

**35th Annual Meeting of the German Society for Cell Biology (DGZ)  
March 21 – 24, 2012, Dresden**

**Wednesday, March 21, 2012**

- 14:00 – 14:15                      **Opening Ceremony**
- 14:15 – 17:00                      **Plenary Session 1: Nuclear organization**  
Chair: Ivan Raska
- 14:15 – 14:45      Wendy Bickmore (Edinburgh): Chromatin organization in the nucleus and gene regulation - from cells to embryos
- 14:45 – 15:15      Karla Neugebauer (Dresden): Organizational principles for nuclear pre-mRNA processing: is each gene a mini-organelle?
- 15:15 – 15:45      Eric Schirmer (Edinburgh): Tissue-specific nuclear envelope proteins contribute to differentiation by influencing gene expression through spatial organization of the genome
- 15:45 – 16:00      Break
- 16:00 – 16:30      Ivan Raska (Prag): Are the Polycomb group proteins bodies gene silencing factories?
- 16:30 – 17:00      Kumiko Samejima (Edinburgh): KIF4 and Condensin promote lateral compaction of mitotic chromosomes in parallel and are opposed by Topoisomerase IIalpha
- 17:00 – 17:15                      Break
- 17:15 – 18:15                      **DGZ Award Ceremony**
- 17:15 – 17:35      Walther Flemming Medal  
Martin Beck (Heidelberg): Compositional remodeling of the human nuclear pore complex
- 17:35 – 17:55      Binder Innovation Prize  
Sven Diederichs (Heidelberg): microRNA & long non-coding RNA in cancer
- 17:55 – 18:15      Werner Risau Prize  
Jorge Ivan Alvarez (Montreal): The hedgehog pathway sustains blood-brain barrier properties and promotes CNS immunoquiescence
- 18:15 – 19:00                      **Carl Zeiss Lecture**  
Fiona Watt (Cambridge): Studying stem cells in mammalian epidermis
- 19:00                                      **Poster Session and Welcome Reception**

**Thursday, March 22, 2012**

- 09:00 – 12:00                      **Symposium 1: Modelling in cell biology**  
Chair: Ewa Paluch
- 09:00 – 09:30      Ewa Paluch (Dresden): Actin cortex mechanics and cell shape control in cytokinesis
- 09:30 – 10:00      Martin Howard (Norwich): Construction of a robust intracellular

concentration gradient in fission yeast

10:00 – 10:15 Iana Kalinina (Dresden): Microtubules search for lost kinetochores by pivoting around the spindle pole (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Achim Kramer (Berlin): Dynamics and synchronization of circadian clocks

11:15 – 11:30 Jens-Christian Roeper (Dresden): Physical mechanisms shaping the *Drosophila* dorsoventral compartment boundary (short talk)

11:30 – 11:45 Diana Clausznitzer (Dresden): Mechanism for viral-genome length-dependent activation of the RIG-I innate immunity pathway (short talk)

09:00 – 12:00

### **Symposium 2: miRNA and cancer**

Chair: Marcus Peter

09:00 – 09:30 Reuven Agami (Amsterdam): Cancerous microRNAs and regulatory RNA binding proteins

09:30 – 10:00 Thomas Brabletz (Freiburg): EMT, microRNAs and cancer stem cells

10:00 – 10:15 Vytaute Starkuviene (Heidelberg): miR-17 seed family regulates endocytosis (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Giridhar Mudduluru (Heidelberg): Tumor-suppressor microRNAs as specific inhibitors of cancer metastasis

11:15 – 11:45 Marcus Peter (Chicago): MicroRNAs mediate early conversion of normal fibroblasts into cancer-associated fibroblasts

11:45 – 12:00 Björn Rotter (Frankfurt): Genomic and epigenetic biomarkers for the prognostic stratification of cancer patients by next generation sequencing (short talk)

09:00 – 12:00

### **Symposium 3: Cell metabolism and cell homeostasis**

Chair: Mike Hall

09:00 – 09:30 Mike Hall (Basel): TOR signaling in growth and metabolism

09:30 – 10:00 Tobias Huber (Freiburg): Role of mTOR signalling in diabetic nephropathy

10:00 – 10:15 Sandra Markmann (Hamburg): Missorting of lysosomal enzymes, accumulation of storage material and impaired autophagy lead to neurodegeneration in a mucopolipidosis II mouse model (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Johan Auwerx (Lausanne): Integrating metabolic control by NAD<sup>+</sup> sensors

