

The Microcirculatory Society, Inc.

Newsletter

Volume 41, Number 2 – Fall 2013



Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program	Appx
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

A Note from the President

To all members of the Microcirculatory Society:

Best wishes from the hills of West Virginia during what has been a fantastic Fall thus far. I hope both your professional and personal lives are all going well this season.

Obviously, the major news and upcoming event is the Joint Meeting between NAVBO and MCS, to be held October 20-24 at the Hyannis Resort and Conference Center on Cape Cod (<http://www.navbo.org/events/vb2013/microcirc2013>). We will have an excellent series of symposia with both oral and poster presentations in the MCS program, and this will be highlighted by Plenary Lectures from both Dr. Steven Segal ('Integrating and Modulating Intercellular Signaling Underlying Blood Flow Control') and Dr. Gerald Meininger ('Is Integrin Adhesion Tuned to the State of Vascular Smooth Muscle Contractile Activation?'). The full program for the Joint Meeting is provided as an appendix in this newsletter. Additionally, the MCS is sponsoring a total of six travel awards for this meeting, and the winners are also announced later in this newsletter. My congratulations to all six on this recognition for the high quality of your research work. I encourage you all to attend what promises to be a truly special meeting out on the Cape.

Officers

President

Jefferson C. Frisbee, Ph.D.
jefrisbee@hsc.wvu.edu

President-Elect

Mary D. (Molly) Frame, Ph.D.
mary.frame@stonybrook.edu

Past-President

Michael A. Hill, Ph.D.
HillMi@missouri.edu

Secretary

Trevor Cardinal, Ph.D.
tcardina@calpoly.edu

Treasurer

Alan Stephenson, Ph.D.
stephens@slu.edu

Remember, it is not too early to begin planning for Experimental Biology 2014 in San Diego. A full preview of the meeting as well as the MCS abstract categories is listed later in the newsletter. Also, don't delay in reserving your hotel accommodations in San Diego – as these seem to fill up faster every year. Remember that when you are registering and submitting abstracts to identify yourself as a member of MCS as you go through these processes.

Our President's Symposium has also been set for Experimental Biology, and this will occur on April 26 (Saturday) from 9:00-11:30AM. We will be featuring the following excellent speakers:

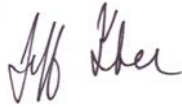
"Microcirculatory Society President's Symposium I: Innovative Approaches to Microvascular Science"

1. Genetics of angiogenesis and vascular stabilization in the zebrafish. (Sarah Childs. *Univ. of Calgary*)
2. Microvascular inflammation in angiogenic tissues. (Abigail Woodfin. *Barts and the London Sch. of Med.*)
3. The heart of mathematics: computational modeling of the coronary microcirculation. (Nicholas Smith. *Kings Col. London*)
4. The nature and control of blood flow through the cortex. (David Kleinfeld. *UCSD*)

A Note from the President, continued

I also encourage you to register and attend all of the other MCS sessions, including the 2014 Eugene M. Landis Award Lecture (to be given by Dr. Julian H. Lombard), Young Investigators Symposium, the Banquet and the Business Meeting as well.

With best regards,

A handwritten signature in black ink, appearing to read "Jeff Frisbee". The signature is written in a cursive, flowing style.

Jefferson Frisbee, Ph.D.
President, Microcirculatory Society, Inc.

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program Appx	
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Welcome to New MCS Members**Regular Members**

Sewon Lee, University of Missouri
 Zahra Nourian, University of Missouri
 Aaron Trask, Nationwide Children's Hospital Research Institute
 Sara Nunes Vasconcelos, Toronto General Research Institute
 Lusha Xiang, University of Mississippi

Associate Members

Zhongkui Hong, University of Missouri
 Hemang Patel, Wayne State University
 Yoke Keong Yong, Universiti Putra Malaysia

Student Members

John-Michael Arpino, University of Western Ontario
 Mohammed Azimi, Tulane University
 Brittany Balint, University of Western Ontario
 Aparna Baldwin, Stony Brook University
 Jorge Castorena-Gonzalez, University of Missouri
 Christopher Hearon, Colorado State University
 Momina Khan, McMaster University
 Jeff Kroetsch, University of Toronto
 Mathew Osborne, Idaho State University
 Matthew Racine, Colorado State University
 Jennifer Richards, Colorado State University
 Richard Sove, University of Western Ontario
 Niklas Telinius, Aarhus University
 Kim To, University of Missouri
 Sara Turner, University of Calgary
 Sulei Xu, West Virginia University

Membership Benefits

- Discounted Registration for the Annual Meeting, Experimental Biology (\$165 savings for Regular/Associate Members and \$20 savings for Student Members)
- Twenty (20) Travel Awards at the Annual Meeting
- Full electronic access to the journal *Microcirculation*, and electronic table of contents with each issue
- International Travel Award for Outstanding Young Investigators

Dues are \$120 (Regular/Associate Members) or \$25 (Student Members)

Contents

[President's Message](#) 1
[New Members](#) 3
[Nominations](#) 4
[Fall Meeting](#) 5
[Complete Program Appx](#)
[Fall Meeting Awards](#) 7
[EB 2014 Preview](#) 8
[EB 2014 Abstracts](#) 9
[MCS Awards](#) 10
[Upcoming Meetings](#) 12

MCS Officer and Councilor Nominations

Notice to MCS Members!

The **Nominations Committee** is now seeking nominees for:

President-Elect, Treasurer, and Councilors

(2 councilor slots will be filled)

Don't put it off... Do it today!

2013-2014 Microcirculatory Society Nomination Ballot

Please provide nominees' names and their contact information.

President-Elect: _____

Complete contact information: _____

Treasurer: _____

Complete contact information: _____

Councilors:

(1) _____

Complete contact information: _____

(2) _____

Complete contact information: _____

Note: The deadline for receipt of nominations is: November 1, 2013

Please Email nominations by November 1st to:

Email: thein@tamu.edu

Dr. Travis Hein, PhD
Department of Surgery
Texas A&M Health Science Center
702 Southwest H.K. Dodgen Loop
Temple, TX, 76504

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program Appx	
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Fall MCS Meeting – A Joint Conference with NAVBO

A final reminder about the outstanding meeting that MCS has planned for later this month in conjunction with NAVBO. The meeting provides a fantastic venue for each society to compliment the other in terms of expertise. There is significant time set apart for networking, and all of the sessions have at least 3-4 slots for oral presentations from submitted abstracts (a complete program is included in this newsletter). The details and speakers can be found here:

→ <http://navbo.org/events/vb2013/microcirc2013>

→ <http://www.navbo.org/events/vb2013>

In addition, the MCS already gave six Travel awards to graduate student and post-docs (the winners of which are listed in this newsletter), and will provide poster cash prizes at the actual event. This is a unique opportunity for MCS and surely not one to be missed, especially for graduate students and post-docs!

