

# EMBL *etcetera*

Issue 71 • October 2012 • [www.embl.org/newsletter](http://www.embl.org/newsletter)



## What's in a name?

German Federal Chancellor Angela Merkel joined other dignitaries to symbolically rename the PETRA III experimental hall 'Max von Laue' on 19 September. It is 100 years since the German physicist discovered X-ray diffraction by crystals, paving the way for the emergence of modern structural biology. EMBL operates three beamlines at the facility, two dedicated to macromolecular X-ray crystallography and one to small angle X-ray scattering applications of biological material.

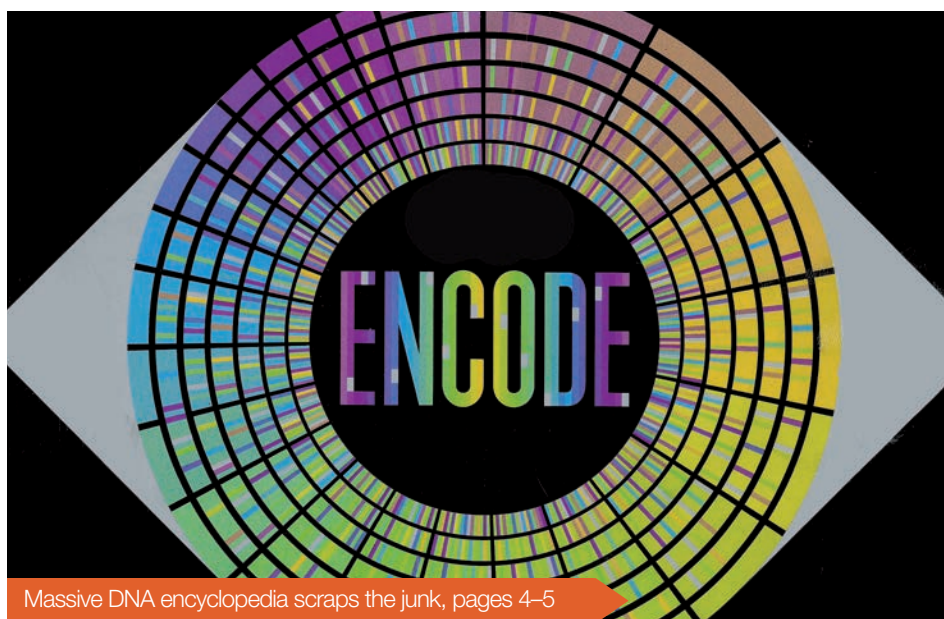
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Honoured for her contribution to life science

## ENCODE delivers

Guidebook to the human genome reveals a surprising level of activity and captures the world's imagination



Massive DNA encyclopedia scraps the junk, pages 4-5

## Found in translation

Researchers from EMBL's medically orientated partnerships meet in Barcelona

More than 150 scientists convened for a three-day conference hosted by the Centre for Genomic Regulation (CRG), 17-19 September. The meeting, which brought together representatives from EMBL, the CRG, the Molecular Medicine Partnership Unit, and three Nordic EMBL partnership institutes, featured a diverse series of presentations and poster sessions with the aim of building further connections in translational medicine.

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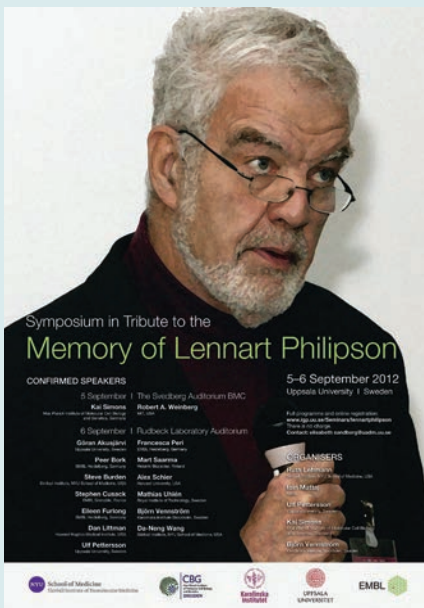
Lennart Philipson remembered

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Catching up at *The EMBO Meeting*

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Ethical dilemmas of sequencing



## A tribute to Lennart

At a special memorial symposium for EMBL's second Director General Lennart Philipson, associates, colleagues, friends and family came together to remember a leader known for being generous, flexible and approachable, an exceptional community builder and administrator, as well as for his research in virology.

A Conference on the Molecules of Life, which took place 5–6 September at Uppsala University, Sweden, created a forum where scientists from broad fields of expertise in the life sciences – including several EMBL staff and alumni – spoke on topics reflecting Lennart's diverse research interests. Presentations explored areas from cancer research to morphogen gradients, to the human gut microbiome. True to the philosophy that defined Lennart's life and work, emphasis was placed on understanding connections between research fields and promoting collaborations.

During more than a decade as Director General of EMBL between 1982 and 1993, Lennart reorganised the lab into new scientific and instrumentation units, drove the development of innova-

tive technologies, realised the importance of new fields such as bioinformatics, and insisted that staff turnover was a key to long-term success. He also led a number of other institutes during his career, notably as founding head of the Wallenberg Laboratory in Sweden and the Skirball Institute in New York.

"Lennart had all the skills necessary to lead an institution, but most unique to him was his great generosity. I was struck by the warmth that came across during the event and how well remembered his work remains," says EMBL alumnus and Founding Director of the Max Planck Institute of Molecular Cell Biology and Genetics, Kai Simons.

"Lennart was renowned for bringing together the right combination of talent to achieve goals and was deeply passionate about the importance of basic research in the life sciences as an international activity. The symposium was a valuable way of building on the dedication and vision which encapsulated Lennart's life's work," says Iain Mattaj, EMBL Director General.

## BioStruct-X

### Year one: a success

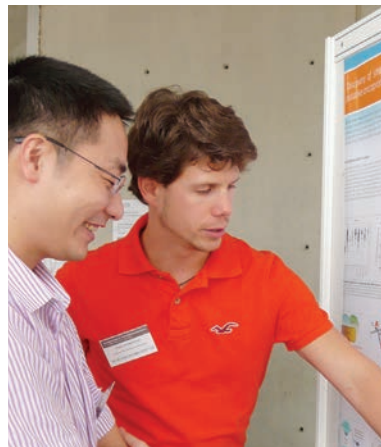
The end of the first year of the EU project BioStruct-X, coordinated by Matthias Wilmanns at EMBL Hamburg, was marked by the first annual meeting held in Oxford, UK in September. The project, which will run until September 2014, involves 19 partners from 11 countries and provides integrated transnational user access to 44 European synchrotron radiation installations.

*"This first year has been a busy one and full of action"*  
– Matthias Wilmanns

Nearly 500 applications were received via the online portal in the first 12 months. Some two-thirds of these are being supported, reflecting a high level of scientific quality overall. The second round of applications are already under evaluation: "We have a very positive outlook for year two," said Ivana Cusic, BioStruct-X project officer. "The scientific community has recognised BioStruct-X as an important tool for gaining access to some of the best European infrastructures."

Fifty participants from across Europe took part in the meeting, which included updates and reports from work package leaders, four of which focus on research – including method and instrument development – and another on networking and collaboration. "This first year has been a busy one and full of action," says Matthias Wilmanns, coordinator of the project, "we look forward to what year two will bring."

## EMBL partners found in translation



With surroundings including Gaudi's grand designs and the hustle and bustle of La Rambla, scientists involved with EMBL's medically orientated partnerships met for a three-day conference hosted by the Centre for Genomic Regulation (CRG) in Barcelona 17–19 September.

'Perspectives in Translational Medicine' brought together 150 researchers from EMBL, the CRG, the Molecular Medicine Partnership Unit, and three Nordic EMBL Partnership Institutes, to discuss research connecting basic science with medical research.

The programme featured more than 40 presentations by directors and group leaders from the institutes. The wide spectrum of topics reflected the diversity of research being investigated through the partnerships, including human genetics, infectious disease, regulatory networks, stem cells, and cancer. The event also included a range of networking and poster sessions.

"The benefits of bringing together researchers in molecular and cellular biology with experts in clinical research are well illustrated by the research projects being pursued through EMBL's partnerships," says Iain Mattaj, EMBL Director General. "It is also clear that there are many more areas where combined expertise could spark the development of important new research directions."

