

# The Microcirculatory Society, Inc.

## Newsletter

Volume 39, Number 3 – Winter 2012



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## A Note from the President

Greetings from the (not so) wintery hills of West Virginia!

As you know, we will be holding our annual meeting in San Diego this April. The meeting schedule has shaped up to be an exciting one with lots to offer, and the details are provided later in this newsletter. Things will kick off with the President's Symposium I at 9:00 am. on Saturday, April 21, followed by the MCS Awards Luncheon at 11:30, at which we will honor the recipients of numerous MCS awards that recognize the hard work and accomplishments of our members. This year's awardees are also listed in this newsletter. Following the luncheon will be the President's Symposium II, which will feature short oral communications by graduate students and postdoctoral fellows, a format that has been highly successful over the last few years in stimulating some lively discussion. This is a great opportunity for our trainees to present their work before the Society, so please show your support with your attendance. This session will also be dedicated to the memory of Gabor Kaley, a close friend and colleague of many in the Society, who sadly passed away in December. The MCS poster sessions will be held on Sunday the 22nd and Monday the 23rd. Please visit as many poster presentations as you can. Sunday will also feature the MCS Landis Award Lecture at 3:30 p.m., which will be given by Dr. Roland Pittman of the Medical College of Virginia, this year's recipient. This will be followed by our annual business meeting, at which Dr. Akos Koller will speak about the personal and professional impact that Dr. Kaley had on so many of his colleagues. At the business meeting we will also vote on proposed changes to the MCS bylaws, which will be circulated in a separate email. On Monday, we will hold the MCS Young Investigators' Symposium at 10:30 am. The theme of this symposium is "Oxidant Stress and Inflammation in the Microcirculation", and features what should be some superb oral presentations on exciting new advances in this area. I would like to extend my thanks and deep appreciation to our Secretary, Tara Haas, our treasurer Rolando Rumbaut, and Julian Lombard and the rest of the Programs and Meetings Committee for all their hard work in putting this meeting together.

It is time for us to elect new Society officers for the next year. This newsletter contains background information and personal statements of those who have been nominated for the positions of Councilor, Treasurer and President-Elect. Also included are instructions for on-line voting. Please participate in this important activity to ensure the future health and growth of our society.

Also, just a reminder that there will be a joint meeting of the MCS with the British Microcirculation Society on July 4-6, in Oxford. Within the next few weeks, you will be able to register and submit an abstract through the meeting website at <http://www.microcirc2012.com/>. Abstract submission will run through the end of March. Please consider attending what will be a very exciting meeting that will help to further strengthen the bonds between our two societies. The MCS will be offering travel awards for trainees who would like to present their work at this meeting, with more details to follow as they become available.

Lastly, please don't forget to pay your 2012 dues, which support all of the important activities that we engage in as a Society, as well as our many awards.

I look forward to seeing you all in San Diego.

Warm Regards,

A handwritten signature in black ink, appearing to read "Matt".

Matthew A. Boegehold, Ph.D.  
President

## The Microcirculatory Society Awardees for 2012

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### **I. The Eugene M. Landis Research Award**

Dr. Roland Pittman, Professor, Virginia Commonwealth University

### **II. MCS award for Excellence in Lymphatic Research:**

Dr. Ranjeet M. Donganokar, Associate Research Scientist, Texas A&M University

### **III. MCS Travel Award for Outstanding Young Investigator:**

Dr. Jerome Breslin, Assistant Professor, LSU Health Science Center, New Orleans

### **IV. The August Krogh Young Investigator Award:**

Dr. Matthew Socha, Postdoctoral Scientist at the University of Missouri, Columbia

### **V. The John R. Pappenheimer Postdoctoral Travel Awards:**

1. Silu Lu, University of Mississippi Medical Center
2. Matthew Durand, Medical College of Wisconsin
3. Walter Cromer, Texas A&M Health Science Center
4. Ramesh Mishra, University of Calgary
5. Maria Galan, Tulane University
6. Christian Stork, West Virginia University
7. Barry Kyle, University of Calgary
8. Kathivel Kandasamy, University of Tennessee HSC

### **VI. The Benjamin Zweifach Graduate Student Travel Awards:**

1. Alexander Lohman, University of Virginia
2. Scott Zawieja, Texas A&M Health Science Center
3. Patricio Mujica, UMDNJ-New Jersey Medical School
4. Peter Stapor, Tulane University
5. Jessica Priestley, Medical College of Wisconsin
6. Ming Yang, Tulane University
7. Jerry Brunson, Louisiana State University HSC
8. John Clemmer, University of Mississippi Medical Center
9. Robert Davis, University of Florida
10. Jacqueline Niu, University of Virginia

