34th Annual Meeting of the German Society for Cell Biology (DGZ)
30 March – 2 April 2011, Bonn

Wednesday, 30 March, 2011

13^{00}–13^{15} **Opening Ceremony**

Welcome speech by the chairmen: D.O. Fürst, W. Witke (Bonn)

Welcome speech by the president of the DGZ: H. Herrmann-Lerdon (Heidelberg)

13^{15}–17^{00} **Plenary Session 1: Cell polarity**
Chairs: E. Knust (Dresden), J. Ahringer (Cambridge/GB)

J. Ahringer (Cambridge/GB): Genetic interaction RNAi screening for a c. elegans cell polarity network

F. Bradke (Martinsried): Intracellular mechanisms of neuronal polarization and regeneration

E. Knust (Dresden): Drosophila crumbs from epithelial cell polarity to retinal degeneration

M. Piel (Paris/F): Effects of external constraints on dividing cells

E. Rodriguez-Boulan (New York/USA): Polarized trafficking in epithelia

17^{00}–17^{30} Break

17^{30}–18^{30} **DGZ Award Ceremony**

Walther Flemming Medal
P. Meraldi (Zurich/CH): The metaphase plate – still full of surprises

Binder Innovation Prize
C. Behl (Mainz): Aging makes a difference: Implications for protein homeostasis and neurodegeneration

Werner Risau Prize
S. Sawamiphak (San Francisco/USA): Controlling vessel sprouting: a team effort of VEGFR2 and ephrinB2

18^{30}–19^{30} **Carl Zeiss Lecture**
U. Aebi (Basel/CH): From nuclear pore complex structure to nucleocytoplasmic transport

19^{30} **Welcome Reception and Poster Session I**
CCC - Cell cycle and cancer
CN - Cellular neurobiology
CM - Cellular mechanics
CP - Cell polarity
FM - Frontiers in microscopy
GS - General subjects
IN - Inflammation
MCO - Muscle cell organization
NEN - Nuclear envelope and NPCs
SRG - Signaling and Rho GTPases
VT - Vesicle trafficking

Thursday, 31 March, 2011

09^{00}–12^{00} **Symposium 1: Frontiers in microscopy**
Chairs: R. Pepperkok (Heidelberg), W. Kühlbrandt (Frankfurt/M)

J. Briggs (Heidelberg): Correlated fluorescence and 3D electron microscopy

S. Jakobs (Göttingen): Focusing on mitochondria with STED-microscopy

W. Kühlbrandt (Frankfurt/M): Cryo-EM bridges the gap: from atomic structure to in situ arrangement of membrane proteins

R. Pepperkok (Heidelberg): High content microscopy for systems biology

and speakers selected from the abstracts

09^{00}–12^{00} **Symposium 2: Signaling and Rho GTPases**
Chairs: A. Pfeiffer (Bonn), G. Schmidt (Freiburg/Br)

C. Brakebusch (København/DK): Rac1 function in skin disease

O. Pertz (Basel/CH): Spatio-temporal Rho GTPase signaling during neurite outgrowth

A. Pfeiffer (Bonn): Regulation of small G proteins by the cGMP pathway

G. Schmidt (Freiburg/Br): Molecular strategies of pathogenic bacteria – toxins control Rho GTPases

and speakers selected from the abstracts

09^{00}–12^{15} **Symposium 3: Nuclear envelope and NPCs**
Chairs: A. Noegel (Köln), B. Fahrenkrog (Gosselies/B)

B. Fahrenkrog (Gosselies/B): Dissecting the functional role of nucleoporin Nup153 in mitosis

R. Foisner (Vienna/A): Regulation of A-type lamins in tissue progenitor cells

M. Hetzer (La Jolla/USA): Cell cycle dependent differences in NPC assembly

S. Neumann (Köln): Nesprins as keeper of nuclear and centrosomal organization and signal transduction

B. van Steensel (Amsterdam/NL): Genome-nuclear lamina interactions

and speakers selected from the abstracts

09^{00}–12^{00} **Symposium 4: Inflammation**
Chairs: M. Pasparakis (Köln), J. Tschopp (Epalinges/CH)

F.R. Greeten (München): Anti-inflammatory functions of NF-KB

M. Pasparakis (Köln): Mechanisms regulating epithelial immune homeostasis and inflammation

J. Tschopp (Epalinges/CH): The inflammasomes

F. Zipp (Mainz): Th17 mediated neurodegeneration

and speakers selected from the abstracts

12^{00}–15^{30} **Poster Session I (continued)**

12^{00}–13^{00} **Lunch Symposium*:** Carl Zeiss MicroImaging GmbH

12^{00}–13^{00} **Lunch Symposium*:** IBA GmbH and Dualsystems Biotech AG

* Snacks and beverages will be served free of charge in these symposia.

