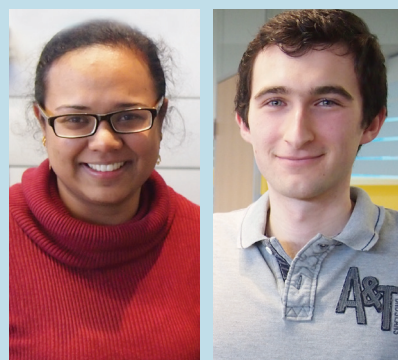
Our platform enhances the utility of papers, for instance by encouraging the presentation of source data underlying figures as well as ‘expanded view’ options. We are aware of the importance of confirmatory, negative or refuting results, and we will focus on extended and interlinked methods and protocols. Moreover, our systematic checks for image aberrations and text duplications help ensure that issues are resolved before publication. We welcome suggestions from the scientific community and I encourage you to try out EMBO Press as both author and reader.

Can one be part-time and a research leader?

Every January the Genome Campus hosts a Sex in Science debate to encourage discussion about key issues. This year, EMBL-EBI Director Janet Thornton waded in against the motion, “This House believes that it is not possible to be a scientific leader and work part-time”. Janet was up against Duncan Odom of Cancer Research UK and the Wellcome Trust Sanger Institute who argued for. EMBL-EBI group leader, Sarah Teichmann, moderated.

With standing-room only, this popular event prompted lively discussions. From the benefits of job-sharing to the realities of working long hours, arguments for and against were animated and outspoken, with Janet drawing on her own experience of being hired as a part-time research leader. The audience was invited to vote before and after the debate; sadly for the idealists, Duncan emerged victorious.

⇒ Visit www.sanger.ac.uk/workstudy/sexinscience to learn more about the joint Sex in Science programme.



Left: Noorie. Right: the Neveu group’s Alexis Chambost, who also gave a stEMBL talk

⇒ stEMBL talks will take place on the second Tuesday of each month in room ATC B18, streamed live to all participating EMBL sites.

stEMBL seminars

Want to learn more about stem cell research at EMBL? A team of researchers has combined forces to organise a monthly seminar series at EMBL Heidelberg, to promote awareness and discussion on the diverse studies taking place across EMBL’s sites – called stEMBL.

First up on 14 January was the Gavin group’s Noorie Karimbocus, who studies stem cells and aging as part of the Molecular Medicine Partnership Unit – a collaboration between researchers at EMBL and the University of Heidelberg. “stEMBL is a way to bring together EMBL researchers working with stem cells into a collaborative network to discuss their work and scientific interests,” Noorie explains.

Grenoble takes a dip in the ocean

Grenoble may be far from any coastline, but the city could almost smell the sea air on 31 January, when EMBL's Eric Karsenti led a seminar on Tara Expeditions that attracted more than 400 members of the public.

Eric's lively seminar transported the audience around the globe aboard the 36-metre schooner Tara, which most recently circum-navigated the Arctic Ocean by the Northeast and Northwest Passages. In the Arctic, her mission was to study ecosystems and the potential impact of pollutants, as well as draw attention to the region at the heart of the world's climate system.

"For most of the audience, this was a chance to hear about EMBL for the first time, and to get a magnificent view of its activities"

– Amal Chabli

Eric reflected on this and ongoing studies resulting from the Tara Oceans expedition, a two-and-a-half year voyage around the world. He gave a snapshot of the adventure and the scientific information contained in the 28 000 samples collected at 153 stations around the globe. "Plankton plays an essential role in our environment by feeding life in the oceans, and regulating the composition of our atmosphere," Eric explained.

Demand was so high to attend the first EMBL Grenoble Science and Society event organised in partnership with micro and nanotechnology campus Minatec, that a larger venue had to be found a couple of days prior to the meeting.



Credit: F.Latrelle/Tara Expeditions

"For most of the audience, this was a chance to hear about EMBL for the first time, and to get a magnificent view of its activities through an ambitious and multidisciplinary project, which produces masses of data for the scientific community studying our evolution and environment," adds Amal Chabli, a group leader at Minatec, who co-organised the event.



Nordic networking

From predoc applications to alumni events, facebook pages to fellows' forums, there was much to discuss during a recent visit by administrators and training coordinators of the Nordic EMBL Partnership for Molecular Medicine. An opportunity to put faces to names and exchange good practice, the two-day meeting at EMBL Heidelberg brought together professionals from related fields to discuss new projects and the potential for joint activities.

