



Dear Reader,

Recognising excellence is core to EMBO – the membership has been doing just that since nomination of the first 200 EMBO Members in the 1960's. This year again we welcome newly elected members to EMBO (see page 4). And we congratulate *Luc Montagnier*, *Roger Tsien* and *Harald zur Hausen* – EMBO Members awarded The Nobel Prize this year. The disciplinary breadth of molecular life sciences is much broader today than it was some 40 years ago. For this reason, a modified member election procedure was adopted – see page 5.

You may have noticed some changes to format in this issue of *EMBOencounters*: first, you are hearing from me as Deputy Director – a role I share with EMBO Fellowships Programme Manager *Jan Taplick*. Secondly, we plan a lead story for each issue to highlight topics relevant to EMBO activities.

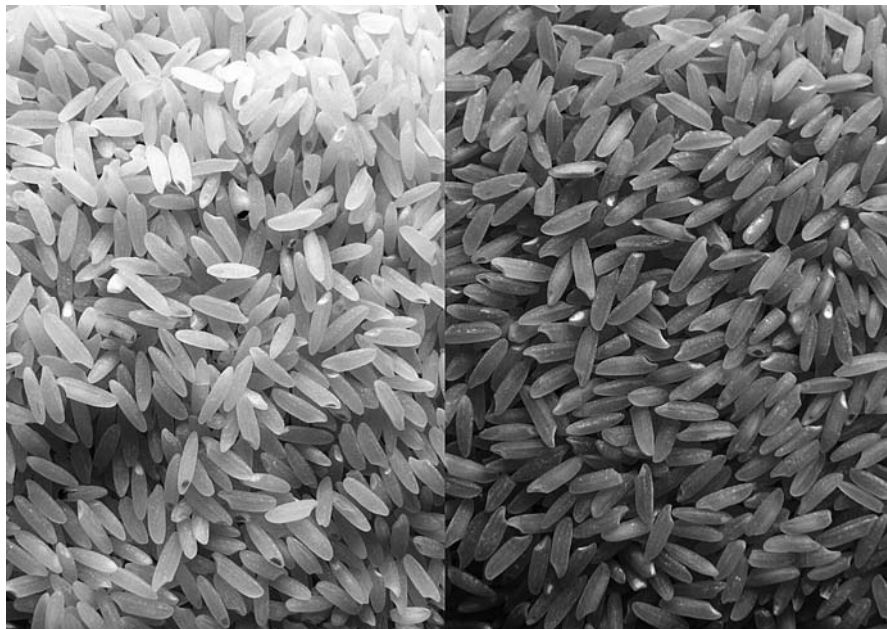
This issue's lead story investigates today's perceptions of the *green revolution* – the focus of the next EMBO/EMBL Science & Society Conference. EMBO Science & Society aims to create dialogue between policy makers and the public and complements our numerous activities that share knowledge addressing the challenges of our changing world. *The EMBO Journal* has been sharing the latest in molecular biology research for 27 years. You can read about the latest editorial changes to the journal on page 11, planned to increase transparency, primary literature citation and visibility for authors.

As you may know, my responsibilities at EMBO involve the management of the EMBO Young Investigator Programme that recognises the potential for excellence in research of young independent group leaders and fosters these talented scientists to further their careers. This year, we welcome 12 of Europe's most promising young researchers (page 7).

A few format changes do not mean that regular features have been lost. You'll still find all the latest news from EMBO inside plus contributions from the EMBO community.

Gerlind Wallon

## Green biotechnology: kill or cure?



Golden Rice could help prevent vitamin A deficiency in the developing world.

**Soaring grain prices, high energy costs and increasingly louder riots on the streets of famine-stricken countries such as Haiti or Somalia are forcing politicians and the public to reconsider their opposition to modern agriculture and crops created through breeding techniques that employ methods of molecular genetics. Will the fierce opposition of western countries to so-called genetically modified (GM) crops eventually give way to the acceptance that they might help tackle the global food crisis and even prevent some diseases?**

***Food, sustainability and plant science: a global challenge will be the theme of the tenth EMBO/EMBL Science & Society Conference in 2009. EMBOencounters gives a glimpse into where the green revolution stands today by looking at the example of Golden Rice as a symbol of the potential goodness green biotechnology has to offer. The conclusion? In Europe, the main agenda for Golden Rice is not to promote its economic or health benefits, or to debate the potential risks of growing it, but rather to foster greater and general acceptance of genetic engineering in modern plant breeding amongst the public.***

Dramatic increases in the prices of bread, rice, milk and other basic foods have put both politicians and scientists under considerable pressure to find solutions to the global food crisis. The lives of nearly half the world's population are dependent on rice as a basic staple crop, and demand is expected to increase by 50 percent by 2050. But, for example in Thailand, the average price for rice more than doubled last summer to 760 US dollars a tonne for several reasons: the pass-on effect of increased energy costs from transport and logistics businesses; reduced supply caused by producing nations

that cap or cut exports as they struggled with rising domestic inflation; and increased demand from countries like Bangladesh, hit by floods and other natural catastrophes.

Encouraged by the high prices, farmers in the world's two biggest rice exporters, Thailand and Vietnam, are working feverishly to plant more of the crop to calm some of the global rush. But will this crisis also help shift public opinion towards GM crops? The benefits of green biotechnologies are obvious: they could help to alleviate worldwide hunger, to deal with

(continued on page 2) → →

## Green biotechnology: kill or cure?

*Continued from first page*

→ → flooding of rice crops and to make plants drought resistant. Some GM crops could even help tackle prevalent diseases and improve millions of lives – just like the much-lauded Golden Rice.

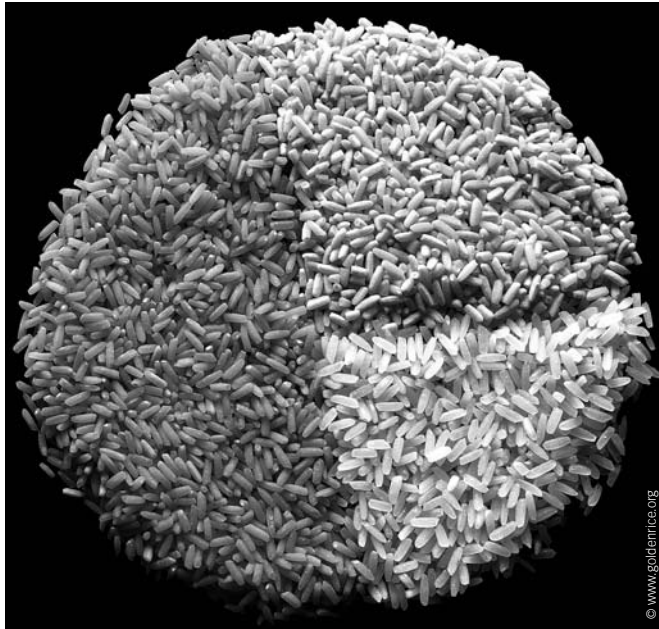
In fact, the commercial launch of probably the most famous genetically engineered grains is – nine years after its first announcement – finally here. The field-testing began in the spring of 2008 in the Philippines. *Peter Beyer*, of the University of Freiburg in Germany, one of the inventors of the enhanced yellow grain, predicts that it will be available on the market in 2011 or 2012, and the Philippines is planned to be the first country to sell the staple crop to farmers and consumers.

The expectations were high: “Golden Rice could prevent blindness in one million children a year,” announced the headline in the US magazine *Time* in July 2000. *Peter Beyer* and *Ingo Potrykus*, of the Swiss Federal Institute of Technology, were the first scientists worldwide to announce the idea of a rice plant capable of producing provitamin A, or beta-carotene, to help tackle malnutrition in areas where people do not have sufficient vitamin A sources. That was way back in 1999.

However, the opposition to Golden Rice was fierce from the beginning. It has often been criticised for being a technical fix that does not address the real needs of farmers and their living conditions. Others have argued that transgenes generally promote the use of monocultures and are thus bad for diversity. On top of that, Golden Rice was initially enmeshed in multiple patents cases. Now, the makers of Golden Rice promise to provide the technology free of charge to subsistence farmers. “The farmers can regard the seeds as their property. They can sow, distribute or nationally sell it – without paying any licences,” *Peter Beyer* confirmed.

But why do inventions like Golden Rice and many other lab-enhanced food crops encounter a strong opposition from civil and ecological organisations such as *Friends of the Earth* or *GreenPeace*? Although many GM crops, such as cotton and maize, are grown widely

in North America, South Africa and parts of South America and Asia, some countries, particularly in Western Europe, remain sceptical about their safety. The majority of consumers in Western Europe still regard GM crops as a



Golden Rice 2 (left) contains up to 23 times more provitamin A than its predecessor Golden Rice 1 (top right).

slippery slope to ecological meltdown and leave enhanced maize or tomatoes aside in the supermarket aisles.

“We Europeans are living in an agricultural paradise,” commented *Klaus Hahlbrock* of the Max Planck Institute for Plant Breeding Research, Cologne, Germany, and author of the 2007 book *Feeding the Planet – Environmental Protection through Sustainable Agriculture*, in which he discusses current phenomena such as population explosion, climate change and gene technology. “Our luxurious life style with surplus food leaves enough room for extensive contemplation of all the pros and cons of biotechnology. This is also why we follow the sensationalist headlines in the newspapers so eagerly.”

Yet, in addition to all the negative press, many commentators consider the poor promotion of the positive aspects of gene technology as an example *par excellence* of exactly how *not* to communicate science. The truth is, however, that as early as the 1970s, molecular biologists were already publicly debating the potential and implications of gene technology. At that time, they actually addressed the

biohazards of the new methods by initiating discussions and, for example, organising the so-called *Asilomar Conference*. The recommendations made there formed the legislative basis for many countries. But the dialogue with the public and the media failed to achieve the desired effects.

This failure could have a long-lasting and devastating effect on both European research and millions of starving people worldwide. According to *Beyer*, Europeans are now years behind the rest of the world in agricultural biotech research. The opposition to progress and research in this field is most clearly seen in the low number of authorised field tests conducted in Europe in comparison to China or the US. Just recently, China announced plans to invest US 3.5 billion dollars in green transgene technology projects. And even if opinion changed overnight, it would still take years for the sluggish European legislative machinery to implement the new thinking.

“For the Europeans, the bus is long gone,” *Beyer* concluded. At least in Europe, Golden Rice has not yet managed to provide a much-needed public relations boost for the green biotech industry. Perhaps the recent crisis in the food markets, as well as increasing concerns about the growing world population and climate change, will sway the public in favour of modern agricultural technologies.

Of course, scientists themselves show no fear when it comes to tasting transgene products. “Many years ago, I wanted to try a genetically modified tomato in Davis, California, the city where it was actually created,” *Hahlbrock* recalled. “I queued up at a market stand, but, by the time I got to the counter, it was already sold out.”

*In the next issue, EMBOencounters will present the view of scientists and consumers from the developing countries on the possibilities and risks of biotechnology. To what extent is public opinion in countries such as Mexico influenced by western Europe? Are non-governmental organisations from Europe turning developing countries against sophisticated farming methods?*

## “Seeing students gain confidence is most rewarding”

Interview with James Briscoe – winner of the EMBO Gold Medal 2008

The developmental biologist James Briscoe of the Medical Research Council’s National Institute for Medical Research (NIMR), UK, is the winner of the 2008 EMBO Gold Medal. The award was given in recognition of his discoveries in the regulation of neuronal cell development. “His work is highly rigorous, hits the heart of a problem and continues to be timely and of wide general interest,” praises *Robb Krumlauf*, former Head of Division at NIMR. In *EMBOencounters*, the gold medalist speaks about his scientific career and life outside the lab.

### **James, how did you get interested in science, especially in developmental biology?**

There was never a five-year-old who decided one day he wanted to become a scientist. At school I was reasonably good in science like biology and chemistry. During my university time in Warwick I got increasingly interested in molecular biology. The relationship between cells and their environment, the response of cells to infections caused by viruses – these phenomena really struck me. This is how I got interested in molecular biology and signal transduction.

