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EMBO encounters

PROMOTING EXCELLENCE IN THE MOLECULAR LIFE SCIENCES IN EUROPE

MESSAGE FROM EMBO EXECUTIVE DIRECTOR

Engaging the European science community

In July, I assumed the role of the EMBO Executive Director – a position I am honoured to take on. Recalling EMBO from its early days here in Heidelberg and realising the impact it has today on molecular life sciences in Europe, I can only admire all who have contributed and still contribute to this great endeavour. More than half of the illustrious EMBO membership is integrally involved in our programmes for Science & Society and Courses & Workshops, selection of the EMBO postdoctoral Fellows and Young Investigators as well as in EMBO publications. This is what makes EMBO much more than an academy of scientists who excel in molecular biology.

However, the EMBO community extends beyond our members. The EMBO Young Investigators and postdoctoral Fellows form additional communities interacting by annual networking events such as the EMBO Fellows Meeting (see page 8) and new web-based media like EMBO fellowsNet (see page 9). The success of these programmes is evident by following up the careers of these young talented scientists. Of the 42 new EMBO Members elected in 2007, 10 were former EMBO Young Investigators. And not surprisingly, *Jan Löwe,* the 2007 winner of the EMBO Gold Medal, is a former EMBO Fellow and Young Investigator who was elected a member in 2004. You can read more about Jan and his research achievements on page 3.

This past month we welcomed EMBO Members elected in 2006 at the annual EMBO Members Workshop, *Frontiers of molecular biology*. The excellence and diversity of science presented could not fail to impress and encourage interactions amongst the members present. A complete list of newly elected members and associate members is on page 2.

Many EMBO achievements we owe to my predecessor *Frank Gannon,* who served as Executive Director for more than 13 years. Frank's vision has made the EMBO that we know today – an organization that is consistent with both the original mission of EMBO founders and the needs of its emerging membership within the current European research environment. Indeed, Frank's influence was crucial in the creation of the European Research Council, which we all hope will decisively improve today's research environment in Europe.

The EMBO community is actively engaged in bringing about necessary changes in the European science environment. One of the initiatives taking shape aims at extending the awareness of EMBO and its goals to other scientific communities. In October, EMBO Council endorsed the joint proposal of the European Life Sciences Organisation (ELSO) and EMBO management to incorporate ELSO into EMBO. Traditionally, each year, ELSO holds a scientific meeting that has become a hallmark in the life sciences in Europe. The community of graduate and PhD students is well addressed at these meetings where they are actively involved in presentation of their own research at the renowned poster session.

EMBO and ELSO will work together to continue the tradition of success at the 2008 ELSO meeting to be held in Nice from 30 August to 2 September. Beginning in 2009, an annual scientific meeting is planned – *The EMBO Annual Meeting,* staged to become the European life science meeting. The fusion of ELSO with EMBO offers EMBO a forum to reach many more audiences within the European life science community. Participating graduate and PhD students will be exposed to EMBO activities earlier in their careers. The meeting also will provide an opportunity to advance the EMBO Science & Society programme and to raise the visibility of relevant issues to an appropriate policy decision-making level.

We encourage you to strongly support this effort as the programme committee of the inaugural EMBO Annual Meeting, to be held in 2009, seeks speakers for the meeting and as a venue where younger scientists can gain insights into a broader spectrum of scientific endeavours which may stimulate their interest in areas outside their present speciality.

Certainly, not least or even last, I welcome the two new member states of the Slovak Republic and Luxembourg to the EMBC (see page 5), EMBO Council members for 2008 (see page 5) and the new personnel in the EMBO Heidelberg offices. And I would like to express my sincere thanks to all personnel for their dedication and support during this transition period to maintain the EMBO commitment to excellence. Without the oversight of the Council and the diligence of our staff, the vision of EMBO founders would only be words rather than the reality that it is today.

Hermann Bujard

HIGHLIGHTS IN THIS ISSUE

EMBO welcomes 50 new members

2007 EMBO Members

In November 2007, EMBO announced the election of 50 leading scientists to its membership. Over 1,300 of the world's finest researchers carry the title of "EMBO Member" and every year, new members are elected on the basis of scientific excellence. The latest scientists to join the EMBO community come from a broad cross-section of the molecular life sciences. Representing 16 different countries, 42 of the new members are based in Europe and neighbouring countries, while eight distinguished scientists, from Australia, India and the USA, receive the special honour of associate membership.

2007 EMBO Members

→ **Reuven Agami** (NL)
Division of Tumour Biology,
Netherlands Cancer Institute
Amsterdam

→ **Uri Alon** (IL)
Dept. of Molecular Cell Biology,
Weizmann Institute of Science
Rehovot

→ **Naama Barkai** (IL)
Dept. of Molecular Genetics,
Weizmann Institute of Science
Rehovot

→ **Claudio Bordignon** (IT)
DIBIT, San Raffaele Scientific Institute
Milan

→ **Nils Brose** (DE)
Max Planck Institute for Experimental Medicine
Göttingen

→ **Antony Carr** (UK)
MRC Genome Damage and Stability Centre,
University of Sussex, East Sussex

→ **Mario de Bono** (UK)
MRC Laboratory of Molecular Biology
Cambridge

→ **Maria Dominguez** (ES)
Alicante Institute of Neuroscience

→ **Måns Ehrenberg** (SE)
Molecular Biology Program,
Uppsala University

→ **Peter Fraser** (UK)
Laboratory of Chromatin and Gene Expression,
The Babraham Institute
Cambridge

→ **Steven Gamblin** (UK)
Division of Molecular Structure, NIMR
London

→ **Cayetano Gonzalez** (ES)
Institute for Research in Biomedicine (IRB)
Barcelona

→ **Guido Grandi** (IT)
Novartis Vaccines, Chiron SpA
Siena

→ **Ueli Grossniklaus** (CH)
Institute of Plant Biology,
University of Zurich

→ **Nouria Hernandez** (CH)
Center for Integrative Genomics,
University of Lausanne

→ **Douglas R. Higgs** (UK)
Weatherall Institute of Molecular Medicine
Oxford

→ **Frank C.P. Holstege** (NL)
Dept. of Physiological Chemistry,
University Medical Center Utrecht

→ **Marja Helena Jäättelä** (DK)
Danish Cancer Society
Copenhagen

→ **Edith Yvonne Jones** (UK)
Wellcome Trust Centre for Human Genetics
Oxford

→ **Juha Kere** (SE)
Dept. of Biosciences and Nutrition,
Karolinska Institute
Stockholm

→ **Jane Langdale** (UK)
Dept. of Plant Sciences,
University of Oxford

→ **Thomas Langer** (DE)
Institute for Genetics,
University of Cologne

→ **Bruno Lemaitre** (CH)
Global Health Institute,
Swiss Federal Institute of Technology
Lausanne

→ **Ottoline Leyser** (UK)
Dept. of Biology,
University of York

→ **Alfonso Martinez Arias** (UK)
Dept. of Genetics,
University of Cambridge

→ **René Medema** (NL)
Dept. of Medical Oncology,
University Medical Center Utrecht

→ **Frauke Melchior** (DE)
Institute for Biochemistry and
Molecular Cell Biology
Göttingen

→ **László Nagy** (HU)
Dept. of Biochemistry and Molecular Biology,
University of Debrecen

→ **Bernd Nilius** (BE)
Laboratory of Ion Channel Research,
KU Leuven

→ **Tom Owen-Hughes** (UK)
Division of Gene Regulation and Expression,
University of Dundee

→ **Vassilis Pachnis** (UK)
Division of Molecular Neurobiology, NIMR
London

→ **Stefano Piccolo** (IT)
Dept. of Medical Biotechnologies,
University of Padova

→ **Sheena E. Radford** (UK)
Institute of Molecular and Cellular Biology,
University of Leeds

→ **Benedita Rocha** (FR)
Necker Institute, INSERM
Paris

→ **Ben J.G. Scheres** (NL)
Dept. of Biology,
Utrecht University

→ **A. Francis Stewart** (DE)
Biotechnological Centre of
the Dresden University of Technology

→ **Boris Turk** (SI)
Dept. of Biochemistry and Molecular Biology,
Jozef Stefan Institute
Ljubljana, SI

→ **Victor Tybulewicz** (UK)
Division of Immune Cell Biology, NIMR
London, UK

→ **C. Peter Verrijzer** (NL)
Dept. of Biochemistry,
Erasmus University Medical Centre
Rotterdam, NL

→ **Olivier Voinnet** (FR)
Institute of Plant Molecular Biology (IBMP)
Strasbourg, FR

→ **Gabriel Waksman** (UK)
Institute of Structural Molecular Biology,
Birkbeck College
London, UK

→ **Magdalena Zernicka-Goetz** (UK)
Wellcome Trust/Cancer Research UK
Gurdon Institute
Cambridge, UK

2007 EMBO Associate Members

→ **Jerry McKee Adams** (AU)
The Walter and Eliza Hall Institute of
Medical Research
Victoria

→ **Suzanne Cory** (AU)
The Walter and Eliza Hall Institute of
Medical Research
Victoria

→ **Charles Anthony Dinarello** (US)
University of Colorado Health Sciences Center
Denver

→ **Michael Karin** (US)
Dept. of Pharmacology,
University of California
La Jolla

→ **John Mattick** (AU)
Institute for Molecular Bioscience,
University of Queensland
Brisbane

→ **Pier Paolo Pandolfi** (US)
Harvard Medical School,
Beth Israel Deaconess Cancer Center
Boston

→ **K. VijayRaghavan** (IN)
National Centre for Biological Sciences,
Tata Institute of Fundamental Research
Bangalore

→ **Carl Wu** (US)
Laboratory of Molecular Cell Biology,
National Cancer Institute
Bethesda

▮ www.embo.org/about_embo/press/new_members07.html

Jan Löwe wins EMBO Gold Medal 2007

EMBO Gold Medal Winner revolutionised understanding of the bacterial cytoskeleton

Mauricio Fuertes | www.espaciofuertes.com

Jan Löwe *and* **Hermann Bujard** *at the EMBO Gold Medal Award Ceremony*

At the young age of 10, Jan Löwe knew he wanted to be a scientist. By 16, he had focussed his goal to become a molecular biologist. This early determination helped Jan build a stellar career, leading to his most recent accolade as the 2007 winner of the EMBO Gold Medal. Jan receives the award in recognition of his landmark work elucidating the structure and function of proteins involved in bacterial cell division.