## MCS Sessions and Events at EB 2012

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**\*\*All scientific sessions will be held in the San Diego Convention Center, Room 26\*\***

**Saturday, April 21, 2012**

**9:00-11:30 am : President's Symposium I. "Cation Channels and Vascular Control: ASIC and TRPV Proteins".**

**Chair:** Matthew Boegehold, West Virginia University, Morgantown, WV.

**"TRPV Channels in Cerebral Arteries".** Scott Earley, PhD, Associate Professor of Biomedical Sciences, Vascular Physiology Research Group, Colorado State University.

**"Molecular Sensors for Hypertension, Inflammation, and Tissue Injury: Role of TRPV Channels."** Donna Wang, M.D., Professor of Medicine and Chief, Division of Nanomedicine and Molecular Intervention, Michigan State University College of Human Medicine.

**"ASIC1 in Pulmonary Vascular Smooth Muscle Function".** Nikki Jernigan, PhD, Assistant Professor of Cell Biology and Physiology, University of New Mexico School of Medicine.

**"Mechanisms of Regulation of Intraparenchymal Cerebral Arterioles".** Joseph Brayden, PhD, Professor of Pharmacology, University of Vermont College of Medicine.

**11:30 am-2:00 pm: MCS Awards Luncheon**

Room Location TBA

**2:00-4:45 pm: President's Symposium II: "Young Investigator Novel Trends"**

**Chairs:** Kathleen Lukaszweicz, Medical College of Wisconsin, Milwaukee WI and Adam Goodwill, Indiana University School of Medicine, Indianapolis IN.

**A novel approach for imaging calcium events simultaneously in arteriolar vascular smooth muscle and endothelial cells.** Pooneh Bagher, Christopher J. Garland and Kim A. Dora. Department of Pharmacology, University of Oxford, Oxford, UK

**The effects of circulating angiotensin II levels on vascular gene expression in normotensive rats.** Jessica Priestley, Katherine Fredrich, Andreas Beyer, Julian Lombard. Department of Physiology, Medical College of Wisconsin, Milwaukee, WI, USA.

**Accelerated Arteriogenesis In Collateral Arterial Segments Exposed To Flow Reversal After Femoral Arterial Ligation.** Joshua K Meisner<sup>1</sup>, Suna Sumer<sup>1</sup>, Jacqueline Niu<sup>1</sup> Ji Song<sup>1</sup>, Richard J

Price.<sup>1,2</sup> <sup>1</sup>Biomedical Engineering, <sup>2</sup>Radiology and Radiation Oncology, University of Virginia, Charlottesville, VA, USA.

**NG2 inhibition decreases endothelial cell sprouting along venules: A novel in situ angiogenesis assay to investigate multicellular interactions.** Peter Conrad Stapor, Taby Ahsan, Walter Lee Murfee. Biomedical Engineering, Tulane University, New Orleans, LA, USA.

**The effect of network pattern alterations on microvascular resistance in hypertension.** Ming Yang, Walter Lee Murfee. Biomedical Engineering, Tulane University, New Orleans, LA, USA.

**Simulation of metabolic blood flow regulation in heterogeneous microvascular networks: Effects of hematocrit variations.** Brendan C. Fry<sup>1</sup> and Timothy W. Secomb<sup>1,2</sup>. <sup>1</sup>Program in Applied Mathematics, <sup>2</sup>Department of Physiology, Univ. of Arizona, Tucson, AZ, USA.

**Long-term effects of indocyanine green on lymphatic pump function in vivo.** Michael Weiler<sup>1</sup> and J. Brandon Dixon<sup>2</sup>. <sup>1</sup>Department of Biomedical Engineering and <sup>2</sup>Department of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA, USA.

**Ankle position modifies tibialis anterior muscle perfusion and oxygenation in the human leg.** Ronald B. Crater, Bing Zhang, Alan R. Hargens: Department of Orthopaedic Surgery, University of California, San Diego, CA, USA.

**The ratio of C-peptide to insulin is critical for low pO<sub>2</sub>-induced ATP release from human erythrocytes (RBCs).** Jennifer P. Richards, Alan H. Stephenson, Mary L. Ellsworth, and Randy S. Sprague. Department of Pharmacological and Physiological Science Saint Louis University, Saint Louis, MO, USA.