### **Could you describe the focus of your latest research?**

We strive to understand how neurons are arranged in the spinal cord. Specifically, we are looking at the molecular basis of how different neuronal cells are generated in a developing embryo as a result of signals received from the molecule called Sonic Hedgehog, or Shh. This molecule is secreted from a particular region in the spinal cord and spreads into it, activating a signal within the receiving cells for changing periods of times. Cells in turn respond to the different durations of the signal by activating different genes and therefore becoming distinct types of nerve cells.

### **What is so new about this idea?**

The idea that concentration of a morphogen can be converted into the time of signalling is certainly something that had not been widely thought about in the field of development. It could also be relevant in other cases: some secreted molecules, members of different protein families, have also been implicated in acting as morphogens to pattern other tissues. So it is possible that these morphogens could be using a similar mechanism to control cells in other tissues such as limbs for example.

### **From a therapeutic point of view, what implications arise looking at various genetic diseases?**

Understanding how different types of neurons are made in the nervous system is an inter-

esting and important question in its own right. But it also suggests rational strategies for stem cell approaches. The long-term goal might be to produce different types of neurons *in vitro* – either to use them for drug studies or potentially, in the future, in humans to restore function. Knowledge about how different types of nerve cells develop in embryos is essential for such applications.

### **In retrospect, which period would you identify as a turning point in your career?**

It was definitely my move to *Thomas Jessell’s* lab at Columbia University in New York in 1996, where I worked alongside a great postdoc, Johan Ericson. They really taught me all about developmental biology. That period and these two people were the most significant things in my career.

### **What does it take to become an EMBO Gold Medal winner?**

I have no idea (laughs). One thing I would like to emphasize is the team endeavour aspect. I have been very fortunate to work with some great people and I also receive a lot of support from my institute. For me, science is all about working in a team and not about individual careers.

### **You have a good communication style.**

### **Do you enjoy the exchange with the general public?**

I always try to make it clear that science is actually done by people. Because I noticed that the human element in science often gets missed. This is also why I engage in education. As a governor of the secondary school near to where I live in London I try to support their



Proud winner: James Briscoe receives the EMBO Gold Medal from Hermann Bujard at the EMBO Members Workshop in Tampere, Finland, September 2008.

efforts since all the opportunities I’ve had are from my education. Seeing my own students and postdocs in the lab gain confidence and scientific expertise has been my most rewarding experience over the last few years.

### **What do you do when you are not in the lab?**

I like horse-riding. There are quite a lot of stables in and around London. I’m also very interested in modern architecture. Getting to travel frequently, a fringe benefit of being a scientist, means I get to see lots of fantastic examples.

The latest edition of Mill Hill Essays, NIMR science communication publication, includes an article by James Briscoe on his impressions from a trip to Los Angeles. It can be downloaded at: [www.nimr.mrc.ac.uk/millhillessays/2008/lastory/](http://www.nimr.mrc.ac.uk/millhillessays/2008/lastory/)

# EMBO honours 59 leading life scientists

## New Members elected in 2008

Fifty-nine leading life scientists from Europe and around the world were recognised by EMBO for their proven excellence in research in 2008. Fifty-one of the researchers are from Europe and neighbouring countries while eight equally respected scientists come from

other parts of the world and join as Associate Members, bringing the current membership total to 1360.

The newly elected EMBO Members are active researchers, based in 13 European countries. Associate Members have research

groups in Australia, Singapore and the US. This year, nine women scientists are recognised for their significant contributions to life science research.

■ [www.embo.org/about\\_embo/press/new\\_members08.html](http://www.embo.org/about_embo/press/new_members08.html)

- **Klaus Aktories** DE  
University of Freiburg
- **Leif Andersson** SE  
Uppsala University
- **Peter Angel** DE  
German Cancer Research Center  
Heidelberg
- **Bruno Antony** FR  
French National Center for Scientific Research  
Valbonne
- **Cecília Arraiano** PT  
New University of Lisbon  
Oeiras
- **Nenad Ban** CH  
Swiss Federal Institute of Technology Zurich
- **Philippe Bastiaens** DE  
Max Planck Institute for Molecular Physiology  
Dortmund
- **Thomas Boller** CH  
Botanical Institute, University of Basel
- **Thomas Bourgeron** FR  
Pasteur Institute  
Paris
- **Sarah Bray** UK  
University of Cambridge
- **James Briscoe** UK  
National Institute for Medical Research  
London
- **Javier Cáceres** UK  
The Western General Hospital, MRC  
Edinburgh
- **Giacomo Cavalli** FR  
French National Center for Scientific Research  
Montpellier
- **Elena Conti** DE  
Max Planck Institute of Biochemistry  
Martinsried
- **Wouter de Laat** NL  
The Hubrecht Institute  
Utrecht
- **Paul Freemont** UK  
Imperial College London
- **Stephen Fuller** UK  
University of Oxford
- **Thierry Gaude** FR  
ENS Lyon
- **Michel Georges** BE  
University of Liège
- **Colin Goding** UK  
University of Oxford
- **Alex Gould** UK  
MRC National Institute for Medical Research  
London

- **Thanos Halazonetis** CH  
University of Geneva
- **Dirk Heinz** DE  
Helmholtz Centre for Infection Research  
Braunschweig
- **Ykä Helariutta** FI  
University of Helsinki
- **Winship Herr** CH  
University of Lausanne
- **Heribert Hirt** FR  
URGV – Plant Genomics Research Unit  
Evry
- **Judith Klumperman** NL  
Utrecht University
- **Pierre Léopold** FR  
Nice Sophia Antipolis University, CNRS
- **Gary Richard Lewin** DE  
Max Delbrück Center for Molecular Medicine
- **Peter Lichter** DE  
German Cancer Research Center  
Heidelberg
- **Maria Pia Longhese** IT  
University of Milan – Bicocca
- **Andrew Lumsden** UK  
University of London, MRC
- **Gero Miesenböck** UK  
University of Oxford
- **Luigi Naldini** IT  
HSR-TIGET  
Milan
- **Manolis Pasparakis** DE  
University of Cologne
- **Daniel Peeper** NL  
The Netherlands Cancer Institute  
Amsterdam
- **Joseph Penninger** AT  
Institute of Molecular Biotechnology  
Vienna
- **Salomé Prat** ES  
Spanish National Center of Biotechnology  
Madrid
- **Olivier Schwartz** FR  
Pasteur Institute  
Paris
- **Camilla Sjögren** SE  
Karolinska Institute  
Stockholm
- **Len Stephens** UK  
The Babraham Institute  
Cambridge
- **Brigitta Stockinger** UK  
MRC National Institute for Medical Research  
London

- **Markus Stoffel** CH  
Institute of Molecular Systems Biology  
Zurich
- **Tomoyuki Tanaka** UK  
University of Dundee
- **Mike Tyers** UK  
University of Edinburgh
- **Helle Ulrich** UK  
Cancer Research UK  
South Mimms, Herts
- **Bas van Steensel** NL  
The Netherlands Cancer Institute  
Amsterdam
- **Bart Vanhaesebroeck** UK  
University of London,  
Institute of Cancer Research
- **Núria Verdaguer** ES  
Barcelona Institute of Molecular Biology
- **Siniša Volarević** HR  
University of Rijeka
- **Roger Williams** UK  
Laboratory of Molecular Biology, MRC  
Cambridge

## NEW ASSOCIATE MEMBERS 2008

- **Spyros Artavanis-Tsakonas** US  
Harvard Medical School  
Boston
- **Claude Desplan** US  
New York University
- **Scott Emr** US  
Cornell University  
Ithaca
- **Ronald N. Germain** US  
National Institutes of Health  
Bethesda
- **Richard Paul Harvey** AU  
Victor Chang Cardiac Research Institute  
Sydney
- **Edison Liu** SG  
Genome Institute of Singapore
- **Elliot M. Meyerowitz** US  
California Institute of Technology  
Pasadena
- **Thomas Silhavy** US  
Princeton University

# Annual meeting of EMBO Council

## 2008 election results

The annual meeting of EMBO Council was held in Heidelberg from 2–3 October 2008. The Council, made up of 15 EMBO Members, meets annually with management to discuss and review the organisation's activities. *Tim Hunt*, who was re-elected as Chair of Council for 2009, hosted the meeting. *Anton Berns* was also re-elected as Vice-Chair for 2009.

*Christiane Nüsslein-Volhard* was elected as Secretary General of EMBO for another year.

During the meeting, *Benny Shilo* and *David Shore* were re-elected to Council for the period 2009–2011 and *Andrea Ballabio*, *Patrick Charnay* and *Maria Leptin* were newly elected for the same period. The next ordinary meeting of Council is planned for 8–9 October 2009.

EMBO membership election procedures were discussed as a key agenda item and Council approved new procedures to take effect from 2009 (see below).

■ [www.embo.org/about\\_embo/council\\_committees.html](http://www.embo.org/about_embo/council_committees.html)

### The EMBO Council (as of January 2009)

■ <b>Anton Berns</b> (Vice-Chair)	■ <b>Patrick Charnay</b>	■ <b>Ari Helenius</b>	■ <b>Daniel Louvard</b>	■ <b>Benny Shilo</b>
■ <b>Maria Blasco</b>	■ <b>Gunnar von Heijne</b>	■ <b>Tim Hunt</b> (Chair)	■ <b>Ferenc Nagy</b>	■ <b>David Shore</b>
■ <b>Andrea Ballabio</b>	■ <b>Carl-Henrik Heldin</b>	■ <b>Maria Leptin</b>	■ <b>Daniela Rhodes</b>	■ <b>Kai Simons</b>

# Revision of EMBO membership election

## Changing face of molecular biology calls for new procedure

For the first time since the foundation of EMBO in 1964, EMBO Council has moved to significantly modify the annual election procedure for EMBO Members. The new rules respond to frequently raised concerns as to whether the EMBO membership still reflects the wide spectrum of molecular life sciences and aim to achieve a more balanced representation of all areas of present day molecular biology.

How to better reflect the diversity of contemporary molecular biology in the EMBO membership? How to take into account smaller and emerging fields of life sciences while ensuring an appropriate representation of all participating countries? These questions were high on the agendas of EMBO Council meetings over the past year. Council finally decided to reform the procedure and increase the size of the membership committee. They further divided the committee into five sections, each consisting of four experts from the main biological subject areas.

Each year, EMBO Council determines the total possible number of new members. EMBO Members nominate leading scientists based on their proven research excellence as candidates for election. The membership then decides who will eventually join their ranks.

As molecular biology has grown and diversified over the years, it's become apparent that

the former procedure did not necessarily lead to an appropriate representation of all areas of molecular biology in the EMBO membership.

Starting with the 2009 elections, Council will continue to predetermine the annual total; the membership will nominate candidates and subsequently vote as they have done in the past. But from this point the procedure varies from former years. A line will be drawn at 60 percent of the total allowed for the year. The top 60 percent will be elected automatically. Remaining candidates will be evaluated, according to their specialties, by the five sections of the membership committee – until the other 40 percent of the year's total can be identified for co-option by EMBO Council.

For 2009, EMBO Council has predetermined that 60 new members are to be elected. According to the new rules, the top 36 candidates receiving the most votes from the membership will be automatically elected. The remaining ones will be divided for review by the relevant section of the membership committee until a further 24 can be recommended for co-option.

The new procedure would allow the identification of the true leaders in a wide spectrum of fields, who may not generally be known to all voting members. It will facilitate the election of scientists working in emerging areas of

research or in disciplines more distant to "core" molecular biology, such as neurosciences and behavioural biology or applied disciplines like medicine, plant breeding and biotechnology. The reassessment of policies allows EMBO to keep up with the times while retaining the democratic character of the election.

