

EMBL etcetera

Issue 78 • December 2013 • www.embl.org/newsletter



Head chef retires

While most conversations at EMBL are of a scientific nature, another topic that is sure to get tongues wagging is the food. For two decades, EMBL Heidelberg's Claus Himburg has led a team that, besides standard dishes, has delivered gourmet cuisine such as sushi, guinea fowl and a host of other innovative offerings. His career has taken him from the Royal Yacht Club in Oslo, to the Hilton in Hong Kong and even to a resort hotel in the Canary Islands, before leading a culinary revolution in the main lab that is the envy of institutions around the world. Now he is hanging up his chef's hat and kerchief and embarking on an exciting new stage in his life.

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Building blocks of science

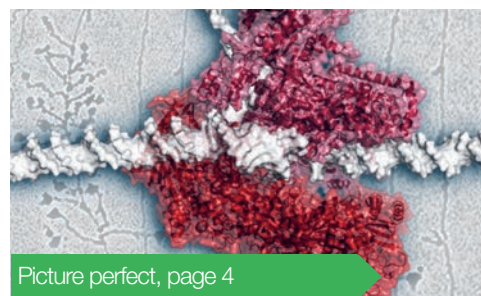
Discoveries and infrastructures that are paving the way for future research



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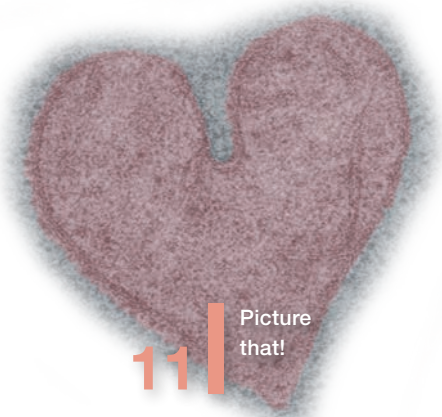
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Winter Council Meeting in Hinxton

Council approve Argentine Republic application to become associate member

This year's Winter Council Meeting took place at EMBL-EBI on 19–20 November, with staff at the outstation able to show off the new South Building on the Wellcome Trust Genome campus, home to the ELIXIR Hub and a new innovation and translation centre. The highlights of a packed agenda included the approval of the Argentine Republic's application for associate membership, the renewal of Australia's associate membership, and the approval of the 2014 budget.

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John Kendrew Award winner announced



Winter Council Meeting

Amidst the glow of EMBL-EBI's new South Building (see opposite), EMBL's Council convened in Hinxton on 19–20 November.

New connections

EMBL links around the world were high on the agenda: after a unanimous vote, Argentina's application for associate member status was approved. With the goal of building bridges with Argentina's fast-developing scientific community and collaborations in complementary fields, membership is planned to start officially in 2014, when Argentina will join Australia as the Laboratory's second associate member. Council also endorsed the renewal of Australia's associate membership.

Updates

Council were updated on the progress of the construction of ELIXIR, which – with the addition of Switzerland and the Czech Republic – now has four signatories to its Consortium



Alberto Kornblitht of Argentina's Institute of Physiology, Molecular Biology and Neurosciences presents the Republic's application

Agreement. Delegates heard that EuroBio-Imaging, which is coming to the end of the preparatory phase, is working on a Memorandum of Understanding to bring together countries that will be part of the interim board. Presentations from Iain Mattaj, EMBL Director General, and James Sharpe, group leader at the Centre for Genomic Regulation (CRG), discussed the scientific proposal for an EMBL outpost in Spain for Tissue Biology and Disease Modelling.

More

- Council approved the budget for 2014 and the purchase of a Carl Zeiss FIB-SEM Electron Microscope.
- Claudio Sunkel (Portugal), Patrick Cramer (Germany), and Angela Nieto (Spain) were re-elected as Chair and Vice Chairs of EMBL Council respectively.
- Jacob Wang (Norway) and Josiane Entringer (Luxembourg) were elected as Chair and Vice Chair of the Finance Committee.
- New members of EMBL's Scientific Advisory Committee were announced: Anthony Hyman (Max Planck Institute of Molecular Cell Biology and Genetics) and Stefano Piccolo (University of Padua, Institute of Histology and Embryology).

EMBL-EC work plan

A new bi-annual work plan has been agreed between EMBL and the European Commission (EC), setting out mutual priorities for maintaining and further developing a unified research area in Europe. This updated proposal extends a three-year plan agreed on the signing of a Memorandum of Understanding between EMBL and the EC in March 2011.

A strong representation from EMBL and the Commission, led by Iain Mattaj and Robert-Jan Smits, Director General of the EC Directorate General for Research and Innovation, met in Brussels on 11 November to agree the plan, which outlines how we will work together to consolidate and advance the European Research Area (ERA).

The agreement, which runs from 2014–2015, accommodates new European policy and funding frameworks, including Horizon 2020. Addressing a number of important issues, it defines relevant topics for the period to come: research programming; training; mobility and equality of researchers; development of research infrastructures; technology transfer; open access; cross-border collaboration.

The work plan may be subject to further updates, and will be monitored and adjusted as necessary on the occasion of annual EMBL-EC meetings.



Robert-Jan Smits and Iain Mattaj agree priorities for 2014–15

Building on Czech-EMBL relations

"Impressive and useful" is how Václav Hořejší – Director of Prague's Biotechnology and Biomedicine Centre of the Academy of Sciences and Charles University (BIOCEV) – described a visit to EMBL Heidelberg in early November, an occasion that marks another step forward in burgeoning Czech-EMBL relations.

