

# The Microcirculatory Society, Inc.

## Newsletter

Volume 41, Number 3 – Winter 2014



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### ***A Note from the President***

To all members of the Microcirculatory Society:

Mid-winter greetings to everyone in the Microcirculatory Society! Another foot of snow is pounding Morgantown as I write this, so it is easy to think about San Diego.

I hope you have all made your arrangements to attend both our annual meeting in April and Experimental Biology. This promises to be an eventful time with a large number of abstracts submitted across many academic disciplines. Further, we will have our special seminar for the Eugene M. Landis Award, given by this year's winner, Dr. Julian H. Lombard from the Medical College of Wisconsin. We will also have both of our President's Symposia, the first (Sat from 9:00-11:30am) highlighting four excellent investigators:

- Dr. Sarah Childs; University of Calgary, "Genetics of Angiogenesis and Vascular Stabilization in the Zebrafish"
- Dr. Abigail Woodfin; Barts and the London School of Medicine, "Microvascular Inflammation in Angiogenic Tissues"
- Dr. Nicolas Smith; Kings College London, "The Heart of Mathematics: Computational Modeling of the Coronary Microcirculation"
- Dr. David Kleinfeld; University of California at San Diego, "The Nature and Control of Blood Flow throughout the Cortex"

while the second President's Symposia (Sat from 2:00-4:00pm) will highlight many of our junior investigators giving their 'rapid fire' presentations. Both promise to be very enjoyable events. I also strongly encourage you to attend the annual luncheon for the Microcirculatory Society (Sat from 12:00-1:30pm) as well as the Business Meeting (Sun from 4:30-5:30pm). Both are excellent venues for getting to know your colleagues in the Society better and involving yourself in the operation of the Society. Don't delay in making your travel plans, as hotel accommodations in San Diego can fill very rapidly.

Congratulations to all of this year's award winners, to be presented at this year's luncheon, this is truly an excellent group this year! A full listing of this year's award winners can be found on page 8.

### Officers

#### President

Jefferson C. Frisbee, Ph.D.  
[jefrisbee@hsc.wvu.edu](mailto:jefrisbee@hsc.wvu.edu)

#### President-Elect

Mary D. (Molly) Frame, Ph.D.  
[mary.frame@stonybrook.edu](mailto:mary.frame@stonybrook.edu)

#### Past-President

Michael A. Hill, Ph.D.  
[HillMi@missouri.edu](mailto:HillMi@missouri.edu)

#### Secretary

Trevor Cardinal, Ph.D.  
[tcardina@calpoly.edu](mailto:tcardina@calpoly.edu)

#### Treasurer

Alan Stephenson, Ph.D.  
[stephens@slu.edu](mailto:stephens@slu.edu)

### ***A Note from the President, continued***


It is also our pleasure to announce our participation in the Joint Meeting this Fall between NAVBO and the MCS. We will be hosting three symposia:

- “Inflammatory oxidative/nitrosative stress on microvascular responses in vascular disease”; Chaired by Zoltán Ungvári, Oklahoma University and Molly Frame, Stony Brook University
- “New Perspectives on the Roles of Lymphatics in Inflammation”; Chaired by: Jerome Breslin, University of South Florida and Mariappan Muthuchamy, Texas A&M Health Science Center
- “Molecular and Cellular Dynamics of Angiogenesis” Chaired by: Shayn Peirce-Cottler, University of Virginia and W. Lee Murfee, Tulane University

For further information on this meeting, including travel and abstract submission details, please visit: <http://www.navbo.org/events/vb2014>

Finally, as you all know, we recently lost one of the true titans of microcirculatory research with the recent passing of Dr. Brian R. Duling. It is difficult to even describe Brian’s impact on microvascular biology, not only from his research contributions, but also from the enormous impact he had on the careers of his trainees, collaborators, and any other investigator that was fortunate enough to work with him. We are truly and deeply saddened by his passing and extend our most sincere condolences to Brian’s friends and family. In this Newsletter, a brief tribute to Dr. Duling is presented, listing all of those that worked with him over the course of his career. In addition to this, Dr. Robert Gore will be authoring a special manuscript for publication in *Microcirculation*, discussing the career and remarkable accomplishments of Dr. Duling.

With best regards,



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

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***Welcome to New MCS Members*****Regular Members**

Bernard Choi, University of California, Irvine  
 Margaret F. Bennewitz, University of Pittsburgh  
 Gary J Hodges, University of Alabama  
 Modar Kassan, Eastern Virginia Medical School  
 Hong Wang, Temple University  
 Nolan L Boyd, University of Louisville

**Associate Members**

Joshua T Butcher

**Student Members**

Steven D Brooks, West Virginia University  
 Osama Harraz, University of Calgary  
 Nadia Maarouf, University of Calgary  
 Christopher Moore, University of Arkansas for Medical Sciences  
 Sara Hellstrom, California Polytechnic State 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)**

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## ***MCS Officer and Councilor Elections***

***Cast your vote on-line by February 28<sup>th</sup>, 2014***

<http://www.microcirc.org/voting.html>

*Click on the candidate's name to view their biosketch*

### ***President-elect***

- James (Jay) B. Hoying
- Rolando E. Rumbaut

### ***Treasurer***

- Shayn M. Peirce-Cottler
- David A. Rubenstein

### ***Councilor (2 positions)***

- Jerome (Jerry) W. Breslin
- Betsy Dokken
- Kim A. Dora
- Anatoliy (Tolya) A. Gashev
- Feilim Mac Gabhann
- Walter Lee Murfee