**From 2009, the membership committee will be divided into five sections to better judge the research excellence of future candidates**

Section	Subject area
<b>Structure and Biocomputing</b>	<ul style="list-style-type: none"> <li>■ Genomics &amp; Computational Biology</li> <li>■ Protein &amp; Biochemistry</li> <li>■ Structural Biology &amp; Biophysics</li> <li>■ Systems Biology</li> </ul>
<b>Genes, Genomes, Gene Expression</b>	<ul style="list-style-type: none"> <li>■ Chromatin &amp; Transcription</li> <li>■ Genome Stability &amp; Dynamics</li> <li>■ RNA</li> </ul>
<b>Cell Biology</b>	<ul style="list-style-type: none"> <li>■ Cell Cycle</li> <li>■ Cell &amp; Tissue Architecture</li> <li>■ Cellular Metabolism</li> <li>■ Differentiation &amp; Death</li> <li>■ Signal Transduction</li> <li>■ Membranes &amp; Transport</li> </ul>
<b>Immunology and Pathogens</b>	<ul style="list-style-type: none"> <li>■ Immunology</li> <li>■ Pathogens</li> </ul>
<b>Neuroscience and Development</b>	<ul style="list-style-type: none"> <li>■ Neuroscience</li> <li>■ Development</li> </ul>

**1**  
February

**Nominations of EMBO Members**  
2009 DEADLINE

**1**  
April

**Ballot papers for election of EMBO Members**  
2009 DEADLINE

## Immersed in excellence

### EMBO Members Workshop in Tampere, Finland

A labyrinth of lakes surrounded a most talented group of molecular biologists gathering in Tampere, Finland, this past September for the EMBO Members Workshop. Hosted by *Howy Jacobs* – EMBO Member and professor of molecular biology at the Institute of Medical Technology, University of Tampere – the workshop welcomed members elected in 2007 to EMBO membership. Members came from Europe and we were pleased to welcome new associate members who came from as far away as India and Australia.

Bringing together leading scientists from all corners of the life sciences community, participants were immersed in the latest research from a variety of fields as new members presented overviews of their work. Attendees had ample opportunity to network and develop contacts with other EMBO Members. Assisted by *Päivi Manninen*, Howy Jacobs organised a stimulating intellectual environment both for the attending members and also Finnish scientists and students invited to sit in on the lectures.

The EMBO Gold Medal for 2008 was presented to *James Briscoe* during the workshop, recognising his discovery that cells integrate time of exposure and concentration of a morphogen to subsequently mount a graded response (see page 3). James amused his audience by introducing his talk about the work from his lab with a caution from his father never to do anything that might get him



*Hermann Bujard and Howy Jacobs at the EMBO Members Workshop*

a medal! *Tim Hunt* was the EMBO Member selected this year to talk about his research on the cell cycle that resulted in his sharing the Nobel Prize in 2001.

Participants of the EMBO Workshop took time out on Saturday afternoon to attend a special symposium – *Molecular Biology and Global Health Challenges* – that brought together leaders in biomedical research and education, funding organisations, the pharmaceutical industry and intergovernmental and non-governmental agencies to discuss and

define strategies for the successful merger of scientific innovation, business and global social development. EMBO was pleased to join with the University of Tampere, the Tampere Chamber of Commerce and Industry, and the City of Tampere to help organise the symposium.

Next year, EMBO will welcome newly elected EMBO Members in 2008 at a member reception to be held on 30 August during *The EMBO Meeting 2009* in Amsterdam.



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EMBO Members *Toshiyuki Nagata*, *Francis Stewart* and a guest from the University of Tampere, *Emmanuel Eneh*, (left to right) at the reception in the Tampere city hall.

## Twelve young group leaders join our ranks

### EMBO Young Investigators selected in 2008

In November 2008, EMBO announced the selection of 12 of Europe's most talented young researchers as 2008 beneficiaries of the EMBO Young Investigator Programme. The 12 junior group leaders join a vibrant group of more than 200 scientists. Over the course of

three years, EMBO Young Investigators will enjoy benefits not readily available to early-career scientists. Lab management and non-scientific skills training as well as PhD courses offer the young group leaders and their students the chance to develop professional skills.

Networking events introduce them to recognised leaders in science like EMBO Members and other experts in their respective fields.

■ [www.embo.org/about\\_embo/press/new\\_yips08.html](http://www.embo.org/about_embo/press/new_yips08.html)

■ **Óscar Fernández-Capetillo** ES  
DNA damage response  
CNIO, Madrid

■ **Jesús Gil** UK  
Regulators of senescence  
MRC Clinical Sciences Centre, London

■ **Monica Gotta** CH  
Asymmetric cell division  
University of Geneva

■ **Giles Hardingham** UK  
NMDA receptor signalling  
University of Edinburgh

■ **Juan Martín-Serrano** UK  
HIV budding  
King's College London

■ **Eric Miska** UK  
Small RNA regulatory networks  
Gurdon Institute, Cambridge

■ **Antonin Morillon** FR  
ncRNA-mediated gene silencing  
CNRS, Gif sur Yvette

■ **Antoine Peters** CH  
Epigenetic programming in germ cells  
Friedrich Miescher Institute, Basel

■ **Erik Sahai** UK  
Cancer cell invasion  
Cancer Research UK

■ **Almut Schulze** UK  
Akt Kinase in Cancer  
Cancer Research UK

■ **Mikael Simons** DE  
Myelin biogenesis  
MPI for Experimental Medicine, Göttingen

■ **Eric So** UK  
Transcriptional deregulation in Leukemia  
Institute of Cancer Research, London

## The power of face-to-face

### Annual EMBO Fellows Meeting in Heidelberg



"It's fun to see the faces of the programme coordinators at last, instead of names and emails only," commented *Maria Alvarado-Kristensson* from Lund University during a coffee break at the annual EMBO Fellows Meeting, which took place mid-June in Heidelberg. Fifty fellows from near and far mingled in Heidelberg for four days to meet, exchange ideas, enjoy the talks and see what their counterparts' newest lab projects are all about. "The workshops were as usually very interactive," said programme manager *Jan Taplick* after the event.

This year's Fellows Meeting activities included, next to the scientific presentations, also senior researchers' talks about life in science and special lectures by EMBO editors who offered a glimpse "behind the scenes of scientific publishing". The one-day Science & Society media workshop on the second day ended with a vigorous discussion about the importance of explaining science to laymen. Science journalist *Diane Scherzler* and EMBO

Programme Manager *Andrew Moore* argued that excellent media communication can actually influence key decision makers and, for example, increase the chances for research funding. In the afternoon session, *Susanne Benner*, Chief PR Officer at the chemical giant *BASF*, gave insights into the communication tactics of a global player and explained why it is sometimes safer to simply say "no comment" to a journalist's awkward question.

The informal part was filled with sightseeing, socialising, and above all, discussion. The backdrop for the evening programme changed every day and included a boat trip down the scenic Neckar River, a BBQ party and a Greek evening at EMBL.

"Overall we had some great days. It's really good to talk with people who are in the same situation," concluded *Fransje Koning* from King's College in London. "I particularly liked the talks of the other fellows," added *Stéphanie Blandin* from the Institute for Medical Research in Strasbourg. During the meeting she actually met someone working in a similar field, giving both a chance to compare notes on their methods and results. Yet more evidence that a day outside the lab can sometimes prove more fruitful than working long hours at the bench.



## EMBO EVENTS JANUARY–AUGUST 2009

## PRACTICAL COURSES (EUROPE)

- Next generation sequencing: ChIP-seq and RNA-seq  
DE–Berlin, 1–13 February
- Advanced optical microscopy  
UK–Plymouth, 25 March–4 April
- Mass spectrometry and proteomics  
DK–Odense, 15–22 April
- MicroRNA profiling: from *in situ* hybridization to next-generation sequencing  
DE–Heidelberg, 18–24 April
- Fluorescence (cross-) correlation spectroscopy (FCS/FCCS) for cell biology applications  
DE–Heidelberg, 18–23 May
- Electron tomography in life science  
NL–Leiden, 1–7 June
- Light microscopy in living cells  
PT–Oeiras, 1–8 June
- Molecular genetics with the fission yeast *Schizosaccharomyces pombe*  
UK–Manchester, 13–25 June
- EMBO/MAX-INF2 course on structure determination in macromolecular crystallography  
FR–Grenoble, 15–19 June
- High throughput methods for protein production and crystallization  
UK–Oxford, 17–25 June
- Molecular approaches to evolution and development  
SE–Fiskebaeckskil, 29 June–10 July
- Developmental neurobiology from worms to mammals  
UK–London, 1–15 July
- Single molecule analysis of DNA protein interactions  
FR–Paris, 5–18 July
- Structure, dynamics and function of biomacromolecules by solution NMR  
DE–Garching, 27 July–3 August

## PRACTICAL COURSES (WORLD)

- Advanced methods for phylogenetic analysis of molecular sequences  
BR–Rio de Janeiro, 9–15 March
- FRET, FLIM, FCS, FRAP & 3-D imaging; application to cell and developmental biology  
SG–Singapore, 13–24 April
- II International school of biochemistry, molecular & cell biology – current tools in cell biology: probing normal and pathological cell functions  
BR–Rio de Janeiro, 3–14 August
- DNA microarray – analysis and applications  
IN–Tamil Nadu, 16–20 August
- Bioinformatics and comparative genome analyses  
CN–Hong Kong, 17–29 August
- Advanced bioinformatic methods in the study of gene and genome evolution  
CO–Medellin, 23–30 August

## WORKSHOPS (EUROPE)

- The multiple faces of lamins in aging and disease  
AT–Vienna, 6–9 January
- New functions of regulatory RNAs in pro- and eucaryotes  
AT–Vienna, 14–15 January

## WORKSHOPS (EUROPE) (cont.)

- Visualizing immune system complexity  
FR–Marseille, 15–17 January
- Model organisms in cell death research  
AT–Oberurg, 31 January–4 February
- Beta cell differentiation and regeneration  
UK–Peebles, 26 February–1 March
- EMBO–FEMS Workshop on microbial sulfur metabolism  
PT–Tomar, 15–18 March
- bHLH transcription factors  
UK–London, 7–8 May
- Blood and lymphatic vasculature: from models to human disease  
FI–Helsinki, 12–13 June
- Cortical interneurons in health and disease  
ES–Mallorca, 21–25 June
- RUNX transcription factors in development and disease  
UK–Oxford, 16–19 August
- Developmental systems  
CH–Arolla, 18–22 August
- Frontiers of prokaryotic cell biology  
UK–Oxford, 24–27 August
- Wnt signalling in development and disease  
CH–Arolla, 26–29 August

## WORKSHOPS (WORLD)

- Amoebiasis: molecular approaches in an important but neglected disease  
MX–Guanajuato, 24–27 February

## CONFERENCE SERIES

- Protein structure prediction (CASP8)  
IT–Cagliari, 3–7 December 2008
- Spatial 2009 – Overcoming distance in signalling networks  
IL–Maale HaChamisha, 15–19 March
- Cancer Proteomics 2009: Mechanistic insights, technological advances and molecular medicine  
IE–Dublin, 8–11 June
- Helicase and NTP-driven nucleic acids motors: Structure, function, mechanism and roles in human disease  
CH–Les Diablerets, 27 June–2 July
- Population and molecular biology of vectors  
GR–Kolybari, 19–26 July
- 8th International Conference on ribosome synthesis  
DE–Regensburg, 26–30 August

CONFERENCE SERIES *second in a series*

- Tackling and imaging the complexity of the immune system  
IT–Capo Caccia, 20–24 April
- Frontiers of plant research  
ES–Cadiz, 6–9 May
- Chromatin and epigenetics  
DE–Heidelberg, 13–17 May
- Cellular protein homeostasis in disease and ageing  
HR–Dubrovnik, 23–28 May
- Advances in stem cell research: Stem cells, systems and synthetic biology  
UK–Cambridge, 15–17 June
- Europhosphatases: Protein phosphatases in development and disease  
NL–Egmond aan Zee, 14–18 July

## EMBO–ESF SYMPOSIA

- Spatio-temporal radiation biology: transdisciplinary advances for biomedical applications  
ES–Sant Feliu de Guixols, 16–21 May
- Cell polarity and membrane traffic  
ES–Sant Feliu de Guixols, 23–28 May
- Biological surfaces and interfaces  
ES–Sant Feliu de Guixols, 28 June–3 July