Among the guests were BIOCEV's Core Facilities managers and group leaders, all eager to explore avenues for strategic collaboration and mutual support. EMBL continues to strengthen its ties with the Czech Republic in anticipation of full, formal membership next year – making the Czech Republic EMBL's 21st member state.

The group exchanged updates on research, took tours of EMBL Heidelberg's Core Facilities and visited the Müller and Pepperkok labs. Discussions also covered training and

technology transfer, and – in true EMBL spirit – we couldn't let them leave without enjoying a trademark beer session!

This visit, and another planned next spring by the Central European Institute of Technology (CEITEC) in Brno, is a first step towards implementing Memorandums of Understanding signed with both CEITEC and BIOCEV.





Celebrating investment in bioinformatics

On 28 October, UK Minister for Universities and Science David Willetts and other policy-makers, funders and industry leaders braved a hurricane to celebrate the opening of EMBL-EBI's new South Building, which is now home to the ELIXIR hub and a new Innovation and Translation Centre.

The opening ceremony was an occasion to showcase the growing importance of bioinformatics in addressing serious challenges facing society today. EMBL-EBI Director Janet Thornton and Associate Directors Rolf Apweiler and Ewan Birney took the Minister through interactive displays showing how bioinformatics fits in the drug discovery pipeline, how the genome-wide association studies (GWAS) browser helps researchers find con-

nections between genes and diseases and how to synthesise DNA to store all of Shakespeare's sonnets. EMBL-EBI scientists then had an opportunity to explain their posters – covering everything from Open Access to biological networks in cancer – to the Minister and other guests.

In his speech during the formal opening ceremony, Patrick Vallance, President of Pharmaceuticals R&D at GlaxoSmithKline (GSK), announced exciting plans for future collaborations between GSK, EMBL-EBI and the Sanger Institute.

⇒ For more photos, visit www.facebook.com/emlebi. For a video of the event: youtu.be/62du16SdWMM.



Top: Great from every angle – a view of the new building; Ewan Birney encodes David Willetts' name in DNA, using Lego to demonstrate. Middle: The new building in all its glory; Janet Thornton thanks the many people who made it happen. Bottom: The Sixteen Wires string quartet; staff gather inside the new building for the official opening ceremony

Launching EU-Russia Year of Science

From Madrid to Moscow, Stockholm to Saint Petersburg, Venice to Vladivostok – the European Union and the Russian Federation officially launched a year-long initiative that aims to enhance links and build bridges between researchers and institutions on 25–26 November. EMBL's Director of International Relations, Silke Schumacher, was amongst the speakers at the launch of the EU-Russia Year of Science at Moscow's Radisson Royal Congress Centre, and she outlined a vision for Russia to become an EMBL member state.

Speaking alongside decision-makers, scientists, innovators and industry leaders, Silke described the mutual scientific benefits from Russia joining EMBL's family:

“Russia has a long-standing and excellent culture of nurturing science, and in many cases this makes the country of particular interest to EMBL,” she explained. “At the same time, EMBL membership would present many benefits to Russian researchers, including access to top-class facilities, services and training, formal and informal knowledge exchange, and excellent scientific links across Europe.”

Silke also met with Deputy Minister of Education and Science Ludmila Ogorodova, and Vice-Rector of Moscow State University Alexei Khokhlov, to discuss further opportunities for bilateral cooperation. EMBL has developed fruitful collaborations with Russian researchers in recent



years, including a Memorandum of Understanding with the Russian Foundation for Basic Research (RFBR), which implements six collaborative projects involving EMBL and Russian scientists.



Origins of fear

What do sex and fear of ‘bullies’ have in common? Bianca Silva has been answering this question a lot lately, both in print and in person. Research she led at EMBL Monterotondo found that – at least in mice – sex and social fear seem to be processed by the same part of the brain. Serendipitously, the study was published in *Nature Neuroscience* the day before she presented it at the Society for Neuroscience’s annual conference in San Diego, which drew more than 30,000 attendees.

Bianca discovered that different types of fear are processed by different groups of neurons. Traditionally, researchers thought that innate fear is handled by a dedicated defensive circuitry in the hypothalamus. A second circuit there controls sex. However, she found that although blocking the defensive circuit did block fear of a predator (they use rats to scare mice), it had no effect on fear of a larger aggressive mouse. Instead, this type of fear was blocked by inhibition of the sex circuit. Interestingly, fear of pain was processed by yet another part of the brain. This all goes to show that different types of fear may have evolved for different reasons – and Bianca and Cornelius Gross, in whose group the work was carried out, hope that this can be exploited to selectively treat phobias and anxiety disorders.

The scientists are now looking at how these different fears – and the neural circuits that process them – may have evolved. Working with Detlev Arendt’s group at EMBL Heidelberg, they have discovered a similar brain region in a marine worm thought to closely resemble our ancestors from 600 million years ago. The labs are now jointly exploring the possibility that this represents an ancient, core fear circuit that those ancestors handed down to us all, from worms to man.

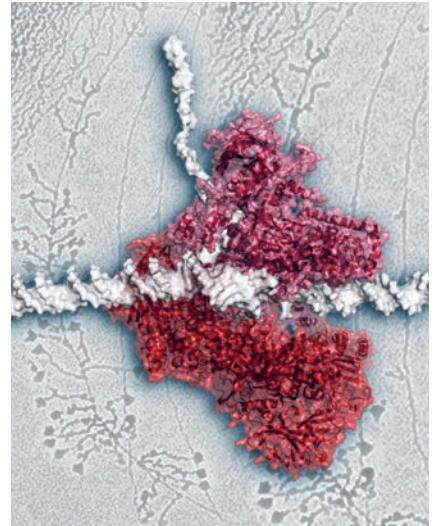


Bianca and Cornelius face off in Monterotondo

Picture perfect

“Carlos was a staff scientist with me, and he’s now in Spain – he and Ulrich left more or less at the same time, so I had to recruit a new team; this was Umar and then María. And Nicholas, who was a student with me, he left to Carlos to become a postdoc there; Tim is a crystallographer who did his PhD with me and is now in Göttingen...” As Christoph Müller runs through the author list on his most recent Nature paper, it sounds like he’s leafing through the lab’s family album. The project that unites generations of Müller group members spanning almost a decade? Deciphering the structure of proteins called RNA polymerases, or Pols for short.

