

# Newsletter of The Microcirculatory Society, Inc.

Volume 36, Number 4 - Spring 2009



## Contents

President's Message	1
New Members	3
Congratulations to New Officers	3
ExBio 2009	
Awardees	4
Program	5
What to review for MCS Business meeting	7
Call for Editor-in-Chief	8
Upcoming Meetings	9

## Officers

### President

Steven S. Segal, Ph.D.

[segalss@health.missouri.edu](mailto:segalss@health.missouri.edu)

### President-elect

William F. Jackson, Ph.D.

[jacks783@msu.edu](mailto:jacks783@msu.edu)

### Secretary

Molly Frame, Ph.D.

[mframe@notes.cc.sunysb.edu](mailto:mframe@notes.cc.sunysb.edu)

### Treasurer

Terrence Sweeney, Ph.D.

[sweeneyt1@scranton.edu](mailto:sweeneyt1@scranton.edu)

## A Note from the President

### Spring Greetings!

The days are getting longer and there are fewer of them left until we meet in New Orleans. I wanted to bring MCS members up to date with what has been developing and what we can look forward to.

**MCS web page:** Our new web page is nearly ready for posting. Members of the MCS Communications Committee who have been charged with its development have been providing feedback to Robert Hester and his IT crew during its evolution. The new web page should be up for viewing within the next week or so. Please think about contributing suggestions for a new Society logo, as well as movies and images that show off the microcirculation in all of its splendor and glory! These can be emailed to Dr. Hester at [rhester@physiology.umsmmed.edu](mailto:rhester@physiology.umsmmed.edu).

**Annual Society Meeting:** The highlights of updated MCS oral sessions are now posted on the web in addition to being summarized later in this newsletter.

Information for the President's Symposium and Workshop can be found at:

<http://www.the-aps.org/meetings/eb09/abs/mcs-segal2.htm>

<http://www.the-aps.org/meetings/eb09/abs/mcs-segal.htm>

Information for the Landis Award Lecture can be found at:

<http://www.the-aps.org/meetings/eb09/abs/mcs-landis.htm>

Information for the Young Investigators' Symposium can be found at:

<http://www.the-aps.org/meetings/eb09/abs/mcs-yis.htm>

Those who will be receiving MCS awards can be found listed at:

[http://microcirc.org/ABOUT/Recent\\_Awards.htm](http://microcirc.org/ABOUT/Recent_Awards.htm)

Be sure to get your TICKETS for the AWARDS BANQUET LUNCHEON starting at 11:30 a.m. during the interval between the morning President's Symposium and the afternoon Workshop. Email Terry Sweeney TODAY: [Sweeneyt1@scranton.edu](mailto:Sweeneyt1@scranton.edu)! Tell him whether you want beef, chicken or vegetarian. Bring CASH to the Hilton Grand Ballroom B. Lunch is only \$15 per ticket – a wonderful discount for all who attend.

**Annual MCS Business Meeting:** Our annual business meeting will be held on Sunday, April 19<sup>th</sup> at 4:30 p.m. in Rooms 252-254 of the Convention Center following the Landis Award Lecture. Council met in January to review key issues facing our Society and will be reconvening in New Orleans the evening of April 17<sup>th</sup> for additional deliberations and decisions regarding the continued growth and development of the MCS.

Key items that will be presented to the membership:

- Publishing *Microcirculation* in coming years.
- Web page support.
- Managerial support for MCS infrastructure.
- Revisions to the MCS By-Laws. See:

<http://microcirc.org/2009%20Revisions%20to%20MCS%20ByLaws.pdf>

**Official Journal of the MCS - *Microcirculation*:**

- **The MCS is seeking nominations for the next Editor-in-Chief** to succeed the current EIC, Dr. William Jackson, whose term ends in December of this year. The person selected for this position should be an established, productive microvascular biologist, preferably with prior experience as an Editor or Associate Editor. The MCS Publications Committee desires to produce a short list of candidates for interview prior to our annual meeting in New Orleans. Nominations should include an up-to-date curriculum vitae and brief nomination letter that outlines the nominee's qualifications for the position. Self nominations will be considered. Please submit nominations to: D. Neil Granger, Ph.D., Chairman of the MCS Publications Committee, at [dgrang@lsuhsc.edu](mailto:dgrang@lsuhsc.edu).
- The present contract for publishing *Microcirculation* expires at the end of this year. The MCS Publications Committee has been deliberating the possibility of renewing our contract with *Informa Healthcare* while considering alternative possibilities, including open access publication with BioMed Central. The MCS membership will be updated on the outcome of these deliberations.
- For those who may be interested in serving as Associate Editor or on the Editorial Board, self-nomination is welcome as well. Please include an up-to-date curriculum vitae and brief statement of interest and area of specialization.
- Submit your research findings to *Microcirculation*. The success of our Journal depends upon receiving high-quality manuscripts from our membership.

