



New faces at 2007's Winter Council meeting

Octavie Modert, Secretary of State for Culture, Higher Education and Research in Luxembourg, was present at EMBL's Winter Council meeting in Heidelberg on 20-21 November to mark the official ratification of her country as EMBL's newest member state. During the meeting, Council agreed to the appoint a working group to review the social security benefit situation for EMBL fellows. They also heard that the EC will attend EMBL Council meetings as observers in the future, and there were favourable SAC reviews of EMBL Hamburg, EBI Services and Developmental Biology. [page 2](#)

EBI hosts VIPs at official opening of new building

The EBI celebrated the official opening of its new East Wing on 23 October with an opening ceremony held in the Wellcome Trust Conference Centre and tours of the new facilities for VIP guests. Ian Pearson (pictured right), UK Minister of State for Science and Innovation, was one of them, and he addressed the audience about the progress of the EBI since the institute opened in 1995 and its position as the main provider of biological data resources in Europe. [page 4](#)



"We try to encourage the children to find their talents"

What must it feel like to be a foreign child new to EMBL Heidelberg's Kindergarten? You don't know a single word of English or German; nobody understands what you're saying and you don't have a clue what people are talking about. Luckily there are teachers like Janin Topaloglu, who take care of these lost little poppets with a safe, daily routine. In the latest of our "Behind the Scences" interviews, Janin talks about day-to-day life in the Kindergarten, and how the teachers need great patience and not a little creativity to encourage the children to find where their talents lie. [page 5](#)

PETRA-III gets her top on

Staff members from EMBL Hamburg, the German Synchrotron Research Centre (DESY) and a select group of VIPs braved the cold on 26 November to witness the 'topping-out' of the experimental hall of PETRA-III, Hamburg's new source of brilliant X-ray light. A team from EMBL Hamburg will operate three beamlines when it opens in 2009. The traditional 'Richtfest' welcomed German Research Minister Dr. Annette Schavan and Hamburg's First Mayor Ole von Beust to the DESY campus, where the new roof was celebrated with speeches and schnaps. [page 4](#)



133 participants from over 40 countries enjoyed the valuable insights into 'Patterns in Biology' offered at the 9th International EMBL PhD Student Symposium on 24 October. Leading scientists from very diverse fields disclosed the patterns and models that lie behind any great scientific discovery. [page 7](#)

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There was a special guest at EMBL's Winter Council meeting in Heidelberg on 20-21 November. Octavie Modert, Secretary of State for Culture, Higher Education and Research in Luxembourg, was present to mark the official ratification of her country as EMBL's newest and twentieth member state. She gave a speech to the assembled delegates about research developments in Luxembourg and then accompanied EMBL DG Iain Mattaj on a tour of the laboratory.

The Council delegates managed to finish a busy meeting in the record time of one day – a day, however, that was more than 10 hours long. Of pressing interest to EMBL pre- and postdocs will be the news that Council agreed

to amend EMBL's Staff Rules and Regulations so fellows are now classified as established members of personnel. Currently, EMBL fellows have very limited access to social security benefits, and a solution must be found that ensures equal treatment *vis-à-vis* social benefits for all EMBL sites, while improving the present situation and complying with the EU's European Researchers Charter. Council also appointed a working group on terms and condition of employment to review the situation. They will bring their recommendations to next year's summer meeting, after which Council will decide which measures to implement.

In addition to the financial news, Council delegates heard that the ATC project is pro-

ceeding according to plan; the EMBL Interdisciplinary Postdocs (EIPOD) programme has just offered its first positions (see story, below); and the rectors of the universities in Oslo, Helsinki and Umeå signed an agreement to establish the Nordic EMBL Partnership for Molecular Medicine.

Delegates also heard that the EC would like to have closer interactions with EMBL and other intergovernmental research organisations, and as a result will attend EMBL Council meetings as observers in the future.

With the EU's Seventh Framework Programme (FP7) underway, the EC granting authorities have already approved 11 projects, three of them coordinated by EMBL scientists, and many more are still pending. Please notify the grants office about any grant applications that you have in preparation or are planning to submit.

The Scientific Advisory Committee (SAC) reviews of the Hamburg outstation, EBI Services and Heidelberg's Developmental Biology were presented by the SAC chair Paul Nurse. Many of their recommendations have already been implemented: a technical steering group for the PETRA-III project in Hamburg has been appointed, for example, and a new Dean of Graduate Studies will replace Anne Ephrussi early next year. The introduction of the PANDA joint team (led by Rolf Apweiler and Ewan Birney) in EBI Services will deal with databases founded on nucleic acid and protein sequence information in an integrated way. The next SAC reviews will be of EMBL Monterotondo in February and the Gene Expression Unit in Heidelberg in May.

Finally, in a expression of satisfaction at the way the lab has been developing, Council extended Iain's contract until the end of October 2017. "I'm very grateful for this expression of confidence in my work, and to all of you for the ongoing support that you give me and the rest of the EMBL leadership," he said.

New faces join 2007's Winter Council meeting



Iain Mattaj with visitors Octavie Modert (left) and Josiane Entringer, the Council representative for Luxembourg

Overwhelming response for first round of EIPODs

Sixteen new interdisciplinary postdocs will start work at EMBL in the coming months thanks to the pleasing response to the first round of applications for the EMBL Interdisciplinary Postdocs (EIPOD) programme.

The new programme for postdoctoral fellowships attracted 124 applicants, of which 30 were invited for interview. The programme provides internal funding for three years for up to 16 postdocs per year working across at least two labs on an interdisciplinary project.

As well as being the first round of applications, this year's result was also a successful

pilot of the project-proposing procedure, in which group and team leaders were encouraged to get into twos or threes to come up with interdisciplinary project ideas and hand them in to their Head of Units. 32 projects were proposed by teams of faculty from all the EMBL sites and units, of which 24 were selected to be advertised.

Detlev Arendt, EMBL faculty member responsible for postdoc issues, was chuffed to bits with the result. "We couldn't have wished for anything better," he said. "The groups and team leaders were really happy with the many excellent candidates we got, most of which had

been involved in some very successful research for their PhDs"

More information can be found on the postdoc pages of the EMBL website. You can also contact Katalin (szpisjak@embl.de) Detlev (arendt@embl.de) or Matthias Hauray (eicat@embl.de) for more details.

A very successful annual selection has also been made for the Ministerio de Educación y Ciencia-funded Spanish Postdoc programme. Of 25 good-quality applicants to the initiative aimed at Spain-based young researchers, 8 have been offered a place in a lab at EMBL.

Flex your artistic muscle – and you could win *The EMBO Journal* cover prize 2008

The EMBO Journal – one of the most-read scientific journals on molecular biology – has a tradition of publishing beautiful and evocative photography and artwork on its front cover. They've just announced their contest for the best cover images for 2008.