Please feel free to contact me with any questions or concerns: brant@virginia.edu

I look forward to seeing all of you at Cape Cod!

Brant Isakson



Vascular Biology 2013

Fall MCS Meeting – A Joint Conference with NAVBO – MCS Overview

Opening Plenary – Sunday, October 20th

Steven S. Segal, University of Missouri:

Integrating and modulating intercellular signaling underlying blood flow control

Monday, October 21st

Translational Approaches to Microvascular Dysfunction

Chair: Shawn Bearden, Idaho State University

Regulation of Angiogenesis/Collateral Artery Remodeling

Chair: Tara Haas, York University

Advances in Lymphatic Biology

Chair: David Zaweija, Texas A&M

Tuesday, October 22nd

Signaling Microdomains in the Vasculature

Chair: Scott Earley, Colorado State University

Cellular Communication

Chair: Marie Billaud, University of Virginia

Luminal vs. Abluminal Modulation of Vasoreactivity

Chair: Erika Westcott, University of Missouri

Wednesday, October 23rd

Shear Stress and Mechanotransduction Modulation

Chair: Molly Frame, SUNY at Stony Brook

Inflammatory Mediators

Chair: Geert Schmid-Schonbein, University of California, San Diego

Pericyte Modulation of Microvascular Function

Chair: W. Lee Murfee, Tulane University

Poster Sessions - Monday and Tuesday evenings

Closing Plenary - Thursday, October 24

Gerald Meininger, University of Missouri:

Is integrin adhesion tuned to the state of vascular smooth muscle contractile activation?

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program	Appx
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Fall MCS Meeting – Travel Award Recipients

Congratulations to all of our Travel Award Winners- we eagerly look forward to your presentations in Cape Cod!

Post Doctoral Fellows

Emilie Roudier, York University
Joshua Scallan, University of Missouri

Graduate Students

Nicholas Ieronimakis, University of Washington
Jennifer Richards, Colorado State University
Parid Sava, Yale University
Richard Sove, University of Western Ontario

Fall MCS Meeting – On-site Awards***Outstanding Poster Awards***

Up to six Outstanding Poster Awards will be given to postdocs or equivalent in each area - Matrix/Bioengineering, Signaling and Microcirculation and six awards to graduate students or equivalent in each area - for a total of 12 awards.

- presenters will be judged on site
- visual appearance, content and oral presentation will be considered
- each presenter will be evaluated and scored by at least two judges
- you must be present at your designated hour
- awards will be announced and presented at the final session (October 24)
- Travel Award recipients are not eligible
- Late-breaking abstracts will be considered

Faculty of 1000 Poster Awards

One Faculty of 1000 Poster Award will be given to postdocs, graduate students or equivalent in each area - Matrix/Bioengineering, Signaling and Microcirculation for a total of three awards.

- presenters will be judged on site
- visual appearance, content and oral presentation will be considered
- each presenter will be evaluated and scored by at least two judges
- you must be present at your designated hour
- awards will be announced and presented at the final session (October 24)
- Travel Award recipients are not eligible
- Late-breaking abstracts will be considered

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program Appx	
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

EB 2014 Preview**Saturday, April 26th 2014****Microcirculatory Society President's Symposium – 9:00am****Innovative Approaches to Microvascular Science****Speakers:**

- Sarah Childs, University of Calgary – *Genetics of angiogenesis and vascular stabilization in the zebrafish*
- Abigail Woodfin, Barts and the London School of Medicine – *Microvascular inflammation in angiogenic tissues*
- Nicholas Smith, Kings College London – *The heart of mathematics: computational modeling of the coronary microcirculation*
- David Kleinfeld, University of California San Diego – *The nature and control of blood flow through the cortex*

Awards Luncheon – 12:00pm*Additional Details in the Winter Newsletter***Microcirculatory Society President's Symposium II – 2:00pm***Presentations will be selected from the submitted abstracts***Sunday, April 27th 2014****Microcirculatory Society Landis Award Lecture – 3:15pm**

Julian Lombard, Medical College of Wisconsin

Microcirculatory Society Annual Business Meeting – 4:30pm**Monday, April 28th 2014****Microcirculatory Society Young Investigator Symposium – 10:30am**

As in previous years the MCS will highlight the important research contributions of our Graduate Students and Postdoctoral Fellows via a dedicated Young Investigators Session. Participants will present a brief oral presentation as well as in poster form.

To be considered for the Young Investigators Session:

- check the identification box for Young Investigators on the EB abstract form.
- email a copy of your abstract to Dr Brant Isakson, Chair of the MCS Programming Committee, at brant@virginia.edu

Contents**EB 2014 Abstract Categories**

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program Appx	
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Abstract Submission Deadline is November 8th, 2013

Please remember to use MCS session numbers/categories when submitting abstracts to EB2014 to ensure programming within MCS sessions. The categories are:

1035-APS	Angiogenesis/microvascular remodeling/injury & repair
1036-APS	Atherosclerosis/thrombosis/platelets
1037-APS	Inflammation/leukocyte-endothelium interactions
1038-APS	Instrumentation, methodology, and experimental models
1039-APS	Ischemia-reperfusion/free radical biology
1040-APS	Lymphatic and venular function
1041-APS	Microvascular cell signaling pathways
1042-APS	Microvascular development and aging
1043-APS	Microvascular flow regulation/oxygen delivery/networks
1044-APS	Microvascular mechanics/hemodynamics/rheology
1045-APS	Microvascular pathophysiology-pharmacology, therapeutics and translational aspects
1046-APS	Pericytes and stem cells
1047-APS	Permeability/fluid & solute exchange/glycocalyx
1048-APS	Tissue-microvessel interactions/extracellular matrix
1049-APS	Vasomotor control: endothelium/smooth muscle/nerves

The abstract submission site is open at:

<http://www.abstractsonline.com/submit/login.asp?aid=85&mid=3445>

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program	Appx
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Microcirculatory Society – Call for Awards

The Awards Committee of the Microcirculatory Society is now accepting nominations and applications for the following awards:

The Microcirculatory Award for Excellence in Lymphatic Research

The award recognizes meritorious research in the area of lymph, lymphatics or the interstitium and is presented annually to a young investigator within 10 years of completing their PhD or MD. Applications should include (1) a letter describing the applicant's research activities, (2) a manuscript suitable for publication in *Microcirculation* and (3) a current CV. The awardee will receive a certificate and \$500 at the annual awards luncheon.

