

# Newsletter of The Microcirculatory Society, Inc.

Volume 36, Number 3 Winter, 2009



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## Officers

President  
Steve Segal  
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President-elect  
William Jackson  
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Secretary  
Molly Frame  
[mframe@notes.cc.sunysb.edu](mailto:mframe@notes.cc.sunysb.edu)

Treasurer  
Terrence Sweeney  
[sweeneyt1@scranton.edu](mailto:sweeneyt1@scranton.edu)

## A Note from the President

### Winter Greetings from the Midwest!

In this newsletter, I would like to inform MCS members of developments that have occurred in our Society and of others that are underway.

**MCS web page:** The transfer of our web page to the University of Mississippi Medical Center is up and running. With Robert Hester as Chair, new members of the Communications Committee are now working to expand its depth and breadth of content. Special thanks to Shawn Bender, Trevor Cardinal, Mike Davis, Brant Isakson, Jay Naik and David Rubenstein for this effort. Prototypes of our new web page are undergoing evaluation and the final version should be in place within the next few weeks at the MCS web site: <http://microcirc.org/>.

**Annual meeting:** Nearly 200 abstracts have been submitted under MCS headings for our annual meeting in New Orleans! Of these, 8 have been selected for presentation in the MCS Young Investigators Symposium (see page 5 for details) and 20 have been selected for student and postdoctoral travel awards (see page 7). Our annual business meeting will be held on Sunday, April 19<sup>th</sup> at 4:30 p.m. in the Convention Center Room 252, immediately following the Landis Award Lecture.

**Revisions to By-Laws:** Our Past-President, Cindy Meininger, has completed the revisions to the MCS By-Laws. The revisions will be posted for perusal on the MCS web page (see "Revisions to By-Laws" under: [http://microcirc.org/ABOUT/MCS\\_ByLaws.html](http://microcirc.org/ABOUT/MCS_ByLaws.html)). Revisions will be discussed and voted on at the annual business meeting.

**President's Symposium, Awards Banquet and Workshop:** Be sure to arrive in New Orleans on April 17<sup>th</sup> to participate in a full day of MCS events on April 18<sup>th</sup>! The President's Symposium will take place in the Convention Center Room 255 in the morning with keynote lectures presented by outstanding investigators who focus on Live Cell Imaging and Intravital Microscopy from novel perspectives with unique insights. The Symposium is followed by our Awards Banquet Luncheon (Hilton Riverside, Grand Ballroom B). Tickets are \$15.00 (see page 8). Following the Banquet, and a short walk back to the Convention Center (Room 255), the afternoon session encompasses a workshop in which the keynote speakers discuss their experimental approaches and methods of investigation. See page 4-5 for details.

**Official Journal:** The contract for publishing *Microcirculation* is up for a 5-year renewal with our publisher, *Informa Healthcare*. A one-year interim contract maintains current subscription rates through 2009. A draft of our next long-term (2010-2014) contract will be posted on the MCS website (see "Informa Contract" under the following link:

<http://microcirc.org/JOURNAL/Journals.html>).

Key aspects to consider include a \$10.00 increase for individual subscription rates (from \$60.00 to \$70.00 per year) including hard copy mailings, with a corresponding \$3,000.00 per year greater financial obligation to the Journal, whether to adopt online-only access (which will preserve current subscription rates), and a limitation of 24 free color pages per year - beyond which MCS members are to pay \$350.00 per page (vs. \$1,000.00 for non-members). There will not be page charges nor will there be charges for on-line publication of color figures. Please review the contract and email me any thoughts or concerns prior to our meeting in New Orleans. Renewal of the contract will be discussed at our business meeting.

Please submit your research findings to *Microcirculation*! The success of our Society's Journal depends upon receiving high-quality manuscripts from investigators in our field. Remarkably, over the last 5 years, ~ 75% of the papers published in *Microcirculation* come from laboratories of MCS members but only ~25% our Society actually contributed manuscripts! It is up to MCS members to make *Microcirculation* the leading publication in our field!

**Council Retreat:** The MCS Council is meeting on January 31<sup>st</sup> in Columbia, MO for a retreat that is focused addressing the major issues facing our Society as we move into the next decade. Through addressing these issues early in the New Year, Council's goal is to define courses of action that will be underway by the time we meet in New Orleans. MCS members will be updated accordingly at our annual business meeting.