**Fall MCS meeting at Mizzou:** Our Fall (October 16<sup>th</sup>-17<sup>th</sup>) 2009 meeting will be held at the University of Missouri - Columbia. The theme of the meeting is "Frontiers in Microcirculation" with the program designed to bridge basic research in microcirculation with the application of experimental findings towards improving the treatment and prevention of disease. We have already received contributions from several sponsors and exhibitors are reserving space. The web page is being updated accordingly. On-line registration will open several weeks following our annual meeting in New Orleans. The registration fee will be \$250.00 and includes participation in all scientific sessions, exhibits, meals on site and the Awards Banquet. For details and ongoing updates see: [http://muconf.missouri.edu/mcs\\_mu2009](http://muconf.missouri.edu/mcs_mu2009).

Please feel free to share your thoughts in light of how MCS Officers, Councilors and Committees can most effectively serve our membership. I look forward to seeing everyone soon in New Orleans!



Steven S. Segal, Ph.D.

President

[segalss@health.missouri.edu](mailto:segalss@health.missouri.edu)

## Welcome to New MCS Members

### Regular Members

Sanjukta Chakraborty  
Texas A&M University  
[schakraborty@tamhsc.edu](mailto:schakraborty@tamhsc.edu)

### Student Members

Flavio Cesar Ivalde  
Buenos Aires, Argentina  
[fivalde@fmed.uba.ar](mailto:fivalde@fmed.uba.ar)

Gemma Dias  
University of Western Ontario, CA  
[gdias@uwo.ca](mailto:gdias@uwo.ca)

Nicole Novielli  
University of Western Ontario, CA  
[nnoviell@uwo.ca](mailto:nnoviell@uwo.ca)

## Congratulations to our new Society Officers!

### President-Elect:

David C. Zawieja, Ph.D.

### Secretary:

Judy Muller-Delp, Ph.D.

### Councilors:

Michael J. Davis, Ph.D.

Daniel Goldman, Ph.D.

Randy S. Sprague, M.D.

Joseph Unthank, Ph.D.

# Experimental Biology 2009 – New Orleans!!

## MCS Awardees for 2009

### The Eugene M. Landis Research Award

Aleksander Popel      Johns Hopkins University

### The MCS Travel Award for Outstanding Young Investigators

Darcy Lidington      University of Toronto

### The August Krogh Young Investigator Award

Madelyn Hanson      Saint Louis University

### The MCS Award for Excellence in Lymphatic Research

Christopher Quick      Texas A&M University

### Zweifach Student Travel Awards

Erika Boerman, Michigan State University  
Steven Copp, Kansas State University  
Adam Goodwill, West Virginia University  
Nir Maymon, University of Rochester  
Alex Moore, University of Missouri  
Bruno Roseguini, University of Missouri  
Dan Secor, University of Western Ontario  
Meera Sridharan, Saint Louis University  
Himani Vejandla, West Virginia University  
Zoltan Veres, New York Medical College  
and Semmelweis University in Budapest

### Pappenheimer Postdoctoral Travel Awards

Pooneh Bagher, University of Missouri  
Helena Carvalho, Virginia Commonwealth University  
Toru Iwahashi, New Jersey Medical School  
Yoonjung Park, University of Missouri  
Gabor Raffai, Medical College of Wisconsin  
David Rowlands, Columbia University  
Ronen Sumagin, University of Rochester  
Edward Tran, UC San Diego  
Ming Zhang, Temple University  
Harry Zhou, Indiana University

## MCS Journal Awardees

### Gerritsen Award

Robert P. Hebbel, Raymond Osarogiagbon and Dhananjay Kaul  
The endothelial biology of sickle cell disease: Inflammation and a chronic vasculopathy.  
Microcirculation 11:129-151, 2004      Citation frequency: 57

### Wiederhelm Award

David C Poole, Brad J Behnke, Paul McDonough, Richard McAllister, and David Wilson  
Measurement of muscle microvascular oxygen pressures: Compartmentation of phosphorescent probe.  
Microcirculation 11:317-326, 2004      Citation frequency: 23

## Overview of MCS Events

Saturday	April 18	MCS President's Symposium	9:00-11:30	Convention Center 255
Saturday	April 18	MCS Banquet Luncheon	11:30-2:00	Hilton Grand Ballroom B
Saturday	April 18	MCS President's Workshop	2:00-4:30	Convention Center 255
Sunday	April 19	MCS Landis Award	3:15-4:30	Convention Center 252
Sunday	April 19	MCS Business Meeting	4:30-6:00	Convention Center 252
Monday	April 20	MCS Young Investigator Symposium	8:00-10:00	Convention Center 245