**Simvastatin and GGTI-2133, a geranylgeranyl transferase inhibitor, increase erythrocyte (RBC) deformability, but inhibit low O<sub>2</sub>-induced ATP release.** Kelly M Clapp, Mary L Ellsworth, Randy S Sprague, Alan H Stephenson. Department of Pharmacological and Physiological Science, Saint Louis University School of Medicine, St. Louis, MO, USA.

**Cilostazol, a PDE3 (phosphodiesterase 3) inhibitor, enhances prostacyclin receptor-mediated cAMP accumulation and ATP release in erythrocytes (RBCs) of healthy humans (HH) and humans with type 2 diabetes (DM2).** Stephanie M. Knebel, Elizabeth A. Bowles, Randy S. Sprague, Alan H. Stephenson. Saint Louis University Department of Pharmacological and Physiological Science, 1402 South Grand Blvd, St. Louis, MO, USA.

**Sunday, April 22, 2012**

**12:30-3:30 pm**      **MCS Poster Session**

**3:30-4:30 pm:**      **MCS Landis Award Lecture:**

**Dr. Roland Pittman, Medical College of Virginia.**

***"Tales from the Microcirculation: Oxygen Transport and Its Regulation."***

**4:45- 5:45 pm:**      **MCS Business Meeting**

**Monday, April 23, 2012**

**10:30 am-12:30 pm:**      **Microcirculatory Society Young Investigator Symposium:  
"Oxidant Stress and Inflammation in the Microcirculation"**

**Chair:** Johnathan Tune, Indiana University School of Medicine, Indianapolis IN.

**Apocynin Improves Exercise Performance and Functional Vasodilation by Improving K<sub>ATP</sub> Function in Obese Zucker rats.** Silu Lu, Lusha Xiang, John Clemmer, Lynn Lee, Mohamad Sebai, and Robert Hester. Department of Physiology, University of Mississippi Medical Center, Jackson, MS, USA.

**Role of CYP4A/20-HETE Pathway in Vascular Oxidative Stress in the Dahl Salt-Sensitive Rat.** Kathleen Lukaszweicz,<sup>1</sup> John R. Falck<sup>2</sup>, and Julian H. Lombard<sup>1</sup>. <sup>1</sup>Department of Physiology, Medical College of Wisconsin; <sup>2</sup>Department of Biochemistry, University of Texas Southwestern Medical School, Dallas TX, USA.

**Syndecan-1 Modulates Leukocyte Adhesion in the Murine Parietal Peritoneum Microcirculation in Response to *Staphylococcus aureus* Lipoteichoic Acid.** Paulina Kowalewska<sup>1</sup> and Alison E. Fox-Robichaud.<sup>2</sup> <sup>1</sup>Medical Sciences, <sup>2</sup>Medicine, McMaster University, Hamilton, ON, Canada

**Distinct Roles for Talin-1 and Kindlin-3 in LFA-1-dependent Neutrophil Rolling and Arrest.** Craig T. Lefort, Jan Rossaint, Markus Moser, Brian G. Petrich, Alexander Zarbock, Susan J. Monkley, David R. Critchley, Mark H. Ginsberg, Reinhard Fässler, and Klaus Ley. Division of Inflammation Biology La Jolla Institute for Allergy & Immunology. La Jolla, CA, USA

**Mast Cells in Proximity of Adult and Aged Mesenteric Lymphatic Vessels.** Victor Chatterjee, Anatoliy A Gashev. Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center, Temple, TX, USA.

**12:30-3:30 pm**      **MCS Poster Session**

## Welcome to New MCS Members

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### **Regular Members:**

Peter Chan, University of California San Diego  
Adam Goodwill, Indiana University  
Silu Lu, University of Mississippi Medical Center  
Mohammed Nayeem, University of West Virginia  
Hema Raina, Johns Hopkins University

### **Associate Members:**

Brett Kirby, Colorado State University  
Craig Lefort, University of California San Diego

### **Emeritus Members:**

Chiyoji Ohkubo

### **Student Members:**

Zachary Berwick, Indiana University-Purdue University Indianapolis  
Bei Chen, University of Florida  
John Clemmer, University of Mississippi Medical Center  
Paul Holloway, Imperial College London, UK  
Mohammad Jafarnejad, Texas A&M University  
Samira Jamalian, Texas A&M Health Science Center  
Patricio Mujica, New Jersey Medical School  
Jennifer Richards, Saint Louis University  
Scott Zawieja, Texas A&M Health Science Center

## MCS Member Updates

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**Sarah Yuan MD PhD** has relocated from University of California San Diego, to become the new Chair of the Department of Molecular Pharmacology and Physiology at University of South Florida Health.