The RNA polymerases make RNA molecules; each of the three Pols specialises in certain types of RNA. For instance, Pol I, whose detailed structure Christoph’s lab have now unveiled for the first time, builds the RNA that will eventually form a ribosome – the cell’s protein factory. This



detailed view provides explanations for some of Pol I’s particularities. “Rather than recruiting certain components from outside, RNA polymerase I has them already built in, which explains why it is bigger, and less regulated, but at the same time more efficient than Pol II,” says Christoph.

Science highlights

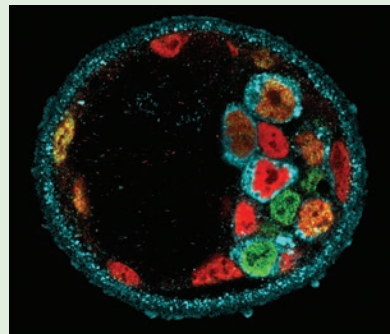
Nuclear pore blueprint

Scientists in the Beck group at EMBL Heidelberg developed an integrated approach to establish the blueprint for the structure of the nuclear pore complex scaffold in humans and how changes in the diameter of this scaffold enable the transport of large cargoes. Published in *Cell* in December, the study gives clues in relation to the nuclear pore complex’s flexibility.



‘Career advice’ for cells

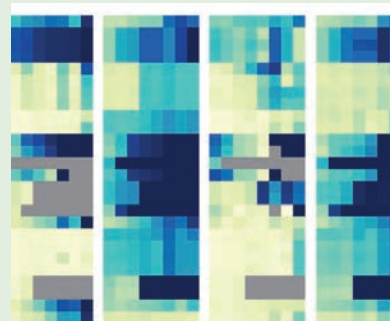
Whether a cell in a mammal’s embryo develops into the animal’s body or becomes the placenta and accompanying tissues isn’t sealed at the start, scientists in the Hiragi group at EMBL Heidelberg have discovered. Published in *Nature Cell Biology*, they report that, starting with random variation, cells gradually change until they split into the two populations that will become either the body or ‘extra-embryonic’ tissues.



The right tool for the job

EMBL-EBI’s Paul Bertone coordinated an international effort to systematically assess RNA-seq software, which is used to analyse data from gene expression experiments. The results, which appeared in two papers in *Nature Methods*, can be used to enhance and expand the range of RNA-seq analysis tools that are available for different kinds of studies. For more information, see:

go.nature.com/ySoqow.



Bioinformaticians on course for success

Coupling sequences and structures down under

Thirty-two students and bioinformaticians gathered in October for the first EMBL Australia Masterclass on Protein Sequence Analysis at the Kinghorn Cancer Centre, Sydney. The week-long masterclass was an opportunity for participants to learn about the latest protein sequence analysis tools



from internationally recognised experts in bioinformatics and data visualisation through a series of keynote lectures and practical sessions.

“A notable feature of the course is that the trainers are all presenting tools that they have (co-)developed. While they do not limit themselves to only teaching their own tools, the level of expertise is high,” says Toby Gibson, co-organiser and team leader in EMBL’s Structural and Computational Biology Unit.

The feedback from the attendees was very positive: “Many of the skills and programs introduced were easily understood and transferable to all aspects of science, not just bioinformatics,” said one participant.

Encouraged by the positive responses, the organisers (Seán O’Donoghue of the CSIRO and Garvan Institute, and Holger Dinkel of EMBL Heidelberg) are planning the next EMBL Australia Masterclass, on DNA sequence analysis, for the second half of 2014.

– Seán O’Donoghue

Cropping up in Slovenia

The Agricultural Institute of Slovenia hosted a three-day Molecular Phylogenetics training course in Ljubljana, Slovenia. Thirty agricultural researchers attended the workshop, delivered as part of the CropSustaIn project: www.cropsustain.si/en.



Bench biologists were shown how to use molecular sequence data to construct and interpret phylogenies, by trainers from EMBL-EBI (including Nick Goldman and Laura Emery) and EMBL Heidelberg (including Aidan Budd and Clemens Lakner). For upcoming EMBL-EBI training courses, see www.ebi.ac.uk/training.

Training week

Need to improve your bioinformatics skills? Join a week-long course for introducing EMBL scientists to image analysis, biostatistics, biological networks, mathematical modelling, and use of computer clusters. Taking place 24–28 March 2014, at EMBL-Heidelberg, the course – jointly organised by four EMBL Centres, Bio-IT, and IT Services – is open to all EMBL scientists. To register, visit bio-it.embl.de/joint-training.

SureChem becomes SureChEMBL

Digital Science, a Macmillan company, and EMBL-EBI are transferring SureChem data on patented chemical structures into the public domain. It is the first time a patent chemistry structure collection of this size has been made publicly and freely available, making it a significant advance in Open Data for use in drug discovery.

“This new source of data will be a major boost to translational research and the discovery of novel bioactive molecules.”

