

The Microcirculatory Society, Inc.

Newsletter

Volume 35, Number 4, Spring, 2008

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Officers

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

Message from the President



In my last President's message, I'd like to focus on the Society - activities for the present and goals for the future. With EB2008 [and our Annual MCS Meeting] only a couple of weeks away, I want to remind everyone once more of the new, as well as, the traditional activities we have planned for this year's meeting. We begin on Saturday *morning* with a workshop featuring *in vivo* techniques for studying the microcirculation. Three tutorials will provide instruction on microcirculatory preparations (Terry Sweeney), imaging techniques (Dave Zawieja), and using microelectrodes to measure nitric oxide and oxygen in tissues (Glenn Bohlen). Come and learn/brush up on these important skills and bring your trainees with you. Following the workshop, we will break for lunch with our annual Awards Banquet to be held at the Marriott Hotel at noon. Come congratulate our award winners, hear about the experiences of our last travel award winner (Ryon Bateman), and catch up with colleagues you

haven't seen for some time. Immediately after our meal, we will hold the Annual MCS Business Meeting. Even if you decided not to attend the banquet, you are, of course, invited to participate in this important Society function.

Saturday afternoon is the traditional President's Symposium, which will begin with a presentation on Microvascular and Molecular Imaging by Jonathan Lindner from the University of Oregon Health Science Center. He will be followed by presentations on Multimodal Imaging of Blood Vessels (Dick Slaaf) and Impact of Arterial Disease on Basal and Flow-mediated NO Production in Resistance Arteries (Joe Unthank).

The Eugene A. Landis Award lecture, given by this year's recipient Geert Schmid-Schonbein, is entitled "Trigger Mechanisms for Inflammation: The Autodigestion Hypothesis." It will begin at 3:15 pm on Sunday afternoon. Come and congratulate Geert on this prestigious award and for a long career of seminal work in the microcirculation

arena. Monday morning (10:15 am - 12:15 pm) is the MCS Young Investigators Symposium, featuring the work of some of our brightest trainees. Please come and support these rising stars. Also, don't forget that MCS posters (including those of our Zweifach and Krogh Travel Award winners) will be presented Sunday through Tuesday. Stop by these posters for discussion and encouragement of our next generation of microcirculationists.

I also want to draw attention to our new Officers and Council Members. Bill Jackson will step into the role of President-Elect and Steve Segal will take the reins as President of the Society. Terry Sweeney, our ever-competent Treasurer, will take on another term in that role. New Council members are Judy Delp and Hans Dietrich. Please congratulate these individuals on their elected roles and their commitment to the growth and evolution of the Society. I know we are in good hands for the future.

This meeting, of course, brings me to the end of my term. I would like to thank the Society membership for their support of the activities of the Society both past, present, and future. Plans are underway for the next fall meeting of the Society in Columbia, Missouri in Fall 2009. This meeting is being planned by Steve Segal and his organizing committee and will provide a chance for Society members to meet and present their

research in a small, focused meeting away from the large, multi-faceted EB meeting. Be watching for upcoming details.

I will spend my term as Past-President assisting Bob Gore, our Web Guy, and Robert Hester, Former President, in the transition of the MCS website to its new home at the University of Mississippi. We cannot begin to thank Bob Gore for his selfless service over the years in building and maintaining the web site. We, however, need to help Bob transition to some well-deserved retirement adventures underwater or wherever he may seek them. Be sure to thank Bob, when you see him in San Diego.

Lastly, I want to commend the membership for its support of the Society. Please continue to pay your dues (to support the mission of the Society) and nominate your trainees and fellow scientists to become members of the Society. It is this next generation of researchers that will provide the momentum for the continued growth and recognition of the Society.

See you in San Diego,



Welcome to New MCS Regular Members

Nikolaos Tsoukias, PhD
Dept Biomedical
Engineering
Florida International
University
tsoukias@fiu.edu

Binu Tharakan, Ph.D.
Department of Surgery
Texas A&M University
btharakan@yahoo.com

Jamal Mustafa, Ph.D.
Office of Research &
Graduate Studies
West Virginia University
School of Medicine
smustafa@hsc.wvu.edu

Congratulations to our new Officers

President Elect: William Jackson
Treasurer: Terrence Sweeney
Councillor: Judy Muller-Delp
Councillor: Hans Dietrich

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

Gerritsen Award

Rosalba Salcedo

Joost J. Oppenheim

*Role of chemokines in angiogenesis: CXCL12/SDF-1 and CXCR4 interaction,
a key regulator of endothelial cell responses.*

Wiederhelm Award

Maki Ujiie
Dara L. Dickstein
Douglas A. Carlow
Wilfred A. Jefferies

Blood-brain barrier permeability precedes senile plaque formation in an Alzheimer disease model.

Krogh Young Investigator Award

No Applicants

Krogh Postdoctoral Fellow Travel Awards

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

Fabiola A. Sánchez

Pharmacology and Physiology, New Jersey Medical School-UMDNJ, Newark, NJ.
eNOS Internalization Mediated by Caveolar Endocytosis Regulates Microvascular Permeability.