## MCS Events

### Saturday April 18

#### **MCS Presidents Symposium and Workshop**

**Convention Center 255**

#### **President's Symposium (9:00 - 11:30 am)**

#### **Live Cell Imaging of the Microcirculation: New Frontiers for Intravital Microscopy**

Our goal is to present state-of-the art research across integrative disciplines that focus on understanding cellular signaling at the level of the microcirculation in the broad context of tissue structure and its functional integrity. During this symposium, each speaker will give a 25-30 minute presentation of their research findings based upon imaging the living microcirculation and associated signaling events in intact tissues. Dr. Balaban will begin by exploring the nature of coupling between striated muscle metabolism and blood flow, with an emphasis on mitochondrial energetics and intracellular calcium signaling. Dr. Iadecola will follow by considering cellular mechanisms that increase cerebral blood flow in response to neural activity and how these relationships are altered in brain diseases, including Alzheimer's. Dr. MCGavern will continue by discussing a novel mode of immune pathogenesis during viral meningitis as defined by massive recruitment of leukocytes. Dr. Dickinson will conclude this session by discussing cellular signaling events that are elicited by blood flow and are required for proper vessel development. Each 20-25 minute presentation will be followed by 5-10 minutes of discussion. Dr. Segal will give a brief introduction and mediate the ensuing questions and discussion.

- 9:00 AM      ***Introduction***  
Steven S. Segal, Ph.D. (University of Missouri).
- 9:05 AM      **"Coupling between muscle metabolism and blood flow"**  
Robert S. Balaban, Ph.D. (National Institutes of Health, NHLBI)
- 9:40 AM      **"Regulation of cerebral circulation during neural activity"**  
Constantino Iadecola, M.D. (Cornell University)
- 10:15 AM     **"Fatal immune-mediated vascular injury in the virally infected CNS"**  
Dorian B. MCGavern, Ph.D. (National Institutes of Health, NINDS)
- 10:50 AM     **"Fluid-derived mechanical forces in vascular remodeling during development"**  
Mary Dickinson, Ph.D. (Baylor College of Medicine)
- 11:25 AM     Concluding questions and comments.

## **Awards Banquet Luncheon (11:30 am -2:00 pm): Hilton Riverside - Grand Ballroom B**

Tickets are required for lunch but not for the ensuing award ceremony: email Terry Sweeney with your choice of beef, chicken or vegetarian TODAY (bring CASH to receive your ticket).  
[Sweeneyt1@scranton.edu](mailto:Sweeneyt1@scranton.edu)

### **President's Workshop (2:00 - 4:30 pm)**

#### **Live Cell Imaging of the Microcirculation: Experimental Approaches**

This afternoon's workshop follows from the morning **President's Symposium**. Each speaker from the morning session will give a 25-30 minute presentation in which they discuss the underlying experimental techniques and procedures that were used to acquire the images and functional measurements presented earlier. Dr. Balaban will explain methods for imaging metabolic signals in light of microvascular perfusion in response to contractile activity of striated muscle. Dr. Iadecola will present methods for evaluating local regulation of cerebral blood flow in response to regional neural activity. Dr. McGavern will explain how fatal immune-mediated vascular injury is observed in the virally-infected CNS. Dr. Dickinson will present methods for intravital monitoring of hemodynamic forces underlying vascular development. Each 20-25 minute presentation will be followed by 5-10 minutes of discussion. Dr. Segal will give a brief introduction and mediate the ensuing questions and discussion.

- |         |   |
|---------|---|
| 2:00 PM | <b>Introduction</b><br>Steven S. Segal, Ph.D.   |
| 2:05 PM | <b>"Noninvasive imaging of mitochondrial and microvascular function in striated Muscle"</b><br>Robert S. Balaban, Ph.D. |
| 2:40 PM | <b>"Imaging the signaling events that couple cerebral blood flow with neural activity"</b><br>Costantino Iadecola, M.D. |
| 3:15 PM | <b>"Visualizing immune-mediated vascular injury in the virally infected CNS"</b><br>Dorian B. McGavern, Ph.D.           |
| 3:50 PM | <b>"Imaging changes in vascular cytoarchitecture in response to blood flow in embryos"</b><br>Mary Dickinson, Ph.D.     |
| 4:25 PM | Concluding Questions and Discussion   |

## Sunday April 19

### MCS Eugene M. Landis Award Lecture (3:15-4:30) Convention Center 252

Professor Aleksander S. Popel, Ph.D, Johns Hopkins University  
<http://www.jhu.edu/apopel/>