Jan knew molecular biology was the career for him after a teen-age summer spent working with plant biologists at the Plant Breeding Institute in Hamburg. At the time, classical plant breeding was making way for revolutionary molecular technology. Jan was hooked.

After high school, he applied to the only three universities in Germany offering biochemistry but was rejected. Undeterred, he studied chemistry at his hometown University of Hamburg and specialised later. Jan credits the chance hearing of a PhD position in *Robert Huber's* lab at the Max Planck Institute in Martinsried as one of the best moves of his career. Here he learned to focus on the science to achieve results that matter.

Jan's adventure into the inner workings of bacteria began almost 11 years ago when he joined the MRC Laboratory of Molecular Biology (MRC-LMB) as a post-doc. His work with *Linda Amos* on trying to crystallise tubulin led to work on a bacterial version of it, called FtsZ. In 1998, Jan solved the structure of FtsZ. Three years later, his group determined the structure of MreB, a prokaryotic actin-like protein which had been discovered by *Jeff Errington*. The structural discoveries of FtsZ and MreB proved to be key pieces of evidence for the discovery of the bacterial cytoskeleton.

Until that point, having a cytoskeleton was a claim to fame held only by eukaryotic cells. The inner workings of bacterial (prokaryotic) cells were now showcased against the backdrop of a flexible scaffolding. As a result, essential processes of the bacterial cell, such as cell shape maintenance, DNA segregation and cell division were viewed in a different light.

Löwe's many accomplishments in his young career illustrate the "golden" qualities that characterise all EMBO medal winners. *"Jan has single-handedly revolutionised our understanding of the bacterial cell cycle and cell morphogenesis, through his insightful structural studies on virtually all of the key players,"* says Jeff Errington, Director of Newcastle University's Institute for Cell and Molecular Biosciences. *"His work highlights the complexity and sophistication of bacterial cells, and how they remain wonderful subjects for studying fundamental biological mechanisms at the molecular level."*

Two years after starting his post-doc at the MRC-LMB, Jan fast-tracked to become a Group Leader, and has focused on "Molecular Machines". Recently, his group has discovered another protein in bacteria that was thought to be a 'signature' protein for eukaryotic cells: dynamin. They continue to explore the bacterial cytoskeleton using X-ray crystallography and electron microscopy and are starting to use electron tomography of whole, frozen cells to visualise the cytoskeleton in cells.

In addition to the EMBO Gold Medal, Löwe has received several other awards and accolades, including the Max-Perutz Prize for his work on the structure of FtsZ and the Philip Leverhulme prize. Jan has also been no stranger to EMBO over the years. His post-doc in Cambridge was funded by an EMBO Long-term fellowship, he was selected in 2000 to participate in EMBO's highly competitive Young Investigator Programme and, in 2004, he was elected as an EMBO Member.

"EMBO has been a tremendous support to me during my career and I am extremely delighted to have won such a prestigious award," said Jan enthusiastically. *"It's not always easy to convince people that working on the inner workings of bacteria is worthwhile and the EMBO medal will help a great deal. It's fantastic!"*

Awarded annually, the EMBO Gold Medal recognises outstanding contributions of young researchers in the molecular life sciences. The medal and an award of 10,000 euro was presented to Jan on 27 October 2007 at the EMBO Members Meeting, "Frontiers of Molecular Biology", in Barcelona, Spain.

2008 deadline:

30 April **EMBO Members: Nominations of EMBO Gold Medal candidates**

Eighteen young scientists join EMBO Young Investigator network

2007 EMBO Young Investigators

In October 2007, EMBO announced the selection of 18 of Europe's most talented young researchers as the 2007 beneficiaries of its prestigious Young Investigator Programme. Selected by EMBO Members for the high standard of their research, these new young investigators join a vibrant network of almost 200 scientists. The three-year programme – already with a worldwide reputation for excellence – offers a range of benefits designed to smooth the transition for young researchers setting up their first independent laboratories and developing reputations in the scientific community. Programme participants enjoy benefits not normally 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_yips07.html

→ **Philippe Bousso** (FR)
T cell dynamics in vivo
Pasteur Institute, Paris

→ **Fabrizio d'Adda di Fagagna** (IT)
Senescence and DNA damage checkpoint
FIRC Institute of Molecular Oncology (IFOM), Milan

→ **Sandrine Etienne-Manneville** (FR)
Astrocyte polarity and migration
Pasteur Institute, Paris

→ **Holger Gerhardt** (UK)
Endothelial guidance in vascular patterning
Cancer Research UK, London

→ **Tibor Harkany** (SE)
Developmental deficits in the CNS
Karolinska Institute, Stockholm

→ **Thorsten Hoppe** (DE)
Protein degradation
Centre for Molecular Neurobiology (ZMNH), Hamburg

→ **Thomas Hummel** (DE)
Formation of the sensory nervous system
University of Münster

→ **Carsten Janke** (FR)
Tubulin modification and function
CNRS-CRBM, Montpellier

→ **Rene Ketting** (NL)
Small RNAs in the vertebrate germline
Hubrecht Laboratory, Utrecht

→ **Javier Martinez** (AT)
RNA silencing in mammalian cells
Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA), Vienna

→ **Paloma Más** (ES)
Circadian rhythm in Arabidopsis
IBMB-CSIC, Barcelona

→ **Marco Milán** (ES)
Cellular boundaries during development
Institute for Research in Biomedicine (IRB), Barcelona

→ **Arp Schnittger** (DE)
Control of cell size and number
MPI for Plant Breeding Research, Cologne

→ **Eran Segal** (IL)
Modeling of transcriptional regulation
The Weizmann Institute of Science, Rehovot

→ **Joan Seoane** (ES)
Glioma genesis and progression
Vall d'Hebron University Hospital, Barcelona

→ **Nicolas Tapon** (UK)
Tissue size control
Cancer Reserach UK, London

→ **Michele Vendruscolo** (UK)
Protein aggregation in theory and experiment
University of Cambridge

→ **Pascale Zimmermann** (BE)
The role of PDZ domains in development
Catholic University, Leuven

EMBO INSTALLATION GRANTS

AWARD

- €50,000 annually for five years
- Full integration into EMBO Young Investigator network

ELIGIBILITY

- Group leaders establishing labs in a participating country (currently *Croatia, Czech Republic, Estonia, Hungary, Portugal, Poland, Turkey*)
- Job offer in a participating country at the time of application
- Location outside receiving country for at least two years prior to application

ANNUAL APPLICATION DEADLINE
15 April

www.embo.org/sdig

EMBO ADVANCED LEADERSHIP SKILLS TRAINING COURSES 2007–2008

26–28 November 2007	Conflict Management
21–23 January 2008	Coaching
Venue: DE–Heidelberg	**www.embo.org/yip/lab_mgm_adv.html**

EMBO LABORATORY MANAGEMENT COURSES 2007–2008

5–8 November 2007	EMBO Laboratory Management Courses (open to all independent scientists)
12–14 November 2007 10–12 March 2008 28–30 May 2008	EMBO Laboratory Management Courses (for EMBO Fellows)
1–4 April 2008	EMBO Laboratory Management Courses (for Group Leaders)
Venue: DE–Heidelberg	**www.embo.org/yip/lab_mgm.html**

2008 application deadline:

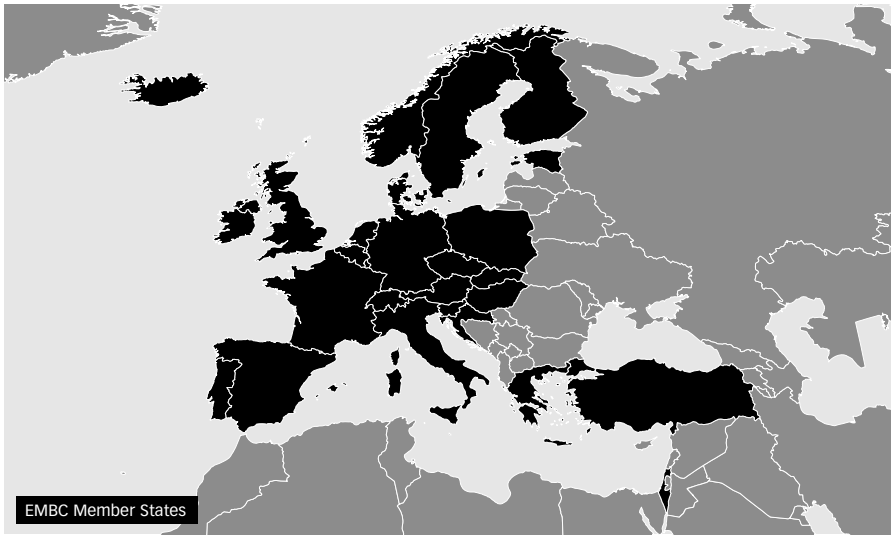
1 April **EMBO Young Investigators**

2008 application deadline:

15 April **EMBO Installation Grants**

EMBC welcomes two new member states

Slovak Republic and Luxembourg formally ratify EMBC Agreement



The European Molecular Biology Conference (EMBC), the intergovernmental funding body of EMBO, welcomed the Slovak Republic and Luxembourg as its newest members in July and November. This membership will enable scientists from these two countries to take part in and benefit from the scientific opportunities offered by EMBO.