11:15 – 11:30 Kirstin Albers (Hamburg): Adaptor protein PID1 is a molecular switch for LRP1 function (short talk)

11:30 – 11:45 Olaf Voolstra (Stuttgart): Light-dependent regulation of the *Drosophila* TRP ion channel by phosphorylation (short talk)

09:00 – 12:00

### **Symposium 4: Meiosis**

Chair: Wolfgang Zachariae

- 09:00 – 09:30 Wolfgang Zachariae (München): Regulation of meiotic prophase
- 09:30 – 10:00 Scott Keeney (New York): Controlling the number and timing of meiotic double-strand breaks
- 10:00 – 10:15 Attila Toth (Dresden): Coordinating meiotic progression with crossover formation in mammals (short talk)
- 10:15 – 10:45 Break
- 10:45 – 11:15 Marie-Helene Verlhac (Paris): Error prone mammalian female meiosis from silencing the SAC without interkinetochore tension
- 11:15 – 11:30 Christian Eckmann (Dresden): The CPB-mediated translational control relay ensures male meiosis (short talk)
- 11:30 – 11:45 Rolf Jessberger (Dresden): Properties and functions of cohesin in mammalian meiosis (short talk)

09:00 – 12:00

**Symposium 5: Microtubules and Motors**

Chair: Zeynep Ökten

- 09:00 – 09:30 Zeynep Ökten (München): Neck structure determines the path of processive kinesin motors along microtubules
- 09:30 – 10:00 Joe Howard (Dresden): Motors and microtubule dynamics
- 10:00 – 10:15 Anna Klemm (Dresden): The role of kinesin-8 in chromosome movements on the mitotic spindle (short talk)
- 10:15 – 10:45 Break
- 10:45 – 11:15 Carsten Janke (Paris): Regulation of microtubule functions by posttranslational modifications
- 11:15 – 11:30 Vaishnavi Ananthanarayanan (Dresden): Characterization of dynein by single-molecule investigations in vivo (short talk)
- 11:30 – 11:45 Ulrike Theisen (Coventry): Directional persistence of migrating cells requires Kif1C-mediated stabilisation of trailing adhesions (short talk)

12:00 – 15:30

**Poster Session / Lunch**

12:15 – 13:15

**Lunch Symposium: Carl Zeiss MicroImaging GmbH**

Imaging with smart software

- 12:15 – 12:40 Horst Wolff (Carl Zeiss MicroImaging GmbH, München): The Power of ZEN  
Imaging that overcomes limitations and enables new applications
- 12:45 – 13:15 Anke Teichmann (Leibniz-Institut für Molekulare Pharmakologie (FMP), Berlin): Single Cell and Single Molecule Imaging Methods: Analyses of Protein-Protein Interactions in Living Cells

12:15 – 14:15

**Funding Opportunities of the German Research Foundation**

Dr. Dorette Breitkreuz, Deutsche Forschungsgemeinschaft (DFG)  
Lebenswissenschaften 2, Bonn

13:15 – 14:15

**DGZ Member Meeting**

15:30 – 18:30

**Plenary Session 2: Cell and tissue morphogenesis**

Chair: Elisabeth Knust

15:30 – 16:00 James Nelson (Stanford): Regulation of cadherin cell-cell adhesion and actin dynamics: An evolutionary perspective

16:00 – 16:30 Elisabeth Knust (Dresden): Cell polarity - pattern formation at the cellular level

16:30 – 17:00 Break

17:00 – 17:30 Darren Gilmour (Heidelberg): Coordinating cell movement within migrating collectives

17:30 – 18:00 Thomas Lecuit (Marseille): The subcellular mechanics of tissue morphogenesis

18:00 – 18:30 Benjamin Podbilewicz (Haifa): Conserved eukaryotic cell-cell fusion proteins function in membrane sculpting

15:30 – 18:30

**Plenary Session 3: Frontiers in microscopy**

Chair: Petra Schwille

15:30 – 16:00 Jan Huisken (Dresden): Visualizing zebrafish development in real-time with high-speed SPIM

16:00 – 16:30 Andreas Zumbusch (Konstanz): CARS microscopy of intracellular lipid droplet dynamics

16:30 – 17:00 Break

17:00 – 17:30 Petra Schwille (Dresden/München): How to fill the voids: in situ characterization of reaction-diffusion systems

17:30 – 18:00 Philip Tinnefeld (Braunschweig): Testing superresolution microscopy with DNA origami

18:00 – 18:30 Holger Stark (Göttingen): Visualizing dynamics - The ribosome in motion!

