

# The Microcirculatory Society, Inc.

## Newsletter

Volume 35, Number 3 Winter, 2008

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### Officers

<b>President:</b> <i>cjm@tamu.edu</i>	Cynthia Meininger
<b>President elect:</b> <i>segalss@health.missouri.edu</i>	Steve Segal
<b>Secretary:</b> <i>mframe@notes.cc.sunysb.edu</i>	Molly Frame
<b>Treasurer:</b> <i>sweeneyt1@scranton.edu</i>	Terrence Sweeney

## Message from the President



*Happy New Year to all of you!*

As we move into 2008, the focus of this President's message is "Looking Ahead." I hope you have made your travel plans for EB2008 in San Diego. We will have a great presence at the meeting with approximately 170 abstracts presented and/or sponsored by MCS members and trainees. Remember to come EARLY in order to take part in the Saturday morning workshop -- "Bringing it Back to the Whole Animal: In Vivo Techniques for Studying the Microcirculation" -- featuring tutorials on in vivo microvascular preparations (Terry Sweeney), in vivo and ex vivo approaches to imaging microvascular function (Dave Zawieja), and microelectrode measurements of nitric oxide and oxygen (Glenn Bohlen). This will be a good chance for students and trainees to become familiar with some of the classic techniques as well as some of the newer "tools" of our field. We hope this session will also draw individuals from related fields that might be interested in expanding their studies to include the microcirculation. Spread the word to your colleagues.

Saturday afternoon's President's Symposium is designed to tie in with the morning workshop. The speakers for the symposium will be Jonathan Lindner from the Oregon Health Sciences University (discussing microvascular and molecular imaging with microbubble contrast ultrasound), Dick Slaaf from the University of Maastricht and Eindhoven University of Technology (discussing multimodal imaging of blood vessels in vivo and ex vivo), and Joe Unthank from the Indiana University School of Medicine (discussing the impact of arterial disease on basal and flow-mediated NO production in resistance arteries: unexpected in vivo results with direct NO measurement).

In between the Workshop and Symposium we will have our Awards Banquet and Business Meeting at the Marriott Hotel. *The cost of the luncheon will be mainly borne by the Society as a benefit to our members.* There will be a nominal charge assessed, simply to allow us to determine the number of members attending. You are

invited to attend the Business Meeting, even if you do not want to participate in the luncheon.

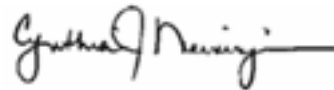
Please send a congratulatory email or note to Geert Schmid-Schonbein, winner of the 2008 Eugene Landis Award! Geert's Award Lecture entitled "Trigger Mechanisms for Inflammation: The Autodigestion Hypothesis" will be presented on Sunday, April 6<sup>th</sup> at 3:15 p.m. Monday we will have the Young Investigators Symposium at 10:30 a.m., chaired by Ryon Bateman, previous winner of the MCS Travel Award. Speakers have been chosen from submitted abstracts. This will give some of our newest and youngest investigators a chance to present their work. Please come and support them by attending the symposium.

Looking ahead to future meetings... The MCS Executive Council recently reviewed proposals for a Fall 2009 Microcirculation meeting. Council chose the University of Missouri-Columbia proposal. This will be a small, stand-alone meeting designed to explore and advance the frontiers of research in microcirculation through identifying and integrating the regulatory processes which underlie microvascular physiology in light of advancing clinical practice. The meeting will be divided into themes that encompass 'classic' areas of research in microcirculation, the signaling processes by which they occur, and how these processes are altered in pathophysiological states. The meeting is planned for the end of October 2009 to avoid the heat of summer and enjoy the colors of fall. Stay tuned for more details as they unfold.

Also looking ahead to looming deadlines, I want to draw your attention to the Krogh Young Investigator Award ([see details in this newsletter](#)). This is not to be confused with the August Krogh Travel Awards that have been given to postdocs and/or residents presenting research at EB2008. The August Krogh Young Investigator Award is a *single* award intended to recognize excellence in microcirculatory research by an outstanding graduate student, Ph.D., or M.D. in the early stages of a research career. Candidates nominated for this award will submit a manuscript of their research. Following peer review, the winner's manuscript may be published in the Society journal *Microcirculation*. Please pass this information on to your trainees who have new and interesting data to share.

Finally, looking ahead to the health of our Society, I want to remind you that annual dues notices will be coming to you shortly. Please be diligent and prompt in responding with your payments. These payments will insure your access to the Society journal *Microcirculation* and will support the many awards and programs underwritten by the Society.

**I hope to see all of you in San Diego in April. Be sure to take into account our new activities when you make your travel plans. Plan to arrive on Friday evening to take advantage of all of the Saturday activities - including the "free" luncheon.**



## *Welcome to New MCS Members*

### **Regular Members**

Dr. Xiaorui Shi  
Dept of Otolaryngology  
Oregon Health Sciences  
University  
[shix@ohsu.edu](mailto:shix@ohsu.edu)

Dr. Nancy Kanagy  
Department of Cell Biology  
and Biophysics  
University of New Mexico  
[nkanagy@salud.unm.edu](mailto:nkanagy@salud.unm.edu)

### **Student Members**

Sardarzia Uddin  
Department of Biomedical  
Engineering  
Stony Brook University

Andrea Foskett  
Dept of Systems Biology and  
Translational Medicine  
Texas A&M University  
[amfoskett@medicine.tamhsc.edu](mailto:amfoskett@medicine.tamhsc.edu)

Himani Vejandla  
CIRCS  
West Virginia University  
[hvejandl@mix.wvu.edu](mailto:hvejandl@mix.wvu.edu)

# John Richard Pappenheimer

## Microcirculatory Society Founding Father

(1915-2007)

*Contributed by  
Eugene Renkin,  
John's 1<sup>st</sup> graduate  
student.*



*John (R) with Charles Michel (L), at the 1989 International Union of Physiological Science (IUPS), Helsinki.*

John Richard Pappenheimer, George Higginson Professor of Physiology, Emeritus, at Harvard Medical School, died on Sunday, December 9, 2007.