– John Overington

SureChem, developed by Digital Science, extracts chemical structure data from the full text and images of patents. This makes it easier to check whether a newly developed drug or other product is actually novel. Previously, these data were held within commercial systems and inaccessible to most researchers; now, they are freely available from EMBL-EBI as SureChEMBL.

Nicko Goncharoff of Digital Science says, “By placing this collection into the trusted hands of EMBL-EBI, we’re opening up an entire new class of life science data to the public that has previously been locked behind paywalls, and inaccessible for data mining. We couldn’t think of a better home for SureChem, anywhere.”

“This new source of data will be a major boost to translational research and the discovery of novel bioactive molecules. By putting all this data together in a structured way with other EBI resources, we can help increase competitive innovation,” adds John Overington, Head of Chemical Biology at EMBL-EBI.

Researchers are invited to explore these data at www.surechembl.org. You can read an article about the transfer on *Nature’s* website: <http://bit.ly/18AOJs4>



From midday until midnight on 2 November, EMBL Hamburg joined the biennial Night of Science on the DESY (Deutsches Elektronen-Synchrotron) campus. With activities for all the family, visitors flocked to the EMBL tent to enjoy fishing for crystals, take a spin at making ink ‘diffraction patterns’, view and manipulate protein crystals – smaller than a human hair is thick – under the microscope, and learn how state-of-the-art computer analysis helps our scientists to ‘see’ individual atoms in proteins.

'Truly inspiring'

On 21 November, the EMBL Alumni Association (EAA) board held their 22nd meeting at EMBL-EBI, followed by a reception for staff and UK-resident EMBL alumni.

Janet Thornton, EMBL-EBI Director, welcomed the 60 participants to the new South Building – which houses state-of-the-art training facilities and the ELIXIR Hub.

“This was a superb opportunity to meet EMBL-EBI staff, hear about their mission, achievements and future plans, and to experience the inspiring new South Building,” EAA board Chair Giulio Superti-Furga said in thanks. “This is a truly multidisciplinary approach to deciphering genomic information.”

Janet underlined the value of alumni to EMBL, saying “Our alumni are our best possible ambassadors, we encourage you to keep in touch and hope you will help us to celebrate EMBL-EBI’s 20th anniversary on 12th June 2014.” The reception ended with Janet conducting a guided tour of the building.



“We will take these inspiring messages home to our current institutes”
– Giulio Superti-Furga



Sharing basic science in schools

Ingrid Sulston, former EMBL Genome Biology Diploma student and daughter of Nobel Prize winning scientist, John Sulston, shares her passion for science education, and the path that led her to this profession in Canada.

“I am a science educator, a profession that I love, though it took me a while to discover. I work with teachers to bring more hands-on science into school classrooms, and it’s a joy to see students who thought they didn’t like science become excited once they experience it hands-on. Hands-on science is a critical part of teaching science to children, but all too often it’s a challenge to accomplish due to limited resources at schools or insufficient training in this area.

“My work at EMBL with Angus Lamond in 1989 offered me a critical exposure to first class science and mentorship, and a stepping stone to a PhD at Berkeley. In graduate school though, I realised that I

was more interested in general science, and teaching it to the public than being a specialist. After my PhD, I worked in science centres and botanical gardens, until I started teaching in classrooms, and realised that I had found my niche.

“It’s a joy to see students who thought they didn’t like science become excited once they experience it hands-on.”

– Ingrid Sulston

“I still do science every day: whether it’s developing a buoyancy lesson in our bathtub, helping students graph how far their catapults can project, or figuring out how to slice open a cow heart to reveal all the chambers. As a science educator, I am lucky to be able to share the excitement and joy of the basic science of our world with teachers and children.” More information on Ingrid’s work is available at www.ingridscience.ca.



Clockwise from top left: Janet Thornton and Giulio Superti-Furga get an overview of EMBL-EBI alumni; administrators now and then, Brian Nsonga and Annabel Goulding; communicators past and present, Sarah Sherwood and Mary Todd Bergman; staff and alumni gather for a drinks reception in the South Building. Below: Rolf Apweiler and alumna Klaudia Walter



Klaudia Walter

Now: Statistical Geneticist, Wellcome Trust Sanger Institute, Cambridge, UK

Was: Intern, Swiss-Prot, Apweiler Group, 2000–2001; Research Assistant, Wodak Group, 2001–2002, EMBL-EBI

“EMBL-EBI introduced me to working on big data sets, which I have continued ever since.

“I now work on genome-wide associations between more than 50 quantitative traits and whole genome sequences of more than 3500 individuals in the UK10K project. This genotype/phenotype resource will be an order of magnitude deeper than the genetic-only 1000 Genomes Project data set for Europe.

“I work next door to the new South Building, so have lived with the building site for just over a year. It’s great to see it finished while catching up with old EMBL-EBI colleagues.”

John Kendrew Award winner 2014

The 2014 John Kendrew Young Scientist Award recipient was selected on 21 November at the EMBL Alumni Association board meeting. Martin Jinek from the Czech Republic, former Structural and Computational Biology Unit predoc in the Conti lab, was chosen in recognition of the impact of his academic research on technology development in academia and the biotech industry. His collaborative work in the development of RNA-guided gene targeting has helped change the way that genomes are engineered.

What was your contribution to this new gene-targeting technology?

