2015 Sino-German Workshop on
Multiscale spatial computational systems biology
The Sino-German Workshop on “Multiscale spatial computational systems biology” (MSCSB2015) funded by The Sino-German Center for Research Promotion (Grant no. GZ1203) will be held in Beijing, China on October 8-12, 2015. The MSCSB2015 is jointly held by Harbin Institute of Technology and Brandenburg Technical University Cottbus – Senftenberg.

Coordinates

A. Prof. PhD Dr. rer. nat., Fei Liu (Chinese coordinate), Control and simulation center, Harbin Institute of Technology

Prof. Dr.-Ing, Monika Heiner (German coordinate), Computer Science, Brandenburg Technical University (BTU) Cottbus – Senftenberg

Date

Arrival date: 8th Oct. 2015

Meeting date: 16:00 8th Oct. 2015 to 18:00 10th Oct. 2015

Excursion date: 11th Oct. 2015

Departure date: 12th Oct. 2015
Thursday - 8th October 2015

16:00 – 18:00 Welcome and General Introduction

All sessions will take place at
Sino-German Science Center
Shuangqing Road 63
Beijing 100085

Hotel address
Holiday Inn Beijing Haidian
Building A, No. 89 Shuangqing Road, Haidian District,
Beijing 100085, P.R.China
SESSION 1:
Session chair: Fei Liu
8:30 – 9:00  Adelinde Uhrmacher, David Gilbert, Future - Trends - Open Issues in Systems Biology, Position Statements;
9:00 – 9:30  M. Adelinde Uhrmacher, The role of languages in spatial, multi-level modeling and simulation
9:00 – 10:00 Ziding Zhang, Understanding Plant Immunity through Integrative Network Analysis

10:00 – 10:30 Coffee break

SESSION 2:
Session chair: Monika Heiner
10:30 – 11:00 Rui Jiang, Identification of disease-causing single nucleotide variants in exome sequencing studies
11:00 – 11:30 Christian Klukas, New approaches for analyzing multi-channel image data and post-processing of phenotypic data
11:30 – 12:00 Björn Sommer, Immersive Cell Exploration and Membrane Modeling

12:00 – 14:00 Lunch

SESSION 3:
Session chair: Taijiao Jiang
14:00 – 14:30 Monika Heiner, From Petri Nets to Partial Differential Equations
14:30 – 15:00 Fei Liu, Colored Petri nets for multiscale systems biology
15:00 – 15:30 Mary-Ann Blätke, A Framework for Modular Biomodel Engineering

15:30 – 16:00 Coffee break

SESSION 4:
Session chair: David Gilbert
16:00 – 16:30 Gang Guo, Monte Carlo simulation of anomalous diffusion and its accuracy analysis
16:30 – 17:00 Jens Krüger, Molecular Simulations using Workflows and Science Gateways y
17:00 – 17:30 Zujian Wu, An integrated qualitative and quantitative biochemical model learning framework using evolutionary methodologies

17:30 – 18:00 Discussion
SESSION 5:
Session chair: Ziding Zhang
8:30 – 9:00 Ming Chen, Future - Trends - Open Issues in Systems Biology, Position Statement;
9:00 – 9:30 Benjamin Kormeier, Visualization of biological networks based on a data warehouse
9:30 –10:00 David Gilbert, Model checking for multiscale biological systems

10:00 – 10:30 Coffee break

SESSION 6:
Session chair: Heinz Koeppl
10:30 – 11:00 Dechang Xu, Design & Simulation of Synthetic BioSensor for Dioxion
11:00 – 11:30 Fiete Haack, Exploring the spatio-temporal dynamics of WNT/Beta-Catenin Signaling in-silico and in-vitro
11:30 –12:00 Ming Chen, Genome-wide multilevel spatial interactome model of rice
12:00 – 12:30 Hoehme, Stefan, Multiscale modeling of liver regeneration

12:30 – 14:00 Lunch

SESSION 7:
Session chair: M. Adelinde Uhrmacher
14:00 – 14:30 Xin Lai, Mathematical modelling of the communication between alveolar macrophages and epithelial cells during Legionella pneumophila infection
14:30 – 15:00 Thomas Buder, Mathematical model for pilocytic astrocytoma growth and progression provides clinical decision support
15:00 – 15:30 Taijiao Jiang, Modeling influenza virus evolution in big data era

15:30 – 16:00 Coffee break

SESSION 8:
Session chair: Ming Chen
16:00 – 16:30 Heinz Koeppl, Stochastic multi-scale models of biomolecular networks
16:30 – 17:00 Herajy Mostafa, Efficient Simulation of Hybrid Petri Nets
17:00 – 17:30 Fangting Li, The cell cycle model in budding yeast

17:30 –18:30 Wrap-up, Discussion, Future cooperation between China and Germany