The August Krogh Young Investigator Award

The award is presented to encourage excellence in microcirculatory research by new, young investigators. Applicants must be graduate students or young investigators within 3 years of completing their PhD or first MD residency. Applications should include (1) a letter of nomination from a member of the Society, (2) a manuscript suitable for publication in *Microcirculation* and (3) a current CV. Additional letters of support are encouraged. The awardee will receive a certificate and \$1000 at the annual awards luncheon.

The Microcirculatory Society Travel Award for Outstanding Young Investigator

This award is presented to a young investigator from the United States or Canada toward visits to laboratories outside of North America. Applicants must be within 12 years of completing their PhD or first MD residency. Applications should include (1) an itinerary including laboratories to be visited, (2) a letter describing the benefits of the award to the applicant's career and advancement of microcirculatory research, and (3) a current CV. Additional letters of support are encouraged. The awardee will receive a certificate and \$5000 toward travel expenses associated with the trip. In addition, the recipient will present a brief report of their trip at the annual awards luncheon.

The John R. Pappenheimer Postdoctoral Travel Awards

These awards are presented to young investigators to encourage their participation in the annual meeting. Applicants must be within 3 years of completing a PhD or first MD residency and have submitted *a first author abstract to one of the Microcirculatory Society sessions at Experimental Biology 2014*. Applicants need not be members of the Society. Applications should include (1) a copy of the submitted abstract and (2) a letter of support from their mentor. The awardee will receive a certificate and \$750 at the annual awards luncheon. Previous recipients are not eligible to reapply.

Microcirculatory Society – Call for Awards, continued**The Benjamin Zweifach Graduate Student Travel Awards**

These awards are given annually to exceptional young scientists in training to encourage their participation in the annual meeting. Applicants must have submitted a *first author abstract to one of the Microcirculatory Society sessions at Experimental Biology 2014*. Applicants need not be members of the Society. Applications should include (1) a copy of submitted abstract and (2) a letter of support from their supervisor. The awardee will receive a certificate and \$750 at the annual awards luncheon. Previous recipients are not eligible to reapply.

Additional descriptions and details are available on the Society web page:

http://microcirc.org/ABOUT/MCS_Awards.html

Deadlines for receipt of completed applications and nominations for all awards – December 2nd, 2013

Send all materials to:

Rolan Pittman, PhD

Chair, Awards Committee

pittman@vcu.edu

Contents

President's Message	1
New Members	3
Nominations	4
Fall Meeting	5
Complete Program Appx	
Fall Meeting Awards	7
EB 2014 Preview	8
EB 2014 Abstracts	9
MCS Awards	10
Upcoming Meetings	12

Upcoming Meetings**Vascular Biology 2013 - Joint meeting of NAVBO and the MCS**

Hyannis, Cape Cod, MA – October 20-24, 2013

<http://www.navbo.org/events/vb2013>**American Heart Association Scientific Sessions**

Dallas, TX – November 16-20, 2013

http://my.americanheart.org/professional/Sessions/ScientificSessions/ScientificSessions_UCM_316900_SubHomePage.jsp**Int'l Society for Applied Cardiovascular Biology**

Cleveland, OH – April 2-5, 2014

<http://www.isacb.org/biennial-meeting>**Experimental Biology and the MCS Annual Meeting**

San Diego, CA – April 26-30, 2014

<http://www.experimentalbiology.org/2014/Home.aspx>**Arteriosclerosis, Thrombosis, and Vascular Biology Scientific Sessions**

Toronto, Canada – May 1-3, 2014

http://my.americanheart.org/professional/Sessions/ATVB/ATVB_UCM_316902_SubHomePage.jsp**Vascular Biology 2014**

Monterey (Pacific Grove), CA – Oct 19-23, 2014

<http://www.navbo.org/events/vb2014>**10th World Congress for Microcirculation**

TBD – 2015

<http://worldmicrocirc.org/>

Appendix – Complete Program for Vascular Biology 2013

VASCULAR BIOLOGY 2013
OCTOBER 20-24, 2013
RESORT AND CONFERENCE CENTER AT HYANNIS, MA
MEETING PROGRAM

Sunday - October 20, 2013

WELCOME AND OPENING SESSION

6:30PM – 8:15PM — Grand Ballroom

Chair: **Klaus F. Ley**, *La Jolla Institute for Allergy and Immunology*
NAVBO President

- 6:30 *Welcome from the Society Presidents*
Dr. Ley for NAVBO and
Michael Hill, *University of Missouri, Past President, Microcirculatory Society*
- 6:45 *Making, shaping and tuning new blood vessels*
Ralf H. Adams, *Max-Planck Institute for Molecular Biomedicine*
- 7:30 *Integrating and modulating intercellular signaling underlying blood flow control*
Steven S. Segal, *University of Missouri*
- 8:15 *Presentation of the Travel Awards*
Recipients listed on pages 25-27

WELCOME RECEPTION

8:15PM – 10:00PM — Grand Ballroom Foyer

Monday - October 21, 2013

BREAKFAST

7:00AM – 8:00AM — Bass River Room (Second Floor)

GROWTH FACTOR SIGNALING IN DEVELOPMENT AND DISEASE

8:00AM – 10:00AM — Grand I

Chair: **Luisa Iruela-Arispe**, *University of California, Los Angeles*

- 8:00 *Combinatorial strategies for angiogenesis and its inhibition*
Kari Alitalo, *Biomedicum Helsinki/University of Helsinki*
- 8:30 *Genetic control of lymphangiogenesis in development and disease*
Stefan Schulte-Merker, *Hubrecht Institute, NIOB*
- 9:00 *01 - Regulation of Notch signaling and chondrogenesis in vascular smooth muscle by Wnt16*
Maria Nurminkaya, *University of Maryland School of Medicine*
- 9:15 *02 - Chromatin-based regulation of Notch signaling impacts venous specification and maintenance*
Courtney Griffin, *Oklahoma Medical Research Foundation*
- 9:30 *Notch and Anthrax Toxin Receptors regulate ECM and vessel microenvironment*
Jan Kitajewski, *Columbia University*

MATRIX REMODELING IN VASCULAR DISEASE

8:00AM – 10:00AM — Grand II

Chair: Suneel Apte, Cleveland Clinic

- 8:00 *Vascular extracellular matrix and the regulation of blood pressure*
Robert Mecham, Washington University Medical School
- 8:30 *03 - Alternative splicing of fibronectin protects against dissecting aneurysm*
Patrick Murphy, Massachusetts Institute of Technology
- 8:45 *04 - Versican is markedly elevated during the early pathogenesis of functionally-significant diet-induced aortic valve disease in mice*
Mark Blaser, University of Toronto
- 9:00 *05 - LOXL4 is induced by transforming growth factor β 1 through Smad and JunB/Fra2 and contributes to vascular matrix remodeling*
Oscar Busnadiego, Consejo Superior De Investigaciones Cientificas
- 9:15 *06 - Characterization of central artery stiffness, hemodynamics, and left ventricular function in a mouse model of accelerated aging*
Jacopo Ferruzzi, Yale University
- 9:30 *Localized matrix regenerative therapies for abdominal aortic aneurysms*
Anand Ramamurthi, Cleveland Clinic

