

Program Kloster Seeon Angiogenesis Meeting

Saturday, September 20, 2014

15:00 **Welcome and Introduction**
Anne Eichmann

15:15 – 19:00 **Session 1**

VASCULAR AND LYMPHATIC DEVELOPMENT

Chairs: Christiana Ruhrberg, Anne Eichmann

15:15 **KEYNOTE: Elisabetta Dejana** (Milan, Italy)
Endothelial adherens junctions as active guardians of vascular integrity

16:00 **KEYNOTE: Kari Alitalo** (Helsinki, Finland)
Integration of growth factor signals for angiogenesis

16:45 **BLITZ: Friedemann Kiefer** (Muenster, Germany)
Molecular mechanisms of lymph vessel morphogenesis

17:00 *Coffee break*

17:30 **BLITZ: Karina Yaniv** (Rehovot, Israel)
Lymphatic vessels arise from a niche of multipotent angioblasts within the floor of the cardinal vein

17:45 **BLITZ: Yosuke Mukoyama** (Bethesda, USA)
Class 3 Semaphorins negatively regulate dermal vascular and lymphatic network formation in the developing skin

18:00 **BLITZ: Jason Fish** (Toronto, Canada)
ETS factors mediate Vegf signaling output to regulate arterial specification and angiogenesis

18:15 **BLITZ: Stefan Schulte-Merker** (Utrecht, The Netherlands)
A genetic model for Sox7 function indicates tissue-specific requirements in AV specification

18:30 **Holger Gerhardt** (London, UK)
Vascular patterning in development and disease: Concepts and function of a morphogenic switch

19:30 *Dinner*

Sunday, September 21, 2014

08:30 – 11:30 Session 2

VASCULAR METABOLIC PATHWAYS

Chairs: Didier Stainier, Mike Simons

- 08:30 **Ulf Eriksson** (Stockholm, Sweden)
Targeting VEGF-B as a treatment for insulin resistance, type 2 diabetes and diabetic complications
- 09:00 **Eckhard Lammert** (Duesseldorf, Germany)
Integrin-linked kinase and its role in VEGFR3 signaling
- 09:30 **BLITZ:** **Michael Potente** (Bad Nauheim, Germany)
FOXO1 couples metabolic activity and growth state in the vascular endothelium
- 09:45 *Coffee break*
- 10:15 **BLITZ:** **Massimo Santoro** (Leuven, Belgium)
Genetically-encoded biosensors to study metabolic and redox changes in endothelial cells
- 10:30 **Peter Carmeliet** (Leuven, Belgium)
Glucose and fatty acid metabolism in endothelial cells: Regulation of function and differentiation
- 11:00 *Group photo*
- 11:30 *Lunch*

12:45 – 14:15 Poster Session I

14:15 – 16:15 Session 3

ORGAN SPECIFIC VASCULATURE

Chairs: Christer Betsholtz, Lena Claesson-Welsh

- 14:15 **Hellmut Augustin** (Heidelberg, Germany)
Angiopoietin/Tie signaling 2.0
- 14:45 **BLITZ:** **Chenghua Gu** (Boston, USA)
Neural activity controls vascular structure and plasticity
- 15:00 **Susan Quaggin** (Chicago, USA)
The angiopoietins - tied together in vascular disease
- 15:30 **BLITZ:** **Daniel Nyqvist** (Stockholm, Sweden)
Wnt/beta-catenin signaling regulates angiogenesis in concert with Notch
- 15:45 **Yoshiko Takahashi** (Kyoto, Japan)
In ovo live imaging analyses of endothelial cells during vascular remodeling in chicken embryos

16:30 – 22:00 Social event: *Angiogenesis goes climbing*

Monday, September 22, 2014

08:30 – 12:00	Session 4
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BIOMECHANICAL AND OTHER SIGNALS

Chairs: Taija Makinen, Eckhard Lammert

- 08:30 **Martin Schwartz** (New Haven, USA)
Mechanical forces and endothelial cell behavior
- 09:00 **Tatiana Petrova** (Lausanne, Switzerland)
Biomechanical and transcriptional regulation of lymphatic vasculature
- 09:30 **BLITZ:** **Claudio Franco** (Lisbon, Portugal)
Of blood flow patterns, endothelial cell polarization and vessel regression
in the mouse retina
- 09:45 **BLITZ:** **Heinz-Georg Belting** (Basel, Switzerland)
Shaping the stalk: VE-cadherin promotes dynamic cell shape changes
during angiogenic sprouting by coupling the cortical actin network to
endothelial cell interfaces
- 10:00 *Coffee break*
- 10:30 **Donald Ingber** (Boston, USA)
Focal adhesion signaling and mechanical control of vascular development
- 11:00 **BLITZ:** **Kristy Red-Horse** (Stanford, USA)
Growth and patterning of coronary arteries during cardiac morphogenesis
- 11:15 **BLITZ:** **Boris Strilic** (Bad Nauheim, Germany)
Necroptosis in endothelial cells – significance under physiological and
pathophysiological conditions
- 11:30 **Mark Kahn** (Philadelphia, USA)
Regulation of lymphatic valve and vessel development by fluid flow
- 12:15 *Lunch*

14:00 – 16:30	Session 5
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RECEPTOR SIGNALLING

Chairs: Dietmar Vestweber, Nathan Lawson

- 14:00 **Michael Simons** (New Haven, USA)
Molecular controls of endothelial-to-mesenchymal transition
- 14:30 **Christiana Ruhrberg** (London, UK)
Distinguishing neuropilin 1 pathways in angiogenesis and
vascular permeability
- 15:00 **BLITZ:** **Suk-Won Jin** (New Haven, USA)
VEGFR3 is an essential component for BMP signaling
in endothelial cells

- 15:15 **Lena Claesson-Welsh** (Uppsala, Sweden)
VEGF-regulated vascular leak; mechanism and contribution to disease
- 15:45 **BLITZ:** **Emma Gordon** (Uppsala, Sweden)
Neuropilin-1 is critical for tip/stalk cell specification downstream of Notch by inhibiting Alk5 and Alk1 activation
- 16:00 **Ralf Adams** (Muenster, Germany)
Cellular and molecular principles of organ-specific blood vessel growth
- 16:30 *Coffee break*

17:00 – 18:30	Poster Session II
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- 18:30 *Dinner*

Tuesday, September 23, 2014

9:00 – 11:45	Session 6
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POST-TRANSLATIONAL CONTROL OF ANGIOGENIC SIGNALING

Chairs: Klaus Preissner, Elisabetta Dejana

- 09:00 **Timothy Hla** (New York, USA)
S1P signaling circa 2014
- 09:30 **Akiko Hata** (San Francisco, USA)
Role of the microRNA-processing enzyme Drosha in vascular development
- 10:00 **BLITZ:** **Nathan Lawson** (Worcester, USA)
Reverse genetic screening in zebrafish reveals a prevalence of genes dispensable for embryonic development and discrepancies with Morpholino-induced phenotypes
- 10:15 *Coffee break*
- 10:45 **BLITZ:** **Jens Kroll** (Mannheim, Germany)
Regulation of angiocrine lung development by KLEIP and HIF-2 in mice
- 11:00 **William Sessa** (New Haven, USA)
New insights into microRNA regulation of arteriogenesis

End of meeting

- 12:00 *Lunch*
- 13:00 *Departure of shuttle buses*