## 2012-2013 MCS Election Ballot

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### **President** Please Select One

- Jefferson Frisbee, PhD

### **Treasurer** Please Select One

- Robert Brock, PhD
- Alan Stephenson, PhD

### **Council Member** Please Select Two

- Kim Dora, PhD
- Mary D (Molly) Frame, PhD
- Brant Isakson, PhD
- Nikolaos Tsoukias, PhD

**Candidate biosketches are available on the following pages.**

**Voting is available until February 24. Please cast your vote at the following URL:**

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



## Jefferson C. Frisbee, Ph.D.

**Present Position:** Professor, Department of Physiology and Pharmacology, West Virginia University School of Medicine, Morgantown, West Virginia

**Education:** B.Sc. (University of Guelph; Human Kinetics, 1992), M.Sc. (University of Guelph; Human Biology, 1993), Ph.D. (University of Guelph; Biophysics (Physiology), 1996), Postdoctoral (University of Washington; Cardiovascular Bioengineering, 1996-1997); Postdoctoral (Medical College of Wisconsin; Microvascular Physiology, 1997-2000)

**Current Professional Societies:** Microcirculatory Society; American Heart Association (Elected Fellow; Basic Cardiovascular Sciences, 2006); American Physiological Society (Elected Fellow; Cardiovascular Section, 2011)

**Honors and Awards:** Young Investigator Award (Meritorius Research), American Physiological Society – Cardiovascular Section: 2000, 2001, 2002; New Investigator Award, Jackson Cardiovascular – Renal Meeting, 2000; Young Investigator Award, American Physiological Society (formerly Lamport Award), 2001; Elected Fellow, American Heart Association; Council on Basic Cardiovascular Sciences, 2006; Distinguished Service Award; American Physiological Society – Editorial Board Service for American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology, 2008; Dean's Award for Excellence in Research; West Virginia University School of Medicine, 2011; Elected Fellow, American Physiological Society; Cardiovascular Section, 2011

**Current National Funding:** AHA EIA 0740129N "Hypercholesterolemia and Microvascular Dysfunction: a Translational Initiative from Mice to Humans" (Principal Investigator); R21 DK095210 "Early Microvessel Rarefaction in Skeletal Muscle during Metabolic Syndrome" *Pending* (Principal Investigator); R01 HL115127 "Reversal of Peripheral Microvasculopathy in the Metabolic Syndrome" *Pending* (Principal Investigator); R01 ES15022 "Remote Microvascular Dysfunction after Particulate Matter Exposure" (Co-Investigator)

### **Editorial Responsibilities:**

**Editor-in-Chief:** Microcirculation (2010 – present)

**Associate Editor:** Microvascular Research (2006 – present), Journal of Clinical and Experimental Cardiology (2010 – present), Microcirculation (2004 – 2009)

**Editorial Board:** The Scientific World Journal (Physiology; 2010 – present), Frontiers in Computational Physiology and Medicine (2010 – present), Journal of Vascular Research (2007 – present), American Journal of Physiology – Heart and Circ Physiol (2007 – present), American Journal of Physiology – Reg, Integ and Comp Physiol (2005 – present)

### **Grant Review (selected, since 2008)**

*Ad Hoc* Reviewer; Biotechnology and Biological Sciences Research Council (UK, 2008-present)

*Ad Hoc* Reviewer; National Sciences and Engineering Research Council (Canada; 2010-present)

*Ad Hoc* Reviewer; Clinical and Integrative Cardiovascular Sciences Study Section; NIH; 2010 Chair; Vascular Biology Review Group; AHA, National Center; 2009 – 2011

*Ad Hoc* Reviewer, The Wellcome Trust Limited 2008-2010

Co-Chairman; Vascular Biology and Blood Pressure Regulation; AHA, National Center; 2008 – 9.

**Peer Review (major efforts, since 2008)**

American Journal of Physiology – *Reg Integ Comp Physiology* and *Heart and Circ Physiology*; Circulation Research; Journal of Applied Physiology; Journal of Physiology; Journal of Vascular Research; Microcirculation; Microvascular Research

**Professional Activities (since 2007)**

Abstract Grader: World Congress for Microcirculation/European Microcirculatory Society Annual Meeting; 2010, American Heart Association (ATVB, 2007-2010); (HBPR, 2005-present); (Scientific Sessions, 2005-2008)

Member: Publications Committee; The Microcirculatory Society, 2007 – 2009 (position resigned for Editor-in-Chief position for *Microcirculation*); Executive Council; The Microcirculatory Society, 2005 – 2007; Member; Membership Committee; American Physiological Society, 2004 – 2006; Member; Nominating Committee; American Physiological Society – Cardiovascular Section, 2004 – 2007