15^{30}–19^{00} **Plenary Session 2: Cellular mechanics**
Chairs: J. Lammerding (Cambridge, USA), S. Köster (Göttingen)

C. Chen (Philadephia, USA): Regulation of cell function by the mechanics of cell-material interactions

P. Friedl (Würzburg): Physical limits of cell migration

J. Guck (Cambridge/GB): Optical rheology of cells – from microscopic mechanisms to biological relevance

S. Köster (Göttingen): Mechanics of intracellular protein networks

J. Lammerding (Cambridge/USA): Intra cellular mechanics in physiology and disease

15^{30}–19^{00} **Plenary Session 3: Cell cycle and cancer**
Chairs: I. Hoffmann (Heidelberg), Z. Storchova (Martinsried)

H. Bastians (Göttingen): The Chk2 Brca1 tumor suppressor pathway ensures chromosomal stability

I. Hoffmann (Heidelberg): Regulation of centrosome duplication in normal and malignant cells

G. Kops (Utrecht/NL): Maintaining genomic stability: how mitotic kinases regulate chromosome segregation

Thomas U. Mayer (Konstanz): Mitosis: the challenge to equally distribute the genome

Z. Storchova (Martinsried): Limiting the propagation of polyploid cells

19^{00} **DGZ Member Meeting**

<u>Friday, 1 April, 2011</u>

09^{00}–12^{00} **Symposium 5: Host pathogen interactions**
Chairs: T. Stradal (Münster), A. Haas (Bonn)

S. Backert (Dublin/IR): Virulence factors and signal transduction mechanisms in infection with Helicobacter pylori

A. Haas (Bonn): Greasing the virulence machinery – Rhodococcus equi and phagosome biogenesis

H. Hilbi (München): Virulence and trafficking of the vacuolar pathogen Legionella

T. Stradal (Münster): Salmonella: 50 ways (plus one) to enter the host

and speakers selected from the abstracts

09^{00}–12^{00} **Symposium 6: Muscle cell organisation**
Chairs: D.O. Fürst (Bonn), F. Schnorrer (Martinsried)

D.O. Fürst (Bonn): tba

M. Gautel (London/GB): Links from the sarcomere to mechanical strain sensing and muscle protein turnover control

C. Jagla (Clermont Ferrand/F): Muscle-type regulation of the fusion process

F. Schnorrer (Martinsried): Spalt mediates an evolutionary conserved switch to fibrillar muscle fate

and speakers selected from the abstracts

09^{00}–12^{00} **Symposium 7: Cellular neurobiology**
Chairs: C. Steinhäuser (Bonn), A. Acker-Palmer (Frankfurt/M)

A. Acker-Palmer (Frankfurt/M): Neuro and vascular guidance in health and disease

E. Audinat (Paris/F): Multiple states and functions of brain microglia

E.M. Schumann (Frankfurt/M): Local control of synaptic function

C. Steinhäuser (Bonn): Neuron-NG2 glia synapses in the brain

and speakers selected from the abstracts

09^{00}–12^{00} **Symposium 8: Vesicle trafficking**
Chairs: R. Jahn (Göttingen), P. Saftig (Kiel)

W. Annaert (Leuven/B): Presenilins and endosomal trafficking: relevance for Alzheimer's disease

S. Höning (Köln): Functional regulation of the clathrin adapter AP2

R. Jahn (Göttingen): Membrane fusion in the secretory pathway

P. Saftig (Kiel): Lysosomal membrane proteins: role in lysosomal biogenesis, autophagy, phagecytosis and cholesterol homeostasis

and speakers selected from the abstracts

12^{00}–15^{30} **Poster Session II**
CA - Cell adhesion
CBA - Cell biology of addiction
CI - Cellular immunity
CD - Cytoskeletal dynamics
HPI - Host pathogen interactions
IF - Intermediate filaments: novel functions
MMA - Molecular mechanisms of ageing
NCR - Non-coding RNAs

PS - Proteostasis
SC - Stem cells

12^{00}–13^{00} **Lunch Symposium*:** Leica Microsystems

* Snacks and beverages will be served free of charge in this symposium.