TRANSLATIONAL APPROACHES TO MICROVASCULAR DYSFUNCTION

8:00AM – 10:00AM — Osterville A/B

Chair: Shawn Bearden, Idaho State University

- 8:00 *New mechanisms for aging-associated blood pressure elevation: Direct regulation of microvascular function by vascular mineralocorticoid receptors*
Iris Jaffe, Tufts University
- 8:40 *The longest journey starts with the first step – the translation of molecular concepts from rodent to human resistance arteries*
Steffen-Sebastian Bolz, University of Toronto
- 9:20 *The microvasculature – a prognostic indicator of cardiovascular risk*
Geraldine Clough, University of Southampton

10:00-10:30am - Coffee Break - Visit the Exhibits**SIGNALS THAT CONTROL ANGIOGENIC SPROUTING**

10:30AM – 12:30PM — Grand I

Chair: Ralf H. Adams, Max-Planck Institute for Molecular Biomedicine

- 10:30 *Collective endothelial cell behavior orchestrating vascular patterning*
Holger Gerhardt, London Research Institute-Cancer Research UK
- 11:00 *Microdomain distribution of VEGF signaling*
Luisa Iruela-Arispe, University of California, Los Angeles
- 11:30 *07 - Regulation of vascular development and angiogenesis by the ETS transcription factor Erg through canonical Wnt signaling*
Anna Randi, Imperial College London

- 11:45 *08 - The role of epsins in controlling lymphatic valve formation by temporal and spatial regulation of VEGFR3 signaling*
Hong Chen, Oklahoma Medical Research Foundation
- 12:00 *Endothelial-pericyte interactions*
Christer Betsholtz, Karolinska Institutet

MATRIX GENETICS AND DEVELOPMENT

10:30AM – 12:30PM — Grand II

- Chair: Brenda Rongish, University of Kansas*
- 10:30 *Mechanosensing/mechanotransduction deficits in the cardiovascular system of mice with Marfan syndrome*
Francesco Ramirez, Mount Sinai School of Medicine
- 11:00 *09 - β -Catenin-mediated suppression of p53 activity is essential for vascular smooth muscle survival and vessel wall formation*
Dario Riascos Bernal, Albert Einstein College of Medicine
- 11:15 *10 - Elastin haploinsufficiency impedes the progression of arterial calcification in MGP-deficient mice*
Zohreh Khavandgar, McGill University
- 11:30 *11 - Vascular stiffness in elastin insufficient mice and humans; stroke risk and therapeutic strategies*
Beth Kozel, Washington University School of Medicine
- 11:45 *12 - Mechanical behavior of the ascending and descending aortae of newborn fibulin-4 null mice*
Jungsil Kim, Washington University-St. Louis
- 12:00 *Genetic basis of thoracic aortic aneurysms and dissections: Identifying molecular pathways to vascular diseases*
Dianna Milewicz, The University of Texas Health Sciences Center at Houston

REGULATION OF ANGIOGENESIS/COLLATERAL ARTERY REMODELING

10:30AM – 12:30PM — Osterville A/B

- Chair: Tara Haas, York University*
- 10:30 *Post-angiogenesis dynamics in neovascularization*
James Hoying, Cardiovascular Innovation Institute
- 11:00 *13 - Defining the role of hypoxia and HIF in vascular smooth muscle cells*
Anna Henry, Case Western Reserve University School of Medicine
- 11:15 *14 - Smooth muscle cell dysfunction reduces functional vasodilation in pre-existing and newly-formed arterial collaterals*
Trevor Cardinal, California Polytechnic State University
- 11:30 *15 - Angiogenesis following hindlimb ischemia in mice yields a microvasculature that is functionally abnormal*
John-Michael Arpino, Robart's Research Institute, University of Western Ontario

- 11:45 *16 - FoxO induced inhibition of secreted molecule signalling pathways:
Role in promoting angiostasis in the ischemic muscle*
Emilie Roudier, York University
- 12:00 *The complexity of the VEGF network in angiogenesis*
Feilim Mac Gabhann, Johns Hopkins University

12:30-2:00pm - Lunch - Bass River Room

VASCULAR METABOLIC PATHWAYS

2:00PM – 4:00PM — Grand I

- Chair: Stephen Young, David Geffen School of Medicine at UCLA*
- 2:00 *PGC-1 and cardiovascular diseases*
Zoltan Arany, Beth Israel Deaconess Medical Center/Harvard University
- 2:30 *17 - Ubiad1 is an antioxidant enzyme that regulates eNOS activity by CoQ10 synthesis*
Massimo Santoro, VIB - KUL
- 2:45 *18 - Dll4-notch signaling promotes macrophage activation and
cardiometabolic disorders*
Masanori Aikawa, Brigham and Women's Hospital, Harvard Medical School
- 3:00 *19 - Copper transporter ATP7A protects against endothelial barrier dysfunction
in ischemic injury in diabetes*
Tohru Fukai, University of Illinois at Chicago
- 3:15 *20 - Akt3 regulates mitotic stability and chromosome segregation in endothelial cells*
Robin Muise-Helmericks, Medical University of South Carolina
- 3:30 *Triglyceride metabolism at the capillary wall*
Stephen Young, David Geffen School of Medicine at UCLA

VASCULAR MATRIX CALCIFICATION

2:00PM – 4:00PM — Grand II

- Chair: Cecilia Giachelli, University of Washington*
- 2:00 *Molecular mechanisms for the initiation and inhibition of medial artery calcification*
Paul Price, University of California, San Diego
- 2:30 *Arterial calcification and bone physiology: Role of the bone-vascular axis*
Dwight Towler, Sanford-Burnham Medical Research Institute at Lake Nona
- 3:00 *21 - Novel biology of sortilin 1 as an inducer of vascular calcification*
Claudia Goettsch, Harvard Medical School / Brigham and Women's Hospital
- 3:15 *Novel pro-inflammatory mechanisms of cardiovascular calcification*
Elena Aikawa, Brigham and Women's Hospital, Harvard Medical School
- 3:45 *22 - Deletion of discoidin domain receptor 1 inhibits nuclear localization
and activity of RUNX2 during vascular smooth muscle cell calcification*
Michelle Bendeck, University of Toronto