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**Annual MCS Meeting & Experimental Biology****Saturday, April 26<sup>th</sup> 2014****MCS President's Symposium – 9:00-11:30am in room 23**Innovative Approaches to Microvascular Science

Chair:

- Jefferson C. Frisbee, Director, Center for Cardiovascular and Respiratory Sciences; Professor, Department of Physiology and Pharmacology, West Virginia University

Speakers:

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

**MCS Awards Luncheon – 12:00-1:30pm in Indigo D (San Diego Hilton Bayfront)***Tickets will be available for purchase soon***MCS President's Symposium II – 2:00-4:00pm, room 23**Rapid Fire Presentations by Junior Investigators

Chairs:

- Walter Lee Murfee, Department of Biomedical Engineering, Tulane University
- Trevor R. Cardinal, Department of Biomedical Engineering, Cal Poly State University

Speakers:

- **Changing shear stress-induced ATP release from erythrocytes increases endothelial calcium and vascular permeability independent from nitric oxide production in intact rat venules**  
Sulei Xu, West Virginia University
- **Aging increases the amplitude of inward-rectifier K<sup>+</sup> channel currents in murine resistance artery smooth muscle cells**  
Sebastien Hayoz, Michigan State University
- **Ultrasound-mediated nanoparticle delivery across the blood-brain barrier**  
Kelsie Timbie, University of Virginia
- **Zipper-interacting protein kinase is a key regulator of vascular smooth muscle tone with implications in development of hypertension**  
Sara Turner, University of Calgary

## *Annual MCS Meeting & Experimental Biology, continued*

### Rapid Fire Presentations by Junior Investigators, continued

#### Speakers

- **The effect of aging on microvascular density and angiogenesis**  
Richard Sweat, Tulane University
- **Mitochondrial telomerase regulates flow mediated dilation by suppressing mitochondrial derived free radical production**  
Andreas Beyer, Medical College of Wisconsin
- **Subcellular enrichment of calreticulin at myoendothelial junctions**  
Lauren Biber, University of Virginia
- **Pericyte-endothelial junctional communication and calcium coupling**  
Mathew Osborne, Idaho State University
- **N-cadherin adherens junctions in rat cerebral artery are mechano-sensitive**  
Zhe Sun, University of Missouri
- **Exogenous diacylglycerol restores arteriolar myogenic constriction following candesartan**  
Kwangseok Hong, University of Missouri
- **KCNQ and ERG channels control the rate of diastolic depolarization and electrical pacemaking frequency in lymphatic muscle**  
Peichun Gui, University of Missouri
- **Integration of microvascular reactivity structure and hemodynamics for skeletal muscle function in metabolic syndrome**  
Joshua Butcher, University of Virginia
- **Visualizing the endothelium from inside intact arteries at physiological pressures reveals pulsatile linear circular and spiral  $Ca^{2+}$  waves**  
Calum Wilson, University of Strathclyde
- **Role of neutrophils in pulmonary vaso-occlusion during sickle cell disease acute chest syndrome**  
Margaret Bennetwitz, University of Pittsburgh
- **Loss of lymphocyte-specific adaptor protein LNK aggravates endothelial dysfunction in angiotensin II-induced hypertension**  
William McMaster, Vanderbilt University
- **The effect of EPA and DHA on platelets treated with multiple agonists found in the thrombus core**  
Betsy McCue, Augustana College
- **Neutrophil depletion: beneficial or detrimental to post-ischemic hind limb recovery in  $Cx40^{-/-}$  vs. WT mice?**  
Miranda Good, University of Arizona

*Annual MCS Meeting & Experimental Biology, continued***Sunday, April 27<sup>th</sup> 2014****Poster Session – 12:30-3:15pm****MCS Landis Award Lecture – 3:15-4:15pm, room 23**

- **Antioxidant Actions of Angiotensin II—A Complex (and Cautionary) Tale of Bright Seashells, Unexpected Results, Exciting Discoveries and Outrageous Good Fortune**

Julian H. Lombard, Medical College of Wisconsin

**MCS Annual Business Meeting – 4:30-5:30pm, room 23****Monday, April 28<sup>th</sup> 2014****MCS Young Investigator Symposium – 10:30am-12:30pm, room 27**

Chair:

- Adam G. Goodwill, Department of Medicine, Indiana University

Speakers

- **Modulating Ca<sup>2+</sup> entry into endothelial tubes by controlling membrane potential during muscarinic receptor activation**  
Erik Behringer, University of Missouri
- **Pannexin 1-dependent ATP release from venous endothelium promotes acute vascular inflammation**  
Alexander Lohman, University of Virginia
- **A mouse model to assess neointimal formation following endothelial denudation and bioresorbable stent implantation**  
Ashkon Nehzati, Cal Poly State University
- **Nrf2 Mutation Eliminates Vasoprotective Effects of Low Dose Angiotensin II Infusion in Sprague-Dawley Rats Fed High Salt Diet**  
Jessica Prestley, Medical College Wisconsin
- **C-peptide and insulin at physiological ratios rescue low O<sub>2</sub>-induced ATP release from erythrocytes (RBCs) of humans with type 2 diabetes (DM2): Implications for the prevention of microvascular complications**  
Jennifer Richards, Saint Louis University

**Poster Session – 12:30-3:15pm**

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***Microcirculatory Society – Award Recipients***

*Congratulations to all of our Award Winners- we eagerly look forward to honoring your accomplishments at the Annual Meeting!*

