



# Meeting of the *German Society for Microcirculation and Vascular Biology (GfMVB)* October 25 – 27, 2019 in Heidelberg

## Friday, October 25

12:00-13:00 Welcome & Registration

13:00-13:10 OPENING

### **Symposium 1: Organ-specific vascular features (13:10 - 15:10)**

*Chair: Carmen Ruiz de Almodóvar, Heidelberg University, Germany*

13:10-13:40 **Introductory Keynote Lecture - Eckhard Lammert** (*Univ. of Düsseldorf, Germany*)  
„Angiocrine signals - past & present“

13:40-14:05 **Lecture 1 - Sergij Goerd** (*Heidelberg University, Mannheim, Germany*)  
„Hepatic Angiodiversity: Vascular Control of Liver Function & Disease Processes“

14:05-14:30 **Lecture 2 (DZHK lecture) - Karina Yaniv** (*Weizmann-Institute of Science, Rehovot, Israel*)  
„Vascular support of organ growth and regeneration“

14:30-14:45 **Short talk - Nathalie Tisch** (*Heidelberg University, Germany*)  
„Caspase-8 is a prosurvival factor in endothelial cells of the gut-vascular barrier“

14:45-15:00 **Short talk - Gustav Steinemann** (*University of Berlin, Germany*)  
„Smyd1, a histone methyltransferase, interacts with PML nuclear bodies in endothelial cells“

15:10-15:30 COFFEE BREAK

### **Symposium 2: Vascular homeostasis, aging & repair (15:30 - 17:30)**

*Chair: Henning Morawietz, University of Dresden, Germany*

15:30-16:00 **Introductory Keynote Lecture - Stefanie Dimmeler** (*University of Frankfurt, Germany*)  
„Endothelial cell plasticity in repair & regeneration“

16:00-16:25 **Lecture 1 (DZHK lecture) - Anna Randi** (*Imperial College, London, UK*)  
„Transcriptional and epigenetic mechanisms controlling vascular health“

16:25-16:50 **Lecture 2 (SFB 834 lecture) - Anjali Kusumbe** (*University of Oxford, UK*)  
„Organotypic angiocrine signals in health and disease“

16:50-17:05 **Short talk - Simone-Franziska Glaser** (*University of Frankfurt, Germany*)  
„JMJD2B is involved in the epigenetic regulation during endothelial to mesenchymal transition“

17:05-17:20 **Short talk - Aleksandra Kopacz** (*Jagiellonian University, Krakow, Poland*)  
„Nrf2/Keap1 axis governs endothelial cell fate“

17:30-17:50 COFFEE BREAK

### **Aletta Jacobs memorial - young investigator award session (17:50 - 18:40)**

*Chairs: Ferdinand le Noble & Jaap van Buul*

17:55-18:10 **Nicola Edwards** (*Manchester Metropolitan University, Manchester, UK*)  
„Improving Stratification of Cardiovascular Risk in SLE using Endothelial Microvesicles and their MiRNA Contents as Novel Biomarkers“

18:10-18:25 **Anne Jomard** (*University Hospital of Zurich, Switzerland*)  
„The Functional Relevance of Bile Acids in HDL-mediated Endothelial Protection“

18:25-18:40 **Janina Wittig** (*University of Frankfurt, Germany*)  
„Cystathionine-γ-lyase regulates retinal angiogenesis via sulfhydrylation of metabolic proteins“

18:40-... WELCOME RECEPTION & Poster session #1

~20:00-... PhD/MD student party



## Saturday, October 26

### **Symposium 3: Vascular metabolism (8:30 - 10:30)**

Chair: Hans-Peter Hammes, Heidelberg University, Germany

8:30-9:00 **Introductory Keynote Lecture - Michael Potente** (Max Planck Institute, Bad Nauheim, GER)  
"Control of endothelial quiescence by FOXO regulated metabolites"

9:00-9:25 **Lecture 1 (DIAMICOM lecture) - Christian Rask-Madsen** (Joslin Diabetes Center, Boston, USA)  
"Endothelial insulin resistance as a cause of endothelial cell activation"

