



North American Vascular Biology Organization - eNews

18501 Kingshill Road, Germantown, MD 20874-2211

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COMMITTEES

Join the Web Site Committee
We'd like to see some of our
Trainee Members join our Web
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interested, please contact, [Dave
Milstone](#), Committee Chair.

MEETINGS

Kari Alitalo Named 2011 Earl P. Benditt Award Recipient



Kari Alitalo, M.D., Ph.D., is the recipient of NAVBO's 2011 Benditt Award in recognition of his groundbreaking work on angiogenesis and lymphangiogenesis. Dr. Alitalo is currently Academy Professor in the Molecular Cancer Biology Program at the Haartman Institute, University of Helsinki, Finland. His laboratory discovered several receptor tyrosine kinases, particularly in endothelial cells. Some of these receptors and their ligands play important roles in tumor angiogenesis. Dr. Alitalo's lab cloned and characterized fibroblast growth factor receptor-4 and the first endothelial specific receptor tyrosine kinase, Tie1. In collaboration with Ulf Eriksson, they identified VEGF-B as an endothelial cell growth factor and determined that VEGFR-1 and NP-1 are its receptors. His lab also cloned additional VEGF genes and receptors and obtained new insight into the molecular mechanisms regulating the growth and function of lymphatic vessels. VEGF-C and VEGF-D stimulate lymphangiogenesis. Their receptor, VEGFR-3, has been linked to human hereditary lymphedema. VEGF-C induces the growth of peritumoral lymphatic vessels and increases the lymphatic metastasis rate in transgenic and tumor-implanted mice. Conversely, soluble VEGFR-3, which blocks embryonic lymphangiogenesis, also blocks metastasis and peritumoral lymphangiogenesis. Dr. Alitalo went on to show that VEGFR-3 also is induced in blood vessels of various human cancers and seems to contribute to angiogenesis in a subset of tumors. Some of the molecules he discovered have become targets for the therapeutic regulation of angiogenesis and lymphangiogenesis, inhibition of tumor metastasis, and control of tissue edema.

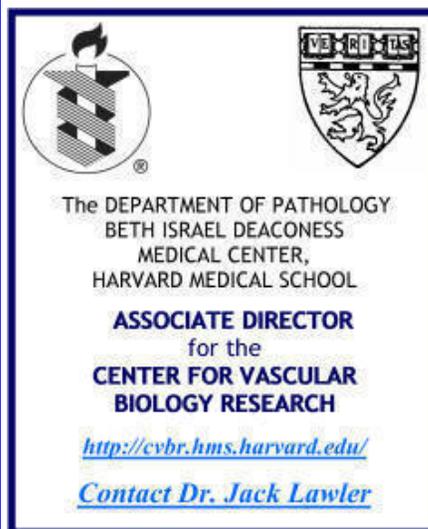
Dr. Alitalo will receive the 2011 Benditt award for his outstanding basic research and its potential for translation to clinical applications. He will present his talk, "Lymphangiogenesis in Development and



Tech Corner: Lights! Plate Reader! Action! – Fluorescence-based cell migration assays

Cell migration is a multistep process that requires the orchestrated signaling and movement of hundreds of molecules that sense extracellular cues, reorganize the cytoskeleton, redistribute internal organelles and recycle lipid compartments in order to achieve motility. Our understanding of the cellular events regulating cell migration can, in part, be attributed to the pioneering efforts of Dr. Stephen Boyden at the Australian National University, who created a novel assay for the analysis of cell migration and cell invasion in 1962. [Read more . . .](#)

Timothy Peterson
Mayo Clinic



Holger Gerhardt to Receive the 2011 Judah Folkman Award



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New for our Web Site - Paper Recommendations

Members are invited to recommend papers of interest to the rest of the vascular biology community. We ask that you include a brief comment - why was the paper intriguing to you or why is it controversial, etc. For more information and details, go to www.navbo.org/?recos

Next newsletter will be
issued **March 15** - submit
items you would like to
have included by
March 10

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NAVBO 2011 Workshops in Vascular Biology

Speakers have been invited and confirmed for both the **Vascular Matrix Biology and Bioengineering Workshop** (www.navbo.org/event/vmbb) and the **Biology of Signaling in the Cardiovascular System** (www.navbo.org/event/bscvs) Visit the web sites for full programs!

Vasculata

Plans are well underway for the 2011 presentation of Vasculata under the direction of Dr. Gary Gibbons of Morehouse School of Medicine. Vasculata will be co-sponsored and held at Georgia Institute of Technology.

Human Disease," at the NAVBO 2011 Workshops in Vascular Biology on October 16 at the Resort and Conference Center at Hyannis on Cape Cod. Please join us in congratulating Dr. Alitalo!