## EMBO–FEBS LECTURE COURSES

- Molecular and cellular membrane biology  
FR–Cargèse, 8–19 June

## OTHER EMBO EVENTS

- **The EMBO Meeting 2009**  
Advancing the life sciences  
NL–Amsterdam, 29 August–1 September

## Laboratory Management and Advanced Training Courses

- **Coaching**  
DE–Leimen (near Heidelberg), 19–21 January
- **Time and Self Management**  
DE–Leimen (near Heidelberg), 27–29 April
- **Conflict**  
DE–Leimen (near Heidelberg), 12–14 October
- **EMBO Laboratory Management Courses (for postdocs)**  
DE–Leimen (near Heidelberg)  
→ 27–29 January  
→ 1–3 April  
→ 6–8 July  
→ 7–9 October
- **EMBO Laboratory Management Courses (open to all independent scientists)**  
DE–Leimen (near Heidelberg)  
→ 16–19 February  
→ 14–17 September
- **EMBO Laboratory Management Courses in Cambridge, UK (open to all independent scientists)**  
UK–Cambridge  
→ 5–8 May  
→ 10–13 November

For more information and list of all courses, workshops and conferences, (January–December 2009) please go to:

- [www.embo.org/about\\_embo/calendar.php](http://www.embo.org/about_embo/calendar.php)

Bi-annual application deadlines for organisers to apply for EMBO funds



EMBO Courses & Workshops



## Scientific training and exchange

### EMBO Courses & Workshops

More than 6,000 researchers at all career stages attend about 80 EMBO-sponsored practical courses, workshops and conference series each year. All scientists interested in organising a scientific meeting in 2010 are encouraged to apply for EMBO funding and support before the next deadline of 1 February 2009. The broad spectrum of events, which also includes laboratory management and

advanced training courses, ensures that there is something to suit nearly everyone.

*Anne-Marie Glynn* recently joined EMBO Courses & Workshops as Programme Manager. Originally from Ireland, Anne-Marie is no stranger to Heidelberg, having performed research at the European Molecular Biology Laboratory (EMBL). During her pre- and post-doc time, she was actively involved in organis-

ing symposia and workshops. Anne-Marie and her experienced team of *Lynne Turnbull* and *Anne Seller* look forward to further developing the programme.

For more detailed information, please visit

■ [www.embo.org/courses\\_workshops/](http://www.embo.org/courses_workshops/).

## EMBO Poster Prize competition

### Rewarding scientific merit and excellence

Introduced by the EMBO Courses & Workshops Programme and *EMBO reports* earlier this year, the EMBO Poster Prize continues to recognise and reward young researchers.

Winners of poster prize competitions hosted at EMBO-sponsored workshops, conference series and ESF/EMBO Symposia receive a one-year subscription to *EMBO reports*.

### Congratulations to the following winners of the competitions held at these recent events:

#### → Alessandra Agresti

San Raffaele Scientific Institute, Milan, Italy  
*Oscillations of NF-kappaB are required for optimal genome scanning and gene expression programs* at the EMBO Workshop, *The NF-kappaB network in development and disease*, Capri, Italy

#### → Alma-Martina Cepika

Institute of Immunology, Zagreb, Croatia  
*Immunomodulatory therapy, B cells and autoimmune disease* at the ESF/EMBO Symposium, *B cells 2008: complexity, integration & translation*, Sant Feliu de Guixols, Spain

#### → Nicole Freed

ETH Zurich, Switzerland  
*A simple method to identify phenotypically noisy genes and evolve higher levels of noise in a single promoter* (Nikki E. Freed, Olin K. Silander, Bärbel E. Stecher, Alex Bohm, Wolf-Dietrich Hardt, Martin Ackermann) at the ESF/EMBO Symposium, *Bacterial Networks (BACNET08)*, Sant Feliu de Guixols, Spain

#### → Kerstin Gari

University of Lausanne, Switzerland  
*Fork regression by the Fanconi Anemia protein FANCM* at the EMBO Conference Series, *Recombination mechanisms*, Il Ciocco, Italy

#### → Monica Hagedorn

University of Geneva, Switzerland  
*A novel non-lytic mechanism of intercellular dissemination for pathogenic mycobacteria* at the EMBO Conference Series, *At the joint edge of cellular microbiology and cell biology*, Villars-sur-Ollon, Switzerland

#### → Caroline Hammer

IGBMC, Illkirch, France  
*Amphiphysin 2 splicing alteration as a possible cause of muscle atrophy in Myotonic Dystrophy* at the EMBO Conference Series, *RNA and disease: RNA metabolism and associated pathologies*, Rome, Italy

#### → Cindy Jeanty

Institute Cochin, Paris, France  
*Monitoring the intracellular trafficking of HLA-B2705 and HLA-B2709 using the BRET technique* (Brigitte Giquel, S. Carmouse, C. Gaspard-Jeanty, C. Denais, C. Hacquard-Bouder, M. Breban, C. André) at the EMBO Molecular Medicine Workshop *MHC Class I molecules at the interface between biology and medicine*, Porto, Portugal

#### → Christian Landry

Université de Montreal, Canada  
*An in vivo map of the yeast protein interactome* at the EMBO Workshop, *Evolutionary and environmental genomics of yeasts*, Heidelberg, Germany

#### → Jae-Hyeok Lee

Washington University, USA  
*Novel approaches for generating and manipulating diploids of Chlamydomonas reinhardtii* (Jae-Hyeok Lee and Ursula Goodenough) at the EMBO Workshop, *Cell and molecular biology of Chlamydomonas*, Hyeres-les-Palmiers, France

#### → Noa Martin-Cofreces

Dr. Francisco Sanchez-Madrid's Laboratory, Madrid, Spain  
*MTOC translocation modulates IS formation and controls sustained T cell activation*, at the EMBO Workshop, *Cytotoxicity, cell death and the immune system*, Zaragoza, Spain

#### → Daniel Munoz Espin

CBM, Cantoblanco, Spain  
*The actin-like MreB cytoskeleton organizes viral DNA replication in bacteria* at the EMBO Conference Series, *Replication and segregation of chromosomes*, Geilo, Norway

#### → Hugo Ricardo Noronha de Almeida

Oeiras, Portugal  
*Closing the circle: a novel screen for telomere protection* at the EMBO Conference Series, *Telomeres and the DNA damage response*, Villars-sur-Ollon, Switzerland

#### → Paraskevi N. Polymenakou

Hellenic Centre for Marine Research, Heraklion, Greece  
*The unique bacterial diversity of the Eastern Mediterranean deep-sea oxic sediments* (Paraskevi N. Polymenakou, Nikolaos Lampadariou, Manolis Mandalakis, Anastasios Tselepidis) at the EMBO Workshop, *Microbial diversity and metagenomics: science, technology, applications and regulatory affairs*, Chalkidiki, Greece

#### → Krzysztof Rogowski

CNRS, Montpellier, France  
*The discovery of glycosylating enzymes with essential functions in Drosophila development* at the EMBO Conference Series, *Centrosomes and spindle pole bodies*, Heidelberg, Germany

#### → Mireille Tittel-Elmer

University of Calgary, Canada  
*The MRX complex and S-phase: Maintaining the replisome during fork stalled* at the EMBO Conference Series, *Replication and segregation of chromosomes*, Geilo, Norway

#### → Bryan Venters

Pennsylvania State University, State College, USA  
*A canonical organization of the transcription pre-initiation complex and its regulators* at the EMBO Workshop, *Gene transcription in yeast*, Sant Feliu de Guixols, Spain

#### → Jessica Whited

Harvard Medical School, Boston, USA  
*Developing an inducible gene expression system for axolotls* at the EMBO Conference Series, *Molecular and cellular basis of regeneration and tissue repair*, Mallorca, Spain



# the EMBO meeting

advancing the life sciences

## KEYNOTE LECTURES

Kim **NASMYTH** UK  
Rudolf **JAENISCH** US

## SPECIAL LECTURES

Ronald **PLASTERK** NL  
Martin **REES** UK  
Harald **ZUR HAUSEN** DE  
Svante **PÄÄBO** DE

## WORKSHOPS

Small regulatory RNAs  
René **KETTING** NL  
Elisa **IZAURRALDE** DE

### Cell Death

Michael **HENGARTNER** CH  
Peter **KRAMMER** DE

### Innate immunity

Caetano **REIS E SOUSA** UK  
Jules **HOFFMAN** FR

### Meiotic recombination

Alain **NICOLAS** FR  
Lumír **KREJČÍ** CZ

## PLENARY LECTURES

Chromosomes: dynamics,  
maintenance & evolution

David **SHERRATT** UK  
Titia **DE LANGE** US  
Stephen **WEST** UK

Signalling pathways in  
development & cancer

Julian **DOWNWARD** UK  
Anne **RIDLEY** UK  
Elaine **FUCHS** US  
Axel **ULLRICH** DE

### Stem cells

Fiona **WATT** UK  
Shinya **YAMANAKA** JP  
Austin **SMITH** UK  
Hans **CLEVERS** NL

## WORKSHOPS

### TOR signalling

Dario **ALESSI** UK  
Mike **HALL** CH

### Functional genomics

Eran **SEGAL** IL  
Jussi **TAIPALE** FI

### Structural proteins of the Golgi apparatus

Graham **WARREN** AT  
Catherine **RABOUILLE** NL

### Host-pathogen interactions

Keith **GULL** UK  
Pascale **COSSART** FR

### Chromatin dynamics modification & gene expression

Tony **KOUZARIDES** UK  
Geneviève **ALMOUZNI** FR

### Lipids and membrane organisation

Kai **SIMONS** DE  
Gerrit **VAN MEER** NL

### Cell adhesion and communication in development

Rolf **KEMLER** DE  
Elizabetta **DEJANA** IT

### Nanobiology

Andreas **ENGEL** CH  
Nynke **DEKKER** NL

## WORKSHOPS

### The cell cycle

Tim **HUNT** UK  
Karim **LABIB** UK

### Cell polarity

Jürgen **KNOBLICH** AT  
Anne **EPHRUSSI** DE

### DNA damage & repair

Stephen **JACKSON** UK  
Simon **BOULTON** UK

### Proteomics

Matthias **MANN** DE  
Angus **LAMOND** UK

### Protein machines

Dale **WIGLEY** UK  
Karl-Peter **HOPFNER** DE

### Protein modification by SUMOylation & ubiquitylation

Ronald **HAY** UK  
Frauke **MELCHIOR** DE

### Small GTPases: from molecules to systems

Johannes **BOS** NL  
Dafna **BAR-SAGI** US

### Trafficking & transport at cell membranes

Poul **NISSEN** DK  
Margaret **ROBINSON** UK

### Zebrafish in the study of development & cancer

Steve **WILSON** UK  
Stefan **SCHULTE-MERKER** NL

# AMSTERDAM 2009

29 August – 1 September

## ORGANISERS

Hans **CLEVERS** NL  
Stephen **WEST** UK

## DEADLINES

Early Registration 25 April  
Late Registration 14 August  
Abstract Submission 25 April

[www.the-embo-meeting.org](http://www.the-embo-meeting.org)  
[the.embo.meeting@embo.org](mailto:the.embo.meeting@embo.org)

## Novel editorial changes enhance *The EMBO Journal*

Transparent reviews, increased character limits and more visibility

Over the last 27 years, *The EMBO Journal* has firmly established its reputation as a leading international medium for publication of the latest advances in molecular biology. Starting in 2009, *The EMBO Journal* will introduce key editorial changes that will enhance the journal in three ways – more transparency through online publication of details of the editorial process, increased character limits to encourage citation of primary literature, and highlighting of selected research in a new front section.