9:25-9:50 **Lecture 2 - Massimo Santoro** (University of Padua, Italy)  
„Metabolic control of translation during angiogenesis“

9:50-10:05 **Short talk - Christian Helker** (University of Marburg, Germany)  
"Apelin signaling switches quiescent vascular endothelial cells into a pro-angiogenic state"

10:05-10:20 **Short talk - Eva-Maria Weis** (Heidelberg University, Germany)  
"Ketone bodies alter endothelial gene expression and angiogenesis"

### **10:30-11:00 COFFEE BREAK**

#### **Hermann Rein - young investigator award session (11:00 - 12:00)**

Chair: Henning Morawietz

11:00-11:20 **Alessandro Fantin** (University of Milan, Italy)  
"Erythro-myeloid progenitors contribute endothelial cells to blood vessels"

11:20-11:40 **Mauro Siragusa** (University of Frankfurt, Germany)  
"Nitric oxide maintains endothelial redox homeostasis through PKM2 inhibition"

11:40-12:00 **Ludwig Weckbach** (University of Munich, Germany)  
"Midkine drives cardiac inflammation by promoting neutrophil trafficking & NETosis in myocarditis"

### **12:00-14:30 LUNCH & Poster session #2**

#### **13:00-14:00 Lunch Workshops:**

→ **TissueGnostics GmbH:** „Image Analysis 2020 - From IHC to Contextual Tissue Cytometry“

→ **InSCREENeX GmbH:** "Creating Diseased and Personalized *in vitro* models – Patient Specific Cell Lines By Reproducible & Functional Immortalization"

### **Symposium 4: Biomechanical control of vascular differentiation & function (14:30 - 16:30)**

Chair: Markus Hecker, Heidelberg University, Germany

14:30-15:00 **Introductory Keynote Lecture - Stefan Offermanns** (Max Planck Institute, Bad Nauheim, GER)  
"The role of endothelial mechanotransduction in vascular physiology & pathology"

15:00-15:25 **Lecture 1 - Lydia Sorokin** (University of Münster, Germany)  
"The role of vascular endothelial laminins in vascular differentiation & shear responses"

15:25-15:50 **Lecture 2 - Ferdinand le Noble** (KIT, Germany)  
"Selective targeting of artery size and remodeling"

15:50-16:05 **Short talk - Sofia Iris Bibli** (University of Frankfurt, Germany)  
"Sulphydration of  $\beta_3$  integrin controls mechanotransduction in endothelial cells"

16:05-16:20 **Short talk - Yong Li** (Heidelberg University, Germany)  
"Regulator of G-protein signaling 16 regulates vascular smooth muscle cell responses"

### **16:30-17:00 COFFEE BREAK**

### **Symposium 5: Microcirculatory tumor progression and metastasis (17:00 - 19:00)**

Chair: Katharina Schlereth, German Cancer Research Center (DKFZ)

17:00-17:30 **Introductory Keynote Lecture - Gabriele Bergers** (Leuven Center for Cancer Biology, Belgium)  
"Creating an immunostimulating tumor microenvironment: from vessel pruning to vessel tuning"

17:30-17:55 **Lecture 1 - Michele De Palma** (ISREC-Swiss Inst. for Experimental Cancer Research, Switzerland)  
"Mechanisms of resistance to anti-angiogenic immunotherapy in lung cancer"

17:55-18:20 **Lecture 2 - Lena Claesson-Welsh** (Uppsala University, Sweden)  
"Endothelial junctions & metastatic spread"

18:20-18:35 **Short talk - Sebastian Wohlfeil** (Heidelberg University, Germany)  
"Hepatic Endothelial Notch Activation Protects against Liver Metastasis by Regulating Endothelial-Tumor Cell Adhesion Independent of Angiocrine Signaling"

18:35-18:50 **Short talk - Patrycja Nowak-Sliwinska** (University of Geneva, Switzerland)  
"Marking tumor endothelium with oncofetal insulin receptor isoform A; an underestimated pathway during tumor angiogenesis and angiostatic treatment"

