



## Proteins translate into EMBL's biggest-ever conference

Over 320 scientists signed up for the EMBO Conference on "Protein Synthesis and Translational Control", held in mid-September at EMBL's main Laboratory. That made it the largest conference ever held on the Heidelberg campus. Opening the doors to such a big crowd of interested European and American participants required some fancy footwork on the part of the organisers, EMBL's conference team and the Housekeeping Service, which set up tents in front of the main entrance to handle posters from more than 200 groups.

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## Where was everybody this Autumn?

Retreating was certainly the fashion this season. In September, the predocs made the most of the chance to hold their first-ever such event, choosing Castle Wernfels in Northern Bavaria for their three-day escape from the Lab. Later in the month, EMBL Group Leaders from all five sites convened in England for two days of presentations on their latest research.

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## EBI co-hosts major meeting on bioinformatics in drug discovery and design

Computational biology is now of key strategic importance to industry; it is used at all stages of the drug discovery and development pipeline, from target identification through to regulatory approval. The pharmaceutical industry has invested heavily in computational approaches to drug discovery. Assessing what works, what doesn't, and what problems need to be solved was the motivation behind a major meeting, "Therapeutic Applications of Computational Biology", held at the Wellcome Trust Conference Centre, Hinxton from 4-6 September 2005.

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**The deadline for applications to EMBL's International PhD Programme for 2006 is November 1, 2005.** Apply online at [www.embl.org/training/phdprogramme/applications](http://www.embl.org/training/phdprogramme/applications)

## Plans for the ERC pick up speed

The pace is picking up as the EC, scientists and other stakeholders work to establish a European Research Council (ERC). Latest steps have included a proposal by the EC, discussions by ministers, and Research Commissioner Potočník's naming of 22 members of the ERC Scientific Council (including former EMBL Director-General Fotis C. Kafatos). The ERC will undoubtedly have a deep impact on how European research is organised and funded, motivating EMBL to take an active part from the beginning. The Laboratory was a founder member of the Initiative for Science in Europe (ISE), an association of 11 organisations promoting basic science. The ISE will hold a high-level conference at UNESCO, Paris, on November 9-10 to discuss practical and political aspects of the ERC and mark the first concrete steps towards its implementation. The EMBL community is encouraged to attend this important meeting. Register online at [www.initiative-science-europe.org](http://www.initiative-science-europe.org).

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## Back from Brazil



Heike Brand has just returned from a leave of absence in Brazil, where she spent time working with children living on the streets. In addition to conducting workshops on anatomy, contraception and illnesses, she helped reunite runaways with their families.

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## Proteins translate into EMBL-Heidelberg's biggest-ever conference

Photo by Maj Britt Hansen

Standing room only: EMBL-Heidelberg's Operon was pushed to the limit at September's EMBO Conference

By the registration deadline, over 320 scientists had signed up for the EMBO Conference on "Protein Synthesis and Translational Control", held in mid-September at EMBL's main Laboratory. That made it the largest conference ever held on the Heidelberg campus. "The high interest in the programme wasn't unexpected," says Matthias Hentze, co-organiser alongside Anne Ephrussi (EMBL), Venki Ramakrishnan (LMB) and Alan Hinnebusch (NIH). "Scientifically, this is one of the traditional topics in biology, and recently it has moved to centre stage as we've discovered the crucial role it plays in processes such as development, the central nervous system, memory and disease."

More than 70 talks showcased how far molecular biologists have come in understanding nuances of the synthesis of proteins. An enormous amount has been learned about the structures and functions of translation initiation factors, the complexes they form and how their regulation influences events in development and the function of neurons. Sessions focused on the ribosome, nonsense-mediated decay and how viral RNAs deal with the cellular translation machinery.

A conference on this theme is held every two years at the Cold Spring Harbor Laboratory in the US, and it always draws a big crowd. Matthias says that the point behind organising another meeting in the alternate year, in Europe, wasn't to compete. Instead, it would permit many more Europeans to attend who might not be able to spare the time or air fare to travel to the US.

It also brought the key players in the field to Heidelberg. Anne says: "Even though speakers and everyone else had to pay their own expenses and registration fees, they came. It showed that there is a high interest in coming to Europe and coming to EMBL. That leads to new contacts and collaborations. We get to see what scientists from the US and other countries are doing, and they are exposed to European science – as well as EMBL – which can't be done very easily in another way."

**"There is a high interest in coming to Europe and coming to EMBL. That leads to new contacts and collaborations"**

*Anne Ephrussi*

The more attendees, the merrier? Opening the doors to a record number of participants required some fancy footwork on the part of the organisers and EMBL's conference team. The Operon, where talks would take place, only holds 300 people. And the 320 registrations didn't include staff from EMBL and EMBO, who could be counted to drop in on the talks. Doros Panayi and his team from the

Photolab and Courses and Conferences office quickly arranged for the talks to be broadcast live to an overflow crowd in room 202. Additionally, nearly 200 participants brought along posters – in some cases more than one. There was no way they could be squeezed into the Operon Foyer, the usual poster display area, so Mustafa Uyguner and his crew from the Housekeeping Service quickly set up tents outside the main entrance. It made for five hectic days behind the scenes during the conference itself, on top of weeks of preparation, but in the end everything ran smoothly.