ADVANCES IN LYMPHATIC BIOLOGY

2:00PM – 4:00PM — Osterville A/B

Chair: David C. Zawieja, Texas A&M University Health Science Center

- 2:00 *Unexpected properties of lymphatic valves determine lymph pump efficiency*
Michael Davis, University of Missouri-Columbia
- 2:30 *23 - Pressure and viscosity measurements in afferent lymphatics to elucidate the mechanisms of arthritic flare*
Echoe Bouta, University of Rochester
- 2:45 *24 - Non-invasive quantification of nitric oxide effects on lymphatic pumping in vivo*
J. Brandon Dixon, Georgia Institute of Technology
- 3:00 *25 - Lymphatic vessels are critical for the removal of cholesterol from peripheral tissues by SR-BI-mediated transport of HDL*
Hwee Ying Lim, National University of Singapore
- 3:15 *26 - Endothelial permeability of isolated murine collecting lymphatic vessels is elevated by nitric oxide and histamine*
Joshua Scallan, University of Missouri
- 3:30 *Lymphatic dysfunction and inflammatory disease*
Gwendalyn Randolph, Washington University

4:00 - 7:00pm Dinner on your own**CAREER PATHWAYS IN BIOMEDICAL ENTREPRENEURSHIP**

4:00PM – 5:00PM — Osterville A/B

*(limited to 200, pre-registration required)**Moderator: Cam Patterson, University of North Carolina, Chapel Hill*

Cam Patterson, MD, MBA, is an Ernest and Hazel Craige Distinguished Professor of Medicine and an Associate Chair of Research in the Department of Medicine. He also serves as Associate Dean of Health Care Entrepreneurship in the UNC School of Medicine and as Physician-in-Chief at the UNC Center for Heart and Vascular Care and Chief of the Division of Cardiology. He is an expert in angiogenesis, vascular biology, endothelium, atherosclerosis.

Visit the Exhibits - see guide on pages 4 & 5*Light refreshments will be available***POSTER SESSION I AND EXHIBITS**

7:00PM – 10:00 PM — Grand Ballroom Foyer/Centerville & Orleans Rooms

Foyer:

MATRIX REMODELING IN VASCULAR DISEASE - Boards 1 through 7**VASCULAR MATRIX CALCIFICATION** - Boards 8 through 10**MATRIX BIOLOGY** - Boards 11 through 17**GROWTH FACTOR SIGNALING IN DEVELOPMENT AND DISEASE** - Boards 18 through 29**SIGNALS THAT CONTROL ANGIOGENIC SPROUTING** - Boards 30 through 42**VASCULAR METABOLIC PATHWAYS** - Boards 43 through 46**TRANSLATIONAL APPROACHES TO MICROVASCULAR DYSFUNCTION** - Boards 47 through 50

Centerville:

REGULATION OF ANGIOGENESIS/COLLATERAL ARTERY REMODELING - Boards 53 through 56**ADVANCES IN LYMPHATIC BIOLOGY** - Boards 57 through 62 (and 74)**MICROCIRCULATION** - Boards 63 through 67**ATHEROSCLEROSIS AND RESTENOSIS** - Boards 68 through 73

Orleans:

VASCULAR CELL BIOLOGY - Boards 77 through 89**STEM/PROGENITOR CELLS** - Boards 90 through 93**VASCULAR BIOLOGY I** - Boards 94 through 100

Presenters will alternate times as follows: Presenters at odd numbered boards will present from 7:00 pm to 8:00 pm; presenters at even numbered boards will present from 8:30 pm to 9:30 pm

Tuesday - October 22, 2013

BREAKFAST

7:00AM – 8:00AM — Bass River Room (Second Floor)

VASCULAR GUIDANCE MOLECULES IN DEVELOPMENT

8:00AM – 10:00AM — Grand I

Chair: Anne Eichmann, Yale University School of Medicine

8:00 *Vascular guidance pathways as a primer for endothelial hematopoiesis*
Ann Zovein, University of California, San Francisco

8:30 *Guidance receptors in vascular patterning*
Anne Eichmann, Yale University School of Medicine

9:00 *27 - ETS factors regulate the Vegf-dependent, arterial-specific expression of Dll4*
Joshua Wythe, University of California, San Francisco

9:15 *28 - Ccbe1 regulates Vegfc-mediated induction of Vegfr3 signaling during embryonic lymphangiogenesis*
Ben Hogan, Institute for Molecular Bioscience

9:30 *Molecular determinants of vessel fate*
Michael Simons, Yale University School of Medicine

VASCULAR GUIDANCE MOLECULES IN DEVELOPMENT

8:00AM – 10:00AM — Grand II

Chair: Naren Vyavahare, Clemson University

8:00 *Bioprinting a vascular network*
Roger Markwald, Medical University of South Carolina

8:30 *Imaging dynamic events in angiogenesis and vessel remodeling*
Mary Dickinson, Baylor College of Medicine

9:00 *29 - Epidermal growth factor-like domain 7 (Egfl7) in stem/progenitor cells of the endothelial and hematopoietic lineage*
Heidi Stuhlmann, Weill Medical College of Cornell University

9:15 *30 - Vascularized cardiac microtissue*
Monica Moya, University of California, Irvine

9:30 *31 - Endothelial mechanotaxis in vascular remodeling*
Eugene Tkachenko, University of California San Diego

9:45 *32 - Engineering 3D cardiac tissue with perfusable vasculature*
Meredith Roberts, University of Washington

SIGNALING MICRODOMAINS IN THE VASCULATURE

8:00AM – 10:00AM — Osterville A/B

Chair: Scott Earley, Colorado State University

- 8:00 *An unexpected role for hemoglobin in the arterial wall*
Brant Isakson, University of Virginia
- 8:30 *33 - TM4SF1 – a new player in endothelial cell biology*
Shou-Ching Jaminet, Beth Israel Deaconess Medical Center
- 8:45 *34 - Endogenous Regulation of TRPA1 Channels in the Cerebral Artery Endothelium*
Scott Earley, Colorado State University
- 9:00 *35 - Modeling localized calcium signals in vascular cells*
Jaimit Parikh, FIU
- 9:15 *36 - Disruption of TRPV4 calcium signaling network at myoendothelial projections results in a loss of endothelial-dependent vasodilation in hypertension*
Swapnil Sonkusare, University of Vermont
- 9:30 *Vasoregulation by IP3 receptors in health and disease*
Jonathan Jaggar, University of Tennessee Health Science Center

10:00-10:30am - Coffee Break - Visit the Exhibits**REGULATION OF VASCULAR GROWTH BY NON-CODING RNAs**

