

**International Meeting of the German Society for Cell Biology (DGZ)
March 24–27, 2015, Cologne, Germany**

Tuesday March 24, 2015

- 08:30 – 11:45** **X-ray cryo-microscopy and other high resolution approaches for investigating cell ultrastructure**
- 09:00 – 11:00** **Young Investigator Satellite Meetings**
- 09:00 – 11:00** **Aneuploidy in health and disease**
Organizer: Zuzana Storchova (Martinsried, Germany)
- 09:00 – 09:40 Keynote speaker: René H. Medema (Amsterdam, The Netherlands): The multiple faces of aneuploidy
- 09:40 – 10:05 Floris Fojier (Groningen, The Netherlands): *In vivo* consequences of aneuploidy
- 10:05 – 10:30 Jan Korbel (Heidelberg, Germany): From genomic copy number variations to molecular mechanisms
- 10:30 – 10:55 Zuzana Storchova (Martinsried, Germany): Aneuploidy causes proteotoxic stress
- 09:00 – 11:00** **Cell biology of peroxisomes**
Organizer: Petra Wendler (Munich, Germany)
- 09:00 – 09:30 Keynote speaker: Nancy Braverman (Montreal, Canada): Peroxisome biogenesis disorders, from the bedside-to-bench and back
- 09:30 – 10:00 Tony Rodrigues (Porto, Portugal): Dissecting the peroxisomal protein import pathway using an *in vitro* import/export system
- 10:00 – 10:30 Marc Fransen (Leuven, Belgium): PEX5, the shuttling import receptor for peroxisomal matrix proteins, functions as a stress sensor
- 10:30 – 11:00 Petra Wendler (Munich, Germany): Three cornered circles: molecular snapshots of the Pex1/6 AAA+ complex in action
- 09:00 – 11:00** **Cell biology of lipid metabolism**
Organizer: Mathias Beller (Duesseldorf, Germany)
- 09:00 – 09:45 Keynote speaker: Albert Pol (Barcelona, Spain): The many faces of caveolin in the endoplasmic reticulum: From fatty liver to neurodegeneration
- 09:45 – 10:10 Abdou Rachid Thiam (Paris, France): Protein crowding as a determinant mechanism of lipid droplet composition
- 10:10 – 10:35 Christoph Thiele (Bonn, Germany): Click-chemistry-based lipid tracing to study lipid metabolism and localisation
- 10:35 – 11:00 Mathias Beller (Duesseldorf, Germany): Towards a model to understand cellular lipid droplet diversification

09:00 – 11:00	Molecular mechanisms in metastasis Organizer: Stefan Veltel (Hamburg, Germany)
09:00 – 09:45	Keynote speaker: Jim Norman (Glasgow, UK): The role of Ephrin receptor trafficking in mediating cell:cell repulsion
09:45 – 10:10	Stefan Veltel (Hamburg, Germany): Regulation of integrin trafficking on a molecular level
10:10 – 10:35	Markus Moser (Martinsried, Germany): Genetic analysis of integrin signaling in mice
10:35 – 11:00	Klaus Pantel (Hamburg, Germany): Tumor cell dissemination: emerging biological insights from the analysis of circulating tumor cells in cancer patients
11:15 – 12:15	Careers in Science- Panel discussion Magdalena Götz (Munich, Germany) Kai Kretzschmar (Utrecht, The Netherlands) René H. Medema (Amsterdam, The Netherlands) Ellen Nollen (Groningen, The Netherlands) Björn Schumacher (Cologne, Germany) Zuzana Storchova (Martinsried, Germany)
13:00	Opening words Prof. Carien Niessen, representing the DGZ Board and local Organizing Committee Prof. Ansgar Büschges, Dean of the Faculty of Mathematics and Natural Sciences of the University of Cologne Prof. Thomas Krieg, Dean of Faculty of Medicine of the University of Cologne
13:00 – 15:00	Plenary Session PS1: Cell biology of ageing Chair: Thorsten Hoppe (Cologne, Germany)
13:00 – 13:30	Ellen Nollen (Groningen, The Netherlands): Modifying toxicity of aggregation-prone proteins in aging and age-related diseases
13:30 – 14:00	Stephan Sigrist (Berlin, Germany): Synaptic changes and age-induced memory impairment
14:00 – 14:30	Thomas Nyström (Göteborg, Sweden): Recognition, partitioning, and asymmetrical segregation of protein aggregates
14:30 – 15:00	Thorsten Hoppe (Cologne, Germany): Ubiquitin-dependent coordination of proteostasis and longevity
15:00 – 15:30	Coffee break
15:30 – 17:30	DGZ Awards Walther Flemming Medal Katrin Paeschke (Wuerzburg, Germany): Consequences of G-quadruplex structures for eukaryotic cells