High numbers of young group leaders, post-doctoral and predoctoral fellows attended the event. "Conferences have always been an important part of EMBL's mission to provide advanced training," Anne says. "Having them in Europe promotes the participation of young European scientists, bringing them into contact with important people in the field. Cold Spring Harbor's activities have been a huge advantage for young American researchers, and Europe has lacked a training centre of comparable breadth and quality. We've been doing these kinds of activities at EMBL, but we can do much more, and every bit of it will stimulate European science."

"If we could establish such a centre at EMBL, it could be virtually self-financing," Matthias says. "That's the model at the Cold Spring Harbor Laboratory, and if there were any doubts that the model would work in Europe, this event has laid them to rest."



Bridging the gap: Monterotondo's Walter Witke and Heidelberg's Damian Brunner talk shop

## Science, science, science and a stroll in the English countryside

The peace and quiet of an elegant country hotel nestling in the English countryside was interrupted on September 19 with the noisy arrival of EMBL's most famous faces: it was Faculty Retreat time again.

The luxurious setting of Down Hall Country Hotel, not far from the EBI, made the two-day gathering feel like a wedding party; except, of course, for the parts where Group Leaders from all five EMBL sites talked shop. They gave presentations to update each other on their latest research and areas of interest, paving the way to new collaborations and use-

ful exchanges. "In addition to EMBL's regular Group Leader seminars, it's good to get a general overview of what's going on in the different labs with these more concise presentations," commented Damian Brunner. "It's also useful to get everyone together in one place to be able to talk face-to-face." For Michael Knop, the retreat had a more specific aim: "It's good to hear about what's going on at the Outstations. Personally, I'm interested to know more about what the guys at the EBI are up to."

The party adjourned at the end of the first day for a civilised evening of gourmet dining –

after which, naturally, everyone was in bed by 10pm. The second day kicked off early with everyone bright-eyed and bushy-tailed with more presentations, followed by some Pride and Prejudice-style strolling in the sunny gardens and some offline discussions that sparked some new ideas.

Following the departure of most of the participants (filling to the brim a Baden-bound Ryanair flight), the senior scientists remained for their meeting on September 22, which included a discussion of the scientific programme for 2007–2011.

## Monterotondo to participate in major EU-funded mouse phenotyping initiative

Nadia Rosenthal's group in Monterotondo will participate in a major new collaboration to systematically study the functions of mouse genes. The project, called the European Conditional Mouse Mutagenesis Programme (EUCOMM), will receive €13m from the European Union. The project will be coordinated by Wolfgang Wurst at the German National Research Center for Environment and Health in Munich and Allan Bradley at the Sanger Institute (UK). The group of Francis Stewart, an EMBL alumnus now at the University of Dresden, will also play an important role. The goal is to generate mutations in about 90 per cent of the mouse genome in hopes of determining the functions of genes over the animal's lifespan.

Doing so will require creating lines of mice in which molecules can be switched off in particular tissues at specific stages of development. The role of Nadia's group will be to study whether particular knockouts affect animal behavior or cognitive function, as well as to look for effects on the cardiovascular system.

"There has been a huge push to introduce mutations in mice, particularly given their close evolutionary relationship to humans," Nadia says. "One result has been new models of human diseases. The difference between this project and others that have been proposed is that as well as introducing the mutations in



embryonic stem cells, laboratories will be producing the animals and extensively testing for phenotypes. Combining our efforts will make the strains available to several labs, looking at different aspects of mouse biology. We'll be pooling information and expertise so that strains aren't created needlessly and knowledge won't be lost simply because a group finds something that they aren't looking for."

EUCOMM is the largest research project for mouse mutagenesis worldwide. It aims to produce 20,000 mutations in genes which will be introduced into mouse stem cells. This "library" will be freely available to laboratories throughout Europe, allowing scientists to make mouse strains in a standardised, cost-effective way.

Rather than simply making global "knockouts," which remove or disrupt genes in all of an animal's cells, the project will create conditional knockouts. This will allow scientists to shut down a molecule exclusively in specific types of cells or tissues at precise phases in development. That is crucial in understanding the activity of genes which have multiple functions, as well as in the creation of disease models.

EUCOMM is part of a large palette of 15 research projects in mouse genomics that have been sponsored by the EU, for a total of €135m. Scientists representing all of these projects met in Venice on October 14–15 this year to discuss their results and exchange expertise. One of the participants was Ewan Birney, whose Ensembl team (EBI) is collaborating with EUCOMM to collect and provide access to the data.

## From data to drugs: EBI meeting looks at the state of the art

Computational biology is now of key strategic importance to industry; it is used at all stages of the drug discovery and development pipeline, from target identification through to regulatory approval. Computational approaches to the search for new therapeutic, diagnostic and preventive approaches to disease embrace not only bioinformatics, but also cheminformatics and medical informatics. The pharmaceutical industry has invested heavily in computational approaches to drug discovery; it's time to assess what works, what doesn't, and what problems need to be solved. This was the rationale behind "Therapeutic Applications of Computational Biology" (TACB), a conference held at the Wellcome Trust Conference Centre, Hinxton from 4-6 September 2005. TACB was the first event that the EBI has co-hosted with *Nature Biotechnology*, and was also part of EMBL's series of minisymposia on Molecular Medicine. It was co-chaired by EBI Team Leader Rolf Apweiler and Kathy Aschheim, Senior Editor of *Nature Biotechnology*.

