

**31th Annual Meeting of the German Society for Cell Biology (DGZ)
March 12 – 15, 2008, Marburg**

WEDNESDAY, March 12, 2008

- 12:00 Registration
- 14:00 – 15:00 CARL ZEISS LECTURE
Wolfgang Baumeister (Martinsried): Cryo-electron microscopy: From molecules to systems
- 15:00 – 16:00 DGZ AWARDS
Walther Flemming Medaille
Thorsten Hoppe (Hamburg): Protein degradation in muscle development
Binder Innovationspreis
Heinrich Leonhardt & Ulrich Rothbauer (Planegg-Martinsried): Targeting and tracing antigens in living cells with fluorescent nanobodies
Werner Risau Preis
Jonathan Leslie (London): Notch signalling in angiogenesis: lessons from the zebrafish
- 16:00 – 16:30 Coffee Break
- 16:30 – 19:30 SYMPOSIUM 1
S1: Trafficking (Endo/Exocytosis)
Chairs: Hans-Peter Hauri (Basel) and Ralf Jacob (Marburg)
Jean Gruenberg (Geneva): Membrane dynamics in the endosomal pathway
Benjamin Nichols (Cambridge, UK): Diverse Endocytic Pathways in Mammalian Cells
Arun Pal (Dresden): Key regulators of endosome dynamics in physiological versus pathological conditions
Beat Nyfeler (Basel): Receptor-mediated protein export from the endoplasmic reticulum
Delphine Delacour (Marburg): Galectins in apical trafficking of epithelial cells
- 20:00 GET-TOGETHER
Marburg Castle, Fürstensaal

THURSDAY, March 13, 2008

- 08:30 – 12:00 SYMPOSIA 2 and 3
- 08:30 – 12:00 S2: Stem Cells
Chair: Albrecht Müller (Würzburg)
Hans Schöler (Münster): Reprogramming of somatic and germline cells

Oliver Brüstle (Bonn): Fate restriction and plasticity of in vitro generated neural stem cells

Timm Schroeder (Neuherberg): Tracking hematopoiesis at the single cell level: New tools for old questions

Coffee Break

Constanze Bonifer (Leeds): Mechanistic insights into epigenetic mechanisms regulating gene activation mechanisms during early hematopoietic development

Frank Rosenbauer (Berlin): Genetic and epigenetic control of hematopoietic and leukemic stem cell function (*sponsored by Heinz Gundlach, DGZ Member, formerly Carl Zeiss*)

08:30 – 12:00

S3: Cytoskeletal Dynamics

Chair: Elmar Schiebel (Heidelberg)

Mark Leaver (Newcastle): Bacterial cytoskeleton

Elmar Schiebel (Heidelberg): The mechanics of anaphase spindle extension in budding yeast

Tony Hyman (Dresden): Microtubule cell cortex interactions

Coffee Break

Michael Way (London): Actin motility and cell cycle dependent changes

J. Victor Small (Vienna): Actin cytoskeleton

12:00 – 15:00

LUNCH / POSTER SESSION / INDUSTRY EXHIBITION

13:30 – 14:30

TUTORIALS BY INDUSTRY

13:30 – 14:00

Roche Diagnostics GmbH

Gerätebasierte Analyse lebender Zellen: Real-Time Monitoring von Zellfunktionen

Dr. Manfred Watzele (Roche Diagnostics GmbH, Senior Scientist R&D, Penzberg): Real-time and label-free measurements with an impedance reading based cell analyzer - a new method for monitoring of cellular events

Most cellular screening assays currently depend on the use of labeled tracers to detect different cellular events. Those assay formats are mostly single endpoint measurements giving no information about dynamic processes and are limited by the need of including lysing and washing procedures, or interference of the label with the physiology of the cells. A newly developed method based on label-free impedance readings allows for the dynamic monitoring of cellular events. Various applications like quality control of cells, or measuring cytotoxicity/apoptosis and receptor-mediated signaling, cell-mediated cytotoxicity, cell adhesion and virus-mediated cytopathogenicity are demonstrated.

