

# ESMTB Infoletter

## August 2010



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

Dear colleague

with this ESMTB Infoletter you receive information about conferences, workshops, schools and open positions. Please send relevant information to be included in the next ESMTB infoletter to [info@esmtb.org](mailto:info@esmtb.org).

Best regards, Andreas Deutsch  
Dresden, 16th of August 2010

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## Conferences

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### Prague Stochastics 2010 at Prague (Poland)

**Date: 2010-08-30 to 2010-09-03**

Continuing the series of international conferences on stochastics organized in Prague since 1956 the Department of Probability and Mathematical Statistics, Faculty of Mathematics and Physics, Charles University and the Department of Stochastic Informatics, Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic organize the Prague Stochastics 2010 which will be held from August 30 to September 3, 2010.

In the tradition of the previous conferences the scientific programme will be aimed at covering a wide range of stochastics, with special emphasis on the topics of this lively field which have been pursued in Prague.

<http://simu0292.utia.cas.cz/pragstoch2010/>  
<mailto:pragstoch@utia.cas.cz>

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### The EMBO Meeting 2010 at Barcelona (Spain)

**Date: 2010-09-04 to 2010-09-07**

Fast-paced conceptual and technological advances are profoundly changing the landscape of molecular biology research in terms of the depth and nature of biological insights gained. We are particularly excited to organize and present the programme for The EMBO Meeting 2010 to highlight the dynamism of the field and feature many leading researchers as speakers.

Reflecting an emphasis on functional and system-level insights, three plenary lecture sessions will be devoted to modern evolutionary biology, to molecular developmental biology and to the rapidly developing fields related to systems biology, such as network biology, functional genomics and synthetic biology.

A rich selection of topics will be addressed in 21 workshops, juxtaposing classical with less classical fields of research. Thus, workshops focusing on central themes such as cell signalling and division, chromosomal organization, genome stability, cell differentiation and pluripotency, epigenetics and mechanisms of gene regulation will be complemented by a series of sessions that will explore the new frontiers in molecular biology. These will present research devoted to the analysis on the global genetic makeup of entire bacterial communities (metagenomics), the application of molecular and computational techniques for the engineering of human-designed biological objects (synthetic biology), and the investigation of the inner working of complex genetic and metabolic networks.

Barcelona will undoubtedly captivate you as a city that pulses with life, a city where the past sits proudly with a contemporary life that is continually changing. As such, Barcelona and the Catalan region make the perfect home for centers of research excellence. There are 400 research groups in life sciences, 12 universities with 32,000 life science students, networks of science parks, plus 5.5 researchers per 1000 inhabitants and a research budget amounting to 1.44 percent of GDP. We hope you have the opportunity to explore the city and region and visit some of the research centers.

The EMBO Meeting 2010 promises a vibrant platform for scientific exchange between leading re-

searchers and young molecular biologists just starting out on their research paths. We are very much looking forward to welcoming you to Barcelona for this exciting conference.

<http://www.the-embo-meeting.org/>

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**8th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2010) at 'Hotel Rodos Palace, Rhodes (Greece)**

**Date: 2010-09-19 to 2010-09-25**

The aim of ICNAAM 2010 is to bring together leading scientists of the international Numerical and Applied Mathematics community and to attract original research papers of very high quality.

<http://www.icnaam.org/>

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**German Conference on Bioinformatics 2010 at Braunschweig (Germany)**

**Date: 2010-09-20 to 2010-09-22**

In 2010 the conference returns to Braunschweig, the European city with the highest share of scientists in the population. It is organised by the Technische Universität Carolo-Wilhelmina on behalf of the German Society of Computer Science (GI) and the German Society of Chemical Technique and Biotechnology (DECHEMA).

Areas of interest at the German Conference on Bioinformatics 2010 are:

- Sequence analysis and comparative genomics
- Transcriptomics, metabolomics, and proteomics
- Metabolic and regulatory networks
- Systems biology
- Structural bioinformatics
- Quantitative genetics
- Small non-coding RNAs
- High-throughput sequencing data
- Visualisation and image analysis

The focus is not limited to specific computational techniques or biological applications. This year's conference particularly invites papers applying bioinformatics to the field of systems biology and biotechnology.

<http://www.gcb2010.de/>  
<mailto:contact@gcb2010.de>

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**Conference on Computational Methods in Systems Biology (CMSB 2010) at Trento (Italy)**

**Date: 2010-09-29 to 2010-10-01**

In cooperation with ACM Association for Computing Machinery.

The 8th Conference on Computational Methods in Systems Biology (CMSB 2010) will be organized in Trento (Italy) by CoSBI (The Microsoft Research - University of Trento Centre for Computational and Systems Biology) on September 29 - October 1, 2010.

CMSB 2010 solicits innovative research papers focussing on the dynamics and on the analysis of biological systems, networks, and data. The Conference brings together computer scientists, biologists, mathematicians, engineers, and physicists interested in a system-level understanding of biological systems. CMSB 2010 invites submissions of both papers and posters covering a broad range of research in systems biology.