**Landis Award**

Dr. Julian H. Lombard, Medical College of Wisconsin

**Outstanding Young Investigator Travel Award**

Dr. Andreas Beyer, Medical College of Wisconsin

**August Krogh Young Investigator Travel Award**

Dr. Elaheh Rahbar, University of Texas Health Science Center in Houston

**Award for Excellence in Lymphatic Research**

Dr. Walter Lee Murfee, Tulane University

**Kaley Travel Awards**

Postdoctoral – Dr. Shaquria Adderly, University of South Florida

Predocctoral – Osama Harraz, University of Calgary

**John R Pappenheimer Postdoctoral Travel Awards**

Dr. Erik Behringer, University of Missouri

Dr. Margaret Bennewitz, University of Pittsburgh

Dr. Matthew Durand, Medical College of Wisconsin

Dr. Modar Kassar, Eastern Virginia Medical School

Dr. Hemang Patel, Wayne State University

Dr. Amy Smith, University of Arizona

Dr. Kevin Stockard, University of Missouri

Dr. Shu-Huai Tsai, Texas A&M Health Science Center

**Benjamin W. Zweifach Graduate Student Travel Awards**

Lauren Biwer, University of Virginia

Sami Dodhy, Virginia Commonwealth University

Joshua Heuslein, University of Virginia

Alexander Lohman, University of Virginia

Pete Petrides, West Virginia University

Jessica Priestly, Medical College of Wisconsin

Austin Robinson, University of Illinois at Chicago

Shenghua Sinkler, University of Missouri

Shuiqing Qiu, Georgia Regents University

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**Preview – Fall Meeting with NAVBO**

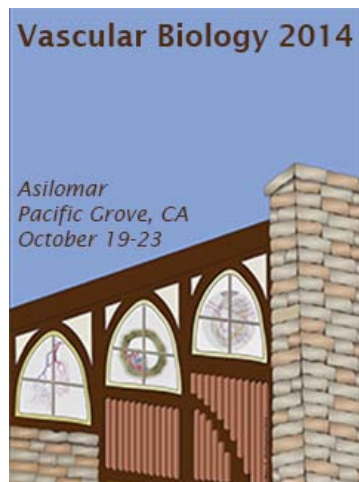
The Microcirculatory Society will again partner with NAVBO to host our Fall Meeting in 2014. The MCS “Special Symposia” at Vascular Biology 2014 will be held on Monday and Tuesday, October 20<sup>th</sup> and 21<sup>st</sup> at the Asilomar Conference Grounds in Monterey (Pacific Grove), California. Trainee Travel Awards will be available and Poster Sessions will occur on Monday and Tuesday evenings.

The Symposia Topics include:

- Inflammatory Oxidative/Nitrosative Stress on Microvascular Responses in Vascular Disease  
Chairs: Zoltán Ungvári, Oklahoma University  
Molly Frame, Stony Brook University
- New Perspectives on the Roles of Lymphatics in Inflammation  
Chairs: Jerome Breslin, University of South Florida  
Mariappan Muthuchamy, Texas A&M Health Science Center
- Molecular and Cellular Dynamics of Angiogenesis  
Chairs: Shayn Peirce-Cottler, University of Virginia  
W. Lee Murfee, Tulane University

Similar to last year, Symposia will include both invited speakers and selections from the submitted abstracts. The Abstract submission deadline is **August 1** for the following categories:

- Molecular and Cellular Dynamics of Angiogenesis
- New Perspectives on the Roles of Lymphatics in Inflammation
- Inflammatory Oxidative/Nitrosative Stress on Microvascular Responses in Vascular Disease
- Other Microcirculation (poster only)



For more information, please visit-  
<http://www.navbo.org/events/vb2014>

*Preview – Fall Meeting with NAVBO, continued*

**Opening Session – Sunday, October 19<sup>th</sup>**

Keynote Lecture:

Gerald Crabtree, Stanford University

Chromatin Regulation: New Methods and Implications for Human Disease

**Career Development Session – Monday, October 20<sup>th</sup>**

Have an Editor Eye on Your Paper

Sponsored by the Journal of Vascular Pharmacology

Presenter: Luisa Iruela-Arispe, UCLA

**Concurrent Sessions – Monday, October 20<sup>th</sup> – Wednesday, October 22<sup>nd</sup>**

Developmental Vascular Biology & Genetics Workshop VI

and

Vascular Inflammation Workshop

**Special Symposia – Tuesday, October 21<sup>st</sup>**

Molecular mechanisms underlying the vascular disorder Hereditary Hemorrhagic Telangiectasia

Sponsored by the HHT Foundation International

Organized by C. Chris Hughes, University of California, Irvine

Chaired by Douglas Marchuk, Duke University

**NAVBO Award Lectures - Wednesday, October 22**

Earl P. Benditt Award Lecture

Jordan S. Pober, Yale University

Judah Folkman Award in Vascular Biology Lecture

Tatiana Byzova, Cleveland Clinic

**Special Symposia – Thursday, October 23<sup>rd</sup>**

Vascular Therapeutics

Organized and Chaired by Jan Kitjowski, Columbia University

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***Upcoming Meetings*****Int'l Society for Applied Cardiovascular Biology**

Cleveland, OH – April 2-5, 2014

<http://www.isacb.org/biennial-meeting>**18<sup>th</sup> International Vascular Biology Meeting**

Kyoto, Japan – April 14-17, 2014

<http://www2.convention.co.jp/ivbm2014/>**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](http://my.americanheart.org/professional/Sessions/ATVB/ATVB_UCM_316902_SubHomePage.jsp)**Frontiers in CardioVascular Biology**

Barcelona, Spain – July 4-6, 2014

<http://www.escardio.org/congresses/frontiers-in-cardiovascular-biology-2014/Pages/welcome.aspx>**Gordon Research Conference – Endothelial Cell Phenotypes in Health & Disease**