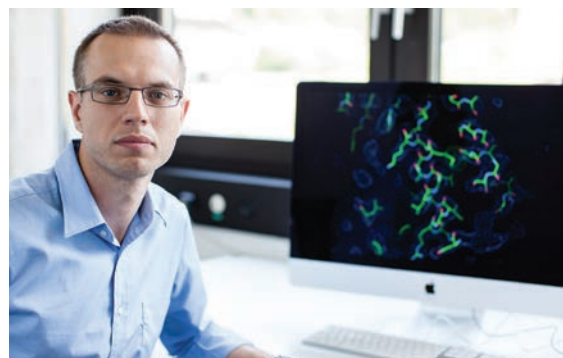
In 2007, the Doudna group at Berkeley, where I did my postdoc, started working on

CRISPR systems – defence mechanisms that bacteria use to protect their genomes from ‘invading’ genetic material. We were intrigued by this RNA-based immune system, as no one knew how it worked. I got involved because of my structural biology background, developed at EMBL. We determined some of the first

“I’m a strong believer in research mobility. It exposes you to new people, ideas and ways of doing things”

– Martin Jinek

3D structures of the molecular machines involved. Trying to find my own niche, I chose to work on a protein called Cas9. We showed that this protein cuts specific DNA sequences when guided by an RNA molecule – laying the foundation for my recent work developing



tools to conduct RNA-guided gene targeting in human cells. This CRISPR system makes it easier to make specific changes to DNA – for instance, for gene therapy. The work was done in collaboration with the lab of Emmanuelle Charpentier, until recently at Umeå University, a member of the EMBL Nordic Partnership for Molecular Medicine.

This led to the founding of Caribou Biosciences – what role did you play?

The idea came from Rachel Haurwitz, a PhD student in the Doudna group: one of the co-founders and CEO. She wanted to develop and commercialise research tools based on the CRISPR proteins. I was at the right place at the right time: Cas9 presented a clear opportunity for this and I joined as one of the co-founders of the company.

Any advice for recent graduates?

I am a strong believer in mobility in research. It exposes you to new people, ideas and ways of doing things, and helps to keep your eyes open. I have returned to Europe after my postdoc, but I am still at an early stage in my independent career to think about settling.

The Czech Republic is set to join EMBL as a member state. What does this mean to you?

I am thrilled! I hope that this will attract talented Czech PhD students to EMBL and help build connections between labs in the Czech Republic and the rest of Europe.

New alumni award

EMBL and the Alumni Association board would like to thank EMBLEM – EMBL’s commercial arm – for sponsoring a new award that commemorates EMBL’s second Director General, Lennart Philipson.

The Lennart Philipson Award confers a cash prize of 5000 Euro, is open to all alumni, and recognises translational research in human health and technology innovation. “I wanted to honour Lennart, of whom I have fond memories from my PhD days in the late 1980s,” says Gábor Lamm, Managing Director of EMBLEM. “We also wanted the award to have some correlation to our activities.” Invitation for nominations and/or applications will be circulated in 2014, so that the award can be presented in 2015.

“It’s a great honour that EMBL remembers one of its former Director Generals in this way. Lennart had challenging, interest-



Awards honour EMBL’s first Director Generals: John Kendrew (left) and Lennart Philipson

ing and fun years at EMBL, and he gave it what he had to give,” wrote Lennart’s wife, Malin Philipson, in response to this news.

More good news on the awards front came with the increase of the John Kendrew Award cash prize to 5,000 Euro effective 2014. “It’s a pleasure to help this award gain prestige and recognition, and it has been rewarding to listen to the very deserving recipients at the ceremonies in the last years,” says Roland Specker, the award sponsor.

Managing celebrations, making connections

Preparing for a big birthday

The focus of 2013 in the EMBL Alumni Relations Office has been preparations for EMBL’s 40th anniversary in 2014.

Together with EMBL Lab Day organisers and the EMBL Alumni Association (EAA) board, the team has put together an innovative, interactive and inspiring two-day programme for EMBL, EMBO, EMBLEM and EMBL Ventures staff and alumni on 18–19 July. The aim is to bring together this community to celebrate achievements during and post EMBL. There will be an exhibition of staff and alumni work, and a special alumni anniversary magazine.

Stay connected

Last year, the Alumni Relations Office set a target to increase known whereabouts of EMBL alumni to 65%. Thanks to hard-working interns, more than 500 have been found, bringing the total to almost 4,000 of EMBL’s 6,000 alumni – only 2% off target.

A new campaign launched this month stemmed from this success: ‘Stay connected with EMBL!’ invites newly found non-members to join the EAA. With this, the aim is to reach another target set last year, namely to increase EAA membership to 50%. So far, 359 new members brings membership to 43% – the goal is within sight!

Mark your diaries

7–8 July Vienna, Austria

Austria EMBanniversary conference

To celebrate EMBL’s 40th anniversary year, many events are being organised at Heidelberg and the outstations – see ‘events@embl’ on the back cover.

Local alumni celebrations are also being planned for Spain, Greece, Belgium, Switzerland and Ireland, on the initiative of alumni in these countries. For further details or to plan something in your country contact alumni@embl.org.



Head chef Claus Himburg retired at the end of November. EMBL Heidelberg's canteen and cafeteria staff serve 700-800 people every day, and last year catered for 6000 more during 50 courses and 25 conferences.

The sweet tastes of EMBL

In some respects, a kitchen is no different to a science lab – and there are few better examples than at EMBL Heidelberg, where innovation, teamwork and attention to detail enable the canteen and cafeteria staff to deliver restaurant-quality food, week in week out. In November, head chef Claus Himburg hung up his chef's hat following more than two decades driven by a simple philosophy: cook from fresh.

“We try to source food locally, working closely with local farmers and producers – this means that it is the freshest that it can possibly be, is at a reasonable price, and reduces the environmental impact,” Claus explains. “We prepare all the food ourselves from basic ingredients, and encourage new ideas – especially in our vegetarian section.”

