

## Endothelial Cell Phenotypes in Health & Disease

Gordon Research Conference

New Insights into Endothelial Cell Phenotypes: Formation, Pathogenesis and Regeneration

July 17-22, 2016

PGA Catalunya Business and Convention Centre

Girona, Spain

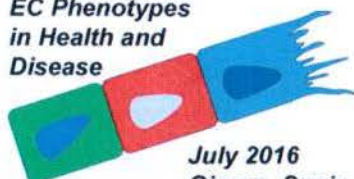
Chair: Victoria L. Bautch

Vice Chair: Ralf H. Adams

### Meeting Description

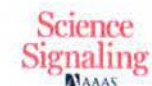
Endothelial cells in the vasculature have a diverse group of phenotypes that play a central role in development, organ-specific function, disease progression and tissue repair. A better understanding of how these phenotypes are formed and maintained is important in regenerative medicine. This GRC will bring together leading researchers from a variety of disciplines with shared interests in the endothelium, and provide new insights and perspectives at the forefront of the field. Topics will include: endothelial origins and multi-potentiality; vascular morphogenesis; organ-specific phenotypes and lymphatics; vascular signaling; stem cell niche properties of vessels; neurovascular interactions; tumor angiogenesis; and regenerative medicine. Attendees will have the opportunity to establish new collaborations and research directions while gaining exposure to cutting edge research in the field of endothelial cell biology. All attendees are encouraged to submit an abstract for poster presentation, and several "late-breaking topic" abstracts will be selected for oral presentation during the main program. Applicants will be accepted from a diverse mix of established investigators, junior PIs, postdocs and graduate students. A focus on how distinct endothelial cell phenotypes are formed and maintained, and how those insights inform regenerative medicine, are unique to this GRC.

**EC Phenotypes  
in Health and  
Disease**



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### Contributors



### Meeting Program

#### Sunday

4:00 pm - 8:00 pm	Arrival and Check-in
6:00 pm	Dinner
7:30 pm - 7:40 pm	Welcome / Introductory Comments by GRC Site Staff
7:40 pm - 9:30 pm	<b>Keynote Session: Specific Functions of Endothelial Cells</b> Discussion Leader: <b>Victoria Bautch</b> (The University of North Carolina at Chapel Hill, USA)
7:40 pm - 7:50 pm	Opening Remarks
7:50 pm - 8:30 pm	<b>Laura Niklason</b> (Yale University, USA) <i>Karen Hirsch et al 2014</i> "Endothelial Cells and Tissue Engineering"
8:30 pm - 8:40 pm	Discussion
8:40 pm - 9:20 pm	<b>Ralf Adams</b> (Max Planck Institute for Molecular Biomedicine, Germany) "New Leaves on the Vascular Tree: Organ-Specific Functions of the Endothelium"
9:20 pm - 9:30 pm	Discussion

Name	Affiliation	Co-Authors	Poster Title	Session	#
Himmels, Patricia	Heidelberg University, Germany	H. Adler, H.H. Marti, E.T. Stoeckli and C. Ruiz de Almodóvar	Motor neurons guide blood vessels in the developing spinal cord	Mon/Tues	37
Ho, Lena	Institute of Medical Biology	Lena Ho, Sam Tan Jian Chye, Daniel Messerschmidt, Serene C. Chng, Ling Ka Yi, Grace Goh Hui Yi, Dharamdajal Kalicharan, Davor Solter, Barbara B. Knowles, Bruno Reversade	ELABELA is a placental hormone critical for embryonic and maternal cardiovascular integrity	Mon/Tues	38
Huveneers, Stephan	Academic Medical Center Amsterdam	Yvonne L. Dorland, Tsveta Malinova, Anne-Marieke van Stalborch, Jeroen Kole, Rene Musters, Johan de Rooij, Peter Hordijk and Stephan Huveneers	The F-BAR protein pacsin2 inhibits asymmetric VE-cadherin internalization from tensile adherens junctions	Mon/Tues	39
Jeansson, Marie	Uppsala University	Iacovos P. Michael, Martina Orebrand, Marta Lima, Olga Volpert, and Susan E Quaggin	Angiopoietin-1 deficiency increase tumor metastasis in mice	Mon/Tues	40
Jin, Suk-Won	Yale University		Regulation of pro-angiogenic BMP signaling activity in endothelial cells	Mon/Tues	41
Jones, Joshua	University of Illinois at Chicago	Jalees Rehman, Asrar B. Malik	Computational and experimental evaluation of hypoxia as a novel regulator of PV1 expression in lung endothelial cells	Mon/Tues	42
Kalucka, Joanna	Laboratory of Angiogenesis and Vascular Metabolism, University of Leuven		Metabolic reprogramming and adaptations of quiescent endothelial cells.	Mon/Tues	43
Kant, Shashi	University of Massachusetts Medical School	Siobhan M. Craige, Shashi Kant, John F. Keane, Jr.	PGC-1 $\alpha$ dictates endothelial function through regulation of eNOS expression	Mon/Tues	44
Kho, Jordan	Baylor College of Medicine	Xiao Yu Tian, Wing Tak Wong, Terry Bertin, Ming Ming Jiang, Anilkumar Reddy, Karl-Dimiter Bissig, Jean Kim, Sandesh SC Nagamani, Brendan H Lee	Mouse and hiPSC-based modeling of endothelial nitric oxide deficiency due to loss of ASL in a genetic form of hypertension	Mon/Tues	45