Girona, Spain – July 6-11, 2014

<http://www.grc.org/programs.aspx?year=2014&program=endothel>**11<sup>th</sup> International Symposium on Resistance Arteries**

Banff, Alberta, Canada – September 7-11, 2014

<http://www.isra2014.org/>**Vascular Biology 2014 - Joint meeting of NAVBO and the MCS**

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

<http://www.navbo.org/events/vb20134>**10<sup>th</sup> World Congress for Microcirculation**

TBD – 2015

<http://worldmicrocirc.org/>

***Appendix – Biographies for Executive Committee Nominees***

James (Jay) Hoying, PhD FAHA

Present positions:

Professor, Depts. Cardiovascular Surgery and Physiology & Biophysics, School of Medicine, University of Louisville, Louisville, KY, USA

Chief, Division of Cardiovascular Therapeutics, Cardiovascular Innovation Institute, University of Louisville/Jewish Hospital Foundation, Louisville, KY, USA

President and CEO, Angiomics, Inc, Louisville, KY, USA

Education:

BA (Biology), Case Western Reserve University; PhD (Physiology), University of Arizona; Post-doctoral Fellow (Molecular Genetics), University of Cincinnati

Honors and Awards:

Fellow of the American Heart Association (BCVS); University Scholar, University of Louisville; Louisville, KY; Member, International Scientific Program Committee, World Congress for Microcirculation (WCMic2015); Keynote Speaker, Workshop in: *Blood Flow in the Microcirculation: Function, Regulation and Adaptation*, Mathematical Biosciences Institute, Ohio State University; Team member, Taylor & Francis prize for Outstanding Innovation in Computer Methods in Biomechanics & Biomedical Engineering; Harry Rudney Post-Doctoral Merit Award; Innovative Instrumentation Award, the Microcirculatory Society.

Funding

National Institutes of Health R01, Angiogenesis and the Extracellular Matrix”; National Institutes of Health, P30 “Mechanisms of plasticity and repair after SCI”; Department of Defense, Restorative Transplantation Research Program, “Positioning Vascularized Composite Allotransplantation within the Spectrum of Transplantation”; James S. McDonnell Foundation, “Architecture-dependent Signaling in Endothelial Cell Networks”; Kosair Foundation Charities, “Role of Vangl2 in Vascular Formation”; Kentucky Science and Engineering Foundation, “Adipose Regenerative Cell Isolation System”; National Institutes of Health R41, “human Microvessel Culture System (hMCS)”

Editorial Board

Member, Editorial Board, *Microcirculation*, 2010-present; Reviews Editor, *Microcirculation*, 2011-present; Associate Editor, *Frontiers in Vascular Physiology*, 2010-present

Research Interests

Stromal regulation of the microvasculature, post-angiogenesis mechanisms in the microcirculation, cell-based therapies for microcirculatory repair

Personal Statement

Over the 20+ years that I have been working with the microvasculature, the microcirculation field has expanded as new approaches and concepts blend with proven, traditional approaches and perspectives. Even now, with the growing recognition that the microcirculation can be an underlying contributor to and an avenue of treatment for a variety of diseases, the field continues to diversify. With a background in both basic and translational science, I feel I can contribute to this forward momentum of the Microcirculatory Society by further facilitating interactions between scientists and educators from different disciplines through joint conferences with aligned partners, including those with a clinical focus, and promoting a greater microcirculation presence in the broader scientific and funding communities through expanded public relations-like efforts.

**Rolando E. Rumbaut, M.D., Ph.D.**

**Present Positions:** Associate Professor of Medicine and Pediatrics, Baylor College of Medicine (BCM); Deputy Associate Chief of Staff for Research, Michael E. DeBakey VA Medical Center (MEDVAMC); Director, Center for Translational Research on Inflammatory Diseases, MEDVAMC.

**Education:** M.D., Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico (1988). Internal Medicine Residency, BCM (1992); Pulmonary & Critical Care fellowship, BCM & University of Missouri-Columbia (1995). Ph.D., University of Missouri-Columbia (1998).

**Honors and Awards:** Chief Medical Resident, BCM (1991); Outstanding Resident Award, Houston Society of Internal Medicine (1991); Outstanding teaching award in Pulmonary/Critical Care, U. of Missouri-Columbia (1996); Superior Graduate Achievement Award, U. of Missouri-Columbia (1997); NIH K-08 Award (1997); Fellow, American College of Chest Physicians (1997); The Microcirculatory Society Travel Award for Outstanding Young Investigator (2004); Fellow, Cardiovascular Section, American Physiological Society (2006); Outstanding teaching award, Pulmonary/Critical Care fellows, BCM (2009); Special Recognition Award, MEDVAMC (2012).

**Current Funding:** NIH/NHLBI R01 (2/2013-1/2018; contact PI); VA Merit Award (10/2009-9/2014; PI); VA Merit Award (10/2013-9/2017, co-I); Center Grant, Houston VA Research & Education Foundation (4/2013-3/2016; Center Director).

**Editorial Boards:** American Journal of Physiology: Heart and Circulatory Physiology (2007-present); Microcirculation (1998-2004); Frontiers in Vascular Physiology, Review Editor (2010 – present).