“There was a lot of hard work, but we were always trying something new”

– Claus Himburg

From humble beginnings, today amidst the chopping, sizzling, steaming, slicing, dicing and pureeing, is a team of more than 20 staff preparing food for whatever situation is thrown at them – be it an army of hungry scientists, sell out conferences, or something special for VIPs.

“As EMBL has grown it has given us an opportunity to show what we can do in a different way – the Summer Party, for instance, now has nearly 2000 guests,” Claus explains. “We have thousands of recipes originating

from almost every country in the world. To be a successful cook you have to make it from the heart – and we must be doing something right as people keep coming back!”

Every day involves meticulous preparation, planning and cooking using hundreds of kilos of ingredients – potatoes, pasta, rice, pumpkins, vegetables, spices, meats, fish and more, for dishes ranging from *Schweinshaxe* to stuffed aubergine, tabbouleh to tomato salad, pancakes to sticky toffee pudding. “It presents a fantastic opportunity for young chefs to learn new skills,” he says.

Claus began his own training in Freudenstadt (in Germany's Black Forest), leaving at the age of 14 to embark on a culinary journey that has taken him to places as far flung as Norway, Morocco, Hong Kong, and the Canary Islands – where he was the chief chef at a resort hotel. “This was a lot of fun – when we closed the kitchen for the day, I would get up on stage with the resort staff and participate in an entertainment show,” he explains.

Claus departs with food firmly part of his life – he aims to grow produce, and take on charity work. “On the one hand, I am sad to leave – EMBL has been a big part of my life –, but on the other hand it is an opportunity to start something new – a quieter life!” he says. “Looking back, there are many great memories – there was a lot of hard work, such as moving from the old canteen to the new one, but we were always trying something new and certainly enjoyed ourselves along the way.”

Semantic web access

In response to input from its industry partners, EMBL-EBI has launched a new Resource Description Framework (RDF) platform that provides access to six resources supporting Semantic Web technologies.

RDF underlies the Semantic Web and makes it possible to accurately represent many different kinds of information, so users can now make a single query to retrieve all relevant data from many different sources. Over time, the goal is to create a seamless experience for people exploring the scientific literature and the data that supports it.

“We need developers to build apps that pull in data from these and other sources,” explains Andy Jenkinson, Technical Project Manager at EMBL-EBI. During a competition at SWAT4LS (semantic web applications and tools for the life sciences) in Edinburgh, developers were invited to

submit innovative ideas for apps that leverage data from the platform for the benefit of lab scientists who may not know anything about working directly with RDF data and query language.

An article about the RDF platform is available on the Semantic Web Blog: bit.ly/IUX9Vd.



Help the Philippines



Staff in EMBL Hamburg have been raising money for victims of Typhoon Haiyan in the Philippines, which killed nearly 6000 people and left millions homeless.

Following a two week campaign, which included a cake evening on 21 November (pictured), participants raised more than 1350 Euro which will go towards restoring the house of a colleague affected by the storm, and humanitarian organisation Médecins Sans Frontières. To donate, contact Christiana Pencheva: c.pencheva@embl-hamburg.de.

Healthy living?

Participants at this year's Science and Society conference convene to discuss dilemmas and opportunities in genomic medicine

Should we be concerned about genetic discrimination? Do we have a right not to know about our genes? Should parents be allowed to view their children's genomes? Should medical DNA records be released to the police? Should we protect consumers from receiving medically relevant information outside of the doctor's surgery? Should researchers share personal genomic information?

These questions and more provided plenty of focus for discussion and debate at this year's Science and Society conference 'Public and Private Health: Genomics, Medicine and Society', on 7–8 November at EMBL Heidelberg. Bringing together more than 250 researchers, policy makers, economists, philosophers, journalists and members of the public, participants seized the chance to consider some

of the biggest challenges relating to the use of genetic information in healthcare.

Setting the tone for highly interdisciplinary discussions, Liselotte Højgaard (Rigshospitalet, Copenhagen) said: "It is important to see healthcare and health research from above: we have developed a system in Europe that is not always effective in achieving our collective goals: if doctors, patients and clinicians are involved, progress will come quicker."

Speakers discussed topics as diverse as economics, patient empowerment, open access, big data, research ethics, privacy, and genetic counseling. These conversations spilled from the plenary hall into interactive panel discussions, networking sessions, and beyond.

"The conference has illuminated challenges that do not have simple answers and it is



clear that many of the issues discussed and presented need to be addressed taking into account the views of many stakeholders, in many different contexts, if we want to translate genomic research into a more effective health care for the benefit of all citizens," says Sandra Bendiscioli, of EMBO's Science Policy Programme.



EMBL Grenoble sees big in Giant

On 23 October, EMBL Grenoble and its partner institutes on the European Photon and Neutron Campus welcomed a group of 22 science journalists from 13 European countries as part of a visit to Grenoble's innovation campus Giant.

Twelve EMBL staff joined collaborators from partner institutes to tell journalists about their work, and discuss how the Giant campus helps foster collaborations and boost biomedical research.

For group leaders, pre- and postdocs alike, this was also an opportunity to view science from a different perspective. "It was quite refreshing to realize that the journalists were genuinely interested in what we did, and what life as scientists in Grenoble can be like," says H el ene Malet from the Cusack Group.

The visit, which was jointly organised by Giant and the European Union of Science Journalists' Associations (EUSJA), included site tours, lectures and round-table discussions, as well as one-to-one interviews.

Myths and realities of regenerative medicine

Could humans re-grow limbs like a lizard? Replace dead cardiac tissue after a heart attack? Stop the aging process in its tracks?