**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 is "Frontiers in Microcirculation" with the program designed to bridge basic research in microcirculation with the application of experimental findings to improving the treatment and prevention of disease. A major emphasis of the meeting is to promote interactions between young investigators and keynote speakers, particularly in regard to questions concerned with professional career development. On-line registration will open near the end of April. The registration fee will be \$250.00 and includes participation in all scientific sessions, exhibits, meals on site and the Awards Banquet. For further details see: [http://muconf.missouri.edu/mcs\\_mu2009](http://muconf.missouri.edu/mcs_mu2009).

As always, I would be pleased to receive your thoughts and ideas in light of how MCS Officers, Councilors and Committees can most effectively serve our membership.

I am looking forward to seeing everyone in New Orleans this spring!



Steven S. Segal, Ph.D.

President

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

# Welcome to New MCS Members

## Regular Members

Dr. Richard Clements  
Surgery Research  
Harvard Medical School  
[rclement@bidmc.harvard.edu](mailto:rclement@bidmc.harvard.edu)

Laurie Kang  
Physiology/Pharmacology  
West Virginia University  
[lkang@mix.wvu.edu](mailto:lkang@mix.wvu.edu)

Dr. Rong Wang  
Surgery  
University of CA, SF  
[rongwang@ucsfmedctr.org](mailto:rongwang@ucsfmedctr.org)

Christine Kurtz  
Physiology  
Louisiana State University  
[Kharr2@lsuhsc.edu](mailto:Kharr2@lsuhsc.edu)

## Student Members

Srikanth R Ella  
Physiology/Pharmacology  
University of Missouri, Columbia  
[sredq6@mizzou.edu](mailto:sredq6@mizzou.edu)

Phoebe A Stapleton  
Exercise Physiology  
West Virginia University  
[pstapleton@hsc.wvu.edu](mailto:pstapleton@hsc.wvu.edu)

Adam Glenn Goodwill  
Physiology/Pharmacology  
West Virginia University  
[agoodwill@hsc.wvu.edu](mailto:agoodwill@hsc.wvu.edu)

Kelly Thuet  
Pharmacology/Physiology  
St Louis University  
[thuetk@slu.edu](mailto:thuetk@slu.edu)

# Experimental Biology 2009 – New Orleans!!

## Overview of MCS Events

Saturday	April 18	MCS Presidents Symposium	9:00-11:30	Convention Center 255
Saturday	April 18	MCS Banquet Luncheon	11:30-2:00	Hilton Riverside
Saturday	April 18	MCS 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

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

Abstract: 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. These proceedings consist of 2 sessions. The first session is a morning symposium during which each speaker will present 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. **Dustin** will continue by discussing cellular signaling events that occur within the microcirculation during immune responses, with a focus on vascular injury. Dr. **Dickinson** will conclude this session by discussing cellular signaling events that are elicited by blood flow and are required for proper vessel development. The second session consists of an afternoon workshop during which each of the respective speakers will discuss the underlying techniques and experimental procedures that were used to acquire the images and functional measurements developed in the morning symposium. For both sessions, each presentation will last 25-30 minutes and be followed by 5-10 minutes of discussion.

### **President's Symposium (9:00 - 11:30 am) Convention Center 255**

9:00 - 9:05

Steven S. Segal, Ph.D.                      *Introduction*

9:05 - 9:40

Robert S. Balaban, Ph.D.  
*"Coupling between muscle metabolism and blood flow"*

Laboratory of Cardiac Energetics  
National Heart, Lung & Blood Institute  
<http://dir.nhlbi.nih.gov/labs/lce/>

9:40 - 10:15

Costantino Iadecola, M.D.  
*"Regulation of cerebral circulation during neural activity"*

Division of Neurobiology  
Cornell University  
<http://www.cornellneurology.org/neurobiology/>

10:15 - 10:50

Michael Dustin, Ph.D.  
*"Role of microvascular injury in immunopathology"*

Langone Medical Center  
New York University  
<http://www.med.nyu.edu/people/dustim01.html>