**Grant Review:** National Institutes of Health: Clinical & Cardiovascular Sciences (CCVS, 2002, SEP); Cardiovascular & Renal Study Section (CVB, 2002, ad-hoc); Hypertension and Microcirculation (HM, 2006-2008: temporary; 2008-2011: chartered member); Hemostasis and Thrombosis (HT, 2013, SEP); NHLBI PPG Review Committee (2006, SEP); NIH Transformative R01 review (2010, SEP); NHLBI Translational Research Center Review Committee (2011, SEP); NHLBI R13 Conference Grant Review Committee (2012, SEP). American Heart Association: (Western Review Consortium): Arteriosclerosis, Thrombosis, and Vascular Biology (2004-2006: member, 2006-2009: co-Chair, 2009-2010: Chair)

**Peer Review:** American Journal of Physiology (Heart and Circulatory Physiology; Gastrointestinal and Liver Physiology); American Journal of Respiratory and Critical Care Medicine; Annals of Biomedical Engineering; Arteriosclerosis, Thrombosis and Vascular Biology; Biomechanics and Modeling In Mechanobiology; Blood; Circulation; Circulation Research; Diabetologia; FASEB Journal; Gastroenterology; Hypertension; Journal of Applied Physiology; Journal of Leukocyte Biology; Journal of Pharmacology and Experimental Therapeutics; Journal of Physiology; Journal of Thrombosis and Haemostasis; Journal of Vascular Research; Microcirculation.

**Professional Societies:** The Microcirculatory Society; American Physiological Society; American College of Chest Physicians.

**Professional Activities:** The Microcirculatory Society: Programming Committee (1998-2004); Finance Committee (member: 2008-2010 & 2012-present; Chair: 2010-2012); Treasurer (2010-2012). American Physiological Society: Career Opportunities in Physiology Committee (2006-2008); Minority Student Travel Mentor (2004-2010); Frontiers in Physiology research mentor (2011-2012).

**Current Research Interests:** Platelet-microvessel interactions, microvascular inflammation, microvascular thrombosis, sepsis

**Personal Statement:** My interest in the microcirculation developed during my clinical training, based on the limited understanding of microvascular dysfunction in critically ill patients. I pursued graduate training in Physiology and joined the Microcirculatory Society as a student member in 1994; the Society has been my scientific home since then. The Society has offered enormous opportunities; it allowed me to establish valuable scientific interactions and collaborations that enhanced greatly my research career development. Being a recipient of Society's travel award solidified my commitment to serve the Society, help advance its mission, and foster career development of future generations of microvascular researchers. My previous role as the Society's Treasurer provided great insight into the strengths and weaknesses of the Society, its tremendous opportunities for growth as well as its likely upcoming threats. It is critical for the Microcirculatory Society to balance being a niche for excellence in research in the field of microcirculation while interacting and collaborating with other national and international scientific societies. As a microvascular researcher and clinician, I am committed to help attract other clinician-scientists to the Society. I am also interested in helping emphasize the great clinical significance of the high quality microvascular research carried out by our members, via our scientific meetings and our journal. I am highly optimistic about the future of our Society.

**Shayn M. Peirce-Cottler, Ph.D.**

**Present Position:** Associate Professor of Biomedical Engineering, University of Virginia

**Education:** Postdoc University of Virginia, Ph.D. University of Virginia, B.S. Johns Hopkins University

**Professional Societies/Groups:** Microcirculatory Society, Biomedical Engineering Society, American Physiological Society, Society of Women Engineers, American Society for Engineering Education

**Awards & Honors:** Rita Schaffer Young Investigator Award, Biomedical Engineering Society (2004)  
MIT Technology Review TR100 Young Innovator Award (2004)

**Funding:** NIH R01 - EY022063-01 “Adipose stem cells in diabetic retinopathy” (current); NSF - 1235244 “A Computational Framework for Predicting Skeletal Muscle Adaptation Following Surgical Procedures” (current)

**Editorial Boards:** Microcirculation, Frontiers in Computational Physiology and Medicine

**Peer Review:** American Journal of Physiology, Annals of Biomedical Engineering, Annals of Plastic Surgery, Arteriosclerosis, Thrombosis, and Vascular Biology, Biomaterials, Circulation, Circulation Research, Developmental Dynamics, Journal of Applied Physiology, Journal of the American Society of Nephrology, Journal of Theoretical Biology, Journal of Visualized Experiments, Mathematical Medicine in Biology, Microcirculation, Microvascular Research, Molecular Cancer Research, Molecular Systems Biology, Physical Review, PLoS Computational Biology, PLoS One, Proceedings of the National Academy of Science, Stem Cells, Science, Tissue Engineering, Wiley Interdisciplinary Reviews: Systems Biology and Medicine

**Professional Activities:** Councilor, *Microcirculation* (2013-), Editorial Board Member, *Microcirculation* (2011-); Associate Editor, *Frontiers in Computational Physiology and Medicine* (2011-); National Institutes of Health Modeling and Analysis of Biological Systems Scientific Review Group (Member: 2013-); National Institute of Biomedical Imaging and Bioengineering Team-Based Design in Biomedical Engineering Education (PAR-10-140) (Review Panel: 2010, 2011, 2012); National Institute of Child Health and Human Development Special Emphasis Panel Member (2011); American Institute of Biological Sciences Combat Casualty Care Review (2010) and US Army Medical Research and Materiel Command Review (2008, 2010)

**Current Research:** Pericyte and stem cell roles in microvascular network patterning during development and in disease settings, such as ischemia and diabetes.

**Personal Statement:** How a society manages its money is crucial to its long-term vitality, ability to promote and foster scientific advances in its field, and ability to serve its members on a day-to-day basis. This is an important job, and I would take it very seriously. My friends and family make fun of my endless spreadsheets, color-coded folders, and overall commitment to organization that permeates my life (and drives my kids crazy). Recent gifts from my students and colleagues have include multi-colored paperclips, Post-it® notes, and a label-maker. As Treasurer, I would manage the finances of the Microcirculatory Society with the same attention to detail and concern that I manage the rest of my surroundings.