The EMBO Journal will make the peer review process fully transparent to everyone by publication online of referee reports and author responses. By doing this, the editors aim to encourage constructive referee and

author argumentation. "A transparent editorial process will help demystify decisions," according to executive editor *Pernille Rørth*. Furthermore, from 2009, references will not be included in character limits for manuscripts submitted to *The EMBO Journal*. Authors will be free to cite all primary literature references – benefiting authors of the original papers – and be rewarded with more space to present their research findings. To draw attention to interesting papers published in each issue of *The EMBO Journal*, a new front section called **Have you seen?** will be introduced. Editors will invite short commentaries from other scientists for the new section.

"*The EMBO Journal* has been our flagship publication for 27 years, sharing knowledge

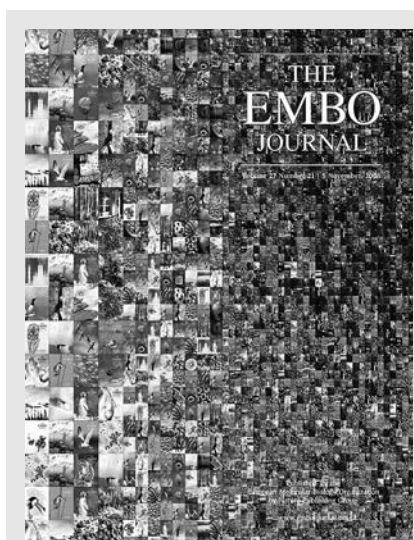
broadly within the molecular life sciences community," said *Hermann Bujard*, EMBO Director. "We are excited by the editorial changes that will make publication of research findings more transparent, complete and visible."

**Read about the changes in the editorial published online at**

|| [www.nature.com/emboj/index.html](http://www.nature.com/emboj/index.html)

**EMBO Members can login to access the online publications of The EMBO Journal at**

|| [www.embo.org/publications/journal/index.html](http://www.embo.org/publications/journal/index.html)



### The EMBO Journal cover contest 2009

#### Call for entries

It's that time of the year again – *The EMBO Journal* editors are very excited to announce their 6th annual cover contest. As in previous years, there will be prizes awarded for the best scientific and the best non-scientific images. So have a look through your image collection and send in your nicest pictures. A selection of the best submissions will be featured on the front covers of *The EMBO Journal* throughout 2009. For more information on how to take part in the competition, please visit: <http://covercontest.embo.org>  
Deadline: 16 January 2009

## The future of our species

*EMBO reports* special issue

"We face a range of pressing biological problems that will test our ingenuity to its limits, but we also face the problem of managing our own technological progress and socio-cultural evolution," writes *Andrew Moore*, former manager of the EMBO Science & Society Programme, in his introduction to this year's *EMBO reports* special issue: *The future of our species*.

With articles contributed by expert economists, sociologists and historians, together with leading biologists – all of whom spoke at the 8th Joint EMBO/EMBL Science & Society Conference in November 2007 – the issue takes a diverse, multidisciplinary and sometimes controversial look at the current state of humanity and our uncertain future.

*The future of our species* begins with a look at our current space-faring attempts and, closer to home, the economic costs of infectious diseases. Other articles cover topics as diverse as the historical origins of the human race, our inability to perceive the magnitude of our impact on the Earth, and whether we can 'enhance' ourselves and still remain human.

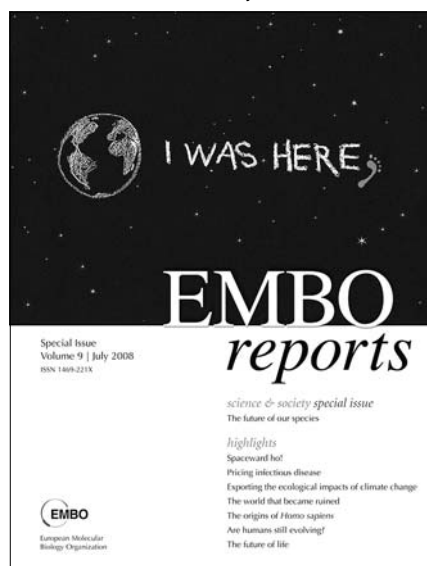
With a diverse range of authors including *Marc Heppener* (Head of Science and Applications in the Directorate of Human Spaceflight, Microgravity and Exploration at the European Space Agency), *Gerard Krause* (Director of the Department for Infectious Disease Epidemiology at the Robert Koch Institute, Germany), *Jürgen Kluver* (Professor of Information Technologies and Educational

Processes at the University of Duisburg-Essen, Germany) and *James J. Hughes* (Executive Director of the Institute for Ethics and Emerging Technologies, USA), this year's special issue is a thought-provoking read.

*The future of our species* is the sixth special issue produced by EMBO reports. Previous special issues covered the topics: *Infectious diseases* (2003), *Science & risk* (2004), *Time & ageing* (2005), *Science and security* (2006), and *Genes, brain/mind and behaviour* (2007).

**To read this year's special issue, visit the EMBO reports website at:**

|| [www.nature.com/emboj/journal](http://www.nature.com/emboj/journal)



## EDITOR PICKS – EMBO PUBLICATIONS

In each issue of EMBOencounters, the editors of *The EMBO Journal*, *EMBO reports* and *Molecular Systems Biology* highlight particularly interesting papers.



## research articles

**Quantitative proliferation dynamics and random chromosome segregation of hair follicle stem cells.**

Waghmare SK, Bansal R, Lee J, Zhang YV, McDermitt DJ, Tumber T  
*EMBO J* 27(9): 1309–1320

**Beta-catenin asymmetry is regulated by PLA1 and retrograde traffic in *C. elegans* stem cell divisions.**

Kanamori T, Inoue T, Sakamoto T, Gengyo-Ando K, Tsujimoto M, Mitani S, Sawa H, Aoki J, Arai H  
*EMBO J* 27(12): 1647–1657

**Activated macrophages promote Wnt signalling through tumour necrosis factor-alpha in gastric tumour cells.**

Oguma K, Oshima H, Aoki M, Uchio R, Naka K, Nakamura S, Hirao A, Saya H, Taketo MM, Oshima M  
*EMBO J* 27(12): 1671–1681

**Bacterial actin: architecture of the ParMRC plasmid DNA partitioning complex.**

Salje J, Löwe J  
*EMBO J* 27(16): 2230–2238

**Zili is required for germ cell differentiation and meiosis in zebrafish.**

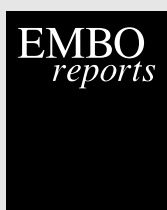
Houwing S, Berezikov E, Ketting RF  
*EMBO J* 27(20): 2702–2711

**Endocochlear potential depends on Cl<sup>-</sup> channels: mechanism underlying deafness in Bartter Syndrome IV.**

Rickheit G, Maier H, Strenzke N, Andreescu CE, De Zeeuw CI, Muenscher A, Zdebik AA, Jentsch TJ  
*EMBO J* 27(21): 2907–2917

[www.embojournal.org](http://www.embojournal.org)

**Ulrike Hopfer** was awarded *The EMBO Journal* Poster Prize during the EMBO Workshop *Can epigenetics influence reprogramming & meta-static progression*, held on 6–9 October in Bad Staffelstein, Germany. Her poster was entitled *Lhx in epithelial-mesenchymal transition, tumor invasion and metastasis*.



## science &amp; society

**Synthetic biology: discovering new worlds and new words. The new and not so new aspects of this emerging research field.**

de Lorenzo V, Danchin A  
*EMBO rep* 9(9): 822–827

**Science's twin taboos. Is it premature to declare that the debates about the role of religion and race in science are closed?**

Fuller S  
*EMBO rep* 9(10): 938–942

## reviews

**Function and regulation of protein neddylation. 'Protein Modifications: Beyond the Usual Suspects' Review Series.**

Rabut G, Peter M  
*EMBO rep* 9(10): 969–976

**Kindlins: essential regulators of integrin signalling and cell-matrix adhesion**

Larjava H, Plow EF, Wu C  
*EMBO rep* 9(12): 1203–1208

## scientific reports

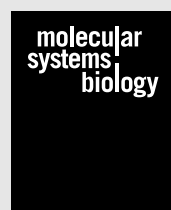
**Structural and functional analysis of SGT1-HSP90 core complex required for innate immunity in plants**

(EMBO Open)  
Kadota Y, Amigues B, Ducassou L, Madaoui H, Ochsenbein F, Guerois R, Shirasu K  
*EMBO rep* 9(12): 1209–1215

**Arrestin-like proteins mediate ubiquitination and endocytosis of the yeast metal transporter Smf1**

(EMBO Open)  
Nikko E, Sullivan JA, Pelham HRB  
*EMBO rep* 9(12): 1216–1221

[www.emboreports.org](http://www.emboreports.org)



## review

**Selected reaction monitoring for quantitative proteomics: a tutorial**

Lange V, Picotti P, Dorn B, Aebersold R  
*Mol Sys Biol* 4: 222

## articles

**Model-guided design of ligand-regulated RNAi for programmable control of gene expression**

Beisel CL, Bayer TS, Hoff KG, Smolke CD  
*Mol Sys Biol* 4: 224

**Metabolic profiling of the human response to a glucose challenge reveals distinct axes of insulin sensitivity**

Shaham O, Wei R, Wang TJ, Ricciardi C, Lewis GD, Vasan RS, Carr SA, Thadhani R, Gerszten RE, Mootha VK  
*Mol Sys Biol* 4: 214

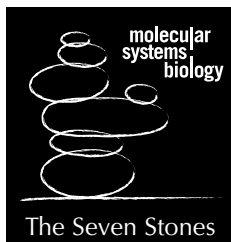
**Membrane identity and GTPase cascades regulated by toggle and cut-out switches.**

Del Conte-Zerial P, Bruschi L, Rink JC, Collinet C, Kalaidzidis Y, Zerial M, Deutsch A  
*Mol Sys Biol* 4: 206

**Gene network dynamics controlling keratinocyte migration**

Busch H, Camacho-Trullio D, Rogon Z, Breuhahn K, Angel P, Eils R, Szabowski A  
*Mol Sys Biol* 4: 199

[www.molecularsystemsbiology.com](http://www.molecularsystemsbiology.com)



Recently on *The Seven Stones* – The *Molecular Systems Biology* blog on systems & synthetic biology:

## Fascinating correlations or elegant theories?

A few weeks ago, *Chris Anderson*, Editor-in-Chief of *Wired*, wrote a provocative piece entitled *The End of Theory: The Data Deluge Makes the Scientific Method Obsolete*. He argues that in our data-rich era the good old “approach to science – hypothesize, model, test – is becoming obsolete,” leaving place to a purely correlative vision of the world.

This debate reminds me of the bottom-up versus top-down dialectic in (systems) biology. The tradition in molecular biology has been to focus on molecular mechanisms that explain given biological functions. With detailed knowledge on the properties of an increasing number of components, we can construct bottom-up mechanistic descriptions, which account for the experimental observations.

Of course, the purpose of models is more than merely to provide mechanistic descriptions. As *William Bialek* writes: “Given a progressively more complete microscopic description of proteins and their interactions, how do we understand the emergence of function?”

(Aguera y Arcas *et al*, 2003). There is a subtle transition from description to insight, from model to theory, from detailed and specific to simple and general.

### Theories are elegant

On the other hand, high-throughput technologies (‘omics’) are indeed profoundly changing molecular biology by flooding the field with experimental data in a way unseen before. Currently, only part of this data can be explained within the context of mechanistic models. Still, if the data is rich enough, one can exploit it by looking at it from the ‘top’ to reveal statistical patterns and correlations. This is probably *Chris Anderson’s* main point. Even if there is no causal explanation for these correlations (yet), they may reveal new worlds, novel structures and detect relationships between seemingly unlinked processes.

### Correlations are fascinating

Correlations resulting from data-driven analysis may in turn stimulate new mechanistic investigations and new understanding. In *Edge*, *Sean Carroll* concludes: “Hypotheses aren’t simply

useful tools in some potentially outmoded vision of science; they are the whole point. Theory is understanding, and understanding our world is what science is all about.”