Binder Innovation Prize

Holger Bastians (Goettingen, Germany): Increased microtubule dynamics triggers chromosomal instability and aneuploidy in human cancer cells

Nikon Young Scientist Award of the DGZ

Kai Kretzschmar (Utrecht, The Netherlands): Remodelling adult skin by epidermal β -catenin activation

Werner Risau Prize

Ayal Ben-Zvi (Jerusalem, Israel): Mfsd2a is critical for the formation and function of the blood-brain barrier

17:30 – 18:00

Coffee break

18:00 – 19:00

Carl Zeiss Lecture

Magdalena Götz (Munich, Germany): Mechanisms of neurogenesis: from cell biology to neural repair

19:00

Opening reception and posters**Wednesday March 25, 2015**

09:00 – 12:00

Symposia 1-4

09:00 – 12:00

Symposium S1: Centrosomes, spindle assembly and cilia

Chairs: Thomas Müller-Reichert (Dresden, Germany) and Gislene Pereira (Heidelberg, Germany)

09:00 – 09:30

Jan Brugges (Dresden, Germany): Principles of meiotic spindle organization

09:30 – 10:00

Thomas Müller-Reichert (Dresden, Germany): Three-dimensional reconstruction of the first mitotic spindle in *C. elegans* reveals different populations of microtubules with distinct properties

10:00 – 10:15

Bjorn Bakker: Deletion of the Mad2 spindle assembly checkpoint gene causes chromosome instability with differential effects on liver cancer and lymphoma (short talk, A-108)

10:15 – 10:45

Coffee break

10:45 – 11:15

Jordan Raff (Oxford, UK): How to build a centrosome during mitosis

11:15 – 11:45

Lotte Pedersen (Hillerød, Denmark): Regulation of ciliary length and signalling by kinesin-3 motors

11:45 – 12:00

Julian Nuechel: EHD4 controls resorption of primary cilia during mitosis (short talk, A-104)

09:00 – 12:00

Symposium S2: Cellular chaperones and proteostasis

Chair: Jörg Höhfeld (Bonn, Germany)

09:00 – 09:30

Ulrich Hartl (Martinsried, Germany): Chaperone mechanisms in protein folding and quality control