The 10-strong group from Denmark, Finland, Norway and Sweden met with members of EMBL's international relations, communications, training and alumni teams. As well as considering how to promote awareness and visibility of the Partnership, the group discussed ways to increase cooperation and information exchange between the Nordic nodes and EMBL, and to learn from each other's experience in various areas.



Lucie is a junior legal officer in the legal services team, based at EMBL Heidelberg

Life scientist for a day

Today was one extraordinary day! Instead of running from one meeting to the next, I was in the lab as part of a collaboration between the External Scientific Courses team and the European Learning Laboratory for the Life Sciences (ELLS) to give non-scientific staff the chance to do hands on experiments.

The In-house LearningLAB kicked off with Vladimir Benes, head of the Genomics Core Facility, giving us a general introduction to molecular genetics and how you can copy and visualise DNA using the powerful technique of PCR. We all got the cycles down, and the 20-person cohort – who looked a little older than regular students – began to heat up and separate the DNA, primers, let the RNA polymerase duplicate the single strands, reassemble the DNA and then do it all over again. This seemed easy enough, but

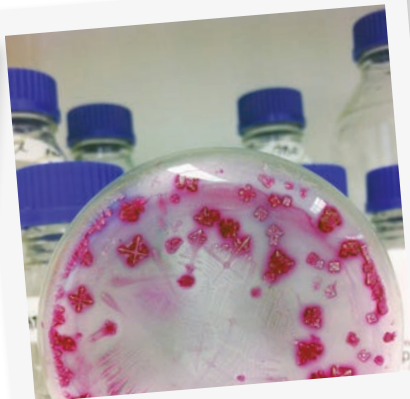
soon we had to step up our game... in groups of two or three, we had the tricky task of investigating whether a skeleton found at a (fictional) construction site on the EMBL Heidelberg campus was related to a separate group of skeletons found in the nearby hills. We filled our pipettes and carefully listened to the explanations of our tutors preparing the DNA samples, primers and polymerase so that the PCR machines could do the real work.

Anxiously, we waited for our results. Did the mysterious bone belong to our skeleton family from the hillside? I don't want to take away the excitement for future course participants... but I can assure you there was a twist in the tale! The day's experiment has certainly made me think twice about running a PCR on my own DNA – who knows what we might find out!?

Lucie Pocha



EMBL DG, Iain Mattaj, welcomes partners at the Corporate Partnership Dinner on 30 January



In February, most liked on the EMBL Facebook page were some unintended crystals, by postdoc Balca Mardin



EMBL-EBI predocs spent three days on the Primers for Predocs course in January, organised by the EMBL-EBI training team



A large group of staff take part in this year's EMBL ski trip to the Arlberg region of Austria in February



Press launch for EMBL's 40th anniversary celebrations, at the main lab on 18 March



EMBL Grenoble's Christiane Schaffitzel delivers the 2013 Insight Lecture – to watch the talk, go to: bit.ly/NJwU5F

newsinbrief

⇒ EMBL, EMBO and the Russian Foundation for Basic Research (RFBR) have agreed an implementation plan for collaboration over the next four years. New funding opportunities to hold a scientific meeting in Russia were announced, and a second joint call for projects will launch towards the end of 2014. Scientists were encouraged to jointly apply for funding to hold a meeting in

the Russian Federation in their area of research. EMBO will support successful applicants with a maximum of 20 000 Euro per event. In parallel, the RFBR will co-evaluate all applications, and will support an event with an additional 450 000 Roubles.

⇒ Want to learn new skills relevant to your work at EMBL and beyond? Look no further than this year's EMBL *General Training and Development booklet*, available at all EMBL sites and online. Its pages are filled with courses that offer the opportunity to improve and prepare yourself, including a number of new courses on assertiveness, scientific poster design, survey writing, and an introduction to grant management.

⇒ The next Staff Association elections take place across EMBL sites in the coming weeks. All EMBL staff members are invited to stand to join the committee

and become a representative. Candidates should contact their local election committee to let them know they wish to stand, and they will handle the rest. Representatives serve a two-year term and anyone who has been at EMBL for more than three months is eligible to stand. For further information contact Catherine Floyd: floyd@embl.de.