The addition of the Slovak Republic and Luxembourg increases the EMBC membership to a total of 27 member states.

Isabella Beretta, EMBC Secretary General, commented: *"The Slovak Republic and Luxembourg are valued members of the molecular life sciences community in Europe. We look forward to their significant and active participation in EMBO activities and as members of EMBC."*

The Slovak Republic addition to the EMBC extends the organisation's representation in Central and Eastern Europe. Other member states in the region include Croatia, the Czech Republic, Estonia, Hungary, Poland, Slovenia and Turkey.

EMBC

- www.embo.org/about_embo/embc.html

Marja Makarow named Chief Executive of ESF

EMBC President, Professor *Marja Makarow,* has been appointed to be the next Chief Executive of the European Science Foundation, making her the first woman to take the top post in the science organisation's 33-year history. She will start in her 5-year position in Strasbourg, France, at the beginning of 2008.

Over the past decade, Makarow has served a number of national and intergovernmental research funding and research performing organisations in Europe. For the past four years, she has been President of EMBC and will leave the organisation at the end of this year. In Finland she is a member of the National Advisory Council for Science and Technology Policy reporting to the Ministries and Parliament. She is currently Vice-Rector for Research and Professor of Biochemistry and Molecular Biology at the University of Helsinki.

EMBO Council annual meeting

2007 election results

Members of the EMBO Council gathered in Heidelberg for their annual meeting from 9–11 October 2007. Made up of 15 EMBO Members, the Council meets annually with the EMBO management to discuss and review the organisation's activities. The meeting was hosted by *Tim Hunt* who was re-confirmed as Chair of the Council for 2008. Anton Berns was re-elected for the period 2008–2010 and re-confirmed as Vice-Chair.

The annual meeting also saw the re-election of *Daniel Louvard* and *Carl-Henrik Heldin* was newly elected for the period 2008–2010. Co-opted for the same period were *Maria Blasco, Roberto di Lauro* and *Ferenc Nagy.* The next ordinary meeting of Council is planned for 8–9 April 2008.

The EMBO Council (as of January 2008)

- **Anton Berns** (Vice-Chair)
- **Maria Blasco**
- **Margaret Buckingham**
- **Gunnar von Heijne**
- **Carl-Henrik Heldin**
- **Ari Helenius**
- **Tim Hunt** (Chair)
- **Roberto di Lauro**
- **Daniel Louvard**
- **Marjori Matzke**
- **Ferenc Nagy**
- **Daniela Rhodes**
- **Benny Shilo**
- **David Shore**
- **Kai Simons**

www.embo.org/about_embo/council_committees.html

2007 deadline:

1 December **EMBO Members: Nominations of candidates for EMBO Membership**

2008 deadline:

15 March **EMBO Members: Submission of ballot papers for 2008 election**

EMBO EVENTS 2008

PRACTICAL COURSES (EUROPE)

- The combination of electron microscopy and x-ray crystallography in structure determination
  FR–Gif-sur-Yvette, 17–22 February
- High-throughput microRNA profiling
  DE–Heidelberg, 6–11 April
- Computational RNA biology
  FR–Corsica, 14–20 April
- Structural characterisation of macromolecular complexes
  FR–Grenoble, 2–7 June
- Tissue and protein microarrays: from construction to image analysis
  IE–Dublin, 9–14 June
- High-throughput RNAi
  DE–Heidelberg, 13–18 June
- 3-D developmental imaging
  PT–Oeiras, 23 June–1 July
- Molecular approaches to evolution and development in co-operation with ZOONET (Marie Curie Research Training Network)
  SE–Fiskebaeckskil, 30 June–12 July
- Biomolecular simulation
  FR–Paris, 1–8 July
- Advanced cytometry and cell sorting
  DE–Berlin, 6–11 July
- Multi-dimensional NMR in structural biology
  IT–Il Ciocco, 17–22 August
- Cell biology of host–pathogens interactions
  FR–Paris, 18–29 August
- Electron microscopy and stereology in cell biology
  CZ–Ceske Budejovice, 20–29 August
- Cryo-electron microscopy and 3-D image analysis
  DE–Heidelberg, 24–31 August
- Protein expression, purification and crystallisation (PEPC-6)
  DE–Hamburg, 25 August–2 September
- Anatomy and embryology of the mouse
  HR–Zagreb, 6–14 September
- The application of transient kinetics methods to biological macromolecules
  UK–Canterbury, 7–13 September
- Ubiquitin and SUMO
  HR–Split, 12–19 September
- X-ray crystal structure determination of macromolecules
  FR–Saint Aubin, 14–20 September
- Computational aspects of the protein target selection, protein production management and structure analysis pipeline
  UK–Hinxton, 22–26 September
- Differential proteomics – from 2-D gel electrophoresis to mass spectrometry
  DE–Heidelberg, 6–10 October
- Docking predictions of protein–protein interactions
  ES–Barcelona, 14–17 October

PRACTICAL COURSES (EUROPE) *cont.*

- Solution scattering from biological macromolecules
  DE–Hamburg, 19–26 October

WORKSHOPS (EUROPE)

- Semaphorin function and mechanisms of action
  FR–Cernay-La-Ville, 8–11 May
- Cell and molecular biology of Chlamydomonas
  FR–Hyeres-les-Palmiers, 27 May–1 June
- Microbial diversity and metagenomics: science, technology, applications and regulatory affairs
  GR–Chalkidiki, 21–24 June
- Gene transcription in yeast
  ES–Sant Feliu de Guixols, 21–26 June
- The nucleolus and disease
  UK–Derby, 23–25 June
- MHC Class I molecules at the interface between biology and medicine
  PT–Porto, 4–6 July
- EMBO Members Workshop: Frontiers of Molecular Biology
  FI–Tampere, 5–8 September
- Cytotoxicity, cell death and the immune system
  ES–Zaragoza, 17–20 September
- Polo-like kinases: from the fly to the clinic 20 years onwards
  PT–Porto, 24–27 September
- Chromosome segregation: centromeres and kinetochores
  FR–Arcachon, 27 September–2 October
- Evolutionary and environmental genomics of yeasts
  DE–Heidelberg, 1–5 October
- Can epigenetics influence reprogramming and metastatic progression?
  DE–Bad Staffelstein, 6–9 October
- The NF-kappaB network in development and disease
  IT–Capri, 18–21 October

CONFERENCE SERIES (EUROPE)

- Functional genomics of micro-organisms
  FR–Paris, 8–11 April
- Cellular signalling and molecular medicine
  HR–Dubrovnik, 29 May–4 June
- Replication and segregation of chromosomes
  NO–Geilo, 16–20 June
- Centrosomes and spindle pole bodies
  DE–Heidelberg, 12–16 September
- Telomeres and the DNA damage response
  CH–Villars-sur-Ollon, 15–19 September
- The molecular and cellular mechanisms regulating skeletal muscle development and regeneration
  ES–Sant Feliu de Guixols, 24–29 September
- From functional genomics to systems biology
  DE–Heidelberg, 15–18 November

CONFERENCE SERIES (EUROPE) Second in a series

- Recombination mechanisms
  IT–Castelvecchio Pascoli, 19–23 May
- RNA and disease: RNA metabolism and associated pathologies
  IT–Rome, 31 May–5 June
- The molecular and developmental biology of Drosophila
  GR–Crete, 22–29 June
- At the interface of cell biology and cellular microbiology
  CH–Villars sur Ollon, 20–25 September
- Molecular and cellular basis of regeneration and tissue repair
  ES–Mallorca, 5–10 October

EMBO WORLD LECTURE COURSES

- Molecular and Cellular Basis of Infection
  ZA–Cape Town, 1–9 March

EMBO WORLD WORKSHOPS

- Parental genomic imprinting
  SG–Singapore, 21–24 September

EMBO WORLD PRACTICAL COURSES

- Advanced course on bioinformatics and comparative genome analysis
  BR–Florianopolis, 30 June–12 July
- Computational biology: from genomes to cells and systems
  SG–Singapore, 10–17 August
- Structure determination of biological macromolecules by solution NMR
  CN–Beijing, 8–15 September
- Genetics of laboratory rodents
  UY–Montevideo, 24 November–6 December

EMBO-ESF SYMPOSIA

- Molecular bioenergetics of cyanobacteria: towards systems biology level of understanding
  ES–Sant Feliu de Guixols, 29 March–3 April
- Antiviral applications of RNA interference
  ES–Sant Feliu de Guixols, 5–10 April
- B cells cross the divide: complexity, integration & translation
  ES–Sant Feliu de Guixols, 16–21 May
- Bacterial Networks (BACNET08)
  ES–Sant Feliu de Guixols, 13–18 September
- Protein design and evolution for biocatalysis
  ES–Sant Feliu de Guixols, 25–30 October

For more information, please go to:

- www.embo.org/about_embo/calendar.php

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

1 February **1 August**

EMBO Courses & Workshops

New EMBO Courses & Workshops Programme Manager

Marietta Schupp (EMBL-Photolab)

Maria Barbosa
EMBO Courses & Workshops Programme Manager

In October 2007, *Maria Barbosa* joined EMBO as Courses & Workshops Programme Manager. Maria comes to us from Wageningen University, The Netherlands, where for the past year she was working as a post-doc researcher. Earlier, in 2003, Maria obtained her PhD from Wageningen University. Before returning there she also did post-doctoral work at both the Swiss Federal Institute of Technology (ETH) and the Institute of Experimental and Technological Biology (IBET) in Portugal.