EMBL's local and remote partnerships are developed with the aim of realising mutual benefits for EMBL, partners and member state countries. This includes the sharing of expertise and facilities, and the joint development of new projects. The competitive process to develop a Danish node focussed on neuroscience that will be part of the Nordic EMBL Partnership in Molecular Medicine has been finalised, with details to be announced soon.

## Name dropping

Angela Merkel, Germany's Federal Chancellor, visited EMBL Hamburg's shared campus for the renaming of the experimental hall of the PETRA III synchrotron ring



Left to right: Angela Merkel, Helmut Dosch, Ada Yonath and Olaf Scholz

Together with Hamburg's First Mayor Olaf Scholz, Nobel Laureate in Chemistry Ada Yonath, and Deutsches Elektronen-Synchrotron (DESY) Director Helmut Dosch, Angela Merkel symbolically renamed the experimental hall 'Max von Laue'. A century ago, German physicist Max von Laue discovered X-ray diffraction by crystals, opening the door to the exploration of the nanocosm and the basis of the field of modern structural biology.

Over the past 100 years the method of investigating the atomic structure of matter using X-rays has been refined and optimised. "In a remarkable way, PETRA III builds upon the sphere of research and knowledge for which Max von Laue laid

the foundation stone one hundred years ago", Angela Merkel said in her speech.

**"A globally unique centre of structural research is being built"**

*– Olaf Scholz*

"Our large-scale facilities offer unique insights into the nanocosm," said Helmut Dosch. "These super-microscopes can, for example, reveal the molecular grappling hooks of pathogens, illustrate the process of chemical reactions and allow the investigation of new materials on the atomic level."

"A globally unique centre of structural research is being built on the science campus in Hamburg Bahrenfeld," Olaf Scholz said. He

stressed the importance of the kind of basic research done on the site for the region and beyond. "The metropolitan region of Hamburg is happy and also a little proud about the fact that a significant and world-renowned sector of structural research in natural sciences is taking place here."

"Today's event was an historical occasion," said Matthias Wilmanns, head of EMBL Hamburg. "Reflecting back on the past 100 years of X-ray crystallography shows what impressive achievements have been made during that time. With the plans for new infrastructures and centres on the DESY campus, I am sure we can look forward to a new era of high quality structural research, especially in the field of structural biology."

## Prestigious grant-funded projects



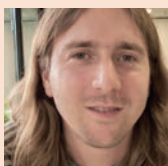
### Enhancing understanding of the oceans

Inspired by the Roman god of the seas, the four-year €3.3 million NEPTUNE project led by EMBL Heidelberg's Detlev Arendt will focus on multidisciplinary training in evolutionary developmental biology and the neurobiology of marine animal models. Funded by the Marie Curie Initial Training Network and beginning in March 2013, the project brings together academia and industry. Fellows will be trained in diverse genetics and imaging techniques and address research topics from evolution to sensory systems. A major aim is enhancement of the European molecular marine community.



### Breathing new life into metabolomics

Coordinated by Christoph Steinbeck of EMBL-EBI, the COSMOS (Coordination of Standards in Metabolomics) project will bring together European data providers to set and promote community standards that will make it easier to disseminate metabolomics data through life science e-infrastructures. Launched 8 October, the €2 million EU-funded project coincides with the development of repositories such as MetaboLights and the growing support for life science e-infrastructures such as ELIXIR, EU-OPENSOURCE and BBMRI. <http://cosmos-fp7.eu>



### Studying bacterial interactions

A project studying how genes and proteins organise in pathways/complexes, and how these interconnect in bacteria, is being led by EMBL Heidelberg's Nasso Typas, who has been awarded the Sofja Kovalevskaja Award. Starting 1 September for five years, it combines systems-based and molecular biology approaches to study the cell envelope – the outer layer of a bacterium that selects what can enter the cell, and through which the bacterium senses its environment. The €1.65 million grant, awarded by the Alexander von Humboldt Foundation, is one of Germany's most prestigious academic awards.

## Dame Janet Thornton



EMBL-EBI Director Janet Thornton's investiture as a Dame Commander of the Order of the British Empire, took place on 12 October at Windsor Castle. The ceremony was conducted by Prince Charles (standing in for the Queen), and the day proved very memorable for Janet and her family.

This most prestigious of honours recognises Janet's immense contribution to science and her unflinching push to support the life sciences in Europe. In typically modest fashion, she insists that this award should be shared and enjoyed by all at EMBL-EBI. To this end, the medal will be proudly displayed for all to see at the EBI in the coming weeks.



# ENCODE delivers the data

Major scientific effort inspires a new publishing model

On 5 September, the hundreds of scientists working on the ENCODE project revealed a surprising level of activity in the human genome. The project generated so much new information about gene function that it required a new publishing model in which open-access articles and datasets are interconnected.

Just as the Human Genome Project revolutionised biomedical research, ENCODE is driving new understanding and opening new avenues for biomedical science. Led by EMBL-EBI and the National Human Genome Research Institute (NHGRI) in the US, it sets out to create an encyclopedia of DNA elements. Its detailed map of genome function now identifies four million genetic 'switches', and provides an essential reference to help researchers pinpoint specific areas of research for human disease.

The findings are published in 30 connected, open-access papers appearing in three science journals: *Nature*, *Genome Biology* and *Ge-*

*nome Research*. *Nature* also developed an iPad app to help users navigate the data on the go.

The ENCODE publications sparked a huge amount of interest, making front-page news in the *Guardian*, *New York Times* and *Washington Post*, headlining on BBC television news in the UK and featuring in thousands of newspapers and websites around the world. But for many scientists, one of the most interesting features of the ENCODE publications was an innovation in reporting: a 'virtual machine' that allows readers to explore the precise analysis methods themselves.

ENCODE combined the efforts of 442 scientists in 32 labs in the UK, US, Spain, Singapore and Japan. They generated and analysed more than 15 terabytes (15 trillion bytes) of raw data – which is publicly available. The study used the equivalent of around 300 years of computer time studying 147 tissue types to determine what turns specific genes on and off, and how that 'switch' differs between cell types.

- ⇒ More about the ENCODE source publications: <http://bit.ly/Obeudv>
- ⇒ Facts and figures about the ENCODE project: <http://bit.ly/WzpyCs>
- ⇒ *Nature* iPad app: <http://bit.ly/Va7DnR>



Our genome is simply alive with switches: millions of places that determine whether a gene is switched on or off," says Ewan Birney. "When we look at ENCODE data we can see that definitely 9% of it has a regulatory function – although that number may be much higher.

"The genome is a lot more complex than we had imagined: 95% of it is in the immediate neighbourhood – within eight kilobases – of a protein-DNA contact point (where gene regulation is happening). We can't say for sure which of those activities are essential and which are just evolutionary neutral (but biochemically reproducible). For example, some of the switches are turning on and off, but they don't seem to be connected to anything – whatever they were regulating before just isn't around anymore."

Ian Dunham of EMBL-EBI, who played a key role in data analysis, explains that ENCODE data was made available throughout the 10-year project, and has already been used in a number of studies. "The data can be used by any disease researcher, whatever pathology they may be interested in."

"In many cases you may have a good idea of which genes are involved in your disease, but you might not know which switches are involved. Sometimes these switches are very surprising – their location might seem more logically connected to a completely different disease. ENCODE gives us a set of valuable leads to follow to discover key mechanisms at play in health and disease. Those can be exploited to create entirely new medicines, or to repurpose existing treatments."



Ewan Birney, EMBL-EBI co-Associate Director, and lead analysis coordinator for ENCODE for the past five years





## Dancing with DNA

Talented, tireless and putting the finishing touches to her PhD thesis, Ling Lee, a young gallerist at the London Science Museum, hit upon the idea of using aerial silk acrobatics for a new exhibition inspired by ENCODE that would get kids interested in gene regulation.

Ling convinced Ewan Birney and physicist/choreographer Michele Laine to put their heads together to depict gene looping, regulation and expression using three fearless dancers and about a mile of silk. The result was an inspired display of creativity that provided a dramatic backdrop to the ENCODE press conference, and was a big hit with the visiting public the following day. As part of the exhibition, Ling quizzed Ewan about dance and DNA:

### Why were these 'switches' so hard to find?

Looking at DNA is a little bit like getting the world's best book, like *War and Peace*, but in Russian when you don't know any Russian at all. It's very long, heavy and hard to understand.

