

**28<sup>th</sup> Annual Meeting of the German Society for Cell Biology (DGZ)**  
**March 16 – 19, 2005, Heidelberg**

**Wednesday, March 16, 2005**

- 12.00 Registration
- 14.00 Opening
- 14.30 – 15.15 Werner W. Franke (Heidelberg):  
On the 30<sup>th</sup> Birthday of the DGZ: Things left to do
- 15.15 – 15.30 Break
- 15.30 – 16.30 **Carl Zeiss Lecture:** Gary G. Borisy (Chicago)
- 16.30 – 17.00 Break
- 17.00 – 18.30 **Frontiers in Cell Biology**  
Chair: Werner W. Franke (Heidelberg)
- 17.00 – 17.30 Ludwig Thierfelder (Berlin)  
Transmembrane pathology and (life saving) transvenous therapy. A translational approach in heart muscle research
- 17.30 – 18.00 Christiane Kirchhoff (Hamburg), Wolfgang Schulze (Hamburg)  
Understanding and treating male infertility – from testicular biopsies to genes to new therapeutic perspectives
- 18.00 – 18.30 Kai Simons (Dresden)  
Lipid rafts in membrane trafficking
- 18.30 – 19.30 **Award Presentations**  
*including presentations by the award winners*
- Walther Flemming Medaille: Anne Spang (Tübingen)  
Intracellular protein- and membrane transport in yeast
- Binder Innovationspreis: Frauke Melchior (Göttingen)  
SUMO – small protein with weighty functions
- Werner Risau Preis: Taija Mäkinen (Martinsried)  
EphrinB2 is required for the development of lymphatic vasculature
- 19.30 **Get Together**

**Thursday, March 17, 2005**

- 09.00 – 12.00 **TWIN SYMPOSIA 1 and 2**
- TS 1: Chromosomes/Chromatin**  
Chairs: Renato Paro and Thomas Cremer
- 09.00 – 09.30 Renato Paro (Heidelberg)  
The role of non-coding RNAs in transcriptional memory
- 09.30 – 10.00 Neil Brockdorff (London)  
X chromosome inactivation and polycomb group protein function

- 10.00 – 10.30 Denise Barlow (Vienna)  
Genomic imprints and non-coding RNAs
- 10.30 – 11.00 Break
- 11.00 – 11.30 Thomas Cremer (München)  
Nuclear architecture: structure begets function
- 11.30 – 12.00 David Spector (Cold Spring Harbor)  
A new twist on the central dogma
- TS 2: Cell Biology of Neurodegeneration**  
Chair: Eckhard Mandelkow (Hamburg)
- 09.00 – 09.30 Don W. Cleveland (La Jolla)  
Mechanisms of motor neuron growth and death: Neurofilaments, SOD1, and ALS
- 09.30 – 10.00 Sangram S. Sisodia (Chicago)  
Molecular analysis of presenilin function
- 10.00 – 10.30 Eva-Maria Mandelkow (Hamburg)  
Axonal traffic jams and neurodegeneration caused by interference between Tau and motor proteins
- 10.30 – 11.00 Break
- 11.00 – 11.30 Lennart Mucke (San Francisco)  
Mechanisms of cognitive decline in models of Alzheimer's disease
- 11.30 – 12.00 Joachim Herz (Dallas)  
ApoE receptors in the nervous system
- 12.00 – 15.30 **Poster Session**  
TS1, S1, S2, O40-49  
TS2, S3, S4, O1-39
- 14.30 – 15.30 **DGZ Member Meeting**
- 15.30 – 18.30 **SYMPOSIA 1 - 4**
- S 1: SUMO/Ubiquitin**  
Chair: Frauke Melchior
- 15.30 – 15.45 Introduction
- 15.45 – 16.15 Linda Hicke (Evanston)  
Regulation of receptor endocytosis by monoubiquitin signals
- 16.15 – 16.30 Jörg Höffeld (Bonn)  
To be or not to be – molecular chaperones in protein degradation
- 16.30 – 17.00 Frauke Melchior (Göttingen)  
Ubiquitin related protein SUMO – a regulator of protein functions
- 17.00 – 17.30 Break
- 17.30 – 18.00 Stefan Jentsch (Martinsried)  
Ubiquitin, SUMO, and DNA repair
- 18.00 – 18.15 Silke Tillmanns (Münster)  
A posttranslational modification that regulates the balance between monocytes and macrophages

18.15 – 18.30 Anna von Mikecz (Düsseldorf)  
Proteasomes degrade proteins in distinct subdomains of the cell nucleus