Topics of interest include, but are not limited to: original models or paradigms for modelling biological processes together with their application domains; frameworks and techniques for verifying, validating, analyzing, and simulating biological systems; inference from high-throughput experimental data; model integration from biological databases. Contributions on modelling and analysis of relevant biological case studies are especially encouraged.

<http://www.cosbi.eu/cmsb2010/>  
<mailto:cmsb2010@cosbi.eu>

## European Conference on Mathematical and Theoretical Biology 2011 at Kraków, Poland

Date: 2011-06-28 to 2011-07-02

The joint triennial meeting of the European Society for Mathematical and Theoretical Biology and annual meeting of the Society for Mathematical Biology will be held in Kraków, June 28 - July 2, 2011.

Call for abstracts and minisymposia

Minisymposium proposals are solicited. Each minisymposium should be organized in a block of 2 hours, each of which consists of five talks. (Example: One 40-min lecture and four 20-min communications).

We also solicit contributed talks and posters. Titles and abstracts should be submitted via the conference website. All submitted abstracts will be evaluated by the Scientific Committee. Approved talks will either be a 20-min communication or a contributed lecture of 30 or 40 min.

Mentoring program

The ECMTB will offer a mentoring program, which matches junior and senior scientists with similar research interests. Prospective mentees or mentors may sign up via the conference web site or directly via email to the Mentor Scheme Coordinator (Ellen.Brooks-Pollock@lshtm.ac.uk).

Key topics and sections:

- Immunology
- Cancer
- Bio-imaging
- Cellular Systems Biology
- Cell and Tissue Biophysics
- Neurosciences
- Molecular Dynamics
- Medical Physiology
- Regulatory Networks
- Developmental Biology
- Epidemics
- Education
- Conservation Biology
- Bioengineering
- Population Dynamics
- Ecosystems Dynamics
- Evolutionary Ecology

- Population Genetics
- Genetics and Genomics
- Bioinformatics and System Biology
- Miscellaneous

Deadlines:

- Nov. 1, 2010 - Registration opens
- Dec. 1, 2010 - Submission deadline for minisymposium proposals
- Feb. 1, 2011 - Submission deadline for contributed talks and posters
- Feb. 1, 2011 - Hotel reservation starts
- Apr. 15, 2011 - Early registration closes
- June 1, 2011 - Late registration closes

Important information will be released on the following dates:

- Jan. 15, 2011 - Acceptance notification for minisymposia
- March 20, 2011 - Acceptance notification for abstracts
- June 10, 2011 - Programme online

<http://www.impan.pl/~ecmtb11/>

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## Workshops

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**WE-Heraeus Workshop "Uncertainty Visualization in Medical Images" at Jacobs University, Bremen (Germany)**

Date: 2010-08-12 to 2010-08-20

The modeling and simulation of bio-physical and medical processes is a very active and growing field of research at the interface of physics, mathematics, biology and engineering. In many cases the goal is to analyze processes that appear in the progression of diseases or during their treatment. Since there have been enormous improvements in the digitalization of the imaging in medicine during the last years, the number of researchers who study the modeling and simulation in this area is increasing. The models and simulations are able to be efficiently parameterized with the help of digital acquired image data. This leads to a detailed comparison of the results with experimental data. Therefore it is possible to realize short intensive cycles of modeling, simulation and experiment. Furthermore the interaction with physicians and

the preparation of suitable communication tools is an important task for the research in the area of visualization and the human-computer-interaction due to the translation of the investigated models to clinical applications. Particularly big challenges are the enormous data volume, which is generated by simulations and image acquisition devices as well as the communication of measurement errors and uncertainties.

The workshop is in the focus of the ICTS summer program 2010

The workshop will consist of the following three parts

- Uncertainty Visualization (12./13. August 2010)
- Modeling and Simulation of Excitation Waves in Cardiac Tissue (16./17. August)
- Hierarchical Materials and Multiscale-Modeling in Biology (19./20. August)

We invite applications from master students, PhD students, postdocs and colleagues with a background in theoretical physics, chemistry, computer science and mathematics (with an interest in biomedical phenomena) as well as students from life sciences (with an interest in mathematical modeling and visualization).

<http://www.jacobs-university.de/icts/biomedmodvis>

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### **EMBO Workshop: Systems Biology of Development at Ascona (Switzerland)**

**Date: 2010-08-16 to 2010-08-20**

The development of simple multicellular organisms or organs is well suited for a systems biology approach since it is strictly consecutive and the result of more than 600 Mio years of optimization. Moreover, the underlying biological processes are well understood genetically.

The basic framework of the pathways and signalling systems governing the development of multicellular organisms has been delineated by single gene mutational analysis.

This classical developmental genetic approach has, however, fallen short, for the most part, in providing insight into how individual organisms and

organs acquire their specific sizes and shapes based on their individual genome sequences.

This systems biology problem is the next frontier not only in developmental biology but also in medicine. The solution requires new approaches and quantitative techniques derived from flanking disciplines such as physics, computer science, mathematics and engineering.

The goal of this conference is to bring together people from different disciplines to discuss the first progress in systems level approaches to developmental systems and to define the necessary tools required in the future.