Explaining her motivation behind this career move, Maria says: *"I firmly believe that high-quality scientific courses and meetings contribute to the quality and competitiveness of life sciences worldwide."*

The EMBO Courses & Workshops Programme brings two important components together. First, it provides the scientific community with state-of-the-art scientific knowledge and technology while highlighting the role young scientists will play as future leaders in the field. Second, it promotes open scientific discussions and the establishment of scientific networks and cooperation.

EMBO has an ongoing commitment towards Molecular Medicine and therefore designates one workshop each year to be the *EMBO Molecular Medicine Workshop.* Maria is happy to announce that the EMBO Workshop, *MHC Class I molecules at the interface between biology and medicine,* to be held in Porto, Portugal in July 2008, has been recognised by EMBO and awarded this title.

The programme is now accepting 2009 meeting applications. Maria encourages submissions and looks forward to receiving and discussing proposals with the organisers and their committees.

For more information on the programme and events, please visit:

▮ www.embo.org/courses_workshops

NEWS FROM THE EMBO COMMUNITY

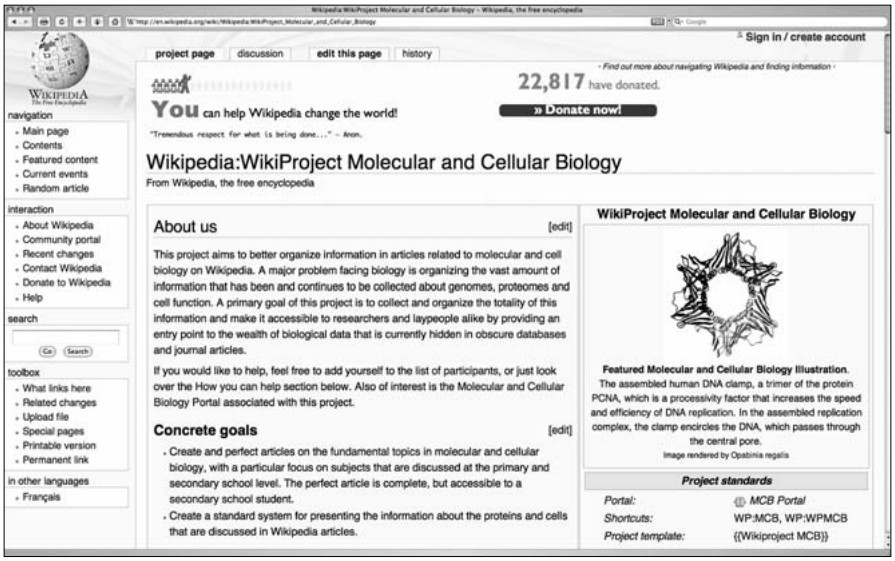
Molecular and cellular biology goes interactive

MCB Wikiproject is a world-wide community effort

An online source of continuously updated information on every human gene – sounds like a dream come true for every researcher. Thanks to the collaborative efforts of over one hundred scientists, the Molecular and Cellular Biology (MCB) Wikiproject is working towards making this goal a reality.

A major problem facing modern biology is organising the vast amount of information available on genomes, proteomes and cell function currently hidden in obscure databases and journal articles. Collecting and presenting this information in an accessible way for researchers and laypeople is one of the aims of this project. It also acts as a forum for detailed collaborative discussions of current research.

Former EMBO Fellow, *Tim Vickers,* now pursuing a post-doc in biochemistry at Washington University, is an editor and one of the main administrators of the MCB Wikiproject, part of the popular online encyclopedia, Wikipedia. *"The visibility and influence of Wikipedia as an educational resource cannot be underestimated,"* says Tim. *"Its webpages are usually the top Google hit on any subject you search for, so it's generally the first place people look for information on molecular and cellular biology. The MCB Wikiproject aims to ensure that this online resource is comprehensive, accurate and up-to-date, in the interests of the entire research community."*



Not surprisingly, with the wealth of research data available, the MCB Wikiproject is constantly evolving. With the help of other scientists, like *Andrew Su* of the Genomics Institute of the Novartis Research Foundation, Tim is pursuing collaborations to import and open up for annotation the huge amount of genetic information produced from genomic, structural and microarray studies.

Open-access resources, such as the MCB Wikiproject, foster interactive and collaborative approaches to research. Supporters of the project hope to recruit more scientists (and their students) to help categorise, organise and upgrade articles about every aspect of molecular biology. Researchers interested in helping the project can sign themselves up to the wiki and add content, images or references to already existing articles, create entirely new articles on their research interests, or help to recruit other editors for the project.

WikiProject on Molecular and Cellular Biology

▮ http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Molecular_and_Cellular_Biology

Networking fellows

2007 EMBO Fellows Meeting

Marietta Schupp (EMBL–Photolab)

Each year EMBO Fellows who have completed their fellowships meet to share their research and to network with colleagues. This year, 65 fellows gathered in Heidelberg to present talks and posters.

Held over three and a half days from June 22 to 25, the fellows heard not only from their peers but also from EMBO Members and former EMBO Fellows.

Hermann Bujard, Matthias Haury, Marina Rodnina, Bill Rutherford and *Laszlo Nagy* spoke on the common theme of "my scientific autobiography and life in science". Former EMBO Fellow *Mohammed Bentires-Alj* gave a special lecture on his career progression since his fellowship, culminating in his appointment as group leader at the Friedrich Miescher Institute in Basel.

Clear and concise communication of research is critical and particularly so when talking to journalists. The entire second day of the meeting was devoted to a media workshop, organised by *Andrew Moore,* Science & Society Programme Manager at EMBO. Invited journalists, press officers and scientists shared their insights into effective media communications. Fellows got the chance to develop and practice their own skills before they departed for the highlights of the social calendar for the meeting – a scenic cruise on the Neckar River followed by a traditional fest at Die Rainbach restaurant.

Over the course of the meeting, fellows learned more about EMBO from *Jan Taplick,* EMBO Fellowship Programme Manager, and *Gerlind Wallon,* EMBO Young Investigator Programme Manager. *Sandra Caldeira,* an editor with *EMBO reports,* presented on *Behind the Scenes of Scientific Publishing*.

Susanna Coelho from the Station Biologique de Roscoff in France summed up her experience of the meeting: *"The EMBO Fellows Meeting was the beginning of good friendships for me. Scientifically, discussions with other fellows were very enriching. Everyone was open and I received input that will definitely improve my current research project."*

After lunch on the final day, 65 EMBO Fellows headed back to their labs with heads buzzing, not only with the sounds of jazz from the final evening barbeque, but with new ideas and new colleagues in their scientific networks.

The next EMBO Fellows Meeting will be held from 12–15 June 2008 in Heidelberg.

www.embo.org/fellowships/index.html

2008 application deadlines:

15 February **15 August**

EMBO Long-Term Fellowships

2008 application deadline:

15 February **EMBO Molecular Medicine Fellowships**

2008 application deadline:

1 May **EMBO Award for Communication in the Life Sciences**

French cell biologists passionate about communication

2007 EMBO Award for Communication in the Life Sciences

French cell biologists *Christian Sardet* and *Ali Saib* are joint winners of the 2007 EMBO Award for Communication in the Life Sciences. The two recipients present science in a unique format that is both enlightening and entertaining, a key requirement in winning the award. Using different media, they have produced resources for researchers, as well as for teaching and communicating science to the broad community.

Professor Ali Saib of the University of Paris 7 receives the award in recognition of his steadfast interest in communicating scientific material to the public and students of all ages. He initiated a project to educate young people in the inner city of Marseille on infectious diseases such as HIV/AIDS and STD. Following its success, he established an innovative project named *Les Apprentis-Chercheur* – novice researchers, an action of *L'arbre des connaissances* – the tree of knowledge, an association he founded. Through collaboration with universities and research institutes, the project allows undergraduate students to visit research labs and work with scientists to bridge the gap between science and society.

Saib recently collaborated with FRANCE 5 as scientific author on a film project on the merging world of viruses to raise public awareness on this complex but critically important field. The documentary *Dr Virus and Mr. Hyde* received the *Grand Prize* at the International Festival of Science Documentaries and the *Science Prize* at the International Festival of SCOOP and Journalism.