The main programme was divided into four sessions organised around steps in the drug discovery pipeline, from target identification, through lead optimisation, to toxicity testing and finally into the clinic. The speakers were carefully selected with the help of an advisory committee, representing big pharma, small companies and academia, and introductions by session chairs outlined some of the challenges being faced.

The speakers did a fantastic job of describing how these challenges are being overcome. Kári Stefánsson, President of DeCode Genetics, is tracking down the basis of longevity using information on genetic variations that are common only to those people who have lived beyond the age of 90. Bryn Williams-Jones described Pfizer's informatics-based approach to predicting properties such as toxicity or poor bioavailability (the extent to which a drug is available to the tissue) that can cause otherwise promising lead compounds to fail. John Overington described how Inpharmatica uses a combination of sequence and structure-based knowledge of drug targets, combined with information about how proteins bind their cognate ligands, to assess the likelihood

that targets can be affected by drugs. This approach has led Inpharmatica to conclude that only a small proportion (perhaps as little as 1%) of the human genome can be targeted by drugs.

The use of microarray-based data to predict toxicity was the focus of two talks in the toxicoinformatics session: one from Paul Cornwell of Rosetta Inpharmatics and another by Jos Kleijnans of the Netherlands Toxicogenomics Centre. In "Into the clinic", Thomas Lengauer of the Max Planck Institute for Informatics described how statistical learning methods can be used to predict the emergence of drug resistance in patients with HIV/AIDS, and thereby optimise their treatment regimen.

Zvia Agur of the Institute for Medical BioMathematics described the Virtual Cancer Patient (VCP), a computational modelling approach to predicting disease progression and optimising drug combinations and schedules. The VCP simulates the dynamics of key processes underlying drug-patient interactions. It allows drug developers to perform numerous rapid virtual clinical trials and to forecast optimal drug treatments. The VCP has allowed Agur and colleagues to predict that, alone, certain types of cancer therapies that block the formation of new blood vessels in tumours are not effective in the long term. However, combining these drugs with others that block the maturation of new blood vessels is much more effective – a prediction that has proved correct in real clinical trials. Another application of the VCP, currently being tested in the clinic, is to optimise treatment schedules for combinations of cancer therapies, so that toxic side-effects are minimised without compromising their effects on the tumour.

The conference concluded with a panel discussion in which the session chairs gave their take on the challenges faced and how they might be overcome. David Searls, Senior Vice-President of Bioinformatics at GlaxoSmithKline, picked on data integration, highlighting the fact that it's not just an IT problem but also a managerial challenge that biologists and IT specialists must work together to solve. Peter van der Spek of the Erasmus Medical Centre highlighted the importance of careful annotation and connectivity between publicly available and

commercially produced data resources, as well as the challenge of stratifying patient populations properly, based on molecular understanding of the individual's disease and their ability to respond to drugs, in order to perform effective clinical trials. David Bailey suggested that the tension between academic ideas and commercial productivity could be turned to everyone's advantage: this was partially responsible for expediting the sequencing of the human genome, and might similarly accelerate advances in chemical biology. Commercial successes might encourage academia to invest heavily in these fields, facilitating the development of publicly available cheminformatics resources and virtual screening tools. Robert Glen also touched on the data integration issue: the data are there, but can't be fully exploited unless they're properly integrated. These stimulating discussions, coupled with extremely positive feedback on the conference evaluation forms, have already got us thinking about the programme for TACB2.

TACB could not have taken place without generous support from the UK Department of Trade and Industry, Schering AG, the EMBL Centre for Disease Mechanisms and the EMBL-EBI's Industry Programme. We thank all our sponsors and exhibitors for contributing to the success of the conference.

– Cath Brooksbank

### EBI opens the door

Two forthcoming Open Days will offer students from all over Europe a behind-the-scenes look at EBI services and research and a chance to chat with the Outstation's experts.

An event on November 28 is chiefly aimed at undergraduates, while one in March is aimed at students enrolled in masters programmes in bioinformatics throughout Europe. The programmes for both days will consist of lectures and demonstrations of various EBI services by bioinformatics service providers and researchers, and will provide plenty of opportunity for interaction.

Further details are available at [www.ebi.ac.uk/training/penday](http://www.ebi.ac.uk/training/penday)

### Hamburg goes IUCr2005

EMBL-Hamburg headed to Florence at the end of August for this year's tri-annual congress of the International Union of Crystallography.

A Hamburg/Grenoble facility brochure about activities and services, scientific software presentations, a video about automation in the structural biology



pipelines and loads of gummi bears attracted many of the attendees of this important meeting for the structural biology community to the stand. In particular, the new Hamburg High-Throughput Crystallisation Facility (see page 5 for more) and the plans for a Life Science Centre at the future PETRA III synchrotron were highlighted.

## EMBL at ELSO 2005

More than a thousand life scientists descended on the Saxon city of Dresden in September for the 2005 installment of the European Life Scientist Organization's annual meeting. The event provides a crucial opportunity for Europe's life scientists to meet, get an update on the latest research in their fields and forge important ties to others in the research community.

Highlights of this year's meeting included talks by several present and former EMBL scientists. EMBL Group Leader Elena Conti was awarded the ELSO Early Career Award (see page 10 for more).