As in the previous years, one winner will be selected from each of two categories: Best Scientific Cover and Best Non-Scientific Cover. The prize for both winners will be a free one-year print- and online subscription to both *The EMBO Journal* and *EMBO reports*.

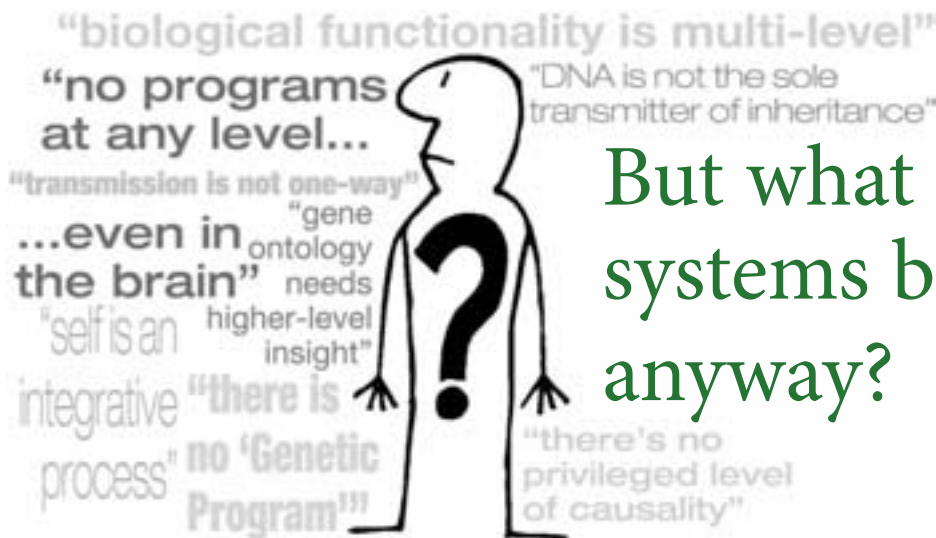
The Scientific Cover prize will be awarded to the most captivating contribution depicting

molecular biology research. Images may be light or electron micrographs, 3D reconstructions or models of biological specimen or molecules, spectacular artefacts collected in the lab, innovative views of lab equipment, or other images encountered in research activity and which may appeal to molecular biologists.

The Best Non-Scientific Cover award will be assigned to the most interesting and beautiful image made outside the lab. Contestants may submit photos or artistic impressions of wildlife, plants or landscapes. Particularly welcome will be hand-drawn or computer-generated artwork relating to a biological or molecular biology topic.



The deadline is 18 January 2008. See www.embo.org/cover_contest08.html for further details and more examples of previous covers (in colour!).



On page 20 of the EMBL Programme 2007-2011, it is stated that “The synthesis of... diverse approaches is systems biology. This approach is the natural next step for EMBL to take and will form the heart of the next five-year Programme”.

So that's what we'll be doing, then. But what is systems biology, actually? How does it fit into EMBL's current research, and what does it mean for you?

Denis Noble, often mistakenly dubbed the father of systems biology (he insists that honour should go to Claude Bernard, who in his 1865 book *Introduction à l'étude de la médecine expérimentale* championed a systems approach) came to EMBL on 5 November to try to explain it.

“Something is exploding in systems biology,” confirmed the Oxford University professor and cardiac specialist. “The trouble is, no-one really knows what it is.”

The first step in understanding the field is to undo years of conditioning. “Systems biology requires a big paradigm shift in the way we

think about biology,” Professor Noble says. Molecular biologists, in particular, have long worked according to the principles of reductionism – that things are best understood by stripping them down to their smallest components and studying them in isolation.

But, as Professor Noble says as he lists his ten principles of systems biology, “Biological functionality is multi-level. Transmission of information isn't just one-way; there's downward causation from all levels. Neither is there a privileged level of causality.”

So, a full understanding of biology demands an holistic approach – putting everything back together again. In his work in the Oxford Cardiac Electrophysiology Group, Professor Noble uses data resources and software alongside traditional experimentation to recreate working models of whole organs, in particular the heart. But even at a level further down the scale, a systems biology approach can be essential: understanding a protein structure by analysing the collective behaviour of amino acids, for example.

But what the heck is systems biology, anyway?

At EMBL, we have those data resources, the computer know-how and the research techniques. We've also been supplementing these with cross-disciplinary approaches, in particular the EMBL Centres for functional genomics, imaging and computational biology. Now it's just a case of putting it all together to understand whole processes and organ function. “EMBL has gathered much of the expertise required to take a systems approach over the past ten years,” says DG Iain Mattaj. “Now we want to combine and extend these efforts for a deeper understanding of complex biological phenomena.”

In early October, EMBL and the EBI presented their activities in systems biology for the first time, with a stand at this year's International Conference on Systems Biology in Long Beach, California. Looking at the bigger picture, expansion into systems biology can improve drug development and research into disease, with testing to such organ models predicting effects on the entire organism, and the interplay of genetic and environmental factors revealing new causes of disease.

Shaken not stirred: a global research cocktail served in Hinxton

The first joint Cold Spring Harbor Laboratory/Wellcome Trust Conference on Functional Genomics and Systems Biology was held at the home of EMBL-EBI, the Wellcome Trust Genome Campus in Hinxton, on 10-13 October. It was the result of 15 years of BITS workshops ('Beyond the Identification of Transcribed Sequences') and was organised by EBI group leaders Alvis Brazma and Nick Luscombe, alongside Tom Freeman from the University of Edinburgh and Katheleen Gardiner of the University of Colorado.

It covered many aspects of global and systems biological approaches and functional genomics, areas which are rapidly evolving and diverging in unpredictable and exciting directions. In a session about cellular screening, the EBI's Wolfgang Huber presented the analyses of two genome-

wide RNAi screens in human cell lines using live timelapse imaging to automatically screened cell cultures for cell cycle-related phenotypes.

Eileen Furlong, a group leader at EMBL Heidelberg, followed the binding of Twist, Tinman, Mef2, and other developmental transcription factors during the development and differentiation of mesodermal fly cells. The timecourse data allowed deconvolution of the changes in target sites bound by various factors, showing that the same transcription factor binds different subsets of genes, in coordination with changing target gene expression and cellular status.

On the topic of computational approaches, Nick Luscombe talked about metabolic network regulation in *E. coli*. Insights into the regulation

of catabolism and anabolism can be gained by integrated the metabolic network with both direct and indirect regulatory networks. These direct and indirect control mechanisms, involving the rapid control of enzyme activity or much slower control of enzyme concentration respectively, selectively regulate catabolism and anabolism by coordinating reaction time scales, specificities and concentrations.

Alvis Brazma presented ongoing efforts to build a gene expression atlas to mine combined microarray data sets available in public repositories. Combining experiments from different array platforms is challenging and relies on a qualitative assessment of gene expression.