2010 Symposium Co-Chairman: “Spotlight on Angiogenesis: Tumor Vasculature Revisited”, “Computational Modeling in Microvascular Function”, “Microvascular Dysfunction in Metabolic Disorders – A Translational Approach” and Member, Scientific Committee; World Congress for Microcirculation/European Microcirculatory Society Annual Meeting; Paris, France

2010 Experimental Biology Featured Topic Co-Chairman: “Cardiovascular Consequences of the Metabolic Syndrome”, Anaheim, CA

2009-2010 Member, International Planning Committee; World Congress for Microcirculation/European, Microcirculatory Society Annual Meeting

2007 Symposium Co-Chairman; World Congress for Microcirculation; “Influences of obesity on the microcirculation: causes and consequences”; Milwaukee, WI

**Current Research Interests**

- Systems biology of microvascular perfusion abnormalities in peripheral vascular disease
- Progression of microvascular rarefaction in obesity/insulin resistant states
- Interaction between clinical depression/depressive symptoms and microvasculopathy

**Personal Statement**

After some graduate experiences interrogating interactions of blood perfusion and skeletal muscle fatigue, I first began interacting with the Microcirculatory Society in 1994 and 1995. While I was struck by the approachable nature of many of the investigators and the wide array of topics that were discussed, what truly resonated for me was that it was the first time (in an admittedly very limited exposure to scientific meetings) that I could truly see an integrated system under scrutiny; with many investigators each working at different, yet complementary, challenges. I found this to be profoundly fascinating and decided to dedicate my career to the integrated study of microvascular function. It is

a decision that has provided me tremendous opportunities and rewards and I owe all of that to those initial experiences. As a result, I have always considered MCS to be my 'home' society, and I have looked forward to every opportunity to support and invest in it to this day. I consider the privilege of serving as its President to be another opportunity for that ongoing investment.

Constant topics of discussion in the MCS for many years have centered on 'critical mass', 'viability' and 'relevance'. With the recent partnering of our official journal, *Microcirculation*, and Wiley-Blackwell Publishers, Ltd., I have great confidence that we entered a time of opportunity and can confidently move forward in addressing these three challenges in the coming years. It is my belief that we would be best served through strong cross-promotion of the MCS with its official journal. This can be achieved by special journal issues for signature societal activities (including the Young Investigators Symposium, the President's Symposium and the Landis Award Lecture), the partnering of the MCS with other key academic societies for smaller, focused scientific meetings that are economically-efficient (and also result in highly marketable dedicated special issues of the journal) and a continuation of efforts to not only support the traditional research areas in which we have strength, but also in highlighting the continually emerging disciplines of clinical and translational research, advanced computational and systems biology, and the myriad foci within biomedical engineering.

We have entered into an era when the Microcirculatory Society must make significant and consistent strides in contributing to these cutting edge disciplines within biomedical research. If elected, my primary goal would be to promote that effort to the extent possible. If we can achieve that vision, I believe that any concerns over critical mass, viability and relevance will become little more than ghosts of a distant past.

## **Robert W. Brock, Ph.D.**

**Present Position:** Associate Professor, Department of Physiology & Pharmacology; Graduate Director, Cellular and Integrative Physiology; Center for Cardiovascular & Respiratory Sciences, West Virginia University School of Medicine, Morgantown, WV.

**Education:** M.Sc. (Work Physiology 1997), University of Waterloo, Canada; Ph.D. (Medical Biophysics 2000), University of Western Ontario, Canada; Postdoctoral Training (2000-2002), Lawson Health Research Institute, Canada.

**Professional Societies:** The Microcirculatory Society (Awards Committee 2004-2007, Programs & Meetings Committee 2011-present); American Physiological Society (Education Committee 2007-2010, Chair - Membership Committee 2011-present, Strategic Planning Task Force 2011-present); American Heart Association (Great Rivers Affiliate Research Committee 2009-present); American Society of Pharmacology and Experimental Therapeutics (CV Pharmacology - Competition Committee 2007-present).

**National Funding (current):** NIDDK-R01 DK067582 "C-peptide: protection against diabetic complications" (2007-2012).

**Honors and Awards:** Fellow – AHA Council on Basic Cardiovascular Sciences (2008-present); Wyeth Research Scholar for Research Excellence, WVU (2007-present); APS - GI & Liver Young Investigator Award (2003); Fellow - Natural Sciences & Engineering Research Council of Canada (2000-2002).