## Return to Nominee List

David A. Rubenstein, Ph.D.

### Present Position:

Assistant Professor of Biomedical Engineering, Stony Brook University, Stony Brook, NY, USA

### Education:

B.E. , M.S. and Ph.D. (Biomedical Engineering), Stony Brook University (2000-2007)

### Honors and Awards:

2012 Halliburton Excellent Young Teacher; Golden Screw Award; Mechanical and Aerospace Engineering Outstanding Faculty Member in Teaching and Research; Travel Award for Research Excellence to *A Special Transatlantic Meeting of The Microcirculatory Society, Inc. and The British Microcirculation Society* (2005)

### Current Funding:

2011-2015, National Institutes of Health, "Development of a biomimetic composite scaffold to promote vascular network growth"

### Professional Societies:

Biomedical Engineering Society (2001- ); Microcirculatory Society (2005- ); Communications Committee Member 2008-2011, Awards Committee Member 2011- ); American Association for the Advancement of Science (2006- ); American Physiological Society (2009- )

### Profession Activities:

Awards Committee Member, Microcirculatory Society; Grant Reviewer (NSF Ad Hoc, AHA – Vascular Wall Biology, NIH Ad Hoc); Peer Reviewer (*Microcirculation*, *Annals of Biomedical Engineering*, *Journal of Thrombosis and Haemostasis*, *Thrombosis Research*, *BBA - Proteins and Proteomics*, *Vascular Health and Management*, *Journal of Diabetes and Metabolism*, *American Journal of Physiology: Heart and Circulatory Physiology*, *Acta Biomaterialia*, *Molecular and Cellular Endocrinology*, *Tissue Engineering*, *Journal of Physiology and Biochemistry*, *Biophysical Journal*, *Journal of Biomedical Materials Research: Part A*, among others).

### Current Research Interests:

Microvascular tissue engineering; Interactions between combinations of cardiovascular risk factors; Platelets and endothelial cell mediated cardiovascular diseases; Kupffer cell-platelet interactions

### Personal Statement:

I am excited about the opportunity to serve the Microcirculatory Society as treasurer. I was first introduced to the Microcirculatory Society in 2004 as a graduate student. I was immediately amazed by the contrast of this society with other societies that I was familiar with. This society fosters interactions between members at all levels and aims to promote the careers of young scientists in a friendly and collegial atmosphere. I have served the MCS on the communications committee and currently serve as a member of the awards committee. I would like to continue to support this society, as it has helped my career greatly, and help to ensure that the society is financial secure in the coming years.

Oh, by the way, I taught Advanced Engineering Mathematics at Oklahoma State University 18 times and I can balance my personal checkbook.

Jerome W. Breslin, PhD

**Present Position:** Associate Professor of Molecular Pharmacology and Physiology, Morsani College of Medicine, University of South Florida

**Education:** B.A. Biological Sciences, Rutgers University; M.S. Biology, Seton Hall University; Ph.D. Pharmacology and Physiology, UMDNJ (now part of Rutgers University)

**Awards & Honors:** MCS August Krogh Young Investigator Award (2005), Lymphatic Research Foundation/Susan G. Komen Breast Cancer Foundation Young Investigator Scholarship (2006), NIH Loan Repayment Program Participant (2009-present), MCS Travel Award for Outstanding Young Investigators (2012)

**Current Funding:** NIH R01 "Regulatory Mechanisms for Resolution of Inflammatory Microvascular Leakage", NIH R21 "Impact of Alcohol on Hemorrhagic-Shock Induced Microvascular Dysfunction"

**Professional Societies/Groups:** Microcirculatory Society, American Physiological Society (APS), American Society for Cell Biology, American Association for the Advancement of Science, American Heart Association

**Editorial Board:** Microcirculation (Associate Editor)

**Peer Review:** Microcirculation, Circulation Research, Journal of Physiology (London), American Journal of Physiology (Heart, Cell, Lung, Reg.), PLoS One, Pharmacology, Microvascular Research, Journal of Vascular Research, Lymphatic Research and Biology, BMC Physiology, Life Sciences, Alcoholism: Clinical and Experimental Research, Journal of Applied Physiology, Journal of Biomechanics, WIREs Systems Biology and Medicine, Cell Biology International, Cell and Molecular Biology Letters

**Grant Review:** NIH PAR Panel: Lymphatics in Health and Disease in the Digestive, Urinary, Cardiovascular, and Pulmonary Systems; Shota Rustaveli National Science Foundation (Republic of Georgia); Anna D. Valentine USF-Moffitt Cancer Center Research Awards; Sheffield Hospitals Charitable Trust (U.K.)

**Professional Activities:** MCS Membership Committee (2009-2010), MCS Awards Committee (2010, 2012), APS Chapter Advisory Committee (2008-2011), APS PhUN Week Coordinator (2011, 2013), Gulf Coast Physiological Society Treasurer/Secretary (2011-2012), American Association of Medical Colleges Council of Faculty and Academic Societies (2013-present)

**Current Research:** Control of microvascular permeability; Molecular mechanisms of lymphatic pump function; impact of alcohol intoxication on the microcirculation

**Personal Statement:** The Microcirculatory Society is the first scientific society I joined, back when I was a graduate student, and in a sense is “home base” in my scientific network. Activities of the society have played a significant role in my development as an academic scientist. Of particular benefit to me have been the stimulating meeting programs, collegial attitude of the membership, and the resulting ease in developing a network of experts who share a collective interest in solving big scientific problems in our field. My aim is to ensure that the society continues to foster a stimulating and collaborative atmosphere, including strong support to nurture younger, developing scientists toward successful careers.

