

**30th Annual Meeting of the German Society for Cell Biology (DGZ)
March 14-17, 2007, Frankfurt/Main**

WEDNESDAY, MARCH 14, 2007

12:00 Registration

14:00 Opening

Carl Zeiss Lecture

Manfred Schliwa (Munich): *Molecular Motors: Faster than the Speed of Sound*

15:30 – 16:30 DGZ Award Presentations

Walther Flemming Medaille

Thomas U. Mayer (Martinsried): *XErp1, a novel APC/C inhibitor that puts the meiotic cell cycle on hold*

Binder Innovationspreis

Jan-Michael Peters (Vienna): *Regulation of sister chromatid cohesion in mammalian cells*

Werner Risau Preis

Karina Yaniv (Bethesda)

16:30 – 16:45 Break

16:45 – 19:45 Symposium S1: Cellular/Molecular Bases of Ageing

Chair: Jochen Walter (Bonn)

16:45 Christian Behl (Mainz): *Cellular Ageing and Alzheimer's disease*

17:15 Jochen Walter (Bonn): *Control of β -amyloid generation by protein trafficking*

17:45 Lenhard Rudolph (Hannover): *DNA damage checkpoints limit stem cell function, organ homeostasis and survival in response to telomere dysfunction*

18:15 Break

18:45 Ralf Baumeister (Freiburg): *The genetics of ageing and age-related disorders: C. elegans systems biology models*

19:15 Michael Hoch (Bonn): *Steppke, a novel and essential component of insulin signalling-dependent growth and ageing in Drosophila*

19:45 Get Together

THURSDAY, MARCH 15, 2007

9:00 – 12:00 Symposium S2: Quality Control of Macromolecules

Chair: Ivan Dikic (Frankfurt)

9:00 Werner Kühlbrandt (Frankfurt): *Cryo-EM and X-ray crystallography as complementary methods to study membrane protein complexes*

9:45 Nenad Ban (Zurich): *Structural basis of fatty acid synthesis in eukaryotes catalysed by giant multienzyme complexes*

10:30 Break

11:00 Thomas Sommer (Berlin): *Protein quality in the endoplasmic reticulum is linked to protein dislocation*

11:30 Ivan Dikic (Frankfurt): *Ubiquitin signaling networks*

9:00 – 12:00 Symposium S3: Long Range Transport Systems

Chair: Gero Steinberg (Marburg)

9:00 Eva-Maria Mandelkow (Hamburg): *Axonal transport and disease*

9:30 Vladimir Gelfand (Chicago): *Bidirectional motility in melanophores and Drosophila*

10:00 Joel Rosenbaum (New Haven): *Intraflagellar Transport: Movement of flagellar membrane and axonemal proteins*

