



Cellular Microcompartments: From Analytics to Physiology

Wednesday, 27th - Friday, 29th of September 2017
Bohnenkamp House of the Botanical Garden
University of Osnabrück



Program

Wednesday, 27th of September

18:00 *Registration*

18:30 *Dinner*

Opening lecture (C. Ungermann/M. Hensel)

19:30 *Welcome*

19:40 **Gabriel Waksman** (University of London)
Structural and Molecular Biology of Bacterial
Secretion Systems

20:30 *Get-together & drinks*

Thursday, 28th of September

Organelle organization (J. Holthuis/F. Fröhlich)

09:00 **Maria Bohnert** (Weizmann Institute, Rehovot)
Molecular determinants of lipid droplet identity

09:30 **Sean Munro** (University of Cambridge)
Capture of transport vesicles at the Golgi

10:00 **Elina Ikonen** (University of Helsinki)
Principles of lipid trafficking in human cells

10:30 *Coffee Break*

Membrane Trafficking (C. Ungermann/D. Kümmel)

11:00 **Oliver Daumke** (MDC, HU Berlin)
Structure, function and mechanism of dynamin
superfamily proteins

11:30 **Catherine Rabouille** (Hubrecht Institute, Utrecht)
Sec 16: from ERES to the formation of
membrane-less stress assemblies

12:00 **Julia von Blume** (MPI of Biochemistry,
Martinsried)
Cargo sorting during protein secretion

12:30 **Anne Spang** (Biozentrum Basel)
Cellular compartmentalisation

13:00 *Lunch*

14:00 **Poster session I** & coffee

Symposium on Cellular Nanoanalytics
(J. Piehler/R. Wedlich-Söldner)

16:00 **Joachim Spatz** (MPI for Intelligent Systems,
Stuttgart)
Mechanotransduction in Cell Collectives

16:30 **Ralf Jungmann** (MPI of Biochemistry,
Martinsried)
Super-Resolution Microscopy with DNA-
Molecules

17:00 **Martin Loose** (ISTA, Klosterneuburg)
Self-organization of membrane bound proteins
into dynamic patterns

17:30 *Break - Refreshments*

18:00 **Viola Vogel** (ETH Zürich)
Mechanobiology of the extracellular matrix niche

18:30 **Carsten Grashoff** (MPI of Biochemistry,
Martinsried)
Extracellular rigidity sensing by talin-isoform
specific mechanical linkages

19:00 *CellNanOs Live (Guided tour, food & drinks)*

Friday, 29th of September

Neuronal Microcompartments (J. Klingauf/R. Brandt)

09:00 **Michael Kiebler** (LMU München)
The Role of the RNA-Binding Protein Stauf2
Dendritic mRNA Localization and Memory

09:30 **Patrik Verstreken** (Center for Brain & Disease
Research, Leuven)
Autophagosomes at the synapse

10:00 **Kristian Franze** (University of Cambridge)
The integration of mechanical and chemical
signalling in neuronal pathfinding

10:30 *Coffee Break*

Intra- and intercellular Signaling (A. Paululat/S. Zachgo)

- 11:00 **Iva Tolic** (Institut Ruđer Bošković, Zagreb)
Forces and torques in the mitotic spindle
- 11:30 **Aurelio Teleman** (DKFZ, Heidelberg)
Regulation of metabolism by stearic acid
- 12:00 **Salim Seyfried** (Universität of Potsdam)
Mechanotransduction and signaling during heart development
- 12:30 **Tina Romeis** (Free University Berlin)
Regulation and function of calcium-dependent protein kinases (CDPK) in plant stress signaling and development

13:00 *Lunch*

13:45 *offer of 45 min tour of the botanical garden*

14:00 **Poster session II & coffee**

Dynamics of membrane proteins
(K. Busch/H.-J. Steinhoff)

- 16:00 **Jose Antonio Enriquez** (CNIC, Madrid)
Superassembly between respiratory complexes: Building functional heterogeneity
- 16:30 **Ana Garcia** (University of Tübingen)
Mitochondrial alterations during apoptosis
- 17:00 **Holger Stark** (MPI of Biophysical Chemistry, Göttingen)
High-resolution structure determination of dynamic macromolecular complexes by cryo-Em
- 17:30 **Justin Taraska** (NIH/NHLBI, Bethesda)
Imaging the nanometer-scale structure endocytosis with correlative super-resolution light and electron microscopy