12^{00}–13^{00} **Lunch Symposium:** ibidi GmbH

15^{30}–19^{00} **Plenary Session 4: Cytoskeletal dynamics**
Chairs: W. Witke (Bonn), R. Grosse (Marburg)

R. Grosse (Marburg): Regulation of MAL and SRF through formin-mediated actin assembly

M. Schuh (Cambridge/GB): Oocyte + Actin: old love – new affairs

T. Surrey (London/GB): Mechanisms of microtubule – cytoskeleton dynamics studied in vitro

M. Vartiainen (Helsinki/FI): Dynamics of nuclear actin

W. Witke (Bonn): Functions of the actin cytoskeleton in neuron physiology

15^{30}–19^{00} **Plenary Session 5: Stem cells**
Chairs: B.K. Fleischmann (Bonn), M. Zenke (Aachen)

O. Brüstle (Bonn): From pluripotent stem cells to neurological disease modeling

M.A.G. Essers (Heidelberg): Activation of dormant hematopoietic stem cells by IFNa or the endotoxin LPS

B.K. Fleischmann (Bonn): Potential and pitfalls of cellular replacement approaches in the heart

H. Schorle (Bonn): Factors regulating early lineage specification; programming (and reprogramming) murine trophoblast cells

M. Zenke (Aachen): Pluripotency and stem cell differentiation

from 19^{30} **Get Together**

<u>Saturday, 2 April, 2011</u>

08^{30}–11^{30} **Symposium 9: Cellular immunity**
Chairs: W. Kolanus (Bonn), K. Rajewsky (Boston/USA)

W. Kolanus (Bonn): ARF-GEFs and immune functions

T. Mempel (Charlestown/USA): Cellular interactions in the adaptive immune system

K. Rajewsky (Boston/USA): Physiological and viral signals controlling survival, proliferation and transformation of antibody forming cells

M. Reth (Freiburg/Br): Islands on the membrane: How to keep the B cell antigen receptor silent?

and speakers selected from the abstracts

08^{30}–11^{30} **Symposium 10: Cell biology of addiction**
Chairs: A. Zimmer (Bonn), B.L. Kieffer (Illkirch/F)

B.L. Kieffer (Illkirch/F): Protracted abstinence from drugs of abuse

I. Kitchen (Gilford/GB): mGluR5 receptors and addiction neurobiology

R. Maldonado López (Barcelona/E): Endocannabinoid system and drug addiction

A. Zimmer (Bonn): Transcriptional profiles after aquisition of nicotine operant behaviors: separating drug effects from the anticipation of its effects

and speakers selected from the abstracts

08^{30}–11^{30} **Symposium 11: Proteostasis**
Chairs: J. Höhfeld (Bonn), F. Melchior (Heidelberg)

Z. Elazar (Rehovot/IL): Mechanism of autophagosome biogenesis

R. Hampton (La Jolla/USA): Protein quality control in cellular regulation and stress management

J. Höhfeld (Bonn): Chaperone-assisted degradation – degrade to maintain

E. Krüger (Berlin): Regulation of degradation capacities of the proteasome in response to changing proteolytic requirements

and speakers selected from the abstracts

08^{30}–11^{30} **Symposium 12: Cell adhesion**
Chairs: R. Fässler (Martinsried), J. Ivaska (Turku/FI)

R. Fässler (Martinsried): Analysis of integrin signaling using mouse genetics

C. Grasshoff (Charlottesville/USA): Analysing the spatiotemporal regulation if integrin-dependent force transduction

J. Ivaska (Turku/FI): Negative regulation of cell adhesion

G. Serini (Candiolo/I): Regulation of integrin function by semaphorin receptors

and speakers selected from the abstracts

11^{30} **Lunch and Poster Session II (continued)**

11^{30}–12^{00} **DGZ Poster Awards**

12^{30}–15^{30} **Symposium 13: Molecular mechanisms of ageing**
Chairs: M. Hoch (Bonn), C. Englert (Jena)

D. Bohmann (Rochester/USA): Oxidative stress defense, aging and stem cells

C. Englert (Jena): A short-lived fish as a new model of age research

M. Hoch (Bonn): Cross regulation of metabolism, innate immunity and aging

J. Lingner (Epalinges/CH): Telomeric repeat containing RNA (TERRA) and the

regulation of telomerase

and speakers selected from the abstracts

12^{30}–15^{30} **Symposium 14: Non-coding RNAs**
Chairs: G. Schratt (Marburg), E. Izaurralde (Tübingen)

E. Izaurralde (Tübingen): Mechanisms of miRNA-mediated silencing

K.S. Kosik (Santa Barbara/USA): miRNA and the diversification of cellular phenotypes

G. Meister (Martinsried): Regulation of small RNA-guided gene silencing

G. Schratt (Marburg): MicroRNA function in neurons

and speakers selected from the abstracts

12^{30}–15^{30} **Symposium 15: Intermediate filaments: novel functions**
Chairs: T. Magin (Leipzig), R. Leube (Aachen)

M. Labouesse (Illkirch/F): Extrinsic mechanical tension promotes hemidesmosome maturation

R. Leube (Aachen): Cross talk between cell adhesion and cytoskeletal filaments in cell and tissue function

T. Magin (Leipzig): Cytoskeletal control of cell architecture, signaling and immune regulation

C. Stewart (Singapore/SG): Lamins in development, disease and aging