Dr. Pappenheimer is widely known for his classic work on capillary permeability and molecular sieving. He is also known to physiologists for his seminal contributions to a wide range of other topics: the nature of the respiratory dead space, autoregulation of blood flow and glomerular filtration in the kidney, blood-brain and cerebrospinal fluid transport and respiratory control, neurochemical aspects of sleep, and most recently, absorption of sugars and amino acids in the intestine.

John Pappenheimer was born in New York City. He received a BS in Biology from Harvard University in 1936, and a PhD in Physiology from Cambridge University, England, in 1940. In 1940-1942, he was a research fellow and instructor in Physiology at the College of Physicians and Surgeons of Columbia University, NY. In 1942-1945, during WW II, he worked with Glenn Millikan, H.K. Hartline and others in the Johnson Foundation for Medical Physics in Philadelphia, PA, on developing oxygen equipment and night vision devices for high altitude military aircraft.

After the war, Dr. Pappenheimer was appointed Associate in Physiology (1946-1949) and then Assistant Professor (1949-1952) at Harvard Medical School in Boston, MA. Eugene Landis was Chairman of the Department. In 1953, Dr Pappenheimer was awarded a lifetime Career Investigatorship of the American Heart Association, and promoted to the rank of professor at Harvard.

In Professor Landis' department, Dr. Pappenheimer turned his attention to capillary permeability. His work on this topic is of special interest to microcirculationists. Pappenheimer set out to test Starling's Hypothesis, which Landis had confirmed in frog capillaries, to see if it applied in mammalian capillaries. His work with Armando Soto-Rivera,

a research fellow from Argentina, “Effective osmotic pressure of the plasma proteins and other quantities associated with the capillary circulation in the hindlimbs of cats and dogs” was published in 1948 (1). They were able to measure and control capillary pressure in blood-perfused organs, and to measure ultrafiltration and reabsorption of fluid from changes in organ weight. From these measurements, they calculated capillary filtration coefficients as Landis had done, confirming Starling’s Hypothesis for mammalian capillaries. In 1951, a follow-up paper appeared, with E.M. Renkin (a graduate student) and L.M Borrero (a research fellow from Colombia), on capillary permeability to solutes, determined by measuring their influence on capillary filtration (2). This work extended the understanding of capillary permeability beyond Starling’s hypothesis. By comparing permeabilities to solutes of different molecular sizes they developed a model of the capillary wall as a molecular sieve. Both papers are considered microcirculatory landmarks. With many subsequent modifications, the general theory survives and continues to be a major stimulus to research (3).

Prof. Pappenheimer was the recipient of numerous honors, including election to the National Academy of Sciences in 1965. In 1956 he was the American Physiological Society’s first Bowditch Lecturer. He was elected to APS Council in 1961, and as APS President 1964-5. In the following years he served the APS on numerous committees and editorial boards. In 1979 he received the Society’s prestigious Ray S. Daggs Award in recognition of his extensive service. In 1981 he was elected to Honorary Membership in the British Physiological Society.

Professor Pappenheimer had major responsibilities for teaching Physiology to medical students and graduate students. In the course of his career he trained eight graduate students and twenty-five postdoctorals. In 1969 he was appointed George Higginson Professor of Physiology of Harvard Medical School. In 1987 he became Professor Emeritus, and continued his laboratory research at the Concord (MA) Field Station of the Harvard Department of Biology (4).

John Pappenheimer’s avocations included bicycling (5), hiking, mountain climbing, skiing, gardening, tennis, and most important, music. He played the ‘cello. He entered into these activities with the same intensity he devoted to his scientific interests. Wherever he traveled, home or abroad, he found opportunities to participate in chamber music sessions with friends and colleagues. He is survived by his wife of 58 years, Helena (Hylie) Palmer (a violinist), three children, Will, Rosamond Zimmermann and Rick, and by five grandchildren.

### **Selected Publications**

1. Pappenheimer, J. R., and A. Soto-Rivera. Effective osmotic pressure of the plasma proteins and other quantities associated with the capillary circulation in the hindlimbs of cats and dogs. *Am. J. Physiol.* 152: 471-491, 1948.
2. Pappenheimer, J. R., E. M. Renkin, and L. M. Borrero. Filtration, diffusion and molecular sieving through peripheral capillary membranes. *Am. J. Physiol.* 167: 13-46, 1951.
3. Landis, E. M., and J. R. Pappenheimer. Exchange of substances through the capillary walls. In: *Handbook of Physiology. Circulation.*, edited by W. F. Hamilton. Washington, DC: Am. Physiol. Soc., 1963, sect. 2, vol. II, chapt. 29, p. 961-1034.
4. Pappenheimer, J. R. On the coupling of membrane digestion with intestinal absorption of sugars and amino acids. *Am. J. Physiol.* 265:G409-G417, 1993.
5. Pappenheimer, J. R. Past-president's address. A bicycle in the age of jets. *Physiologist* 8: 341-347, 1965.

## *August Krogh Young Investigator Award*



**August Krogh  
(1874-1949)**

### **Nobel Prize in Physiology or Medicine, 1920**

This annual award is intended for a graduate student, Ph.D., or M.D. in the early stages of a research career. The purpose of the award is to encourage excellence in microcirculatory research by new, young investigators. Eligibility for this award is limited to graduate students and recent graduates (less than 3 years after having received a Ph.D., or for M.D. candidates, 3 years following completion of a first residency). The award consists of a certificate and \$1000 to be used at the discretion of the awardee. The requirements include submission of a manuscript that describes research to be presented at the annual MCS meeting and a letter of nomination from a member of the Society. Following peer review, an acceptable manuscript may be published in the Society journal *Microcirculation*.