The next conference is scheduled for 2009.

– Louisa Wright

Monte scientists celebrate launch of 'neuroscience and society' initiative

On 12 November a conference in London marked the launch of the European Neuroscience and Society Network (ENSN), the first network in Europe serving as multidisciplinary forum for timely and necessary engagement with social issues surrounding the neurosciences.

Branco Weiss fellow Giovanni Frazzetto, with his double affiliations at EMBL Monterotondo

and the BIOS Centre of the London School of Economics, was instrumental in setting up and seeking support for this initiative, which is funded by the European Science Foundation. The lab of Cornelius Gross, who is an advisory expert in the network steering committee, will be involved in the network.

The last twenty years have seen unprecedented progress and innovations in the neuro-

sciences. Despite evidence that advances in this branch of experimentation are having a significant impact on the lives of individuals across Europe, there has been little formal engagement within the European social sciences with the ethical, social and legal implications of recent developments in this branch of scientific experimentation.

The ENSN aims to change this through the development of research strategies, conferences, exchange visits and workshops that will bring together leading European neuroscientists and social scientists for sustained discussions and cross-disciplinary exchanges.

The recent conference, entitled 'Neurosocieties: the rise and impact of the new brain sciences' was the first event for the network. The event went extremely well and hosted engaged dialogues on public health and the politics of neuroscience, neuroeconomics, consciousness, behaviours and the sources of a neurochemical self. Convenors of the network and participants in the conference tried to set up the agenda for neuroscience and society research for the next five years.

Giovanni and Cornelius, together with their colleagues from BIOS, are very enthusiastic about the outcome of the conference and the future of the initiative.

The next dates in the programme include a workshop at Harvard for members of the European network to meet their US colleagues and a 'Neuro-school' to bring young neuroscientists and social scientists together for a week of interdisciplinary exchange.

For further details about these and other upcoming events, please consult the network website, www.neurosocieties.eu.

– Giovanni Frazzetto



Photo: Marieta Schupp

EBI spreads its Wing

From left: Robert-Jan Smits of the European Commission; EBI Director Janet Thornton; Mark Green; Iztok Mirošic, Ambassador for the Republic of Slovenia in London; EMBL DG Iain Mattaj; Amanda Collis, Head of Tools and Resources, Biomolecular Sciences, Engineering & Biological Systems, Science & Technology Group of the BBSRC; John Cooper, MD of the Wellcome Trust Genome Campus. The day included tours of the new facilities and the opening ceremony held in the Wellcome Trust Conference Centre for the VIP guests and EBI staff. Ian Pearson, the UK Minister of State for Science and Innovation, was also there. "This major boost to the facilities at EBI will strengthen the institute's world-leading role in bioinformatics. This is an important area for the UK and Europe. Bioinformatics is expanding rapidly and the data and tools it provides is generating innovative new discoveries and future business opportunities," he said during his address. The event was followed by the EBI's first alumni symposium (see page 10).

Above: Head of EBI Administration Mark Green explains the EBI's new East Wing to visiting dignitaries at the official opening on 23 October.



PETRA-III gets her top on

On a freezing 26 November, DESY, EMBL Hamburg and a select group of VIPs braved the cold to witness the “topping-out” of the experimental hall of PETRA-III, Hamburg’s new source of brilliant X-ray light.

The traditional ‘Richtfest’ welcomed German Research Minister Dr. Annette Schavan and Hamburg’s First Mayor Ole von Beust to the DESY campus, where the new roof was celebrated with speeches and schnaps.

As part of the tradition, a ribbon-festooned evergreen was raised ceremoniously to the top of the building while journeymen (right) read

a poem and raised several toasts.

When DESY’s PETRA-III synchrotron radiation facility opens in 2009, a team at EMBL Hamburg will operate three beamlines, of which two will be dedicated to macromolecular X-ray crystallography and one to small angle X-ray scattering applications of biological material.

The next big event in the construction of PETRA-III will be on 15 December, when an incredible 8,000 lorries of concrete – that’s one every three minutes – will dump their load at the site to provide the floor.

behindthescenes

“We try to encourage the children to find their talents”

Imagine your mother is Japanese, your father is Swedish and you don’t know a single word of English or German. Suddenly, you’re in Germany: nobody understands what you’re saying and you don’t have a clue what people are talking about. This is what it must feel like to be a foreign child at EMBL Heidelberg’s Kindergarten.

Luckily there are teachers like Janin Topaloglu, who take care of these lost little poppets with a safe, daily routine that lets them learn German step by step. “When the kids leave the Kindergarten they will speak two, three or even four languages; it’s unbelievable!” she says.

Janin, who grew up near Heidelberg, discovered her passion for childcare during summer holidays. “I helped out in an understaffed kindergarten, and instead for a week I stayed for four, because it was so much fun,” she says. She graduated from the Vocational School for Social Pedagogy in Lampertheim, Hessen, and later completed her education as a licensed educator in Schwetzingen. “Most kindergartens are catholic here, so it was hard for me to find a job, as I’m not baptised,” she explains. “In EMBL religions don’t play a role, as people from many different countries come together.”

Seventy children have to be watched at the same time, so the Head, Eva Puhm-van Vugt, has divided her protégés into six groups according to their age. Two of the 25 teachers are responsible for one group, so ten kids aged from 18 months to three years old enjoy the absolute attention of Janin, colleague Ines Steinhauser and trainee Victoria Derksen in the Green Group. The colours makes it easy for the children to know where they belong.

“Green is the colour for hope,” says Janin. “We try to encourage the children to find their talents and foster them. Every morning we have different activities; Wednesday is English



Day with songs and finger rhymes, and on Thursdays the children get to try out musical instruments. Anything that makes a noise is very popular.”

The teachers have established a daily routine with matching songs for every event to help orientate the children. “They know exactly when they have to wash their hands before a meal or go to sleep after lunch, but they also know when it’s time to play,” explains Janin. “The routine helps them with self-confidence and gives them a little independence.”

The life of a kindergarten teacher demands patience and a lot of creativity. “In the afternoon the children are full of energy and need lots of exercise in our garden. But we also want them to learn how to concentrate, so we have to create activities to catch their attention,” she says.

The children’s art is displayed in the kindergarten, or they take it home with them. “That way they realise that their work is acknowledged. That’s better motivation than if it’s lost in a drawer.”

The teachers also came up with the idea to

film the children or take pictures while they draw or play. “It’s a long day, and they can’t tell their parents everything they did, because they don’t remember,” Janin says. “The kids don’t even realise the camera is there anymore, and the parents can actually see that their children are enjoying themselves. Sometimes the children have the funniest conversations.”