But, what is true for fundamental science is not necessarily a rule for other applied scientific fields. In medically related areas of research for example, the top-down correlative approaches represent a pragmatic approach to obtain predictive models without waiting for fully mechanistic models that would encompass the entire complexity of human physiology (Nicholson, 2006).

As often in science, different but complementary views are championed by people with different temperaments. Some like to build an edifice piece by piece. Others prefer to explore new territories. I believe that progress in systems biology on both fronts, top-down and bottom-up, demonstrates that there is no need to turn this complementarity into an opposition.

### Read and comment on the original version of this post at:

■ [http://blog-msb.embo.org/blog/2008/07/fascinating\\_correlations\\_or\\_el.html](http://blog-msb.embo.org/blog/2008/07/fascinating_correlations_or_el.html)

## Mobility – the good and the bad

### The Write Move Prize 2008

Every year, EMBO Life Sciences Mobility Portal invites scientists from all over the world to send essays describing their experience with work related mobility. In 2008, 24 scientists tried their hands at composing a story and all contributions made for light and enjoyable reading.

The winner of this year’s contest is **Eugenio Daviso**, the author of *Beyond Borders*. In his essay, he vividly describes how he managed to escape his poor career perspectives in Italy and overcome the initial problems during his first PhD years in the Netherlands, before he finally settled down, found new friends and set up collaborations to finalise his thesis. “My work as a scientist seems to be a virtual journey. It’s a never-ending trip through the visions of people observing life from different angles,” writes Eugenio.

Frequent visits abroad and transitions due to career changes were a recurring motive in many other stories. And it seems that living in the fast lane is not restricted to junior scientists any longer. Since Europe still faces an abundance of biologists and the numbers of

open-contract or tenure positions are limited, scientists have to remain flexible until they reach more advanced stages of their career. In her essay *About Fellowships, Fortran and Food*, *Maria Vittoria Cubelli* advises other scientists not to underestimate the importance

of mobility: “Spending even a few months in a foreign lab is hands-on science. It is much more refreshing than congresses or meetings.”

But frequent travelling also presents distinct challenges to family life: “It is one thing to move when you are single, in your twenties and going through an extended student life-phase. But after you hit thirty and most of your non-scientist friends start thinking that you must be slightly nuts for not even planning to settle down, have children, buy a house and find retirement plans, the whole thing becomes increasingly hard,” remarks the Greek biologist *Magdalini Polymenidou*.

### All contributions to the 2008 Write Move contest are published at the EMBO Life Sciences Mobility Portal webpage

■ <http://mobility.embo.org>



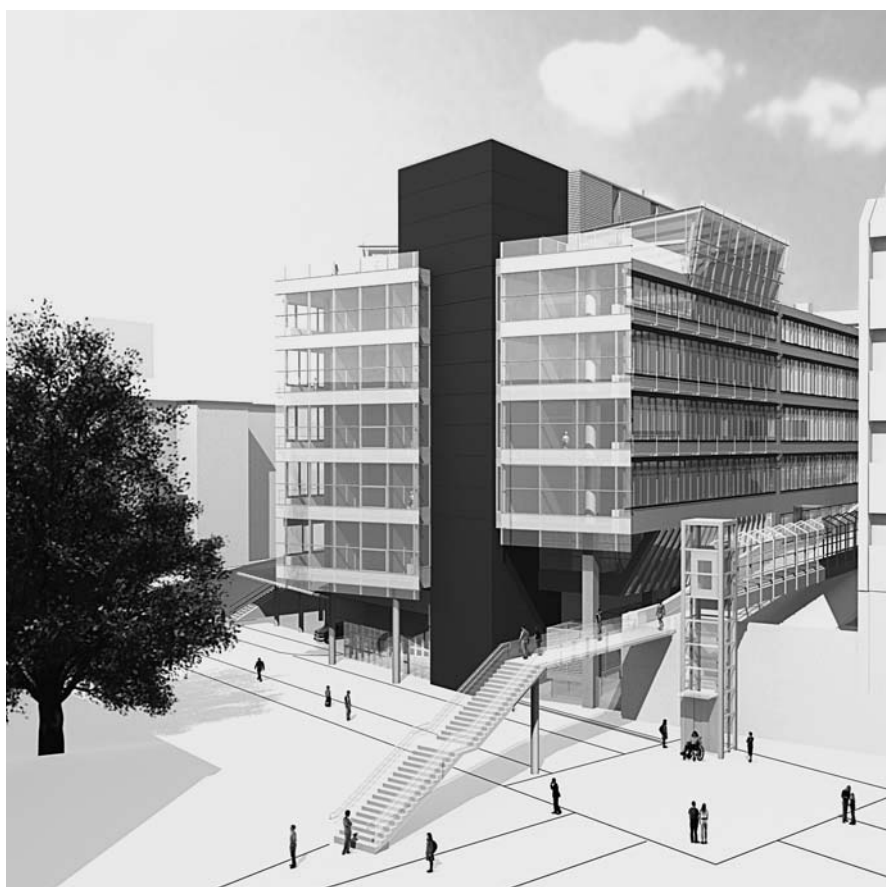
Contest winner  
*Eugenio Daviso*

## Reconnecting to the splendour of the old days

New Molecular Medicine Centre opens in Vienna

In the 19th century, the Viennese medical school was famous for its outstanding medical research and was a magnet for the *crème de la crème* of life scientists of that time. With the opening of the new Centre for Molecular Medicine (CeMM), its founders want to reconnect to the splendour of the old days. The institute, established by the Austrian Academy of Sciences, will be ready early 2010 and is going to be situated in the heart of the Vienna General Hospital, one of Europe's largest research hospitals. "I came to Vienna because the opportunity was terrific," says CeMM Scientific Director and EMBO Member, *Giulio Superti-Furga*. "Lack of immediate access to medical and clinical expertise is often the limiting component in the attempt to turn new molecular insights into medical practice."

Currently, CeMM researchers are renting lab-space in the Vienna Competence Centre, the Vienna Biocentre and in the Vienna General Hospital. But how does CeMM intend to close the gap between basic research and medical practice? The institute attempts to foster medically relevant research by ensuring a continuous exchange and closing the circle from bench to bedside – and *vice versa*. That would be facilitated by the immediate proximity between experienced medical doctors and biomedical researchers equipped with state-of-the-art technology. CeMM will also adopt well-proven approaches from other institutes such as the European Molecular Biology Laboratory (EMBL), renowned for its culture of innovation and inclusiveness. *Cellzome*, a biotech company co-funded by Superti-Furga, serves as a



© CeMM/Copper Architektur

model for interdisciplinary collaboration and therapy-focused research.

"We recruit medical doctors, predocs and engineers – locally and internationally," says Superti-Furga. Apart from ambitious scientists and students for its PhD programme, CeMM is currently also looking for sponsors for its new building.

*Giulio Superti-Furga*,  
CeMM Scientific Director

For more information visit the CeMM website

■ [www.cemm.at](http://www.cemm.at)



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The futuristic CeMM building will open in 2010 on the campus of the Vienna General Hospital (picture above). Its labs (picture left) will offer working space for 100 doctors and researchers.

## Biomedical boom in Barcelona

### Institute of Predictive and Personalized Medicine of Cancer

The new Institute of Predictive and Personalized Medicine of Cancer (IMPPC) in Barcelona is one of the most recent on the list of biomedical research centers to open in Catalonia. The IMPPC will investigate the genetics and epigenetics of the susceptibility of individuals to cancers and resistance to therapy. Its aim is to proactively contribute to the change in paradigm from Generalized to Predictive and Personalized Medicine. "We are delighted to be starting in Barcelona, which in recent years has become an extremely fertile environment for biomedical research. It is extremely satisfying to join this vibrant scientific community," said IMPPC director *Manuel Perucho*.

In fact, Barcelona has turned out to be a booming hub for biomedical research and exciting opportunities for cross-disciplinary collaborations, proving that the strategic plan of investment by government and the local authorities is showing results. A dense network of institutes has emerged in and around the capital city of Catalonia, among them the Centre for Genomic Regulation (CRG), the Institute for Research in Biomedicine (IRB) and the Centre of Regenerative Medicine in Barcelona (CMRB), to name a few. For students, the city offers top class scientific training and a great place to live.

The first three research groups to enjoy the new laboratory space and equipment at IMPPC opened in October 2008 are headed by *Miquel Angel Peinado*, *Marcus Buschbeck* and *Manuel*

*Perucho*. Using a large variety of technical approaches, these groups will address genetic and epigenetic aspects of tumorigenesis. The development of two more units, Genomics and Bioinformatics, is already underway, so in 2009 more groups will move into the new laboratories.

The mediterranean metropolis of Barcelona has attracted many scientific institutes recently. IMPPC (below) is the latest to join the list.



© Turisme de Barcelona/A. Trullas



© IMPPC

**More information on IMPPC and the recruitment opportunities for group leaders, post-docs and pre-docs can be found at:**

■ [www.imppc.org](http://www.imppc.org)

*Harvey Evans and  
Marcus Buschbeck*

## All together now

### New Society to promote one-voice-policy for British biosciences

Biosciences in the UK are currently represented by more than 100 specialist organisations. Most of them focus on developing and supporting research and high quality teaching. But biologists also need to communicate their advances to society and opinion makers and to engage both groups in discussions about future developments. These roles cannot be undertaken effectively through multiple organisations. Similarly, politicians and commentators are ill-disposed to listen to multiple voices.

The Institute of Biology was formed nearly 60 years ago to take on precisely this role. *Queen Elizabeth II* acknowledged its status by awarding the organisation a Royal Charter in 1979. From the beginning, the Institute of

Biology has always been the voice of scientists from all fields of biology. With time, coexistence and cooperation with the British Biosciences Federation, a gathering of a further 45 member societies, has also become increasingly important.

Discussions surrounding the creation of a new body to combine all these functions under one umbrella are now well advanced. We are still on the lookout for an appropriate name for such an organisation. All suggestions from the EMBO community are therefore very welcome!

The new Society will represent tens of thousands of individual biologists, including researchers in universities and industry, teachers at all levels as well as those with

# Call for ideas

an amateur passion for the subject. Together, we will be stronger and much more effective in actively promoting the biosciences as one of the key areas of growth, development and enterprise for our future.

*Alan D.B. Malcolm*  
CEO, Institute of Biology  
■ [a.malcolm@iob.org](mailto:a.malcolm@iob.org)

## Getting in at the beginning

Centre for Pre-cancer Genomics in Leeds pursues a novel approach to cancer study



© YCR

Loading the robot - an essential piece of equipment for high-throughput genomics.

A new centre, funded with 2.74 million pounds from Yorkshire Cancer Research (YCR), will be established in Leeds in 2009 to understand the very earliest stage of cancer development. As part of the Leeds Institute of Molecular Medicine (LIMM), it will benefit from its loca-

tion on the St James's University Hospital campus, one of the largest teaching hospitals in Europe with a patient population of over two million.

The YCR Centre for Pre-cancer Genomics will utilise its large patient base to take an

innovative approach to the identification of the pivotal genetic/genomic changes that initiate and drive tumor development. It will focus on the earliest stage of cancer development, the pre-malignant "pre-cancer" stage. *Pamela Rabbitts* explains: "Whereas other international efforts are concentrating on fully malignant tumors with their complex genomes, our programme will be dedicated to the pre-cancer stage where the number of genetic or genomic changes is likely to be fewer and this should direct attention to mutations of clinical significance for early cancer."

The YCR centre will exploit "next generation sequencing" technology that now allows facile and rapid analysis of any genome at a level of detail that was difficult to imagine just a short time ago.

The research, jointly led by *Pamela* and *Terence Rabbitts*, will involve collaboration with clinicians, genome scientists and specialists in bio-informatics. A multidisciplinary team is currently being recruited.