18:45 – 19:45

**Distinguished Lecturer**

Wieland Huttner (Dresden): The Cell Biology of Neural Stem Cells and the Evolution of the Cerebral Cortex

**Friday, March, 23, 2012**

09:00 – 12:00

**Symposium 6: Asymmetric division – Mechanics of cell division**

Chair: Daniel Gerlich

09:00 – 09:30 Daniel Gerlich (Zürich): FRET-based RNAi screen reveals PP1-mediated stabilization of chromosome segregation

09:30 – 10:00 Matthieu Piel (Paris): ESCRT assembly and cytokinetic abscission are delayed by tension in the intercellular bridge

10:00 – 10:15 Franz Meitinger (Heidelberg): Coordination of cytokinesis with the establishment of the new cell polarity axis (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Melina Schuh (Cambridge): An actin-dependent mechanism for long-range vesicle transport

11:15 – 11:30 Matthias Samwer (Göttingen): A novel actin-bundling kinesin that is essential for meiotic cell division (short talk)

11:30 – 11:45 Andreas Wodarz (Göttingen): Apical-basal polarity in Drosophila neuroblasts is independent of vesicular trafficking (short talk)

09:00 – 12:00

**Symposium 7: Autophagy and cross-talk between organelles**

Chair: Zvulun Elazar

09:00 – 09:30 Zvulun Elazar (Rehovot): Different roles of Atg8s in autophagosome biogenesis and cargo selection

09:30 – 10:00 Christian Behl (Mainz): BAG3-mediated selective macroautophagy of aggregation-prone proteins

10:00 – 10:15 Ludwig Eichinger (Köln): In vivo effects of mutant VCP/p97 in wild-type and ATG9-deficient Dictyostelium: Heteromeric p97/p97R155C complexes induce dominant negative changes in protein ubiquitination, autophagy, cell growth, and phototaxis (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Jon Lane (Bristol): Autophagy and mitochondrial quality control in differentiation and disease

11:15 – 11:30 Beate Vollenbröker (Münster): Molecular links between vacuolization caused by dysfunction of the endo-auto-lysosomal homeostasis and mTOR signaling (short talk)

11:30 – 11:45 Andreas Wodarz (Göttingen): The phosphoinositide-associated protein Rush hour regulates endosomal trafficking in Drosophila (short talk)

09:00 – 12:00

**Symposium 8: Cell biology of the immune response**

Chair: Jacques Neefjes

09:00 – 09:30 Jacques Neefjes (Amsterdam): Making sense of mass siRNA data to generate new biology for systems in the immune system

09:30 – 10:00 Paul Lehner (Cambridge): Novel E3 ligases in the MHC class I antigen presentation pathway - a role for ubiquitin in post-transcriptional regulation

10:00 – 10:15 Ulf Geumann (Amsterdam): The Invariant Chain (Ii, CD74) regulates the co-stimulatory profile of dendritic cells by a ligand-selective chaperone function (short talk)

10:15 – 10:45 Break

10:45 – 11:15 Tim Lämmermann (Bethesda): Real-time imaging of chemotactic and adhesive events at the wound site

11:15 – 11:30 Andreas Kollas (Gießen): Pex11a KO influences LPS induced inflammatory response in primary mouse macrophages (short talk)

11:30 – 11:45 Sukrat Sinha (Allahabad): T cell proliferation by activation of adhesion molecule (short talk)

09:00 – 12:00

**Symposium 9: Control of cell and organ size**

Chair: Aurelio Teleman

09:00 – 09:30 Ernst Hafen (Zürich): From genetics to systems genetics of growth control

