

ESMTB Infoletter

July 2008



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.

Best regards, Andreas Deutsch
Dresden, 15th of July 2008

Conferences

ISPOR 3rd Asia-Pacific Conference at Seoul, South Korea

Date: 2008-09-07 to 2008-09-09

Please see website for more information.

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

5th European Conference on Complex Systems at Jerusalem, Israel

Date: 2008-09-10 to 2008-09-19

We are organizing in Jerusalem 10-19 September 2008 a cluster of scientific events spanning complexity science. The Central events are the 5th European Conference on Complex Systems (ECCS September 14-19) and the 4th European Complexity PhD School (September 10-14). A number of very high level topical events will take place with the same occasion. The details of all these events can be found on the website. The Complexity School is free of charge (but requires registration). Limited support will be available for the ECCS participants.

<http://www.jeruccs2008.org/>

Centenary Symposium on Mathematical and Statistical Modelling in Medicine and Health Science at Queen's University, Belfast

Date: 2008-10-28 to 2008-10-28

The meeting is aimed at bringing together established and young mathematicians working in Mathematical Medicine and Health Science to share new ideas and discuss future directions in this rapidly growing discipline. A wide variety of topics including Cancer Modelling and Treatment, Infectious Diseases and Immunity and Applied Statistics in Health Science will be represented.

The registration fee is £15 and payable on the day. Limited funds provided by the LMS are available to help with the travel costs of students attending the event.

Research students and post-docs in particular are encouraged to contribute talks and should contact Dr Francesca O'Rourke for further information.

<http://web.am.qub.ac.uk/mshs08/>
<mailto:s.orourke@qub.ac.uk>

Pacific Symposium on Biocomputing at Fairmont Orchid on the Big Island of Hawaii

Date: 2009-01-05 to 2009-01-09

You are cordially invited to submit papers or abstracts that will address multi-scale modeling activities that will encompass at least two physiological scales (from proteins, cells, tissues, organs, up to the whole-organism level). This year we

will also have a specific focus on mechanistic (i.e. biophysics-based) patient-specific modeling crossing different scales. Patient-specific modeling from a biophysical base would not only provide predictions of specific therapies or surgical interventions, but also insight into the degree of success or failure. To rely on the predictive capabilities of these types of models, efficient methods and computational tools are of the utmost importance.

This session aims to foster the interactive environment for researchers working on different scales of biological problems, so that more collaborations and activities to bridge multi-scales will be initiated.

More on the session topics and submissions can be found at <http://psb.stanford.edu/cfp-multiscale.html> This special session is being co-organized by members of the NIH funded National Biomedical Computing Resource at the University of California San Diego and the NIH Center for Biomedical Computation at Stanford.

<http://psb.stanford.edu/cfp-multiscale.html>
<mailto:roy@bioeng.ucsd.edu>

Fourth Biennial Conference of the International Biogeography Society at Merida, Mexico

Date: 2009-01-08 to 2009-01-12

Invited symposia will feature talks on the biogeography of disease, patterns and processes in biotic interchanges, disjunct distributions in Asia and America, and the biogeography of species extinction. Attendees are invited to submit abstracts for oral and poster presentations. The conference will also include workshops, field excursions, and social events.

Registration, contact, and additional information may be found at: <http://www.biogeography.org>.

<http://www.biogeography.org>

ICCS 2009 - International Conference on Computational Science at Baton Rouge, USA

Date: 2009-05-25 to 2009-05-27

The ICCS conference is the prime annual event in Computational Science. This interdisciplinary conference will draw academic and industry leaders from a variety of fields. The conference also will host computer and computational scientists who are designing and building the cyberinfrastructure necessary for next-generation computing. Discussions will focus on innovative ways to collaborate and how computational science is changing the future of research.

"ICCS 2009: Compute, Discover, Innovate" is hosted by the Center for Computation & Technology at Louisiana State University in Baton Rouge, Louisiana, U.S.A.

Thematic workshops organized by an expert in a particular area constitute the core of the conference.

<http://www.iccs-meeting.org/iccs2009>

Open Positions

Development of an individual cell-based model of cell aggregates in bone tissue engineering at K.U.Leuven, Belgium

Deadline for applications: 2008-07-30

The Divisions MeBioS (Mechatronics, Biostatistics and Sensors) and BMGO (Biomechanics and Engineering Design) of the K.U.Leuven are offering a four year scholarship in computational cell biology.

Computational biology and tissue engineering Progress in the biosciences will increasingly depend on deep and broad integration of mathematical analysis into studies at all levels of biological organization. All levels of organization offer attractive opportunities for mathematical applications, from biomolecules, individual cells, tissue, organ and whole organisms to large ecosystems. Individual cell-based models (IBMs, also called agent-based models) use explicit representations of individual

cells to model the organisation of multi-cellular aggregates. Two approaches in individual cell-based modelling can be distinguished. In the first approach, the cellular automaton models, each cell is represented either by one or by many lattice sites. In the second approach, the off-lattice models, cells are modelled as deformable particles. Off-lattice models permit to include experimental information on different spatial and temporal scales. Considerable experience in working with offlattice models for the simulation of active particles is present at MeBioS. In this respect, the general purpose software platform DEMETER has been developed in C++.

Tasks

- development of an off-lattice random-walk model which enables to incorporate various cellcell and cell-matrix interactions, as well as the influence of mechanical and biological stimuli in order to model the in vitro behaviour of cell aggregates.
- validation of the theoretical behaviour of these cell aggregates generated by computer simulations

of the discrete model with in vitro experiments (in collaboration with the divisions of Rheumatology and Endocrinology at the university hospital).

- application of the models to broaden state of the art insight in the design of in vitro experiments and their tissue engineering applications
- preparation of a PhD in the above mentioned subject.
- Publication of the results in leading international journals

Requirements

- Master Degree in Engineering (Biological, Biomechanical, Chemical, Biosystems,..) , Master Degree in Physics, Mathematics, Chemistry or Biology with an affinity for computational biology
- Active interest in life science applications and computational cell biology
- Ability to operate in an international, interdisciplinary research team
- Be fluent in oral and written English.

Please contact: herman.ramon@biw.kuleuven.be