Hans Schöler, Group Leader in EMBL's Gene Expression Programme from 1991 to 1999, gave a special EMBL Alumni Association lecture in which he traced the path of his career after EMBL. That took him via the Center for Animal Transgenesis and Germ Cell Research in Philadelphia to the Max Planck Institute for Molecular Biomedicine in Münster, where he is now Director of the Department Cell and Developmental Biology.

The next ELSO conference will take place in Dresden in 2007.

## Plans over paella: EMBL's Iberian alumni meet in Barcelona

Just because they've left EMBL doesn't mean they've left the spirit of EMBL behind... Nearly 30 members of the EMBL Alumni Association's Iberian Chapter met at the Center for Genomic Regulation in Barcelona on October 7, 2005. The meeting, organised by Juan Valcárcel, kicked off with appearances by former EMBL Group Leaders Angus Lamond and Peter Becker, who spoke about their latest research activities.

After a break for lunch, participants rolled up their sleeves and got down to business. Juan, Angus Lamond and Sarah Sherwood summarised the goals of the Association (which are to establish ties between EMBL and laboratories throughout Europe and beyond, and ultimately to help promote scientific exchange in the life sciences), and extensive discussions followed on how Iberian alumni can translate this into reality.

"There was general agreement that maintaining and strengthening links with EMBL and between alumni are very positive initiatives that can have a significant impact on alumni,

their research environment and also help EMBL to fulfil its mission," says Juan. Possible benefits include sharing expertise, personnel and advice on specific problems, and creating a "virtual" laboratory to share projects, protocols and research resources.

Next steps forward? Angel Nebreda and Ramón Serrano will organize a retreat for alumni living in Spain and Portugal in 2006. The event will include scientific talks and posters, updates on new technologies, and a working session on future activities of the Iberian chapter. Interest was also expressed in organising workshops on topics such as laboratory management, scientific communication and alternative career options. Eusebio Perdiguero and Carlos Luque volunteered to spearhead the Iberian chapter web pages to help facilitate information sharing among local chapter alumni.

The reunion ended with a lecture by Andreu Mas-Colell, economist and former minister for science and universities of the Catalanian government, on the need for and benefits of basic research for knowledge-based economies, followed by an especially scrumptious paella dinner at a nearby restaurant.

"Overall, the participants felt very positive about the reunion," says Juan. "Perhaps the most important consequence of the meeting was to make us aware that a significant number of people are willing to stay in touch, to provide help if they can and to work together to enrich our research environment – all in the spirit of EMBL."



Belen Miñana and Jim Sutherland were among nearly 30 researchers from Spain and Portugal who attended the first meeting of the EMBL Alumni Association's Iberian chapter in Barcelona on October 7.

## Unique High-Throughput Crystallography Facility up and running in Hamburg



As from 2006, all you protein crystallographers out there will have access to a great new High-Throughput Facility at EMBL-Hamburg which will combine technological advances in new ways to automate every step along the crystallisation pipeline.

What's unique about this new facility is the numbers of experiments it can handle. Crystallisation to determine the three-dimensional structures of protein samples prior to an experiment has previously proved to be a major bottleneck, because it is currently not possible to predict conditions under which macromolecules form crystals *a priori*. As a consequence, it's usually necessary to conduct a very large number of experiments (about 500 per protein construct) to identify successful crystallisation parameters.

The new facility, however, consists of two modules capable of setting up 10,000 experiments per day and to store and image 10,000 crystallisation plates – that's 1,000,000 exper-

iments. This highly integrated and automated platform is operated by Xandra Kreplin.

Will it really be accessible to everyone and all crystals? Well, not quite yet, but since the facility's inception in March of this year, more than 2,000 crystallisation plates have been produced for scientists at EMBL-Hamburg. Access for the general user community is expected for early 2006.

Time slots for experiments can be booked electronically (one hour for 12-15 plates). Users deliver the protein and choose from among 1,200 initial conditions. Images of crystallisation experiments can then be analysed from the users' desktop computers.

The official inauguration of the High-Throughput Facility is on November 16 at EMBL-Hamburg in the presence of the Director-General, campus partner DESY, the ESRF and the facility's main sponsors, BMBF and the EU.

## Students get a preview of future careers at first-ever predoc retreat

Castle Wernfels in Northern Bavaria became a home away from home to pre-docs for three days this Autumn, when PhD students from all five EMBL locations embarked on their first-ever retreat. The event, which took place on September 3–5, gave the pre-docs a chance to get together, discuss science and figure out ways to work together, all far from the day-to-day grind of normal lab life.

An opportunity to fund the event arose when EMBL was awarded Marie Curie Early Stage Training in Advanced Life Science Research (E-Star) fellowships. The recipients are involved in teacher training and other activities beyond the normal tasks of PhD students. The E-Star fellows agreed to contribute to a solidarity fund which the EMBL predoc community unanimously voted to use to finance retreats.

An important part of the event was a series of talks by invited speakers who have followed a career alternative to academia. While many PhD students will go on to postdoctoral positions in research institutes and glean insights into that career path on a daily basis at EMBL, the reality is that some will leave the bench to pursue other careers, and this option doesn't get much exposure in the Lab.

