

International Meeting of the German Society for Cell Biology (DGZ)
With support of the Austrian Association of Molecular Life Sciences and Biotechnology
March 14 – 16, 2016 in Munich, Germany

www.zellbiologie2016.de

Conference Venue:

Biocenter and Biomedical Center of the Ludwig Maximilians University Munich
Großhaderner Str. 2/9 | 82152 Planegg-Martinsried | Germany

Scientific Program

Monday, March 14, 2016

09:00 – 12:00	Funding and Publishing Chair: Oliver Gruss (Bonn, Germany)
09:00 – 09:30	Andreas Krell, KoWi Kooperationsstelle EU der Wissenschaftsorganisationen (Brussels, Belgium): Horizon 2020 - Funding opportunities for Life Sciences
09:30 – 10:00	Britta Mädge, DFG Deutsche Forschungsgemeinschaft (Bonn, Germany): Funding Opportunities at the German Research Foundation (DFG)
10:00 – 10:30	Bärbel Schröfelbauer, Molecular Cell (Cambridge, USA): Demystifying the publishing process
10:30 – 11:00	Coffee break
11:00 – 11:30	Bernd Pulverer, EMBO Journal, Chief Editor (Heidelberg, Germany): Transparent publishing, reproducibility & citation-based research assessment
11:30 – 12:00	Alison Abbott, Nature (Munich, Germany): Science in the public eye
13:00 – 13:10	Opening Words
13:10 – 16:20	Plenary Session P1: Nuclear architecture/Gene regulation Chair: Heinrich Leonhardt (Martinsried, Germany)
13:10 – 13:40	M. Cristina Cardoso (Darmstadt, Germany): Elementary units of DNA replication and repair: a mirror of chromosome higher order structure?
13:40 – 14:10	Sandra Hake (Martinsried, Germany): Histone H2A.Z: a small variant with a large impact on cell biology
14:10 – 14:40	Poster Flash Presentations
14:40 – 15:10	Coffee break
15:10 – 15:25	Michael Hannus (Martinsried/Planegg, Germany): siPOOLS and CRISPR: the beginning of beautiful friendship
15:25 – 15:55	Ana Pombo (Berlin, Germany): Complex multi-enhancer contacts captured by Genome Architecture Mapping
15:55 – 16:20	Poster Flash Presentations
16:20 – 16:50	Coffee break

16:50 – 17:50 **DGZ Awards**

Walther Flemming Award: Brian Luke (Mainz, Germany)

Nikon Young Scientist Award: Sophie Steculorum (Cologne, Germany)

Binder Innovation Prize: Melina Schuh (Goettingen, Germany)

18:00 – 19:00 **Carl Zeiss Lecture**

Thomas D. Pollard (New Haven, USA): Analysis of endocytosis and cytokinesis by quantitative fluorescence microscopy

19:00 **Opening Reception**

Tuesday, March 15, 2016

09:00 – 12:00 Symposia S1 – S4

09:00 – 12:00 Symposium S1: RNA biology/Non-coding RNAs

Chairs: Michael Kiebler (Martinsried, Germany) and Alexander Hüttenhofer (Innsbruck, Austria)

09:00 – 09:30 Alexander Hüttenhofer (Innsbruck, Austria): Nucleic acids as diagnostic tools and targets in human diseases

09:30 – 10:00 Edouard Bertrand (Montpellier, France): Gene expression viewed through the microscope: from transcription to cytoplasmic RNA localization

10:00 – 10:15 Tejaswini S. Sharangdhar (Martinsried, Germany): Stauf2-dependent expression and dendritic localization of Calmodulin 3 mRNA is mediated by a retained intron in its 3'-UTR (short talk)

10:15 – 10:45 Coffee break

10:45 – 11:15 Alfredo Castello Palomares (Oxford, UK): Proteome-wide identification of RNA-binding domains by RBDmap

11:15 – 11:30 Utz Fischer (Wuerzburg, Germany): Mechanistic dissection of UsnRNP biogenesis and its role in disease (short talk)