Saib says of his work, *"Communicating life sciences to the public and especially to youngsters should be part of our daily job. This is important both to give them the minimal scientific tools for understanding our world and future challenges and to recreate a link between scientists and society. Such an effort should also be considered when evaluating researchers' activities."*

Dr. Christian Sardet, through his highly original use of interactive multimedia technology, communicates scientific information including detailed molecular events. An established embryologist, he presently heads the BioMarCell group in Villefranche-sur-Mer, at the Marine Center of the University of Paris 6 (UPMC) and the Centre National de la Recherche Scientifique (CNRS). His establishment of a creative team to produce educational animations called BioClips evolved into the annual International Festival Cinema of the Cell, held during ELSO meetings in Nice and Dresden and relayed by the BioClips.com website. Commenting on his award Sardet said, *"I am honoured that my passion for biology, imagery and communication is recognised".*

Outside of molecular and cellular embryology, Sardet challenges cell biology to *"go visual, go public and go interactive."* Exploring the Living Cell, his recent DVD, is rich in film and animations on the subject of cells and their impact on health and disease. The DVD also includes *Voyage Inside the Cell,* a short version of Sardet's prized 3-D film on exhibit in science centers in Paris, Amsterdam and Berlin.

The winners were presented their awards on 2 November 2007 at the annual EMBO/EMBL Science & Society Conference in Heidelberg, Germany.

Ali Saib
University of Paris 7

Christian Sardet
BioMarCell group in Villefranche-sur-Mer

Award for Communication in the Life Sciences

www.embo.org/scisoc/

Calling all EMBO Fellows!

EMBO fellowsNet – an interactive post-doc community

With nearly 900 registered users, the EMBO fellowsNet online portal continues to develop new features to support the EMBO community of fellows and post-docs around the world.

Main features of this portal include: a searchable database of EMBO Fellows highlighting researchers' profiles and their recent scientific publications; information and documentation on EMBO Fellows Meetings together with a calendar of events suggested by the community; scientific movies and lab protocols; active forums for the exchange of technical, scientific and practical information; the possibility to post collaborations and jobs (in collaboration with the EMBO Life Sciences Mobility Portal) and to distribute this information to the mailing list of registered users.

In collaboration with the EMBO Science & Society Programme, a new section called *mySCience* features lay reports submitted by EMBO Fellows following the completion of their fellowship. Through these reports, the fellows explain their project and their results in a non-scientific style for the general public. Together with the scientific publications, these reports contribute to increase the visibility of the research projects supported by EMBO.

Another recent initiative, the EMBO fellowsNet Movie Competition, was held for the first time in June 2007. The prize for the best video clip was awarded by an international jury to *Ultimate knowledge* by *Thomas Splettstoesser.* The clip portrays episodes taken from daily life in a computational molecular biophysics lab. The top five entries can be viewed, rated and downloaded in the fellowsNet Movie Section. So far, the winning clip has also received the highest number of hits and highest rating by EMBO fellowsNet visitors.

The movie collection also includes *Twisted Sisters*, an already published clip by EMBO Fellow *Alex McDougall,* winner of the *Cinema of the Cell* competition held during ELSO 2005. In the movie section, fellows can share their scientific video clip and/or recommend captivating movies found on the web, and contribute to the collection of useful links for other online multimedia resources.

Due to its online nature, EMBO *fellowsNet* is constantly evolving. EMBO Fellows past and present as well as other post-docs are encouraged to actively contribute content to the portal and suggest ideas for new features. In turn, they are rewarded by receiving increased visibility for their research, a chance to expand their professional network and access to opportunities for new collaborations and professional growth. This is the spirit behind the portal's interactive approach – to support the development of an active and vibrant international post-doc community.

http://fellowsnet.embo.org

EDITOR PICKS – EMBO PUBLICATIONS

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

THE EMBO JOURNAL

new EMBO Members' reviews

Rumble in the nuclear jungle: compartmentalization, trafficking, and nuclear action of plant immune receptors
Shen Q-H, Schulze-Lefert P
The EMBO Journal advance online publication
doi:10.1038/sj.emboj.7601854

Local translation and directional steering in axons
Lin AC , Holt CE
EMBO J 26: 3729–3736

research articles

D-Serine is a key determinant of glutamate toxicity in amyotrophic lateral sclerosis
Sasabe J, Chiba T, Yamada M, Okamoto K, Nishimoto I, Matsuoka M, Aiso S
EMBO J **26**: 4149–4159

In vivo* analysis of cohesin architecture using FRET in the budding yeast *Saccharomyces cerevisiae
Mc Intyre J, Muller EGD, Weitzer S, Snydsman BE, Davis TN, Uhlmann F
EMBO J **26**: 3783–3793

Regulation of the p27Kip1 tumor suppressor by miR-221 and miR-222 promotes cancer cell proliferation
le Sage C, Nagel R, Egan DA, Schrier M, Mesman E, Mangiola A, Anile C, Maira G, Mercatelli N, Ciafre SA, Farace MG, Agami R
EMBO J **26**: 3699–3708

Heritable epigenetic mutation of a transposon-flanked *Arabidopsis* gene due to lack of the chromatin-remodeling factor DDM1
Saze H, Kakutani T
EMBO J **26**: 3641–3652

www.embojournal.org

EMBO reports

science & society

Who is responsible?
Supervisors and institutions need to focus on training in the responsible conduct of research and change the culture in the laboratory
Roland M-C
EMBO rep **8**: 706–711

The future of research universities. Is the model of research-intensive universities still valid at the beginning of the twenty-first century?
Interview participants: Ken-ichi Arai, Thomas Cech, Jean-Lou Chameau, Paul Horn, Iain Mattaj, Janez Potocnik & John Wiley
EMBO rep **9**: 804–810

reviews

The inner nuclear envelope as a transcription factor resting place
Heessen S & Fornerod M
EMBO rep **8**: 914–919

Get to grips: steering local actin dynamics with IQGAPs
Brandt DT, Grosse R
EMBO rep **8**: 1019–1023

scientific reports

Proteomic and functional analysis of Argonaute-containing mRNA–protein complexes in human cells
Höck J, Weinmann L, Ender C, Rüdel S, Kremmer E, Raabe M, Urlaub H, Meister G
EMBO rep **11**: 1052–1060

Ligand-independent activation of VEGFR1 by LDL
Usui R, Shibuya M, Ishibashi S, Maru Y
EMBO reports advance online publication
doi: 10.1038/sj.embor.7401103

www.emboreports.org

molecular systems biology

research articles

The protein network of bacterial motility
Rajagopala SV, Titz B, Goll J, Parrish JR, Wohlbold K, McKevitt MT, Palzkill T, Mori H, Finley Jr RL, Uetz P
Molecular Systems Biology **3**: 128
doi:10.1038/msb4100166

A top-down systems biology view of microbiome–mammalian metabolic interactions in a mouse model
Martin F-PJ, Dumas M-E, Wang Y, Legido-Quigley C, Yap IKS, Tang H, Zirah S, Murphy GM, Cloarec O, Lindon JC, Sprenger N, Fay LB, Kochhar S, van Bladeren P, Holmes E, Nicholson JK
Molecular Systems Biology **3**: 112
doi:10.1038/msb4100153

reports

A homeostatic model of IkappaB metabolism to control constitutive NF-kappaB activity
O'Dea EL, Barken D, Peralta RQ, Tran KT, Werner SL, Kearns JD, Levchenko A, Hoffmann A
Molecular Systems Biology **3**: 111
doi:10.1038/msb4100148

Network-based classification of breast cancer metastasis
Chuang H-Y, Lee E, Liu Y-T, Lee D, Ideker T
Molecular Systems Biology **3**: 140
doi:10.1038/msb4100180

news & views

The economics of synthetic biology
Henkel J, Maurer SM
Molecular Systems Biology **3**: 117
doi:10.1038/msb4100161

Pimp my cell
Bastiaens P
Molecular Systems Biology **3**: 120
doi:10.1038/msb4100164

www.molecularsystemsbiology.com

What makes us tick?

***EMBO reports* special issue**

The study of human behaviour is a topic involving many research fields – including biology, psychology and behavioural science – that investigates how our brains and our genes rule our behaviour. Research into human thought and cognition has given new insights into how and why humans behave the way they do.

This research and the discussions surrounding this topic are the theme of *Genes, brain/mind and behaviour,* the July 2007 special issue of *EMBO reports,* featuring 15 articles by internationally renowned experts. The special issue focuses on the ethical and social consequences of our increasingly sophisticated understanding of human thought and behaviour and most articles are based on talks presented at the 7th joint EMBL/EMBO Conference, *Genes, brain/mind and behaviour*, which was held in November 2006.

