

Program Kloster Seeon Angiogenesis Meeting

Saturday, September 22, 2018

15:00 **Welcome and Introduction**
Susan Quaggin (Chair 2018), Stefan Schulte-Merker (Co-Chair 2018),
Tatiana Petrova (Co-Chair 2018)

15:15 – 18:15 Session 1

ORIGINS AND EARLY DEVELOPMENT OF THE ENDOTHELIUM

Discussion leader: **Ondine Cleaver** (Dallas, TX, USA), **Stefan Schulte-Merker** (Muenster, Germany)

15:15 **Holger Gerhardt** (Berlin, Germany)
Making or breaking symmetry in vascular networks

15:45 **Rui Benedito** (Madrid, Spain)
Using multispectral genetic mosaics to enlighten endothelial heterogeneity during angiogenesis

16:15 **BLITZ:** **Stefania Nicoli** (New Haven, CT, USA)
A specialized glycome in the developing dorsal aorta controls hematopoietic cell fate transition

16:30 *Coffee break*

17:00 **Guillermo Oliver** (Chicago, IL, USA)
Role of mitochondria during lymphatic vasculature formation

17:30 **BLITZ:** **Kaska Koltowska** (Uppsala, Sweden)
Lineage specific requirement for RNA and DNA unwinding during lymphatic endothelial cell proliferation

17:45 **Elisabetta Dejana** (Milano, Italy)
Molecular basis of endothelial cell plasticity

18:30 *Dinner*

Sunday, September 23, 2018

08:45 – 11:45 Session 2

METABOLISM AND THE ENDOTHELIUM

Discussion leader: **Donald McDonald** (San Francisco, CA, USA), **Michael Simons** (New Heaven, CT, USA)

08:45 **Anne Eichmann** (New Heaven, CT, USA)
Guidance of vascular patterning in development and disease

- 09:15 **BLITZ:** **Joanna Kalucka** (Leuven, Belgium)
Quiescent endothelial cells upregulate fatty acid beta-oxidation for vasculoprotection via redox homeostasis
- 09:30 **BLITZ:** **Eva-Maria Weis** (Heidelberg, Germany)
Ketone bodies alter endothelial chromatin accessibility, gene expression and angiogenesis
- 09:45 **Michael Potente** (Bad Nauheim, Germany)
Metabolite signaling in the vascular endothelium
- 10:15 *Coffee break*
- 10:30 **Gwendalyn Randolph** (St. Louis, MO, USA)
Lipoprotein transport through the lymphatic vasculature
- 11:00 **Friedemann Kiefer** (Muenster, Germany)
Imaging hypoxia in living cells
- 11:30 *Group photo*
- 12:00 *Lunch*

12:30 – 14:30	Poster Session I
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14:30 – 16:00	Session 3
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BIOENGINEERING OF THE VASCULATURE

Discussion leader: **Ying Zheng** (Seattle, WA, USA), **Victoria L Bautch** (Chapel Hill, NC, USA)

- 14:30 **Eckhard Lammert** (Duesseldorf, Germany)
Identification of ILK as a critical regulator of VEGFR3 signaling and lymphatic vascular growth
- 15:00 **BLITZ:** **Julien Vermot** (Illkirch, France)
Endothelial cell dynamics and tissue mechanics in response to mechanical forces
- 15:15 **BLITZ:** **Elizabeth AV Jones** (Lausanne, Switzerland)
Connexins and inflammation in arterial venous differentiation
- 15:30 **Martin Schwartz** (New Heaven, CT, USA)
Endothelial fluid shear stress responses in vascular remodeling and atherosclerosis

16:00 – 24:00	<i>Social event</i>
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Monday, September 24, 2018

08:30 – 12:00	Session 4
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ENDOTHELIAL HETEROGENEITY: ORGANS AND BEYOND

Discussion leader: Eli Keshet (Jerusalem, Israel)