11:30 – 11:45 Markus T. Bohnsack (Goettingen, Germany): On the life of the RNA methyltransferase EMG1 and the molecular basis of the Bowen-Conradi syndrome (short talk)

11:45 – 12:00 Matthias Erlacher (Innsbruck, Austria): Nucleotide modifications within bacterial messenger RNAs regulate their translation and are able to rewire the genetic code (short talk)

09:00 – 12:00 Symposium S2: Autophagy

Chairs: Thomas Wollert (Martinsried, Germany) and Claudine Kraft (Vienna, Austria)

09:00 – 09:30 Christian Behrends (Frankfurt/M., Germany): Human ATG8 proteins in autophagy and beyond

09:30 – 10:00 Katharina Simon (Oxford, UK): Autophagy in the healthy and diseased immune system

10:00 – 10:15 Oliver Schmidt (Innsbruck, Austria): The coordinated action of the MVB pathway and autophagy ensures cell survival during starvation (short talk)

10:15 – 10:45 Coffee break

10:45 – 11:15 Thomas Wollert (Martinsried, Germany): How to make an autophagosome – Membrane remodeling in autophagy

11:15 – 11:45 Claudine Kraft (Vienna, Austria): Molecular regulation of autophagy: signaling and beyond

11:45 – 12:00 Christina Reidick (Bochum, Germany): The role of the small GTPase Ypt7p in the selective autophagic degradation of peroxisomes (short talk)

09:00 – 12:00 Symposium S3: Visualization of membrane compartmentalization and dynamics

Chairs: Thomas Ott (Martinsried, Germany) and Petra Schwillie (Martinsried, Germany)

09:00 – 09:30 Katharina Gaus (Sydney, Australia): T cell receptor clustering regulates signalling

efficiency

- 09:30 – 10:00 Alf Honigmann (Dresden, Germany): Plasma membrane scaffolding and compartmentalisation
- 10:00 – 10:15 Ruben Fernandez-Busnadiego (Martinsried, Germany): Three-dimensional architecture of extended synaptotagmin-mediated endoplasmic reticulum-plasma membrane contact sites (short talk)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Roland Wedlich-Söldner (Muenster, Germany): Calcium-mediated actin reorganization as integrator of acute signal response
- 11:15 – 11:30 David Albrecht (London, UK): Segmentation of membrane protein motion in the axon initial segment (short talk)
- 11:30 – 11:45 Felix Spira (Vienna, Austria): Force-feedback guides self-assembly of the actomyosin ring (short talk)
- 11:45 – 12:00 Thomas Ott (Martinsried, Germany): The formation of an infection-related membrane domain is controlled by the sequential recruitment of scaffold and receptor proteins

09:00 – 12:00 Symposium S4: Mitochondria

Chairs: Barbara Conradt (Martinsried, Germany) and Stefan Jakobs (Goettingen, Germany)

- 09:00 – 09:15 Dejana Mokranjac (Martinsried, Germany): Molecular mechanisms of protein translocation across the mitochondrial inner membrane (short talk)
- 09:15 – 09:45 Noga Ron-Harel (Boston, USA): A proteomic analysis of proliferating mitochondria in early T cell activation identifies a central role for 1 carbon metabolism in T cell survival
- 09:45 – 10:00 Nicole Sakellari (Boston, USA): Cytoplasmic thioredoxin modifies Parkinson's disease phenotypes in Drosophila (short talk)
- 10:00 – 10:15 Tingying Peng (Munich, Germany): Structure-based assessment of cancerous mitochondria using deep networks (short talk)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Benoît Kornmann (Zurich, Switzerland): The push and pull of mitochondrial gymnastics: mechanical force in mitochondrial dynamics
- 11:15 – 11:30 Max E. Harner (Martinsried, Germany): Molecular pathways of the biogenesis of mitochondrial cristae (short talk)
- 11:30 – 12:00 Stefan Jakobs (Goettingen, Germany): Super-resolution microscopy of Bax assembly in apoptotic cells
- 12:00 – 13:00 Lunch / Exhibitor Presentations / Posters on display