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Kim, Injune	Korea Advanced Institute of Science and Technology	Kangsang Kim, Il-Kug Kim, Sukhyun Song, Bong Ihn Koh, Junseong Park, Sungsu Lee, Chulhee Choi, Jin Woo Kim, Yoshiaki Kubota, Gou Young Koh	SoxF transcription factors are positive feedback regulators of VEGF signaling	Mon/Tues	46
Kivelä, Riikka	Wihuri Research Institute and University of Helsinki	Karthik Amudhala Hemanthakumar, Marius Robciuc, Joanna Mierwicka, Kari Alitalo	Endothelial cell – to cardiomyocyte crosstalk is mediated via endothelial VEGF-VEGFR2 signalling	Mon/Tues	47
Korhonen, Emilia	University of Helsinki/Wihuri Research Institute		Tie1 controls angiopoietin function in vascular remodeling and inflammation	Mon/Tues	48
Kushner, Erich	University of North Carolina at Chapel Hill	Luke S. Ferro, Zhixian Yu; and Victoria L. Bautch	Tumor-Related Centrosome Over-Amplification Perturbs Endothelial Cell Anisotropy During Angiogenesis	Mon/Tues	49
Lagendijk, Anne Karine	Institute for Molecular Biology, University of Queensland	Guillermo Gomez, Sungmin Baek, Daniel E. Conway, Kelly A. Smith, Martin A. Schwarz, Alpha S. Yap, Benjamin M. Hogan	Live-Imaging of tension through zebrafish VE-cadherin uncovers mechanical contributions in artery maturation and cavernous malformation	Wed/Thur	1
Lampropoulou, Anastasia	UCL Institute of Ophthalmology, University College London	Anastasia Lampropoulou, Alessandro Fantin, Valentina Senatore, Claudia Prahst, James T. Brash, Claudio Raimondi, Clemens Lange, James Bainbridge, Hellmut G. Augustin, Christiana Ruhrberg.	VEGF165-induced vascular permeability relies on both NRP1 and VEGFR2 for ABL-mediated SRC activation.	Wed/Thur	2
Langen, Urs	Max Planck Institute for Molecular Biomedicine	Urs H. Langen, Mara E. Pitulescu, Amit Singh, Jacopo Di Russo, Kishor K. Sivaraj, M. Gabriele Bixel, Lydia Sorokin, Juan M. Vaquerizas, Ralf H. Adams	Specialized endothelial cell subpopulations drive bone development via cell-matrix signaling	Wed/Thur	3
Langer, Victoria	University Medical Center Erlangen	Lisa Haep, Nathalie Britzen-Laurent, Thomas Winkler, Maximilian J. Waldner, Stephan Ellmann, Phillip Tripal, Marc Schwarz, Tobias Bäuerle, Michael Stürzl	Vascular Effects of Interferon-gamma Contribute to Pathogenesis of Inflammatory Bowel Disease	Wed/Thur	4