- 09:30 – 10:00 Elke Deuerling (Konstanz, Germany): Sorting right from wrong: How ribosome-associated chaperones control protein transport processes
- 10:00 – 10:15 Simon Alberti: Promiscuous interactions and protein disaggregases determine the material state of stress-inducible RNP granules (short talk, A-266)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Blanche Schwappach (Goettingen, Germany): The GET pathway in proteostasis
- 11:15 – 11:45 Jörg Höhfeld (Bonn, Germany): Chaperone-assisted proteostasis
- 11:45 – 12:00 Sebastian A. Leidel: Misregulation of local translation rates leads to protein aggregation defects (short talk, A-183)
- 09:00 – 12:00** **Symposium S3: DNA repair and telomeres**
Chairs: Katrin Paeschke (Wuerzburg, Germany) and Brian Luke (Heidelberg, Germany)
- 09:00 – 09:30 Daniel Durocher (Toronto, Canada): Cell cycle regulation of DNA double-strand break repair
- 09:30 – 10:00 Helle Ulrich (Mainz, Germany): Dealing with DNA damage during replication
- 10:00 – 10:15 Amine Bouafia: p53 requires the stress sensor USF1 to direct appropriate cell fate decision (short talk, A-221)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Jan Karlseder (La Jolla, USA): Telomere function in mitosis: Complex interactions determine cellular fate
- 11:15 – 11:45 Vincent Géli (Marseille, France): RPA prevents G4 structures at lagging strand telomeres to allow maintenance of chromosome ends
- 11:45 – 12:00 Brian Luke (Heidelberg, Germany): Regulation of the Mph1 helicase by Smc5/6 complex is crucial at short telomeres and RNA-DNA hybrids
- 09:00 – 12:00** **Symposium S4: Cell adhesion and mechanics**
Chair: Thomas Magin (Leipzig, Germany)
- 09:00 – 09:30 Vania Braga (London, UK): Defining functional interactions during biogenesis of epithelial junctions
- 09:30 – 10:00 Mechthild Hatzfeld (Halle, Germany): Functions of the desmosomal protein plakophilin 1 in cell adhesion and signaling
- 10:00 – 10:15 Jaap van Buul: A local VE-cadherin/Trio-based signaling complex stabilizes endothelial junctions through Rac1 (short talk, A-105)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Ben Fabry (Erlangen, Germany): Adhesion, contraction, or cell mechanics: which cell properties matter for cancer cell invasion?
- 11:15 – 11:30 Antje Schaefer: Actin-binding proteins differentially control endothelial cell stiffness to drive function of the β 2 integrin ligand ICAM-1 and neutrophil transmigration (short talk, A-102)

11:30 – 12:00	Manuel Thery (Paris, France): Force scaling in stress fibers
12:00 – 13:00	Lunch
12:00 – 13:00	Lunch Symposium: Carl Zeiss Microscopy GmbH – München The New ZEISS LSM 8 Family: Revolutionize Your Confocal Imaging Referent: Dr. Sebastian Wiesner
13:00 – 15:00	Poster Session 1
15:00 – 18:00	Plenary Session 2: Stem cells and cell fate co-organized and co-sponsored by the Dutch Society for Cell Biology Chairs: Jacco van Rheenen (Utrecht, The Netherlands) and Carien Niessen (Cologne, Germany)
15:00 – 15:30	Hans Clevers (Utrecht, The Netherlands): Wnt signaling, Lgr5 stem cells and cancer
15:30 – 16:00	Timm Schroeder (Basel, Switzerland): Long-term single cell quantification: New tools for old questions
16:00 – 16:30	Cristina Lo Celso (London, UK): Plastic interactions between normal and malignant haematopoietic cells and their bone marrow niches
16:30 – 17:00	Coffee break
17:00 – 17:30	Eileen Furlong (Heidelberg, Germany): Three-dimensional properties of enhancer interactions during embryonic development
17:30 – 18:00	Jacco van Rheenen (Utrecht, The Netherlands): Intravital microscopy of epithelial stem cells and cancer

Thursday March 26, 2015

09:00 – 12:00	Symposia 5-8
09:00 – 12:00	Symposium S5: Degenerative diseases Chair: Eva-Maria Mandelkow (Bonn, Germany)
09:00 – 09:30	Joachim Herz (Dallas, USA): ApoE, ApoE receptors and Alzheimer's Disease
09:30 – 09:45	Gültekin Tamgüney: Brain homogenates from patients with multiple system atrophy and aged control subjects without neurological disorder cause neuropathology in transgenic mice expressing human wild-type (short talk, A-239)
09:45 – 10:15	Eva-Maria Mandelkow (Bonn, Germany): Tau toxicity and rescue in animal models of Tau pathology
10:15 – 10:45	Coffee break
10:45 – 11:15	Peter St. George-Hyslop (Toronto, Canada): Amyloid, presenilin, and

inflammation in Alzheimer disease

11:15 – 11:30 Simon Alberti: The ALS-associated protein FUS forms liquid compartments, whose biophysical properties correlate with disease (short talk, A-264)

11:30 – 12:00 Sandrine Humbert (Grenoble, France): Huntington's disease: from corticogenesis to neurodegeneration