10:30 Break

- 11:00 Anne Mie Emons (Wageningen): *Cytoskeleton and transport in plant root hairs*
- 11:30 Gero Steinberg (Marburg): *Endosome transport in growth of fungal hyphae*
- 12:00 Lunch
- 13:00 – 15:00 Poster Session I**
- 14:00 – 15:00 Tutorials**
- Leica Mikrosysteme Vertrieb GmbH**
- Dr. Werner Knebel (Application Manager Leica Microsystems): *Innovation in Confocal Microscopy, Leica TCS SP5*
- Prof. Stephan Sigrist (Institut für Klinische Neurobiologie, Universitätsklinikum Würzburg): *Using STED microscopy to probe synapse architecture*
- Nikon GmbH**
- Keep Cells Happy: Solutions for Maximum Cell Care during Time Lapse and High Speed Monitoring
- Dr. Sundeep Bhandari: *Time-Lapse microscope built in CO2 Incubator: BioStation allows Monitoring of Life Cells under Optimum Conditions*
- Dr. Klaus Nettesheim: *Strategies for Confocal Live Cell Imaging: Observation of living cells without killing them*
- 15:30 – 18:30 Minisymposium MS1: MicroRNA**
Chair: Helge Großhans (Basel)
- 15:30 Helge Großhans (Basel): *MicroRNA function in animal development*
- 16:00 Robert Martienssen (Cold Spring Harbor): *Small RNAs in chromatin and plant development*
- 16:30 Ramin Shiekhattar (Philadelphia): *Biogenesis and mechanism of action of microRNAs*
- 17:00 Break
- 17:30 Angelika Kuehbacher (Frankfurt): *Role of microRNA-regulating enzymes Dicer and Drosha for endothelial cell biology* (short talk: MS1-1)
- 17:50 Gunter Meister (Martinsried): *Proteomic analysis of human Argonaute complexes* (short talk)
- 18:10 Claudia Kutter (Basel): *Mouths in place: miRNA-mediated regulation of epidermal cell patterning* (short talk)
- 15:30 – 18:30 Minisymposium MS2: Structural Dynamics of Organelles**
Chair: Benedikt Westermann (Bayreuth)
- 15:30 Benedikt Westermann (Bayreuth): *Dynamics of cellular membranes*
- 16:00 Jürgen Soll (Munich): *Protein import into chloroplasts and its complex regulation*
- 16:30 Jean Claude Martinou (Geneva): *Apoptosis: Confusing the mitochondria*
- 17:00 Break
- 17:30 Karin Busch (Frankfurt): *The exchange of respiratory chain Complex I between dynamic mitochondria* (short talk: MS2-3)
- 17:50 Harald Platta (Bochum): *Functional role of ubiquitination in the receptor cycle of the peroxisomal targeting signal-type 1 receptor Pex5p* (short talk: MS2-7)
- 18:10 Michaela Poeter (Muenster): *Annexin A8 affects the organization of multivesicular late endosomes* (short talk: MS2-8)
- 15:30 – 18:00 Minisymposium MS3: Gases as Signalling Molecules**
Chair: Michael A. Marletta (Berkeley)
- 15:30 Michael Marletta (Berkeley): *Signaling selectively with gases*
- 16:00 Heribert Hirt (Vienna): *Gases and MAP kinase signaling in plants*
- 16:30 Gary Roberts (Madison): *Prokaryotic CO sensing*

- 17:00 Break
- 17:30 Ingrid Fleming (Frankfurt): *Regulation of endothelial NO synthase function* (short talk)
- 15:30 – 18:30 Minisymposium MS4: Molecular and Functional Organization of the Postsynaptic Scaffold at Central Nervous Synapses**
Chair: Eckart Gundelfinger (Magdeburg)
- 15:30 Monica DiLuca (Milano): *Signal transduction in the postsynaptic density of excitatory synapses*
- 16:00 Michael R. Kreutz (Magdeburg): *Molecular dynamics of the postsynaptic scaffold mediated by Ca²⁺- and Zn²⁺-signaling*
- 16:30 Gregory O'Sullivan (Frankfurt): *Insights into the roles of gephyrin and its associated proteins at inhibitory Synapses*
- 17:00 Break
- 17:30 Hans-Jürgen Kreienkamp (Hamburg): *The PSD scaffold protein IRSp53 controls neuronal morphology and formation of synapses* (short talk: MS4-4)
- 17:50 Michael Kessels (Magdeburg): *The actin-binding protein Abp1 controls the morphology of postsynaptic spines and is crucial for ProSAP/Shank-mediated synaptic rearrangements* (short talk: MS4-1)
- 18:10 Jochen Kuhse (Heidelberg): *eEF1 localization in cultured neurons is altered during in vitro differentiation and is regulated by ligand gated ion channel activity* (short talk: O-28)
- 20:00 Speakers Dinner**

