

PROGRAM

S B M C 2 0 0 8

[SBMC
2008]

Conference
on Systems Biology
of Mammalian Cells

► THURSDAY, 22nd MAY 2008

09.00 – 14.00	REGISTRATION AT THE KULTURPALAST DRESDEN WORKSHOP FOR INDUSTRY
12.30 – 13.00	Buffet in the Kulturpalast [Convention Center]
13.00 – 13.20	WELCOME Dr. Peter Lange, Ministry of Education and Research, Germany
13.20 – 13.40	HEPATOSYS - PROGRAM AND MISSION Jens Timmer / Freiburg, Germany
13.40 – 14.00	OPENING SPEECH Marino Zerial / Dresden, Germany
○ SESSION	New theoretical approaches and cutting edge technologies Chaired by Jens Timmer
14.00	• Governance of cell behavioral responses by signaling networks Douglas Lauffenburger / Cambridge, USA
14.30	• Short talk HepatoNet - progress towards a stoichiometric metabolic model of human hepatocytes Christan Bölling / Berlin, Germany
14.45	• Cardiac arrhythmias - from simple models to the clinic Leon Glass / Montreal, Canada
15.15	• Short talk New approaches to study dynamic behaviour of chemical reaction systems via stoichiometric network analysis Mirela Domijan / Warwick, UK
15.30 – 16.00	Coffee break & exposition
16.00	• Systems Biology: Network of networks Ruedi Aebersold / Zürich, Switzerland
16.30	• Short talk A new clock-and-gradient mechanism self-organizes the somitogenesis wavefront Lutz Brusch / Dresden, Germany
16.45	• Single-molecule kinetic analysis of cell signaling reactions Yasushi Sako / Wako, Japan
17.15	• Short talk A novel view on stem cell development: Analysing the shape of cellular genealogies Ingmar Glauche / Leipzig, Germany
17.30	• The dynamics of eukaryotic cell cycle control Bela Novak / Oxford, UK
18.00	• Short talk Towards an understanding of the dynamics of exit sites in the endoplasmic reticulum Matthias Weiss / Heidelberg, Germany
18.15 – 20.00	Poster session (beer and pretzels)
20.00	Barbecue at the DHMD - Museum [music]

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○ SESSION	Signaling Networks Chaired by Ursula Klingmüller
09.00	• Signal processing in the TGF-beta superfamily ligand-receptor network Jose M. G. Vilar / New York, USA
09.30	• Short talk MicroRNAs in mammalian regulatory networks Carsten Marr / Munich, Germany
09.45	• Switch-like response of ErbB receptor network drives cell differentiation Mariko Hatakeyama / Yokohama, Japan
10.15	• Short talk Stoichiometry of signaling components and feedback regulation shape signal transduction through the PI3K/Akt pathway Carlos Salazar / Heidelberg, Germany
10.30	• Spatial organization of growth factor signaling Philippe Bastiaens / Dortmund, Germany
11.00 – 11.30	Coffee break & exposition
11.30	• Combining quantitative biochemistry, microscopy and systems modeling to understand apoptotic signaling Markus Rehm / Dublin, Ireland
12.00	• Modeling the mammalian circadian clock Hanspeter Herzel / Berlin, Germany
12.30 – 13.30	Lunch
○ MTZ-Foundation Award	
13.30	► Presentation of MTZ Award
13.45	• Talk of Award Nominee How does the MAPK signalling pathway reliably control gene expression? Nils Blüthgen / Manchester, UK
14.00	• Talk of Award Nominee A Systems Science View on Cell Death Signalling Thomas Eiβing / Leverkusen, Germany
14.15	• Talk of Award Nominee Modular Analysis of Signal Transduction Networks Julio Saez-Rodriguez / Boston, USA
14.15 – 14.45	Coffee break & exposition
14.45	• Assignment to the 3 best German theses in Systems Biology

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◎ SESSION *Self-organization and collective phenomena* | Chaired by *Marino Zerial*

- 15.15 • **Mitochondria and cell cycle control** | Jennifer Lippincott-Schwartz / Bethesda, USA
- 15.45 • Short talk | Self-organization of dynein motors and microtubules generates meiotic nuclear oscillations | Tolic-Norrelykke / Dresden, Germany
- 16.00 • **Molecular basis of cell motility: reconstitution of auto-organized motile processes** | Marie-France Carlier / Gif-sur-Yvette, France

◎ SESSION *Developmental Pattern Formation* | Chaired by *Andreas Deutsch*

- 16.30 • **Morphogen gradients** | Frank Juelicher / Dresden, Germany
- 17.00 • Short talk | Her genes and the stability of the zebrafish segmentation clock | Christian Schröter / Dresden, Germany
- 17.15 • **A Systems Biology approach to study vertebrate axis pattern** | Olivier Pourquie / Kansas City, USA
- 17.45 • **From subcellular dynamics to tissue organization** | Stan Maree / Utrecht, Netherlands
- 18.15 • Short talk | Modelling pluripotency gene interaction | Kumar Vetharanim / Hamilton, NZ
- 18.30 • **Mechanics of morphogenetic tissue movements** | Darren Gilmour / Heidelberg, Germany
- 19.30-22.00 *Conference dinner (boat trip)*

► SATURDAY, 24th MAY 2008

◎ SESSION *Biomedicine* | Chaired by *Hermann-Georg Holzhütter*

- 09.00 • **Combining high content analysis with traditional methods to understand adverse TGF-beta signaling in chronic liver disease** | Steven Dooley / Mannheim, Germany
- 09.30 • Short talk | Data-based in silico prediction of bioavailability of erythropoietin derivatives | Verena Becker / Heidelberg, Germany
- 09.45 • **Deducing the unseen: the hidden side of Systems Biology** | Jaroslav Stark / London, UK
- 10.15 • Short talk | Two-compartment model of ammonia detoxification in the liver | Sebastian Zellmer / Leipzig, Germany
- 10.30 – 11.00 *Coffee break & exposition*
- 11.00 • **Modeling the aberrant signaling of the Ras oncogene** | Edward Shtes / Charlottesville, USA
- 11.30 • Short talk | Unraveling transformation patterns in cancer hepatocytes using high-throughput protein activity-based profiling | Leonidas Alexopoulos / Boston, USA
- 11.45 • **To kill or not to kill: the interplay of apoptosis, autophagy and pro-survival signaling pathways** | Roland Eils / Heidelberg, Germany
- 12.15 • Short talk | Using drug combinations to construct regulatory models of signaling in cancer cells | Sven Nelander / Göteborg, Sweden
- 12.30 • **Systems Biology and multifactorial disease: How to target the networks** | Hans Westerhoff / Manchester, UK & Amsterdam, Netherlands
- 13.00 ► **CLOSING SPEECH** | Marino Zerial / Dresden, Germany
- 13.15 *Lunch packet*