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.
Ca²⁺-activated K⁺ channels are controlled by Ca²⁺ influx through voltage-gated Ca²⁺ 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.

Benjamin L. Hodnett

Dept. of Physiology and Biophysics, University of Mississippi Medical Center

PGI₂ synthesis is impaired in obese Zucker rats.

Cassandra Uchida

School of Kinesiology and Health Science, York University, Toronto, ON, Canada.

TIMP-1 is increased by shear stress in the skeletal muscle microvasculature

Graham M. Frasier

Department of Medical Biophysics, University of Western Ontario, London, Canada.

Mathematical Model of Tissue Oxygenation in Early Sepsis

Melissa KB Georgi

Department of Biomedical Engineering, Stony Brook University, Stony Brook, NY

Osmotic increase suppresses endothelial dependent vasodilation in murine cremaster m

Email: mkbgeorgi@hotmail.com

Bjorn K. Song

Department of Physiology, Virginia Commonwealth University, Richmond, VA.

Effects of isovolemic hemodilution on tissue oxygen consumption using a hemoglobin-based oxygen carrier and human serum albumin.

Andrew T. Yannaccone

Department of Physiology, Virginia Commonwealth University, Richmond, VA.

Nitric oxide synthase in the rat spinotrapezius muscle related to fiber type

William H. Nugent

Department of Physiology, Virginia Commonwealth University, Richmond, VA.

Calibration of a fluorescent membrane for use in mapping microvascular nitric oxide (NO) gradients.

Update for Experimental Biology 2008 San Diego!

Saturday April 5th

**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 Luncheon and Business Meeting
12:00 to 1:30 PM - Marriott Hotel, Marriott Hall 6**

**Buffet Luncheon, Business and Awards Presentations.
Contact Terry Sweeney immediately if you need a ticket.**

**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 6th

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 7th

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 (QO₂) 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"



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

Abstract Deadline April 15!!

Invitation letter from the website: www.eumicrocirculation2008.hu

Dear Colleagues and Friends,

It is my great pleasure to invite you to the 25th Conference of the European Society for Microcirculation to be held in Budapest, Hungary, 26-29 August, 2008.

I feel very honored to be given the opportunity to organize this historical Congress. It is historical for two reasons. This Conference marks the 50th year of the European Society for Microcirculation and this is the first occasion to hold this Conference in Eastern Europe.

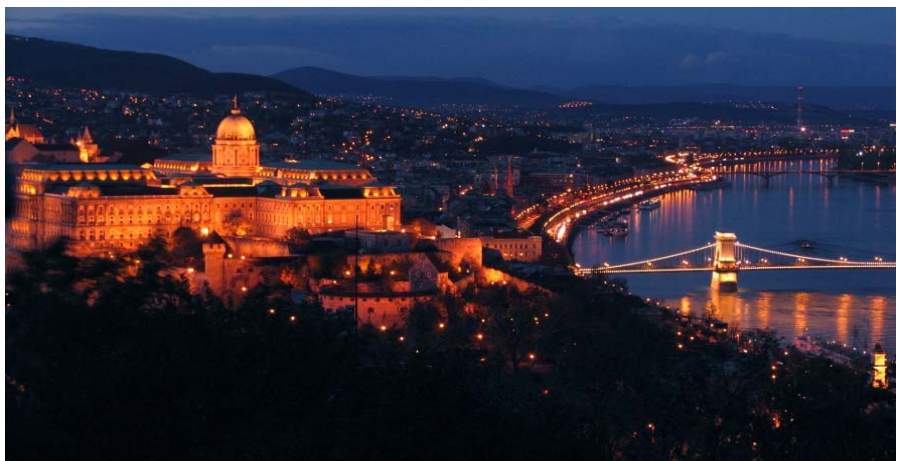
If, for nothing else, these two reasons should be sufficient motivation to come to Budapest to celebrate and get deeply involved in the excellent scientific program regarding microcirculation and vascular biology on the level of basic and clinical research.

But then, there are other reasons as well, namely, Budapest the capital of Hungary, itself. There are some who fall in love with the city at first sight and there are others who need a bit more time, but all agree: Budapest is one of the most beautifully situated cities in the world. The broad Danube runs through the middle of this metropolis of two million people, dividing the proud and hilly Buda from the mysterious plain of Pest. The Danube panorama has been declared a UNESCO World Heritage site. You just have to see the Palace and the Castle District and the embankment and explore Pest, day and night.

I am convinced that if you come you will certainly not regret it, and you will be rewarded by the excellent scientific program and meeting your colleagues and friends, and Budapest. I believe that this Conference will be an important step in the development of "healthy microcirculation" in the European countries from East to West from North to South. You just can't miss it!

On behalf of the organizers,
Akos Koller
President
European Society for Microcirculation
Integrating Vascular Biology & Medicine

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





Abstract Deadline April 1!!!

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/isbisch/index.html>