10:30AM – 12:30PM — Grand I

Chair: Deepak Srivastava, Gladstone Institute of Cardiovascular Disease, UCSF

- 10:30 *The miRNA landscape of zebrafish vascular development*
Stefania Nicoli, Yale University Cardiovascular Research Center
- 11:00 *37 - A microRNA-mediated feedback loop controls vascular inflammatory signaling*
Jason Fish, University Health Network, University of Toronto
- 11:15 *38 - Molecular control of capillary tube regression in 3D extracellular matrices*
George Davis, University of Missouri-Columbia School of Medicine
- 11:30 *39 - MicroRNA-107 regulates cerebral vascular permeability by modulating neural progenitor cell fate*
Miguel A. Lopez-Ramirez, Yale University
- 11:45 *40 - Release of cellular tension signals self-restorative ventral lamellipodia to heal barrier micro-wounds*
Christopher Carman, Harvard Medical School - BIDMC
- 12:00 *Modeling human vascular disease through cellular reprogramming*
Deepak Srivastava, Gladstone Institute of Cardiovascular Disease, UCSF

CARDIOVASCULAR ENGINEERING

10:30AM – 12:30PM — Grand II

Chair: Jay Humphrey, Yale University

- 10:30 Bioengineering human cardiac tissue
Gordana Vunjak-Novakovic, Columbia University*
- 11:00 41 - Complex carbohydrate coatings mimicking the glycocalyx structure on decellularized tissue engineered vascular grafts (TEVGs) and animal-derived vascular grafts
Sashka Dimitrievska, Yale University*
- 11:15 42 - Stem cell-derived cardiomyocyte maturation by biomimetic topographical and electrical cues
Sara Nunes, Toronto General Research Institute, University Health Network*
- 11:30 43 - Building perfused vascular networks in vivo within 3-4 days using human vasculogenic cells – application to ischemic diseases
Joyce Bischoff, Boston Children's Hospital*
- 11:45 44 - A thromboresistant cell-derived extracellular matrix as a biomaterial coating
Nina Kristofik, Yale University*
- 12:00 Jekyll and Hyde: The complex role of intraluminal thrombus in abdominal aortic aneurysm
David Vorp, University of Pittsburgh*

CELLULAR COMMUNICATION

10:30AM – 12:30PM — Osterville A/B

Chair: Marie Billaud, University of Virginia

- 10:30 Endothelial signal conduction provides the missing link between hypoxia sensing and vasoconstriction in the intact lung
Wolfgang Kuebler, University of Toronto*
- 11:00 45 - A novel function for LYVE-1 expressing macrophages: Maintenance of blood vessel homeostasis
Veronique Angeli, National University of Singapore*
- 11:15 46 - Studying the dynamics of the oxygen-dependant ATP release pathway within erythrocytes using a computational model of a microfluidic device
Richard Sove, University of Western Ontario*
- 11:30 47 - O-glycoprotein podoplanin is essential for maintaining high endothelial venule integrity by interacting with platelet CLEC-2
Lijun Xia, Oklahoma Medical Research Foundation*
- 11:45 48 - Paradoxical increase in endothelial Ca²⁺ and myogenic tone with advancing age in resistance microvessels
Joshua Wythe, Gladstone Institute of Cardiovascular Disease, UCSF*
- 12:00 Integrative control of skeletal muscle blood flow in humans
Frank Dinunno, Colorado State University*

12:30-2:00pm - Lunch - Bass River Room

NAVBO MEMBERSHIP BUSINESS MEETING

1:30-2:00pm - Cape Cod Room

VASCULAR MECHANOTRANSDUCTION

2:00PM – 4:00PM — Grand I

Chair: Martin A. Schwartz, Yale University

2:00 *Arteriogenesis regulation via dual control of arterial specification and inflammation*
Eleni Tzima, University of North Carolina at Chapel Hill

2:30 *Role of disturbed blood flow on endothelial dysfunction and atherosclerosis*
Hanjoong Jo, Emory University

3:00 *49 - The Rho-GEF Trio regulates flow-induced alignment of endothelial cells through the VE-cadherin mechanosensory complex*
Jeffrey Kroon, Sanquin Research and Landsteiner Laboratory

3:15 *50 - Small GTPase Rap1 transmits mechanical signals in endothelium and controls vascular tone and blood pressure*
Magdalena Chrzanowska-Wodnicka, Blood Center of Wisconsin

3:30 *Molecular mechanisms of flow sensation by endothelial cells*
Martin Schwartz, Yale School of Medicine

CLINICAL APPLICATION OF BIOMATERIALS AND VASCULAR GRAFTS

2:00PM – 4:00PM — Grand II

Chair: Edward Botchwey, Georgia Institute of Technology

2:00 *Development of rationally designed tissue engineered vascular grafts*
Christopher Breuer, Nationwide Children's Hospital

2:30 *51 - Long term performance of fast-degrading acellular vascular grafts*
Robert Allen, University of Pittsburgh

2:45 *An adipocentric view of the vascular response to injury*
C. Keith Ozaki, Brigham and Women's Hospital/Harvard Medical School

3:15 *52 - Molecular signatures of tissue-specific endothelial cells in in vivo organ maintenance, regeneration, and in vitro culture*
Daniel Nolan, Angiocrine Bioscience

3:30 *Microengineered hydrogels for regenerative medicine*
Ali Khademhosseini, Harvard Medical School

LUMINAL VS. ABLUMINAL MODULATION OF VASOREACTIVITY

2:00PM – 4:00PM — Osterville A/B

Chair: Erika Westcott, University of Missouri

2:00 *Conducted dilation in response to vasoconstrictors: How and why?*
Kim Dora, University of Oxford

2:30 *53 - Mechanism of phenylephrine-induced ATP release via pannexin 1 in vascular smooth muscle cells*
Marie Billaud, University of Virginia School of Medicine

- 2:45 *54 - Intermittent hypoxia decreases calcium levels and NFAT activation in endothelial cells to diminish hydrogen sulfide-dependent dilation*
Jessica Osmond, University of New Mexico
- 3:00 *55 - Enhanced mitochondrial-induced dilation in cerebral arteries after ischemia in rats*
David Busija, Tulane University SOM
- 3:15 *56 - PDGF signaling influences the pro-fibrotic response of coronary adventitial cells in culture and in hearts of mdx mice; a model of Duchenne Muscular Dystrophy*
Nicholas Ieronimakis, University of Washington
- 3:30 *Discrete Ca²⁺ signaling and the paradoxical Cav3.2 channels in arterial dilation*
Donald Welsh, University of Calgary Medicine