Her colleagues at the Kindergarten take care of her own four-year-old in another group. “I have the perfect job. I can have a career and bring my son to work,” she says. Is there anything she doesn’t like? “During the winter, when the children are sick and cranky, it’s sometimes hard,” she says. Nonetheless, she’s always amazed what she can learn from them. “These kids don’t have prejudices like we have. They’re so honest and open-minded about everything new.”

– Sabrina Grass

Eva Puhm-van Vugt, Head of the EMBL Kindergarten, is leaving at the end of this year after seven years. Best of luck and good wishes to Eva for the future.

EMBL scientists unite... to take over *Nature*

EMBL researchers have been busy doing great science lately – so much so that the first couple of issues of *Nature* in December are just full of EMBL stuff.

Firstly, Achilleas Frangakis's group, using cryo-electron tomography, has revealed visually distinguishable proteins in their natural position – and interacting – inside human cells for the first time.

With their unprecedented, finely-detailed 3D imaging of human skin tissue, they've identified a sophisticated, Velcro-like arrangement of cadherin proteins anchored in the membranes of skin cells, bringing them together, interlinking them tightly and giving skin the strength to withstand physical stress.

In cryo-electron tomography, sections of a cell instantly frozen in its natural state are observed with an electron microscope without the usual treatment with chemicals or metal coating which can disturb its native conditions. Images are taken from different angles and then assembled into a 3D representation.

"With this we could directly see the interaction between two cadherins," says Ashraf Al-Amoudi, who carried out the work. "They form rigid grids by binding twice: once to a molecule from the juxtaposed cell, and once to its next-door neighbour. The system works a bit like Velcro."

"This is a real breakthrough that opens up new perspectives for exploring the inside of cells," says Achilleas. "The technical advances achieved in cryo-electron tomography of frozen, hydrated sections open up new possi-

bilities to study other individual proteins in their native contexts within a cell."

The new insights into the cadherin system, too, broaden the understanding of the structural aspects of cell adhesion and shed light on other crucial processes such as cell proliferation.

In another breakthrough, Thomas Surrey and Damian Brunner's groups, also at EMBL Heidelberg, have developed the first method to allow the simultaneous study of multiple plus-end tracking molecules, +TIPs, in a test tube.

With the help of the Institute for Atomic and Molecular Physics (AMOLF) in the Netherlands, the researchers have tackled the long-standing puzzle of how plus-end tracking proteins – those which interact specifically with the dynamic growing ends of microtubules to govern the spatial organisation of a cell – recognise their destinations. "They act as a plus-end label so that other proteins know where to bind to regulate the filament's stability," says Thomas. "For years it has been impossible to reconstitute this behaviour in a test tube. Our new method has revealed which proteins need to be present for plus-end tracking and what the underlying mechanisms are."

In developing the new method they used three end-tracking proteins from yeast cells. The proteins were labelled with fluorescence, revealing that one was able to recognise the specific structure of the growing microtubule tip, bind to it and act as a loading platform for the other two.



From top: PhD symposium speakers Laurent Bernard Fay, Janet Thornton and Jules Hoffmann

Photos: Christine Panagiotidis

Sporting news: EMBL team

On 12 November a football match between downtown Heidelberg's German Cancer Research Center (DKFZ) and EMBL kicked off despite the freezing conditions.

The first half was initially characterised by cautious play on both sides. However, the game developed pace quickly. The DKFZ played a passing game, moving slowly up the pitch taking control of the centre of the field. But they were often left exposed to fast counterattacks from the EMBL team.

At the 30 minute mark, EMBL's patience paid off as the ball drifted towards the 18 yard box. An EMBL striker chipped it to an unmarked team-mate who struck a searing volley, from just inside the box, through a sea of DKFZ defenders.

In the second half, the DKFZ team fought



Above: in the thick of the nail-biting action; right, the opposing teams unite for a beer

victorious in cross-institute friendly



Photos: Anne O'Keefe & Leonora Selton

on valiantly, looking for an equaliser. However, their fight was in vain, as in the 62nd minute the EMBL midfield broke through the DKFZ defense slotting a second magnificent goal past the keeper. This turned out to be the decider, and the pace of the game dropped off until the final whistle. Afterwards, despite the fatigue – and the 2-0 thrashing – everyone joined in for a beer.

EMBL football club plays on Mondays in Boxberg. Interested players (male or female) should contact Meikel (diepholz@embl.de) or Guillaume (valentin@embl.de). Any former players now gainfully employed in a major company could consider providing a sponsorship deal!

– Guillaume Valentin & Niall Haslam

PhD students ask “What came first: the pattern or the egg?”

If there is a single highly-coveted gift this Christmas, it will be without any doubt a zebra toy. 133 participants from over 40 countries concurred in declaring our black-and-white symposium mascot the best ever.

But the 9th International EMBL PhD Student Symposium was not only a success in terms of merchandising. Starting in Heidelberg on the evening of 24 October, ‘Patterns in Biology’ offered, as promised, valuable insights into the ‘organisation of life in space and time’. For three and a half days biologists met chemists, physicians sat with physicists, and shared outstanding research: 18 leading scientists from very diverse fields disclosed the patterns and models that lie behind any great scientific discovery.

Faithful to the spirit of the EMBL PhD student symposia, the sessions were characterised by their interdisciplinarity. The exploration of new cutting-edge computational tools to detect and analyse patterns was combined with examples of these patterns at every level

of biological organisation, from molecules to ecosystems. We learned from Janet Thornton (EBI) how structural patterns in proteins can be used to determine their function; Jules A. Hoffmann (CNRS) guided us through the world of Toll-like receptors and their defensive functions; and former EMBL group leader and Nobel Laureate Christiane Nüsslein-Volhard (MPI of Developmental Biology) presented a whole set of mutants with different pigmentation patterns in zebra-fish.

Interaction between lecturers and participants was a primary goal of the symposium. To encourage this, a panel discussion exploring the many facets of scientific publication and reviewing was conducted. PhD students also had their space: two short-talks sessions were organised, in which the participants presented studies ranging from the origin of life to mathematical models of cancer proliferation. Gesine Pufal from Victoria University of Wellington won the short-talk prize for her study on the dispersion of alpine cushion plants in New Zealand.

The winner of the second EMBO/EMBL Science Writing Prize, Chiara Valentina Segre, from the European Institute of Oncology in Milan, ended the formal part of the symposium by reading her winning entry in front of the audience. The story, “Mandarin orange juice”, which was awarded with €1000 and a year’s subscription to EMBO Reports, can be found at www.embo.org/scisoc/writing_prize.html together with details for next year’s competition.

From then on all that was left was to party, and the organisers joined in celebrating a symposium that could hardly have been smoother and more rewarding for us. Now we look forward to the next symposium, organised by this year’s new PhD students. They will also receive the generous support of the Marie Curie Actions grant, EMBO, EMBL, group leaders and rest of people without whom this and previous editions of the symposium would not have been possible.