Betsy Dokken, NP, PhD

Present position:

Assistant Professor, Department of Medicine, Division of Endocrinology, College of Medicine, University of Arizona, Tucson, Arizona

Education:

BS (Nursing), Vanderbilt University, Nashville, TN; MS (Adult Health), Arizona State University, Tempe, AZ; PhD (Physiology), University of Arizona, Tucson

Honors and Awards:

Young Investigator Award, American Heart Association; Outstanding Community Service Award, American Diabetes Association; Clinical Scholar Award, University of Arizona.

Current Funding:

2012 – present: The University of Arizona Sarver Heart Center, Heart Disease in Women Research Grant Award. “Coronary microvascular dysfunction in diabetic women of color: Treatment with glucagon-like peptide-1”

Editorial Board:

Member, Journal of Endocrinology, Diabetes & Obesity, 2013-

Professional Activities:

Membership Committee, Microcirculatory Society

Fellowship Committee, American Physiological Society, Cardiovascular Section

Research Interests:

Effects of diabetes on coronary microvascular function; pharmacotherapy for coronary microvascular dysfunction; effects of incretins on microvascular endothelial function

Personal Statement:

As a junior investigator and faculty member, the Microcirculatory Society (MCS) has been instrumental in my career development and research focus. I find the MCS to be a welcoming, encouraging and collegial group and would be pleased to contribute what I can to its continued success. I have a wealth of experience with volunteer organizations (mainly the American Diabetes Association) and will bring that experience to my work with the MCS. In addition, I am eager to learn more about the MCS and how I might be able to contribute new insights and ideas to help fulfill the mission of the organization.

## **Kim A. Dora, Ph.D.**

**Present Position:** British Heart Foundation Senior Basic Science Research Fellow, Department of Pharmacology and Fellow of Worcester College, University of Oxford, UK.

**Education:** B.Sc. in Biochemistry, Australian National University (1988); Ph.D. in Biochemistry, University of Tasmania (1994) under Michael Clark; Postdoctoral Fellow, University of Virginia (1994-1997) under Brian Duling; Postdoctoral Fellow, University of Bristol (1997-2000) under Chris Garland.

**Professional Societies:** British Pharmacological Society (1999), American Physiological Society (2001), European Microcirculatory Society (2002); Australian & New Zealand Microcirculation Society (2003), The Microcirculatory Society (2005), British Microcirculation Society (2007), Physiological Society (2007); Council member of the British Pharmacological Society (2006 - 2009).

**Funding:** Continuously funded by the Wellcome Trust since 2001. Currently P.I. on my British Heart Foundation Fellowship (5 years, Coronary arteriole function in health and disease) and Co-P.I. on Wellcome Trust Programme Grant (5 years, Signalling circuitry controlling hyperpolarization and dilatation in resistance arteries).

**Honors & Awards:** CJ Martin Fellowship, National Health & Medical Research Council (Australia) to train with Brian Duling; American Heart Association Postdoctoral Fellowship to remain with Brian Duling; renewed British Heart Foundation Senior Basic Science Research Fellowship (UK), my current post. Recipient, 6<sup>th</sup> Robert Furchgott Lecture, 2009, delivered at MOVD 2009, Japan.

**Peer review:** Reviewer for 10+ journals. Editorial board member, British Journal of Pharmacology (2003-2010), Journal of Physiology (2014-2017).

**Publications:** Over 50 peer-reviewed journal articles, invited reviews, and book chapters.

**Research Interests:** Isolated, cannulated small arteries and arterioles, recently extending to human coronary and pulmonary arterioles; measurements of endothelial cell Ca<sup>2+</sup>, endothelium-dependent hyperpolarization, local and conducted dilation.

**Personal Statement:** Moving to work in Charlottesville Virginia in 1994 was an outstanding opportunity to learn to study the microcirculation with Brian Duling. In addition to the high standards of performing research, it was immediately evident that The Microcirculatory Society was a highly motivated and nurturing group of people. A large drawback with continuing our work is the lack of recognition by researchers outside our field. My firm belief is the strength of the society centers around encouragement at all levels within the society, and making efforts to interact with other societies for our mutual benefit.

**Anatoliy A. Gashev, M.D., Ph.D., D. Med.Sci.**

**Present Position:** Associate Professor with tenure, Department of Medical Physiology, Texas A&M University Health Science Center, Temple, TX.

**Education/Professional Preparation: M.D.** - June 1986, General Medicine, State Medical Academy, St. Petersburg, Russia.

**Ph.D.** - February 1990, Physiology, I.P. Pavlov Institute of Physiology, Russian Academy of Sciences, St. Petersburg, Russia.

**D. Med. Sci.** - (Doctor of Medical Sciences, equivalent of tenure in Russia, requires dissertation defense). October 2000, Physiology, I.P. Pavlov Institute of Physiology, Russian Academy of Sciences, St. Petersburg, Russia; Supreme Attestation Commission, Moscow, Russia

**Tenure** - May 2012, Texas A&M System Health Science Center, College of Medicine, College Station/Temple, TX, USA

**Professional Societies/Groups:** Microcirculatory Society, American Physiological Society, International Society of Lymphology, Gerontological Society of America.