**Editorial Boards:** Frontiers in Vascular Physiology (2012-present); Microcirculation (2010-present); JPET (2009-present); Liver International (2008-present); Reports in Medical Imaging (2008-present).

**Grant Review:** AHA - National (2007-present, Chair 2009-2011); NIDDK Special Emphasis Panel: Director's Opportunity (2010); NIDDK Special Emphasis Panel - Diabetic Complications (2010); Italian Ministry of Health/NIH, Directorate for Health and Technologies Research (2009-present).

**Peer Review:** Microcirculation; Microvascular Research; JPET; Hepatology; Journal of Physiology-London; Antioxidants & Redox Signaling; Free Radical Biology & Medicine; Liver International; AJP-Heart Circ; AJP-Reg Integr Comp; AJP-GI Liver; Toxicology & Applied Pharmacology; Advances in Physiology Education.

**Current Research Interests:** Microvascular regulation in pathological states (diabetes, obesity and I/R) - role of inflammation, oxidants and mitochondria in liver and kidney.

**Personal Statement:** The Microcirculatory Society has helped forge my career, and I appreciate this opportunity to give back by serving as its Treasurer. I have experience managing the finances of my research grants, a graduate program, as well as those of my residential homeowner's association. If elected Treasurer, I will work to keep the Society in good financial health, according to the policies and guidelines set forth in the Society's bylaws.

## **Alan H. Stephenson, Ph.D.**

**Present Position:** Professor of Pharmacological and Physiological Science, Saint Louis University School of Medicine, St. Louis, Missouri, Chair of the Saint Louis University IACUC.

**Education:** Doctor of Philosophy - Pharmacology, 1985, Saint Louis University, St. Louis, MO, Master of Science - Zoology (Comparative Physiology), 1974, University of Wisconsin - Milwaukee, Milwaukee, WI, Bachelor of Science - Biology/Chemistry, 1971, Carroll College, Waukesha, WI

**Professional Societies:** The Scientific Research Society of Sigma Xi (1987-present), American Society for Pharmacology and Experimental Therapeutics (1994-present), The Microcirculatory Society (1995-present), American Physiological Society (1997-present), American Heart Association, Council on High Blood Pressure Research (1998-present)

**Honors and Awards:** Phi Kappa Phi (1974), Outstanding Young Investigator, Wisconsin Alumni Research Foundation Predoctoral Fellowship, University of Wisconsin (1973-1974), Postdoctoral Fellowship, Research Associate, Saint Louis University Department of Medicine (1985-1986), Fellow of the AHA Council on High Blood Pressure Research (2002).

**National Funding (Current):** NIH-NHLBI R33 HL089094: "Microvascular O<sub>2</sub> Delivery: Impact of Erythrocyte-Released ATP" (08/03/07 – present, co-PI).

**Editorial Boards:** American Journal of Physiology-Regulatory, Integrative and Comparative Physiology (2011 -present), The ScientificWorldJOURNAL (2011-present).

**Grant Review:** American Heart Association: Lung, Resuscitation and Respiration Study Group (2002-2005), American Heart Association: Lung, Resuscitation and Respiration Study Group (2007-2010), NIH – Vascular Cell and Molecular Biology Study Section (VCMB) – Ad hoc (2004, 2009), NIH – Hypertension & Microcirculation (HM) – Ad hoc (2009 – present), NIH Challenge Grants in Health and Science Research, part of the American Recovery and Reinvestment Act of 2009 – Vascular Cell and Molecular Biology Study Section.

**Peer Review:** Microcirculation, American Journal of Physiology (Multiple divisions), American Journal of Respiratory and Critical Care Medicine, Biochemical Pharmacology, Experimental Biology and Medicine, Hypertension, Journal of Applied Physiology, Journal of Lipid Research, Journal of Pharmacology and Experimental Therapeutics, Pharmacology Research, Journal of Neurochemistry, The ScientificWorldJOURNAL

**Current Research Interests:** Mechanisms that influence erythrocyte ATP release, erythrocyte-endothelium interactions, Integration of multiscale modeling with intracellular signaling mechanisms.

**Personal Statement:** I have benefited greatly from the programming, networking and trainee support provided by the Microcirculatory Society during my sixteen years of membership in the MCS. Although I do not have experience handling the financial affairs of a national scientific society, I have managed research grants and as a trustee of my subdivision, I have successfully managed all of its business transactions and financial reports for the past several years. If elected treasurer, I will handle the finances of the MCS responsibly according to the MCS bylaws.

