



„Vascular Control of Organ Function“ International Meeting

Monday, June 28, 2021

9:00 Welcome and Introduction
Hellmut Augustin (Mannheim/Heidelberg, Germany)

Topic 1: Metabolic control of vascular function

Session 1: Chair: Andreas Fischer (Heidelberg/Mannheim, Germany)

9:15 **Katrien De Bock** (Zurich, Switzerland)
Exercise-induced angiogenesis is dependent on metabolically primed ATF3/4-positive endothelial cells

9:45 **Melissa García-Caballero** (Leuven, Belgium)
Flash talk: Role of peroxisomal metabolism in endothelial cells

10:00 **Gou Young Koh** (Daejeon, Republic of Korea)
Angiocrine control of adipose tissue function

10:30 *Active break I*
Meet-the-Speaker [Katrien de Bock, Peter Carmeliet, Gou Young Koh, Nicolas Renier, Christiana Ruhrberg]; Electronic Journal Club; Swarm Intelligence; Physical Activity

Session 2: Chair: Roxana Ola (Mannheim, Germany)

11:00 **Peter Carmeliet** (Leuven, Belgium)
Vascular heterogeneity at the single cell level

11:30 **Jens Kroll** (Mannheim, Germany)
Flash talk: Reduced acrolein detoxification in *akr1a1a* zebrafish mutants causes impaired insulin receptor signaling and microvascular alterations

Topic 2: Endothelial plasticity in development and disease

11:45 **Nicolas Renier** (Paris, France)
A whole-brain view of neuronal activity-driven vascular plasticity

12:15 *Lunch break*

Session 3: Chair: Jörg Heineke (Mannheim, Germany)

13:15 **Eli Keshet** (Jerusalem, Israel)
Undoing age-related VEGF signaling insufficiency expands lifespan and increases healthspan

13:45 **Annika Keller** (Zurich, Switzerland)
Flash talk: Pericytes regulate vascular immune homeostasis in the CNS

14:00 **Christiana Ruhrberg** (London, UK)
Semaphorin control of organ vascular patterning

14:30 *Active break II*

Meet-the-Speaker [Joyce E. Bischoff, Eli Keshet, Stefania Nicoli, Shahin Rafii, Guillermo Oliver]; Electronic Journal Club; Swarm Intelligence; Physical Activity

Session 4: Chair: Stefanie Dimmeler (Frankfurt, Germany)

15:00 **Joyce E. Bischoff** (Boston, USA)
Infantile hemangioma: a paradigm for human vasculogenesis

15:30 **Yvonne Adams** (Copenhagen, Denmark)
Flash talk: Cerebral malaria parasites and the blood-brain-barrier: Spheroids for the investigation of endothelial invasion and transmigration

15:45 **Stefania Nicoli** (New Haven, USA)
A novel mechanism of Wnt-regulation is essential for brain angiogenesis in intracranial aneurysms

16:15 *Passive break*

Topic 3: Angiocrine control of organ function

Session 5: Chair: Rubén Marín-Juez (Bad Nauheim, Germany & Montreal, Canada)

16:45 **Guillermo Oliver** (Chicago, USA)
Lymphoangiocrine signals as novel regulators of organ growth and repair

17:15 **Hadil El-Sammak** (Bad Nauheim, Germany)
Flash talk: Vegfc signaling promotes coronary revascularization during cardiac regeneration in zebrafish

17:30 **Shahin Rafii** (New York, USA)
Adaptable and hemodynamic endothelial cells for organogenesis receptor signaling and microvascular alterations

Tuesday, June 29, 2021

Session 6: Chair: Gergana Dobreva (Mannheim, Germany)

9:00 **Kari Alitalo** (Helsinki, Finland)
Arterial endothelial Tie receptors in atherosclerosis development

9:30 **Jacqueline Taylor** (Heidelberg/Mannheim, Germany)
Flash talk: Angiocrine signals promote adipose tissue wasting in cancer cachexia