09:00 – 12:00 **Symposium S6: Genome regulation**
Chair: Ana Pombo (Berlin, Germany)

09:00 – 09:30 Josée Dostie (Montreal, Canada): Linking chromatin architecture to RNA

09:30 – 10:00 Musa Mhlanga (Pretoria, South Africa): A new enhancer-like noncoding RNA influencing genome organization and the transcription cycle in the immune response

10:00 – 10:15 Kurt Engeland: Genome-wide analysis of transcription suggests a pathway for p53-dependent cell cycle regulation (short talk, A-281)

10:15 – 10:45 Coffee break

10:45 – 11:00 Marina Lusic: Nuclear architecture dictates HIV-1 integration site selection (short talk, A-180)

11:00 – 11:30 Francois Spitz (Heidelberg, Germany): Function and regulation of long-distance chromosomal interactions

11:30 – 12:00 Ana Pombo (Berlin, Germany): Novel, ligation-free method for identifying chromatin interactions genome-wide

09:00 – 12:00 **Symposium S7: Cell Polarity – from yeast to mammals**
Chair: Sandra Iden (Cologne, Germany)

09:00 – 09:30 Roland Wedlich-Söldner (Muenster, Germany): Yeast polarity - a paradigm for mesoscale systems biology

09:30 – 10:00 Marta Shahbazi (Cambridge, UK): The making of an epithelium from embryonic stem cells: architectural and transcriptional patterns

10:00 – 10:15 Mike Boxem: Unraveling the *C. elegans* interactome underlying cell polarity (short talk, A-285)

10:15 – 10:45 Coffee break

10:45 – 11:15 Patrick Humbert (East Melbourne, Australia): Cell polarity, tissue organisation and the regulation of cancer progression

11:15 – 11:45 Sandra Iden (Cologne, Germany): The different faces of the Par3 polarity complex in skin cancer

11:45 – 12:00 Mirka Uhlirova: Atf3 bridges the gap between cell polarity and the nucleus (short talk, A-276)

09:00 – 12:00 **Symposium S8: Innate immunity in plants and animals**
Chair: Jane Parker (Cologne, Germany)

09:00 – 09:30 Jane Parker (Cologne, Germany): Evolutionary and molecular dynamics of plant innate immunity

09:30 – 10:00	Marie-Cécile Caillaud (Lyon, France): Probing plant cellular immunity with pathogen virulence factors
10:00 – 10:15	Kamlesh Pawar: Mycobacteria escape autophagy by counter regulating long non-coding RNA MEG3 (short talk, A-118)
10:15 – 10:45	Coffee break
10:45 – 11:15	Manolis Pasparakis (Cologne, Germany): Cell death in immunity and inflammation
11:15 – 11:30	Deblina Chakraborty: Expression and role of S100A8/A9 in acute lung injury (short talk, A-263)
11:30 – 12:00	Thomas Bosch (Kiel, Germany): The molecular logic of Hydra's immune system
12:00 – 13:00	Lunch
13:00 – 14:00	DGZ Member Meeting
13:00 – 15:00	Poster Session 2
15:00 – 18:00	Plenary Session PS3: Signal transduction and trafficking Chair: Philippe Bastiaens (Dortmund, Germany)
15:00 – 15:30	Alexander Sorkin (Pittsburgh, USA): Regulation of EGF receptor by endocytosis
15:30 – 16:00	Bruno Goud (Paris, France): Spatiotemporal selection of downstream partners of phosphoinositide-binding proteins through phosphoinositide clustering
16:00 – 16:30	Marko Kaksonen (Heidelberg, Germany): Visualizing the dynamic architecture of the endocytic machinery
16:30 – 17:00	Coffee break
17:00 – 17:30	Philippe Bastiaens (Dortmund, Germany): RTK trafficking switches from a cyclic safeguard to a finite signaling mode
17:30 – 18:00	Peter Devreotes (Baltimore, USA): The cell's compass: How cells move and know where to move
18:00 – 19:00	Frontiers in Science Lecture Joseph Penninger (Vienna, Austria): Forward and reverse genetics using haploid stem cells
19:00	Posters and Party