13:30 – 14:30

Nikon GmbH

Optimizing Cell Care during Live microscopic Imaging

- 13:30 – 13:45 Dr. Jörg Kukulies (Nikon GmbH):
Selected High-Lights for Optimizing Cell Care on the Microscope. A short Introduction
- 13:45 – 14:15 Dr. Erik M.M. Manders (Centre for Advanced Microscopy, Swammerdam Institute for Life Sciences, University of Amsterdam): Strong (7-fold) reduction of photobleaching and phototoxicity by CLEM. Controlled Light Exposure (confocal) Microscopy
- 14:15 – 14:30 Discussions and fading out with drinks
- 13:30 – 14:30 Leica Mikrosysteme Vertrieb GmbH
Scott Young (Leica Microsystems): Solving the Challenge of Fluorescence with Confocal Microscopy
Dr. Peter Schön (Veeco Instruments GmbH): Multimodal Imaging: Combining Optical Microscopy with Atomic Force Microscopy
Prof. Dr. Ralf Jacob (Universität Marburg): TIRF Analysis of Protein Trafficking
- 15:00 – 18:30 MINISYMPOSIA 1 - 4
- 15:00 – 18:30 MS1: Cell Adhesion
Chair: Dietmar Vestweber (Münster)
Dietmar Vestweber (Münster): Control of leukocyte extravasation by endothelial cell contact proteins
Karl Matter (London): Tight junctions in epithelial differentiation and inflammatory signalling
Reinhard Fässler (Martinsried): Molecular control of integrin adhesion
Coffee Break
Klara Brixius (Cologne): Influence of β -parvin signaling on exercise-induced adaptations of skeletal muscle (short talk)
Dorit Arlt (Heidelberg): The role of the transmembrane protein Vmp1 in the formation of cell-cell contacts (short talk)
Reinhard Geßner (Leipzig): Cis dimerization of cadherins is mediated solely by the ectodomain independent of calcium ions, trans binding and cytoplasmic interactions (short talk)
- 15:00 – 18:30 MS2: Pathologic Aggregation of Proteins
Chair: Eckhard Mandelkow (Hamburg)
Hilal Lashuel (Lausanne): Elucidating the biochemical and structural basis of α -synuclein toxicity in Parkinson's disease and related disorders
Jan Bieschke (Berlin): Modulation of pathogenic aggregation pathways with small molecules
Eckhard Mandelkow (Hamburg): Tau protein: Structure, cellular functions, and involvement in Alzheimer neurodegeneration

Coffee Break

Sadasivam Jeganathan (Hamburg): In search for the pathological conformation of tau protein (short talk)

Dieter O. Fürst (Bonn): A mutation in the dimerization domain of filamin C causes a protein aggregation myopathy (short talk)

Anna von Mikecz (Düsseldorf): Biological function of nuclear protein aggregation (short talk)

15:00 – 18:30

MS3: Epithelial Morphogenesis, Polarity and Development
Chair: Elisabeth Knust (Dresden)

Christian Dahmann (Dresden): Regulation of cell shape in developing epithelia

Andre Menke (Ulm): K-Ras-induced expression of the neural cell adhesion protein NCAM disturbs E-cadherin-dependent cellular adhesion (short talk)

Olaf Bossinger (Düsseldorf): Epithelial development in *C. elegans*

Coffee Break

Marouan Abouhamed (Münster): Myosin 9a-RhoGAP deficiency in mice leads to severe hydrocephalus (short talk)

Elisabeth Knust (Dresden): From epithelial cell polarity to retinal degeneration

15:00 – 18:30

MS4: Organelle Biogenesis and Trafficking
Chair: Ralf Erdmann (Bochum)

Peter Rehling (Freiburg): To sneak a peek on mitochondrial protein biogenesis

Roland Beckmann (Munich): Cryo EM of cotranslational protein translocation

Ralf Erdmann (Bochum): Protein import into peroxisomes

Coffee Break

Karl Bihlmaier (Kaiserslautern): The disulfide relay system of mitochondria is connected to the respiratory chain (short talk)