*"Systems Biology of Angiogenesis: From Molecules to Therapy"*

### MCS Business Meeting (4:30-6:00) Convention Center 252

Please review prior to the meeting:

- 1) proposed changes to the MCS By-Laws (also, page 19):  
[http://microcirc.org/ABOUT/MCS\\_ByLaws.html](http://microcirc.org/ABOUT/MCS_ByLaws.html)
- 2) publisher's contract with Informa Healthcare  
<http://microcirc.org/JOURNAL/Journals.html>

## Monday April 20

### MCS Young Investigator Symposium (8:00-10:00) Convention Center Room 245

Title: **Mediators and signaling mechanisms in the microcirculation during health and clinically relevant conditions**

Chair/Co-Chair: **Leslie Ritter and Robin Looft-Wilson**

8:00-8:15

Erika M. Boerman, William F. Jackson.

Department of Pharmacology & Toxicology, Michigan State University

*IP3 receptors, but not ryanodine receptors mediate subsarcolemmal Ca<sup>2+</sup> oscillations in arteriolar smooth muscle cells*

8:15-8:30

Pooneh Bagher, Michael J. Davis, Steven S. Segal.

Medical Pharmacology and Physiology, University of Missouri, Columbia & Dalton Cardiovascular Research Center

*Fast calcium responses along endothelium of arteriolar networks during blood flow*

8:30-8:45

Sara Santana Nunes, Melissa A. Maddie, Richard L. Benton, James B. Hoying.

Cardiovascular Innovation Institute & Department of Anatomy and Neurobiology  
University of Louisville

*Angiogenic potential of isolated microvessel fragments is independent of their tissue origin*

8:45-9:00

Amina Ann Qutub, Gang Liu, Prakash Vempati, Aleksander S. Popel.  
Biomedical Engineering, Johns Hopkins University  
*Modeling skeletal muscle angiogenesis from the molecular to the tissue level*

9:00-9:15

Paulina Kowalewska, Lori Burrows, Alison Fox-Robichaud.  
Departments of Medicine and Biochemistry, McMaster University  
*Intravital microscopy of the murine urinary bladder microcirculation*

9:15-9:30

Christoph Andreas Reichel, Markus Rehberg, Max Lerchenberger, Nina Berberich, Peter Bihari, Stefan Zahler, Fritz Krombach.  
Walter Brendel Center of Experimental Medicine & Department of Pharmacy, Ludwig-Maximilians-University  
*Ccl2 and Ccl3 mediate neutrophil recruitment through induction of protein synthesis and secondary generation of lipid mediators*

9:30-9:45

Fong Lam, Alan Burns, C. Wayne Smith, Rolando Rumbaut  
Pediatrics, Baylor College of Medicine & DeBakey V.A. Medical Center  
*Platelets enhance neutrophil transendothelial migration*

9:45-10:00

Caitlin Wells Burke, Richard J Price  
Department of Biomedical Engineering, University of Virginia  
*A platform for enhanced contrast ultrasound targeted delivery of therapeutics*

**See you in New Orleans!**





Kyoto, Japan, July 27 - August 1, 2009  
Function of Life : Elements and Integration

**XXXVI International  
Congress of Physiological Sciences**

**— Registration Deadline (Early Discount) April 17, 2009 —**

**Dear Researchers of Physiological Sciences**

The 36th congress of International Union of Physiological Sciences (IUPS2009) will be held in the beautiful and historic city of Kyoto, Japan, from July 27 to August 1, 2009. The detailed information is available on the web site: [www.iups2009.com](http://www.iups2009.com)

The title of the congress is 'Function of Life: Elements and Integration'. As you could see from the title, it will provide you an excellent opportunity to review recent progresses in the wide-ranged functional life science field by inter- disciplinary approaches.

We expect more than 3000 scientific presentations at IUPS2009, including 29 invited lectures by distinguished researchers and 79 symposia featuring cutting- edge researches of various areas. The detail of the program is listed on the web site: [Program](#)

It is needless to say that the most important element of the congress is the face-to-face communication between participants, and we would like to ask you to join us and register now from the web site: [here](#).

Finally, I would like to emphasize that there will be attractive social programs including a congress dinner and an opening ceremony at which entertainment programs to introduce traditional Japanese culture is planned. I believe IUPS2009 in Kyoto will be a great opportunity for you from both aspects of science and culture, and would like to ask you for your registration.

Sincerely yours,

**Yasushi Miyashita**  
President of IUPS2009  
And Professor and Chairman  
Department of Physiology  
The University of Tokyo School of Medicine

Contact address for questions:  
Secretariat of IUPS 2009: [iups2009@iups2009.com](mailto:iups2009@iups2009.com)  
[www.iups2009.com](http://www.iups2009.com)