### So you decided to explain it via dance?

When this idea came along, I did think to myself, "I can't believe I'm seriously considering this." The cynic in me said this is crazy. But there is something very loopy and silky about strands of DNA.

### What science can we see in the dance?

The switches that turn your genes on and off are sometimes a long distance from the genes they control. We think a strand of DNA loops over and over when 'deciding' whether or not to turn on a gene. The loops are key. You'd imagine it would end up in a mess with all these long DNA loops in a small space. But somehow, your cells know how to keep this all relatively smooth and knot-free.



### Anything else we can spot?

DNA is a right-handed, anti-parallel helix. That means it twists clockwise and that the DNA code reads up on one side and down the other. It really winds scientists up if you get that wrong.

### How does this relate to things like disease?

Imagine the DNA loops form when your body is deciding how to react to an infection. The switch has got to be tuned just right so that if you get the infection, it switches on the relevant genes, to make antibodies, for example. But if it switches your genes on too often, you start getting an autoimmune disease like Crohn's disease, where the body attacks itself. So too sensitive is bad, and not sensitive enough is also bad. It's got to be just right.

### Is this what scientists call 'epigenetics'?

Epigenetics has a historical meaning, but what it means today is all the things DNA carries with it permanently from generation to generation, including between cell divisions, as well as between generations, and whether these switches are on or off.

⇒ Watch a short video of the aerial ENCODE dance on the *Telegraph* online: <http://bit.ly/P0yKx7>



Double take

Daniela Cornacchia and colleagues in Sara Buonomo's lab at EMBL Monterotondo have identified for the first time a protein responsible for regulating the specific timing of DNA replication in mammalian cells. The study, published in the *EMBO Journal*, also indicates that this protein might play a role in breast cancer.

Every time a cell divides it must copy, or replicate, its DNA in its entirety. Scientists know that replication begins at different sites – known as replication origins – at different times and this ordering appears to be crucial for the correct packaging of DNA. However, the factors that control when and where each replication origin is activated have remained a mystery, until now.

The study identifies the protein Rif1 as a key regulator of this process. The scientists show that, when they removed Rif1 from cells, the normal timing of DNA replication for many replication domains was lost. The discovery of the first global regulator of replication timing has empowered the researchers with the possibility to define the biological significance of this programme. The team reports that the consequence of this deregulation is the incorrect packaging of the newly replicated chromatin.

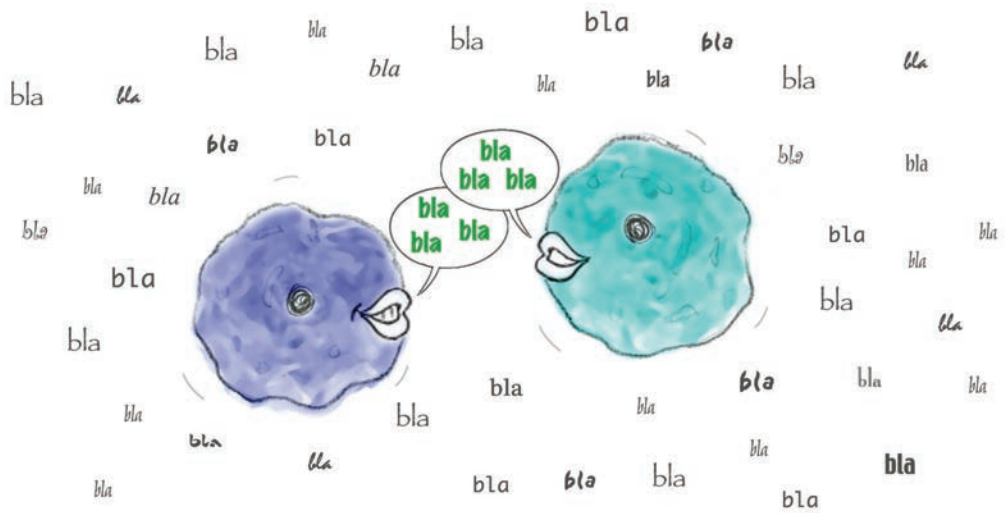
These findings raised an interesting connection. "Rif1 has been found mutated in breast cancer cells," says Sara. "Our findings give an explanation, at multiple levels, as to how a change in Rif1 function could really be a causative event in transformation into a cancerous cell." The team knows that some breast cancer-causing mutations disrupt DNA packaging being passed from a cell to its daughters and they believe that faulty versions of Rif1 could cause cancer in the same way. Rif1 mutations could also affect the cell's ability to detect and react to problems in DNA replication – another hallmark of cancer cells.

## Speaking of cells

Cells release thousands of proteins into their environment in response to many different signals. This process – known as secretion – allows cells to ‘talk’ to each other, but it is notoriously tricky to study.

Scientists in Jeroen Krijgsveld’s team at EMBL Heidelberg have devised a solution to this problem, developing a new method to study the way cells communicate. Their approach, published in *Nature Biotechnology* in September, makes use of a technique known as click-chemistry to separate labelled, secreted proteins from the many other proteins – or background noise – present in the serum in which cells are grown. The secreted proteins can then be identified and even quantified using mass spectrometry.

Previously, to ensure that only the proteins secreted by cells were considered, scientists had to starve cells, growing them in the absence of serum. The group’s work, however, shows that even very short periods of starvation can have a drastic effect on the proteins



that a cell releases. “The method we have designed solves this problem and allows us to track secretion over time,” explains Jeroen.

They believe that this approach could have diverse applications, from testing cellular response to drugs to analysing samples from patients. “There is huge interest in finding secreted biomarkers of disease,” says Jeroen. “Our technique could allow us to use real patients’ cells to look for them. This would be a huge bonus.”

The scientists hope that the technique could be applied by many researchers and even lead to the development of new diagnostic tools. Katrin Eichelbaum, the PhD student who carried out the work, adds: “The advantage of this approach is that it is widely applicable – anyone could go to the lab now and use this technique.”

The work was a collaboration with Stephan Herzig’s group at the German Cancer Research Centre (DKFZ) in Heidelberg.

## Know your enemy

Together with collaborators from Ghent University in Belgium, EMBL Hamburg and Grenoble scientists have helped to shed light on the mechanisms of immune response modulation caused by the Epstein-Barr virus (EBV) responsible for a range of diseases.

EBV, also known as the Human Herpes Virus 4 (HHV4), is a member of the herpes virus family and is a global human pathogen known to cause a diverse range of diseases, including glandular fever and several types of cancers and lymphomas.

The work, published in *Nature Structural and Molecular Biology* in August aids understanding of how the viral protein BARF1 neutralises the human growth factor hCSF1 and could have implications on the development of therapies and drug compounds.

“The discovered mechanism to modulate the immune response is really unique and probably the most exciting result of this study,” says Dmitri Svergun, pictured, who led EMBL Hamburg’s contribution to the research.



## How cells defend internal threats

The immune system is well known to protect our bodies from invaders. Less well known, however, is a system that protects cells from internal threats. Scientists from the Pillai group at EMBL Grenoble have identified a protein that, like the immune response, helps this system to remember past foes.

Within our DNA are concealed potentially dangerous sequences known as transposons. These sequences must be tightly controlled to prevent them copying themselves and ‘jumping’ into other regions of DNA. In developing mouse – and human – sperm cells, the job of preventing these ‘jumping genes’ from wreaking havoc falls to a family of proteins called Piwi. Piwi proteins use short RNAs as bait to capture transposons. The latter are then cleverly broken down to make more bait. “In this sense the target actually becomes the defending molecule. This means the cell is able to establish a sort of memory as you only make more copies of the small RNAs you need, like the immune system making antibodies,” explains Jordi Xiol, the predoc who carried out the work.

In the study, published in *Molecular Cell*, Jordi and colleagues in the group identified a protein called Fkbp6, without which mice become sterile, because DNA damage – presumably caused by



Jordi Xiol and group leader Ramesh Pillai

uncontrolled transposons – accumulates in their sperm. The team found that this protein is required for mice to make short RNAs that protect them from uncontrolled transposon activity. Further study revealed that Fkbp6 interacts with the cellular protein-folding machinery. Together they have a role in removing inhibitory RNA by-products generated during transposon cleavage, allowing the cells to recycle Piwi proteins so that the system can keep working.