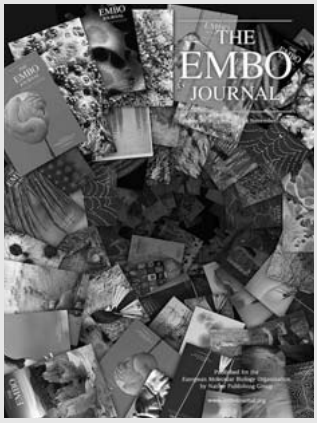
The themes explored in the special issue include: rethinking the biological determinants of behaviour, the emergence of genomic psychology, the genetic determinants of depression, and ethical issues for neuroscience. Contributors to the special issue include experts in neuroscience, philosophy, bioethics and psychology: *Wolf Singer* (Director of the Max Planck Institute for Brain Research in Frankfurt, Germany), *Michael Kosfeld* (University of Zurich, Switzerland), *Turhan Canli* (Psychology Department at Stony Brook University, USA), *Judy Illes* (Director of the Program in Neuroethics at the Stanford Center for Biomedical Ethics, USA), *Anne Harrington* (Chair of the Department of the History of Science at Havard University, USA) and *Kathinka Evers* (Associate Professor of Philosophy at the Center for Biolethics at Karolinska Institute and Uppsala University, Sweden).

Genes, brain/mind and behaviour is the fifth special issue produced by *EMBO reports*. Former special issues covered the topics: *Infectious Diseases* (2003), *Science & Risk* (2004), *Time & Ageing* (2005) and *Science and Security* (2006).

▮ www.nature.com/embor/journal/v8/n1s/index.html

Calling all photographers

***The EMBO Journal* Cover Contest 2008**



It's that time again – *The EMBO Journal's* Cover Contest is looking for your images! Interested photographers are invited to compete in this annual competition, now in its fifth year. Prizes will be awarded for the best images in two categories: non-scientific and scientific.

For more information, please visit:
www.embojournal.org
www.embo.org/cover_contest08.html

Systems Biology in Human Health and Disease

***Molecular Systems Biology* Reprint Collection**

One of the major driving forces of biological research has been to understand the factors that influence human health and cause diseases. New technological and conceptual tools to investigate, model and understand living organisms at the system level have evolved from advances in quantitative techniques, large-scale measurement methods and intimate integration between experimental and computational approaches.

Systems Medicine is the name of this new discipline, emerging at the interface between Medicine and Systems Biology. A print collection of articles, recently published in *Molecular Systems Biology,* highlights the evolving field of Systems Medicine and illustrates the new insights gained by applying Systems Biology approaches within the context of human health and disease.

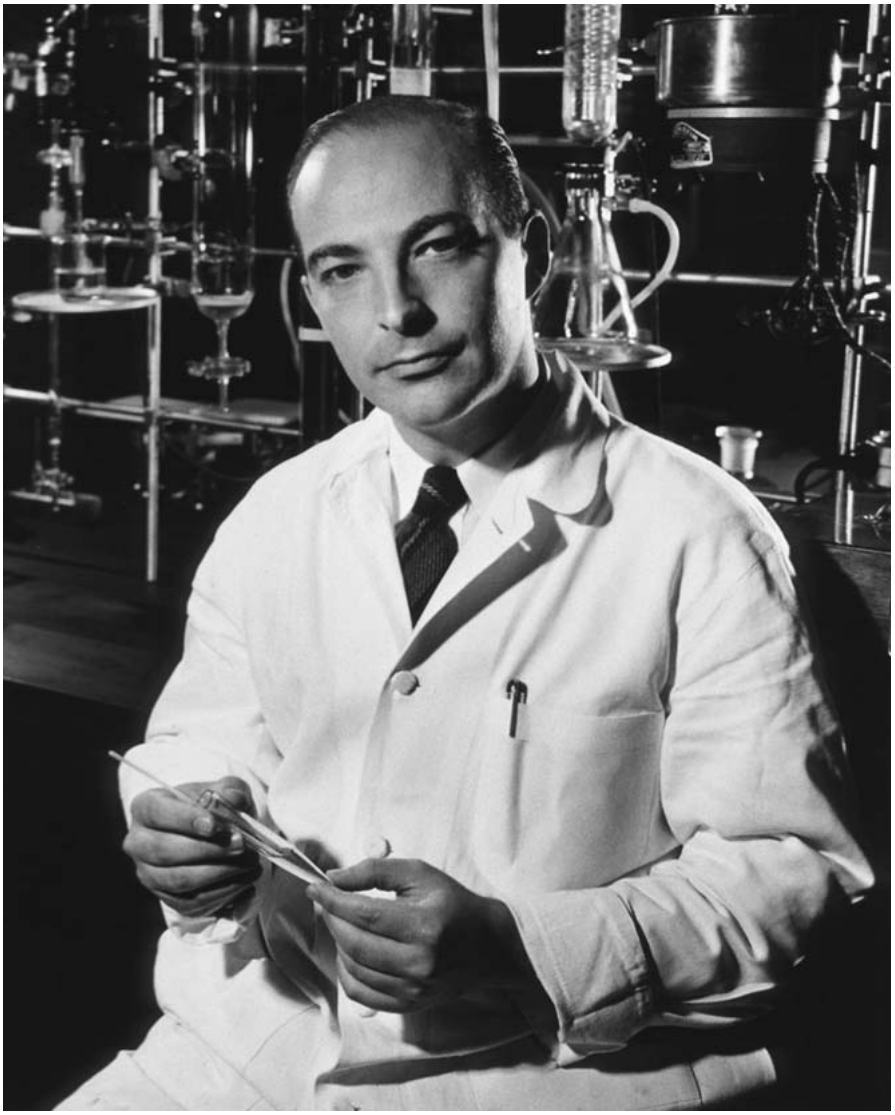
Translating Systems Biology to the human 'system' will represent a formidable challenge. Revolutionary technologies, novel insights and massive digitalisation of information will call for clear thinking and innovation in the formulation of governance policies. It is the journal's hope that providing an excerpt of some of the recent concrete contribution to the field will stimulate reflections and debates, extending beyond the Systems Biology community, so that the full potential and promises of Systems Medicine can be realised in harmony with societal standards.

Molecular Systems Biology
▮ www.molecularsystemsbiology.com

To request a free copy of the Systems Medicine Reprint Collection, please contact *communications@embo.org*.

For the love of enzymes...

A tribute to Arthur Kornberg (1918 – 2007)



Courtesy of the National Library of Medicine

Arthur Kornberg
Nobel Prize for Physiology or Medicine 1959
EMBO Associate Member since 1985

Arthur Kornberg loved enzymes, which repaid his affection again and again by revealing the most intimate secrets of life. His passing on October 28th, 2007, at the age of 89 marks the end of a great era in biochemistry and molecular biology, in which Kornberg played a central colossal part. Not only was he a brilliant scientist himself, but he nourished and encouraged hundreds of others and built a Department of Biochemistry at Stanford University that was the envy of the world, and at the very heart of the recombinant DNA revolution.

Arthur Kornberg also possessed considerable literary gifts, and his autobiographical odyssey *For the love of Enzymes* (Harvard University Press, 1989) is a brilliant book that should be required reading for molecular biologists, for the insights it provides into doing science. It's also a warm and graceful account of a life that started out poor in Brooklyn. Arthur was the son of Jewish immigrant parents, and he worked in the family store at age 9. He did well in school and went to CCNY as a science major, where he worked evenings, weekends and holidays as a clothing salesman for $14 a week, managing to save enough money to pay his way through medical school at the University of Rochester, where biochemistry was dull, but physiology and anatomy "awesome". But despite doing very well, ethnic and religious prejudice prevented him from being offered the Fellowships in medicine he felt he deserved, and he ended up in the Navy as a ship's doctor. Unhappy with arbitrary naval authority, it came as relief to Kornberg himself and probably his Captain as well when the Director of the NIH summoned him to Bethesda to work in the Department of Nutrition, partly thanks to a fine research project on jaundice that Kornberg published in 1942, but also helped by a personal recommendation from his classmate, *Leon Heppel.* But the science of nutrition had seen its best days, and as soon as the war ended, Kornberg persuaded his boss to let him go to work on enzymes for a year with *Severo Ochoa* at NYU, and then for 6 months with *Carl* and *Gerty Cori* at Washington University in St Louis, where Arthur and Silvy's first son, Roger was born *"in a dim, warm burrow next to the house furnace"*. They were searching for the key to the oxidative regeneration of ATP from ADP. But the secret of ATP was not to be revealed – it was a "doomed quest" because the enzymes they were looking for were embedded in the mitochondrial membranes, insoluble and inaccessible to biochemists of the school of the great *Otto Warburg.* Moreover, rabbits were expensive, the summer was extremely hot – the temperature in the laboratory rose above 37˚ – and the Kornbergs were not sorry to leave the Midwest.

Thus it was that Kornberg returned to the NIH with a project to study NAD pyrophosphorylase, an activity he had discovered in St Louis. This fateful choice was to lead within 10 years to DNA polymerase. But first, a careful survey of a suitable source of the enzyme led from livers and kidneys to potatoes, and then a search for the best variety of potato, which had eight times as much enzyme as the worst. This little episode is very typical of the man, and is one of my favorite passages in his book (pp 72–73), where it is followed by the famous declaration: *"I have never met a dull enzyme"* – from the humblest hydrolase to the most glamorous polymerase – *"the feats of all enzymes are awesome"* and *"Without knowing and respecting enzymes, better still loving them, answers to the most basic questions of growth, development and disease will remain beyond reach"*. Kornberg proceeded to work out where the P of NADP was located, to discover the importance of reactions that produce pyrophosphate during investigations of the biosynthesis of NAD, and establish the role of orotic acid in the biosynthesis of pyrimidines and the role of PRPP in the biosynthesis

of the nucleotides. These studies of nucleotide synthesis were the crucial enabling steps for the study of DNA synthesis.