Georg Lüers (Marburg): CCS-mediated import of SOD1 into peroxisomes - existence of a natural piggyback mechanism (short talk)

Markus Maniak (Kassel): Competition between targeting signals in hybrid proteins provides information on their relative in vivo affinities for subcellular compartments (short talk)

19:00 – 20:00

LECTURE FOR THE PUBLIC

Prof. Hans Schöler (Münster): Stem cells in science and society

FRIDAY, March 14, 2008

08:30 – 12:00

SYMPOSIA 4 and 5

08:30 – 12:00

S4: Host-Pathogens Interactions

Chairs: Trinad Chakraborty (Giessen) and Andrea Maisner (Marburg)

Andrea Maisner (Marburg): Influence of glycoprotein targeting on measles virus replication in polarized epithelia and lymphocytes

Jacomine Krijnse-Locker (Heidelberg): Assembly of poxviruses using electron tomography

Beate Sodeik (Hannover): Herpes Simplex Virus - a hitch hiker on dynein and kinesin

Coffee Break

Klemens Rottner (Braunschweig): Hijacking of Arp2/3-complex mediated actin assembly by bacterial pathogens

Trinad Chakraborty (Giessen): Host cell defences to Listeria infection

08:30 – 12:00

S5: Cell Biology of Metals

Chair: Ralf Mendel (Braunschweig)

Sabeeha Merchant (Los Angeles): Between a rock and a hard place: Trace metal homeostasis in plants

Jonathan D. Gitlin (St. Louis): Cell Biology of Copper: Lessons from human genetic disease

Ralf R. Mendel (Braunschweig): Cell biology of molybdenum: a bridge between Arabidopsis and human genetic disease

Coffee Break

Ulrich Mühlenhoff (Marburg): Biogenesis of iron-sulfur proteins in eukaryotes. Recent developments

Matthias Hentze (Heidelberg): Understanding iron regulatory networks

12:00 – 15:00

LUNCH / POSTER SESSION / INDUSTRY EXHIBITION

13:00 – 14:00

DGZ MEMBER MEETING

14:00 – 15:00

TUTORIALS BY INDUSTRY

14:00 – 15:00

Carl Zeiss MicroImaging GmbH

From Confocal Imaging to Molecular Analysis: Laser Technologies from Carl Zeiss

14:00 – 14:30

Dr. Monika Marx (Carl Zeiss MicroImaging GmbH): New Developments from Carl Zeiss in Confocal Microscopy

14:30 – 15:00

Dr. Holger Lorenz (Carl Zeiss MicroImaging GmbH): Contact-free Isolation and Manipulation of Live Cells by Laser Microdissection

14:00 – 15:00

IBA GmbH

Dr. Joachim Bertram (IBA GmbH): MATra (Magnet Assisted Transfection): A smooth particle bombardment to enhance intracellular delivery – an up-date

Obtain greatly improved transfection rates in just a few minutes with this exciting and easy-to-handle technology which is exploiting magnetic force to deliver nucleic acids into target cells leading to efficient transfection without disturbing the membrane architecture. Successfully used on a large number of cell lines.

15:00 – 18:30

MINISYMPOSIA 5 - 7

15:00 – 18:30

MS5: Advanced Methods in Cell Biology

Chair: Rainer Pepperkok (Heidelberg)

Rainer Pepperkok (Heidelberg): High content screening microscopy for systems biology

Özgür Sahin (Heidelberg): Modeling of G1/S transition in Trastuzumab resistant breast cancer (short talk)

J. K. Heinrich Hörber (Bristol): Nanoparticles and cell membranes

Coffee Break

Loretta del Mercato (Marburg): Fluorescent labeling of cells with colloidal quantum dots (short talk)

Isabel Raabe (Dresden): Laser ablation of mitotic spindles by visible and infrared light (short talk)

Thomas Müller-Reichert (Dresden): 3D Methods for structural cell biology

15:00 – 18:30

MS6: Autophagy

Chair: Michael Thumm (Göttingen)

Michael Thumm (Göttingen): Molecular mechanisms of micronucleophagy in *S. cerevisiae*