FRIDAY, MARCH 16, 2007

- 9:00 – 12:30 Symposium S4: Cellular Mechanics**
Chair: Josef Käs (Leipzig)
- 9:00 Andreas Bausch (Garching): *Rheology of reconstituted elements of the cytoskeleton*
- 9:30 Alexander Bershadsky (Rehovot): *Mechanotransduction and cell adhesion*
- 10:00 Albrecht Ott (Bayreuth): *Tuning cellular elasticity by strain hardening*
- 10:30 Break
- 11:00 Ben Fabry (Erlangen): *Cell tractions during spreading, migration and invasion*
- 11:30 Michael Beil (Ulm): *Single cell biomechanics and progression of cancer*
- 12:00 Jochen Guck (Cambridge, UK): *Biomechanics as an inherent cell marker with biomedical relevance*
- 9:00 – 12:00 Symposium S5: Molecular Basis of Chronobiology**
Chair: Birgit Piechulla (Rostock)
- 9:00 Urs Albrecht (Fribourg): *The molecular clockwork in mammals*
- 9:30 Ralf Stanewsky (London): *Synchronization of the Drosophila circadian clock by light- and temperature-cycles*
- 10:00 Jay Dunlap (Hanover, USA): *The circadian system in Neurospora*
- 10:30 Break
- 11:00 Maria Mittag (Jena): *How the green alga Chlamydomonas reinhardtii keeps time*
- 11:30 Carl Johnson (Nashville): *Visualizing the molecular ticking of a circadian clockwork*
- 12:00 Lunch
- 13:00 – 15:00 Poster Session II**
- 14:00 – 15:00 Tutorials**
Carl Zeiss Microlmaging GmbH

Living Cells - From Observation to Analysis

Dr. Richard Ankerhold: Welcome

Dr. Hubert Bauch: *Cell Observer: Live Cell Imaging at High-Speed and with Maximum Flexibility*

Dr. Horst Wolff: *Fluorescence microscopic Live Cell Assay for Simultaneous Monitoring of Expression and Interaction of Proteins*

Dr. Carmen Brückner: *More than just Imaging - Laser Light Manipulation in Confocal Microscopy*

IBA GmbH

Dr. Joachim Bertram, IBA GmbH: *MATra (Magnet Assisted Transfection): A smooth particle bombardement to enhance intracellur delivery - an up-date*

15:30 – 18:30 Minisymposium MS5: Cellular Control of Metal Homeostasis

Chair: Roland Lill (Marburg)

15:30 Roland Lill (Marburg): *How cells make iron-sulfur proteins*

16:00 Barry Paw (Boston): *Mitoferrin, a mitochondrial solute carrier, and its role in vertebrate erythropoiesis*

16:30 Rick Eisenstein (Madison): *Dissecting the pathways through which iron regulatory protein 1 controls vertebrate iron metabolism*

17:00 Break

17:30 Ralf Mendel (Braunschweig): *Cell biology of molybdenum/iron-enzymes* (short talk: MS5-1)

17:50 N.N.

15:30 – 18:30 Minisymposium MS6: 3-D Methods in Cell Biology

Chair: Thomas Müller-Reichert (Dresden)

15:30 Thomas Müller-Reichert (Dresden): *Spindle assembly in three dimensions*

16:00 Keith Gull (Oxford): *3D electron microscopy of flagellum morphogenesis in the trypanosome*

16:30 Andreas Hoenger (Boulder): *Interaction of MAPs and motors with microtubules*

17:00 Break

17:30 Iva Tolic-Norrelykke (Dresden): *Intracellular imaging, cutting, and trapping by light* (short talk: S4-9)

17:50 J.L. Höög (Heidelberg): *Organization of interphase microtubules in fission yeast analyzed by electron tomography* (short talk)

18:10 Andrew Leis (Martinsried): *Adapting cryo-electron tomography for cell biology* (short talk)

15:30 – 18:30 Minisymposium MS7: Cell Volume Regulation

Chair: Bernd Nilius (Leuven)

15:30 Bernd Nilius (Leuven): *Volume regulation: time for novel players* (introduction)

15:45 Charles Bourque (Montreal): *TRPV channels as transducers in osmosensory neurons*

16:20 Indu Ambudkar (Bethesda): *Regulation of cell volume by TRP channels in secretory salivary gland epithelial cells*

16:55 Keith Choe (Nashville): *Roles of a Ste-20 and WNK kinase in osmoregulation of the genetic model C. elegans*

17:30 Daniel Becker (Frankfurt): *TRPV4: through thick and thin* (short talk: MS7-3)