## 'When you are at EMBL, you are in an idea stream'

### Founding head of the Electron Microscopy Core Facility, Claude Antony, reflects on nine years at the cutting edge

Powerful microscopes, excellent training and great teamwork: components that have formed the bedrock of the Electron Microscopy (EM) Core Facility during the past nine years. After building up the facility from humble beginnings, Claude Antony hands over the reins (see back page) following a time of remarkable developments in EM technologies and techniques, in general and at EMBL.

"This is now one of the great facilities in Europe – our work is highly integrated, serving highly diverse research interests and we host some of the most advanced EM microscopes available," Claude explains.

#### Solutions from synergy

Claude points to a team of dedicated scientists, technicians, and engineers working to solve problems in organisms ranging from bacteria and yeast to *C.elegans*, *Drosophila* and even *Amphioxus*. "People are not always fully aware what the difficulties are in using EM," he says. "Often you have to rethink the theory and the practice – what works in one model system might not work in another, and this is part of what makes the work so challenging. People working in the facility are highly competent and motivated to solve scientific and technical problems and there is a great synergy between groups at EMBL."

One highlight he recalls was work led by his research team, which created the first high-resolution 3D image of a complete eukaryotic cell and delivered major insights into the fine structure of the cytoskeleton. But there have been countless others, from the localisation of proteins to advancements in tomography, by both researchers at EMBL and visitors.

"Users can install specialised software (developed by the University of Colorado) on their computer and through acquisition of

raw data with EMBL equipment can do image processing and modelling back at their home institution," Claude explains. "There is a lot of emphasis placed on teaching in the facility – visitors learn a lot and use the knowledge to enhance capacities in their own labs."

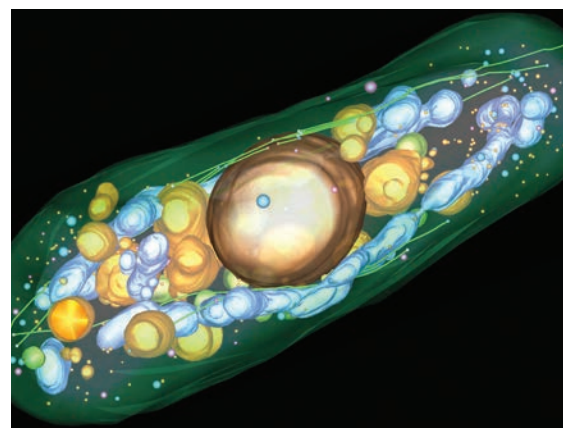
#### Making an impression

Claude, who now takes up a position at IGBMC in Strasbourg, points to the efforts made by the lab management to deliver the resources and space the facility needs to host top of the range microscopes, such as the Tecnai F30. "It is something emotional as it became a very popular machine in the EMCF," he explains. "It is now very robust so that many users can use it fairly rapidly. It is amazing to have such powerful microscopes in the facility – I felt much like a car enthusiast might feel about having a Ferrari on their driveway. New research directions using this equipment are opening up ways to further understanding in many areas – from proteins to cell architecture."

"I felt much like a car enthusiast might feel about having a Ferrari on their driveway"

– Claude Antony

A familiar face in many aspects of life at EMBL, Claude could often be found welcoming visitors for tours of the facility, taking part in social events and impressing colleagues with performances on the violin in a lab-based quartet. And it is the lab's unique working environment that has perhaps left its greatest impression. "When you are at EMBL you are in an idea stream," he says. "It is intense and vivid, and it is this that has made the time I had here so exciting and memorable."



Top to bottom: Starting out in 2003: first 3D 'map' of a eukaryotic cell; with his team in 2010

## Finding new antibiotics gets easier

Discovering new antibiotics starts with identifying small molecules that can neutralise proteins that are essential for a pathogen's survival. Many researchers use High-Throughput Screening (HTS) to accomplish this, but it's a method with high costs and relatively few hits in this area. Researchers from EMBL-EBI, the University of Cambridge, University College London and the University of St Andrews have worked out a novel, practical computational methodology for finding brand new classes of inhibitors.

The new method uses ultrafast shape recognition, which can quickly identify molecules in a database that have a similar shape to a known inhibitor. In this way, only the molecules that fit the target's active site – and thus are likely to bind to and potentially neutralise it – are fed into the docking calculation. This makes it easier to exploit massive, diverse molecular databases quickly and cheaply, making use of both ligand and protein structure data.

"We tested the methodology on two versions of an antibacterial target related to

tuberculosis. In the past HTS has not come up with satisfactory results, so we've known very little about the diversity of molecules that might bind these targets," says Pedro Ballester of EMBL-EBI. "Now, we have worked out more than a methodology – we were able to identify an outstanding diversity in the structure of these inhibitors, which can inhibit the enzymatic function of the target. In all, these inhibitors contained more than 50 different chemical scaffolds. That is very promising for identifying new medicines."

## The EMBO Meeting: On ageing, the cell cycle and the evolution of life

More than 1000 scientists from leading universities and research institutes attended *The EMBO Meeting* held in Nice, France, 22–25 September. EMBL was well represented among the participants, including attendees, poster presenters and speakers.

Eric Karsenti, EMBL senior scientist, returned to his home country to talk about the two-and-a-half-year Tara Oceans expedition. His colourful movies and striking images of the oceans' plankton-rich ecosystems left a lasting impression. "The journey was a fabulous experience," said the cell biologist. "The results we have started to analyse in detail will be an invaluable resource for scientists looking to model global ecosystems."

Keynote lecturer Linda Partridge, Director of the new Max Planck Institute for Biology of Ageing in Cologne, Germany, and of the University College London Institute of Healthy Ageing in the UK, spoke about the biology of ageing. She outlined what is known about extending the lifespan of different organisms and how it might one day be possible to use drugs to improve lifespan and the quality of life as we age.

Paul Nurse, President of The Royal Society and Director of The Francis Crick Institute, opened the conference with a keynote lecture on the control of cell division. He outlined many of the known findings as well as the complexities of the genetic regulation of cell division. "It is important to simplify the gene network to better understand what is critical," he concluded.

Other speakers explored topics spanning optogenetics, chromatin regulation, the world of RNA, and the link between oxygen sensing and disease. The four-day conference also offered a platform for ex-

change and discussion. 'Meet the Speaker' lunches enabled many younger scientists to meet face-to-face with renowned researchers. Those interested in the challenges of scientific publishing came to the 'Meet the EMBO Editors' lunch and could attend a science policy and publishing session the next day.

A highlight of the social programme was the PhD Meets Postdoc party at the University of Nice Sophia Antipolis. More than 200 young scientists met new colleagues and enjoyed an extensive discussion about the latest life science developments.



### Nice to see you

EMBL staff, alumni and friends caught up with old colleagues, made new contacts, exchanged scientific ideas and enjoyed *The EMBO Meeting* experience at the annual EMBL staff-alumni get-together held during the event.

Amongst the 50 participants were four alumni living in Nice – all from EMBL's Developmental Biology Unit and all now working at the Institute of Biology Valrose! Permanent contracts were the hot topic for local alumni, read more at [www.embl.org/alumni](http://www.embl.org/alumni).

"It was great to have a 'session' dedicated to the EMBL community who attend this particular meeting en masse, and who you would otherwise rush past between the wealth of science sessions," says EMBL Staff Scientist Matyas Gorjanacz.

[www.embl.org/alumni](http://www.embl.org/alumni)

### 'This wouldn't happen anywhere but EMBL'

Matthias Mann, alumnus and winner of the Körber European Science Prize 2012 for his ground-breaking work on the proteome, got chatting at the EMBL staff-alumni event in Nice

**Then:** "I came from instrumentation and physics when Wilhelm Ansorge hired me as an EMBL group leader in 1992, so I was a bit of an outsider. At EMBL I was able to take my first big risk: to examine proteins using my own new methods. If I'd done this anywhere else, it would have taken ages for anything to materialise. At EMBL, scientists such as Matthias Hentze and Marino Zerial put my methods to optimal use. We had nine top publications in one

year, making the technology famous very quickly. This wouldn't have happened anywhere but EMBL.