10:50 - 11:25

Mary Dickinson, Ph.D.  
*"Fluid-derived mechanical forces in vascular remodeling during development"*

Dept of Molecular Physiology and Biophysics  
Baylor College of Medicine  
[http://www.bcm.edu/db/db\\_fac-dickinson.html](http://www.bcm.edu/db/db_fac-dickinson.html)

11:25 - 11:30

Concluding Questions and Discussion

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

**Ticket required for lunch, not for award ceremony (\$15, see page 8).**

**The full list of MCS Awardees begins on page 7 of this Newsletter.**

## **President's Workshop (2:00 – 4:30 pm) Convention Center 255**

2:00 – 2:05

Steven S. Segal, Ph.D.

*Introduction*

2:05 – 2:40

Robert S. Balaban, Ph.D.

*"Noninvasive imaging of mitochondrial and microvascular function in striated muscle"*

2:40 – 3:15

Costantino Iadecola, M.D.

*"Imaging the signaling events that couple cerebral blood flow with neural activity"*

3:15 – 3:50

Michael Dustin, Ph.D.

*"Live cell imaging of immune responses in the intact microcirculation"*

3:50 – 4:25

Mary Dickinson, Ph.D.

*"How to observe signals elicited by blood flow that govern vascular development"*

4:25 – 4:30

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*

## 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

Microcirculatory Society Luncheon  
 Hilton Riverside Grand Ballroom B  
*Use this form for payments by check.*  
*We are not currently able to take payments online.*

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please write the name of each person for whom you are purchasing a ticket, and check the type of lunch they choose. Each lunch ticket is \$15.00\*

Name	Chicken	Beef	Vegetarian
Total numbers of meals:			

\*significantly less than cost. Meals are served warm on china service.

\_\_\_\_\_ Total Meals x \$15.00 = \_\_\_\_\_ Balance due by check

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



Ballot for MCS Officers and Councilors 2009

**President Elect: (vote for one)**

Klaus Ley, M.D. \_\_\_\_\_

David C. Zawieja, Ph.D. \_\_\_\_\_

**Secretary: (vote for one)**

Mary (Molly) Frame, Ph.D. \_\_\_\_\_

Judy Muller-Delp, Ph.D. \_\_\_\_\_

**Councilors: (vote for two)**

Michael J. Davis, Ph.D. \_\_\_\_\_

Daniel Goldman, Ph.D. \_\_\_\_\_

Randy S. Sprague, M.D. \_\_\_\_\_

Joseph Unthank, Ph.D. \_\_\_\_\_

Please email your vote to  
Mary Ellsworth at [ellsworthm@slu.edu](mailto:ellsworthm@slu.edu)

You may vote online at:

<http://www.microcirc.org/Microcirc/Voting.ctrl?action=Display>

# President-Elect:

## Klaus Ley, M.D.:

**Present Position:** Professor and Head Division of Inflammation Biology, La Jolla Institute for Allergy & Immunology, LaJolla, Ca.

**Education:** M.D. Julius-Maximilians-Universität, Würzburg, Germany: Physiology Certificate, Habilitation Freie Universität Berlin.

**Professional Societies:** Microcirculatory Society (USA), [Executive Council: 2000-2004; Program Committee: 1994-1997], Gesellschaft für Mikrozirkulation (German Society for Microcirculation) [Vice-President 1994-1996]; European Society for Microcirculation, Deutsche Physiologische Gesellschaft (German Physiological Society); American Physiological Society, Microcirculatory Society (USA), Arbeitskreis Adhäsionsmoleküle in der Gesellschaft für Immunologie (Section on Adhesion Molecules, German Society for Immunology), Biomedical Engineering Society, Elected Fellow, Society for Leukocyte Biology, American Association of Immunologists, American Institute for Medical and Biological Engineering (AIMBE), Elected Fellow, American Heart Association: Council on Basic Cardiovascular Sciences, American Heart Association: Arteriosclerosis, Thrombosis and Vascular Biology