These materials should be forwarded to the Chairman of the Awards Committee **by March 1<sup>st</sup> of 2008**.

**Address All Award Correspondence to:**

**Michael J. Eppihimer, Ph.D.**  
Chair, MCS Awards Committee  
Program Head, Department of Cell Biology  
Boston Scientific Corporation  
One Boston Scientific Place  
Natick, MA 01760-1537  
FAX: (508) 647-2428

**E-Mail: [eppihimm@bsci.com](mailto:eppihimm@bsci.com)**

# Congratulations to our 2008 MCS Award Recipients

## Landis Award

**Geert Schmid-Schoenbein, Ph.D.**

Professor, UCSD

*Trigger Mechanisms for Inflammation: The Autodigestion Hypothesis*

## Award for Excellence in Lymphatic Research

**No Applicants**

## Krogh Young Investigator Award

**Not Yet Determined, Please see the application/nomination form included in this Newsletter on page 5.**

## Krogh Travel Award

**Karen L Sweazea**

Biology and Physiology, University of New Mexico, Albuquerque, NM.

*Impaired myogenic tone in overweight rats exposed to simulated sleep apnea is due to elevated iNOS-derived nitric oxide*

## Zweifach Graduate Student Travel Awards

**Madelyn Hanson**

Pharmacological & Physiological Science, Saint Louis University, St. Louis, MO.

*Decreased expression of Gi in erythrocytes from humans with type II diabetes is associated with impaired ATP release in response to decreased oxygen tension.*

**Erika Mary Boerman**

Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

*Ca<sup>2+</sup>-activated K<sup>+</sup> channels are controlled by Ca<sup>2+</sup> influx through voltage-gated Ca<sup>2+</sup> channels, not the release of through ryanodine receptors in arteriolar smooth muscle*

**Elisa A Ferrante**

Biomedical Engineering, 2Department of Medicine, University of Virginia, Charlottesville, VA.  
*Dual targeted molecular imaging for atherosclerotic plaque detection*

**Ronen Sumagin**

Biomedical Engineering, University of Rochester, Rochester, NY.  
*ICAM-1 mediates constitutive, leukocyte independent and inducible, leukocyte dependent, permeability pathways in microvessels.*

**Emmanouil Karagiannis**

Biomedical Engineering, Johns Hopkins University, Baltimore, MD.  
*Towards a systematic design of novel endogenous peptide based antiangiogenic approaches.*

***2<sup>nd</sup> Call for Nominations:  
Travel Awards from The Microcirculatory Society, INC.***

Graduate students and Postdoctoral Fellows who have submitted their abstract to an MCS session for EB2008 are encouraged to apply for a MCS Travel Award.

The extended deadline is February 15, 2008. The criteria for these awards can be found on the MCS website.

[http://microcirc.org/ABOUT/MCS\\_Awards.html](http://microcirc.org/ABOUT/MCS_Awards.html).

All award materials should be e-mailed to Dr. Eppihimer:

[Michael.Eppihimer@bsci.com](mailto:Michael.Eppihimer@bsci.com)

# *Update for Experimental Biology 2008 San Diego!*

## **Microcirculatory Society Programming Information:**

### **Saturday April 5<sup>th</sup>**

#### **Bringing it Back to the Whole Animal:**

#### **In Vivo Techniques for Studying the Microcirculation**

**Workshop 9:00 to 11:30 AM – Convention Center Room 23**

**Panel Members: Steve Segal, Dick Slaaf, Joe Unthank**

**9:00 – 9:45 AM**

**Terrence Sweeney**

Department of Biology, University of Scranton, Scranton, PA

"In Vivo Microvascular Preparations: Placing Microvascular Measurements in a Spatial Context"

**9:55 – 10:40 AM**

**David Zawieja**

Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center, College Station, TX

"Imaging Microvascular Function: In Vivo and Ex Vivo Approaches"

**10:45 – 11:30 AM**

**H. Glenn Bohlen**

Department of Cellular and Integrative Physiology, Indiana University School of Medicine, Indianapolis, IN

"Microelectrode Nitric Oxide and Oxygen Measurements: Opportunities and Problems"

#### **Microcirculatory Society Awards Luncheon and Business Meeting**

**12:00 to 1:30 PM – Marriott Hotel**

**Buffet Luncheon, Business and Awards Presentations.**

*Please note that the number of luncheons is limited to 200 due to the size of the room available at the Marriott Hotel. The Convention Center was unable to accommodate us for a lunch. Order Early!  
To order tickets, please go online, else use the form included in this Newsletter, page 10.*

#### **Microcirculatory Society President's Symposium**

#### **New Developments for In Vivo Study of the Microcirculation**

**2:00-4:00 PM – Convention Center Room 23**

**2:00 – 2:45 PM**

**Jonathan Lindner**

Cardiovascular Division, Oregon Health and Sciences University

"Microvascular and Molecular Imaging with Microbubble Contrast Ultrasound"

**2:45 – 3:30 PM**

**Dick Slaaf (Remco TA Megens, Lenneke Prinzen, Kim Douma, Marc MAJ van Zandvoort)**

Departments of Biomedical Engineering, University of Maastricht and Eindhoven University of Technology, Maastricht/Eindhoven, Netherlands

"Multimodal Imaging of Blood Vessels In Vivo and Ex Vivo"



**3:30 – 4:00 PM**

Joseph Unthank

Department of Surgery, Indiana University School of Medicine, Indianapolis, IN

“Impact of Arterial Disease on Basal and Flow-mediated NO Production in Resistance Arteries: Unexpected In Vivo Results with Direct NO Measurement”

## **Sunday April 6<sup>th</sup>**

**Microcirculatory Society Eugene A. Landis Award Lecture**

**3:15 – 4:15 PM Convention Center Room 27**

Geert Schmid-Schonbein

Department of Bioengineering, University of California-San Diego, San Diego, CA

“Trigger Mechanisms for Inflammation: The Autodigestion Hypothesis”

## **Monday April 7<sup>th</sup>**

**Microcirculatory Society Young Investigators Symposium**

**10:30 – 12:30 Convention Center Room 25C**

Chaired: Ryon Bateman, Keio Univ., Japan

Cynthia Meininger, Texas A&M Hlth. Sci. Ctr.