### For recruitment opportunities see

■ [www.limm.leeds.ac.uk/vacancies.htm](http://www.limm.leeds.ac.uk/vacancies.htm)

## Scientific cross-over

New Structural, Computational and Chemical Biology Interdisciplinary PhD Programme founded in London

A new interdisciplinary four-year PhD programme was recently launched in London. It is supported by four renowned institutes: the University College London, Birkbeck College, the Institute of Structural and Molecular

Biology and the National Institute for Medical Research. It also received a 3.7 million UK pound grant from the Wellcome Trust. The programme aims to give students expertise in methods and techniques of structural, chemi-

cal and computational biology. "This is an excellent opportunity for students to study and be trained outside of the conventional disciplinary boundaries in a first class research environment," commented Programme Director and EMBO Member *Gabriel Waksman*.

In their first year, the selected students participate in projects and lecture courses in each of the three disciplines, then focus on a single multidisciplinary PhD project. The first group of seven students, from Poland, Italy, Germany and the UK, joined the programme in September. They are already benefiting from the wide range of research currently underway in the partner institutions.

More information at:

■ [www.ismb.lon.ac.uk/wellcome\\_studentships.html](http://www.ismb.lon.ac.uk/wellcome_studentships.html)



© Birkbeck College

PhD students *Marta Wojnowska* and *John Hales* get to grips with Birkbeck's new Polara Electron Microscope as part of their interdisciplinary training.



## In memory of Hubert Chantrenne (1918–2007)

### Passionate about molecular biology

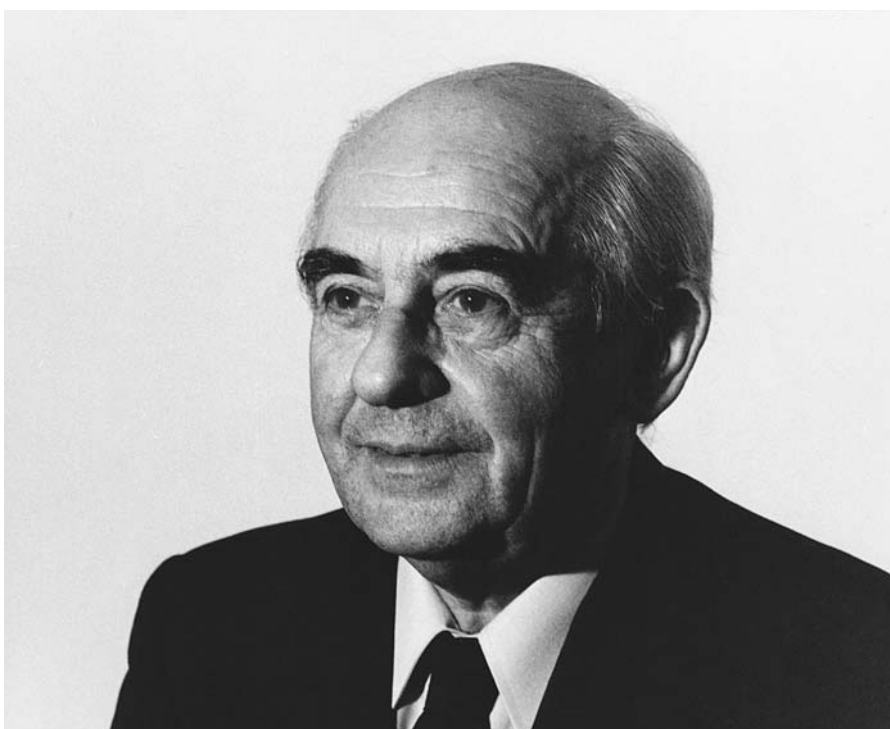
The scientific community has lost one of the pioneers in the fields of Biochemistry and Molecular Biology. *Hubert Chantrenne* died on 16 October 2007, aged 89. One of the foremost biochemists of the second half of the century, he has notably contributed to the identification of messenger RNAs as key intermediates in the processing of genetic information.

As a pioneer of the emerging era of molecular biology, Chantrenne was instrumental in the creation and running of the European Molecular Biology Organization. As a member of the EMBO Council and chairman of the Fellowship Committee, he co-organized several international EMBO Workshops that gathered an influential group of molecular biologists.

Early in his PhD work, Chantrenne demonstrated that the sedimentation of RNA granules was much slower than that of enzymatic particles, thereby laying the groundwork for a functional classification of cellular micro-granules. He then went on to demonstrate that a substantial proportion of the RNA was free of proteins.

Chantrenne's scientific activities were interrupted by the onset of World War II. During those turbulent times he took part in clandestine teaching in Brussels, and in 1942 he resumed his thesis work at the University of Liège. After the war and the completion of his PhD, Chantrenne was awarded a Rockefeller Foundation grant to do research in the laboratory of *Fritz Lipmann* at the Massachusetts General Hospital in Boston. It was during his stay in Boston that Chantrenne discovered the involvement of coenzyme A in the cleavage of pyruvic acid. Later on, in the lab of *Philip Cohen* (Madison), he demonstrated that the same coenzyme is required for the synthesis of hippuric acid, thereby providing the first indication that coenzyme A is a general acyl group donor.

Back in Europe, Chantrenne joined once again the laboratory of *Jean Brachet* at the Free University of Brussels where he proved that protein synthesis continues for days after the enucleation of the giant algae *Acetabularia*, leading to substantial morphogenetic events such as the formation of a complete cap structures in the absence of a nucleus. He further established that this protein synthesis remains dependent on the presence of RNA in the cytoplasm, and that the incorporation of purine



Former EMBO Council member *Hubert Chantrenne*.

analogues in a small proportion of relatively quickly renewing RNA strongly interferes with protein synthesis. This result clearly hints to a specific, dynamic role of RNA in the synthesis of specific proteins.

In 1958, Chantrenne launched a biological chemistry curriculum at the Free University of Brussels, attracting excellent students who stayed to form the first core of biochemistry, genetics and microbiology laboratories of the Department of Molecular Biology there, or emigrated to establish successful laboratories abroad. In Belgium, helped by his young collaborators *Gérard Marbaix* and *Arsène Burny*, Chantrenne succeeded in isolating and characterizing the first messenger RNA from animal origin: the globin mRNA, extracted from rabbit reticulocytes.

Honoured with several prestigious grants and prizes (including the 1963 *Prix Francqui*), Hubert Chantrenne greatly contributed to the expansion and scientific reputation of the Department of Molecular Biology of the Free University of Brussels. Among his important scientific production, the publication of an influential monograph on *The Biosynthesis of Proteins* is particularly worth recalling (New York: Pergamon Press, 1961).

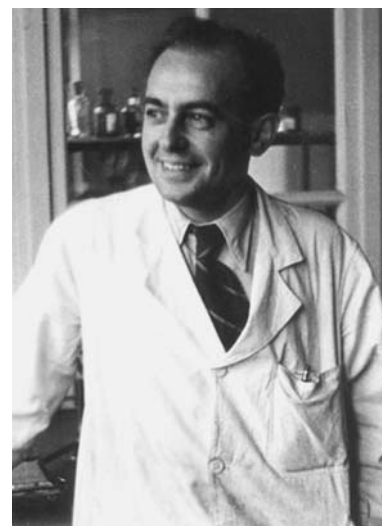
Besides his great scientific achievements, Hubert Chantrenne leaves us the memory of a sober, thoughtful and generous colleague, who was also a passionate and fascinating teacher.

*Véronique Kruijs*<sup>1</sup>, *Denis Thieffry*<sup>2</sup>,  
*René Thomas*<sup>1</sup> and *Arsène Burny*<sup>1</sup>

<sup>1</sup> Université Libre de Bruxelles, Belgium

<sup>2</sup> Aix-Marseille Université, France

*Hubert Chantrenne* at age 42.



Arsène Burny

## EVENTS

## ■ EMBO Members

Together with FEBS Letters and MINT, EMBO Member **Alfonso Valencia** and the **BioCreative** organisers team are announcing the II.5 challenge workshop.

**BioCreative II.5** will evaluate real-time text mining capabilities on full text articles and explore future possibilities for author-assisted annotations using information extraction tools.

Exact dates and more information are available at [www.biocreative.org](http://www.biocreative.org).  
Online registration starts 8 December 2008.

## TRANSITIONS

## ■ EMBO Members

**Jörg Hacker**, formerly at the Research Center for Infectious Diseases in Würzburg, Germany, has been appointed President of the Robert-Koch-Institute in Berlin, Germany.

## A GOOD READ – PUBLICATIONS FROM THE EMBO COMMUNITY

## ■ articles

Structured mRNAs Regulate Translation  
Initiation by Binding to the Platform of the Ribosome  
**Bruno P. Klaholz** (EMBO Young Investigator) *et al.*  
*Cell* **130** (6): 1019–1031  
(21 September 2007)

Gene and genom concept: coding versus regulation  
**Klaus Scherrer** (EMBO Member) *et al.*  
*Theory in Biosciences* **126** (2): 65–113  
(October 2007)

Osteoclast size is controlled by Fra-2 through  
LIF/LIF-receptor signalling and hypoxia  
**Astrid Hoebertz** (EMBO Fellow) *et al.*  
*Nature* **454**: 221–225  
(11 June 2008)

Assembly reflects evolution of protein complexes  
**Sarah A. Teichmann**  
(EMBO Young Investigator) *et al.*  
*Nature* **453**: 1262–1265  
(26 June 2008)

RNA induction and inheritance of  
epigenetic cardiac hypertrophy in the mouse  
**Kay D. Wagner** (EMBO Fellow),  
**François Cuzin** (EMBO Member) *et al.*  
*Developmental Cell* **14** (6): 962–969  
(June 2008)

The binding sites for cocaine and dopamine in  
the dopamine transporter are overlapping  
**Julie Kniazeff** (EMBO Fellow) *et al.*  
*Nature Neuroscience* **7**: 780–789  
(1 July 2008)

Managing freedom: Managing researchers as  
if they were warriors  
**Joost Uitdehaag** (EMBO Fellow)  
*Drug Discovery Today* **13**: 555–557  
(July 2008)

Increased dopamine after mating impairs olfaction  
and prevents odor interference with pregnancy  
**Che Serguera** (EMBO Fellow) *et al.*  
*Nature Neuroscience* **8**: 949–956  
(1 August 2008)

Natural selection and immortality  
**Antoine Danchin** (EMBO Member)  
*Biogerontology*  
doi: 10.1007/s10522-008-9171-5  
(22 August 2008)

High-throughput, quantitative analyses of  
genetic interactions in *E. coli*  
**Athanasios Typas** (EMBO Fellow) *et al.*  
*Nature Methods* **5**: 781–787  
(1 August 2008)

Neurogenin 2 controls cortical neuron migration  
through regulation of Rnd2  
**Laurent Nguye, Hendrik Wildner**  
(EMBO Fellows) *et al.*  
*Nature* **455**: 114–118  
(6 August 2008)

CDK targets Sae2 to control DNA-end resection and  
homologous recombination  
**Pablo Huertas** (EMBO Fellow) *et al.*  
*Nature* **455**: 689–692  
(20 August 2008)

Automated screening for mutants affecting  
dopaminergic-neuron specification in *C. elegans*  
**Maria Doitsidou, Nuria Flames**  
(EMBO Fellows) *et al.*  
*Nature Methods* **5**: 869–872  
(31 August 2008)

Structure of the 30S translation initiation complex  
**Bruno P. Klaholz** (EMBO Young Investigator) *et al.*  
*Nature* **455**: 416–420  
(31 August 2008)

Trans-splicing in *C. elegans* generates  
the negative RNAi regulator ERI-6/7  
**Sylvia E.J. Fischer** (EMBO Fellow) *et al.*  
*Nature* **455**: 491–496  
(10 September 2008)

Comprehensive mass-spectrometry-based proteome  
quantification of haploid versus diploid yeast  
**Michael L. Nielsen** (EMBO Fellow) *et al.*  
*Nature* **455**: 1251–1254  
(28 September 2008)

The postfusion structure of baculovirus gp64 sup-  
ports a unified view of viral fusion machines  
**Jan Kadlec** (EMBO Fellow) *et al.*  
*Nature Structural & Molecular Biology* **15**: 1024–1030  
(1 October 2008)