09:00 – 11:00	Plenary Session PS4: 40 Years DGZ: Past and present scientific breakthroughs in cell biology Chaired by the DGZ Board
09:00 – 09:30	Harald Herrmann (Heidelberg, Germany): Electrons and photons: From electron microscopy to super-resolution techniques and back
09:30 – 10:00	Jan Ellenberg (Heidelberg, Germany): Systems biology of the human cell using light microscopy
10:00 – 10:30	Jennifer Lippincott-Schwartz (Bethesda, USA): Cell survival under starvation: crosstalk between mitochondria, lipid droplets and autophagy
10.30 – 11:00	Matthias Mann (Martinsried, Germany): High throughput proteomics and its application to insulin signaling
11:00 – 12:00	Coffee break with lunch
12:00 – 15:00	Symposia 9-11
12:00 – 15:00	Symposium S9: New functions of actin Chair: Robert Grosse (Marburg, Germany)
12:00 – 12:30	Gregg Gundersen (New York, USA): LINCing actin cables to the nuclear envelope for nuclear movement
12:30 – 13:00	Peter Lénárt (Heidelberg, Germany): An Arp2/3 nucleated F-actin shell fragments nuclear membranes at nuclear envelope breakdown
13:00 – 13:15	Sven Bogdan: Shaping cells into organs - The WAVE regulatory complex (WRC) acts through FAT2 to control Drosophila egg chamber elongation (short talk, A-107)
13:15 – 13:45	Coffee break
13:45 – 14:15	Maria Vartiainen (Helsinki, Finland): Regulation of nuclear actin - from dynamics to function
14:15 – 14:45	Robert Grosse (Marburg, Germany): Actin dynamics during entotic cell-in-cell invasion
14:45 – 15:00	Marco Rust: A novel function of ADF/cofilin-dependent actin dynamics in neurotransmitter release and behavior (short talk, A-225)
12:00 – 15:00	Symposium S10: Cell biology of mitochondria Chair: Elena Rugarli (Cologne, Germany)
12:00 – 12:30	Benedikt Westermann (Bayreuth, Germany): Mitochondrial inheritance and dynamics in yeast
12:30 – 12:45	Timothy Wai: Metabolic intervention rescues heart failure caused by unbalanced mitochondrial dynamics (short talk, A-297)
12:45 – 13:15	Heidi McBride (Montreal, Canada): Establishing the function of mitochondrial vesicle transport
13:15 – 13:45	Coffee break
13:45 – 14:15	Janet M. Shaw (Salt Lake City, USA): Cellular and physiological roles for

mitochondrial motility

- 14:15 – 14:45 Elena Rugarli (Cologne, Germany): Cluh and regulation of mitochondrial biogenesis
- 14:45 – 15:00 Sven Thoms: Functional translational readthrough enables protein import into organelles (short talk, A-201)
- 12:00 – 15:00** **Symposium S11: Epithelial structure and function**
Chair: Inke Näthke (Dundee, Scotland/UK)
- 12:00 – 12:30 Lindsay Hinck (Santa Cruz, USA): The role of SLIT/ROBO signaling in mammary stem cell self-renewal
- 12:30 – 13:00 Marija Plodinec (Basel, Switzerland): An in vitro epithelium that bears the mechanobiological hallmarks of living tissue with the implications for cancer progression
- 13:00 – 13:15 Vanessa Weichselberger: Interface mechanics between transcriptionally divergent cell groups cause epithelial cyst formation (short talk, A-237)
- 13:15 – 13:45 Coffee break
- 13:45 – 14:15 Helen McNeill (Toronto, Canada): Regulation of epithelial structure and branching morphogenesis in the developing mouse kidney
- 14:15 – 14:45 Inke Näthke (Dundee, Scotland/UK): Gut epithelial tissue changes during early transformation
- 14:45 – 15:00 David Schneider: Cellular mechanics in keratinocyte differentiation and epidermal stratification (short talk, A-158)
- 15:00 – 15:30** **End of the meeting**