

# EMBL etcetera

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## Listen to your genes

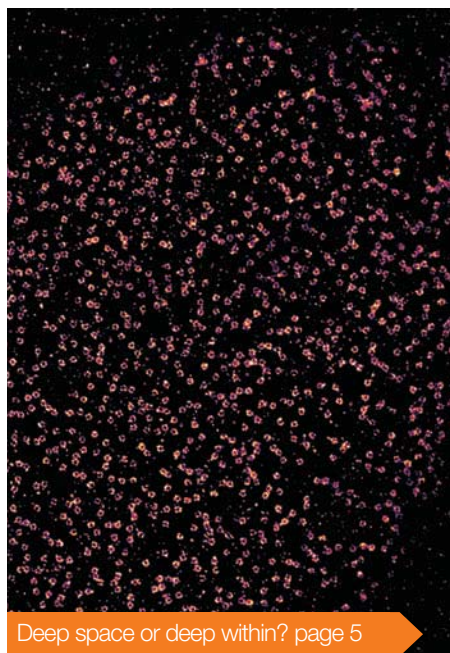
EMBL-EBI group leader Sarah Teichmann recently took part in a musical collaboration with composer Deirdre Gibbin. The pair worked together to produce a haunting musical performance called *Hearing Your Genes Evolve*, which showcased at the Royal Greenwich International String Quartet Festival in London.

Deirdre, whose son has Down's syndrome, wanted to learn more about the disorder, and the piece reflects Deirdre's exploration of genomics as she worked with Sarah as an artist in residence. Now, together with EMBL-EBI's Nick Goldman, they are set to feature in a German/Swiss film, called *The Secret Life of Genes*.

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## The shape of things to come

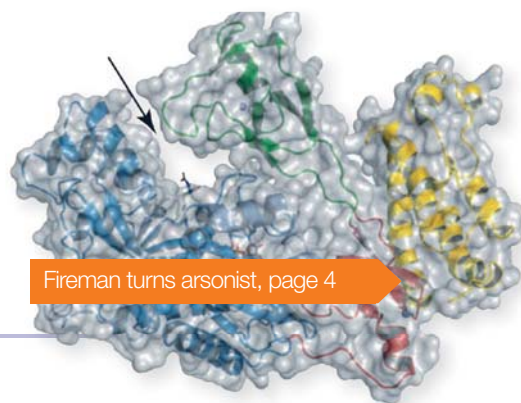
How EMBL scientists are unravelling the secrets of cells



Deep space or deep within? page 5



Unexpected transformer, page 4



Fireman turns arsonist, page 4

## Meet and greet

Summer Council meeting puts spotlight on Czech membership

Amongst the headlines from this year's Summer Council Meeting is the official endorsement of the Czech Republic as EMBL's 21st member state, ahead of ratification by the Czech government. Unit reviews and policies were also high on the agenda at the meeting, which took place in Heidelberg in June. A new transitional scheme aimed at attracting European countries to join EMBL was revealed, and Council approved the signing of the ELIXIR Consortium Agreement.

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EMBL exports to Portugal

# Summer Council Meeting

The lab's movers and shakers convened at EMBL Heidelberg on 25–26 June. At the two-day meeting, delegates discussed and voted on a large number of issues, including:

## Vítejte!

Political and scientific leaders from the Czech Republic met with delegates and senior faculty as Council formally endorsed Czech membership of EMBL. The lab has continued to strengthen ties with the Czech Republic in recent years, and a range of initiatives have aimed to stimulate research connections, including a joint Memorandum of Understanding with leading Czech research institutions. It is expected that formal membership will begin in January 2014, assuming the ratification process by the Czech government is successful.

## "Outstanding" unit reviews

EMBL research, technology development, training and leadership were commended by the Scientific Advisory Council, with chair Sandra Schmid announcing that reviews found activities at EMBL Grenoble, the Cell Biology and Biophysics Unit, and research at EMBL-EBI to be "outstanding".

## Data for life

Council formally ratified the ELIXIR Consortium Agreement (ECA). The ECA is the legal document that will govern ELIXIR in its permanent phase. In addition to EMBL,



Delegates meet at EMBL Heidelberg during the Summer Council Meeting

ELIXIR's 15 signatory states are working towards ratifying the ECA in their country. Each country's ratification date depends on national processes: in some nations it will be ratified relatively quickly, but in those with longer processes it may be ratified in 2014. The ECA will formally come into effect 30 days after five countries have signed it. At that point, ELIXIR will exist as a permanent legal entity. The first five countries are expected to ratify the ECA in late 2013.

## In transition

Council approved the implementation of a new policy to attract European countries to join EMBL by offering a transitional scheme towards full membership status with broad access to EMBL services and facilities. Recommending the continuation of Aus-

tralia's associate membership, Council also announced that EMBL's Associate Membership Scheme has been revised with the goal of advancing interactions between the lab and non-European states.

## More...

- Sandra Schmid asked delegates to promote group leader opportunities to female candidates to address gender imbalance.
- Changes to the Staff Regulations that allow the full integration of fellows into the EMBL Pension Scheme were confirmed.
- *Annual Report 2012–13* was approved.
- Reinhard Jahn (Germany) has been appointed as the new Chair of SAC. Thanks were extended to a number of departing participants, including Sandra Schmid.

## Lab partners



Silke Schumacher, Cecil Masoka and Christian Boulin

## Into Africa

Opportunities for political cooperation between EMBL and South Africa were explored when Cecil Masoka, Director of Multilateral Cooperation in the Department of Science and Technology, visited EMBL Heidelberg on 26 June. Masoka, who is also an observer for South Africa in the EMBC, met with the Director of International Relations Silke Schumacher to discuss areas such as opportunities for young researchers

and EMBL's policy for associate member states, before taking a tour of the lab's Core Facilities with Director of Core Facilities Christian Boulin.

The visit came shortly after a presentation at EMBL Hamburg by Valerie Mizrahi of the University of Cape Town (UCT) on understanding and targeting core metabolic pathways in tuberculosis – work that involves close collaboration with the Wilmanns group. Other connections between EMBL and South Africa include UCT's Nicola Mulder, who sits on the Scientific Advisory Board of ELIXIR.

## Turkish delight

Fact-finding was on the agenda when EMBO and EMBL Heidelberg hosted Turkish visitors Murat Özgören, Vice-Rector of Dokuz Eylül University (DEU), and Mehmet Öztürk, an EMBO member from Bilkent University. They met with staff to gather ideas and explore cooperation opportunities. A life science institute of excellence is planned at DEU, in Izmir.

## By JoVE!

Turning their cells into film stars, scientists in the Berger group at EMBL Grenoble had their work published in a video article for the *Journal of Visualized Experiment* (JoVE) in July. The work focuses on the Multibac platform, which specialises in the production of protein complexes, using insect cells infected by a baculovirus. When asked if his insect cells were any good at acting, Maxime Chaillet who runs the platform replied: "I told them to smile, but I'm not sure they'll make it to the Academy Awards!"



EMBL technician Maxime Chaillet (right) with the JoVE cameraman



Clockwise from top left: FEBS congress opening ceremony; EMBL DG Iain Mattaj; alumnus Jörg Langowski visits the EMBL stand; EMBL Hamburg's Johanna Kallio

## A Russian revolution

Ambitions to further links between EMBL and Russia were affirmed at this year's Federation of European Biochemical Societies (FEBS) Congress in July in St Petersburg. EMBL DG Iain Mattaj addressed the packed Oktyabrsky Concert Hall during the opening ceremony, emphasising the aim of EMBL and Russian researchers for Russia to one day become an EMBL member state.

Existing collaborations between EMBL researchers and Russian universities and the Russian Foundation for Basic Research were showcased during a plenary session, with Iain, EMBL Hamburg's Matthias Wilmanns and Johanna Kallio, EMBL Grenoble's Ramesh Pillai and EMBO's Maria Leptin taking to the stage with Russian partners to outline joint projects.

There was a strong presence of staff and alumni throughout the six-day event, with Stephen Cusack (EMBL Grenoble), Peer Bork and Matthias Hentze (EMBL Heidelberg) among the highlights of a packed programme.