Uli Weihe, formerly a predoc in Stephen Cohen's lab at EMBL-Heidelberg and now a consultant at McKinsey and Co. in Frankfurt, described the mindset of top management consulting as very similar to that in science: the daily business is to tackle problems through creative solutions. Anna Eichhorn, founder of Humatrix, a market-leading company in DNA-diagnostics, reported on the process of becoming self-employed, a step she achieved while still studying for her PhD. Tine Walma, formerly a structural biologist and

now assistant editor of FEBS Letters, talked about the world of editing and publishing, discussing science communication as a major job opportunity and presenting critical steps in publishing a paper from the perspective of a publishing house. Klaus Müller, from Hoffman-La Roche, gave an outline of the challenges and opportunities for a young scientist applying to enter industry. It was interesting to hear that he considered a fresh PhD graduate as not sufficiently qualified, pointing out that two postdoc years in a complementary field would be an ideal basis for an industrial career.

The retreat was also an opportunity for many PhD students to present and get feedback on their work. It also provided an exceptional chance for all the pre-docs to get together to talk about the PhD programme in a relaxed atmosphere, among other things formulating a proposal for one-year mentorship for first year pre-docs by older students. As well as giving general advice about predoc life at EMBL, the mentor would have a complementary function to the Thesis Advisory Committee, being both a confidant and mediator from the student's side.

Besides the scientific programme, the trip offered some leisure time. On the final evening, many students went to follow the public debate of Gerhard Schröder and Angela Merkel, followed by a riotous night of socialising. A Nuremberg excursion on the last day proved that scientists are also interested in Franconia's culture – and its famous sausages.

The event was organised entirely by a team of EMBL students, and new volunteers are already needed to start organising next year's retreat!

– *Malgosia Duszczyk, Thomas Portmann, Henriette Uhlenhaut, Fabian Filipp*

Sven and Stephan get down to some serious thesis discussion



## ELLS learning labs offer opportunity for teaching as well as learning

As EMBL's pre-docs and post-docs learn skills they'll need in their future careers, the ELLS team (European Learning Laboratory for the Life Sciences) is also giving them the chance to teach. Pre-docs and post-docs helped high school biology teachers from Germany, Italy and Portugal gain insights into the latest scientific practices at the Learning Lab held at EMBL-Heidelberg on September 19–21.

Philipp Gebhardt chose protein expression and purification for his topic, demonstrating the process on a mini-scale and in a reduced timeframe, while Cleopatra Kozłowski introduced a bioinformatics module. Julius Brennecke and David Hipfner gave a talk on the latest findings on RNA interference, which Matyas Gorjanac demonstrated on the confocal microscope. Mikko Taipale talked about chromatin and Tanya Klymenko demonstrated a bacterial transformation protocol.

Introducing participants to recent scientific discoveries, only likely to hit school curricula far into the future, is not only intended to stimulate teachers' enthusiasm for science; practicals and workshops "premiered" at ELLS

Learning Labs are developed into classroom aids available to teachers all over Europe. "Though the teachers had different levels of lab experience, the ELLS programme made it accessible to everyone," says Philipp.

### ...and a postcard from Portugal...

Dear EMBL,

As E-Star PhD students we represented EMBL in the second ELLS/IBMC/FCUP Learning Lab, "From Proteins to DNA", in Porto on September 8–9. We took the virtual DNA microarray game developed by Anastasios Koutsos to familiarise the teachers with the concept of large-scale gene expression analysis. The participants were able to observe single genes expressed in different phases of development of model organisms such as chick and fish under the microscope. The experience was thrilling and the teachers were keen to take their new knowledge home to their pupils.

– *Andreia Feijao and Silvia Santos*

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## the EMBO corner



### Leading diabetes and cancer researcher wins "EMBO Gold"

Every year the EMBO Gold Medal honours an outstanding European life scientist aged 40 or under, presenting the winner as a role model for other young researchers. Any scientist would do well to follow in the footsteps of the 2005 winner. Dario Alessi of Dundee University's Medical Research Council (MRC) Protein Phosphorylation Unit in Scotland has an impressive track record for such a young research career.

Dario was selected by EMBO in recognition of his landmark work in cell signalling. His research on enzymes called "kinases" has provided exciting new insights into conditions such as diabetes, cancer and hypertension. In particular, his discovery and characterisation of the PDK1 and LKB1 kinases hold great

promise for the treatment of inherited diseases.

Dario's first breakthrough with PDK1 came in 1997, just seven years after he completed his PhD. Since then he has gone from strength to strength. In 2003, his group uncovered an unexpected link between LKB1 and the AMPK enzyme; this opened the door for research into improved cancer and diabetes drugs. Dario's team has since also shown that LKB1 also impacts other enzymes, some of which are

linked with Alzheimer's disease. In 2004, the group also validated PDK1 as a key anti-cancer agent.

Dario's achievements have not gone unnoticed. In addition to the EMBO Gold Medal and his recent election to the EMBO membership, he has won a number of international awards and published over 100 peer-reviewed research papers. Recent data from the Institute for Scientific Information ranked him as the world's 13th most cited scientist in the fields of biology and biochemistry from January 1995 to August 2005.

For Dario, the European aspect of the EMBO award is particularly special. Born in France to Scottish-Italian parents, brought up in Belgium and having completed his graduate studies in England, he is something of a European polyglot. "I have a strong European sense of identity and to receive the recognition of such an esteemed group of European scientists is an immense privilege."