– The Organising Committee

science&society

The science and the fiction

Will we soon have chips implanted in our brain to help us remember our spouse’s birthday? The 8th annual EMBO/EMBL Science and Society conference on 2-3 November, ‘The Future of Our Species’, gave a glimpse into the future of humankind.

Life scientists like to use art to illustrate their presentations, but they usually go for radiant Renaissance beauties like Botticelli’s *Venus* or Cranach’s *Adam and Eve*. This time, much bleaker figures populated the screen in EMBL’s Large Operon – like Pieter Brueghel’s armies of skeletons from his 1562 painting *The Triumph of Death*. Canadian microbiologist Julian Davies used this to get the audience in the mood for his rather gloomy perspective of the global problem of antibiotic resistance. At the same time, the outbreak of infectious disease on a global scale is only a matter of time, argued Dutch virologist Albert Osterhaus. It may be just like the Spanish Flu in 1918 that killed some 50 million people – but it may also come in the guise of a corona virus like SARS that cost the lives of 800 people.

The two-day conference, which gathered around 250 guests from near and far, also gave some more optimistic glimpses into our species’ future. Our fate lays principally in our hands, believes Fulvio Mavilio from the university of Modena, one of the key speakers in the confer-

ence’s undoubtedly most controversial session, “Treatment and Enhancement”. Mavilio, a worldwide gene therapy pioneer, has already used stem cells to cure inherited diseases. “I am personally in favour of genetic stem cell therapy,” he said. “In a hundred years, people will wonder why we didn’t get rid of cancer, even though we had the means to do so.”

Sarah Chan from the University of Manchester took the same line and recommended the engagement of enhancement technologies. Why not even have brain chips or implants to improve our memory? This view raised criticism, particularly among the ethicists in the audience, which this year consisted of a colourful mixture of biologists, doctors, philosophers, journalists and even geographers. There’s a huge difference between a standard medical cure and human enhancement, when new technologies are literally incorporated into our bodies, argued Eva-Marie Engels, professor of ethics at the University of Tübingen.

Above all, one should be aware that the goals behind all these new developments have not actually changed much in the history of humankind, added Canadian anthropologist Jerome Barkow. We are still mainly interested in the same old things: getting healthier, looking better and being slimmer. – Yvonne Kaul



Photos: Christine Panagiotidis



From top: the packed Operon; speakers Elaine Dzeirzak and Hans-Georg Kräusslich; Julian Davies, Albert Osterhaus and Peter Fonkwo on the panel

First port-of-call for SET-Routes ambassadors

The SET-Routes university ambassador programme got off to a flying start in October with its first visit – and the destination was Serbia.

Gordana (Goga) Apic, who is affiliated to the Russell group at EMBL Heidelberg and Chairman of the Board of Camcellnet Ltd, a Cambridge-based biotechnology company, and Eleanor Hayes, editor of the EIROforum's EMBL-based journal *Science in School*, signed up as ambassadors with the SET-Routes project last year. A FP7-funded collaboration between EMBL, CERN and EMBO, SET-Routes aims to encourage girls and young women to pursue a career in Science, Engineering and Technology (SET). In the Ambassador Programme, young female graduates visit schools across Europe, and established women scientists go into universities, to share their experiences of working in science.

On 20 October, Goga and Eleanor were the first SET-Routes university ambassadors to



Goga spreads the word

make such a trip. Goga and Stefan Samardzic, a law student at the University of Novi Sad, organised an afternoon-long conference there, 'How to fund and manage your career in SET', where the ambassadors addressed an eager crowd of around 200 about life in science. Other speakers at the conference, both local and from further afield, talked about such topics as the challenges faced by Balkan women in science and gender analysis at universities in Serbia.

"This was such a big event for the university that the press and even TV companies came along," says Goga. "It was really rewarding; there were so many interesting questions. They have so little money for science and equipment in Serbia, but many students still seemed interested in pursuing science as a career."

"I felt truly honoured to be there," says Eleanor. "Students, research scientists and other, more experienced people had come from all over Serbia to hear us talk."

There have been two other university ambassador trips since this inaugural SET-Routes event. Programme Administrator Philipp Gebhardt and three EMBL alumni ambassadors organised a conference at the University College Cork, 'Showcasing Careers in Science: the lab and beyond' on 14 November. On 26 November, SET-Routes ambassador Prof. Dr. Annemarie Frischauf, vice-chair of EMBL Council, ran a session at the University of Salzburg.

If you'd like to know more about SET-Routes, contact Philipp at gebhardt@embl.de or visit www.set-routes.org/.

A one-stop-shop for everything you need

EMBL predocs have come up with a great idea – an interactive online "forum" to answer all the needs of students and other EMBL staff across all sites.

"We were originally thinking about the survival guide for newcomers that needs updating every year, and how great it would be to have something that can be updated constantly by the community," explains Evangelia Petsalaki of the Russell group in EMBL Heidelberg, who developed the idea with the help of Claudia Chica of the Gibson team. They were originally inspired by Konrad Förstner of the Bork group giving a lecture on wikis last year. "With wiki sites, the user community itself provides the information and keeps it up-to-date."

In addition to the survival guide, there'll be information about applying for funding, job opportunities, TACs, organising symposia, and so on; everything a predoc might need, in fact, both socially and for their careers.

Evangelia and Claudia also plan for the site to become a forum for frequently asked questions and a 'marketplace' where leavers and newcomers can find out about cars, furniture and flats for sale. "There'll be an internal interface where people can log in and post messages, information, questions and things for sale. Each outstation will have its own needs, so the newcomers' information, for example, will be tailored to each site," explains Evangelia.

"Initially, it will be of most use to new and existing predocs, but we hope that we can expand it to be of interest to everyone. It will also be open to predocs who have left EMBL, so it will be a great way of keeping touch with alumni as well as outstation people," she adds.

The system is currently being designed and developed by Francesco Sottile from OIPA, and it is expected to go live early next year. Look out for e-mails about the launch or contact Evangelia (petsalak@embl.de) or Claudia (chica@embl.de) with any ideas or suggestions.

Cute Corner



Photos: Christine Panagiotidis

Aaah! EMBL Heidelberg was overrun with roving reporters in the shape of adorable Russian eight-year-olds Maria Golea, Alice Rogausch, Alexander Rogausch, Kirill Himin and Anna Hildebrandt on 30 October. The kids'



visit was thanks to local TV channel Offenes Kanal Ludwigshafen, which regularly organises "Reporter Kids" workshops for youngsters. As a final test, the participants have to conduct interviews



and put together a news item. Unit secretary Tatiana Golea, mother of Maria (above middle), suggested EMBL as a good place to cover in their reportage.

The kids stayed half a day and interviewed EMBL scientists including Iryna Charapitsa (middle picture), Vadim Sidorovitch and Anthony Millet about why they became scientists and why their work is important.