## Next port of call

More than 230 scientists took part in a special event exploring connections between EMBL and Portugal on 18 July. A packed programme of talks by senior EMBL staff, alumni, and researchers from Portuguese institutions addressed topics including functional genomics, system genetics and the frontiers of microscopy, showcasing research, facilities and training opportunities, as well as science by EMBL alumni in Portugal. Alumna Margarida Amaral, coordinator of the Center for Biodiversity, Functional & Integrative Genomics (BioFIG: <http://biofig.fc.ul.pt>) at the University of Lisbon's Faculty of Science (FCUL), delivered a talk and helped organise the event:

### What was your aim for this event?

This meeting takes place at a time when Portugal, due to the economic crisis, needs to strengthen its connections with European institutions. The aim was to promote among Portuguese researchers how they can benefit from European support, by providing examples of collaborations, past and present, between Portuguese researchers and EMBL. FCUL director Pinto Paixão sees the connection as very important. The event also presented a platform to discuss future partnerships.

### What has been the outcome?

The meeting was very successful: a large proportion of the 230 participants – presenting 77 posters – were young researchers. Altogether, the event provided opportu-



Margarida Amaral

nities to strengthen scientific networks, and learn more about career and collaboration opportunities at EMBL. There were also special sessions for informal discussions on EMBL Core Facilities, the department of International Relations, as well as a special session with Director General Iain Mattaj and company representatives.

### What are your own plans for the future?

My work has evolved from studying cystic fibrosis from a molecular biology perspective into a systems biology approach. To this end, my two-year sabbatical at EMBL has been crucial. Our vision is that BioFIG becomes a systems biology research institute, incorporating researchers from areas like maths, physics, and bioinformatics, currently dispersed across FCUL. Hopefully this new institute will become a partner of EMBL in the future!

- More EMBL-FCUL events are planned: look out for further details in *cetera*. See page 9 for an interview with two other participants at the Lisbon event.

## On the move

This summer, EMBL-EBI Director Janet Thornton brought Hinxton staff up to speed on the latest developments at the institute, including strategic directions and practical issues relating to the opening of the new South Building.

Janet looked forward to September, when some staff will move to a new building, which will house several EMBL-EBI groups and serve as a technical hub for ELIXIR, the nascent research infrastructure for life science data. ELIXIR Director Niklas Blomberg explained some of the important differences between EMBL-EBI and ELIXIR, and discussed progress on the infrastructure's pilot projects.



The new technical hub on the Genome Campus opens soon

## The unexpected transporter

Phosphatidylserine (PS) is a fat molecule – or lipid – that forms cell membranes and plays a role in brain function and memory. Anne-Claude Gavin and colleagues recently revealed not one but two secrets of PS.

Until now, bubble-like compartments called vesicles were believed to deliver PS from where it is produced in the endoplasmic reticulum to where it carries out its job at the cell's membrane. But when EMBL scientists investigated further, they found something unexpected: PS is carried around the cell by lipid transport proteins (LTPs) and not exclusively by vesicles. This was doubly surprising, as the two LTPs that carry PS – Osh 6 and Osh 7 – were thought to carry sterols like cholesterol instead.

Kenji Maeda, a postdoc in the Gavin group, made the discoveries thanks to a new technique he developed that enables researchers to 'fish out' proteins from a cell with any lipids,

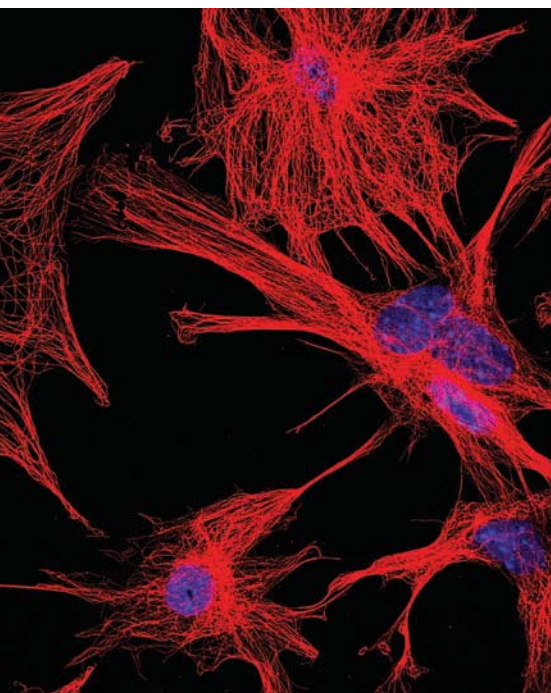
sugars or other molecules they interact with, still attached.

To confirm that the Osh proteins he had 'fished out' do in fact carry PS in living cells, Kenji worked closely with the Kaksonen group, tracking transporters and cargo under the microscope. "We took a multi-disciplinary approach for the project, covering areas of biochemistry, omics, cell biology, and structural biology," says Anne-Claude. "In future, this method can be extended to develop the field of metabolomics at EMBL."

After their unforeseen results in yeast cells, the scientists confirmed that the surprise also holds in our own case: the equivalent human protein also binds to PS rather than to cholesterol. These findings, published in *Nature* in August, may help improve our understanding of conditions such as cancer, dyslipidemia and metabolic syndrome, in which Osh proteins have been implicated.



Left to right: Kenji Maeda, Anne-Claude Gavin and Marko Kaksonen



## Out of touch

Microtubules, the cell's railway tracks, have chemical marks that act as signposts for proteins and other molecules being transported around the cell. In the roundworm *C. elegans*, in neurons that specialise in touch, a protein called MEC-17 adds one such mark, called an acetyl group, to microtubules. Worms without the MEC-17 gene essentially lose their sense of touch. But when Paul Heppenstall's group at EMBL Monterotondo deleted the equivalent gene in mice,  $\alpha$ TAT1, "the mice appeared fine and displayed normal behaviour," says Paul. Interestingly, male mice with no  $\alpha$ TAT1 were less fertile and their sperm didn't move normally. The study, published in *Nature Communications*, uncovered an unexpected role for acetylated microtubules in mice. In future, the mice engineered by the Heppenstall group to lack  $\alpha$ TAT1 could provide a valuable tool for scientists to continue to uncover the role of these cellular signposts in development and disease.

## Fireman to arsonist

A protein that prevents cells becoming cancerous can also cause tumours, scientists in the Panne group at EMBL Grenoble have found. Using the first 3D structure of a central 'hub' protein that regulates a large number of signalling pathways, the team found that it could actually lead to cancer by causing a hyper-activation of the gene.

Their finding, published in *Nature Structural and Molecular Biology* in August, reveals that mutations to the protein – known as p300 – that have been linked to cancer can act in two different ways. As previously suspected, some make the protein malfunction and thwart its tumour-suppressor role. But, as the team discovered, some cancer-linked mutations may actually lead p300 to actively turn cells cancerous.

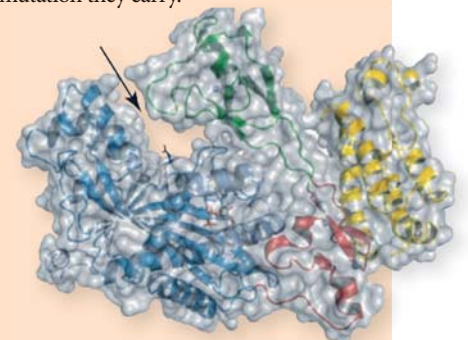
"Everybody thought this protein was a tumour-suppressor, but we've found that some mutations make it an oncogene, which makes it a viable drug target," says Daniel Panne, who led the work.