Dario was presented with the EMBO Gold Medal on October 16, 2005 at the EMBO Frontiers of Molecular Biology meeting in Warsaw, Poland.

[www.embo.org/about\\_embo/press/alessi\\_background.html](http://www.embo.org/about_embo/press/alessi_background.html)

– Lindsay Johnson

## Science, Society and Security

Never before has security, national and international, been such a hot topic. The next EMBO/EMBL Joint Conference on Science and Society, to be held in Heidelberg on October 28-29, will look at science in relation to this high-priority theme.

Speakers from various fields, including Michael Moodie of the US Chemical and Biological Arms Control Institute, Ivanka Spadina of INTERPOL, John Daugman of Cambridge University (the man behind iris recognition technology) and Helen Wallace of Genewatch UK, have been invited to the conference. The first session will look at the use and abuse of biological knowledge: how can we minimise the misuse of biological information? Does the first artificial synthesis of the polio virus open the door to anyone with some chemicals, a computer and evil intentions?

Session two, about security and the freedom of research, will look at whether national security is endangered by the open publica-

tion and exchange of information and materials in the academic world, while session three, on science and the technology of identification, will examine state-of-the-art technology which has led to, for example, iris scanning in some airports in Europe and the USA.

Finally, session four will look at information technology in the knowledge society: with more personal information being collected from us than ever before, what is the balance between protecting society and protecting the individual?

The conference precedes a related EMBL Science and Society Forum seminar on November 29, at which Dr. Peter Gill of the UK's Forensic Science Service will give a talk about forensic genetics and the national DNA database in the UK.

For more information about Science and Society events, see [www.embl.org/aboutus/sciencesociety](http://www.embl.org/aboutus/sciencesociety)

**EMBL-Monterotondo** will play host to a Science and Society event on December 9, the EMBL/EMBO/IBC-CNR Mini-Symposium on Genes and Behaviour. Invited speakers will discuss their work on the

genetic basis of pathological behaviour and the social and ethical implications of such research. For the full programme visit [www.embl.org/aboutus/sciencesociety/meetings](http://www.embl.org/aboutus/sciencesociety/meetings)

## Medline at your fingertips

Sick of ploughing through hundreds of Medline abstracts? Help is at hand. The text-mining team at the EBI, led by Dietrich Rebholz-Schuhmann, has developed a new, freely available web-based application, EBIMed, that will automatically analyse your selection of Medline abstracts.

The user enters search terms in the same way as when using PubMed. But apart from returning the list of abstracts relevant to the search terms, EBIMed performs additional tasks: (1) it searches for concepts in the text; (2) it identifies pairs of concepts occurring together ("co-occurrence" or "hit-pairs"); (3) it matches these terms to entries in selected biomedical databases; and (4) it generates overviews on of the findings, for example including a ranked list of "hit-pairs".

Clicking on any of the listed hits leads you to the relevant sentences and to the abstracts of the papers in which they were found; you can also link to the UniProt/Swiss-Prot record for any protein listed, functional annotations in the Gene Ontology (GO), drug names in Medline Plus and species in the NCBI's taxonomy browser.

More information can be found at [www.ebi.ac.uk/Rebholz-srv/ebimed](http://www.ebi.ac.uk/Rebholz-srv/ebimed)

## DIY Tips #1: How to build a carpark



Step 1: Find a handy piece of suitable land on Meyerhofstrasse and dig a hole.



Step 2: Put down some foundations.



Step 3: Deposit a number of concrete pillars at regular intervals.



Step 4: Build some walls.



Step 5: Build a ramp. Et voilà, you have brand new carpark with two decks, 250 places and a maximum headroom of 2.1m (watch out, Rob and Carsten)...



...as well as a handy 80m illuminated footpath leading from the car park past the Cellzome building to the Main Lab.

## Liberté, EMBLité, Fraternité

Two disciplines met on September 22 when a posse of physics masters students from Paris visited EMBL for the *Interface Physique Biologie*, a two-day introduction to cell biology. The annual initiative to bring physicists and biologists together, launched five years ago by Christian Boulin, was led this year by François Nédélec. He will also lecture the students on the cytoskeleton early next year in Paris.

The visitors enjoyed a varied selection of presentations by Heidelberg Group Leaders, and PhD students took time out to show them around the labs. They also enjoyed a day of sightseeing in the city on Saturday.

“More can be done to raise awareness about the excellent science being done at EMBL among the French physics community,” says François. “These initiatives offer a good opportunity to spread knowledge, not just about cell biology but also the wide range of research going on here.”

EMBL has a strong track record of attracting researchers from a variety of fields such as physics, maths, chemistry and computer science. As student Benoit Sorre says, “We’re all choosing our PhDs next year, and this visit to EMBL has given us some new possibilities to think about.”



### Nice weather for ducks

Batten down the hatches, boys, there’s a storm a-coming! One wet day in August saw the entire External Services department on the second floor of the EBI grind to a halt as the rain came in through the windows, then down the walls, then UNDER the floor... and as we all know, water and computer equipment aren’t the best of bedfellows.

Rodrigo Lopez spent a frantic day relocating his team and a lot of high-tech computer bits and pieces to various spare corners of the EBI. “Relocating an international quorum (Swedish, French, Indian, Pakistani,

Irish, British) is not easy,” he says. In the end, the team had to admit defeat and seek refuge in Portacabins – and there they remained for the whole of September.