12:00 – 13:00 Lunch Symposium: Carl Zeiss Microscopy GmbH

Novel confocal detectors and their potential for biological imaging
Dr. Bernhard Zimmermann, Carl Zeiss Microscopy GmbH

12:00 – 13:00 DGZ Member Meeting

13:00 – 15:00 **Poster Session 1: S1 – S4, P1 – P2 and General Topics**

15:00 – 18:00 **Plenary Session P2: Cytoskeleton/Mechanosensing**

Chairs: Reinhard Fässler (Martinsried, Germany) and Eugen Kerkhoff (Regensburg, Germany)

- 15:00 – 15:30 Grégory Giannone (Bordeaux, France): Super-resolution: a window for integrin spatiotemporal and mechanical regulation
- 15:30 – 16:00 Carsten Grashoff (Martinsried, Germany): Second-generation tension sensors reveal mechanism of extracellular rigidity sensing
- 16:00 – 16:30 Margaret Gardel (Chicago, USA): Mechanics of adherent cells
- 16:30 – 17:00 Coffee break
- 17:00 – 17:30 Ewa Paluch (London, UK): Cell morphogenesis across scales, from molecular processes to cell surface mechanics
- 17:30 – 18:00 Carl-Philipp Heisenberg (Klosterneuburg, Austria): Cell and tissue mechanics in zebrafish gastrulation

18:00 – 19:00 **Frontiers in Science Lecture**

Peter Becker (Martinsried, Germany): Telling apart the X chromosome from autosomes – a matter of life and death

19:00 **Get-Together**

Wednesday, March 16, 2016

09:00 – 12:00 Symposia S5 – S8

09:00 – 12:00 Symposium S5: Polarity and signaling

Chairs: Claus Schwechheimer (Munich, Germany) and Elisabeth Knust (Dresden, Germany)

- 09:00 – 09:30 Sophie Martin (Lausanne, Switzerland): Spatial regulation of cell-cell signalling during sexual reproduction in yeast
- 09:30 – 10:00 Shaul Yalovsky (Tel Aviv, Israel): Interaction of auxin, Ca²⁺ and ROP GTPase signaling in root development
- 10:00 – 10:15 Moritaka Nakamura (Potsdam, Germany): Auxin and Rho-of-plant direct actin-mediated polar nuclear migration in *Arabidopsis* root epidermal hair cells (short talk)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:10 Claus Schwechheimer and Inês C.R. Barbosa (Munich, Germany): Deciphering the mechanisms controlling plasma membrane anchoring and polarity of the auxin transport regulator D6 PROTEIN KINASE from *Arabidopsis thaliana*: phospholipid binding, phosphorylation and recycling
- 11:10 – 11:30 Elisabeth Knust (Dresden, Germany): The *Drosophila* Crumbs protein complex – a hub controlling polarity, adhesion and signaling
- 11:30 – 11:45 Rui Sun (Regensburg, Germany): PAR-6 functions as a tumor suppressor regulating cell polarity, cell adhesion and Hippo signaling by preventing degradation of Pals1 (short talk)
- 11:45 – 12:00 Björn Hegemann (Zurich, Switzerland): MAPK control of the Cdc42 GTPase is sufficient to navigate cells through complex environments (short talk)

09:00 – 12:00 Symposium S6: Migration/Adhesion

Chairs: Barbara Walzog (Munich, Germany) and Michael Sixt (Klosterneuburg, Austria)

- 09:00 – 09:30 Barbara Walzog (Munich, Germany): Integrin signaling and neutrophil trafficking in innate immunity
- 09:30 – 09:45 Jan Faix (Hannover, Germany): Cortical formins are required for efficient cell migration in confined environments (short talk)
- 09:45 – 10:00 Anna Lorentzen (Munich, Germany): Liquid-phase single cell polarity facilitates tumour cell attachment and metastasis (short talk)
- 10:00 – 10:15 Stefan Linder (Hamburg, Germany): Podosomes imprint MT1-MMP islets on the plasma membrane that form memory devices for podosome re-emergence (short talk)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Matthew Krummel (San Francisco, USA): Integrating the balance between motility and sensing at the immunological synapse
- 11:15 – 11:30 Frieda Kage (Braunschweig, Germany): FMNL formins are required for lamellipodial force generation (short talk)
- 11:30 – 12:00 Michael Sixt (Klosterneuburg, Austria): Adaptation of the migrating cells leading edge to counter-forces