"Our technology also influenced the direction of the work of the other EMBL scientists. Angus Lamond, for example, was doing splicing in the lab next to mine. He got interested in our technology,

and eventually changed half his research to work on proteomics. The same happened with Giulio Superti-Furga, who then founded Cellzome. Both have remained long-term collaborators.

"EMBL was one of the two most important stations in my life (my PhD was the other), giving me the opportunity to develop our technology and to meet the people who are still my main network in Europe."

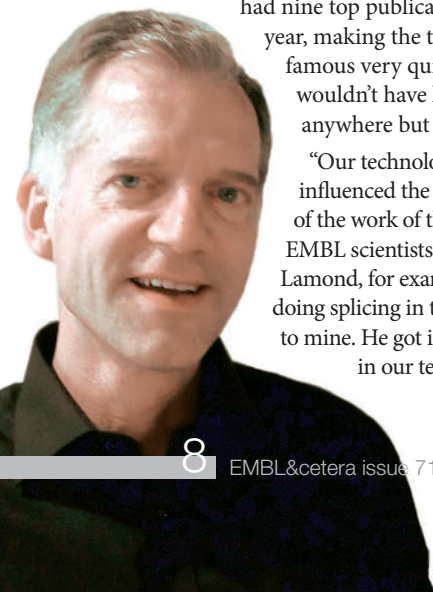
**"EMBL was one of the two most important stations in my life"**

– Matthias Mann

**Now:** "As Director of the Proteomics and Signal Transduction department at the Max Planck Institute of Biochemistry (MPI), I'm continuing the theme I've always worked on. As a physicist – and mathematician – I was involved in the discovery of electrospray during my PhD. I developed this in Denmark, and then applied it to biology at EMBL.

Now we're applying it to medical conditions at the MPI. So basically I started my career investigating physical phenomena, moved to developing relevant instrumentation, which I then applied to isolated proteins, and finally to medical conditions: we now classify cancer patients, what subtypes they have, and how they should be treated.

"My department spends half its time continuing to develop this technology, and half researching new areas possible only with this technology."







Main image: Alan's home, a narrowboat moored near Kew Gardens in London, shown here with Alan's wife, Nadia Rosenthal. Insets, top to bottom: Alan outside Paratopes Ltd; on his arrival in Heidelberg in the early 1990s; Alan, left, in the early days, with Paratopes business partner Angus King

## A quadruple alumnus

Alan Sawyer on 23 years of life and science at EMBL, and his latest venture, a commercial version of an EMBL Core Facility

It was the call for a practical mind that attracted Alan Sawyer to EMBL Heidelberg in 1990. Alan joined as a technical assistant tasked with antibody work for the Kreis and Karsenti groups, and ended up working for the whole Cell Biology Unit, with additional projects for Developmental Biology.

"It was extremely enjoyable and fascinating," Alan recalls. "I interacted with a huge number of scientists, getting to know their projects while gaining a broad overview of the science being carried out in EMBL units. Plenty of opportunities for practical projects, too: I came up with a lab-side purchasing database for Eric Karsenti's lab in 1990, that metastasised all over EMBL by 2001."

Alan's passion for antibodies and facilities led him to establish the Monoclonal Antibodies Core Facility (MACF) at EMBL Monterotondo in 2001, the Monash

Antibody Technologies Facility (MATF) in Australia in 2008, and now Paratopes Ltd, a commercial version of the EMBL MACE, in London.

EMBL alumnus Angus King will join Alan at Paratopes later this year, with plans for a technician to start mid-2013. "The future looks healthy," Alan reveals. "We invite the EMBL community to use Paratopes – naturally, discretionary rates are available to staff and alumni."

Regarding his EMBL experience, Alan summarises: "EMBL is freedom, offering you the opportunity to do science untrammelled by hierarchy, and facilitated by a fantastic, nimble administrative staff and infrastructure." He playfully warns current EMBL staff to "prepare yourself for a shock: nothing is ever really as good as EMBL! Use the Alumni Association to stay in touch."

## Mark your diaries

**23 November** EMBL Monterotondo Alumni Association Board Meeting followed by staff-alumni event, 4pm EMBL staff and alumni are invited to an informal get-together with the EMBL Alumni Association board and head of the Monterotondo outstation.

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

## Cambridge connection



Christina Pancevac, Margarete Neu and Victor Neduva – all working at GlaxoSmithKline

UK-resident EMBL alumni gathered at The Punter, one of Cambridge's cosiest pubs, for a relaxed evening of reconnection and networking on 20 September. More than 30 former research and service staff from across EMBL met in the first of a series of informal get-togethers, organised by EMBL-EBI in the UK.

Participants included EMBL leavers from two decades ago to date, now well established in academia and industry at the University of Cambridge, Sanger Institute and GlaxoSmithKline.

EMBL-EBI organisers Lindsey Crosswell and Mary Todd Bergman are hoping to hold some future events further afield. The next gathering is planned for spring 2013. Send any feedback to [lindsey.crosswell@ebi.ac.uk](mailto:lindsey.crosswell@ebi.ac.uk).

## Which historical figure would you most like to meet?



### G.N. Ramachandran

Ramachandran is one of the most accomplished, but under-celebrated scientists of all time. The clever elucidation of collagen structure using very modest resources and the intelligent genesis of the Ramachandran plot – a fundamental tool in the analysis of protein structures – are just two of his contributions to immensely different fields of science, which some regard as of Nobel Prize calibre. With X-ray crystallography becoming increasingly important in our understanding of biology, what could be more interesting than to get a pioneer's perspective of the past, present and future?

*Madhankumar Anandhachkrishnan, postdoc, EMBL Hamburg*



### Leonardo da Vinci

Da Vinci was not only a scientist, but a painter, an engineer and most interestingly to me, an inventor. He fascinates me because his thinking was extremely advanced for his time – some at the time might have argued too advanced – and his curiosity and ingenuity seemed to have no limits. He was able to not only understand but also develop and advance highly diverse areas of science, many of which form entire research paradigms today. Considering all our current technology, I would love to meet him, to see his mind at work and discuss with him what new inventions he might come up with in the modern era.

*Michele Cristovao, postdoc, EMBL Heidelberg*



### Aristotle

Nearly 2500 years ago, when science began to become systematic, Aristotle constructed a fascinating system of concepts. His work covers a categorisation of causes (material, formal, efficient and final) and the division of science into complementary fields (logic, theoretical, practical and poetic). Furthermore, he formulated a concept of potentiality and actuality (similar to modern physics energy and information). Of political structures he had an organic view. Today, in a globalised world, it would be interesting to hear this generalist again, this time concerning our aims to reunify the disciplines and to solve global problems.

*Justus Fuesers, predoc, EMBL Heidelberg*



### Thomas Hunt Morgan

There are many scientists from history I would like to meet, but Thomas Hunt Morgan is top of my list. I would love to know what it was like for him being a key player at the forefront of genetics, how it felt challenging the Darwinian and Mendelian theories of evolution and inheritance. It would be incredible talking about the elegance of his work with *Drosophila*, how he entertained himself counting flies all day and how his work was a major factor for me choosing a career in genetics. I might even share some of my lab disasters with him and see if he ever accidentally over-etherised his flies.

*Mindi Sehra, scientific training officer, EMBL-EBI*

## bookreview

### *The Heart Broke In*, James Meek

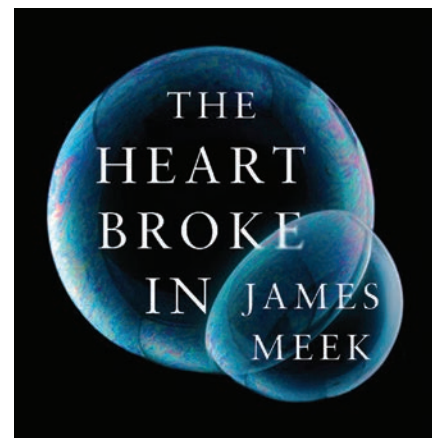
Sachi Okamoto reviews a dark story of science and human nature

*The Heart Broke In* is a story that highlights how the 'certainty' many associate with science is often surrounded by the uncertainty of human nature. Through the eyes of two very different siblings, James Meek ingeniously explores the universal structure of good and evil.