- 09:30 – 09:45 Juan Manuel Gomez (Heidelberg): Tao-1 controls epithelial morphogenesis by regulating removal of Fasciclin 2 from the lateral membrane (short talk)
- 09:45 – 10:15 Alison Lloyd (London): The control of mammalian cell size
- 10:15 – 10:45 Break
- 10:45 – 11:00 Helena Jambor (Dresden): Subcellular mRNA expression in complex tissues (short talk)
- 11:00 – 11:15 Muhammad Sajid Hussain (Köln): A truncating mutation of CEP135 causes primary microcephaly and disturbed centrosomal function (short talk)
- 11:15 – 11:45 Aurelio Teleman (Heidelberg): Regulation of growth by insulin signaling in *Drosophila*
- 09:00 – 12:00 **Symposium 10: Cytoskeleton mechanics**  
Chair: Andreas Bausch
- 09:00 – 09:30 Andreas Bausch (München): Cytoskeletal pattern formation: Self organization of driven filaments
- 09:30 – 10:00 Stephan Grill (Dresden): Mechanics meets Biochemistry: PAR polarization in *C. elegans*
- 10:00 – 10:15 Sven Gould (Düsseldorf): The molecular machinery behind *Trichomonas* morphogenesis during host cell infection (short talk)
- 10:15 – 10:45 Break
- 10:45 – 11:15 Xavier Trepas (Barcelona): The forces behind collective cell guidance
- 11:15 – 11:30 Andrew Clark (Dresden): Thickness and organization of the actomyosin cortex (short talk)
- 11:30 – 11:45 Marcin Moch (Aachen): Regulation of keratin network dynamics by epidermal growth factor and focal adhesion kinase (short talk)
- 12:00 – 15:30 **Poster Session / Lunch**
- 12:15 – 13:15 **Lunch Symposium: ibidi GmbH**  
Functional Cell-Based Assays
- 12:15 – 12:30 Roman Zantl (München): Introduction to ibidi's Functional Cell-Based Assays
- 12:30 – 12:50 Julia Riedl (München): LifeAct-Expressing Cell Lines - Comprehensive Characterization with Functional Assays
- 12:50 – 13:15 Armin Bieser (München): Quantitative Analysis of Cell Parameters Using Impedance - Measuring Migration, Wound Healing, Barrier Formation and Cell Behavior under Flow
- 15:30 – 18:30 **Plenary Session 4: Cilia**  
Chair: Lotte Pedersen
- 15:30 – 16:00 Lotte Pedersen (Kopenhagen): Primary cilia and kinesin-3 motor proteins
- 16:00 – 16:30 Karl Lehtreck (Athens, USA): *Chlamydomonas* as a model for ciliary

- disease: Bardet-Biedl syndrome
- 16:30 – 17:00 Break
- 17:00 – 17:30 Peter Swoboda (Stockholm): RFX transcription factors, ciliogenesis and more?
- 17:30 – 18:00 Nathalie Spassky (Paris): Development and roles of ciliated cells during mammalian neurogenesis
- 18:00 – 18:30 Heymut Omran (Münster): Molecular defects of motile cilia and flagella
- 15:30 – 18:30 **Plenary Session 5: Cell adhesion and migration**  
Chair: Maria Leptin
- 15:30 – 16:00 Maria Leptin (Heidelberg): Genetics and cell biology of complex cell shapes
- 16:00 – 16:30 Ralf Adams (Münster): Molecular regulation of angiogenic blood vessel growth
- 16:30 – 17:00 Break
- 17:00 – 17:30 John Condeelis (New York): Invadopod-dependent tumor cell migration in breast tumors
- 17:30 – 18:00 Laura Machesky (Glasgow): Signaling to actin dynamics in invasion and migration
- 18:00 – 18:30 Manuel Thery (Grenoble): Centrosome positioning in response to cell-cell and cell-ECM adhesions
- 18:45 – 19:00 **Poster Awards**
- 19:00 – 20:00 **Frontiers in Science Lecture**  
Kai Simons (Dresden): Moving cell biology beyond boundaries of today
- 20:00 **Get Together**

**Saturday, March 24, 2012**

- 09:00 – 10:00 **Matthias Schleiden Lecture**  
  
Günter Blobel (New York): Molecular design of nature's largest and most versatile channel anchored in the center of the nuclear pore
- 10:00 – 13:00 **Symposium 11: Evolution of the cell**  
Chair: Gáspár Jékely
- 10:00 – 10:30 Gáspár Jékely (Tübingen): Origin of the first neurons as sensory-motor and sensory-neurosecretory cells
- 10:30 – 11:00 José Pereira Leal (Lissabon): The translational applications of an evolutionary cell biology
- 11:00 – 11:15 Sacha Hanig (Dresden): Oocyst and Sporocyst wall formation in Eimeria (Coccidia, Apicomplexa) - new molecular insights into Gam-proteins using heterologous reporter gene assays (short talk)
- 11:15 – 11:45 Break