Fulvio Reggiori (Utrecht): Membrane dynamics during autophagy in yeast

Patrice Codogno (Villejuif): Signaling and regulation of macroautophagy

Tassula Proikas-Cezanne (Tübingen): Human WIPI-1/Atg18 functions as a novel PI(3)P effector at the onset of autophagy (short talk)

15:00 – 18:30

MS7: Nuclear Architecture and Dynamics

Chair: Ed Hurt (Heidelberg)

Ralph Kehlenbach (Göttingen): Nup358-RanGAP is required for efficient importin alpha/beta dependent nuclear import (short talk)

Ed Hurt (Heidelberg): Formation of ribonucleoprotein particles and their nuclear export through the nuclear pore complexes

Birthe Fahrenkrog (Basel): Novel function for nucleoporin Nup153 in cytokinesis (short talk)

Coffee Break

Richard W. Wozniak (Edmonton): Communication between nuclear pore complexes and kinetochores

Ralph Gräf (Potsdam): The centrosome on a leash: characterization of proteins involved in the attachment of the centrosome to the nucleus (short talk)

Reimer Stick (Bremen): Nuclear lamina structure and organization (short talk)

19:00 – 20:00

LECTURE FOR THE PUBLIC

Prof. Werner W. Franke (Heidelberg): Governmentally supported criminal experiments using young human beings in sports (doping): cell biological, medical aspects and the role of the scientists

20:30

SPEAKERS' DINNER

Deutsches Haus / Gewölbekeller (Deutschhausstr. 10)

SATURDAY, March 15, 2008

09:00 – 11:30

MINISYMPOSIA 8 - 10

09:00 – 11:30

MS8: Quality Control of Macromolecules

Chair: Thomas Sommer (Berlin)

Jörg Höhfeld (Bonn): From creator to terminator - molecular chaperones in protein degradation

Maurizio Molinari (Bellinzona): ERAD tuning: segregation and rapid turnover of EDEM1 modulates standard ERAD and folding activities

Thomas Sommer (Berlin): Protein quality control and degradation at the endoplasmic reticulum

Coffee Break

09:00 – 11:30

MS9: Cell-Cell Fusion

Chairs: Carmen Birchmeier (Berlin) and Renate Renkawitz-Pohl (Marburg)

Eric Rubinstein (Villejuif): Tetraspanins and cell-cell fusion

Benjamin Podbilewicz (Haifa): The first family of eukaryotic cell-cell fusion proteins

Renate Renkawitz-Pohl (Marburg): Cell biology of myoblast fusion in *Drosophila*

Coffee Break

Susanne-Filiz Önel (Marburg): The actin regulators WASP and SCAR/WAVE control different steps of myoblast fusion in *Drosophila* (short talk)

Elena Vasyutina (Berlin): Fusion of Murine Skeletal Myoblasts: The role of the small GTPases Rac1 and Cdc42

09:00 – 11:30

MS10: Small RNAs in Development

Chair: Wolfgang Nellen (Kassel)

Ramesh Pillai (Grenoble): Mechanisms of small RNA-mediated gene repression

Wolfgang Nellen (Kassel): Negative regulators of RNA mediated gene silencing

Markus Stoffel (Zürich): MicroRNAs: Function and therapeutical implications

Coffee Break

11:30 – 12:30

LUNCH

12:30 – 15:30

SYMPOSIUM 6

S6: Protein Modifications in Regulation and Degradation

Chairs: Frauke Melchior (Göttingen) and Martin Scheffner (Konstanz)

Martin Scheffner (Konstanz): The ubiquitin ligase E6-AP and its role in human disease

Michael Rape (Berkeley): Regulation of cell division by ubiquitin-dependent proteolysis

Simona Polo (Milan): Ubiquitin in the regulation of EGFR signaling and endocytosis

Christopher D. Lima (New York): Insights to protein modification by SUMO, a ubiquitin-like modifier.

Frauke Melchior (Göttingen): Posttranslational modification with SUMO

15:30

END OF MEETING