**Funding:** PI on 3 NIH grants as well as the PI on portions of 2 other Program grants from NIH.

**Honors and Awards:** Annual Gelber Lecturer, Baylor College of Medicine (2000); Curt A. Wiederhielm Award of the Microcirculatory Society for most-cited article in *Microcirculation* (2001); Kurt Anderson Lecture, University of Texas, Galveston, TX (2001); Dean's Seminar, University of Virginia School of Medicine: Translational Research in Cardiovascular Medicine (2007); Marie T. Bonazinga Award, the highest scientific prize offered by the Society for Leukocyte Biology in recognition of outstanding accomplishments in the field of leukocyte biology research (2008); Surhen Lecture, Tulane University, New Orleans, LA (2009)

**Peer review:** NIH study sections; Current Editorial Boards and Editorships: (2005 - 2008) Section Editor, Journal of Immunology. (2005 - 2010) Editorial Board, Journal of Clinical Investigation; (2003 - 2009) Advisory Editorial Board Member, Journal of Experimental Medicine ; (1996- present) Editorial Board, Microvascular Research; (2003 - 2009) Advisory Editorial Board Member, Journal of Experimental Medicine; (2004 - present) Editorial Board, Current Immunology Reviews; (2004 - present) Editorial Board, BMC Immunology; (2007-2009) Editorial Board, Arteriosclerosis, Thrombosis and Vascular Biology; (2008) Editor for Microcirculation volume special issue "Adhesion under Flow"

**Publications:** Over 180 peer reviewed articles, over 40 review articles, 25 book chapters and 3 books. Also has interest in 16 patents.

**Current Research Interests:** GENERAL: Physiology and pathology of inflammation; Physiology and biophysics of leukocyte adhesion; Translational research in inflammation, atherosclerosis, inflammatory bowel disease; Bioinformatics and physiological genomics. SPECIFIC: Molecular mechanisms of leukocyte and monocyte rolling, adhesion, and transmigration; Neutrophil activation during rolling; Biomechanics of leukocyte rolling and adhesion; Role of leukocyte adhesion molecules and chemokines in atherosclerosis, inflammatory bowel disease and acute lung injury; Regulation of granulopoiesis.

**Personal Statement:** As President of MCS I would try to move the society into the 21st century by bringing in new investigators with new intravital microscopy techniques.

## David C. Zawieja, Ph.D.:

**Present Position:** Professor and Associate Head - Dept. of Systems Biology and Translational Medicine; Director - Division of Lymphatic Biology Cardiovascular Research Institute

**Education:** Ph.D., Med. College of Wisconsin (1986); Post Doc, Texas A&M Univ.

**Professional Societies:** Microcirculatory Society (Councilor); European Society for Microcirculation; Am Physiological Society; AAAS; Am Heart Association; Int. Society of Lymphology; Eur Group for Lymphology; Lymphatic Research Foundation – Scientific Advisor.

**Current Funding:** Co-PI or Co-Investigator on 3 NIH RO1s (2 NHLBI and 1 NIA) Co-Investigator on NSF, REU grant.

**Honors & Awards:** NIH NRSA, 1987-1989; Travel award, European Soc. for Microcirc., 1992; Intl Research Travel Award, Texas A&M Univ, 1994; NIH RCDA, 1996-2001; APS Frontiers in Physiology School Sci. Teacher Fellowship Award, Host, 1998, 2005; Lymphatic Research Foundation (Scientific Advisory Board) 2000–present; Microcirculatory Society (Exec. Council 2006-present; Lymphatic Research & Biology (Ed. Board) 2002–present; Microcirculation (Editorial Board) 2003–present.

**Grant Review:** American Heart Association Texas & Western Affiliates, 1995-2001; CRRC NIH NCCAM, ZAT1 DB(10) Special Emphasis Review Panel, 2003; CRRC NIH NCCAM, ZAT1 DB(10) Special Emphasis Review Panel, 2004; NIH, HM Study Section, 2004 – 2006; NIH SEP ZRG1-CVS-G, Special Emphasis Review Panel, 2005; Kentucky Science & Engineering Foundation, R&D Excellence Awards, 2005; The Lymphatic Research Foundation Postdoctoral Fellowship Awards Program, 2005, 2008; American Cancer Society, Peer Review Panel, 2005; NIH, VCMB Study Section ad hoc, June 2006; CRRC NIH NCCAM, ZAT1 SM-04 DCRC, Special Emphasis Review Panel, 2006; CRRC NIH NCCAM, ZAT1 SM-06 DCRC, Special Emphasis Review Panel, 2007; NIH, NHLBI ZHL1 CSR-G (O2), Special Emphasis Panel, 2007; CRRC NIH NCCAM, ZAT1 SM-010 DCRC, Special Emphasis Review Panel, 2008; NIH, NHLBI ZHRG1 CVS-F (90), Special Emphasis Panel, 2008.