17:50 Christopher Blase (Frankfurt): *Microfilamental dynamics during HaCaT cell volume regulation* (short talk: MS7-4)

18:10 Ludwig Eichinger (Cologne): *STATc is a key regulator of the transcriptional response to hyperosmotic shock* (short talk: MS7-2)

15:30 – 18:30 Minisymposium MS8: Host-parasite Interactions

Chair: Ulrich Schaible (London)

15:30 Stephane Meresse (Marseille): *Interaction of Salmonella with host molecular motors*

- 16:00 Sandrine Bourdoulous (Paris): *Invasion of human endothelial cells by Neisseria meningitidis: Subversion of host cell signaling pathways and alteration of the inflammatory response*
- 16:30 Ulrich Schaible (London): *Host-parasite interactions in tuberculosis*
- 17:00 Break
- 17:30 Albert Haas (Bonn): *Cell biology of macrophage infection with the intracellular pathogen Rhodococcus equi* (short talk: MS8-1)
- 17:50 Nina Wolfrum (Zurich): *High-throughput siRNA screens to determine host factors involved in adenovirus infection* (short talk: MS8-3)
- 18:10 Priyanka Narang (Braunschweig): *The environmental dimensionality controls the interaction of phagocytes with the pathogenic fungi Aspergillus fumigatus and Candida albicans* (short talk: MS8-6)
- 18:30 DGZ Member Meeting**

SATURDAY, MARCH 17, 2007

8:30 – 11:30 Symposium S6: Tubular Morphogenesis Chair: Dietmar Vestweber (Muenster)

- 8:30 Markus Affolter (Basel): *Branching morphogenesis in flies and fishes*
- 9:00 Ralf Adams (London): *Molecular regulation of angiogenesis and vessel wall assembly*
- 9:30 Peter ten Dijke (Leiden): *TGF- β signaling in vascular development and disease*
- 10:00 Break
- 10:30 Anne Eichmann (Paris): *Remodeling and patterning of the developing vascular system*
- 11:00 Jon Leslie (London): *Endothelial signalling by the Notch ligand Delta-like 4 restricts angiogenesis*
- 11:30 Lunch

12:30 – 15:40 Minisymposium MS9: „Sweet Biology“: The Sugar Code in Cell Biology Chair: Sabine André (Munich)

- 12:30 Jürgen Roth (Zurich): *The life and death of misfolded proteins*
- 13:00 Hans-Joachim Gabius (Munich): *Glycans as signals for (tumor) cell death*
- 13:30 Fred Sinowatz (Munich): *Glycobiology of fertilization*
- 14:00 Break
- 14:30 Lokesh Joshi (Tempe): *Glycoengineering of recombinant pharmaproteins: problems and solutions*
- 15:00 Martin Wild (Muenster): *Leukocyte Adhesion Deficiency II, a human disorder of fucosylation* (short talk: MS9-1)
- 15:20 Martin Götte (Muenster): *Altered heparan sulfation patterns are associated with delayed wound repair and aberrant map kinase signalling in the galactosyltransferase I (β GalT-7)-deficient form of Ehlers-Danlos syndrome* (short talk: MS9-5)

12:30 – 15:30 Minisymposium MS10: Cytomechanics in Development Chair: Jürgen Bereiter-Hahn (Frankfurt)

- 12:30 Jürgen Bereiter-Hahn (Frankfurt): *Differentiation induction by mechanical stresses*
- 13:00 Stefan Grill (Dresden): *Biomechanics of mitosis*
- 13:30 Carl-Philipp Heisenberg (Dresden): *Role of biomechanics in development*
- 14:00 Break
- 14:30 Ralf Kemkemer (Stuttgart): *Dynamics of fibroblasts and human mesenchymal stem cells (hMSC) alignment in response to stretched substrates* (short talk: MS10-8)
- 14:50 Guillaume Carmona (Frankfurt): *Activation of Epac improves EPC adhesion and migration* (short talk: MS10-6)
- 15:10 David Jones (Marburg)