4:00 - 7:00pm Dinner on your own

POSTER SESSION II AND EXHIBITS

7:00PM – 10:00 PM — Grand Ballroom Foyer/Centerville and Orleans Rooms

CARDIOVASCULAR ENGINEERING - Boards 1 through 8
VASCULAR BIOENGINEERING - Boards 9 through 14
PATHOLOGIC ANGIOGENESIS - Boards 15 through 20
SIGNALING AT CELL-CELL JUNCTIONS - Boards 21 through 30
VASCULAR GUIDANCE MOLECULES IN DEVELOPMENT - Boards 31 through 36
VASCULAR MECHANOTRANSDUCTION - Boards 37 through 43
SIGNALING IN THE CARDIOVASCULAR SYSTEM - Boards 44 through 52
CELLULAR COMMUNICATIONS - Boards 53 through 56
INFLAMMATORY MEDIATORS - Boards 57 through 65
MICROCIRCULATION - Boards 66 through 68
ANIMAL MODELS OF VASCULAR DISEASES - Boards 69 through 78
SMOOTH MUSCLE CELL BIOLOGY - Boards 79 through 92
VASCULAR BIOLOGY II - Boards 93 through 98

Presenters will alternate times as follows: Presenters at odd numbered boards will present from 7:00 pm to 8:00 pm; presenters at even numbered boards will present from 8:30 pm to 9:30 pm

Visit the Exhibits - see guide on pages 4 & 5

Light refreshments will be available

Wednesday - October 23, 2013

BREAKFAST

7:00AM – 8:00AM — Bass River Room (Second Floor)

SIGNALING AT CELL-CELL JUNCTIONS

8:00AM – 10:00AM — Grand I

- Chair: Elisabetta Dejana, University of Milan*
- 8:00 *Endothelium, inflammation and invasion*
Dean Li, University of Utah
- 8:30 *Derivation of endothelial progenitor cells and their role in vascular repair*
Asrar Malik, University of Illinois College of Medicine
- 9:00 *57 - The structure of the ternary complex of KRIT1 bound to both the Rap1 GTPase and the Heart of Glass (HEG1) cytoplasmic tail*
Alexandre Gingras, University of California, San Diego
- 9:15 *58 - Sprouty4 regulated vascular permeability by regulating the tyrosine phosphorylation and degradation of VE-cadherin*
Robert Friesel, Maine Medical Center Research Institute
- 9:30 *Transcriptional regulation of endothelial cell differentiation*
Elisabetta Dejana, University of Milan

REGENERATION OF VASCULAR WALLS AND STEM CELLS

8:00AM – 10:00AM — Grand II

- Chair: Marsha Rolle, Worcester Polytechnic Institute*
- 8:00 *Derivation of brain microvascular endothelial cells from human pluripotent stem cells*
Sean Palecek, University of Wisconsin-Madison
- 8:30 *Looks matter: VEGF signaling from biomaterials*
Tatiana Segura, University of California, Los Angeles
- 9:00 *59 - Bone marrow stromal cells exhibit features of vascular mimicry*
Laura Suggs, University of Texas at Austin
- 9:15 *60 - Potential of human pluripotent stem cells for generation of tissue engineered vascular grafts*
Sumati Sundaram, Yale University
- 9:30 *Fibroblast function in the vessel wall*
Michelle Tallquist, University of Hawaii

SHEAR STRESS AND MECHANOTRANSDUCTION MODULATION

8:00AM – 10:00AM — Osterville A/B

- Chair: Molly Frame, SUNY at Stony Brook*
- 8:00 *The endothelial glycocalyx – its structure and function as a mechanotransducer*
John Tarbell, City College - CUNY

- 8:30 *61 - Hemodynamic targeting of atheroprone vasculature for diagnostic imaging and prophylactic drug delivery*
Lucas Hofmeister, Vanderbilt University
- 8:45 *62 - Coronary endothelial caveolae and eNOS uncoupling in diabetic patients*
Zsolt Bagi, Medical College of Georgia
- 9:00 *63 - Tumor necrosis factor- α regulates myogenic responsiveness and blood pressure control*
Jeffrey Kroetsch, University of Toronto
- 9:15 *64 - Ex vivo femoral artery model for testing effects of wall shear stress on pre-arteriogenic markers*
Aparna Baldwin, Stony Brook University
- 9:30 *Sensing and responding to changes in stretch/tension in arterial smooth muscle*
Michael Hill, University of Missouri, Columbia

10:00-10:30am - Coffee Break - Visit the Exhibits

SMOOTH MUSCLE-ENDOTHELIAL CELL INTERACTIONS

10:30AM – 12:30PM — Grand I

Chair: George E. Davis, University of Missouri

- 10:30 *Post-transcriptional RNA regulons in angiogenesis*
Timothy Hla, Weill Medical College of Cornell University
- 11:00 *65 - Radical fringe-mediated activation of Notch3 in vascular endothelial cell/smooth muscle cell communication*
Antony Miller, The Ohio State University
- 11:15 *66 - Notch deficiency causes arteriovenous malformations and pericyte dysfunction*
Natalie Kofler, Columbia University Medical Center
- 11:30 *67 - A zebrafish transgenic line marking vascular mural cells and visceral smooth muscle cells*
Thomas Whitesell, University of Calgary
- 11:45 *68 - Hedgehog maintains epithelial-vascular homeostasis by regulating adventitial cellular quiescence*
Tien Peng, University of Pennsylvania
- 12:00 *Arterial venous specification and pathophysiology*
Rong Wang, University of California, San Francisco

VASCULAR MATRIX PROTEINS - NEW INSIGHTS ON STRUCTURE AND FUNCTION

10:30AM – 12:30PM — Grand II

Chair: Elaine Davis, McGill University

- 10:30 *Fibronectin-mediated homeostasis of blood vessels*
Dieter Reinhardt, McGill University
- 11:00 *69 - Cardiac function and arterial mechanics during postnatal development in fibulin-5 null mice*
Jessica Wagenseil, Washington University in St. Louis

- 11:15 *70 - Loss of discoidin domain receptor 1 results in aortic stenosis and reduced ejection fraction in aged and hypertensive mice*
Antonio S. Rocca, Faculty of Medicine/University of Toronto
- 11:30 *71 - Loss of fibulin-4 disrupts collagen synthesis and maturation*
Christina Papke, UT Southwestern Medical Center
- 11:45 *72 - Akt1-null mice express increased thrombospondin 2 (TSP2) leading to compromised tissue repair and altered cell adhesion, migration and morphology*
Tara Bancroft, Yale University
- 12:00 *Aberrant endothelial-extracellular matrix interactions and the pulmonary hypertensive phenotype*
Marlene Rabinovitch, Stanford University School of Medicine

