The 9th International Conference on Computational Methods in Systems Biology (CMSB 2011) is organized by Inria at Institut Henri Poincaré, 11 rue Pierre et Marie Curie, 75005 Paris, France, on September 21-23, 2011.

The HiBi workshop on High-Performance Computational Biology is merged in CMSB. The HiBi track is composed of the High Performance computing session plus a few papers in other sessions.

Wednesday, September 21, 2011

13.00-13.50	*Registration*
13.50-14.00	**Welcome address: François Fages**
14.00-15.00	**Invited talk: Denis Thieffry.** *Logical modelling of haematopoietic cell fate decision.*
15.00-15.30	**Student best paper award talk:** Jimmy Omony, Astrid R. Mach-Aigner, Leo H. De Graaff, Gerrit Van Straten and Anton J.B. Van Boxtel. *Evaluation of design strategies for time course experiments in genetic networks: the XlnR regulon in Aspergillus niger*
15.30-16.00	**Coffee break**

Stochastic models session - Chair Jérôme Féret

16.00-16.30	Sucheendra K. Palaniappan, S. Akshay, Blaise Genest and P.S. Thiagarajan. *A Hybrid Factored Frontier Algorithm for Dynamic Bayesian Network models of Biopathways*
16.30-17.00	Alessio Angius and Andras Horvath. *Analysis of stochastic reaction networks with Markov reward models*
17.00-17.30	Jacques Demongeot and Sylvain Sené. *The singular power of the environment on stochastic nonlinear threshold Boolean automata networks*

Thursday, September 22, 2011

9.00-10.00	**Invited talk: Pedro Mendes.** *Kinetic modelling of large-scale metabolic networks.*
10.00-10.30	**Coffee break**

High performance computing session - Chair Tommaso Mazza

10.30-11.00	Diego Darriba, Guillermo L. Taboada, Ramón Doallo and David Posada. *HPC selection of models of DNA substitution*
11.00-11.30	Martin Falk, Michael Klann, Michael Ott, Heinz Koeppl and Thomas Ertl. *Parallelized Agent-based Simulation on CPU and Graphics Hardware for Spatial and Stochastic Models in Biology*
11.30-12.00	Hiroyuki Kuwahara and Xin Gao. *An Efficient Parallel Stochastic Simulation Method for Analysis of Nonviral Gene Delivery Systems*
12.00-12.30	Irene Sánchez-Linares, Horacio Pérez-Sánchez, Ginés D. Guerrero, José M. Cecilia and José M. García. *Accelerating multiple target drug screening on GPUs*
12.30-14.00	**Lunch break**
14.00-14.30	**Nvidia best paper award talk:** Eugen Czeizler, Vladimir Rogojin and Ion Petre. *The phosphorylation of the heat shock factor as a modulator for the heat shock response*

Simulation session - Chair Adelinde Uhrmacher

14.30-15.00	Ezio Bartocci, Elizabeth M. Cherry, James Glimm, Radu Grosu, Scott A. Smolka and Flavio Fenton. *Toward Real-time Simulation of Cardiac Dynamics*
15.00-15.30	Xuefeng Gao, Sabin Tabirca and Mark Tangney. *Computer Simulation of Salmonella typhimurium Accumulation within Tumors*
15.30-16.00	**Coffee break**

Discrete models session - Chair Olivier Roux

16.00-16.30	Hannes Klarner, Heike Siebert and Alexander Bockmayr. *Parameter inference for asynchronous logical networks using discrete time series*
16.30-17.00	Luca Cardelli and Cosimo Laneve. *Reversible Structures*
18.30-21.00	**Social dinner cruise** - *On Captain Fracasse, Île aux cygnes, metro Bir Hakeim*

Friday, September 23, 2011

9.00-10.00	**Invited talk: Thomas Henzinger.** *Propagation Models for Computing Biochemical Reaction Networks*
10.00-10.30	**Coffee break**

Spatial models session - Chair Monika Heiner

10.30-11.00	Mark Burkitt, Dawn Walker, Daniela Romano and Alireza Fazeli. *Modelling Sperm Behaviour in a 3D Environment*
11.00-11.30	Abhishek Murthy, Ezio Bartocci, Flavio Fenton, James Glimm, Scott Smolka and Radu Grosu. *Towards Wave Curvature based Prediction of Onset of Atrial Fibrillation*
11.30-12.00	Arne T. Bittig, Fiete Haack, Carsten Maus and Adelinde M. Uhrmacher. *Adapting Rule-based Model Descriptions for Simulating in Continuous and Hybrid Space*
12.00-12.30	Gordon Plotkin and Nicolas Oury. *Coloured Stochastic Multi-Level Multiset Rewriting*
12.30-14.00	**Lunch break**

Multi-scale models session - Chair Gordon Plotkin

14.00-14.30	Nicola Paoletti, Pietro Liò, Emanuela Merelli and Marco Viceconti. *Osteoporosis: a multiscale modeling viewpoint*
14.30-15.00	Andrea Degasperi and Muffy Calder. *Multi-Scale Modelling of Biological Systems in Process Algebra with Multi-Way Synchronisation*
15.00-15.30	Qian Gao, Fei Liu, David Gilbert, Monika Heiner and David Tree. *A Multiscale Approach to Modelling Planar Cell Polarity in Drosophila Wing using Hierarchically Coloured Petri Nets*
15.30-15.45	**Closing remarks**
15.45-16.30	*Steering committee meeting*

Invited talks

Thomas Henzinger - IST, Austria
Pedro Mendes - University of Manchester, UK
Denis Thieffry - Ecole Normale Supérieure, Paris, France

Program committee

François Fages, Chair	Inria Paris - Rocquencourt, France
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