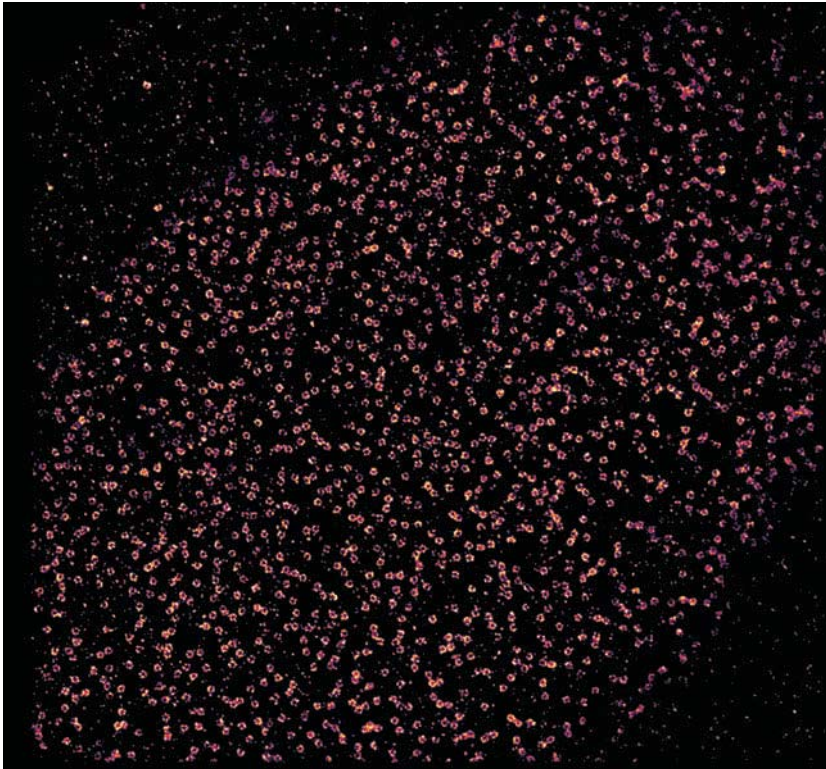
"The findings suggest that the protein is a viable drug target"

– Daniel Panne

During the study, which determined the structure of the protein's active core – the part that physically interacts with genetic material to control genes – the team discovered an unexpected piece of the molecular puzzle. "We found that mutations that inactivate p300 and have been associated with its role as tumour suppressor are located in the domain that modifies chromatin – the acetyltransferase domain," explains Daniel. "However, we also discovered a previously unsuspected RING domain that is positioned like a 'lid' over the active site of the acetyltransferase. Cancer mutations here increase rather than decrease p300 activity."

The researchers believe that the domain has a built-in self-control mechanism, and mutations undermining this role result in increased p300 activity, suggesting p300 can play a role as both tumour-suppressor and oncogene. The scientists now hope to investigate ways to treat patients depending on the type of mutation they carry.





## Universe within

At first glance you might think it is a picture of the far reaches of the Universe. But look closer and rather than a cluster of galaxies or an interstellar nursery, you will find the building blocks of the nuclear pore complex (NPC).

Using a new technique the study, published in *Science* in July, combines several thousand images taken with stochastic super-resolution microscopy. It reveals how several individual components fit together to build the scaffold of the NPC, which controls access to the genome by acting as a gate into the cell's nucleus. "The more structures you take into your measurement, the better your statistics become and the more precise you can be," explains Anna Szymborska, a predoc in the Ellenberg group who carried out the work at EMBL Heidelberg. The technique, which reaches a precision below 1 nm and has shed light on the structure of the NPC, could present an opportunity to learn more about other similar-sized molecular assemblies and has attracted attention worldwide.

## Wired for change

A study of gene expression led by EMBL-EBI scientists and the University of Cambridge has revealed the first steps of evolution in gene regulation in mice. Published in *Cell*, the research has implications for the study of differences in gene regulation between people.

The team studied gene expression in five very closely related mouse species, pinpointing changes at the very earliest stages of evolution by comparing the way that three transcription factors bind to genes in order to control whether they're turned on or off in liver cells. The researchers contrasted their findings with those from *Drosophila* to see where the similarities lay. They found that there were a lot more differences between closely related mouse strains than there are between distantly related fruit-fly strains.

**"A mouse's regulatory wiring has a lot more wiggle room than a fly's"**

— Paul Flicek

"Mammals have lots of DNA kicking around that doesn't code for proteins, while fruit flies have relatively little. So a mouse's regulatory wiring will just have a lot more wiggle room than a fruit fly's," says Paul Flicek. "That gives us a clearer picture of what we can expect to learn about mammalian genetic regulation from fruit flies."

The study could help scientists understand how gene regulation differs from one person to the next, explaining why genes that cause disease in some people don't have that effect in others.

## Surv's up for exploring survival

EMBL-EBI researchers have created a new resource for the study of ageing. Published in *Aging Cell*, SurvCurv is the first comprehensive, open resource to enable the large-scale analysis of survival data in model organisms.

"Having all the data in one place is much better than what we have now, where much of it is hidden in supplements or, worse, lost on people's forgotten hard drives," says Matthias Ziehm of EMBL-EBI. "People can use SurvCurv to compare different datasets, or re-analyse them using new techniques."

"We hope that SurvCurv will inspire a larger effort toward creating minimum standards for reporting survival data," adds Janet Thornton, Director of EMBL-EBI.

Matthias, Janet and Matthew Piper of University College London used SurvCurv in a study that revealed that one popular experimental method, which people presumed was inert, actually has an impact on survival.

Janet remarks that this observation alone will improve the quality of research into ageing. "It just goes to show you the power of a really good database," she says.



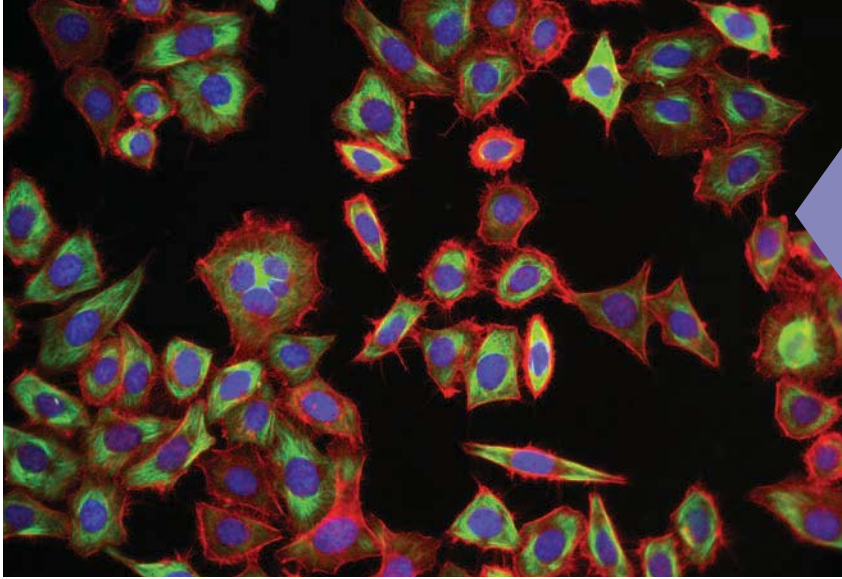
## Cells shape up

Scientists from Stefano De Renzis' group in Heidelberg have discovered a novel mechanism by which cells change shape during development.

"We show that, to flatten themselves at the surface, cells of the fruit fly embryo engulf finger-like protrusions of their plasma membrane by endocytosis," says Stefano, referring to the process through which cells 'swallow' up nutrients, hormones and other signals from their surroundings. "Our work could help understand how cells adapt their shape to perform different chores and what distinguishes one cell type from another," he adds.

This study, published in *Nature Communications* in August, uncovers the key molecules that help the cells 'suck' in long tubes of membrane instead of the small vesicles usually 'swallowed' by endocytosis. Piotr Fabrowski, a predoc in the De Renzis group, developed a new imaging strategy to observe this engulfing process live. And Aleksandar Necakov, an EIPOD shared jointly between the De Renzis and Briggs groups, combined light and electron microscopy techniques to describe the unique features of the membrane tubes.

➤ See this in action, narrated by Stefano: [www.YouTube.com/emblmedia](http://www.YouTube.com/emblmedia).



HeLa cells have facilitated numerous breakthroughs including the development of the polio vaccine and Nobel Prize-winning studies that defined the role of telomerase in aging and the causative role of human papillomavirus (HPV) in some types of cervical cancer

Image courtesy of GE Healthcare

## HeLa data agreement

Genome of the world's most commonly used human cell line, sequenced by EMBL scientists, now back online following mutual agreement

In March, when scientists in the Steinmetz, Huber and Korbel groups at EMBL Heidelberg published the first whole genome sequence of one strain of the HeLa cell line, it was hailed by many as a valuable new tool for genomics research. A few days later, however, the team temporarily removed access to the sequence data in immediate response to concerns raised by the family of Henrietta Lacks, from whose deadly cervical tumour the cell line originates. Now, a policy announced by the National Institutes of Health (NIH), and endorsed by the Lacks family, supports controlled access to the sequence data – and has prompted calls for wider debate about standards for access to scientific results.

### A valuable tool

During the past 15 years, genome sequences have become a foundation of molecular biology research. However, although volumes of sequence data had already been generated from HeLa cells – the National Center for Biotechnology Information estimates 400 genomes' worth –, the EMBL team's study was the first whole genome analysis of HeLa. "Without a HeLa specific genome resource, researchers had to base their studies on the 'reference' sequence from the Human Genome Project, even though there was evidence that the genomes of HeLa cells were quite distinct," explains Lars Steinmetz, who led the study.