INFLAMMATORY MEDIATORS

10:30AM – 12:30PM — Osterville A/B

- Chair: Geert Schmid-Schonbein, University of California, San Diego*
- 10:30 *Recruitment of neutrophils, iNKT cells and monocytes in sterile inflammation*
Paul Kubes, University of Calgary Medical Center
- 11:00 *73 - Resuscitation fluid efficacy on microvascular dysfunction in a translational animal model of sepsis*
Nathaniel Hayward, University of Western Ontario
- 11:15 *74 - Regulation of blood-brain barrier endothelial cell hyperpermeability by calpains*
Binu Tharakan, Texas A&M Health Science Center College of Medicine
- 11:30 *75 - TNF alpha-induced ATP release from pannexin 1 channels in venous endothelium promotes acute vascular inflammation*
Alexander Lohman, University of Virginia
- 11:45 *76 - The role of CCL5 in T cell recruitment to the aorta*
Klaus Ley, La Jolla Institute for Allergy & Immunology
- 12:00 *Protease-dependent arteriolar dysfunction in ischemia/reperfusion*
Ronald J. Korthuis, University of Missouri-Columbia

12:30-2:00pm - Bass River Room

NAVBO MERITORIOUS AWARDS PRESENTATION AND LECTURES

2:00PM – 3:30PM — Grand Ballroom

Chair: Klaus F. Ley, NAVBO President

- 2:00 *Earl P. Benditt Award Lecture:*
From FGF to neuropilin: Identifying novel regulators of angiogenesis and cancer
 Michael Klagsbrun, Children's Hospital/Harvard Medical School
 (introduction by Patricia D'Amore, Schepens Eye Research Inst/Harvard Med School)
- 2:45 *Judah Folkman Award in Vascular Biology Lecture:*
Signaling pathways in vascular development and disease
 Mark L. Kahn, University of Pennsylvania
 (introduction by Heidi Stuhlmann, Weill College of Medicine at Cornell University)

PANEL DISCUSSION: HOW TO LAUNCH AND SUSTAIN A CAREER IN ACADEMIC RESEARCH

3:30PM – 5:00PM — Osterville A/B

*(limited to 200, pre-registration required)**Discussion Leader: Ondine Cleaver, UT Southwestern**Panel Members:*

- Zorina Galis, Vascular Biology and Hypertension Branch, NHLBI/NIH
 Courtney Griffin, University of Oklahoma
 C. Christopher Hughes, University of California, Irvine
 Daniel Nolan, Angiocrine Biosciences
 Radu Stan, Geisel School of Medicine at Dartmouth

5:00 - 7:00pm Dinner on your own

PATHOLOGIC ANGIOGENESIS

7:00PM – 9:00PM — Grand I

Chair: *David Cheresh, University of California, San Diego*7:00 *Novel signaling aspects of vascular maturation and stability*
Tatiana Byzova, Cleveland Clinic - Lerner Research Institute7:30 *77 - VEGFR2 regulation by sumoylation*
Wang Min, Yale University School of Medicine7:45 *78 - Small GTPase R-Ras regulates integrity and functionality of tumor vasculature though inhibition of VEGF signaling*
Junko Sawada, Sanford-Burnham Medical Research Institute8:00 *79 - Supernumerary centrosomes perturb endothelial cell migration via reduction of microtubule nucleating factors*
Erich Kushner, University of North Carolina, Chapel Hill8:15 *80 - Endothelial deletion of Notch in mice leads to hepatic vascular shunts*
Henar Cuervo, University of California, San Francisco8:30 *GPCR “decoy” receptors as lymphangiogenic guidance cues*
Kathleen Caron, University of North Carolina, Chapel Hill**NEW APPROACHES AND EXPERIMENTAL MODELS OF VASCULAR DISEASE**

7:00PM – 9:00PM — Grand II

Chair: *Michelle P. Bendeck, University of Toronto*7:00 *Impact of extracellular matrix on early human cardiovascular development*
Katja Schenke-Layland, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB7:30 *81 - Deletion of PVI in adult endothelium results in increased upper pore size of fenestrated vessels, plasma protein leak and disrupted blood homeostasis*
Radu Stan, Geisel School of Medicine at Dartmouth7:45 *82 - Developing an inducible osteoclast system as a cell therapy for vascular calcification*
Cameron Rementer, University of Washington8:00 *83 - Aortic smooth muscle cell stiffness as a mechanism for the increased aortic stiffness in hypertensive aging*
Nancy Sehgel, Rutgers University8:15 *84 - Localized nanotherapeutic delivery for controlled fibrinolysis in abdominal aortic aneurysms (AAAs)*
Balakrishnan Sivaraman, Cleveland Clinic8:30 *Towards tissue-engineered blood vessels using induced pluripotent stem cells*
Yibing Qyang, Yale University

PERICYTE MODULATION OF MICROVASCULAR FUNCTION

7:00PM – 9:00PM — Osterville A/B

Chair: W. Lee Murfee, Tulane University

- 7:00 Pericyte modulation of microvascular growth and remodeling: From basic science to cell-based therapy*
Shayn M. Peirce-Cottler, University of Virginia
- 7:30 85 - Pericyte-endothelial junctional communication: An in vitro study exploring a possible mechanism driving changes in endothelial cell phenotypes*
Matt Osborne, Idaho State University
- 7:45 86 - Loss of Wnt/ROR2 signaling is associated with reduced pericyte recruitment and impaired pulmonary angiogenesis in idiopathic pulmonary arterial hypertension*
Ke Yuan, Stanford University
- 8:00 87 - Pericyte-deposited fibrotic matrix induces increased endothelial cell recruitment of leukocytes in post-capillary venules*
Parid Sava, Yale University
- 8:15 88 - Human brain pericytes transform into a stem cell like phenotype by a density dependent mechanism and increase the rate of wound healing*
Jamie Mayo, Idaho State University
- 8:30 Microvascular pericytes: Regulators of angiogenic activation*
Ira Herman, Tufts University

Thursday - October 24, 2013**BREAKFAST**

7:00AM – 8:00AM — Bass River Room (Second Floor)

EXTRACELLULAR MATRIX SIGNALING

8:00AM – 11:45AM — Grand Ballroom

*Chair: Mark H. Ginsberg, University of California, San Diego**8:00 Presentation of the Outstanding Poster Awards**by Klaus F. Ley, NAVBO President, La Jolla Institute for Allergy & Immunology**8:15 MicroRNA regulation of vascular networks**David A. Cheresch, University of California, San Diego**9:00 Springer Junior Investigator Award Lecture:**89 - Transcriptional regulation of microRNAs 424 and 503 by MEF2 and PPAR-gamma in the endothelium: Role in pathogenesis of pulmonary arterial hypertension**Hyung Chun, Yale University School of Medicine**9:30 Coffee Break**10:00 Is integrin adhesion tuned to the state of vascular smooth muscle contractile activation?**Gerald A. Meininger, University of Missouri**10:45 Dynamic regulation of vascular cell adhesion**Mark H. Ginsberg, University of California, San Diego**11:30 Closing Remarks**Klaus F. Ley, NAVBO President and Michael Hill, MCS Past President**11:45 Program concludes*