“The Portacabins were great,” says Rodrigo. “Some people didn’t want to leave, as they had air-conditioning for the first time.”

The ES team has now been assured that the problem has been solved and that their sterling work supporting the EBI’s 2,000,000 requests-per-day site will no longer be interrupted.

No sign of any air-conditioning yet, though...



## Of mice and men: Harvester moves into rodents

Bioinformatic Harvester, the metasearch engine for genes and protein information, has recently added mouse and rat proteins to its existing collection of human gene information.

Harvester is the brainchild of Urban Liebel who, with the technical help of Björn Kindler, launched the first versions in 2002 in the Pepperkok team. It crosslinks 16 popular bioinformatic resources for both text and graphics and allows cross-searches, including the inhouse servers SMART (Ivica Letunic) and STRING (Lars Jensen and Christian von Mering). For the text results it provides a special ranking system, similar to Google Page-Rank, to sort the search results and present the most relevant information first.

With Harvester, researchers can quickly and easily search for:

- links to diseases
- protein domains and homologies
- a summary of protein function and latest literature information
- predicted protein localisation
- experimentally verified protein localisation (gfp-cdna project)
- all known protein sequences
- genomic context: is there a disease-related gene next to “mine”?
- gene synonyms and most database identifiers

To access Harvester, or for more information, go to <http://harvester.embl.de>



## news&events

### Helping the boys and girls of Brazil

You may remember that back in January, Heike Brand sat at a table in front of the canteen at EMBL-Heidelberg selling hand-crafts to raise money to take to children living on the streets of Brazil. She raised a whopping €2,000, which she put to good use during a six-month leave of absence in the northeastern city of Recife.

Heike, a technician in Frank Gannon's lab, volunteered for the charity Grupo Ruas e Praças, which, supported by German charity RUA e.V., raises money for the thousands of children who turn to the streets through homelessness or to help their poverty-stricken families.

The money was helpful in the short term, but most of Heike's trip was devoted to helping the children, and in some cases their families, try to make long-term improvements in their lives. That required some innovative strategies, because the literacy rate is very low among the target group. "Some of them can't even write their names," Heike says.

By teaching health workshops about anatomy, contraception and the illnesses to which

the children and their families are vulnerable, such as AIDS and sexually-transmitted diseases, Heike was able to get some important messages across about birth control and disease prevention. "They were very interested and receptive," she says. "I thought I would get very emotional, but I made sure I was very well-informed about what to expect, and I got a lot of support."

During her stay, Heike also helped reunite runaways with their families. The visit gave her first-hand insight into how different the lives of these people were from her own.

"During my time in Brazil, I realised how important it is, for the sake of some people in the world, that we in developed countries find ways to volunteer and keep donating money," she says. "I would encourage everybody to donate as much as they can; there are many different organisations which are having a big impact on the situation."

For more information about Grupo Ruas e Praças and the street children, visit the website at [www.rua-ev.de](http://www.rua-ev.de)

Heike explains the birds and bees to a girl in Recife



### from the Staff Association

EMBL Heidelberg staff contributed generously to a tombola held during the annual Staff Association-EMBL Summer Party in July to benefit the Deutsche Kinderkrebsstiftung (German Children's Cancer Foundation).

€1,607 was collected from sales of tickets for prizes from local traders, including mystery packages for children to a weekend's use of a stretch limousine for adults.

On September 23, Staff Association co-chair Doros Panayi presented the cheque to Birgit

Sutterer of the Kinderkrebsstiftung at the Waldpiraten Children's Camp near EMBL-Heidelberg. The facility holds summer camps and year-round seminars for children with cancer and their families.

Staff at EMBL-Heidelberg support the camp every year with monetary donations and activities, such as free diving lessons for the children, organised by the Diving Club.

– Ann Thüringer

■ **University College Cork** is the newest addition to the list of International PhD Programme partner universities, and the first partner in Ireland.

■ **On October 12** the EIROForum DGs made a presentation to the European Parliament's Committee on Industry, External Trade, Research and Energy about the mission of our organisations and the need for our participation in developing European research policies.

■ **EMBL-Hamburg** will be taking part in its campus partner DESY's "Nacht des Wissens" (Night of Science) on Saturday 29 October. See <http://nachtdeswissens.desy.de> for information.

■ **The German scientific periodical Laborjournal** has published a list of Developmental Biology's "most cited", and the names include no fewer than thirteen EMBL people past and present, with our very own Fotis C. Kafatos coming an impressive third out of fifty.