The team found dramatic differences between the genome of the HeLa cell line they sequenced and the commonly used reference. "Their cancerous origins and decades-long cultivation in the lab would have caused several genomic alterations – including sequence variation, additional copies of genes and numerous complex rearrangements," explains Wolfgang Huber.

The sequence captured worldwide attention: it presented a genomic resource that could improve the design and interpretation of countless experiments using HeLa cells – the first and most widely used human cell line in research having featured in more than 70 000 scientific studies since their isolation in 1951.

### Responding to concerns

But unlike most cell lines originating from anonymous donors, the origin of the HeLa cell line is well known – perhaps most so due to a bestselling book chronicling the social and scientific history of HeLa cells: *The Immortal Life of Henrietta Lacks*, by Rebecca Skloot. When contacted by Skloot, who on behalf of the Lacks family voiced concerns in relation to the family's genetic privacy, the EMBL team volunteered to withhold access to the data and offered to work towards a mutually acceptable solution, despite the study adhering to existing ethical guidelines.

"We wish to ensure that the voices of all stakeholders are heard"

– Iain Mattaj

Taken forward by NIH Director Francis Collins, the agreement, announced on 7 August, states that to access the data scientists should apply to the NIH Database of Genotypes and Phenotypes (dbGaP), while it encourages future sequences from HeLa cells to be treated in the same way. Requests will be reviewed by a data access working group composed of three cross-disciplinary scientists, one bioethicist, and two members of the Lacks family.

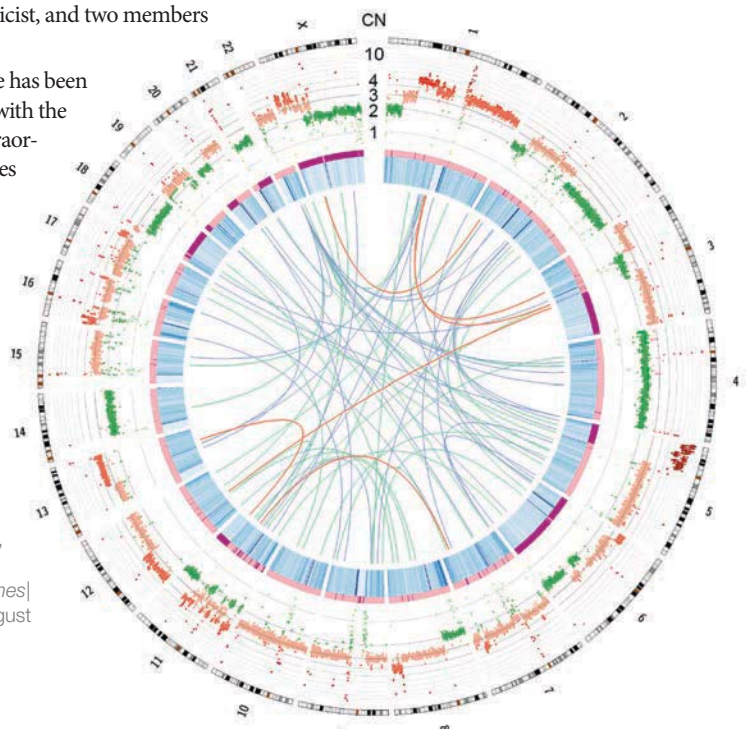
Because the cell line has been so visibly associated with the family, this is "an extraordinary situation," notes NIH director Francis Collins, who led the

discussions with the family. "This should not be used to set a precedent for other cell lines," he says, raising the point that further consideration will be required in developing strategies to handle access to genomic data and concerns about genetic privacy.

Writing in the August edition of *G3*, law experts Timothy Caulfield and Amy McGuire add: "These are complex legal and ethical matters, management of which will require consideration of multiple perspectives and balancing of divergent interests, including public rights and the desire for scientific progress."

EMBL Director General Iain Mattaj affirmed the lab's commitment to play a leading role in this dialogue. "EMBL is committed to helping develop and refine international standards for access to scientific results and data as science advances," he says. "Through fostering discussion, we wish to ensure that the voices of the public, scientists, and all stakeholders are heard as this process continues." Lars Steinmetz adds: "In this case we appreciate the effort of the Lacks family and the NIH to find a resolution that enables researchers to access these data."

The final version of the EMBL team's paper, along with access to its sequence data, was published in *G3: Genes|Genomes|Genetics* on 7 August



‘An international challenge’

Part of the team that produced the first human genome sequence by the Human Genome Project, Eric D Green, Director of the US National Human Genome Research Institute, has been involved in genomics since the term was first coined in the 1980s. Speaking to Katja Linszen ahead of his keynote talk at the Science and Society conference, ‘Public and Private Health: Genomics, Medicine, and Society’, he reflects on opportunities and challenges in the field.

**What has been the lasting impact of the Human Genome Project?**

It is still early days, but I firmly believe we are moving down the path of implementing changes in how we practice medicine by using genomic information about individual patients. The cost of genome sequencing has fallen spectacularly: we are perhaps just a few years away from being able to sequence patient’s genome for \$1000. At the same time, we have gone from knowing about just a few million variants (sequence differences in our genomes) among people to more than 50 million such variants. We are now performing many studies to understand which of these variants – just a small subset – are relevant for human disease. For many conditions, we will eventually be able to be more rational about making diagnoses and selecting treatments. In development are remarkable new non-invasive genomic tests to detect foetal chromosomal abnormalities and organ transplant rejection. However, none of this will be easy:



Green will be at the EMBO|EMBL Science and Society conference: 7–8 November, EMBL Heidelberg

there are complex logistical, practical, ethical, and legal issues that need to be addressed also.

**How might doctors be able to make the most of this new information?**

A big challenge is integrating this exciting set of tools into something as complex as healthcare delivery. We need to engage all stakeholders: doctors, pharmacists, assistants, nurses, lawyers, and the general public. We

“There are complex logistical, practical, ethical and legal questions that need to be addressed”

– Eric D Green

are looking into many ways to do this: one example is to provide curated interpretations of scientific information about what a given genomic variant might mean for a patient. However, that resource does not currently exist: we can sequence your genome in a day or two, but it could take weeks or even months to interpret your genome sequence. We must automate this process so that the most important genomic variants relevant to your health

immediately come up on your physician’s computer along with information about what those variants mean for you as a patient.

**How do you reconcile researchers’ need for access with patients’ right to privacy?**

It is an international challenge. To better understand genetic influences on complicated diseases such as heart disease and Alzheimer’s disease, we need to aggregate data from tens of thousands of people and their genome sequences. We, as a community, need to figure out how we can be robust and sophisticated in analysing the many available biomedical research datasets; for this, the wide sharing of data is critical. But so is protecting people’s rights to privacy, and in some ways these objectives are at odds. Reconciling this will require cultural changes: promising people complete anonymity is not something we can still guarantee. We need to be upfront about the potential benefits and the risks of taking part in clinical studies: if people are engaged, I believe they will be more willing to participate. Patients should always have the right to determine how their data are used.



Focusing on Electron Microscopy

Electron Microscopy (EM) is one of the most challenging microscopy techniques to learn. Watching a specialist is not enough, one needs to have hands-on-training and expert guidance to learn the tricks of the trade. The EMBO Practical Course: Electron Microscopy and Stereology in Cell Biology, held at EMBL Heidelberg in June, brought together 22 selected PhD students and postdocs eager to learn various EM methods from world-renowned EM specialists.

“This course has been running for the past 30 years, and has the best team of teachers with a lot of experience in processing different kinds of cells and tissues for EM,” says Yannick Schwab, Head of the Electron Microscopy Core Facility at EMBL Heidelberg. The course was designed to give young researchers an overview of all the techniques used in EM for cell biology, focussing on methods for preserving (high pressure freezing) and targeting proteins (immunogold labeling) on cellular structures.

“Our aim was to train students to not only establish the EM techniques in their own labs but also take the expertise with them to teach others,” says Yannick. “Participants now have a strong network to which they can turn with their research challenges.”

“I had experience working with EM but had gaps to fill. The course was well structured and now I have a much better perspective.”

– Darshan Kumar (University of Helsinki)

“I wanted to learn about the chemistry behind microscopy and got to do much more than I had expected.”