- 11:45 – 12:15 Martin Embley (Newcastle): Evolutionary and functional relationships between eukaryotes and mitochondria
- 12:15 – 12:30 Peter Major (Düsseldorf): Targeting into *Trichomonas vaginalis* hydrogenosomes is evolving towards a mechanism independent of cleavable N-terminal targeting sequences (short talk)
- 12:30 – 12:45 Pavel Tomancak (Dresden): Developmental hourglass and the chicken and egg causality dilemma (short talk)

10:00 – 13:00

**Symposium 12: Regeneration and stem cells**

Chair: Rüdiger Simon

- 10:00 – 10:30 Rüdiger Simon (Düsseldorf): Plant stem cell systems
- 10:30 – 11:00 Jochen Rink (Dresden): Organogenesis during planarian regeneration
- 11:00 – 11:15 Ajeesh Balakrishnan-Renuka (Bochum): ATOH8, a novel regulator of skeletal myogenesis and muscle regeneration (short talk)
- 11:15 – 11:45 Break
- 11:45 – 12:15 Elly Tanaka (Dresden): Epithelial organization during axolotl spinal cord regeneration
- 12:15 – 12:30 Elena Taverna (Dresden): Manipulating the fate of single neural stem cells in tissue by microinjection (short talk)
- 12:30 – 12:45 Ruth Kroschewski (Zürich): MDCK cells asymmetrically segregate some centrosome-associated determinant of cell cycle duration (short talk)

10:00 – 13:00

**Symposium 13: Cell biology of therapeutic delivery**

Chair: Leonard H. Rome

- 10:00 – 10:30 Leonard H. Rome (Los Angeles): Overview of the cell biology of therapeutic delivery
- 10:30 – 11:00 Leonard H. Rome: Vault nanoparticles: A platform technology for delivery of therapeutics
- 11:00 – 11:15 Sergey Tokalov (Bunyola (Balearic Islands): Time dynamic of fluorescent beads intravenous delivery (short talk)
- 11:15 – 11:45 Break
- 11:45 – 12:15 Ernst Wagner (München): Polymers for DNA and RNA delivery: Inspired by viruses to be targeted, dynamic and precise
- 12:15 – 12:45 Enrico Mastrobattista (Utrecht): Cellular barriers to nanocarrier-mediated delivery of proteins and nucleic acids
- 12:45 – 13:00 Elena Markvicheva (Moscow): Microencapsulated Multicellular Tumor Spheroids as a Novel 3D in Vitro Model in Tumor Biology (short talk)

10:00 – 13:00

**Symposium 14: Neuronal network**

Chair: Gaia Tavosanis

- 10:00 – 10:30 Gaia Tavosanis (Bonn): Activity shapes a central circuit in *Drosophila*
- 10:30 – 11:00 Caspar Hoogernaad (Rotterdam): Control of neuronal polarity and plasticity - the role of dynamic cargo trafficking



- 11:00 – 11:15 Stephan Saalfeld (Dresden): Elastic volume reconstruction from series of ultra-thin microscopy sections (short talk)
- 11:15 – 11:45 Break
- 11:45 – 12:15 Beatriz Rico (Alicante): On the assembly of neural circuits: from axon development to synapse formation
- 12:15 – 12:30 Sandra Pleiser (Regensburg): The Spir-1 actin organizer functions in the regulation of neuronal differentiation and cell migration (short talk)
- 12:30 – 12:45 Atsushi Sugie (Bonn/Martinsried): Activity dependent synaptic modification in the Drosophila visual system (short talk)

10:00 – 13:00

**Symposium 15: Protein conformation diseases: cellular mechanisms and consequences**

Chair: Zoya Ignatova

- 10:00 – 10:30 Zoya Ignatova (Potsdam): Translational frameshift and dynamics of intracellular aggregates: consequences for the pathology of polyglutamine-repeat diseases
- 10:30 – 11:00 Martin Vabulas (Frankfurt): Structural determinants of intracellular proteotoxicity
- 11:00 – 11:15 Simon Alberti (Dresden): A system of stress-inducible protein sorting factors and molecular chaperones coordinates spatial protein quality control in yeast (short talk)
- 11:15 – 11:45 Break
- 11:45 – 12:15 Ina Vorberg (Bonn): Cytosolic protein aggregates as infectious entities
- 12:15 – 12:30 Miguel Coelho (Dresden): A switch between symmetric and asymmetric segregation of protein aggregates in fission yeast (short talk)

13:00

**Closing Ceremony**