Klaus Ley, M.D.
Meritorious Awards Committee Chair

Currents in Vascular Biology Myth: Endothelium - passive plumbing with poor potential? Finding: BUSTED

Endothelium was initially thought to be a modulated form of mesenchyme with function limited to establishing the inner lining of blood vessels ("keeping blood where it belongs"), preventing untoward intravascular thrombosis and participating in selective permeability in tissues. Over several decades the realization emerged that endothelium is a "legitimate" differentiated cell type performing many characteristic and essential functions during development and in adults. Strikingly, recent evidence reveals an unexpectedly diverse developmental plasticity and potential of endothelium in both physiologic and pathologic settings; differentiated endothelium can and does form not only cardiac valves and blood but cartilage, bone and perhaps other tissues as well. These insights suggest new opportunities for understanding the roles of vascular cells and tissues during normal and abnormal development and for discovering new vascular contributions to physiologic functions and disease. The results may lead to new vascular-based prognostic, diagnostic and therapeutic interventions in a variety of genetic and non-genetic diseases, some of which are not currently understood as vascular in origin. [Read more](#)

David Milstone
Brigham and Women's Hospital

Contributions to NAVBO are Tax Deductible

Please consider making a contribution to NAVBO. We specifically seek support for the IVBM Travel Awards, Vasculata Scholarships and NAVBO Programs. Any amount is welcomed and appreciated. You can make your donation online at: www.navbo.org/donations.

For US residents, NAVBO is a 501(c)(3) organization; contributions qualify as deductible under IRS regulations.

Taking Care of Business

I need your assistance in a number of ways.

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- 2) Please recommend corporate membership in NAVBO to your suppliers and service providers. Information can be

The NAVBO Council, Meritorious Awards Committee and Scientific Advisory Board are pleased to recognize Dr. Holger Gerhardt as the 2011 recipient of the Judah Folkman Award in Vascular Biology. This award recognizes outstanding contributions from vascular biologists who are at a mid-career level (within fifteen years of their first faculty appointment). Dr. Gerhardt is Group Leader in the Vascular Biology Laboratory/Cancer Research UK at the London Research Institute. He will present the Judah Folkman Award Lecture, entitled "Angiogenesis - Pieces of the Puzzle" at 10:00 AM on October 20, 2010, during the NAVBO 2011 Workshops in Vascular Biology in Hyannis, Massachusetts.

Dr. Gerhardt received his Ph.D. in Pathology from Tübingen University in Germany in 2000, having previously studied Biology at Tübingen and Darmstadt. He pursued post-doctoral studies in the laboratory of Christer Betsholtz in the Department of Medical Biochemistry at Sweden's Gothenburg University, assuming his current post at the London Research Institute in 2004.

Dr. Gerhardt's laboratory focuses on clarifying the mechanisms by which patterning of vascular networks are adapted to the functional and nutritional demands of different organs. His lab has identified cellular and biochemical pathways that guide growing vascular sprouts along gradients of growth factors. His findings have led others in his field to regard him as the "founding father" of the endothelial tip cell, whose characterization has revolutionized our understanding of how blood vessels sprout in the process of angiogenesis. Through a series of landmark studies, Dr. Gerhardt has assembled evidence that endothelial cells are capable of changing their principal function from acting as stalk to tip cells when vessels sprout. Interestingly, these cells navigate their surroundings by using filopodia, similar to cells at the growth cone of an axon in remodeling neural tissue. These insights not only represented a breakthrough in blood vessel biology, but also have provided a novel conceptual framework for future design of new therapeutic agents that target pathologic angiogenesis. Readers may learn more about Dr. Gerhardt's research at: http://london-research-institute.co.uk/research/loc/london/iifch/gerhardt/?view=LRI&source=research_portfolio

Dr. Gerhardt has earned other awards in recognition of his achievements, including the EMBO Young Investigator Program

information about NAVBO, meetings, NIH funding, etc. Go to www.navbo.org/now

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Bernadette Englert
Executive Officer

(2007), the Lister Institute Research Prize (2008), and the Walther-Flemming Medal of the German Society for Cell Biology (2009). He has been an invited speaker at numerous European and international conferences, notably the NAVBO workshop on Vascular Matrix Biology and Bioengineering held at Whistler, British Columbia in 2009 and the Developmental Vascular Biology Workshop in 2010.

In the spirit of the Award's namesake Judah Folkman, Dr. Gerhardt has almost single-handedly changed our view of an entire field, is a charming and articulate ambassador of vascular biology, and continues to challenge concepts with a steady stream of top-notch scientific publications. Please join NAVBO's Meritorious Awards Committee and Scientific Advisory Board in celebrating Dr. Gerhardt's excellent accomplishments.

William R. Huckle, Ph.D.
Editor