10:30 AM Does the microcirculation really matter in health and disease?  
Ryon Bateman, Keio Univ., Japan.

10:45 AM Abs #4110 – Elizabeth Jones, McGill University, Montreal, Canada - “Separating genetic and hemodynamic effects in Nrp1 Knockout Embryos”

11:00 AM Abs #7758 – Michele Savery, Boston Univ. - “Using micro-PIV to assess the role of insulin and free radical scavenger therapies in treating the effects of chronic hyperglycemia on the microvascular glycocalyx of NOD mice”

11:15 AM Abs #3313 – Ronen Sumagin, Univ. Rochester, - “ICAM-1 mediates constitutive, leukocyte independent and inducible, leukocyte dependent permeability pathways in microvessels”.

11:30 AM Abs #6276 – Beata Styp-Rekowska, Institute of Physiology, Berlin, Germany - “Mapping of oxygen saturation in murine lung during intravital microscopy”

11:45 AM Abs #4157 – Graham Fraser, Univ. Western Ontario, London, Canada - “Mathematical model of tissue oxygenation in early sepsis”

12:00 Noon Abs #1324 – Steven Copp, Kansas State Univ. - “The effects of aging on microcirculatory oxygen delivery (QO<sub>2</sub>) in contracting rat spinotrapezius muscle”

12:15 PM Abs #1257 – M. Meighan Smith, Univ. California Davis, - “Hemorheology in alzheimer’s disease: correlation between real-time microvascular abnormalities and whole blood viscosity”

# Microcirculatory Society Luncheon

## Marriott Hotel

*Use this form for payments by check only.*

*If paying by credit card, you must use the MCS website.*

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please write the name of each person for whom you are purchasing a ticket. Each lunch ticket is \$10.00.\* Please order early, as the number of luncheons is limited to 200 (due to the size of the room available at the Marriott). You must indicate the meal type for each person.

Name	Chicken	Beef	Vegetarian
Total Cost:			

Mail this form and the check to: Dr. Terrence Sweeney, Department of Biology, University of Scranton, Scranton, PA 18510

Lunch will be served at banquet tables. You must choose from one of three options:

Spring Herb Roasted Chicken, Rustic Pan Jus; Garlic Confit Fingerling Potatoes; Spinach, Julienne Carrots

Petite Beef Tenderloin Steak; Soft Polenta, Caramelized Cipollini Onions, Broccolini, Chianti Wine Sauce

Vegetarian (menu to be determined later).

Each lunch includes: Mixed Garden Green Salad or Caesar Style Salad, Chef's Choice of Accompaniments, Assorted Rolls and Butter, Pastry Chef's Selection of Dessert, Gourmet Bean Coffee and Tea Service and Iced Tea

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\*MCS is significantly subsidizing this luncheon. Please enjoy!

# 2007-2008 Microcirculatory Society Ballot

**\*\* DO NOT USE if you utilize the on-line voting system \*\***

**Vote for ONE of the following for President-Elect:**

Matthew Boegehold \_\_\_\_\_

William F. Jackson \_\_\_\_\_

**Vote for ONE of the following for Treasurer:**

Terrence Sweeney \_\_\_\_\_

Write-in-Candidate \_\_\_\_\_

**Vote for TWO of the following for Councillors:**

Judy Muller-Delp \_\_\_\_\_

Hans H. Dietrich \_\_\_\_\_

Randy S. Sprague \_\_\_\_\_

Donald Welsh \_\_\_\_\_

*Please submit ballots no later than March 16, 2008 to  
the Chair of the nominating committee:*

*Mary Ellsworth, Ph.D.*

*Department of Pharmacological and Physiological Science*

*1402 South Grand Boulevard*

*Saint Louis University*

*St. Louis, MO 63104*

*Ellsworthm@slu.edu*

*fax: (314) 977-6411*

# *Candidates for Office*

## **President-Elect**

### **Matthew Boegehold, Ph.D.**

**Present position:** Professor and Vice-Chair, Department of Physiology and Pharmacology, and Director, Center for Interdisciplinary Research in Cardiovascular Sciences, West Virginia University School of Medicine, Morgantown, WV.

**Education:** (Field, year completed): BS: University of Michigan (Biology, 1980); Ph.D.: University of Arizona (Physiology, 1986); Postdoctoral Training: Indiana University (Microvascular Physiology, 1988).

**Research Support (as PI):** AHA 0755264B, "Dietary Salt and Microvascular Superoxide Production"; NIH/NCRR P20RR025172, "Cellular and Molecular Mechanisms of Cardiovascular Disease" (pending); NIH R01 HL092203, "Dietary Salt and Microvascular Control (pending).

**Professional Societies** (year joined): Microcirculatory Society, Inc. (1989); American Physiological Society (1990); European Society for Microcirculation (1991); AHA Council on High Blood Pressure Research (Fellow, 1991); AHA Council on Basic Cardiovascular Sciences (1992); APS Cardiovascular Section (Fellow, 2001); Society for Free Radical Biology and Medicine (2002).

**Honors And Awards:** NIH predoctoral traineeship (1980 -85); Fellow, AHA Council for High Blood Pressure Research (1991); Young Investigator Award, Second Int. Symposium on Endothelium-Derived Vasoactive Factors (1992); IUPS Travel Awards (1993, 1997); MCS Outstanding Young Investigator Travel Award (1994); Dean's Award for Excellence in Research, WVU School of Medicine (2000); Fellow, APS Cardiovascular Section (2001).