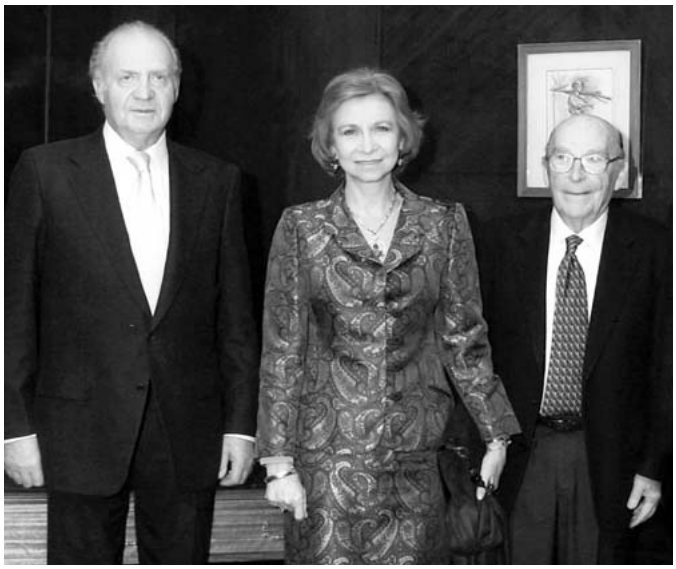
In 1953, Kornberg left the NIH and returned to Washington University in St Louis, as Chairman of the Medical Microbiology Department. By 1956, in a crowded little laboratory, the first signs of DNA synthesis were apparent, and armed with good starting material, which proved to be exponentially growing bacteria, and a reliable assay – the incorporation of labelled thymidine as TTP into acid-insoluble, DNAse-sensitive material, the excited team were able to purify DNA polymerase in a remarkably short space of time, and submitted two papers to the *Journal of Biological Chemistry* in October 1957. They immediately ran into trouble from the reviewers, who included the scathing *Erwin Chargaff*. Some objected to the name "DNA polymerase", while Chargaff insisted that the authors demonstrated genetic activity on the part of their newly-synthesised material. A whiff of vitalism lingered around experts on the genetic material, it seems. Kornberg was a great believer in the idea that life can be explained by chemists. He was critical of *Louis Pasteur,* whose *"exaggerated interest in biology eventually caused him to neglect his chemical roots and thus delayed the advent of modern biochemistry and the discovery that enzymes are the vital force of fermentation"*. Anyway, by the time 10 reviewers had judged the papers, Kornberg was on the point of sending them elsewhere when *John Edsall,* about to assume the position of Editor in Chief, stepped in and insisted that they appear, which they duly did in May 1958. They mark the beginning of a new age, the age of molecular biology, although Arthur Kornberg would never agree to being anything but a card-carrying biochemist, and proud of it. They are modest (though firm) in their conclusions, too, and the following papers tried as far as possible with the limited, if ingenious, tests available at the time to demonstrate that the newly made DNA was a copy of the DNA that was added: it took a little time to get across the central importance of the primer and template requirements, and even longer to convince the critics that DNA polymerase was the real thing. I can well recall discussions a decade later in Cambridge, scoffing at the work of the Stanford group, and there was considerable *schadenfreude* when *John Cairns* isolated the strain of *E. coli* that lacked "The Kornberg enzyme". It became clear that DNA polymerase I, the Nobel Prize-winning enzyme was not the real replicative polymerase, but amazingly it fell to *Tom,* Kornberg's youngest son, who was at the time a cellist at the Julliard School of music in New York, to find the real thing in only a few months of working with Malcolm Gefter at Columbia University. Eventually, it turned out that the properties that Arthur Kornberg and his colleagues had so painstakingly elucidated for Pol I also held true for Pol III; there was nothing wrong with the basic principles. An equally astonishing discovery was made by *Reiji Okazaki*, a former student of Kornberg's, who found that DNA in cells was made in short pieces! This began to explain how the replication fork moved forward even though DNA polymerase could only add nucleotides to the 3' end of the growing DNA chain, so that one chain somehow had to be copied backwards. Eventually, the Stanford group managed to achieve the amazing feat of producing working copies of M13 phage DNA, and they themselves were astonished at how complicated were the details. Had they but known this at the outset, back in the mid-1950s, they might well have been deterred from even trying. At the age of 75, Kornberg more or less stopped working on DNA replication and turned his attention to polyphosphate synthesis, something he and his first wife Silvy had discovered and worked on in the early 1950s. He published more than 50 papers on this neglected topic, working on it right up to his death, and pointing out its importance for the survival of bacteria in the wild in a clutch of beautifully written reviews.

When Kornberg moved to Stanford, he took with him many very talented biochemists, and his move prompted several other gifted scientists to help set up the new medical school; *Buzz (R.L.) Baldwin, Paul Berg, Mel Cohn, David Hogness, Dale Kaiser,* and *Bob Lehman* provided the core faculty at the outset, and *Joshua Lederberg* and *Charles Yanofsky* started the Departments of Genetics and Biology. In the early 1970s, *Lobban* and *Kaiser* and *Jackson, Symons* and *Berg* were among the first to make chimeric DNA molecules, and it was not long before *Stanley Cohen* and *Herb Boyer* teamed up to make the first viable cloning vectors. The patents for recombinant DNA belong to Stanford University.

Arthur Kornberg was rightly proud of his many achievements, but especially proud of his family. *Roger Kornberg* followed closely in his father's footsteps, and was awarded the 2006 Nobel Prize for Chemistry for his studies of "the molecular basis of eukaryotic transcription", as well as being elected an Associate Member of EMBO. *Tom Kornberg* is now a *Drosophila* developmental geneticist at UCSF, while his brother *Ken* runs an architectural firm that specializes in the design of laboratories. The last time I met Arthur Kornberg was in 2005, at a celebration of the 100th anniversary of Severo Ochoa's birth, presided over by the King and Queen of Spain. Arthur made a charming speech about Ochoa, who had introduced him to enzymes in the first place, but I was amused and warmed to overhear him boast of his three sons' achievements to *Juan Carlos I of Spain,* as one dad to another. Arthur Kornberg was a giant in many ways, and I rather doubt if we will see his like again.

Tim Hunt
November 2007

Arthur Kornberg with King Juan Carlos I and Queen Sofía of Spain in 2005



TRANSITIONS

EMBO Members

Peter B. Becker, of the Adolf Butenandt Institute for Molecular Biology in Munich, has been elected Member of the "Academia Europaea" and the "Deutsche Akademie der Naturforscher Leopoldina".

Roberto di Lauro, has been appointed President of the Stazione Zoologica "Anton Dohrn" in Naples, Italy. The Stazione Zoologica was established by the German biologist Anton Dohrn in 1872 and is now one of 15 research institutions supported by the Italian Ministry of Research. Its mission is the study of biology and ecology, with a special focus on marine organisms. Since 1991, Prof. di Lauro has been a consultant for the Stazione, first as the Head of the Laboratory of Biochemistry and Molecular Biology until 2004 and then as Head of the Group of Animal Genetics.

Frank Gannon, Director General of Science Foundation Ireland (SFI), was honoured at a symposium on 28 June 2007 to mark the end of his tenure as the EMBO Executive Director. Many EMBO Members were in attendance to pay tribute to Frank and celebrate his achievements over the past thirteen years.

Moshe Oren, of the Weizmann Institute of Science in Rehovot, Israel, has been elected as a Foreign Honorary Member of the American Academy of Arts and Sciences in Cambridge, USA.

The Hungarian Academy of Sciences in Budapest, Hungary has elected ***Israel Pecht,*** of the Weizmann Institute of Science in Rehovot, Israel, as an Honorary Member.

Nadia Rosenthal, has been appointed Head of the new Australian Regenerative Medicine Institute (ARMI) in Victoria, Australia. Prof. Rosenthal is currently Group Leader and Head of the European Molecular Biology Laboratory (EMBL) Outstation in Monterotondo, Italy.

A retirement symposium was held from 20–21 September 2007 to honour ***Robin Weiss*** of the University College London. "Adventures in Virology and Cancer" was the theme of the two-day event which was attended by 250 participants, including many EMBO Members.

EMBO Young Investigators

Former Young Investigator, ***Ralf Adams,*** has been appointed Director of the Max Planck Institute for Molecular Biomedicine in Muenster, Germany. He was also appointed Head of the Institute's new "Tissue Morphogenesis" Department.

EMBO Fellows

EMBO Fellow, ***Gergely Katona,*** has been appointed Assistant Professor at Göteborg University in Sweden.

A GOOD READ – PUBLICATIONS FROM THE EMBO COMMUNITY

articles

Heme oxygenase-1 and carbon monoxide suppress the pathogenesis of experimental cerebral malaria
Maria Manuel Mota (former EMBO Young Investigator) *et al.*
Nature Medicine **13:** 703–710
(01 June 2007)

The JAZ family of repressors is the missing link in jasmonate signalling
Andrea Chini (EMBO Fellow) *et al.*
Nature **448:** 666–671
(09 August 2007)

Identification of stem cells in small intestine and colon by marker gene Lgr5
Andrea Haegebarth (EMBO Fellow) *et al.*
Nature **449:** 1003–1007
(25 October 2007)

Arginine methylation at histone H3R2 controls deposition of H3K4 trimethylation
Antonis Kirmizis (EMBO Fellow) *et al.*
Nature **449:** 928–932
(18 October 2007)

An essential role for a CD36-related receptor in pheromone detection in *Drosophila*
Richard Benton (EMBO Fellow) *et al.*
Nature (advance online publication)
doi:10.1038/nature06328
(17 October 2007)

books

Since 1983, EMBO Member, ***Giorgio Semenza,*** has been the Editor or Co-Editor of Elsevier's Comprehensive Biochemistry series. The latest volume in the series, entitled *"Stories of Success: Personal Recollections"* (Vol. 45), was published in October 2007.