## **S 2: Signalling and Tumorigenesis**

Chair: Peter Angel

15.30 – 15.45 Introduction

15.45 – 16.00 Peter Angel (Heidelberg)  
Cell-cell communication in skin remodelling and tumorigenesis

16.00 – 16.30 Claus Scheidereit (Berlin)  
Cross-talk of IKK/NF- $\kappa$ B and AP-1 signaling in human lymphomas

16.30 – 17.00 Eduard Batlle (Barcelona)  
Eph receptors in intestinal cell positioning and colorectal cancer

17.00 – 17.30 Break

17.30 – 18.00 Peter Herrlich (Jena)  
Novel regulatory step in the regulation of the Ras-pathway

18.00 – 18.15 Gertraud Orend (Basel)  
Oncogenic signaling induced by tenascin-C

18.15 – 18.30 Marion Lohrum (Nijmegen)  
Function and regulation of p73 and p63 in p53-mediated tumour suppression

## **S 3: Nuclear Transport**

Chair: Ed Hurt

15.30 – 15.45 Introduction

15.45 – 16.15 Ueli Aebi (Basel)  
The nuclear pore complex and nucleocytoplasmic transport: Who is doing what?

16.15 – 16.30 Birthe Fahrenkrog (Basel)  
The domain topology of vertebrate Nup153 is linked to the transport status of the nuclear pore complex

16.30 – 17.00 Murray Stewart (Cambridge)  
The molecular mechanism of nuclear protein import

17.00 – 17.30 Break

17.30 – 17.45 Cordula Enenkel (Berlin)  
Nuclear import and biogenesis of proteasomes in yeast

17.45 – 18.15 Ed Hurt (Heidelberg)  
Connections between transcription and nuclear mRNA export

18.15 – 18.30 Ute Schmidt (Heidelberg)  
Live observation of RNA associated with Y14 and NXF1 reveals ATP-dependent nuclear retention of endogenous hnRNPs

## **S 4: Chemotaxis and Cell Polarity**

Chair: Angelika A. Noegel (Köln)

15.30 – 16.00 Klaus Palme (Freiburg)  
The role of cell polarity in plant development

- 16.00 – 16.30 Michael Schleicher (München)  
Cell polarity and directed movement in Dictyostelium amoebae
- 16.30 – 17.00 Sandrine Etienne-Manneville (Paris)  
Regulation and function of APC-hDlg interaction during astrocyte migration
- 17.00 – 17.30 Break
- 17.30 – 18.00 Cornelis Weijer (Dundee)  
Chemotactic cell movement and its role Dictyostelium development and chick gastrulation
- 18.00 – 18.15 Klemens Rottner (Braunschweig)  
N-WASP and Arp2/3-complex function in clathrin-mediated endocytosis
- 18.15 – 18.30 Francisco Rivero (Köln)  
Conserved Rho-regulated signaling pathways: from cytoskeleton remodeling to ubiquitination by RhoBTB proteins

19.00

### **Tutorials**

#### **Antibodies by Design (Division of MorphoSys AG)**

Karin Jury: Custom monoclonal antibodies in just 8 weeks!

#### **Quantomix Ltd**

Alexander Chausovsky: WETSEM(tm) - A new technology for high resolution imaging of fully hydrated biological samples

#### **Leica Mikrosysteme Vertrieb GmbH**

Advanced confocal techniques 4 Pi, FCS, FLIM

#### *Plenary Talks:*

- Studying nuclear structure and chromatin-modifying proteins by fluorescence correlation spectroscopy  
Speaker: Dr. Karsten Rippe
- Analytical biology FCS and FLIM solutions with Leica TCS SPS AOBS, Superresolution: 4 Pi Technology and Application  
Speaker: Dr. Rolf Borlinghaus
- FLIM microscopy for the analysis of lipid transports  
Speaker: Dr. T. Werner:

#### **Olympus Deutschland GmbH**

Innovative concepts of fluorescence imaging in life cell applications

#### *Plenary Talks:*

- Advantage of 100% real-time control in life cell imaging experiments
- LSM FV1000 – twin scanner technology for lightsimulation and full capability of a spectrometric system
- FRAP and photoactivation, reasons to be fast

Speakers: Dr. Andreas Pfuhl, Dr. Michael Glombik, Dr. Jens Rietdorf

### **Friday, March 18, 2005**

09.00 – 12.00 **TWIN SYMPOSIA 3 and 4**

### **TS 3: Stem Cells**

Chairs: Nissim Benvenisty and Otmar D. Wiestler (Heidelberg)