The book begins in central London, where Ritchie Shephard, a married TV producer and former rock-star, is desperately searching for his lost mobile phone: evidence of his affair with a teenage mistress. Four thousand miles away in Tanzania his sister Bec, an idealistic scientist, is vaccinating children against malaria village by village using a self-developed vaccine she named after her father.

Though apparently polar opposites – one addicted to lies, the other to truth – this is a story about the bonds of a family: a man who naively believes that he can protect his secret from his family, and a woman who, in spite of her solid career as a scientist, still searches for a moral foundation.

The story is fuelled by plots and subplots encompassing dark areas from blackmail to murder that poignantly brings their lives together and makes the reader think about what they would do in this situation: How far will Richie go to save his own skin? What is more important: reputation and career, or family? Moreover, what do you think you can protect?



Some of the characters portrayed in the book appeared at times to be one-sided or overly stereotypical. However, the variety of the storyline and the questions it raises keeps the reader guessing until the end.

## A dangerous method?

Researchers are facing difficult ethical dilemmas worldwide, as whole genome sequencing becomes more commonplace. EMBL Heidelberg's Jan Korbel, who is involved in a multidisciplinary initiative, reflects on the challenges ahead

The hope that a scientific discovery made in the lab may one day improve someone's life is a motivation for many scientists. It is rare though that one result could have a dramatic effect on the lives of an entire family. Imagine then being unable to communicate this potentially life-saving information to them. This was the situation faced by Jan Korbel and his colleagues recently.

Whilst studying a tumour sample donated for research purposes, Jan and his colleagues identified a mutation in the tumour-suppressor gene, p53 – the so-called 'guardian of the genome'. The mutation was such that the donor, a young girl, could only have inherited it from her parents, making it likely that members of her family were also affected. However, due to the consent forms, which must be signed before all similar research projects, these results could not be returned to the family.

Jan and his colleagues realised that this knowledge could allow extensive screening and potentially life-saving early tumour detection for the whole family, making the finding seemingly too important to conceal. So, after much deliberation, it was decided to break protocol and inform the family's doctor.

This experience, Jan says, was a key motivating factor for his ongoing involvement in the Heidelberg-based 'Ethical and Legal Aspects of the Total Sequencing of the Human Genome' (EURAT) project, which has been funded through the Heidelberg University Excellence Initiative. EURAT is a consortium of bioinformaticians, molecular biologists, geneticists, doctors, lawyers and theologians, whose aim is to



EMBL group leader Jan Korbel, far left, with members of the Heidelberg-based EURAT consortium

provide a code of conduct for dealing with whole genome information.

"One of our proposals is to generate a so-called positive list," says Jan. "The idea is to identify targets in the genome that could and should be reported back to the donor. These targets should be information that would be of definite use to the patient," he explains. "We don't want to report negative news to patients if there is absolutely nothing we can do about it, nor do we want to report back findings with unclear consequences."

*"The code of conduct produced by EURAT could be applied more widely,"*  
– Jan Korbel

EURAT is also concerned with the issues surrounding confidentiality of medically relevant data and the need for new consent forms, which might allow incidental findings to be reported back to donors. Furthermore, the consortium is considering how the patient's

right not to know might be affected. "If you go to the clinic with a broken rib, and doctors perform an X-ray and find lung cancer, they are not allowed to hide this information from you," explains Jan. It is possible, therefore, that after genome sequencing, a doctor may be obliged to inform the patient about any incidental findings at sites on the positive list.

Ultimately, EURAT hopes to collate their findings into a position paper offering a clear procedure for everyone, from bioinformaticians to doctors. "The central goal is to ensure that we are doing the right thing here in Heidelberg," explains Jan, before adding, "The code of conduct produced by EURAT could possibly be applied more widely, and eventually be incorporated into new legislation."

Jan concludes: "Since we now have the opportunity to see a lot about the genetic information of people, we should feel a responsibility." It is Jan's hope that EURAT's efforts will help to define exactly what that responsibility is.

## EBI industry gathering

Members of the EMBL-EBI Industry Programme held their Autumn meeting at the EMBL Advanced Training Centre in Heidelberg this year. EMBL Director General Iain Mattaj shared his thoughts on 'EMBL: now and the future' and spoke with members about how EMBL responds to new challenges in science.

Iain explained how the structure of EMBL allows researchers to dynamically re-align their work as new areas of science emerge. He went on to showcase the breadth, quality and dynamism of the research being done throughout the lab, with a focus on

imaging. Following Iain's talk, EMBL-EBI's Janet Thornton gave a detailed overview of progress in ELIXIR and the BioMedBridges project, and Guy Cochrane presented the new CRAM sequence compression technology that is planned to be rolled out in early 2013.

In a special session, Klaus Urbahns, Vice-President of Research for Merck KGaA, Germany, spoke about successes and failures in the clinical development of new drugs. The talk was well received by the group of programme members and EMBL scientists, and was followed by a very lively Q&A.



## talkingpoint

Developmental biologist John Gurdon, who together with Shinya Yamanaka received this year's Nobel Prize for Physiology or Medicine on 8 October, delivered a keynote lecture at the EMBL|EMBO symposium 'Germline – Immortality through Totipotency' on the induction of pluripotency by the female germline at EMBL Heidelberg less than a week following the announcement.

More than 1200 participants from all over the world have convened at the EMBL Advanced Training Centre for five jointly-organised symposia this year, with the conferences providing a platform for discussion in areas as diverse as immunology, diabetes and obesity, quality control and mRNA.

Other headline speakers have included Janet Rossant (University of Toronto), Steven L. McKnight, (UT Southwestern Medical Center), Jonathan Weissman (University of California) and Nikolaus Rajewsky (Max-Delbrück Center for Molecular Medicine).



Clockwise from top: More than 450 participants at 'The Complex Life of mRNA'; John Gurdon giving his lecture; busy conference organisers



## Science in Salzburg

Around 100 EMBL predocs descended on the historic city of Salzburg, Austria for this year's retreat 21–23 September where attendees took part in scientific and career-oriented lectures as well as networking and social activities.

The scientific sessions gave participants the opportunity to talk about their research in a uniquely relaxed peer-to-peer setting. Presentations covered subjects such as cancer genomics, RNA sequence analysis and the developmental biology of marine species – representing many of the broad areas of research that predocs carry out at EMBL.

External speakers – all EMBL alumni – gave insight into careers beyond academia, and included commercial researcher Manfred Koegl, patent lawyer Roger Abseher, and entrepreneur Georg Casari. The talks sparked lively debate relating to the relative pros and cons of working in academia and industry, and the role of research in society. Poster presentations and talks having finished, participants explored the beautiful sights of Salzburg and its surrounding countryside and took part in local cultural activities.



## Faculty retreat

Networking and intermingling are the keywords when describing this year's Faculty Retreat, on 12 and 13 September at Stromberg, Germany.

Presentations by new group leaders mixed with talks from well-established researchers to give an overview and update on EMBL research, and build a platform for discussion and ideas that might lead to new collaborations.

Highlights in the area of services included the presentation of the new EMBL-EBI service clusters (see page 13) and Thomas Schneider's proud announcement that the new PETRA III beamlines are now fully operable. New EMBL thematic centres, which promote collaborations across disciplines and areas of technology, were introduced: the Centre for Statistical Data Analyses, Centre for Biomolecular Network Analysis, Centre for Mathematical Modelling and Centre for Chemical Biology.

Iain Mattaj, who finished the first day with his presentation, gave an update on EMBL's recently renewed five-year programme and pointed out that it was highly appreciated, in a challenging economic climate, that all member states continue to support the ideas EMBL stands for.

In addition, he emphasised the support activities at EMBL, such as training, networking with member states, industry



Top: Stefano De Renzis, Marcus Heisler and Darren Gilmour. Middle: Sarah Hunter and Claire O'Donovan. Bottom: Orsolya Barabas, Marko Kaksonen, Péter Lénárt and Jonas Ries

relations and outreach, which go hand in hand with research and are indispensable and necessary for the success of EMBL as a research institute.