## **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. Previously, Reader in Pharmacology, University of Bath, 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, Novel integrative signalling mechanisms for endothelial cell control of microvascular tone ) 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; 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.

**Grant Review:** Regular reviewer for British Heart Foundation, and the Wellcome Trust (UK).

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

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

**Personal Statement:** Moving to work at UVA in 1994 was an amazing initiation into the North American 'family' of microcirculation research. I use the word family advisedly. The first few meetings I attended were memorable for the kind and friendly approach to science, and the eagerness with which other society members introduced themselves and showed a genuine interest and enthusiasm in the work presented. The nature of microcirculation research requires scientists dedicated to high standards of experimental design and to the rigorous application of very difficult techniques. This in itself lends itself to feeling part of a special group. To me, this feeling is reinforced by the fact that the difficulties we face in conducting our research are not recognized widely outside of our field. My firm belief is the strength of the society centers around encouragement at all levels with The Microcirculatory Society.

## **Mary D. (Molly) Frame, Ph.D.**

**Present Position:** Associate Professor of Biomedical Engineering (ViceChair), Physiology/Biophysics, Molecular Cardiology Institute, Stony Brook University, NY.

**Education:** A.B., University of Missouri-Columbia, Biology (1980), Ph.D., University of Missouri-Columbia, Physiology (1990), Post-Doctoral Fellow, University of Rochester, Department of Biophysics (1990-1993).

**Professional Societies:** American Physiological Society (1990), Fellow (2009); American Heart Association, Circulation (1994); American Association for the Advancement of Science (1990); Biomedical Engineering Society (1999); The Microcirculatory Society (1991).

**Honors and Awards:** Curator's Scholarship, University of Missouri (1976), American Heart Association, Finalist Melvin L. Marcus Young Investigator Award (1994), McGowen Research Award for contributions to Regenerative Medicine (2004). Fellow, The American Physiological Society (Cardiovascular) (2009), Golden Key Honor Society (2011).

**National Funding (current):** NIDDK, 2003-2010, and in review; NIEHS, pending; NIAMS, pending.

**Grant Review:** NIH: (Programs of Excellence for Nanotechnology, 2004), (Modeling and Analysis of Biological Systems, 2005-6), (AED F14, NIBIB, 2007), (NANO, 2010-11), (R25 Education, 2010). AHA: (NE Region, 2003-7); National: Bioeng BSc1, 2007-9; Bioeng BSc2 (coChair 2010; Chair 2011).

**Peer Review:** American Journal of Physiology, Journal of Applied Physiology, Biological Reviews, Cancer Research, FASEB Journal, Journal of Investigative Dermatology, Journal of Vascular Research, Microcirculation, Microvascular Research, Thrombosis Research.

**Professional Activities:** Microcirculatory Society (Program Committee, 1996-2000; Membership Committee, 2001-5, Chair, 2002-5; Councilor, 2003-9; Treasurer, 2004-6; Secretary, 2007-9); NIH Working Group, Vascular Biology and Computational Models (2005); Users Executive Committee, Center for Functional Nanomaterials, Brookhaven Natl. Lab. (2004-9, Chair 2006-9); AHA, Unified Peer Panel overseeing Unified Peer Review (2009- present), Founders Affiliate Representative (2011-13).

### **Current Research Interests:**

Our primary research focus is to understand how inflammatory processes affect microvascular flow distribution. We have three translational foci: metabolic disorder, thermal burn injury (and the effect of key treatments), and toxicity of nano-sized metal oxides used in the semi-conductor industry.

**Personal Statement:** The Microcirculatory Society has been instrumental in fostering and training many young investigators. Time and devotion by the senior members to this end have developed continuity in ways that larger societies may not have retained. Leadership decisions to increase the numbers of travel awards to the graduate students and postdoctoral fellows has ensured their attendance and participation in the society. Of course, one goal is to increase numbers of active vibrant members. Over the next decade, the MCS will face the challenge of maintaining mentoring and cohesive interactions, while moving to a stronger and larger active membership.