– Paulus den Hollander (Wageningen University, Netherlands)

## Research and beyond at alumni reunion

Annual gathering in Heidelberg ticks all the boxes: more current staff, core facilities talks and non-research know-how

This year's staff/alumni event, prior to the EMBL summer party, was dedicated to life science in its many guises, from practical research and the services of the core facilities to industry, start-ups and communication.

Last year, participants gave feedback on how the meeting could be improved, and the organisers focused on fulfilling this compre-

*"It was an excellent networking opportunity and I learned interesting things about alumni's post-EMBL experiences" – Kiran Patil*

hensive wish-list: attracting larger numbers of current staff (50% of the participants), giving greater focus to industry, providing informa-

tion on EMBL's core facilities, and offering science communication as a new topic outside research and industry.

The biggest resource was the diversity of speakers and participants, including EMBL pensioners Konrad Müller, Frieda Glöckner and Mary Holmes; representatives of the lab's commercial arm, EMBLEM and EMBL Ventures; as well as numerous current and former fundraisers, academics and science writers.

"It was an excellent networking opportunity and I learned some interesting things about the post-EMBL experiences of alumni," says group leader Kiran Patil.

Talks were relaxed, informative, and generally a bit over time, thanks to stimulating discussions between speakers and participants.

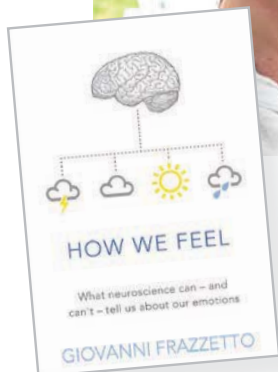


⇒ Next year, this event will be replaced by the EMBL 40th Anniversary Reunion, 18–19 July 2014. The Alumni Relations office will inform staff and alumni when online registration is open.

Above: participants enjoyed a varied speaker programme; the infamous EMBL strawberry cake. Left: alumni Christine Gemünd and Konrad Müller



Giovanni, formerly a predoc and then Branco-Weiss Society in Science Fellow at EMBL Monterotondo, has recently published his first book



## Giovanni writes *How We Feel*

Eleven years after leaving EMBL, Giovanni Frazzetto – joint-recipient of the first John Kendrew Award in 2008 – is now the academic coordinator of a new programme at the Berlin Institute for Advanced Study, known as Wiko (Wissenschaftskolleg zu Berlin).

"Wiko is a cultural paradise," Giovanni says. "It attracts scholars from the widest possible spectrum of academic fields and traditions – science, the social sciences, the humanities, and the arts – and gives them the freedom to concentrate on projects of their own choice for one academic year on a Wiko Fellowship. I myself was a Wiko research fellow in 2007."

"I lead a programme called College for Life Sciences. It gives early-career researchers a unique opportunity to step back from their routine work and gain time to reflect on their area of study, while being immersed in a diverse and stimulating cultural network.

My job is to select the fellows and guide them during their residency, facilitating synergies between them and other in-house scholars or research institutes in Berlin."

Giovanni also finds time to continue his own research and writing, recently finishing *How We Feel*, published 1 August. "In it, I mix scientific knowledge with personal experience to offer an account of the contrast between the science and poetry of emotions."

His advice to all pre- and postdocs at EMBL is to never stop looking at the greater picture, be original, and make the most of the lively discussions at EMBL seminars, the lack of hierarchy and the fluidity among departmental programmes – even at the beer sessions!

Early career researchers looking to gain time and inspiration can look into the unique opportunities offered by Wiko: [www.wiko-berlin.de/cfls](http://www.wiko-berlin.de/cfls).



On 18 July, the Faculty of Sciences at the University of Lisbon and EMBL organised an event dedicated to science in Portugal and at EMBL – local alumni were involved as co-organisers, speakers and participants.

Two recent postdocs, and newlyweds, now working at the Instituto Gulbenkian de Ciência (IGC) – group leader, Ivo Telley, and Electron Microscopy Facility Head, Erin Tranfield – joined other alumni at a roundtable lunch with DG Iain Mattaj.

#### What did you gain from this event?

**Ivo:** I looked forward to learning about the research experiences of other alumni, and their transition to institutes in Portugal. I also valued Iain's message to the Portuguese research community: in short, opportunities are there but you have to be proactive.

**Erin:** I enjoyed the discussion with Iain, and the chance to meet other alumni, some of whom I hope to work with in the future.

#### What drew you to Portugal and the IGC?

**Ivo:** The IGC is well funded through the Calouste Gulbenkian foundation, and teaching is optional so group leaders can concentrate on their research. Groups are small, most facilities are shared, and interaction between researchers, and therefore collaboration, is very high. Moreover, Erin and I were both offered good positions.

**Erin:** I was attracted by the enthusiasm of scientists for electron microscopy, and the opportunity to build a new facility to help address their research questions. It's an added bonus that the IGC is located in such a lovely country as Portugal.



#### Tell us about your work and future plans.

**Ivo:** I focus on the mechanical characterisation of mitosis, investigating this process in fruit fly embryo using an assay I developed at EMBL. The plan is to apply the methods to different insects and investigate if there are conserved mechanisms. A long-term goal is to develop tools to decipher the mechanics of chromosome segregation and the accompanying change of the cytoskeleton.

**Erin:** I'm centralising the institute's existing electron microscopy infrastructure, and am

about to implement a high pressure freezer that will allow us to improve sample preservation and the quality of our ultra-structural investigations – this will increase our research capabilities. I have big dreams to expand the capabilities of our current electron microscopy to include higher resolution transmission and the introduction of scanning.

☞ As well as moving to Portugal, setting up their labs and facilities, Erin and Ivo married in Switzerland on 4 August – congratulations!

## Trio celebrates two-decade collaboration

### Pluripotency project brings former group leaders back together

In 1990, Peter Becker, Hans Schöler and Francis Stewart were recruited to EMBL as group leaders by then-new Gene Expression Unit coordinator, Iain Mattaj. Chromatin was emerging as a puzzling component in the regulation of gene expression during metazoan development – the triple appointment aimed to strengthen research activity in this area.

Each made the most of the opportunities at EMBL: Peter pioneered chromatin assembly *in vitro* and characterised a molecular machine that pushes the fundamental component of chromatin around. Hans pioneered basics of embryonic stem cell biology largely through his identification and characterisation of the key pluripotency transcription factor. Francis pioneered genome engineering technologies, now termed 'recombineering'.

The EMBL nine-year rule and attractive professorship offers took the trio in different directions: Hans to Philadelphia, Peter to Munich, and Francis to Saxony.

In 2004, Hans returned to Germany as Director of the newly founded Max Planck Institute for Molecular Biomedicine, in Münster. Peter complemented his ongoing research accomplishments as central manager for the move of Ludwig Maximil-

ian University's Faculty of Biology to a new campus in Munich (the largest restructuring of any German university). Francis continues as part of a collegium of EMBL alumni that has helped transform Dresden to a leading position in European biomedical research.

A happy recombination event occurred when each of the three had proposals approved for 'Pluripotency and Cellular Reprogramming' funding ([www.spp1356.de](http://www.spp1356.de)). Led by Albrecht Müller, of Würzburg University, this project – a German Research Foundation-funded 'Priority Programme' – brings together experts in stem cell biology and the regulation of gene expression, including Peter, Hans and Francis in July at a progress meeting nearby Würzburg.

While the combined work on sorting out the puzzle has continued beyond EMBL, the trio feel that they owe much to the early inspiration of the Gene Expression Unit, more than two decades ago.

– Michelle Meredith-Stewart



Left to right: Hans Schöler, Peter Becker, Francis Stewart

## Mark your diaries

**23 September Amsterdam**

**Staff/alumni get-together at The EMBO Meeting**

The Netherlands local chapter meeting

**25 September Cambridge, UK**

**Alumni re-connection event**

Chilli and drinks with local alumni at the Boathouse pub at 7pm. Entry by ticket, from: [lindsey.crosswell@ebi.ac.uk](mailto:lindsey.crosswell@ebi.ac.uk).

**21 November EMBL-EBI**

**Alumni Association Board Meeting followed by staff/alumni event**

9am–5pm: EAA Board Meeting  
6–8pm: Reception at new EMBL-EBI South Building hosting the ELIXIR hub.

For further details visit [www.embl.org/alumni](http://www.embl.org/alumni) or contact [alumni@embl.org](mailto:alumni@embl.org).

## 'Fight for it!'

Speaking to International Summer School Heidelberg students – Thomas Goroshko, Yana Kaplunsky, Yuelin Liu and Klaudia Rodi – predoc Federico Rossi reflects on his PhD experience

### How do you spend your time in the lab?

There are parts of research that are more theoretical and other parts that are more computational – my job is a nice mix of both. I have to make presentations, which are very important because you not only need to produce results but also communicate them to other people.