Tour of Osnabrück on our way to the Party

19:30 *Party (Lagerhalle - Spitzboden)*

List of Posters

- 1 Single-Molecule Imaging Reveals Dynamic Biphasic Partition of the RNA-Binding proteins G3BP1 and IMP1 in Stress Granules of Living Neuronal Cells. **Benedikt Niewidok**, UOS Neurobiology
- 2 Sorting of SV proteins in presynaptic membrane during neurotransmission. **Julia Trahe**, WWU Medical Physics and Biophysics
- 3 Nano-Architecture of the presynaptic AZ: new insights from nanopatterned presynapses. **Georgii Nosov**, WWU Medical Physics and Biophysics
- 4 Micro- and nanostructured surface architectures for label free spectroscopic and microscopic protein sensing. **Julia Flesch**, UOS Biophysics
- 5 Spatiotemporal Dynamics of Receptor Assembly and Activation of Class II Cytokine Receptors. **Junel Sotolongo Bellón**, UOS Biophysics
- 6 Spatiotemporal organization of integral membrane proteins in polymer supported membranes. **Oliver Birkholz**, UOS Biophysics
- 7 Spatiotemporal organization of the Wnt signalosomes. **Changjiang You**, UOS Biophysics
- 8 Upconversion Nanoparticles for Superresolved Interrogation and Manipulation of Protein Function in Living Cells. **Christoph Drees**, UOS Biophysics
- 9 In situ single cell pull-down for probing stability and stoichiometry of cytosolic protein complexes. **Tim Wedeking**, UOS Biophysics
- 10 Towards 3D tracking of OXPHOS proteins. **Timo Appelhans**, WWU Molecular Cell Biology
- 11 Respiratory supercomplex formation under different conditions. **Bettina Rieger**, WWU Molecular Cell Biology
- 12 Investigation of the membrane-integral proteins AtpI as well as AtpB in Escherichia coli and AtpI in Acetobacterium woodii regarding the aqueous accessibility of individual amino acid residues. **Diana Klütsch**, UOS Microbiology

- 13 Partitioning of Escherichia coli FOF1-ATP-synthase into disordered lipid domains in the cytoplasmic membrane. **Marvin Gohrbandt**, UOS Microbiology
- 14 Functional analysis of a putative ceramide sensor involved in mitochondrial apoptosis. **Jan Parolek**, UOS Molecular Cell Biology
- 15 Mapping the binding site of tumor suppressor lipid ceramide on mitochondrial porins VDAC1 and VDAC2. **Dina Hassan**, UOS Molecular Cell Biology
- 16 Photoswitchable ceramides enable optical control of sphingolipid biosynthesis. **Matthijs Kol**, UOS Molecular Cell Biology
- 17 Cellular and molecular principles of lateral segregation in the plasma membrane. **Annegret Elting**, WWU Cellular Dynamics
- 18 Nanoscale membrane deformations control lamellipodia re-initiation, cell shape and migration. **Isabell Begemann**, WWU Nanoscale Forces in Cells
- 19 Rebuilding Rab5 activation network in vitro. **Urban Bezeljak**, ISTA Cellular Self-Organization
- 20 A guanine nucleotide exchange factor (GEF) limits Rab GTPase-driven membrane fusion. **Lars Langemeyer**, UOS Biochemistry
- 21 Architecture and function of the vacuole and mitochondrial patch (vCLAMP) organelle contact site. **Ayelen González-Montoro**, UOS Biochemistry
- 22 The I-BAR protein Ivy1 regulates vacuole biogenesis via phosphatidylinositol 3,5-biphosphate levels. **Pedro Carpio Malia**, UOS Biochemistry
- 23 Unraveling the role of AP-3 in vesicle formation and fusion. **Jannis Schoppe**, UOS Biochemistry
- 24 Analysis of Mechanism of Autophagosome-Vacuole Fusion in Yeast. **Jieqiong Gao**, UOS Biochemistry
- 25 Structural and functional analysis of the Rab7/Ypt7 guanine nucleotide exchange factor Mon1-Ccz. **Stephan Kiontke**, UOS Structural Biology
- 26 TSC1 is an oligomeric scaffold for TSC complex assembly and membrane recruitment. **Reinhard Zech**, UOS Structural Biology

- 27 Conformational changes of Channelrhodopin-2 investigated by time-resolved EPR spectroscopy. **Magdalena Schumacher**, UOS Physics
- 28 Upcycling the membrane: Vesicles enhance nanotube-mediated metabolite cross-feeding. **Melchior Schröder**, UOS Ecology
- 29 Partner choice in bacteria? - The role of chemotaxis and adhesiveness for establishing metabolic cross-feeding interactions. **Piyali Pal Chowdhury**, UOS Ecology
- 30 Analyzing brush border effacement during invasion of *Salmonella Typhimurium* in polarized epithelial cells by correlative light and electron microscopy. **Carina Kommnick**, UOS Microbiology
- 31 Structural and functional dissection reveals distinct roles of Ca²⁺-binding sites in the giant adhesin SiiE of *Salmonella enterica*. **Britta Peters**, UOS Microbiology
- 32 The role of Salmonella stress response systems for the intracellular lifestyle of *Salmonella Typhimurium*. **Marc Schulte**, UOS Microbiology
- 33 Endocytosis in fast growing cells. **Dario Wabner**, UOS Genetics
- 34 Physiological characterization of a novel mechanism regulating heart and muscle function in *Drosophila melanogaster*. **Ronja Schiemann**, UOS Zoology
- 35 Distinct domains present in the ADAMTSL protein Lonely heart are crucial to proper ECM formation *Drosophila melanogaster*. **Yanina Post**, UOS Zoology
- 36 Histology and function of the *Drosophila* intracardiac valve cells. **Kay Lammers**, UOS Zoology
- 37 Analysis of the basal function of NPRs in liverworts: defense or sexual reproduction? **Melanie Preuß**, UOS Botany
- 38 Comparative analysis of redox-dependent nuclear ROXY/TGA functions in basal and higher land plants. **Nora Gutsche**, UOS Botany

Organizer:

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