## The next regeneration

At the end of August, EMBL Heidelberg hosted the conference ‘Stem Cells in Cancer and Regenerative Medicine’, focused on the potential role of stem cells in tackling disease. It provided a forum for scientists attending from around the world to develop ideas to enhance and make use of stem cell biology in areas such as cancer research and regenerative medicine.

One of the conference organisers, Ian Wilmutt, a University of Edinburgh embryologist most famous for his leadership of the team that first cloned a mammal – Dolly the sheep – shared his thoughts with postdoc Michele Cristovao about how he believes the field is developing.

### Twenty years ago

“People used to think that once a cell becomes a specific type of cell, such as a skin or liver cell, it couldn’t change, because the mecha-

nisms that got it to that state were too complex and rigidly fixed. The most important thing that the Dolly research did was to show us that this is not absolutely the case. It made people think differently about it.”

### Since then...

“The most important breakthrough came from Shinya Yamanaka who, by putting four carefully chosen proteins into skin cells, showed that a few of them changed, becoming very similar to embryonic stem cells – cells that can develop into any cell you want.

“The advances offer huge potential in studying inherited diseases. Researchers can now take skin cells from a patient, turn them into cells that cause a certain disease, and compare them with similar cells from a healthy person. This was not possible before. The value of this is that you can set up drug screens that use these cells to look for small



Ian Wilmutt in his lab

molecules that reduce the harmful effect of the abnormal function.”

### And the future?

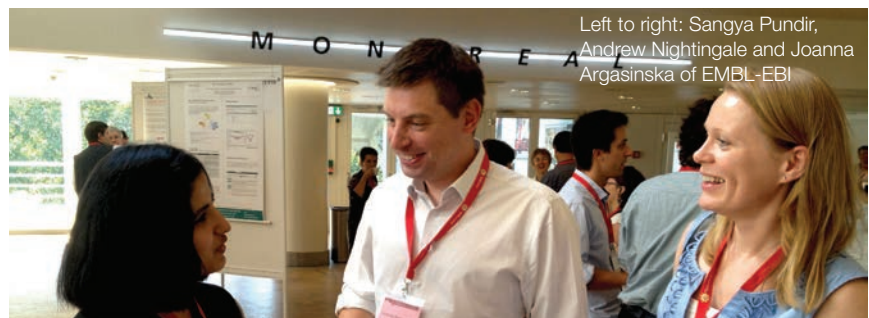
“If you are thinking of cells for therapy, you need cells which are immunologically very closely matched to the person you want to treat. The most exciting thing in the long run is that these procedures may make it easier to have these cells. But it will take at least 10 years for this to become reality.”

## A decade of UniProt

UniProt, the comprehensive catalogue of protein information hosted at EMBL-EBI, celebrated its 10th anniversary this September in Basel, Switzerland at the European Conference on Computational Biology. Close to 150 scientists listened as 12 renowned speakers explained how they use the UniProt databases, and a series of posters highlighted how this key knowledge base underpins a substantial range of work in molecular biology today.

“For functional annotation, UniProt is the most important resource available,” says Janet Thornton, Director of EMBL-EBI. “It is very much in demand, as it is helping researchers to capture function *in silico* – one of the biggest challenges in computational biology.”

“UniProt has 24 000 000 protein sequences and a lot of specific, complete annotation,” says Paul Thomas, University of Southern California. “For manual identification and



Left to right: Sangya Pundir, Andrew Nightingale and Joanna Argasinska of EMBL-EBI

annotation of protein subfamilies in the PANTHER resource, reading UniProt annotation can now take the place of reading the literature – this is largely thanks to the work of UniProt biocurators, who bring all the related information together.”

Jose Duarte of the Paul Scherrer Institute in Switzerland and Judith Blake of Mouse Genome Informatics at the Jackson Laboratory in the US praised the resource for rapidly evolving to meet the needs of researchers:

“UniProt is really a wonderful resource: accessible, responsive, a place for mutual sharing of information,” says Judith.

UniProt is a collaborative effort between EMBL-EBI, the Swiss Institute of Bioinformatics and the Protein Information Resource. More than 100 people work on this service as biocurators, software developers and trainers. The UniProt Consortium will soon have new leadership at EMBL-EBI, as Alex Bateman steps into his new role (see back page).

EMBL-EBI service clusters	Overseen by
Genes, genomes and variation (also taxonomies)	Paul Flicek
Proteins and protein families	Alex Bateman
Molecular and cellular structure	Gerard Kleywegt
Chemical biology / Molecular systems	John Overington
Molecular Atlas (also BioSamples and Experimental Factor Ontology)	Alvis Brazma
Literature / shared ontologies / controlled vocabularies	Rolf Apweiler

## EMBL-EBI services re-align

The UniProt celebration comes on the heels of a restructuring at EMBL-EBI. Rolf Apweiler and Ewan Birney, co-Associate Directors, rolled out a new system of service ‘clusters’ that correspond to major research domains. Each is overseen by a senior scientist, who reports back to Rolf and Ewan. The new arrangement makes it easier to share knowledge and expertise between the many EMBL-EBI resources. “It’s important that we focus on scientific areas, rather than on databases,” says Rolf. “Organising our leadership in this way will help us achieve better, more efficient data integration and ultimately better service.”



## Café Scientifique

The first Café Scientifique co-organised by EMBL and the Café Sciences et Citoyens de l'Agglomération Grenobloise attracted nearly 50 people to downtown Grenoble, on 10 October, for a relaxed and interesting discussion on various medical and research issues related to flu.

Three panelists – Rob Ruigrok, UJF research director on Influenza and a member of the Flupharm project; Alain El-Sawy, GP and member of GROG, the French national flu monitoring network; and Agathe Billette de Villemeur, public health expert – engaged in a lively discussion with the audience. From vaccination efficiency to research goals, through decision-making for public health policies and standard medical practice, the debate touched on all the important questions surrounding the Influenza virus and helped replace research projects such as Flupharm in a wider societal context.



## Poetic science

Throughout 2012, EMBL-EBI and Wellcome Trust Sanger Institute staff have been exploring issues of society and the personal genome as part of a campus-wide engagement project. As part of this, the Sanger Institute hosted a poet-in-residence to provide a new way of engaging with the issues of personal genomics, such as identify, family and health. The poet, Fiona Sampson, wrote eleven poems that were unveiled at a reading before being published as a book and adorning walls across campus.

Jeffrey Barrett, Sanger researcher and chair of the project committee says: "Almost as soon as I started talking with Fiona, I found myself off my familiar script of explaining what research I do, and instead talking about why I do it. That one conversation changed how I view my own science."

Fiona reflects: "Before I started visiting the campus, my own interest in the human genome mostly had to do with individuation. Listening to so many scientists talk about how and why they work has been humbling and instructive; it's shifted my interest towards what's communal and universal."

## Family Ties

Follow the silk —  
airy ghost —  
this is the thread  
the good mother spins  
in stories.  
Run your hand along its  
rail,  
climb the stairs to her  
and see yourself  
in her old face.  
Mother, godmother —  
their faces blur  
but still — look —  
the coloured ties  
float beside you;  
jump and pulse.

©2012 Fiona Sampson. Used with permission. First published by Genome Research. Limited for the Wellcome Trust Sanger Institute.

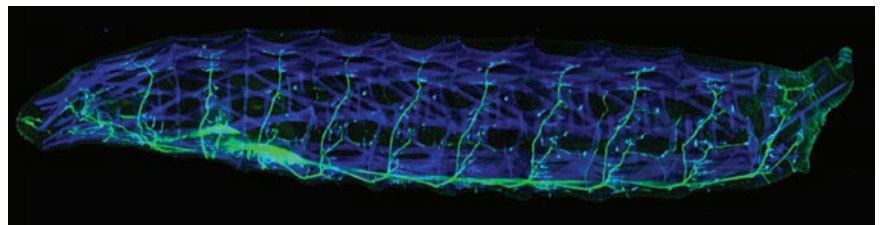
## science&society

### In the picture

"How can you learn about human development from fruit flies and what does it have to do with disease?" This is a question often put to developmental biologists and one that Benny Shilo has gone to great lengths to answer. Shilo, Professor of Molecular Genetics at the Weizmann Institute in Israel, explained his novel approach to a curious audience at a Science and Society lecture at EMBL Heidelberg in September.