On 25 October, Nadia Rosenthal, director of the Australian Regenerative Medicine Institute at Monash University and Scientific Head of EMBL Australia, took to the stage at EMBL Grenoble to explain how studying the regenerative potential of embryos and many animal species could help us in tackling a range of human diseases. Nadia was joined by Alex Mauron,

head of the Institute of Biomedical Ethics at Geneva University to discuss widely-held myths and realities of regenerative medicine as part of the outstation's first Science and Society symposium.

In front of a packed auditorium, the biologist and the ethicist balanced the reality of regenerative medicine with social reactions to this relatively new field – from debates over using human embryonic stem cells to stem-cell therapy tourism, or the quest for immortality.



Gaining the competitive edge

Predocs *Simone Li* and *Hernando Martínez*, among the organisers of this year's PhD Symposium, reflect on the event

The 15th EMBL International PhD Symposium – Competition in Biology: the Race for Survival from Molecules to Systems – took place 21–23 November at EMBL Heidelberg. Organised by the predoc class of 2012, the event was conceived to highlight the importance of biological interactions that shape the processes of life.

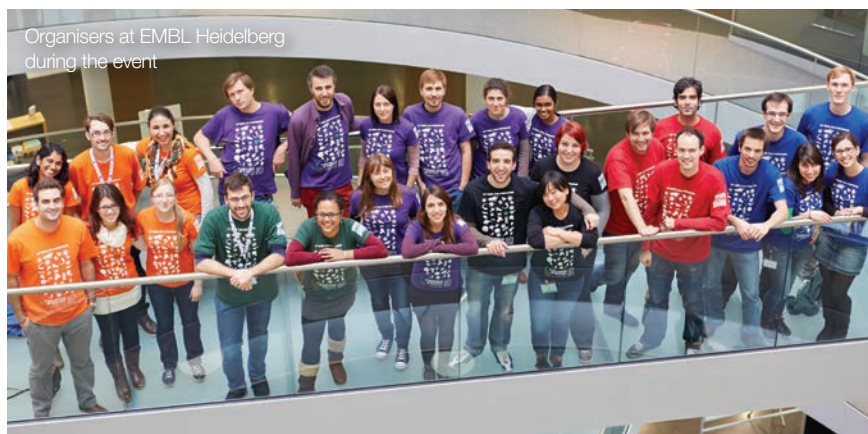
The symposium was a resounding success, with more than 200 registrants from 24 different countries, reaching as far as Singapore and Australia. Featuring talks by prominent senior investigators and PhD students from a range

of disciplines, we explored the constant battle that exists between and amongst molecules, cells, organisms and their environment – from the chemistry behind the origin of life, to the design of therapeutic microbes that kill pathogens, to the social organisation of bacteria and burying beetles. We also learned that viruses can be cruel or kind, depending on their survival strategy.

The broad scope was intended to encourage the sharing of new perspectives and ideas amongst attendees through the poster sessions, classroom-style and panel discussions,

as well as various social events. Judging by the very positive feedback we have received, our goal was most certainly achieved.

We want to take this opportunity to thank everyone who made the symposium possible: the attendees, speakers, EMBL staff, EIPP team, our sponsors and partners. It has been an invaluable and unforgettable experience. And, most importantly, we would like to thank those truly responsible for making this happen: to our fellow predocs, thank you for your time, your energy and your friendship. It was a pleasure to build this with you!



Organisers at EMBL Heidelberg during the event

MMPU on a mission

Ever wondered how microbes are involved in colorectal cancer progression or how cellular stress can provoke thrombosis-associated diseases? These and many other medical research-related questions were discussed at the 12th public MMPU (Molecular Medicine Partnership Unit) Research Day in Heidelberg.

This biannual event is dedicated to exchange knowledge between research groups involved in the MMPU, as well as reaching other scientific parties interested in translational research. “Our goal is to strengthen the link between molecular research and medicine,” says MMPU co-director Andreas Kulozik, from the University Hospital Heidelberg. The amount of data presented at the event outlined the partnership's strong efforts to reach this goal.

Research topics covered ranged from aging (group leaders Anthony Ho and Anne-Claude Gavin) to diseases in iron homeostasis (group leaders Martina Muckenthaler and Matthias Hentze), and stress-regulated blood diseases (group leaders Andreas Kulozik and Matthias Hentze) to cellular pathways involved in pain-sensing (group leaders Rohini Kuner, Jan Siemens and Paul Heppenstall). Participants also welcomed external speaker Oliver



MMPU researchers Anita Voigt, Ina Hollerer and Stephan Singer

Plettenburg, head of the chemical biology department of Sanofi, who provided interesting insights into the potential of chemical probes as medical tools.

The 12th MMPU Research Day demonstrated once more how fruitful the collaboration between EMBL and the Medical Faculty of the University of Heidelberg is in terms of bridging the gap between molecular research and medicine. Carsten Schultz, who leads a group together with Marcus Mall, summarised after the meeting: “I am amazed by the progress made in the MMPU regarding the implementation of both clinical and biological data in order to better understand the causes and consequences of common human diseases.” The next public MMPU Research Day will take place on 8 April at EMBL.

– Ina Hollerer

Medal of honour

EMBL-EBI's Alvis Brazma has been recognised by a Grand Medal from the Latvian Academy of Sciences. The medal is the highest recognition awarded by the academy to Latvian scientists at home and abroad for their outstanding creative contribution.

“I was touched because it is great to be recognised in your home country,” says Alvis. “I am very proud to be in the same company as Juris Hartmanis, who was awarded the medal previously. Science is of course international but my background, my way of thinking, is influenced by my Latvian teachers and professors – I owe a lot to my education in Latvia.”