"The kids were absolutely fascinated by the complicated microscopes and all the mysterious machines," says Tatiana.

EMBL's structural biologists strengthen outstation links

Merkel and Sarkozy may be finding it difficult to see eye-to-eye these days, but for EMBL's German and French outstations, international relations couldn't be better.

So much so, in fact, that when 18 members of the Hamburg outstation joined Grenoble for the 4th EMBL Bilateral Meeting on 21-22 October, Florent Cipriani of the Grenoble instrumentation group was invited to join the Executive Committee of the EMBL@PETRA-III project at EMBL Hamburg.

In mind of the new PETRA-III beamlines at Hamburg, the two days of presentations and discussions focused on MX beamline instrumentation, followed by visits to the jointly-operated EMBL-ESRF beamline, all of which was extremely useful for the PETRA-III team.

Plans were established to start concrete collaborations between the outstations in the short

term. Instruments developed at Grenoble will be used at Hamburg, one of these being the MD2 Diffractometer that will be customised according to the requirements of PETRA-III. In addition, using the expertise gained with the development of the SC3 sample changer and the Hamburg transfer robotics, a future solution for sample handling will be developed. Crystal centring software packages XREC and C3D have reached a good level of maturity, and creating a common annotated crystal image database and developing comparison tools could improve the success rate even further. Hamburg SAXS experts will also advise Grenoble on the construction of the new ESRF/EMBL SAXS beamline dedicated to biological samples.

The high-throughput crystallisation facilities at both outstations serve a large community of users and perform hundreds of thousands of

experiments per year. Common data management systems and remote interfaces would benefit the user community and optimise the development and support efforts. A three-way collaboration between Grenoble, Hamburg and Heidelberg is proposed to develop a common laboratory information management system (LIMS) for high-throughput crystallisation. A new method developed at Hamburg for identifying protein crystals using a fluorescent dye will be evaluated, and new projects aimed at improving the diffraction quality of crystals already grown were presented, as well as preliminary experiments for crystal shape determination by x-ray tomography. Updates on ISpyB (MRC/ESRF-BM14) and AutoRickshaw, important software packages for data storage, project tracking and data processing, were provided.

– *The Organising Committee*

Heidelberg's idea of a great Saturday night out

When Gene Expression head Jan Ellenberg and his family decided to drop by at the EMBL stand at Heidelberg's first "Lange Nacht der Wissenschaften" on 10 November, they didn't expect to be trapped there until midnight.

The opening hours were from 6pm until 2am, but the visitors had already stormed the stand at the DKFZ half an hour before, not even letting the attendants finish setting up.

While Jan was stuck at the posters answering questions and explaining the function of DNA, amino acids and the transcription process over and over again, there were several activities for visitors to the "Long Night of Sciences" to get their teeth into. Isolating the DNA from bananas was one; teens, adults, children and even grandparents got stuck in to pureeing the fruit, taking away their own Eppendorf tubes of visible DNA as souvenirs.

Another activity was the EBI's DeCode, which translates people's names into DNA code. This supplies the pattern for colourful bead bracelets where each bead corresponded to one of the four DNA nucleotides. Another challenge was to fold coloured paper into an origami DNA double helix.

"We finished the last experiment at five to two in the morning, but only because the DKFZ people closed the doors," says Yvonne Kaul, OIPA administrator, who was one of the EMBL volunteers who bravely manned the stand. "Several hundreds of people visited; I can't say exactly how many."

It was the latest in the region's series of cultural events to get people out and about on a Saturday night; other "Long Nights" include the Lange Nacht der Museen (museums) and the Lange Nacht des Einkaufens (shops). Over 23,000 tickets were sold.



Jan, Lena Raditsch and Silke Schumacher deal with the rush

Keeping those ideas flowing

If flow cytometry's your game, be sure to check out the great-looking and easy-to-use new website created by EMBL Heidelberg's Flow Cytometry core facility.

As well as general information about the facility, its services and equipment, the site boasts an extensive Education and Tutorials section. This includes simple step-by-step guidelines and even video tutorials for users of the flow cytometry equipment and software, including dummies' guides to alignment, laser safety and so on.

"The site aims to be a content rich resource for staff at EMBL and elsewhere," says Andy Riddell, head of the FCCF, who developed the website with the help of his flow cytometrist Alexis Perez Gonzalez. They plan that the website will encourage the expansion of a Europe-wide network to facilitate the sharing of flow cytometry equipment and expertise.

Andy says there's a couple of things EMBL staff, alumni and core facility users can do to help with the development of the site. "First, please send in your protocols," he says. "We're trying to compile an exhaustive archive.

"Secondly, if you're in flow cytometry, please register on the site and join the club!"

Check out the site at <http://fccfweb.embl-heidelberg.de/fccfweb/>.

from the Staff Association *by Catherine Floyd*

- Start dusting off your kilts again in time for the 2008 Burns Night on 16 February.
- Keep up-to-date with the SA website: www.embl-heidelberg.de/~staff/ (and www.embl-heidelberg.de/~staff/pensioners/).

The EMBL Staff Association would like to wish all EMBL staff, pensioners and alumni a wonderful Christmas season. Looking forward to seeing you all at the upcoming events in 2008!

Alumni facts...
 After Germany, the
 second largest body of
 EMBL's 4,019 alumni
 comes from the UK
 (499) and reside there
 (290)

Winners of the first John Kendrew Young Scientist Award

The EMBL Alumni Association Board is delighted to announce the winners of the inaugural John Kendrew Young Scientist Award. The extremely high standard of applications made the task of selecting a single winner at the Alumni Association Board meeting on 23 October extremely difficult. After careful consideration, the Board unanimously decided to select joint winners.

Antonio Giraldez was selected for his major contributions to science in studying microRNAs, both as a postdoctoral fellow and as an Assistant Professor at Yale University.

Giovanni Frazzetto was selected for his inspirational and creative achievements: incorporating societal needs in his research as a "Society in Science" Branco Weiss fellow at the BIOS Centre (London School of Economics and Political Sciences); establishing the European Neuroscience and Society Network (ENSN); and creating a science-art exhibition in neuroscience.

Antonio and Giovanni were both former PhD students of the EMBL International PhD Programme, and the Board recognises their remarkable performances since leaving EMBL as well as their complementary achievements in research and science com-

munication. Both will receive their awards and present a public lecture describing their work on EMBL Heidelberg's lab day on 10 June 2008.

More information on the candidates can be found in the EMBL Alumni Association Members' Directory at www.embl.org/aboutus/alumni/members_directory.html. There are also photos at www.embl.org/aboutus/alumni/news/oct07-3.html. We would like to congratulate both winners, as well as the other applicants who made our selection task so difficult!