- 09.00 – 09.30 Benjamin E. Reubinoff (Jerusalem)  
Human embryonic stem cells - a potential platform for the treatment of neurodegenerative disorders
- 09.30 – 10.00 Oliver Brüstle (Bonn)  
From ES cells to functional neurons and glia
- 10.00 – 10.30 Nissim Benvenisty (Jerusalem)  
Human embryonic stem cells in medical and genetic research
- 10.30 – 11.00 Break
- 11.00 – 11.30 Magdalena Götz (München)  
Glial cells generate neurons: Pax6 as neurogenic master regulator of neural stem cells
- 11.30 – 12.00 Sylvia Niebrügge (Bielefeld)  
Generation and transplantation of bioreactor derived cardiomyocytes

### **TS 4: The Cell in Contact**

Chairs: Benjamin Geiger and Lukas A. Huber

- 09.00 – 09.30 Benjamin Geiger (Rehovot)  
Mechanical stimulation of integrin-mediated adhesions
- 09.30 – 10.00 Martin J. Humphries (Manchester)  
Integrin-syndecan cooperation governs the assembly of signalling complexes during cell movement
- 10.00 – 10.30 Joachim Spatz (Heidelberg)  
Activation of integrin function by cell adhesion to nanopatterned interfaces
- 10.30 – 11.00 Break
- 11.00 – 11.30 J. Victor Small (Vienna)  
Probing the structural reorganisations of actin associated with adhesion
- 11.30 – 12.00 Lukas A. Huber (Innsbruck)  
Spatiotemporal regulation of EGF-R/MAP kinase signaling by scaffolds and endocytosis

12.00 – 15.30

### **Poster Session**

TS3, S5, S6, S9, S10, O61-68, Walther-Flemming-Memorial-Session  
TS4, S7, S8, O50-60

15.30 – 18.30

### **SYMPOSIA 5 – 8**

#### **S 5: Small RNAs**

Chair: Reinhard Lührmann

15.30 – 15.45

Introduction

15.45 – 16.15

Witold Filipowicz (Basel)  
Post-transcriptional gene silencing by miRNAs and siRNAs

16.15 – 16.45

Gunter Meister (New York)  
Biochemical dissection of the human RNA interference pathway

16.45 – 17.00

Peter Hahn (Hilden)  
Combining RNAi and genome-wide expression profiling for analysis of biological pathways

- 17.00 – 17.30 Break
- 17.30 – 18.00 Gerhart Wagner (Uppsala)  
Regulatory RNAs in Escherichia bacteria – antisense mechanisms and stress responses
- 18.00 – 18.30 Reinhard Lührmann (Marburg)  
Structure and function of major and minor spliceosomal snRNPs

### **S 6: Angiogenesis**

Chair: Dietmar Vestweber

- 15.30 – 16.10 Ralf H. Adams (London)  
Molecular regulation of blood vessel morphogenesis
- 16.10 – 16.45 Kari Alitalo (Helsinki)  
Lymphangiogenesis in development and diseases
- 16.45 – 17.00 Sabine Gesierich (Heidelberg)  
Angiogenesis promoting activity of the tetraspanin D6.1A
- 17.00 – 17.30 Break
- 17.30 – 18.00 Dietmar Vestweber (Münster)  
Regulatory mechanisms at endothelial cell contacts
- 18.00 – 18.15 Friedemann Kiefer (Münster)  
A Syk-containing pathway is essential for correct migratory and morphogenetic behaviour of vascular endothelial progenitor cells
- 18.15 – 18.30 Stefan Linder (München)  
Drebrin controls podosome waves and capillary network formation of endothelial cells

### **S 7: Intermediate Filaments in Development and Disease**

Chair: Yosef Gruenbaum

- 15.30 – 15.45 Introduction
- 15.45 – 16.15 Robert D. Goldman (Chicago)  
The complexities of building cytoskeletal intermediate filament networks
- 16.15 – 16.45 John Eriksson (Turku)  
Intermediate filaments as signaling scaffolds
- 16.45 – 17.00 Roy Quinlan (Durham)  
The eye lens requires the intermediate filaments to function
- 17.00 – 17.30 Break
- 17.30 – 18.00 Yosef Gruenbaum (Jerusalem)  
Dynamic interactions of nuclear lamina proteins with chromatin and the transcriptional machinery
- 18.00 – 18.15 Alexandra Fridkin (Jerusalem)  
Lamin-binding protein required for germ-cell development
- 18.15 – 18.30 Harald Bär (Heidelberg)  
Myopathic desmin mutations impair filament formation at distinct stages of the assembly process