- 08:30 **Ralf Adams** (Muenster, Germany)
Specialization and functional heterogeneity of vascular cell
- 09:00 **BLITZ:** **Benjamin R Thomson** (Chicago, IL, USA)
Dose-dependent effects of TEK signaling on Schlemm's canal development and function
- 09:15 **Taija Mäkinen** (Uppsala, Sweden)
Vascular bed-specific mechanisms of lymphatic development and disease
- 09:45 *Coffee break*
- 10:15 **Gou Young Koh** (Daejeon, Korea)
Organ-specific blood and lymphatic capillary beds
- 10:45 **BLITZ:** **Arndt F. Siekmann** (Muenster, Germany)
VEGF-mediated activation of ERK and PI3K balances endothelial cell migration and proliferation during angiogenesis
- 11:00 **Stefan Schulte-Merker** (Muenster, Germany)
- 11:30 **Michael Simons** (New Heaven, CT, USA)
Endothelial heterogeneity
- 12:15 *Lunch*

13:30 – 17:00	Session 5
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HETEROTYPIC INTERACTIONS AND THE ENDOTHELIUM

Discussion leader: **Ralf Adams** (Muenster, Germany), **Taija Mäkinen** (Uppsala, Sweden)

- 13:30 **Christer Betsholtz** (Stockholm, Sweden)
Decoding vascular cell types, subtypes and phenotypes by single cell RNASeq
- 14:00 **BLITZ:** **Mariona Graupera** (Muenster, Germany)
PI3-Kinase signalling regulates pericyte maturation during angiogenesis
- 14:15 **Hellmut G Augustin** (Heidelberg, Germany)
Building and maintaining organotypic vasculatures: The liver vasculature in health and disease
- 14:45 *Coffee break*
- 15:15 **Tatiana Petrova** (Lausanne, Switzerland)
Organ specific functions of lymphatic vessels
- 15:45 **Gabriela D'Amico** (London, UK)
Differential control of retinal vascular patterning in endothelial cell-specific FAK mutant mice couples aberrant ERG expression with Dll4 signaling
- 16:00 **Lena Claesson-Welsh** (Uppsala, Sweden)
Spatiotemporal control of blood flow, vasodilation and macromolecular leakage

16:30 **Luisa Iruela-Arispe** (Los Angeles, CA, USA)
Compartmentalization of NOTCH1 receptors in the endothelium: Different locations, different functions?

17:00 – 19:00	Poster Session II
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19:00 *Dinner*

Tuesday, September 25, 2018

8:30 – 12:30	Session 6
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THERAPEUTIC SOLUTIONS FOR DISEASES OF THE ENDOTHELIUM

Discussion leader: **Tatiana Petrova** (Lausanne, Switzerland)

08:30 **Kari Alitalo** (Helsinki, Finland)
Therapeutic Potential of Vascular Growth Factors

09:00 **BLITZ:** **Manuel Ehling** (Leuven, Belgium)
B55alpha counters endothelial cell apoptosis during vascular remodeling and pathological angiogenesis

09:15 **BLITZ:** **Carmen Ruiz de Almodovar** (Heidelberg, Germany)
Caspase-8 modulates angiogenesis by regulating a cell death independent pathway in endothelial cells

09:30 **Tatiana V Byzova** (Cleveland, OH, USA)
Endothelial Innate Immunity Receptors in Angiogenesis

10:00 *Coffee break*

10:30 **BLITZ:** **Konstantin Gaengel** (Uppsala, Sweden)
Defective endothelial cell migration in the absence of Cdc42 leads to capillary-venous malformations

10:45 **Miikka Vikkula** (Brussels, Belgium)
Dichotomic Activation of EC Signaling Pathways in Vascular Anomalies

11:15 **Hong Chen** (Boston, MA, USA)
Molecular Regulation of Diabetic Lymphangiogenesis

11:45 **Hideki Taniguchi** (Yokohama, Japan)
Vascularized and functional human liver from an iSPC-derived organ bud transplant

12:15 **Final announcements**
Susan E Quaggin (Chicago, IL, USA)

END OF MEETING

12:30 *Lunch*

13:30 *Departure of shuttle buses*