– Angus Lamond

Alumni Day at the EBI

After the ceremony to mark the opening of the new site extension on 24 October (see page 4), the EBI hosted an on-campus symposium for all EMBL alumni and EBI staff. The event attracted 116 participants and was a great opportunity to meet friends and enjoy an excellent programme of talks by the EBI's directors, scientific staff and alumni.

EBI Associate Director Graham Cameron illustrated the bioinformatics contribution made by the EBI over the last 25 years with material from his personal archive of photographs and journal extracts. His humorous account chronicled the scientific and structural development and achievements of the EBI, referring to key personalities and the political and scientific hurdles they faced.

EBI Director Janet Thornton complemented this with an account of the EBI's mission, services and goals, inviting alumni not only to use these resources, but also to raise awareness among their national funding bodies that their support will be essential in building a stable bioinformatics infrastructure for Europe – a point strongly endorsed by EMBL's DG Iain Mattaj.

EBI faculty Ewan Birney and Nicolas Le Novère presented their research areas together with former EBI staff Chris Sander, Des Higgins, Anton Enright, Liisa Holm and Tom Flores, all of which reflected the cutting-edge science carried out at the EBI and continued by its alumni.

Alumni Association chair Angus Lamond outlined the role of the Association in supporting EMBL alumni and staff through its careers services, awards and local chapters, amongst other things. In particular, he referred to its most recent initiative, a wiki-



EMBL alumnus
 Professor Chris Sander,
 Director of the
 Computational Biology
 Centre in New York

Photo: Marietta Schupp

format online career development resource. This will be available to EMBL staff and alumni by the second half of 2008, and will offer a major new resource for career development in Europe. He also invited all alumni to consider nominating themselves or others to stand for the Board elections in September 2008. In particular, he encouraged nominations from female candidates and alumni from the EMBL outstations, to maintain a representative balance of gender and EMBL units on the Board.

The event was concluded with a discussion, chaired by the UK Local Chapter head Annalisa Pastore (Group Leader, National Institute of Medical Research, London), during which Janet and Graham invited EMBL's alumni to use the EBI for regular meetings in conjunction with EBI conferences and user-training courses in the future. This was welcomed by all participants.

The Alumni Association would like to thank the EBI for hosting this special event, all attendees for their participation and Cath Brooksbank and her team for making it such a success!

– Mehrnoosh Rayner

EBI opportunities for alumni

The EBI holds an unrivalled collection of freely available data resources for life scientists. You can do an integrated search of the EBI's main data resources using the EBI's search engine, EB-eye, at www.ebi.ac.uk or from any page of the EBI website.

The EBI's user-training courses are available to all EMBL alumni. It coordinates both a hands-on programme at its Hinxton site (www.ebi.ac.uk/training/hands-on) and a bioinformatics roadshow in collaboration with its partners from the FELICS Integrated Infrastructures Initiative (www.ebi.ac.uk/training/roadshow/). Both programmes are designed to help experimental biologists make the most of Europe's main biological data resources.

The EBI also hosts an EU-funded Marie Curie training fellowship scheme (<http://www.ebi.ac.uk/training/MarieCurie/>), with which early-stage researchers can visit the EBI for 3-6 months to pursue a bioinformatics project under the supervision of an EBI group or team leader.

– Cath Brooksbank

We want to hear from you! Tell us about your personal or scientific achievements, an interesting event in which you are involved or give us feedback on alumni matters at alumni@embl.de.

newsinbrief

❑ **Free courses in the EMBL** Non-Scientific Training and Development Programme for the new year include Excel, Access, Powerpoint and Photoshop courses; Presentation skills (one-to-one and group sessions); How to have a career after EMBL; Effective Team Leader; Strategic Thinking; Negotiation Skills; and Introduction to organising meetings, events and conferences. Visit the website at www.embl.org/staffonly/personnel/training_dev/index.html or e-mail td@embl.de for more details.

❑ **Work has begun** on two more new buildings for EMBL Heidelberg. The first will be a wooden forest hut to the immediate left of the Kinderhaus, where the children will learn about nature. It will be completed by spring next year. The second is the new one-storey NMR building, which will cover 225m² on the hill behind the existing building and will house the old NMR machine and a brand new one, as well as offices for the new NMR group of Teresa Carlomagno. "We're working closely alongside the local environmental protection office," explains Estate Manager Rainer Menzel. "We're only cutting tall trees that would anyway be a danger in storms, and for every one that we cut down, one or more saplings are planted nearby." The NMR building is expected to be finished by June 2008.

❑ **Practical Bioinformatics Course:** Exploring Modular Protein Architecture, 30 January to 1 February, EMBL Heidelberg. The course is open to all EMBL researchers and will introduce experimental scientists to computational tools that help identify architecture modules (domains, motifs, disordered regions) in eukaryotic protein

sequences. These tools can provide valuable insights into potential structure/function relationships that may provide a basis for novel experiments. Contact Aidan Budd (budd@embl.de) or Toby Gibson (gibson@embl.de) for more information.

❑ **The EMBL International PhD** Programme is delighted to add the University of Zagreb, Croatia, to its list of distinguished partner universities.

❑ **German council delegate** Eckhart Curtius and EMBL DG Iain Mattaj joined a tour of the ATC building site on 25 October, during which they trod future corridors and staircases for the first time and saw for themselves how the work was progressing (below).

❑ **If you're interested in** Science and Society, why not apply for a Branco Weiss Fellowship from the Swiss Federal Institute of Technology (ETH), aimed at life science researchers who want to incorporate social



Photo: Marietta Schupp

and cultural aspects into their scientific research. For more details or to apply, visit www.society-in-science.ethz.ch. The deadline for applications for the 2008 fellowship is 1 February.

❑ **On 22 November Anne Baly**, the Minister-Counsellor of the Australian Department of Science, Education and Training and the highest ranking official in Europe, visited EMBL to establish contact between the Australian government and the institute. In another important visit, Sir Michael Arthur, the newly appointed ambassador of the UK in Germany came to his inaugural visit to EMBL on 19 November.

A recipe for success

Take a kilo of nuts, five kilos of bananas and a theme park, and what have you got? A sure-fire way to get kids excited about science.

On 11-13 October, EMBL's European Learning Laboratory for the Life Sciences (ELLS) participated in Germany's biggest science festival, Science Days 2007. Twenty thousand visitors flocked to the event at the Europapark in Rust, near Freiburg.

With the help of six motivated pupils from the Bertha-von-Suttner school in Ettlingen, ELLS ran a variety of hands-on activities about DNA and protein, designed by the EBI, the Sanger Institute and EMBL. Hoards of young visitors jumped at the chance to be like real scientists, extracting DNA from bananas or protein from nuts.