#### Topics

- Modelling of morphogen gradients
- Physical forces on developing cells
- Quantitative approaches to cell signalling
- Omics approaches in development
- Systems genetics of development

<http://cwp.embo.org/w10-25/>

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## Schools

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### **European Summer School in Industrial Mathematics (ESSIM) at Università degli Studi di Milano (Italy)**

**Date: 2010-08-29 to 2010-09-12**

The objective of the ESSIM Summer School is to confront Mathematics students with problems coming from Industry, where Industry is intended in a broad sense including Engineering, Material Sciences, Aeronautic, Biotechnologies, Optimization of industrial processes, Transports, Services and several other fields wherein industrial sector operates. The Summer school is organized mainly for second cycle (master) students. Particularly brilliant students at the bachelor level and also a small amount of PhD students, at the beginning of their PhD studies, can be admitted.

The Summer School is part of the international master programmes developed in the framework of the Erasmus Curriculum Development project ECMIMM. The main activities consist in solving industrial problems suitable for mathematical modelling, performed in multi-national teams.

These projects will be provided by instructors from universities which are partners in the European Consortium for Mathematics in Industry (ECMI). The problems are chosen from the portfolio of industrial and commercial projects which the instructors or their institutions are currently involved in, thereby exposing the students to real world problems of production, technological or social interest.

The training will be conducted in a two-week School, where the first week will be dedicated to a preparatory school, consisting in 4 short courses on Mathematics useful for applications, each course will end with a seminar, held by an industrial speaker, showing the relevance of the mathematical subjects explained during the course to solve industrial problems and exposing the students to up to date European experiences of collaboration between Academy and Industry. Each student will have to follow 2 over 4 courses offered. All students will attend the industrial seminars. At the end of the first week the students will be evaluated with a written test.

The preparatory phase will be followed by a second week of team-based project work on specific problems coming from "Industry". The project work will mimic the problem solving approaches used in industry, with emphasis on mathematical modelling as a tool for innovations leading to improved products, manufacturing procedures, biotechnologies, optimized processes or services. Students collaboration and communication skills will also be trained. The projects will be concluded by oral presentations (on the last day of the ESSIM School) and written reports (deadline two months after ESSIM).

The expected outcome is to provide awareness of the students to take up mathematical modelling as a tool for innovation in improving RD procedures in "Industry".

<https://sites.google.com/site/essimmilan/home/>  
<mailto:ecmi.milan@gmail.com>

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## Open Positions

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**Research Fellow in Mathematical Neuroscience/Computational Biology at University of Warwick, UK**

**Deadline for applications: 2010-08-24**

Fixed Term Contract for 3 years with start date 1 February 2011

You will work on a project funded by the BBSRC that aims to investigate the role of calcium dynamics in neuronal computation underlying important brain functions. The project will be led by Dr Y Timofeeva and run in collaboration with experimentalists at Oxford and Cambridge.

Your working environment will be at the Warwick Centre for Complexity Science (<http://go.warwick.ac.uk/complexity>).

You should have a PhD, or equivalent, in applied mathematics/theoretical physics or a related discipline and a strong interest in mathematical and/or computational biology. Programming skills and previous experience of research in theoretical/computational neuroscience or computational biology are highly desirable. Some knowledge of reaction-diffusion systems would be an advantage.

*Please contact:*

<https://secure.admin.warwick.ac.uk/webjobs/jobs/research/job18693.html>

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**Postdoctoral Researchers at Max-Planck Institute for Evolutionary Biology, Plön (Germany)**

**Deadline for applications: 2010-08-30**

In the Evolutionary Theory Group at the Max-Planck Institute for Evolutionary Biology in Plön, we have several openings (2-3 years) for Postdoctoral Researchers.

Specific research projects are flexible and can be adjusted to the interests of the applicant, but should fall into the broad area of evolutionary theory. So far, our main research interests range from evolutionary game theory to the evolution-

ary dynamics of blood disorders, but also include population genetics and cultural evolution.

Requirements for the position include a record of self-motivated research (supported by peer-reviewed publications), a PhD in theoretical biology, applied mathematics, theoretical physics or a related area, excellent analytical and numerical skills and a strong interest in evolutionary biology.

The postdoctoral fellowships provide a competitive annual stipend. Start date and term are negotiable. Highly motivated applicants of any nationality are encouraged to email (i) a statement of research interests (ii) CV and (iii) two letters of reference to [traulsen@evolbio.mpg.de](mailto:traulsen@evolbio.mpg.de). Screening of applications will start on August 30th.

The Max-Planck Institute for Evolutionary Biology is located in Plön, a small town in a beautiful lake area with all the amenities of a touristically active region. The Baltic Sea and the major university cities Kiel and Lübeck are only 30 minutes away. The working language at the institute is English.

The Max-Planck-Society is an equal opportunity employer, and is very interested in raising the proportion of women in areas they are underrepresented. Thus applications from female scientists are especially encouraged.

*Please contact: [traulsen@evolbio.mpg.de](mailto:traulsen@evolbio.mpg.de)*