**Editorial & Referee Experience:** Editorial Board, "Microcirculation" (2002- present ). Peer Review: AJP, Heart and Circulatory Physiology; AJP Regulatory, Integrative and Comparative Physiology; Cardiovascular Research; FASEB Journal; Experimental Physiology; Gut; Hypertension; Journal of Pharmacology and Experimental Therapeutics; Journal of Physiology; Journal of Vascular Research; Life Sciences; Microcirculation; Microvascular Research.

**Grant Reviews & Study Sections Served:** AHA National, "Brain and Cardiovascular Regulation" Study Group (1995-1997); NIH/NHLBI Program Project review panel (1997); AHA "Cellular Cardiovascular Physiology & Pharmacology" Study Group (2000). Medical Research Grant Program, Jewish Hospital, Louisville, KY, (Ad hoc, 2000); NIH "Cardiovascular and Renal (CVB)" Study Section (Ad hoc; 2002); Ohio University Research Committee (Ad hoc, 2002).

**Publications:** Refereed Journal Articles as first or senior author: 50; Book Chapters: 6; Invited Reviews: 3.

**Professional Activities:** MCS Awards Committee (1995-98; Chair: 1998); MCS Finance Committee (2000-2003); MCS Executive Council (2001-2004); MCS Development Committee 2002-2004; MCS Publications Committee (Chair: 2005-2008). Symposium organizer and chair: "Hypertension" , 20th European Conf. on Microcirculation (1998); "Hypertension and Microvascular Control", IWCBS, (1998); "Apoptosis and Organ Injury Mechanisms in Hypertension", EB (2002); "Evolution of Vascular Regulation from the Neonate to the Aging Adult: Mechanisms and Functional Consequences", EB (2003); "Inflammatory Aspects of Hypertension: Insights from the Microcirculation", XXXV International Congress of Physiological Sciences (2005).

**Current Research Interests:** Mechanisms of tissue blood flow regulation; effect of microvascular network growth on endothelial function, oxidant stress and inflammation associated with dietary salt and salt-induced hypertension.

**Personal Statement:** I became fascinated with the microcirculation as an undergraduate, and I have followed this passion in my research for over 25 years. The two aspects of my profession that I find most rewarding are sharing the joy of discovery with my students, and the scientific interactions and strong friendships I have formed with many of my colleagues in the Microcirculatory Society. I have been an active member of the Society for more than 18 years, and I am dedicated to its continued growth and success. I have recruited and sponsored many student and regular memberships, and have served the Society more formally on many levels, including chairing the Awards Committee and the Publications Committee, serving as a Councillor, and serving on our journal's editorial board. My goals as President would be to (1) help carry on the strong tradition of mentoring trainees and young investigators that has been a hallmark of our Society since its inception, (2) promote further interaction of our members with those of other societies to promote new interdisciplinary initiatives in microvascular research, (3) continue to increase the quality and visibility of our meetings, and (4) continue to increase awareness among the larger scientific community of the excellent science and exciting collaborative possibilities that our society and its members has to offer.

## William F. Jackson, Ph.D.

**Professional Experience:** 1979-1980 Michigan State University, Department of Physiology, Postdoctoral Trainee; 1980-1983 University of Virginia, Department of Physiology, Postdoctoral Fellow; 1983-1989 Medical College of Georgia, Dept. of Physiol. and Endo., Assistant Professor; 1989 Medical College of Georgia, Dept. of Physiol. and Endo., Associate Professor; 1989-1993 Western Michigan University, Dept. of Biological Sciences, Associate Professor; 1994-2005 Western Michigan University, Dept. of Biological Sciences, Professor; 2005-present Michigan State University, Dept. of Pharmacology & Toxicology, Professor.

**Awards and Honors:** 1981-1983 National Institutes of Health, National Research Service Award, Individual Post-doctoral Fellowship; 1984-1987 National Institutes of Health, New Investigator Research Award; 1986-1987 Microcirculatory Society, Inc., Pharmacia Travel Award; 1987 Medical College of Georgia, School of Medicine, Outstanding Young Faculty Award. 1994 National Institutes of Health, Chairman, Clinical Sciences 2 study Section; 1995-2008 Journal of Vascular Research, Editorial Board; 1995-1997 & 2001-2008 American Journal of Physiology, Heart and Circulatory Physiology, Editorial Board; 1995 American Physiological Society, Fellow of the Cardiovascular Section; 1995 National Institutes of Health, National Research Service Award, Senior Postdoctoral Fellowship; 1998 Western Michigan University, Distinguished Faculty Scholar Award; 2001-2008 Journal of Investigative Surgery, Editorial Board; 1999-2004 Microcirculation, Associate Editor; 2004-2009 Microcirculation, Editor-in-Chief; 2007-2008 Circulation Research, Editorial Board.

**Professional Activities: Microcirculatory Society:** 1984-1987 Awards Committee; 1995-1997 Executive Council; 1997-2000 Publications Committee; 2001-2004 Finance Committee; 2002-2004 Programming Committee (Chair); American Heart Association: 1987-1989 GA Affiliate, Research Peer Review Committee; 1990-1992 MI Affiliate, Research Peer Review Committee; 1994-1997 MI Affiliate Research Forum Committee; 1996-2000 National Office, Cardiovascular Regulation 2 Peer Review Com; 1999-2001 Great American Peer Review Committee 5C.: National Institutes of Health: 1990-1994 Clinical Sciences 2 Study Section (Ad Hoc 1990-1991, member 1992-1994, chair 1994); 1994, 1998-2002 Exp. Cardiovasc. Sci. Study Section, Ad Hoc member; 2003-2007 Vascular Cell and Molecular Biology Study Section (Charter Member).

**Invited reviewer for:** Am. J. Physiol, J. Applied Physiol., Journal of Vascular Research, J. Physiol., Circ. Res., British J. Pharmacol, J. Gen. Pharmacol., Microcirculation, Microvasc. Res., Pflügers Archiv., J. Investigative Surg., Hypertension.

**Professional Societies:** Microcirculatory Society; American Physiological Society; American Heart Association Council on Circulation; North American Vascular Biology Organization.