### What challenges do you face and how do you overcome them?

A large proportion of experiments fail, so you have to battle through that until you get to the 10% that actually work. You have to be productive, not let pressure get in the way and, while we have our own projects, work as part of a team.

### How much leisure time do you get?

Research is indeed time-consuming. If you want to be the best you have to work really hard, put a lot of effort in and be dedicated. But balance is important: there comes a point when you need to stop, go out and come back with new energy.

### What advice do you have for young people interested in a career in science?

Follow your passions, don't be discouraged and fight for it! At times you may just want to quit, but first wait – only after you fight with all your strength do you have the right to quit. These challenges are the nature of research and can make you more responsible and mature.



Twenty-six students from countries as far flung as the USA, Australia and China attended this year's School. Organised by the City of Heidelberg, their programme included three days with EMBL ELLS, where they took part in seminars, lab work and even a live video conference with Jose Viosca, a postdoc based at EMBL Monterotondo.

## Open source curriculum

As the boundary between biology and IT blurs, science education experts Philipp Gebhardt (Head of EMBL's European Learning Laboratory for the Life Sciences (ELLS) in Heidelberg) and Louisa Wood (EMBL-EBI alumna) have explored new ways of connecting these developments within the classroom. In a paper published in *PLOS Biology* in June, they considered the challenges and opportunities of innovative bioinformatics training: [www.bit.ly/160aVJo](http://www.bit.ly/160aVJo).

Two teachers reveal how they've applied activities created by ELLS, which offers multifaceted training opportunities, including the LearningLAB course for teachers, webinars, Insight Lectures series, EMBLog teacher portal, and a repository for teaching resources:

### Exploring genomes

"The activity, a treasure hunt on the internet, helped my pupils understand basic concepts of gene expression, make correlations between mutation and disease, and acquire competence in using and interpreting biological data available online. As one pupil stated: 'It is exciting to trace the pathway of genetic information from DNA-language to protein-language, and to see that all of these data are freely available.'" – *Vasiliki Kioupi, 9th Gymnasium of Nikaia, Greece*

### Making sense of biological data

"I have had appreciable results with two classroom activities: one on cancer-causing mutations and the other on genetic testing and ethical issues in schizophrenia, adapting materials presented during an ELLS course. I plan to increase the use of bioinformatic tools, and thereby contribute to the development of a new approach to scientific knowledge in my school and in Italy?" – *Monica Menesini, Liceo Scientifico Vallisneri, Lucca, Italy*

## guestbook



BECAS scholars went on a 20-day tour of Europe's most prestigious institutions

The summer months, as ever, proved a popular time for visitors to come to the lab, with a packed programme of tours, seminars and discussion sessions taking place. Visits to the main lab included 68 participants of the BECAS programme – a scholarship run by the University Francisco de Vitoria for talented pre-university students in Spain; 18 young chemists who had just taken part in the Lindau Nobel Laureates meeting (see page 13); the annual Rhein-Neckar-Zeitung readers tour; and four separate visits of young students from the Klaus Tschira Summer Academy – where, with the help of EMBL pre- and postdocs, participants reflected on questions such as what makes us human, how and why model organisms are used to study human biology, and how the eye evolved in our primitive ancestors.



Monica, right, gets hands on in the classroom

## Irish innovation



Kellie is a postgraduate training coordinator and lecturer in the school of biochemistry and cell biology at University College Cork

Links between EMBL and Ireland have been further enhanced by the introduction of a master's exchange programme with University College Cork (UCC). UCC's Kellie Dean visited the main lab in July as part of an Erasmus Mundus preparatory visit to explore opportunities for EMBL groups to host students from the university, a partner of the EMBL International PhD Programme.

### **Kellie, what will this involve?**

Our goal is to establish an exchange programme in molecular cell biology with bioinnovation. Beginning in April 2014, it provides the opportunity for students to join a research group at EMBL for up to six months and contribute to research projects that will form the basis of their dissertation.

### **What will be the main benefits?**

Erasmus Mundus initiatives aim to support

the mobility of students – it presents a chance to experience a new city and culture, especially for those who might otherwise shy away from study opportunities abroad.

It will enhance links between EMBL and UCC by connecting scientists with complementary research ambitions: one of our shared goals is to develop a Europe-wide network of recruitment, training and career support for students.

### **Do you have any advice for applicants?**

Unexpected opportunities arise at many points in a scientific career: I could never have imagined being in my current role when I was doing my PhD. Similarly, one of the aims of this initiative is to create opportunities for students to experience something new, and the facilities and expertise at EMBL provide a great platform for this.

## Survival of the fittest

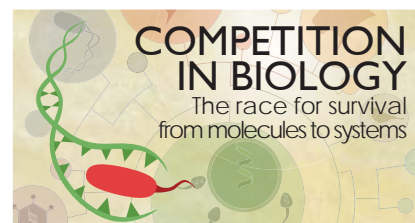
Living organisms are organised into (eco) systems. They communicate and compete for resources within and between these systems. To cope with such adversity, multicellular organisms have evolved an immune system. This allows them to compete against foreign invaders – pathogens and/or disease – whilst trying to maintain host homeostasis.

In this way, competition between different kingdoms of life shapes evolution. Perhaps viruses provide the most striking example of this: they are under constant evolutionary pressure to overcome our – and other hosts' – efforts to fight them. The recent discovery of Pandoraviruses – giant viruses with a genome that extends beyond our current knowledge – expands the rich portfolio of how competition

## Noorie Karimbocus looks forward to this year's PhD symposium

is established in the living world. Competition thus appears to drive biology.

The 15th EMBL PhD Symposium will address this from various angles. It will bring together world-leading scientists such as Ron Fouchier (Erasmus Medical Centre), Matthew Chang (Nanyang Technological University) & Kevin Foster (University of Oxford), to talk about molecular, host-pathogen and community-level competition. The event, taking place at EMBL Heidelberg, 21–23 November, is aimed at early-stage researchers from around the world. Participants are invited to submit abstracts for a short talk or a poster about their work. Travel grants based on academic merit and financial need are available. Find out more at: [www.phdsymposium.embl.org](http://www.phdsymposium.embl.org).



Ron Fouchier is amongst a stellar line-up of speakers



⇒ This story first appeared in the *EMBL Australia newsletter*, August 2013. Read more at [www.emblaustralia.org](http://www.emblaustralia.org)

## Australian PhD students on course for success

Sixty young Australian scientists got a taste of cutting-edge life sciences at the inaugural EMBL Australia PhD course in July. Modelled on EMBL's annual predoc course, the two-week programme held at the Walter and Eliza Hall Institute of Medical Research, offered participants a packed schedule of symposium-style presentations and workshops from Australian and international speakers, among them Matthias Wilmanns, Head of EMBL Hamburg.

"This course feels like EMBL," said EMBL Australia's Scientific Head – and former Head of EMBL Monterotondo – Nadia Rosenthal, at a reception held for students and speakers. "It has the same exciting vibe and the same level of excellence."

Attendees were enthusiastic about the course: "The quality of speakers was fantastic – there was a broad range of topics and it really captured what's hot in research," says Laura Baker, a PhD student at the Garvan Institute, Sydney. "I really enjoyed hearing from such a variety of researchers with so many different stories to tell about their careers – it was reassuring to hear about all the different ways a research career can unfold," adds Chloe Warren, studying at the University of Newcastle.

Inspired by their European peers, the students are now organising their own PhD student symposium, likely to be held in late 2014. Next year's EMBL Australia PhD course will be held in Perth.

## Face the music

EMBL-EBI scientist Sarah Teichmann and composer Deirdre Gibbin, both leading figures in their professions, recently featured on BBC Radio 4's *Women's Hour*, discussing their musical collaboration: *Hearing Your Genes Evolve*. The haunting piece, which was performed at the Royal Greenwich International String Quartet Festival in London, reflects Deirdre's exploration of genomics as she works with Sarah to understand Trisomy 21: Down's syndrome, a genetic disorder that affects her son.

"There are repeating patterns and rhythms within the genetic code, just as there are in music," explains Sarah. "There's a bit at the beginning of the piece that's very fast and it reminded me of the three billion bases in our genetic code – it's so huge, you need a computer to interpret it and churn through it all."