09:00 – 12:00	Symposium S7: Cell cycle in cancer Chairs: Zuzana Storchova (Martinsried, Germany) and Ludger Hengst (Innsbruck, Austria)
09:00 – 09:30	Silke Hauf (Blacksburg, USA): Reconciling variation with accuracy - How cell division copes with intracellular variation
09:30 – 09:45	Katharina Deiss (London, UK): A genome-wide RNAi screen identifies G2 catenation checkpoint players not shared with other G2 checkpoints (short talk)
09:45 – 10:15	Ludger Hengst (Innsbruck, Austria): Signal integration by the intrinsically disordered protein p27 ^{Kip1}
10:15 – 10:45	Coffee break
10:45 – 11:00	Michael Krahn (Regensburg, Germany): Membrane targeting of LKB1 and its activation by phospholipids is essential for its function in development and tumor suppression (short talk)
11:00 – 11:15	Zuzana Storchova (Martinsried, Germany): Cell cycle arrest in response to aneuploidy and tetraploidy
11:15 – 11:30	Esther Zanin (Martinsried, Germany): TPXL-1 mediates aster-based clearing of contractile ring proteins from the cell poles during cytokinesis (short talk)
11:30 – 12:00	Bruce Edgar (Heidelberg, Germany): Growth-dependent G1/S control of <i>Drosophila</i> cell cycles
09:00 – 12:00	Symposium S8: Stem cells and regeneration Chairs: Jan Lohmann (Heidelberg, Germany) and Maria Elena Torres Padilla (Illkirch, France)
09:00 – 09:30	Ian Chambers (Edinburgh, UK): Extinction of Esrrb triggers the dismantling of naïve pluripotency and marks commitment to differentiation
09:30 – 09:45	Patrick Weber (Darmstadt, Germany): DNA replication dynamics in embryonic stem cells (short talk)
09:45 – 10:15	Ana Martin-Villalba (Heidelberg, Germany): Stem cell heterogeneity in the adult naive and injured brain: lessons from single cell transcriptomics
10:15 – 10:45	Coffee break
10:45 – 11:15	Jan Lohmann (Heidelberg, Germany): Non-cell autonomous stem cell induction: Lessons from plants
11:15 – 11:30	Thomas Dresselhaus (Regensburg, Germany): Transcriptome dynamics during asymmetric zygote division in maize (short talk)
11:30 – 11:45	Christian Bökel (Dresden, Germany): Stem cell micromanagement by the <i>Drosophila</i> testis niche (short talk)
11:45 – 12:00	David Petrik (Neuherberg, Germany): Adult neural stem/progenitor cells are regulated by mechano-sensing ENaC channels (short talk)
12:00 – 13:00	Lunch / Exhibitor Presentations / Posters on display
13:00 – 15:00	Poster Session 2: S5 – S8 and P3

15:00 – 18:00	Plenary Session P3: Membrane trafficking/sorting Chairs: Lukas Huber (Innsbruck, Austria) and Julia von Blume (Martinsried, Germany)
15:00 – 15:30	Vivek Malhotra (Barcelona, Spain): Mechanism of unconventional protein secretion
15:30 – 16:00	Elizabeth Miller (Cambridge, UK): Policing secretion: traffic COPs and protein quality control in the endoplasmic reticulum
16:00 – 16:30	Coffee break
16:30 – 16:45	Awards (Poster and quiz prizes)
16:45 – 17:15	David Teis (Innsbruck, Austria): Dynamics of the ESCRT machinery on endosomes
17:15 – 17:45	Julia von Blume (Martinsried, Germany): Ca ²⁺ -dependent Cab45 oligomerisation sorts cargo at the Trans Golgi Network
17:45 – 18:00	Concluding remarks
18:00	End of the meeting