**Research Interests:** For more than 20 years, my lab has focused on trying to understand how arterioles in the microcirculation sense their environment and how changes in the environment alter the contractile function of vascular muscle cells in the walls of these microvessels. I have had a long term interest in the site in tissues where changes in oxygen are sensed, and how such changes alter the contractile function of arteriolar muscle cells. Using techniques such as intravital microscopy single cell contraction, immunocytochemistry, high-speed confocal calcium imaging, patch clamping, pressure myography, conventional microelectrode methods,

western blotting, and real-time RT-PCR, we seek to understand the role played by oxygenases, such as the 5-lipoxygenase and cytochrome P-450, in the sensing of oxygen, and the molecular mechanisms involved in oxygen-dependent changes in arteriolar muscle cell function with particular emphasis on the role played by ion channels in this process. We also study ion channels and calcium signaling in arteriolar endothelial cells, age-related changes in ion channel function and expression in arteriolar smooth muscle and endothelial cells, and alterations of ion channel function and calcium signaling in arterioles and venules in hypertension.

**Personal Statement:** I have been a member of the MCS since 1983 and have attended our annual meetings regularly since I was a postdoctoral fellow in Brian Duling's Laboratory (1980-1983). Scientifically, I grew up in the society and strongly believe that the MCS has importantly impacted my career – through the strong friendships made and scientific interaction fostered by our society. I would like to see this tradition continue. The MCS needs to actively recruit new members to the society and encourage the students of existing members to make the MCS their scientific “home”. If elected President of the MCS, I would make membership recruitment and retention a priority. Our society has a tradition of welcoming and nurturing students, postdocs and other young investigators, and we need to continue to sell this as one of our strong point. I would support increasing awards offered to students and postdocs. I also think that we need to provide a venue for student and postdoc oral presentations. I support the idea of organizing reoccurring meetings of the MCS, separate from Experimental Biology and the APS, to help regain our identity and provide a stage for our young people to present their research as well as interact with older members of the society in an atmosphere more intimate than Experimental Biology. I also think that we need to strengthen our ties with the international microcirculatory community, and not just for World Congresses. Separate MCS meetings might be an excellent means to accomplish this goal. I think that Microcirculation, the Society's journal is also an additional means to encourage international interaction, and I would support opening up journal access to members of microcirculatory societies in other countries, much like we have with the British Microcirculation Society.

## Treasurer

**Terrence E. Sweeney, Ph.D.**

**Present Position:** Professor, Department of Biology, University of Scranton.

**Education:** B.A., Chemistry and Physics, Colgate University; M.Sc. & Ph.D., Biophysics, University of Rochester; Postdoc., Physiology, University of Arizona; Sabbatical, Medical Physics, University of Amsterdam.

**Personal Statement:** I would be happy to serve a second consecutive term as Treasurer of the MCS. Since becoming Treasurer, I have successfully completed the transition of our bookkeeping to Quicken financial software, which facilitates categorizing and tracking transactions and generating reports. I oversaw the vast majority of the financial transactions related to our society's hosting of the 8th World Congress, which we came through with a positive balance sheet. I also have been working closely with our webmaster Bob Gore to become familiar with our LinkPoint web portal for member dues payments and the MCS membership database, which Bob and I jointly maintain. Bob, Robert Hester and I have been working together to ensure that the transition of our web site to its new home server in Mississippi is a smooth and successful one. I greatly value the professional relationships that I've been able to maintain through my membership in the MCS and I am happy to serve as Treasurer to do my part for the maintenance and betterment of the Society. I would continue to carry out the job with integrity and do my part to ensure that Society funds are expended and invested in accordance with the Society's intentions and following its established rules and bylaws.



## Council

### **Judy Muller-Delp, Ph.D.**

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

**Education:** B.S., Rockhurst College, Biology, 1987; Ph.D., University of Missouri, Physiology, 1992; Postdoctoral Fellow, Texas A&M University, Physiology, 1992-1996; Postdoctoral Fellow, University of Missouri, Physiology, 1996-1997.

**Professional Societies:** Microcirculatory Society (Membership Committee 2003-2005, Programming Committee Chair, 2005- ); American Physiological Society; American Heart Association.

**Honors and Awards:** National Institutes of Health National Research Service Award 1993-1996; Microcirculatory Society August Krogh Young Investigator Award, 1996; Texas A&M University, Development Council Outstanding New Faculty Award, 2002; Texas Chapter of the American College of Sports Medicine Spring Lecture Tour, 2005.

**National Funding:** NIH R01 HL077224-04, "Aging, Estrogen, and Coronary Endothelial Function."

**Grant Review:** American Heart Association: Western States Consortium Study Section, 2002-2004; American Heart Association: Vascular Biology and Blood Pressure/ Regulation, 2004-2008; VA Merit Review Subcommittee for Cardiovascular Programs (2007-present).

**Peer Review:** Microcirculation, American Journal of Physiology, Journal of Applied Physiology, Journal of Physiology, Cardiovascular Research, Circulation; Medicine in Science Sports and Exercise; Mechanisms of Ageing and Development; Journal of Clinical Endocrinology & Metabolism.

**Current Research Interests:** Aging-induced adaptations of coronary and skeletal muscle microvasculature; Cardiovascular adaptations to exercise training; Effects of ovarian hormones on coronary microvascular reactivity.

**Personal Statement:** I joined the Microcirculatory Society as a graduate student, and I found it to be a rigorous, yet collegial society that fostered my development as a young scientist. The Microcirculatory Society provided a wonderful environment for me to gain experience and develop connections with more experienced senior investigators. The Society is also unique in its ability to bring together scientists who share an interest in the microcirculation, but utilize diverse research approaches. I want to work toward maintaining this unique environment, and to continue to provide excellent opportunities for scientific development to graduate students and young scientists.