**Peer Review:** Am. Journal of Physiology, Am. Journal of Cardiology, Cell and Tissue Research, Circulation, Circulation Research, FASEB Journal, Hypertension, J of Applied Physiology, J of Vascular Research, Lymphatic Research and Biology Microcirculation – Editorial Board, Lymphology, Microcirculation (Editorial Board), Microvascular Res., Nature, Nature Medicine.

**Publications (from last 5 years):** 25 original peer-reviewed papers and 4 reviews and book chapters in the last 5 years.

**Personal Statement:** The microcirculation is a unique and important part of the circulatory system that rarely gets the attention it deserves. Likewise, the Microcirculatory Society occupies a similar position amongst the many different fields of cardiovascular research. Our society leaders worked diligently to grow the society and elevate the status of our field and society. However, the face of cardiovascular research has changed dramatically and rapidly over the last decade and there is a concern that our society has not kept pace with these changes. So while the diversification of cardiovascular research fields provides a large potential pool to draw members from, their diverse backgrounds may require special efforts to cultivate their interest in our society. The challenge is to grow and strengthen the society while retaining its unique identity. If elected as President, I will strive to meet this challenge by attracting and retaining outstanding scientist members, and by encouraging the active support of the societies meetings, journal, leadership and activities by its membership while retaining its unique strengths, heritage and identity

# Secretary:

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

**Present Position:** Associate Professor and Vice-Chair of Biomedical Engineering, Associate Professor of Physiology Biophysics, Stony Brook University, NY

**Education:** A.B., University of Missouri - Biology, 1980; Ph.D., University of Missouri, Physiology, 1990; Postdoctoral Fellow, University of Rochester, 1990-1993

**Professional Societies:** Microcirculatory Society (1996-2000 Program Committee; 1998-2001 Microcirculation Physiome Project; 2001-2004 Membership Committee, Chair (2002-2004); 2003-2006 Executive Council Member; 2004-2006 Treasurer; 2007-2009 Secretary); American Physiological Society; Am Heart Association; Biophysical Society; Biomed Engineering Society

**Honors and Awards:** Curator's Scholarship, University of Missouri, 1976; NIH Pre-doctoral Fellowship, Dept. of Physiology, University of Missouri 1986-1989; NIH Post-doctoral Fellowship, Cardiology Unit, University of Rochester 1990-1993; Travel Award, 5<sup>th</sup> World Congress for Microcirculation 1991; Melvin A Marcus Young Investigator Award (Finalist) American Heart Association 1994; Research Grant, The Whitaker Foundation 1995-1999; FIRST Award, NIH NHLBI 55492-R29 continued as RO1 1996-2008; Established Investigator Award, American Heart Association 0040197EI 2000-2003; Graduate Student's Teaching Award, University of Rochester, NY 2001; Whitaker Academic Leadership Program 2003; McGowen Research Award for contributions to Regenerative Medicine 2004; Users Executive Committee, Chair, Center for Functional Nanomaterials, Brookhaven 2004-2009

**National Funding:** AHA Grant in Aid, *Arteriolar Network Flow Control*.

**Grant Review:** NIH Grant Review, Special Emphasis Panel 1999; NIH ad hoc grant reviewer for ECS (June) 2001; NIH Grant Review, Special Emphasis Panel 2001; NIH ad hoc grant reviewer for ECS (June) 2002; American Heart Association NE Region grant review panel 2003-2007; NIH Grant Review, Special Emphasis Panel, Programs of Excellence for Nanotechnology (NHLBI). (December) 2004; NIH Working Group, Vascular Biology and Computational Models (May) 2005; NIH Grant Review, Special Emphasis Panel, Modeling and Analysis of Biological Systems Study Section (July) 2005; NIH Grant Review, Special Emphasis Panel, Modeling and Analysis of Biological Systems Study Section (March) 2006; American Heart Association National, Bioengineering grant review panel 2007