Although Deirdre had a general grasp of science at the outset, as an artist in residence it was challenging to find out how the human genome works. "I spent probably the first four months in the lab saying to most of the scientists that I talked to, 'I'm afraid that's just gone right over my head, can you say it again?' And I had to say, 'Look, you really have to make this clearer if the general public want to have access to understanding the science,'" she says. "But I got to the point where I started to think of the human body as a computer, sending signals to tell our hair to be curly or straight, to tell our eyes to be whatever colour they are."



In the composition, each of the four bases of DNA is represented by a musical motif, and Sarah describes how the relationships between them evoke the mathematical relationships

**"There are repeating patterns and rhythms within the genetic code, just as there are in music"**

– Sarah Teichmann

between biological entities. "For me, there are all these scientific connotations in the music, all these bits that I hear and I can see the connection to the structure of our genome."

"In science you have this very different culture from music," reflects Deirdre. "In music it's more about people throwing ideas around, and it's very loud. You go into the science lab

and it's quiet, people working by themselves in front of a computer. They may be working as a team but there's no sense that they are. One of the really great things about this project is that we [Deirdre, Sarah and the string quartet] were problem solving as a team."

"I thought it was amazing, and I'm really looking forward to our next collaboration," adds Sarah. "On the Genome Campus, there are many people who have been very open-minded towards this kind of work. It takes a lot to go beyond your tiny area and make the leap to the creative arts."

Sarah and Deirdre, along with EMBL-EBI group leader Nick Goldman, will be featured in a German/Swiss film called *The Secret of the Genes*, which will be screened in 2014. Details will follow in a later issue of *EMBL&cetera*.

## A rewarding retreat



Just a stone's throw from the Eagle pub, where Watson and Crick famously announced they had discovered the structure of DNA, more than 50 EMBL postdocs from across EMBL joined a retreat to find out more about each other's work, explore new ideas, and discuss careers from 5–7 August.

Speakers included Mark Patterson, Managing Director of open access journal *eLife*, who took part in a workshop on the future of publishing. "Impact factor is a bad way to access research and has a negative impact on careers," he said, before considering new approaches, services, and platforms. Mark was joined by EMBL-EBI's Jean-Baptiste Pettit



and Christophe Dessimoz, who weighed up the pros and cons of blogging and using social media for science respectively.

The retreat included workshops on rules and regulations, careers and work-life balance, overviews of EMBL research, and a prestigious new 1000 Euro prize: the EMBL Outstanding Postdoc Award, sponsored by *eLife*. Five finalists presented research in areas including evolutionary biology, cancer genomics and structural biology. Selected by participants, Ciaran Carolan (Lamzin group) won, with his talk exploring the discovery and testing of novel  $\beta$ -Lactam inhibitors. "It's an honour to receive this award, which



also recognises the important contributions to the project by EMBL colleagues and our collaborators in Moscow," said Ciaran.

Networking activities included punting on the River Cam, and a formal dinner at the venue, Jesus College Cambridge. "The retreat was very rewarding, with enthusiastic delegates, interesting science, and fantastic interactions," says participant Julia Roberti (Ellenberg group). "It provided an excellent mixture of scientific talks, workshops and network events," adds Jelger Lycklama (EIPOD in the Schaffitzel, Briggs and Pepperkok groups). This year's retreat was organised by postdocs from EMBL-EBI.



## ISMB/ECCB 2013

This July, EMBL staff and alumni, including some 50 scientists from EMBL-EBI, headed to Berlin to present talks and posters at the biggest bioinformatics event of the year: the International Conference on Intelligent Systems for Molecular Biology/European Conference on Computational Biology (ISMB/ECCB).

Scientists converged on the EMBL-EBI, ELIXIR and BioMedBridges exhibition booths to connect with EMBL scientists and to learn about new initiatives, resources, training and career opportunities. The programme was packed with EMBL-EBI presentations and workshops, including ISMB/ECCB's first dedicated session on education.

In a special session, Niklas Blomberg, ELIXIR's first Director, presented an overview of the new life science data infrastructure, and EMBL-EBI Director Janet Thornton explained the important data integration work being done in BioMedBridges, an ELIXIR project to optimise Europe's many biomedical research infrastructures. Representatives from emerging ELIXIR Nodes in Switzerland, the Netherlands, Spain and Sweden gave short talks about their activities, which were followed by a lively panel debate, chaired by Carole Goble of ELIXIR's UK Node.

Many EMBL scientists will also be presenting at this year's EMBO Meeting, which will be held in Amsterdam this September ([www.the-embo-meeting.org](http://www.the-embo-meeting.org)). The EMBL and EMBL-EBI exhibition stand will provide a perfect place to connect with colleagues and learn about the latest news from around the lab.

## It must be chemistry!

Young researchers from across the globe convened with 34 Nobel Laureates and other VIPs at the shores of Lake Constance in July – and Doris Höglinger, a predoc at EMBL Heidelberg, was one of the select few amongst them.

This year's Lindau Nobel Laureate meeting was dedicated to chemistry and featured a series of lectures, masterclasses, panel discussions and social events, providing a platform for participants to exchange ideas, discuss challenges and establish and build networks.

Discussion topics as diverse as green chemistry, chemical energy storage and conversion, and biochemical processes and structures were followed by a traditional boat trip to the garden island of Mainau. "To interact with participants working in different areas of chemistry and attend lectures delivered by the best in the field was truly inspirational," says Doris, who also represented EMBL at an exhibition profiling the lab's research programmes. "From the first day to the last, one could feel the energy and enthusiasm of participants."



Doris (right) meets Theresa Bauer, Baden-Württemberg's Minister for Science, Research and Art

## In the summertime...

Summer was celebrated across EMBL as staff and alumni came together for networking and fun for annual summer get-togethers. EMBL Monterotondo staff braved unseasonable showers to take part in an illuminating 'moon party', while EMBL Heidelberg hosted an alumni reunion followed by music, food and other activities in June. Similarly in July, EMBL-EBI's event featured dodgems (bumper cars), pony rides, big inflatable slides and some seriously intricate face painting. In August it was EMBL Hamburg's turn, with staff enjoying food, music and good company.



Monterotondo



Heidelberg



Hamburg



Hinxton

## Into the unknown

What is the most interesting as-yet-unanswered science question?



### How big is the universe?

To me, one of the most mind-boggling scientific questions is the size of the universe. How big is it? Is it infinite and if it is, how could this ever be measured? If we measure the depth of the universe and don't reach the end, it could surely mean either that it is infinite, or that our method of measurement is not reaching far enough. Only if the universe is not infinitely large will we, if ever, be able to determine its size. And this will in turn raise a further set of metaphysical questions: What's beyond the end of the universe? Is there more than one universe? What would other universes look like?

*Marie Kirsten, EIPOD, Sachse and Schultz groups*



### How diverse is biodiversity?

I'm deeply fascinated by the diversity of life forms that exist on Earth. How many species do exist? How many are yet to be discovered? What can we learn from new species and how many new scientific theories can they inspire? This is not a mere catalogue assembling exercise; it can help scientists understand how different and more complex forms of life evolved. For me, it is extremely interesting to understand how evolution used over and over again a somehow limited number of building blocks to realise an amazing range of organisms that populate our lands, our seas and our skies.

*Alessandro Ori, postdoc, Beck group*



### Why do we remember some things better than others?

I am fascinated by memory formation. Why do we remember some events, faces, books and not others? Perhaps it has to do with the intensity of feelings felt at the time of the experience. For example, I still vividly recall the night the Berlin Wall came down and the electric atmosphere as my family watched this on TV. I'd never before seen this form of relief on my parents' faces and I realised that what was happening must be something big. Luckily, scientists have started to find ways in which we can help ourselves to remember things: for instance May-Britt and Edvard Moser do some fascinating work on this.

*Katja Linssen, Marketing Communications Officer, EMBO*

## mycity

Recent warm evenings reminded me of summertime in my hometown, Buenos Aires. That got me thinking: I have no idea what the hometowns of many of my friends and colleagues look like. By sharing pictures, the spirit of these places can reveal itself. Here's a glimpse of my city – I hope you enjoy it.

