
EMBO YIP Symposium on Quantitative Biology
24 – 26 June 2005
EMBL, Heidelberg, Germany

Friday, 24 June 2005



14:00 Registration
14:50 Welcome
15:00 – 16:00 **Keynote Lecture:** Jim Ferrell (Stanford University) - Dissecting the cell cycle oscillator

Session 1: Getting the numbers right

Chair: Blanche Schwappach



16:00 – 16:30 Michael Princiotta (NIAID, Bethesda) - Quantitating protein synthesis, degradation and endogenous antigen processing
16:30 – 17:00 **Coffee Break**
17:00 – 17:30 Dan Larson (Albert Einstein College of Medicine, New York) – Following retrovirus assembly from single molecules to macromolecular complexes
17:30 – 18:00 Ernst Stelzer (EMBL, Heidelberg) -
18:00 – 18:30 Ruedi Aebersold (Institute for Systems Biology, Seattle) - Quantitative proteomics and systems biology
18:30 – 19:00 Matthias Weiss (University of Southern Denmark, Odense) - Protein dynamics in vivo - from microscopy to models
19:00 **Dinner**
20:00 Mixer / Aperitif / meet the speakers
Discussion of a model that generates nonidentical compartments in vesicular transport systems. Participants: Reinhart Heinrich, Markus Kirkilionis, Thomas Kuner, Blanche Schwappach, Matthias Seedorf, Christian Ungermann and Matthias Weiss.

Saturday, 25 June 2005

Session 2: A world of different affinities

Chair: Axel Behrens



09:30 – 10:00 Andrea Musacchio (European Institute of Oncology, Milan) – In vitro protein dynamics
10:00 – 10:30 John Ladbury (University College London) - Investigation of specificity in tyrosine kinase-mediated signaling
10:30 – 11:00 **Coffee Break**
11:00 – 11:30 Alan Davidson (University of Toronto) - The importance of protein-protein interaction affinity in controlling biological responses: quantitative *in vitro* and *in vivo* studies
11:30 – 12:00 Sarah Teichmann (MRC-LMB, Cambridge) - Evolution of protein interactions in networks and complexes
12:00 – 12:30 Eric Karsenti (EMBL, Heidelberg) - Reaction-diffusion processes and mitotic spindle self-organization



Session 3: Dealing with time and space

Chair: Pascal Meier

14:00 – 14:30 Roland Eils (Heidelberg University) - Computational imaging for quantitative biology



	14:30 – 15:00	Boris Kholodenko (Thomas Jefferson University, USA) - Receptor tyrosine kinase signaling in time and space
	15:00 – 15:30	Victor Sourjik (ZMBH, Heidelberg) – Quantitative analysis of signal transduction in bacterial chemotaxis
	15:30 – 16:00	Coffee Break
	16:00 – 16:30	Ulrich Schwarz (MPI, Potsdam) - Forceful signaling: active mechanosensing through focal adhesions
	16:30 – 17:00	Ursula Klingmüller (DKFZ, Heidelberg) – Generation of quantitative data for the demands of systems biology
	17:00 – 17:30	Philippe Bastiaens (EMBL, Heidelberg) - Approaches to sample the spatial organisation of cellular signalling networks
	17:30 – 18:30	Discubssion Session – Education in quantitative biology
	18:45	Dinner
	19:45 – 21:15	Round Table – meet the speakers

Sunday, 26 June 2005

Session 4: Putting it all together

Chair: Helle Ulrich

	09:00 – 09:30	Bela Novak (Hungarian Academy of Sciences, Budapest) - The eukaryotic cell cycle: molecules, mechanisms and mathematical models
	09:30 – 10:00	Dirk Görlich (ZMBH, Heidelberg) -
	10:00 – 10:30	Roland Wedlich-Soldner (Harvard Medical School, Boston) - Robust Cell polarity is a dynamic state established by coupling transport and GTPase signaling
	10:30 – 11:00	Coffee Break
	11:00 – 11:30	Reinhart Heinrich (Humboldt University, Berlin) – Dynamics and design of metabolic networks and signalling pathways
	11:30 – 12:00	Daniel Davis (Imperial College London) – Intercellular communication by patterning of the immunological synapse
	12:00 – 12:30	Lars Jensen (EMBL, Heidelberg) - Modeling the dynamic assembly of cell cycle complexes from high-throughput data
	12:30	Lunch Conference ends and departure