Armed with a camera and an eye for photography, Shilo has compiled an exhibition of scientific images accompanied by striking photographs from the human world. This exhibition seeks to explain the fundamental concepts in developmental biology using the visual metaphors provided by Shilo's photos. "The motivation was the realisation that the public, in the broad sense, is not aware of the latest developments in biology," says Shilo. "I wanted to explain the use of model organisms, their relationship to disease and to provide an understanding of stem cells."

The project, developed during a year-long sabbatical at the Radcliffe Institute in Cambridge, Massachusetts, was inspired by a donation from the Weizmann Institute to the famous Israeli dance company, Batsheva.



Top: fruit-fly larva showing a subtle variation in the structure of nerves (green), connecting to the muscles (blue) in each segment (R. Sowade, B. Göllner, C. Klaembt). Bottom: women weeding a field (Rajasthan, India). While all appear similar in custom and activity, variations in dress colour and body pose are apparent

The gift, an image from Shilo's lab, depicts a stage of *drosophila* larval development when the tracheal cells, which Shilo studies, bear a remarkable resemblance to a row of dancers. The comparison intrigued Shilo: "There was visual similarity saying – 'here are cells and they look like dancers' – but what I wanted was to convey a deeper meaning of the concept, rather than just the visual aspect."

The result is a collection of images, at once

eye-catching and thought-provoking – some portray visual similarities while others explore conceptual similarity. The idea is "to convey a sensual understanding and not necessarily a technical understanding," he explains.

Now back in the lab, Shilo plans to continue developing this project, with new images, and a possible book and website. "Once you start to think in this way, you see it everywhere," he adds.



Courtesy of the University of Dundee

EMBL Director General Iain Mattaj receives an honorary Doctor of Laws from the University of Dundee



Courtesy of Boris Blyk

Members of EMBL's Alpine Club take in the views on the annual retreat, which this year took place at Gastlosen, Switzerland



EMBL Heidelberg's new Culture Club visits the Vorgrimmler vineyard near Freiburg, co-run by EMBL alumna Maj Britt Hansen



Staff at this year's Oktoberfest celebrations wear traditional costume at EMBL Heidelberg on 19 October



133 6 20

EMBL Heidelberg employs some new lawnmowers to tidy the lawn in front of the EMBL ATC – a facebook favourite!



EMBL-EBI's Roman Laskowski (under the pseudonym of Mark Roman) publishes the sci-fi comedy *The Ultimate Inferior Beings*

## newsinbrief

⇒ EMBL and the European Commission held their annual meeting on 11 October, as agreed in last year's memorandum of understanding. The meeting, co-chaired by EMBL DG Iain Mattaj and Rita Lecbychova, Head of Unit for Joint Programming of the Directorate General for Research and Innovation, covered the exchange of recent developments in the EC and EMBL. A range of issues was addressed, from Horizon 2020 to Charter and Code for Research-

ers. EMBL Heidelberg also hosted a visit from Ana Arana Antelo, Head of Unit for research infrastructures at the EC on 14 September.

⇒ EMBL's Bio-IT project (<http://bio-it.embl.de>) presented its first training course on 27 September. Holger Dinkel and Frank Thommen introduced the 34 participants from across EMBL to the Linux command line. Attendees learned how to navigate through the linux filesystem, manage files, folders

and permissions all without the help of graphical tools or the mouse. The course will be repeated early next year. Next up: Advanced Linux Shell course, taking place 5–6 December. Register now!

⇒ The 10th public Molecular Medicine Partnership Unit research day took place at the ZMBH at Neuenheimer Feld on 19 October. Members of the partnership – a joint venture between EMBL and the Medical Faculty of Heidelberg University – delivered talks on research areas including HIV, chronic pain, cystic fibrosis and stem cells.

⇒ From 3–11 September, EMBL Hamburg hosted the EMBO Practical Course on Protein Expression, Purification and Characterisation. Now in its eighth installment, the biannual course brought together 20 participants from 15 nations and renowned scientists from the field of molecular biology.

Ana Arana Antelo of the European Commission (fourth from left) with staff from across EMBL sites



## events@EMBL

**5 November** EMBL-EBI

**Course:** Joint EMBL-EBI & Wellcome Trust Proteomics Bioinformatics workshop

**9 November** EMBL Heidelberg

**13th EMBL|EMBO Science and Society Conference:** Biodiversity in the Balance: Causes and Consequences

**13 November** EMBL-EBI

**Heads of Units/Senior Scientists Meeting**

**17 November** EMBL Heidelberg

**EMBO Conference Series:** From Functional Genomics to Systems Biology

**19 November** EMBL Heidelberg

**Science and Society Forum Lecture:** Hunting our Molecular Past with Ancient DNA, Eske Willerslev, University of Copenhagen, Denmark

**19 November** EMBL Hamburg

**Course:** European School for Macromolecular Crystallography (ESMAX) joint EMBL-CCP4 training course

**20 November** EMBL-EBI

**Open Day**

**26 November** EMBL Hamburg

**Winter Council Meeting 2012**

**26–27 November** EMBL Heidelberg

**ELLS LearningLAB:** Biology 2.0 – Making Sense of Biological Data

**5–6 December** EMBL Heidelberg

**Bio-IT course:** Advanced Linux Commandline and Basic Scripting

**10 December** EMBL Heidelberg

**Distinguished Visitor Lecture:** Steven Henikoff, Howard Hughes Medical Institute & Basic Science Division, Fred Hutchinson Cancer Research Center, USA

**13 December** EMBL Heidelberg

**Distinguished Visitor Lecture:** Andrew Fire, Dept. of Pathology and Genetics, Stanford University Medical School, USA

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

## people@EMBL



**Alex Bateman** becomes Head of Protein Sequence Resources at EMBL-EBI in November. During 15 years at the Sanger Institute, he led the development of protein and RNA family databases that are popular worldwide. In 2010 he received the Benjamin Franklin Award for Open Data in the Life Sciences. His group's databases – MEROPS, Pfam, Rfam and TreeFam – join EMBL-EBI's suite of protein and proteomics resources.



**Karen Barratt** has joined EMBL-EBI as a grants officer. Karen has a background in finance and funding, and joins following 10 years as the finance office manager for Gateway to London, a sub-regional development agency in the UK. She brings with her significant experience in areas such as revenue, training and quality assurance.



**Federico Follmer** has been appointed Chief Accountant. Originally from Argentina, Federico has a degree in business administration. He has held similar positions at financial institutions and in industry, including two decades at Siemens. Federico feels at home among EMBL's mix of cultures and languages – his career to date has taken him to many different countries, including Germany, Morocco, Venezuela, Mexico, and the USA.



**Michael Müller** is the new Web Officer in the Office of Information and Public Affairs at EMBL Heidelberg. With a background in British studies, politics and communication science, he also holds a master's degree in European Studies from the University of Birmingham. He joins from Dresden, Germany, where he worked as Web and PR Officer in the Mayor's Office.



**Justin Paschall** has joined EMBL-EBI as Variation Team leader in the new Genes, Genomes, and Variation cluster. Justin's team maintains the DGVA structural variation database, the EGA Genome-Phenome Archive, and will work to provide an archive of genetic variation for use in other EMBL-EBI resources and throughout the scientific community.



**Corinna Schepp** has joined EMBL Heidelberg as head of the Kinderhaus. Corinna arrives following similar positions in Germany, Spain and Ecuador. Born in Heidelberg, the role sees Corinna return to her roots while continuing to work in an international environment. Her primary goal is to continue the development of an effective and modern learning environment for children. Her hobbies include swimming, walking and travelling.



**Yannick Schwab** joins EMBL Heidelberg in November as team leader and head of the Electron Microscopy (EM) Core Facility. Yannick arrives following seven years as head of the EM Facility at the Institut de Génétique et de Biologie Moléculaire et Cellulaire in Strasbourg/Illkirch. His group will develop correlative light and electron microscopy techniques to achieve 3D imaging of biological objects.



**Oliver Stegle** is a new group leader at EMBL-EBI, following a postdoc at the Max Planck Institutes for Intelligent Systems and Developmental Biology. The new group focuses on computational modelling of molecular and genetic systems, aiming to understand how genetic and environmental factors contribute to traits or diseases. The group combines statistical modelling and computational genomics in the context of applied projects.