### **S 8: Advanced Microscopical Methods in Cell Biology**

Chair: Andreas Hoenger, Markus Grabenbauer

- 15.30 – 15.35 Introduction
- 15.35 – 16.05 Markus Grabenbauer (Heidelberg), Andreas Hoenger (Heidelberg)  
Golgi apparatus studies by advanced microscopic methods
- 16.05 – 16.35 Zvi Kam (Rehovot)  
High resolution cell-based high-throughput screening microscopy
- 16.35 – 17.05 Ernst H. K. Stelzer (Heidelberg)  
Selective plane illumination microscopy provides isotropic resolution in three-dimensional images of embryos as well as cells
- 17.05 – 17.30 Break
- 17.30 – 18.00 Daniel J. Müller (Dresden)  
Observing structure and interactions of native biological objects at molecular resolution using atomic force microscopy
- 18.00 – 18.15 Lars Kaestner (Homburg/Saar)  
Multidimensional real time confocal microscopy: disk or array – that is the question
- 18.15 – 18.30 Andrew Leis (Martinsried)  
Combining cryosectioning with cryoelectron tomography: our experiences with the unicellular red alga *Cyanidioschyzon merolae*

19.00

### **Tutorials**

#### **Carl Zeiss GmbH**

Carl Zeiss FluoresScience – Workshop on the frontiers in fluorescent microscopy technologies and their application in modern biomedical research

#### *Plenary Talks:*

- Spectral imaging: Towards a morphological and functional fingerprint in single cells  
Speaker: Dr. Rainer Pepperkok
- Quantitative live cell imaging in high throughput  
Speaker: Dr. Jan Ellenberg
- Ultrafast and sensitive – confocal imaging in biomedical research with the LSM 5 LIVE  
Speaker: Dr. Richard Ankerhold

### **Saturday, March 19, 2005**

- 09.00 – 12.00 **Walther Flemming Memorial Session**  
Chair: Manfred Schliwa (München)
- 09.00 – 09.10 Introduction
- 09.10 – 09.45 Erich Nigg (Martinsried)  
The centrosome cycle
- 09.45 – 10.20 Kim Nasmyth (Vienna)  
How do cells hold sister chromatids together during mitosis and meiosis?
- 10.20 – 10.40 Break
- 10.40 – 11.15 Rebecca Heald (Berkeley)  
Mechanisms of mitotic spindle assembly and function in *Xenopus* egg extracts

11.15 – 11.50 Conly Rieder (Albany, NY)  
Force-generating mechanisms for chromosome movement during mitosis in vertebrates

12.00 – 13.00 Break

13.00 – 16.00 **SYMPOSIA 9 - 10**

**S 9: Apoptosis**

Chair: Peter Krammer, Shigekazu Nagata

13.00 – 13.15 Introduction

13.15 – 13.45 Peter Krammer (Heidelberg)  
Apoptosis: no life without death

13.45 – 14.00 Rüdiger Arnold (Heidelberg)  
HPK1 sensitizes towards AICD by suppression of the IKK activity

14.00 – 14.30 Klaus-Michael Debatin (Ulm)  
Apoptosis signaling and tumor therapy

14.30 – 15.00 Break

15.00 – 15.30 Shigekazu Nagata (Osaka)  
Apoptotic DNA degradation and its failure

15.30 – 15.45 Michaela Waibel (Tübingen)  
Release of soluble "Find-me"-signals during apoptosis: Role of calcium-independent phospholipase A2 (iPLA2)

15.45 – 16.00 Daniel Speidel (Hamburg)  
Integration of anti- and pro-apoptotic p53-signals

**S 10: ER/Membranes**

Chairs: Bernhard Dobberstein (Heidelberg), Blanche Schwappach (Heidelberg)

13.00 – 13.15 Introduction

13.15 – 13.45 Julie Hollien (San Francisco)  
A new role for Ire1 in the unfolded protein response

13.45 – 14.15 Howard Riezman (Geneva)  
Protein sorting upon exit from the endoplasmic reticulum

14.15 – 14.30 Marwan Al Falah (Hannover)  
Dipeptidyl peptidase IV (CD26) in rat: a single mutation at amino acid 359 causes a transport block in the endoplasmic reticulum

14.30 – 15.00 Break

15.00 – 15.30 Maria Pia Cosma (Napoli)  
SUMF1, the multiple sulfatase deficiency gene, and its paralog SUMF2 regulate sulfatase activities

15.30 – 15.45 Thomas Dierks (Göttingen)  
The formylglycine generating enzyme – a novel player in ER-mediated protein modification

15.45 – 16.00 Matthias Seedorf (Heidelberg)  
SEC18/NSF-independent sorting pathway for the yeast integral membrane protein Ist2p from the cortical ER to the plasma membrane