The deubiquitylation and localization of  
PTEN are regulated by a HAUSP–PML network  
**Arkaitz Carracedo** (EMBO Fellow) *et al.*  
*Nature* **455**: 813–817  
(9 October 2008)

RTEL1 maintains genomic stability by  
suppressing homologous recombination  
**Simon J. Boulton** (EMBO Young Investigator) *et al.*  
*Cell* **135** (2): 261–271  
(17 October 2008)

Coordinate control of synaptic-layer specificity and  
rhodopsins in photoreceptor neurons  
**Aljoscha Nern** (EMBO fellow) *et al.*  
*Nature* (advanced online publication)  
doi: 10.1038/nature07419  
(2 November 2008)

Temporal identity in axonal target layer recognition  
**Thomas Hummel** (EMBO Young Investigator) *et al.*  
*Nature* (advanced online publication)  
doi: 10.1038/nature07407  
(2 November 2008)

FANCM-FAAP24 function in ATR-mediated  
checkpoint signaling independently of  
the Fanconi Anemia core complex  
**Simon J. Boulton** (EMBO Young Investigator),  
**Stephen C. West** (EMBO Member), **Alberto Ciccia**  
(EMBO Fellow), **Zuzana Hořejší** (EMBO Fellow) *et al.*  
*Molecular Cell* **32** (3): 313–324  
(7 November 2008)

## ■ books

*The Network Collective*  
**Klaus Eichmann** (EMBO Member)  
Springer, ISBN: 978-3-7643-8372-5  
2008

*Textbook of Structural Biology*  
**Anders Liljas** (EMBO Member) *et al.*  
World Scientific Pub Co, ISBN-10: 9812772081  
available from January 2009

*Principles of Computational Cell Biology*  
**Volkhard Helms** (EMBO Young Investigator)  
Wiley, ISBN: 978-3-527-31555-0  
2008

Volkhard Helm's new book offers practical support  
for all exam candidates by presenting current study  
exercises with corresponding answers. Helms, a  
former EMBO Young Investigator, works as a bio-  
informatics professor at the University of Saarland,  
Germany, and has direct insight into what a prospec-  
tive computational scientist really needs. The, accord-  
ing to the author, "first textbook of its kind" focuses  
on network properties of cells and is accessible to  
readers even without prior knowledge.

## ■ online

The talks held at the University of Illinois to celebrate  
the 30th anniversary of the discovery of the third  
domain of life, the *Archaea*, are available online at:  
<http://archaea.igb.uiuc.edu>

The talks include a public lecture by **Norman Pace**  
on the modern picture of ecological diversity and  
evolution from a microbial perspectives, historical  
accounts of the discoveries made in the early years  
following the announcement of the existence of  
*Archaea* as well as recent developments in evolution  
and the origin of life.

## AWARDS OF EXCELLENCE

## ■ EMBO Members

**Nature Mentoring Awards**

Nature Publishing Group

**Heinrich Betz**, Director of the Max Planck Institute for Brain Research in Frankfurt, Germany, received the lifetime achievement award from the Nature Publishing Group. The jury cited his "enormous energy for creative research and a special power in motivating young people". **Peer Bork**, of the European Molecular Biology Laboratory in Heidelberg, Germany, received the mid-career award for his "exceptional leadership ability and enthusiastic and responsible way of mentoring".

**CNRS Gold Medal**

National Center for Scientific Research (France)

**Jean Weissenbach**, Director of Genoscope, the French National Sequencing Center, has been awarded the CNRS Gold Medal, France's highest distinction for scientific research. Weissenbach developed the first high-resolution genetic map of the human genome.

**Rosalind Kornfeld Award**

Society of Glycobiology (US)

**Nathan Sharon**, Professor Emeritus of the Weizmann Institute of Science in Rehovot, Israel, received the 2008 Rosalind Kornfeld Lifetime Achievement Award for his pioneer studies in the field of glycobiology, also considered of broad significance for human health.

**Michael Bruno Memorial Award**

Rothschild Foundation (UK)

**Karen B. Avraham**, from the Department of Human Molecular Genetics and Biochemistry, Sackler School of Medicine at Tel Aviv University, has received this award for her work in Human Genetics. It is granted by the Rothschild Foundation for Israeli academics working in the fields of science and education and showing outstanding promise and potential.

**Queen's University Belfast**

**Frank Gannon**, Director General of the Science Foundation, Ireland, was awarded Doctor of Medical Science (Honoris Causa) by Queen's University Belfast in June 2008.

## ■ EMBO Young Investigators

**Eppendorf Young Investigator Award 2008**

Eppendorf UK

**Simon Boulton**, of the London Research Institute at Cancer Research UK, is the recipient of the Eppendorf Award for Young Investigators. The award is presented in partnership with the journal *Nature* to young scientists for outstanding achievements in the field of biomedical research based on methods of molecular biology. This year, Simon also received the **Young Cancer Research of the Year Award**, granted by the European Association for Cancer Research (EACR).

**CNRS Bronze Medal**

National Center for Scientific Research (France)

**Bruno Klaholz** from the Institute of Genetics and of Molecular and Cellular Biology in Illkirch, France, has received the CNRS Life Sciences Bronze Medal 2008. The award recognizes young, talented researchers for their achievements in a particular scientific field.

**ERC Advanced Investigator Grant**

European Research Centre

**Nektarios Tavernarakis**, of the Institute of Molecular Biology and Biotechnology in Heraklion, Greece, received this grant for his proposal entitled "Molecular Basis of Neuronal Ageing".

**The Royal Society (UK)**

**Dario Alessi** (UK), **Alan Ashworth** (UK), **Stephen Cohen** (Singapore), **Stephen Jackson** (UK), **Christopher Lamb** (UK), **Jan Löwe** (UK), **Harvey McMahon** (UK), **Laurence Pearl** (UK), **Claudio Stern** (UK), **Kenneth Timmis** (DE) were elected as Fellows of the Royal Society. **Barbara Hohn** (CH) was elected Foreign Member of the Royal Society.

**National Academy of Science (US)**

**Margarita Salas** from the Centre of Molecular Biology in Madrid, Spain, has been elected a member of the National Academy of Science (NAS) in the US, for her excellence in original scientific research.

**ESCI Award for Excellence in Biomedical Investigation**

European Society for Clinical Investigation (NL)

**László Nagy**, of the Medical and Health Science Center at the University of Debrecen, Hungary, is the winner of the 2008 ESCI Award for Excellence in Biomedical Investigation. The recognition is based on his groundbreaking contributions to our understanding of the physiology of nuclear hormone receptors and the molecular pathomechanism of atherosclerosis, as well as for his active leadership role in biomedical sciences in Europe.

**Hungarian Academy of Sciences**

elected two honorary members upon the recommendation of its biological section: **Thomas M. Jovin**, Director of the Laboratory of Cellular Dynamics, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany. His most recognised scientific achievements involve the discovery of various nucleic acid conformations and studies of molecular interactions in live cells with the aid of novel fluorescence-based microscopic techniques developed in his lab. **Israel Pecht** from the Department of Immunology, Weizmann Institute of Science, Rehovot, Israel, has made significant scientific contributions to our knowledge of the mechanism of electron transfer in proteins, and also made important discoveries in the field of immunoreceptor signalling.

**Alexander von Humboldt Professorship**

German Federal Ministry of Education and Research

**Thomas Tuschl** from the Rockefeller University in New York, USA, was selected to receive the Alexander von Humboldt Professorship. This most valuable international award for research in Germany is funded by the Federal Ministry of Education and Research and granted to globally leading academics working abroad. The award is valued at up to five million euro and is designed to allow the winners to spend five years working on ground-breaking research at German universities.

**German Excellence Cluster Cologne**

University of Cologne (DE)

EMBO Young Investigator **Thorsten Hoppe**, and EMBO Fellow, **Björn Schumacher**, join the German Excellence Cluster CECAD Cologne. CECAD Cologne (Cluster of Excellence on Cellular Stress Responses in Aging-Associated Diseases) is a European centre for ageing research. At CECAD Cologne, Thorsten Hoppe's research will focus on the ubiquitin dependent protein degradation in development and ageing, whereas Björn Schumacher will research on DNA damage in ageing and cancer.

**2008 Nobel Prizes**

Nobel Foundation

**Luc Montagnier** from the Pasteur Institute in Paris, France, and **Harald zur Hausen** from the German Cancer Research Center in Heidelberg, Germany, were awarded the 2008 Nobel Prize in Physiology or Medicine. **Roger Tsien** from the University of California in San Diego, US, received the 2008 Nobel Prize in Chemistry.

**Heidelberg Akademie der Wissenschaften**

**Dieter H. Wolf**, of the Institute for Biochemistry at the University of Stuttgart, Germany, was elected a corresponding member of the Heidelberg Akademie der Wissenschaften.

**Robert Bing Prize**

Swiss Academy of Medical Sciences

**Isabelle Mansuy**, of the Brain Research Institute at the University of Zürich, Switzerland, received the Robert Bing Prize. This Swiss Academy of Medical Sciences prize is awarded every two years to young scientists who have done outstanding work which has helped in the recognition, treatment and cure of neurological diseases, and who will be encouraged by this prize to do further research.

**Remedios Caro Almela Prize**

Alicante Institute of Neurosciences (Spain)

**Rüdiger Klein**, Director of the Max Planck Institute of Neurobiology in Munich, Germany, received the Remedios Caro Almela Prize for his research in developmental neurobiology. This prize is open to active scientists who have developed their work over the past few years in Europe and who are performing their current line of investigation on developmental neurobiology in a public or private research institution located in a European country.

## ■ EMBO Fellows

**Karl-Freudenberg-Preis**

Heidelberg Akademie der Wissenschaft (DE)

**Martin van der Laan** from the Institute for Biochemistry and Molecular Biology in Freiburg, Germany, received the Karl-Freudenberg-Preis for his work on the reconstitution of membrane insertion of proteins with cleavable signal sequences into the inner mitochondrial membrane. This is an annual award for young scientists working in the fields of chemistry or biology.

**Merial Award for Parasitology**

Netherlands Society for Parasitology &amp; Merial B.V.

**Taco Kooij**, currently working at the Heidelberg University School of Medicine, has been awarded the Merial Award for Parasitology 2008 for his work on comparative genome analysis of malaria parasites. The prize is awarded annually to a young researcher originating from Belgium, the Netherlands or Luxembourg active in the field of the veterinary and medical parasitology.

# On show

On show

## Spreading the word at scientific conferences

Over the past year, EMBO staff attended several conferences and careers fairs in order to maintain a high profile in the life sciences community and promote the numerous programmes, activities and publications that recognise excellence, share knowledge and foster talented scientists.

EMBO partnered with **ELSO** for the last ELSO Conference held in Nice where the fusion of ELSO into EMBO was formally announced, setting the stage for our inaugural annual life sciences conference, *The EMBO Meeting*, in Amsterdam in the summer of 2009. *Suzanne Beveridge* and *Martin Cairns* managed the EMBO exhibit. ▼



© Bernhard Huber (EMBO)



© Manuel García Sánchez, National Institute of Health Carlos III

Athens was the venue of the 33rd FEBS Congress in 2008. The EMBO exhibit attracted scientists seeking information on funding and support for their research work. EMBO publications and the bags were the most popular giveaways at the EMBO booth attended by *Valeria Kaplan* and *Yvonne Kaul*. ▼



© Martin Cairns

▲ The **Euroscience Open Forum (ESOF)** in Barcelona attracted five thousand visitors this year and was the place to be for EMBO Science & Society and *EMBO reports* editors, rubbing shoulders with prominent speakers and scanning the life sciences community for new trend stories.



Also during the **XX International Congress of Genetics** in Berlin, EMBO Communications took the opportunity to inform geneticists from around the world about the wide range of EMBO activities.



**Next issue:** The next EMBOencounters issue — spring 2009 — will be dispatched in April 2009. You can send your contributions/news to: [communications@embo.org](mailto:communications@embo.org) at any time. The deadline for the spring issue is 27 February 2009.