⇒ Gemma Perretta, of CNR's Institute of Cell Biology and Neurobiology, sparked a lively discussion at EMBL Monterotondo on 12 December, when she discussed the potential implications of proposals voted for by the Italian Parliament that could enforce tough new restrictions on the use of animals in research. The proposals have provoked protests by scientists across Italy, and some experts have pointed out that, if ratified, they could undermine important studies and contradict EU law.



events@EMBL

8 April EMBL Heidelberg
MMPU Research Day

12–15 May EMBL Heidelberg
10th Annual BioMalPar I EVIMalaR
Conference and EVIMalaR Symposium

18–21 May EMBL Heidelberg
EMBO | EMBL Symposium: Molecular
Machines: Lessons from Integrating
Structure, Biophysics and Chemistry

20–21 May EMBL Hamburg
Heads of Units / SSMAC Meeting

30 June– 2 July EMBL Heidelberg
Summer Council Meeting 2014

For more details about these events and
more, visit www.embl.org/events.



12 June EMBL-EBI
EMBL-EBI 20th Anniversary celebrations

20 June EMBL Monterotondo
EMBL Monterotondo celebrates EMBL's
40th Anniversary

2–3 July EMBL Heidelberg
EMBO-EMBL Anniversary Science and
Policy Meeting

18–19 July EMBL Heidelberg
40th Anniversary Staff and Alumni Reunion

12 September EMBL Heidelberg
Festakt – 40 Jahre EMBL

13 September EMBL Heidelberg
Public preview: DNA | Portraits by Horst
Hamann

27–28 November EMBL Hamburg
EMBL Hamburg celebrates EMBL's 40th
Anniversary and founding of the outstation

For more, see inside (pages 6–7) or visit
www.embl.org/40years.

people@EMBL



Rob Finn leads EMBL-EBI's Protein Families team, which is responsible for the InterPro, Pfam, MEROPS, Rfam and Treefam data resources, among others. Rob joins EMBL-EBI from the Janelia Farm Research Campus in the US, where he led a group that designed fast, web-based, interactive protein sequence searches and annotations. Between 2001 and 2010, he was the project leader for Pfam at the Wellcome Trust Sanger Institute in the UK. Rob's academic background is in microbiology and he holds a PhD in biochemistry from Imperial College, London.

awards&honours

Gerard van Westen, a postdoc at EMBL-EBI, has been awarded the CJ Kok Public Award for 'discoverer of the year' (2013) by the Leiden University Faculty of Science for work carried out during his PhD. Gerard uses computational biology approaches to bring together information on the properties of small molecules and their targets in drug discovery and application, work he continues to develop in collaboration with EMBL Grenoble. "It's great to be able to convey the research I spent four years working on to such a diverse audience," says Gerard.



EMBL Heidelberg group leader **Jan Korb** has been elected as a Fellow of the European Academy of Cancer Sciences. The 'virtual' academy brings together representatives with outstanding scientific and academic backgrounds from all disciplines related to cancer research. Fellows of the Academy contribute to the preparation of position papers, interact with the European institutions and committees to facilitate proposals and advise on the implementation of policy. Jan's group study the function and origin of genetic variation, focusing predominantly on genomic structural variants. "I feel honoured to be elected into the Academy at this relatively early stage of my career, and look forward to support the Academy's objective to provide knowledge and advice on matters of cancer research priorities and policy," says Jan.

Personnel par excellence

EMBL has been awarded a badge of 'excellence' by the European Commission in recognition of its efforts to improve the career development and management of researchers. The HR Excellence in Research Award, which acknowledges progress in implementing the European Charter for Researchers and the Code of Conduct for Recruitment of Researchers, aims at better employment and working conditions in an open, sustainable European labour market.

The Charter and Code set out obligations and standards, ranging from selection and mobility to research freedom and non-discrimination. EMBL has prepared a strategy and action plan that incorporates these aspects, in line with the recommen-



HR EXCELLENCE IN RESEARCH

dations of the EC, including ethical and professional issues, recruitment, working conditions, social security and training.

"Being based on a system of limited duration contracts, recruitment and retention of highly qualified staff is one of EMBL's top priorities," says Elke Jagomast, Acting Head of HR. "We not only aim to attract and recruit the most talented scientists, but also to provide an intellectual home for researchers, with the highest standards of support and development opportunities."

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Editorial support: Manuela Beck, Lena Raditsch, Petra Riedinger, Silke Schumacher.
Contributors: Emmanuelle Bensaude, Joanna Kirkpatrick, Michael Müller, Sonia Furtado Neves, Mehrnoosh Rayner, Mary Todd Bergman, Rosemary Wilson. Photo support: EMBL Photolab. Cover image: Matteo Rauzi. Printed by ColorDruck, Leimen.