EVENTS

EMBO Fellows

EMBO Fellow, ***Inaki Ruiz-Trillo,*** of the University of Barcelona, is co-organiser of the **"ICREA conference on the Origin and Early Evolution of Metazoans",** which will take place from 24–25th October 2008 in Barcelona.

This international conference aims to bring together scientists from different disciplines interested in the origin of animals or Metazoa. This two-day symposium will feature talks by internationally renowned speakers from disciplines such as paleontology, developmental genetics, phylogenomics, systematics and comparative anatomy. For more information, please visit: **www.originmetazoa.com**

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Anne Seller moved to the EMBO Courses & Workshops Programme in November. Many thanks, Anne, for all your contributions to *EMBOencounters!!*

AWARDS OF EXCELLENCE

EMBO Members

Baden-Württemberg Research Prize
Dieter Wolf, of the Institute for Biochemistry at the University of Stuttgart, is co-recipient of the Baden-Württemberg Research Prize. Prof. Wolf receives the prize for his research, spanning over 30 years, for groundbreaking results in the area of regulated protein degradation in cells.

Diplôme d'Honneur,
Federation of European Biochemical Societies (FEBS)
Frank Gannon, Director General of Science Foundation Ireland (SFI), was awarded the Diplôme d'Honneur in July 2007 at the FEBS Congress in Vienna in honour of his "exceptional contribution" to European science and to FEBS activities.

EMBO Gold Medal 2007,
European Molecular Biology Organization
Jan Löwe, of the Medical Research Council's Laboratory of Molecular Biology in Cambridge, UK, receives this award in recognition of his landmark work elucidating the structure and function of proteins involved in bacterial cell division.

EMET Prize in Bio-Chemistry,
AMN Foundation
Yosef Yarden, of the Weizmann Institute of Science in Rehovot, Israel, receives this award for his original and significant contribution to unravelling the biochemical mechanism in the development and multiplication of the cancerous cell, and particularly the role of growth factor receptors and signal transmitters.

Erwin Schroedinger Prize,
Austrian Academy of Sciences
Thomas Jenuwein, of the Research Institute of Molecular Pathology (IMP) in Vienna, receives this prize in honour of his outstanding contributions to molecular biology. The discoveries of Prof. Dr. Jenuwein and his team are of major significance to the rapidly expanding field of Epigenetics.

ESMO Lifetime Achievement Award
The Netherlands Cancer Institute (NKI) was awarded the ESMO Lifetime Achievement Award in July 2007 for its outstanding achievements in the area of Translational Research in Breast Cancer. ***René Bernards,*** Head of the Molecular Carcinogenesis Division of the Institute, and Dr ***Laura van 't Veer,*** Head of the Molecular Pathology Division, received the award on the institute's behalf.

Nobel Prize in Physiology or Medicine 2007,
Nobel Foundation
Sir Martin Evans, of Cardiff University, receives this award along with Mario Capecchi and Oliver Smithies for their discoveries of principles for introducing specific gene modifications in mice by the use of embryonic stem cells.

Feltrinelli Prize 2007,
National Academy of Lincei
The Feltrinelli Prize 2007 for Biological Sciences has been awarded to ***Emilia Chiancone,*** Professor of Molecular Biology in the Medical Faculty of the University of Rome "La Sapienza", for her studies on the evolution of allosteric regulation.

Gottfried Wilhelm Leibniz Prize,
German Research Foundation
Magdalena Götz, of the Institute of Stem Cell Research (ISF) and **Detlef Weigel,** of the Max Planck Institute for Developmental Biology, are recipients of the 2007 Gottfried Wilhelm Leibniz Prize, the highest honour awarded in German research.

Lautenschläger Research Prize 2007,
University of Heidelberg
Matthias Hentze and ***Andreas Kulozik,*** received this award for their joint research work on disturbances to the processing and control of the transmission of genetic information within the cell, the so-called RNA metabolism, in frequent genetic diseases affecting haematopoiesis and blood coagulation.

Leopoldina Research Prize 2007,
The German Academy of Sciences
Nikolaus Pfanner, University of Freiburg, received this prize for significant contributions to the study of intracellular protein sorting and translocation and in particular for his research on mitochondrial biogenesis.

Louis Jeantet Prize for Medicine 2007,
Louis Jeantet Foundation
Venki Ramakrishnan, of the Medical Research Council's Laboratory of Molecular Biology, receives this prize in recognition of his research on the ribosome.

Louis Jeantet Prize for Medicine 2007,
Louis Jeantet Foundation
Steven West, of Cancer Research UK's London Research Institute, has been awarded this prize for his pioneering work on DNA repair mechanisms.

2007 Prince of Asturias Award for Scientific and Technical Research,
The Prince of Asturias Foundation
Peter Lawrence, of the MRC Laboratory of Molecular Biology in Cambridge, and ***Ginés Morata,*** of the CSIC-UAM Centre of Molecular Biology in Madrid, have been jointly awarded this prize. Their pioneering research provides information on the phenomenon of organ and tissue regeneration and on programmed cell death, also known as apoptosis, which are indispensable in the study of ageing and cancer.

Prize of the President of the Republic,
National Academy of Lincei
Giuseppe Macino, Professor of Biology in the Medical Faculty at the University of Rome "La Sapienza", has been awarded this prize for his discoveries on the mechanism of gene silencing by micro RNAs.

Royal Society Rosalind Franklin Award,
The Royal Society
Ottoline Leyser, of the Department of Biology at the University of York, receives this award in recognition of her groundbreaking work on plant hormones and how they control plant development.

Wiley Prize in Biomedical Sciences,
The Wiley Foundation
F. Ulrich Hartl, of the Max Planck Institute for Biochemistry receives this award along with *Arthur L. Horwich,* for their elucidation of the molecular machinery that guides proteins into their proper functional shape, thereby preventing the accumulation of protein aggregates that underlie many diseases, such as Alzheimer's and Parkinson's.

2006/7 Wolf Foundation Prize in Chemistry,
Wolf Foundation
Ada Yonath, from the Department of Structural Biology at the Weizmann Institute of Science has been jointly awarded this prize with George Feher, for ingenious structural discoveries of the ribosomal machinery of peptide-bond formation and the light-driven primary processes in photosynthesis.

EMBO Young Investigators

Charles Albert Shull Award,
American Society of Plant Biologists
Samuel C. Zeeman, of ETH Zurich in Switzerland, receives this award for pioneering research leading to the discovery of new proteins and pathways in starch synthesis and degradation in leaves. This award is presented to a scientist under the age of 40 for outstanding investigations in the field of plant biology.

2008 Colworth Medal of the Biochemical Society
The prestigious 2008 Colworth Medal has been awarded to ***John Rouse,*** a principal investigator in the MRC Protein Phosphorylation Unit at the University of Dundee.

Eppendorf Young European Investigator Award
Luca Scorrano, of the Dulbecco-Telethon Institute, was the 2006 recipient of this award. The Eppendorf Award for Young European Investigators is presented to young scientists for outstanding biomedical research based on methods of molecular biology.

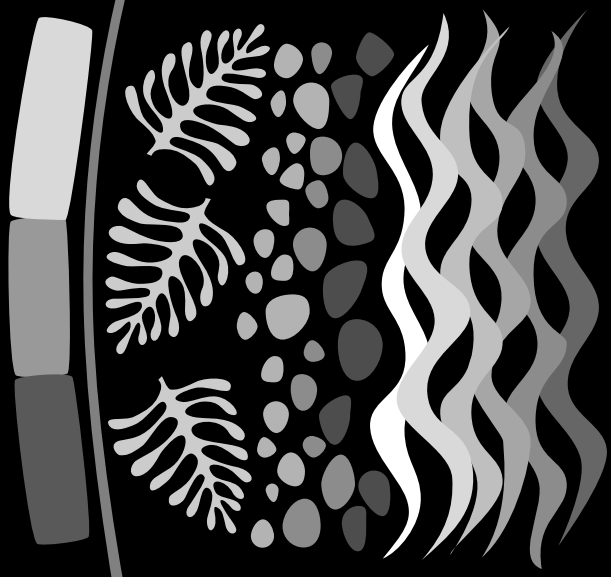
European Young Investigator Awards (EURYI),
European Science Foundation
Terence Strick, of CNRS' Jacques Monod Institute, has been selected to receive one of this year's EURYI awards for his work on single-molecule studies of biological nano-machines.

Friedrich Wilhelm Bessel Research Award,
Alexander von Humboldt Foundation
Nektarios Tavernarakis, has been granted a Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt Foundation.

ELSO & EMBO

European Life Scientist Organization e.V.

European Molecular Biology Organization



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7th ANNUAL ELSO MEETING

30 AUGUST– 2 SEPTEMBER 2008

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