■ **Acquaint yourself** with the new and improved version of the EMBL-Heidelberg safety policy at [www.embl.org/staffonly/personnel/policies/safety.pdf](http://www.embl.org/staffonly/personnel/policies/safety.pdf)

■ **José Márquez's** High-Throughput Crystallisation Laboratory at EMBL-Grenoble has recently celebrated half a million samples processed. The resource is open to the IVMS and the members of the Partnership for Structural Biology (PSB), EMBL, ESRF and IBS. For more information about the services offered by José's team or to register, visit <https://htxlab.embl-grenoble.fr>

■ **The 7th International EMBL PhD** symposium, Biology at Work, will take place in Heidelberg on December 1-3. For more information, see <http://symposium.predocs.org>



### All EMBL's a stage

EMBL-Heidelberg's theatre group meets every Tuesday at 18:45. No experience is necessary, and stage hands as well as actors are required. The group is just about to start rehearsing a play to be performed at Christmas. For more information, contact Jorma Tapola at [tapola@embl.de](mailto:tapola@embl.de)



## awards&honours

**Elena Conti** has won the fifth ELSO Early Career Award for her work on molecular mechanisms governing the transport of proteins and RNAs between the nucleus and the cytoplasm. The prize is awarded to young senior scientists who have made outstanding contributions to the life sciences. Previous EMBL winners are Elisa Izaurralde (2000) and Jan Ellenberg (2004). Elena received a €1,000 prize and a pair of binoculars donated by Carl Zeiss Jena GmbH at the ELSO 2005 meeting in Dresden on September 3-6.

## books@EMBL

EBI Group Leader Wolfgang Huber's book *Bioinformatics and Computational Biology Solutions Using R and Bioconductor* was published in August. Bio-conductor is one of the most widely used software packages for the analysis of functional genomics data, freely available from [www.bioconductor.org](http://www.bioconductor.org). Wolfgang and his co-authors, who collaborated on the software, recognised a gap in the

market for a teaching handbook. "It's the first text that systematically explains how to use the software for such analyses. It grew out of our courses," he says. In addition to topics such as microarray processing and statistical testing for differential expression, the book covers metadata integration and the use of graphs or networks in bioinformatic analyses. It is available at [www.springeronline.com](http://www.springeronline.com).

## obituary



### Holger Kulesa (1965 -2005)

We are deeply saddened to inform the EMBL community of the death of Holger Kulesa, a member of the predoc programme and the Graf laboratory between 1992 and 1996, in Nashville on August 31.

Holger was immensely talented and extremely driven to succeed in his research. The observations that he made during his stay at EMBL represented a fundamental advance in the understanding of how transcription factors reprogramme one differentiated cell type into another and, in particular, how they manage to extinguish cellular traits. This work laid the foundation for much of what is being done in the Graf lab today and in other labs around the world.

Beyond his scientific talent, Holger was also a dear friend to a number of his contemporaries at EMBL, and many of us remember him as a musician (harmonica) and as one of the co-founders of EMBL band Major Groove and the Sticky Ends.

After leaving EMBL, Holger did his postdoctoral studies with Brigid Hogan at Vanderbilt University in Nashville, Tennessee, where he subsequently obtained a position as a Research Assistant Professor of Gastroenterology. We are all deeply saddened to hear of Holger's death and send our warmest sympathy to his family and friends. We will miss him.

– Thomas Graf and Kelly McNagny

## www.embl.fr goes online

If you've paid a virtual visit to the Grenoble Outstation lately, you may have noticed some changes. [www.embl.fr](http://www.embl.fr) has now been brought into the common [embl.org](http://www.embl.org) structure: navigation and the look and feel have been standardised to be in line with the umbrella site, Heidelberg and Monterotondo. In particular, be sure to check out the services pages, where you can find out about access to synchrotron and neutron beamlines. The new Grenoble website was created by EMBL web designers Jason Soffe and Francesco Sottile and the web team (Silke Schumacher, Björn Kindler and Stephanie Weil) in close collaboration with Bruna Kwiatkowski from the Grenoble Administration and Rémi Pinck from the Grenoble Computer Group.



## Who's new?

Andy Cafferkey (EBI Systems), Beate Flörchinger (Conti), Boris Hamsch (Minichiello), Falk Hartmann (Lamzin), Rositsa Jordanova (Tucker), Aynur Kaya (Brunner), Waltraud Kempny (Social Services), Marzena Knysok-Sypniewski (Conti), Michael Kuhn (Bork), Styliani Lamprinaki (Hentze), Claudia Leichtlein (Treier), Ya-Hsin Liu (Furlong), Margus Lukk (Microarray), Pierre Marguerite (Macromolecular Structural Database), Dietrich Möckel (Finance), Tommaso Nastasi (Rosenthal), Marian Novotny (Thornton), Gael Seroul (Hart/Márquez), Julianna Solomons (Weissenhorn), Carolina Tängemo (Pepperkok), Guillaume Valentin (Gilmour), Sevil Emine Yavuz (Mattaj)

## events@EMBL

28–29 October, 2005

EMBL-Heidelberg

EMBO/EMBL Joint Conferences on Science and Society: Science and Security

2–4 November, 2005

EMBL-Heidelberg

From experiment to biological understanding: A joint EMBL/Affymetrix/Stratagene workshop

7–8 November, 2005

EMBL-Monterotondo

Senior Scientists' Meeting

14 November, 2005

EMBL-Heidelberg

EMBL Distinguished Visitor Lecture: Philip Cohen, University of Dundee

16 November, 2005

EMBL-Hamburg

Official inauguration of the Hamburg High-Throughput Facility

29 November, 2005

EMBL-Heidelberg

Science and Society Forum seminar: Forensic genetics and the UK's National DNA database

1–3 December, 2005

EMBL-Heidelberg

7th International EMBL PhD Symposium: Biology at Work – A journey through applied life sciences

3 December, 2005

EMBL-Monterotondo

EMBL/EMBO/IBC-CNR Mini-Symposium: Genes and behaviour