Over 100 other stands from universities, schools, research institutes, companies and authorities offered insights into other questions such as how shampoo is made and what brainwaves look like, with the programme covering chemistry, geology, technology, medicine and computer science as well as biology. – *Sabrina Grass*



Ex-EMBL PhD student and new ELLS recruit Philipp Gebhardt helps visitors extract DNA

awards&honours

Maiwen Caudron, a former member of Eric Karsenti's lab at EMBL Heidelberg and still a visitor there, has received the L'Oréal/UNESCO Germany and Christiane Nüsslein-Volhard Foundation prize, "For Women in Science". The prize, awarded for the first time in Germany to three postdocs, provides support for excellent young female scientists with children, and helps them juggle family obligations and a successful career. Maiwen, who now works at the Genome Organisation and Function Group, DKFZ & Bioquant, Heidelberg investigating the organization of chromatin during cell differentiation was awarded her prize at a ceremony on 25 September in Bonn.

Spooky coincidence alert! Two of EMBL's **Sebastians, Kühner** and **Charbonnier** – both

of whom are in the Gavin group and were the only Sebastians at EMBL until the current PhD student intake – received prizes on the same day. PhD student Sebastian Kühner was awarded a new prize for best diploma thesis from the German Society of Biochemistry and Molecular Biology for his work on ATP-induced myosin unbinding of actin. On the same day, 26 October, postdoc Sebastian Charbonnier travelled to Strasbourg to receive the Université Louis Pasteur's "Prix Jean Kepler" for his PhD thesis, "Structural and kinetic interaction study between the E6 oncoprotein from human papillomaviruses and PDZ domains", which he completed at the École supérieure de biotechnologie de Strasbourg (ESBS) in the Oncoproteins group of the CNRS/UMR7175 under the supervision of Dr. Gilles Travé.



New EMBL Grenoble group leader **Imre Berger** was born in Budapest and grew up in Germany. After studying biochemistry at Hannover and at MIT in Cambridge, USA, he did his PhD and a postdoc in molecular biology and X-ray crystallography at MIT. He then joined ETH Zürich's Institute of Molecular Biology and Biophysics (IMB), becoming group leader there in 2005 and developing the award-winning MultiBac technology for multiprotein complex production. His group will develop further technologies in multiprotein complex structure research to study the mechanisms of human transcription initiation and gene regulation.

New group leader in NMR spectroscopy **Teresa Carlomagno** was born in Italy and studied chemistry at the University of Naples Federico II. She obtained her PhD there in 1996, after which she spent two and a half years as a postdoc in Christian Griesinger's lab at Frankfurt University. After working as a research assistant at the Scripps Research Institute, California, she became a group leader at the MPI for Biophysical Chemistry, Göttingen, in 2002. Her group at EMBL Heidelberg will investigate the structural basis of intermolecular interactions and RNA folding by NMR spectroscopy in solution, focussing on RNA processing complexes and mechanisms of anticancer drugs activity.



Maja Koehn is the new group leader in the Gene Expression unit at EMBL Heidelberg. Maja grew up in Kiel, Germany, where she studied chemistry at Christiana Albertina University. She completed her PhD in Herbert Waldmann's group at the Max Planck Institute for Molecular Physiology in Dortmund and was a postdoc in Gregory Verdine's lab at Harvard University. Her group will work on chemical concepts and tools to study phosphatases, particularly those involved in cancer. Their focus will be on concepts that use nature as a guide for effective molecule design while improving drug-like compound properties.

New EMBL Grenoble team leader **Christiane Schaffitzel** will be studying the structure and function of ribosomal complexes in protein nascent chain folding, targeting and translocation. Her group will characterise large multiprotein assemblies involved in gene expression biochemically and by cryo-EM. Born in Tübingen, Germany, Christiane studied biochemistry at Leibniz University and the Medical School, both in Hannover, and completed her PhD at the University of Zürich. Since 2001 she has worked as postdoc at the Institute of Molecular Biology and Biophysics, ETH Zürich, and in 2006 became team leader there.



Web designer **Manuela Borchert**, who is joining the EMBL web team in Heidelberg, is from near Göttingen. She studied communication and design at the University of Applied Sciences, Dortmund, and after graduating in 2002 she worked in advertising agencies as a graphic designer, focussing on web design.

New Budget Officer **Aurélie Détante** is from Toulouse, where she studied Finance. She completed several internships during her studies, the latest of which was a 6-month stay at international company (EADS) in Munich from March to September 2007. At EMBL she joins the world of work for the first time!



Accounts Officer **Nina Crony** is from near Manchester and studied Modern Languages and Marketing Studies at Salford University, during which she completed work placements in Berlin, Toulouse and Paris. Before EMBL she worked in treasury and finance roles at AstraZeneca and Middlesbrough company Huntsman Tiioxide.



Tuesday, 18 December EMBL Heidelberg
External Speaker: Pre- and Post-transcriptional gene regulation in *Drosophila* – a comparative genomics approach. Alexander Stark, Broad Institute of MIT & Harvard/CSAIL

External Speaker: Genome-wide analysis of structural variation in humans using novel high-throughput approaches. Jan Korbel, Yale

External Speaker: The role of nuclear mechanics and nuclear-cytoskeletal coupling in human diseases. Jan Lammerding, Brigham and Women's Hospital, Harvard

Wednesday, 19 December EMBL Heidelberg
External Speaker: Development of new tools and approaches for the analysis of GTPase controlled molecular machines. Kirill Alexandrov, MPI for Molecular Physiology, Dortmund

External Speaker: Developing microfluidic tools for structural biology. Andrew May, Fluidigm Corporation, San Francisco, CA

External Speaker: Protein structure and dynamics at the single molecule level. Marcus Jäger, University of California at Los Angeles

Thursday, 10 January EMBL Heidelberg
External Speaker: Intra-axonal patterning and its role in neural network formation. Yasushi Hiromi, GUAS, Sokenai

Tuesday, 15 January EMBL Heidelberg
External Speaker: Switching muscle fibre type in response to Hedgehog in the zebrafish embryo. Philip Ingham, Institute of Molecular and Cell Biology, Singapore

Wednesday, 16 January EMBL Heidelberg
External Speaker: Automated Microtubule Detection. Christian Tischer, Institute for Atomic and Molecular Physics, Amsterdam

17–18 January EMBL Heidelberg
Conference: Physical Biology Circle Meeting

28–31 January EMBL-EBI Hinxton
Course: Transcriptomics

31 Jan–1 Feb EMBL Hamburg
Heads of Units / Senior Scientists Meeting

Saturday, 16 February EMBL Heidelberg
Burns Night

Thursday, 28 February EMBL Heidelberg
EMBL Distinguished Visitor Lecture: From Worms to Mammals: Genes and Cells that Control the Rate of Aging. Cynthia Kenyon, Dept. of Biochemistry & Biophysics, University of California, San Francisco, San Francisco CA

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