## Brant E. Isakson, PhD

**Present Position:** Assistant Professor in Molecular Physiology and Biological Physics and Resident Faculty of the Robert M. Berne Cardiovascular Research Center, University of Virginia School of Medicine (2007-present)

**Education:** B.S. Biology, Gustavus Adolphus College (1994-1998); Ph.D. Physiology, University of Wyoming; Mentor, Scott Boitano (1998-2002); Post-doctoral Training, University of Virginia: Mentor, Brian Duling (2003-2007)

**Professional Societies:** Microcirculatory Society (2006-present): Chair, Communications Committee; Chair, Publications Committee; American Physiological Society (2000-present): CV Section Fellowship Committee; American Society for Cell Biology (2003-present); North American Vascular Biology Organization (NAVBO; 2008-present); American Heart Association (2006-present); Co-organizer, 2013 International Connexin, Pannexin and Innexin Conference

**National Funding (current):** NIH R01—Mechanisms of heterocellular signaling in the vessel wall; NIH R21—Plasminogen activator inhibitor regulation of myoendothelial junctions; American Heart Association, Scientist Development Award; Phillip Morris Initiative Grant—Connexin43 regulation of cell cycle control

**Grant Review:** NIH, Ad-hoc, Study Section: *Atherosclerosis and Inflammation in the Cardiovascular Systems* (2011); American Heart Association, Study Section: *Cardiac Biology and Regulation* (2008-present); British Diabetes Association (2008-2009)

**Peer Review (current):** Editorial Board, *Microcirculation*; Editorial Board, *Biochemical Journal*; Editorial Board, *Journal of Biological Chemistry*; Editorial Board, *Frontiers in Vascular Physiology*; Ad hoc journal reviewer: *Nature Cell Biology*, *Circulation Research*, *ATVB*, *Journal of Cell Biology*, *Journal of Cell Science*, *American Journal of Physiology*

### **Research Interests (current):**

We are currently focused on the role of pannexins in the microcirculation and the regulation/post-translational effects of nitric oxide and related proteomic players at myoendothelial junctions.

### **Personal Statement**

The Microcirculatory Society has been an integral part of my research career and I humbly and happily owe the society a great deal. To my knowledge, there is no society that monetarily and professionally supports young researchers like we do, and it is a true honor to be in a group the values aspiring scientist to such a degree. I would like to see this commitment to young researchers continue and be even more integrated into the society, perhaps by allowing specialized representation and/or special invitations to publish in *Microcirculation*.



## **Nikolaos M. Tsoukias, PhD**

**Present Position:** Associate Professor, Department of Biomedical Engineering, Florida International University, Miami, USA.

**Education:** B.S. in Chemical Engineering, National Technical University of Athens (1989-1994); PhD in Engineering, University California Irvine (1995-1999); Postdoctoral Fellow in Biomedical Engineering, Johns Hopkins University (2000-2003).

**Professional Societies:** Microcirculatory Society; American Physiological Society; American Heart Association; Biomedical Engineering Society.

**Current Funding:** NIH (SC1HL095101) Theoretical and experimental investigations of microcirculatory signaling in hypertension, (2008-2013).

**Honors:** 2006 Arthur Guyton Award for Excellence in Integrative Physiology.

**Grant Review:** AHA (Biotechnology and Bioengineering section); NSF (Nano and Bio mechanics program); NIH (Multiscale Modeling Special Emphasis panel).

**Peer Review:** American Journal of Physiology; Biophysical Journal; Journal of Applied Physiology; Microcirculation; Annals of Biomedical Engineering; Journal of Theoretical Biology; European Respiratory Journal; Respiratory Physiology and Neurobiology; Biophysical Chemistry; Journal of Experimental Nanoscience; Applied Mathematics and Computation; Mathematical Biosciences; Acta Physiologica; Plos Computational Biology; Journal of Physiology.

### **Current Research Interest:**

Calcium dynamics; Nitric Oxide dependent signaling; Intercellular communication; Regulation of microcirculatory tone.

### **Personal Statement:**

I have been a member of the Microcirculatory Society since 2007 and I have served on the editorial board of "Microcirculation" since 2010. My participation in the council, if elected, will be a great privilege and it will allow me to learn more about the society and to further interact with its members. As a councilor, I will bring the perspective of an engineering faculty in a minority serving institution and I will assist the leadership of the society in their efforts for scientific excellence and increased visibility. The intimate environment, the non-diffuse scientific focus and the willingness to promote and integrate young investigators, separates the Microcirculatory Society from other academic societies, that I have been a member of, and I would like to assist and continue past efforts in maintaining such an environment.

## Upcoming Meetings

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### **Experimental Biology and MCS Annual Meeting**

San Diego, CA - April 21-25, 2012

<http://experimentalbiology.org/EB/pages/default.aspx?splashpage=1>

### **Joint Meeting of the British Microcirculation Society and The Microcirculatory Society**

Abstract Submission Deadline: March 31, 2012

Keble College, Oxford, UK—July 4-6, 2012

<http://www.microcirc2012.com>