*Julia Roberti, postdoc, Ellenberg group*

Clockwise from top left: A view of the Congress building and downtown Buenos Aires – on the right, the pointy cupola roof of the Confitería El Molino (The Mill coffeehouse); the University of Buenos Aires Law School, still beautiful despite the clouds – next to it, *Floralis Genérica*, a metal sculpture that closes its petals at dusk and re-opens at dawn; a morning ritual: *Café con leche* y 3 *medialunas* – dunking is allowed!; the 25m-high Tower of Babel, built to celebrate the city being named UNESCO World Book Capital in 2011 – it held 30 000 books in 53 languages that were later deposited in the city's first multilingual library; vibrant purple *Jacarandá* blossoms in spring, honoured in a children's song by María Elena Walsh



Buenos Aires

## EMBLinpictures

### Sports science!

EMBL staff head to the roads, tracks, trails and mountains for charity and fun this summer



Members of the 'Lush-us ladies' team from EMBL-EBI raised £1060 for Cancer Research UK in Cambridge's Race for Life



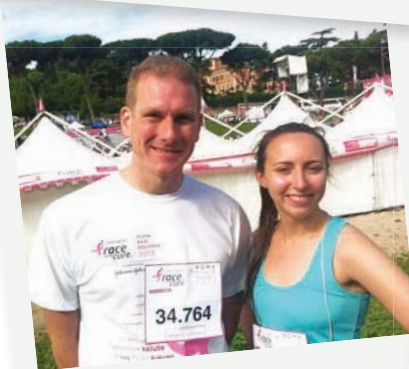
Staff from EMBL Hamburg celebrate completing the Hamburger Morgenpost charity team run in August



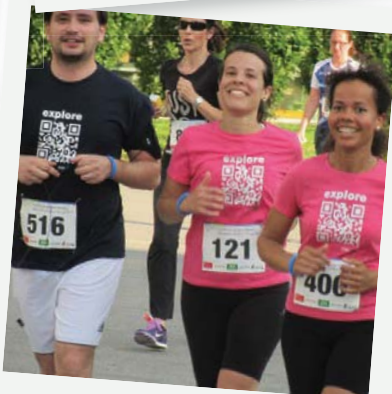
More than €300 was raised for Adéquation Germany in July's HeidelbergMan triathlon – Joe Lewis was on the fastest EMBL team



EMBL-EBI group leader Alvis Brazma atop Mount Rainier in the USA



EMBL Monterotondo's Jens Stolte takes part in 'Race for the Cure' in Rome, together with Alisa Novgorodtseva



EMBL Heidelberg's Antonio Costantino, Carolina Sabate and Jacqueline Dreyer compete in the fundraising 'NCT Lauf'



Jean-Karim Hériché of EMBL Heidelberg takes the juggling club outdoors

## newsinbrief

- ⇒ The International Society for Computational Biology (ISCB), which hosts ISMB, has kicked off an international competition to improve the coverage on Wikipedia of any aspect of computational biology. The competition, which runs from 9 September 2013 to 10 January 2014, is open to students and trainees at any level, either as individuals or as groups. For details, visit: [www.bit.ly/16lh0I4](http://www.bit.ly/16lh0I4).
- ⇒ The Safety Officers of the different EIROforum member organisations met for their fourth meeting at EMBL Heidelberg from 6–7 June. Nearly all EIROforum members participated in the event, which focused on CE Mark-

ing of scientific equipment, biological safety and learning lessons from accidents and near misses. Rainer Pepperkok, Head of the Advanced Microscopy Core Facility, gave a comprehensive overview of the latest developments in light microscopy, followed by a tour of microscopes in the lab, and Corinna Gorny, Head of the Health and Safety Office, gave a presentation on biological safety – an important topic for other life science organisations.

- ⇒ Featuring research highlights from the past year, EMBL's *Annual Report 2012/13* is now available online: [www.embl.org/annual\\_report](http://www.embl.org/annual_report).



In the Alps: EMBL Heidelberg group leaders Wolfgang Huber and Lars Steinmetz on a cycling tour

## events@EMBL

**8–11 September** EMBL Hamburg  
**11th International Conference on Biology and Synchrotron Radiation (BSR)**

**8–12 September** EMBL Heidelberg  
**EMBO Conference Series: Protein Synthesis and Translational Control**

**11–13 September** Hamburg  
**Faculty Retreat**

**17 September** EMBL Heidelberg  
**Distinguished Visitor Lecture:** David Drubin, University of California, Berkeley

**3–6 October** EMBL Heidelberg  
**EMBO | EMBL Symposium:** Seeing is Believing – Imaging the Processes of Life

**8 October** EMBL Heidelberg  
**Distinguished Visitor Lecture:** Marco Gonzalez-Gaitan, University of Geneva

**9–12 October** EMBL Heidelberg  
**EMBO | EMBL Symposium:** The Non-Coding Genome

**14–16 October** EMBL Heidelberg  
**EMBO | EMBL Symposium:** New Approaches and Concepts in Microbiology

**14–17 October** EMBL Heidelberg  
**EMBL Conference:** Myofibrillar Z-disk Structure and Dynamics

**17 October** EMBL Heidelberg  
**Science and Society Lecture:** Reflections on the Origin of the Human Social Mind, Mark Pagel, University of Reading, UK

**19 October** EMBL Heidelberg  
**Oktoberfest**

**22 October** EMBL Heidelberg  
**Distinguished Visitor Lecture:** David Pellman, Harvard Medical School, Dana-Farber Cancer Institute

**29 October** EMBL Heidelberg  
**Distinguished Visitor Lecture:** Thomas Walz, Harvard Medical School, Howard Hughes Medical Institute

For more details about these events and more, visit [www.embl.org/events](http://www.embl.org/events).

## people@EMBL



**Jean-Paul Chidiac** has joined EMBL Heidelberg as a human resources officer. Jean-Paul has seven years' experience as a HR consultant for the public sector in Paris. He studied law, philosophy and public administration and is, in his spare time, is currently working towards an executive master of advanced studies in HR management and corporate social responsibility. If you are looking for Jean-Paul outside of work, look to the skies: one of his hobbies is paragliding!



Also new to the Human Resources team is **Graziella Citton**, who joins as senior human resources officer. Graziella has more than 10 years' experience working in HR for international organisations in countries including Bosnia, USA, Liberia, Chad, the Ivory Coast, UAE and now Germany, which she says "feels like home". Graziella holds a masters' degree in international employment relations and HR management from the London School of Economics.

## awards&honours

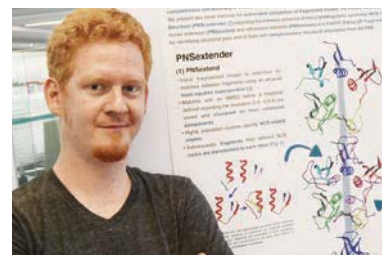
**Tilman Plass**, who gained his PhD at EMBL Heidelberg in April, has been awarded the Rainer-Rudolph-Preis 2013 for his work on developing a new technique for covalent labeling of proteins inside living cells, based on genetic code expansion with artificial amino acids. Established in 2011, the 1000 Euro prize aims to promote basic and applied research in protein biochemistry and biotechnology. It recognises the work of young scientists who have demonstrated outstanding work in the field. "I can only thank my two supervisors and my numerous collaborators at EMBL who helped to turn this project into a success story," says Tilman, who undertook the work in the Schultz group in close collaboration with the Lemke group. The award ceremony takes place in Regensburg on 19 October.

**Ciaran Carolan** wins the new 1000 Euro EMBL Outstanding Postdoc Award (see page 12).

### buy' ngop!\* (as they say in Klingon)

Breaking down complex science to something as simple as cats and dogs is no easy task. EMBL Hamburg postdoc Tim Wiegels wowed judges at the 3DSIG satellite meeting at this year's ISMB conference by doing just that, scooping the Warren DeLano Structural Bioinformatics and Computational Biophysics award for his presentation exploring bioinformatics methods to improve structural models in X-ray crystallography.

"Using something so simple to explain pattern recognition – essentially the transformation of signals to meaning using available knowledge – grabs peoples' attention and can help them to understand better: for example, you know that pugs look different than French bulldogs and if you see a shadow with pointy ears, it's easy to deduce which dog fits," says Tim. "I am delighted the judges have recognised something that I have enjoyed doing for a long time now."



Tim also created quite a stir at the outstation in August, when he delivered a Science and Society talk on the science of Star Trek. "Science fiction seems ridiculous at first but much of what was merely imagined 20 years ago is happening now: we can replicate scaffolds for organs and print live cells on them, and we can almost replicate meat," he adds. "For many scientists, Star Trek is the reason we went into science – reflecting on what can and cannot (yet) become reality is another great way to engage an audience."

*\*That's great news! (literally, 'The plates are full')*