## Hans H. Dietrich, Ph.D.

**Present Position:** Assistant Professor of Neurological Surgery, Washington University, St. Louis, MO.

**Education:** PhD (1986) Physiology, Max-Planck-Institute, Dortmund and Ruhr-University Bochum, Germany. Postdoctoral Fellowship at Department of Medical Biophysics, University of Western Ontario, London, ON, Canada.

**Professional Societies:** Microcirculatory Society, European Microcirculatory Society, American Physiological Society, Society for Neuroscience.

**National Funding:** Current: NIH RO1 NS30555 (Hypoxia-Reoxygenation and Regulatory Mechanisms), RO1 HL041250 (Lipid Mediators of Signal Transduction in Smooth Muscle), PO1 P01 NS32636 (Pathogenesis of CAA-Induced Neurovascular Dysfunction) Role Co-Investigator. Completed: NIH FIRST AWARD HL 57540, ADRC (NIA P50 AG05681) Pilot Study, PI.

**Grant Review:** Alzheimer's Association 2005 - now, Ad hoc reviewer: The Wellcome Trust; American Association of Neurological Surgeons (AANS).

**Peer Review:** American Journal of Physiology, Journal of Applied Physiology, Journal of Vascular Research, Journal of Neurosurgery, Microvascular Research, Neurosurgery, Stroke.

**Current Research Interests:** Purinergic regulatory mechanisms in cerebral microcirculation, mechanisms of hypoxia/reoxygenation induced cerebro-microvascular injury, mechanism of amyloid beta induced cerebro-vascular dysfunction, cerebral amyloid angiopathy and vascular function in Alzheimer's Disease, cerebral microvessel and astrocyte communication, calcium independent phospholipase A2 $\beta$  (iPLA2 $\beta$ ) and vascular regulation.

**Personal Statement:** If elected to the council, my main goals would be to further improve our annual meeting to foster opportunities for young scientists to communicate with senior scientists. Meeting and interacting with the wealth of scientific minds presented in our society had a great impact on me and undoubtedly aided me in my career. Thus, ensuring that young scientist will continue to have such an opportunity will attract students and recent graduates to our meeting and our Society. In times of limited funding I will seek to keep our meeting financially attainable especially to recent graduates and students. Multidisciplinary approaches are a hallmark of microcirculatory research. I want to use the opportunity to further expand the interest in our Society to scientists of other research areas. I will work to strengthen the Society's fiscal health and improve our membership as well as supporting our Society Officers which should enable allow our Society to grow.

## **Randy S. Sprague, M.D.**

**Present Position:** Professor, Department of Pharmacological & Physiological Science, Saint Louis University, School of Medicine.

**Education:** MD, Saint Louis University School of Medicine, Saint Louis, MO.

**Professional Societies:** Microcirculatory Society, American Heart Association, American Federation for Clinical Research, American Physiological Society, American Society for Pharmacology and Experimental Therapeutics, Central Society for Clinical Research, Jagallonian Research Society.

**Honors and Awards:** Buder-Peters Research Fellow, St. Louis Heart Association, Alpha Omega Alpha Medical Honor Society, NIH Clinical Investigator Award, Visiting Scientist at The William Harvey Research Institute (director: Sir John Vane).

**National Funding (active):** NIH/NHLBI (RO1, PI), American Diabetes Association Research Award (PI), NIH/NHLBI (R33, co-investigator).

**Editorial Boards:** American Journal of Physiology, Purinergic Signaling.

**Grant Review:** Currently; ad hoc reviewer for NIH/NHLBI, in past; NIH/NHLBI and American Heart Association, Midwest Affiliate.

**Peer Review (representative):** American Journal of Physiology, Journal of Pharmacology and Experimental Therapeutics, Journal of Applied Physiology, The Analyst and Experimental Biology and Medicine.

**Current Research Interests:** The signaling pathways involved in ATP release from erythrocytes and the contribution of erythrocyte-derived ATP in the regulation of vascular resistance in the lung and peripheral circulation.

**Personal Statement:** Participation in the Microcirculatory Society has been important to my development as a scientist. The society has great traditions that need to be preserved. It has a broad membership that includes computational as well as experimental scientists, a combination that makes the group dynamic and exciting. I think that a major challenge for the Society is to find ways to maintain its unique identity while preserving the diversity of the group and the quality of scientific presentations that are presented at our meetings. If elected, I would work to address these issues.

## Donald Welsh, Ph.D.

**Present Position:** Associate Professor, Department of Physiology and Biophysics, University of Calgary, Alberta, Canada; Chair, Smooth Muscle Research Group, University of Calgary.

**Education:** BPE, University of Calgary, 1986; MPE, University of British Columbia, 1988; PhD (Biophysics) University of Guelph (1994); PDF, John B. Pierce Foundation & Yale University 1894-98; PDF, University of Vermont, 1998-2001.

**Professional Societies:** American Physiological Society, 1993-present; Microcirculatory Society, 1995-present; Biophysical Society, 2000-present. Canadian Hypertension Society, 2005-present.

**Honor and Awards:** Senior Scholar, Alberta Heritage Foundation for Medical Research (AHFMR), 2006-2011; Canada Research Chair, 2003-2008; New Investigator Award, American Physiological Society (APS), Cardiovascular Section, 2004; Research Scholar, AHFMR, 2001-2006; Research Scholar, Heart & Stroke Foundation of Canada (HSFC), 2001-2006; MacDonald Scholarship, HSFC, 2001-2002; Postdoctoral Fellowship, Medical Research Council of Canada, 1999-2000; Postdoctoral Fellowship, American Heart Association, 1996-1998; Young Investigator Award, APS, Cell Physiology Section, 1993; Young Investigator Award, APS, Exercise and Environmental Physiology Section, 1993.