**Awards & Honors:** Microcirculatory Society 2004 Award for Excellence in Lymphatic Research.

**Funding:** NIH R01, P.I., “Mechanisms of the age-related alterations in lymphatic pumping”

**Editorial Board:** Microcirculation, Lymphatic Research and Biology.

**Peer Review:** NIH/NHLBI study section “Hypertension and Microcirculation”, ad hoc reviewer; Microcirculation, American Journal of Physiology, The Journal of Physiology (London, UK), Journal of Vascular Research, Annals of Plastic Surgery, Journal of Applied Physiology, Lymphatic Research and Biology, Experimental Biology and Medicine, Medical Science Monitor, Acta Biomaterialia, Journal of Visualized Experiments, PLOS One.

**Professional Activities:** Microcirculatory Society Membership Committee Chair; MCS interim Councilor, Scott&White / Texas A&M HSC IACUC member; Texas A&M HSC Faculty Senate member; Department of Medical Physiology, Texas A&M HSC College of Medicine, Training Committee, member

**Current Research:** Currently, a major focus of my research relates to the mechanisms of age-related alterations in lymphatic pumping for which I am currently supported by a NIH NIA R01 level grant. In addition we investigate the mechanisms of interactions between lymph vessels and components of the surrounding tissue microenvironment, including mast cells in particular.

**Personal Statement:** I have been already involved into various activities in our Society for many years. If I will be elected as a MCS Councilor, this opportunity, I think, will provide me the chance to work for Society on new level to be more involved into ongoing work on improvements of our By-Laws, and for raising the role of our Society within all microcirculatory and physiological community as nationally, as well as worldwide. My past experience as MCS interim Councilor already provided me some of such opportunities.

Feilim Mac Gabhann, PhD

Present position:

Assistant Professor, Department of Biomedical Engineering and Institute for Computational Medicine, Johns Hopkins University

Education:

BE (Chemical Engineering), University College Dublin, Ireland; PhD (Biomedical Engineering), Johns Hopkins University; Postdoctoral Fellow (Biomedical Engineering and Cardiovascular Research), University of Virginia.

Honors and Awards:

Sloan Research Fellow; NIH Pathway to Independence Award (K99); American Physiological Society Arthur C. Guyton Award for Excellence in Integrative Physiology; Microcirculatory Society August Krogh Young Investigator Award; Microcirculatory Society Zweifach Student Award; BMES (Biomedical Engineering Society) Annual Meeting Poster Award; BMES Award for Outstanding Research by a Graduate Student.

Current Funding:

2012-14 AHA Beginning Grant-in-Aid "Ischemic preconditioning enhances arterial collateral formation in skeletal muscle"

2012-15 CDMRP Prostate Cancer Research Program "Computational models of anti-VEGF therapies in prostate cancer"

2010-15 NHLBI "Systems biology of angiogenesis in peripheral arterial disease."

Editorial Board:

Associate Editor, BMC Physiology

Associate Editor, PLoS Computational Biology

Professional Activities:

Scientific Session Co-Chair for Biomedical Engineering Society meetings 2009 and 2012

Reviewer for multiple journals and funding agencies

Research Interests:

Molecular biology and cell physiology of vascular remodeling; growth factors and receptor tyrosine kinases; imaging of tissue structure; computational modeling of protein-protein interactions in tissue.

Personal Statement:

I have been a part of the Microcirculatory Society scientific meetings since being introduced to the meetings by my PhD advisor, Aleksander Popel, ten years ago, all the way up to and including the recent joint Vascular Biology meeting in Cape Cod. The collegiality and inclusiveness of the Society, from physiology to molecular biology to computational modeling, has always made these meetings scientifically and professionally stimulating and enjoyable! I would be delighted and excited to contribute more to the Society and to serve as a Councilor.

**Walter Lee Murfee, Ph.D.**

**Present Position:**

Assistant Professor, Department of Biomedical Engineering, Tulane University  
Adjunct Assistant Professor, Department of Physiology, Tulane University

**Education/Training:**

2005-2007 Postdoctoral Training - University of California San Diego  
2005 Ph.D. - University of Virginia  
1999 B.S. - Massachusetts Institute of Technology

**Honors/Awards:**

Biomedical Engineering Teacher of the Year Award, Tulane University; August Krogh Young Investigator Travel Award; Benjamin Zweifach Student Award

**Current Funding:**

2012-2017 NIH, "The Effect of Age-Related Microvascular Patterning Alterations on Network Resistance in Spontaneously Hypertensive Rats"  
2012-2017 NSF, "General and Age Related Disabilities Engineering"

**Recent MCS Activities:**

2014 Chair of the Session, entitled "Developmental Dynamics in Angiogenesis," at Vascular Biology 2014 – Monterey, CA  
2014 Co-chair of the Session, entitled "MCS President's Symposium II: Rapid Fire," at Experimental Biology 2014 – San Diego, CA  
2013 Chair of the Session, entitled "Pericyte Modulation of Microvascular Function," at Vascular Biology 2013 – Hyannis, MA  
2013 Co-chair of the Microcirculatory Society Young Investigator Symposium Session at Experimental Biology (EB) 2013 – Boston, MA  
2009-2012 Microcirculatory Society Membership Committee  
2012-Present Microcirculatory Society Publications Committee

**Research Interests:**

The role of pericytes during angiogenesis; the coordination between blood and lymphatic vessels; microvascular patterning alterations associated with hypertension

**Personal Statement:**

I would welcome the opportunity to serve as a councilor for the Microcirculatory Society. Over the past decade, I have benefited from the friends, discussions, and opportunities that the society has provided. The support has been invaluable through the early stages of my career and I realize the importance of my research having a home. I look forward to helping influence the society's growth and, as a councilor, would offer a young, integrative perspective focused on leveraging its strengths and emphasis on training young scientists to expand its growth potential.