Juris Viksna, a fellow computational biologist at the University of Latvia, said, “Alvis's contribution to the development of bioinformatics as a science is notable even at the global level and certainly he is a main contributor of establishing a field of bioinformatics in Latvia.”





Serving up a festive treat for staff at EMBL Heidelberg in December



Staff in Heidelberg take part in an in-house learning lab organised by EMBL's European Learning Laboratory for the Life Sciences



Grace Mugumbate, Gerard van Westen and Paul Ashford at EMBL-EBI's Open Day on 7 November



A team of staff from five different continents complete the first Heidelberg marathon in aid of Humanitarian for Children International



The 'Mighty Müller's Moustaches' team raising money for Movember, an initiative that aims to increase awareness of men's health issues



Santas (temporarily) take over the predoc core course at EMBL Heidelberg on Nikolaustag

Heartfelt: One of the winning entries is of yeast cell mitochondria as seen under an electron microscope (picture by Charlotta Funaya and Pedro Machado)



Year in pictures

In celebration of EMBL's 40th anniversary next year, the Office of Information and Public Affairs ran a calendar competition challenging scientists in the lab to submit striking research-related pictures that inspire, inform or intrigue – and the winning entries certainly hit the spot!

There were some fantastic submissions for the panel of judges to choose from. From a shortlist of 20 images, we asked our Facebook community to vote for their favourite and using their votes we selected the 12 winning photographs to be used in the calendar. The results showcase the beauty of life under the microscope, the elegance of computer simulation, the power of molecular structures and highlight the huge depth, diversity and creativity of research across EMBL.

The calendar marks the start of a very special year for the lab, with a packed agenda of events that will help kick off the next 40 years in style. For where you need to be, and when, see page 12.

events@EMBL

14 January *EMBL Heidelberg*
EMBL Distinguished Visitor Lecture:
Bas van Steensel, Netherlands Cancer
Institute, Amsterdam

17 January *EMBL Monterotondo*
EMBL Distinguished Visitor Lecture:
Wolf Reik, The Babraham Institute,
Cambridge, UK

27 January *EMBL Heidelberg*
EMBL Distinguished Visitor Lecture:
Geraldine Seydoux, John Hopkins
University

31 January *EMBL Grenoble*
Science and Society Lecture: TARA
OCEANS: Une approche mondiale de
la vie océanique microscopique, Eric
Karsenti, EMBL Heidelberg

8 February *EMBL Heidelberg*
Burns Night

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

people@EMBL



Jürgen Deka is the new Scientific Coordinator of the EMBL International Centre for Advanced Training (EICAT). He holds a PhD in Biochemistry and completed a postdoc at the MRC National Institute for Medical Research in the UK. Jürgen joins from the Swiss Institute for Experimental Cancer Research, where as Associate Scientific Director he led the development of the National Center of Competence in Research in Molecular Oncology. He will now managerially oversee and develop the scientific vision for external training and the courses and conferences programme within EICAT.



Laura Howes joins EMBL Heidelberg as an Editor for *Science in School*, the EMBL-based European journal for science teachers. Laura, who holds a Masters degree in Chemistry, joins the lab from the Royal Society of Chemistry in the UK, where she worked as a science journalist for *Chemistry World* magazine. Outside of the office Laura plays both the flute and bass guitar, and even finds time to study for a degree in History.



Jason Mundin joins EMBL Enterprise Management Technology Transfer GmbH (EMBLEM) as Strategic Alliance Manager on behalf of EMBL-EBI. Jason's remit is to identify, implement and manage long-term pre-competitive and translational projects and strategic partnerships between EMBL-EBI and industry. Jason holds a BSc in applied biology (pharmacology), an MBA from Imperial College London and 25 years' combined scientific and commercial experience gained within the pharmaceutical and biotechnology industries across the US, Japan and Europe.



EMBL-EBI welcomes **Steven Newhouse**, founding director of the European Grid Infrastructure, as Head of Technical Services. Since taking his degree in aeronautical engineering at Imperial College London, Steven has worked in public and private sectors: the University of Southampton, Microsoft, and standards bodies. In his new position, he will be developing a strategy to convert the diverse needs of the EMBL-EBI's users into solid technical solutions.

awards&honours

Click innovation

EMBL Heidelberg's Edward Lemke and Carsten Schultz have been awarded the MRN Rhine-Neckar Innovation Prize, for developing a widely applicable technique that could have potential use in various basic science and medical applications. It enables researchers to label any protein of their choice with any of a wide variety of previously available compounds, in living cells, by introducing a single reactive artificial amino acid. Originally developed to get around problems associated with existing ways of fluorescently tagging proteins, by labelling them with small-molecule dyes in high speed and in intact cells, the method involves creating a new amino acid that is able to react with small molecule dyes through 'click chemistry'. The 25 000 Euro award recognises outstanding projects that connect science and industry. "Developing the method



was a major challenge, but the reactions – molecules essentially click together like Lego blocks in the biological environment – make this a widely applicable method," explains Edward. "It is an honour to receive this award, and the prize will enable us to further explore scientific and industrial applications for the technique," adds Carsten.



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

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

Visit www.embl.org/40years for more details.

EMBL&cetera issue 78, December 2013.
Published by EMBL's Office of Information
and Public Affairs, Meyerhofstraße 1, 69117
Heidelberg. email: info@embl.de.
Available online: www.embl.org/newsletter.
Editors: Chloé Cross, Adam Gristwood.
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Photo support: EMBL Photolab. Printed by
ColorDruck, Leimen.