**National Funding:** Canadian Institutes for Health Research,  $K_{DR}$  and  $K_{IR}$  channel regulation in vascular smooth muscle, (2007-2012); Natural Science and Engineering Research Council of Canada (NSERC), Mechano-sensitive ion channels in vascular smooth muscle, (2007-2012); Heart and Stroke Foundation of Canada. Electrical communication in the resistance vasculature, (2007-2010); Canadian Foundation for Innovation, A Microscopy System to Measure Vascular Communication (2003-2007); Canada Research Chair, Gap Junction Regulation and Vascular Control (2003-2008).

**Editorial Board:** Microcirculation, 2004-present.

**Peer Reviewer:** American Journal of Physiology; Journal of Physiology; Circulation Research; Journal of Applied Physiology; British Journal of Pharmacology; Microcirculation; Journal of Cell Physiology; Journal of Vascular Research, Proceedings of the National Academy of Science.

**Grant Panel:** Chair, NSERC Cell Biology Discovery Grant Committee, 2006-present; Member, NSERC Cell Biology Discovery Grant Committee, 2004-present; Member, HSFC Graduate Scholarship Committee, 2003-2005.

**Grant Reviewer:** Canadian Diabetes Foundation; HSFC; CIHR; Canada Research Chairs; Canadian Foundation for Innovation; Wellcome Trust Foundation; Michael Smith Foundation; Manitoba Health Research Council.

**Current Research Activities:** Cell-to-cell communication in the resistance vasculature;  $K^+$  channel regulation in vascular smooth muscle; Regulation of myogenic tone in the cerebral circulation.

**Personal Statement:** I have been an active member in the MCS since joining as a postdoctoral fellow in 1995. Over this time, the MCS has fostered my research career by supporting activities that promote scientific exchange and collegial interactions. As councilor, it would be my goal to strengthen this key element of the MCS. As well, I would like to further promote meetings/forums/symposia that could broaden the diversity of the MCS membership. Such diversification should begin at the graduate student level and extend to the senior professorial ranks.



# International Conference on Tetrahydrobiopterin, PKU and NOS

March 23-28, 2008 -- St. Moritz - Champfer, Switzerland

## Key Topics:

Chemistry and biochemistry of tetrahydrobiopterin (BH4) and other pteridines

Biochemistry of NOS

Role of BH4 and NOS in endothelial dysfunction

Diagnosis and genetics of BH4 deficiencies

Genetics of PKU, PKU and BH4

Enzyme replacement and gene therapy for PKU

Link for more information: <http://www.biopku.org/BH42008/information.asp>

## Important Dates

December 22, 2007 Deadline for Abstract Submission

January 15, 2008 Abstracts Acceptance

January 15, 2008 Deadline for early Registration

February 29, 2008 Deadline for Hotel Reservations





Dear Friend!

On the behalf of the Organizing Committee of the upcoming meeting of the

**25th Conference of the European Society for Microcirculation**  
**Budapest, Hungary, Aug 26-29, 2008.**

I would like to ask you to submit proposals for symposia. It might be very timely to present your scientific area of interest to a world-wide audience. The topics range from functional to the cellular and molecular aspects of microcirculation and vascular biology.

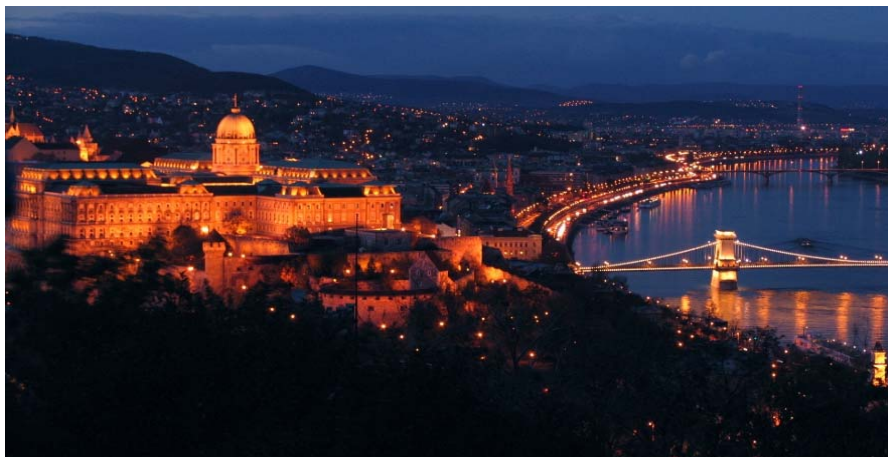
Attached, please find the *symposium proposal form*, which you may also download from the Conference website: [www.eumicrocirculation2008.hu](http://www.eumicrocirculation2008.hu)

Please fill out the form and send to Dr. Zsolt Bagi (E-mail: [bagizs@dote.hu](mailto:bagizs@dote.hu)). The deadline for Symposium Proposals is **December 15, 2007**. From the proposed symposia the Scientific Committee will make selections and the results will be posted on the Congress website at the end of January, 2008.

Sincerely yours,

Akos Koller  
President  
European Society for Microcirculation

**Budapest at night (a small artery is flowing on the left, called: Duna)**





## About the Conference

July 9-13, 2008

Please join us in central Pennsylvania for the 2008 joint meeting of the [International Society of Biorheology \(ISB\)](#) and the [International Society for Clinical Hemorheology \(ISCH\)](#).

The meeting will provide a forum for scientists, clinicians, students, and other interested professionals to present and exchange the latest information in bio- and hemorheology.

The program will include plenary lectures, symposia, poster and oral presentations, and technical exhibits, as well as ample time for informal discussions. Opportunities for discussions and interactions will be enhanced by attending the [Central Pennsylvania Festival of the Arts](#) and by an evening barbecue and folk festival at a beautiful lake.

Meeting co-chairs:

Herbert H. Lipowsky, The Pennsylvania State University

Herbert J. Meiselman, University of Southern California

Program committee co-chairs:

Cheng Dong, The Pennsylvania State University

Tamas Alexy, University of Southern California



Conference WebSite:

<http://www.outreach.psu.edu/programs/isbisich/index.html>