19:00-... **Shipping on the 'Neckar – circulation'**



## Sunday, October 27

### **Symposium 6: Mural-endothelial crosstalk (8:30 - 10:30)**

Chair: *Cyrill Géraud, Heidelberg University, Germany*

- 8:30-9:00 **Introductory Keynote Lecture - Hellmut Augustin** (Heidelberg University / German Cancer Research Center, Germany) „Pericyte contribution towards tumor progression & metastasis“
- 9:00-9:25 **Lecture 1 - Michaela Kuhn** (University of Würzburg, Germany)  
“Endothelial C-Type Natriuretic Peptide regulates microcirculatory flow and barrier functions“
- 9:25-9:50 **Lecture 2 - Andrew Baker** (The University of Edinburgh, UK)  
„Vascular cell function in injury & repair“
- 9:50-10:05 **Short talk - Katarina Spiranec Spes** (University of Würzburg, Germany)  
“Proangiogenic effects of cardiac natriuretic peptides on pericytes: role in myocardial microcirculation“
- 10:05-10:20 **Short talk - Junhao Hu** (Chinese Academy of Sciences, Shanghai, China)  
“Stabilizing pericytes as a novel strategy for the treatment of inflammation-induced lung injury“
- 10:30-11:00 **COFFEE BREAK**

### **Symposium 7: Endothelial cell-cardiomyocyte communication (11:00 - 13:00)**

Chair: *Gergana Dobрева, Heidelberg University, Germany*

- 11:00-11:30 **Introductory Keynote Lecture (DZHK lecture) - Riikka Kivelä** (University of Helsinki, Finland)  
“Endothelial cell regulation of cardiomyocyte growth & homeostasis“
- 11:30-11:55 **Lecture 1 - Andreas Fischer** (Heidelberg University / German Cancer Research Center, Germany)  
„Angiocrine signaling in the heart“
- 11:55-12:20 **Lecture 2 - Johannes Backs** (Heidelberg University, Germany)  
„Role of histone deacetylases for perivascular fibrosis and HFpEF“
- 12:20-12:35 **Short talk - Julian Uwe Gabriel Wagner** (University of Frankfurt, Germany)  
“Dissection of heterocellular cross-talk in vascularized cardiac tissue mimetics“
- 12:35-12:50 **Short talk - Rio Juni** (Amsterdam University, The Netherlands)  
“Cardiac Microvascular Endothelial Enhancement of Cardiomyocyte Function is Impaired by Inflammation and Restored by Empagliflozin “

### **13:00-14:00 LUNCH**

### **Symposium 8: Immuno-vascular communication skills (14:00 - 16:00)**

Chair: *Markus Sperandio, University of Munich, Germany*

- 14:00-14:30 **Introductory Keynote Lecture - Jaap van Buul** (Sanquin Research & Landsteiner Laboratory, Amsterdam, NLD) „Leukocyte transendothelial migration: the endothelium in control“
- 14:30-14:55 **Lecture 1 - Barbara Walzog** (University of Munich, Germany)  
„Integrin signalling and neutrophil trafficking in innate immunity“
- 14:55-15:20 **Lecture 2 (SFB 914 lecture) - Florian Gärtner** (Institute of Science and Technology, Austria)  
“Migrating platelets safeguard the inflamed vasculature“
- 15:20-15:35 **Short talk - Roland Immler** (University of Munich, Germany)  
“Embryo-derived Preimplantation Factor disrupts neutrophil recruitment by reducing KV1.3-regulated Sustained Store Operated Ca<sup>2+</sup> Entry“
- 15:35-15:50 **Short talk - Hebatullah Laban** (University of Frankfurt, Germany)  
“Role of vasodilator-stimulated phosphoprotein in leukocyte recruitment, macrophage polarization and vascular remodelling“

### **16:00 Closing remarks**

#### **Partners:**



#### **Industrial Sponsors:**