9:45 **Christer Betsholtz** (Uppsala, Sweden)
Single-cell RNAseq analysis of the vasculature

10:15 *Active break III*

Meet-the-Speaker [Kari Alitalo, Christer Betsholtz, Bin Zhou, Shalev Itzkovitz, Rui Benedito]; Electronic Journal Club; Swarm Intelligence; Physical Activity

Topic 4: Emerging technology to deconvolute endothelial heterogeneity

Session 7: Chair: Katharina Schlereth (Mannheim/Heidelberg, Germany)

- 10:45 **Bin Zhou** (Shanghai, China)
Dual recombinases-mediated genetic approach for endothelial cell study
- 11:15 **Moritz Jakob** (Mannheim/Heidelberg, Germany)
Flash talk: Transcriptional dynamics at the vascular metastatic niche
- 11:30 **Shalev Itzkovitz** (Rehovot, Israel)
Spatial heterogeneity and interactions of liver endothelial cells
- 12:00 **Rui Benedito** (Madrid, Spain)
Exclusionary endothelial zonation during angiogenesis: A story of how dysfunctional winner cells outcompete fitter cells
- 12:30 *Lunch break*

Topic 5: Endothelial signaling pathway in health and disease

Session 8: Chair: Carmen Ruiz de Almodóvar (Mannheim, Germany)

- 13:30 **Lena Claesson-Welsh** (Uppsala, Sweden)
Endothelial junction dynamics
- 14:00 **Anne-Clémence Vion** (Nantes, France)
Flash talk: ARHGEF18: A new mechanosensitive player in endothelial cell biology?
- 14:15 **Susan Quaggin** (Chicago, USA)
Diversity matters: Vascular function and eyesight
- 14:45 *Active break IV*
Meet-the-Speaker [Lena Claesson-Welsh, Susan Quaggin, Timothy Hla, Victoria Bautch]; Electronic Journal Club; Swarm Intelligence; Physical Activity

Session 9: Chair: Ingrid Fleming (Frankfurt, Germany)

- 15:15 **Timothy Hla** (Boston, USA)
Stimulus-evoked cytosolic and nuclear signals in endothelial cells
- 15:45 **Claire Bouvard** (Grenoble, France)
Flash talk: Different cardiovascular and pulmonary phenotypes for single- and double knock-out mice deficient in BMP9 and BMP10
- 16:00 **Victoria Bautch** (Chapel Hill, USA)
SMAD6 selectively regulates vessel integrity in different organ beds
- 16:30 **J. Silvio Gutkind** (San Diego, USA)
Vascular GPCR-Gq-Rho signaling: The Hippo in the room?
- 17:00 Poster Session

Wednesday, June 30 2021

Topic 6: Immune surveillance and transport in lymphatics

Session 10: Chair: Adelheid Cerwenka (Mannheim, Germany)

- 9:30 **Yoshiaki Kubota** (Tokyo, Japan)
Mechanisms for the separation of blood and lymphatic systems
- 10:00 **Thomas Leibing** (Mannheim, Germany)
Flash talk: Systemic atheroprotection by Stab1/2 inhibition
- 10:15 **Tatiana Petrova** (Lausanne, Switzerland)
Specialization of lymphatic and blood vessels of small intestine
- 10:45 *Active break V*
[Tatiana Petrova, Karina Yaniv]; Journal Club; Swarm Intelligence; Physical Activity)

Session 11: Chair: Holger Gerhardt (Berlin, Germany)

- 11:15 **Laura Bray** (Brisbane, Australia)
Flash talk: Dissecting the role of tissue-specific cancer-associated fibroblasts on tumor angiogenesis
- 11:30 **Karina Yaniv** (Rehovot, Israel)
Linking between cell origin and functionality of lymphatic endothelial cells
- 12:00 Closing remarks
Hellmut Augustin (Mannheim/Heidelberg, Germany)