**Peer Review:** American Journal of Physiology, Journal of Applied Physiology, Cancer Research, FASEB Journal, Journal of Vascular Research, Microcirculation, Microvascular Research, Thrombosis Research, Quarterly Review of Biology

**Current Research Interests:** Arteriolar network flow control in preconditioning and diabetes.

**Personal Statement:** The Microcirculatory Society remains a cohesive group of outstanding scientists, devoted to training the next generation of microvascular biologists and bioengineers. The future of this society depends on its leadership continuing to take an active role in expanding membership by recruiting excellent scientists involved in microvascular research, and retaining the students as full members. We also depend on staying abreast of the new techniques and contributions from other fields. One of my professional goals is to help this society achieve these goals, while remaining a tightly knit community of friends.

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

**Present Position:** Associate Professor of Physiology and Functional Genomics, University of Florida, Gainesville, Florida

**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, 2005-2007, Executive Council, 2008-2010); 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; Interactive effects of age and 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 an outstanding environment for me to gain professional and scientific experience and develop connections with 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.

## Councilors:

### Michael J. Davis, Ph.D.

**Present Position:** Professor and Vice Chair of Medical Pharmacology and Physiology at the University of Missouri School of Medicine, Columbia, Missouri.

**Education:** B.S. in Zoology, University of California Davis (1975); Ph.D. in Physiology & Biophysics, University of Nebraska Medical Center (1979) under William Joyner and Joseph Gilmore; Postdoctoral training in arteriolar mechanics, University of Arizona (1979-1985) under Robert Gore.

**Professional Societies:** Microcirculatory Society (1979), American Physiological Society (1986), Biophysical Society (1990), American Society for Biochemistry and Molecular Biology (2001).

**Funding:** Continuously funded by NIH since 1986. Currently P.I. on two NIH R01s (Regulation of Vascular Tone and Calcium Channels by Integrins; Cellular Mechanisms of Lymphatic Muscle Contractility); Co-I on four additional NIH R01s.

**Honors & Awards:** Microcirculatory Society Travel Award for Outstanding Young Investigator (1989); Established Investigator, American Heart Association (1990-95); Excellence in Research Award, Texas A&M University College of Medicine (2001); Margaret P. Mulligan Professorship of Medical Research at University of Missouri (2008).

**Grant Review:** Regular member of American Heart Association National Center Review Committee, CV Regulation (1991-93) and NHLBI Experimental Cardiovascular Sciences Study Section (1999-2003); ad hoc member of various NIH P01 and Special Emphasis Panels (1991-2009).

**Peer review:** Reviewer for 30+ journals. Editorial boards of Microcirculation (1994-present), American Journal of Physiology: Heart & Circulatory Physiology (1991-99; 2001-present), Journal of Vascular Research (2001-present). Associate Editor American Journal of Physiology: Heart & Circulatory Physiology (1996-98).

**Publications:** Over 100 peer-reviewed journal articles, invited reviews, and book chapters, including a chapter in 2008 edition of Handbook of Physiology: Microcirculation.

**Personal Statement:** The Microcirculatory Society has been a critical part of my career development and I owe the society a great debt. I have previously served on the Awards committee, the Membership committee and on the Executive Council (1991-94). I currently serve on the Publications Committee and the Website Committee. It would be my privilege to again serve in the leadership of this society.

## **Daniel Goldman, Ph.D.**

**Present Position:** Associate Professor and Graduate Chair, Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada.

**Education:** B.S. in Applied and Engineering Physics, Cornell University (1983-1987); Ph.D. in Applied Mathematics, Brown University (1987-1993); Postdoctoral Fellow in Applied Mathematics, Brown University (1993-1994); Postdoctoral Fellow in Aerospace and Mechanical Engineering, Boston University (1994-1996); Postdoctoral Fellow in Biomedical Engineering, Johns Hopkins University (1996-2000).

**Professional Societies:** American Physical Society (Division of Fluid Dynamics) (1994-Present); Biomedical Engineering Society (2001-Present); Microcirculatory Society (2004-Present); Society for Industrial and Applied Mathematics (1996-Present).

**Honors and Awards:** Postdoctoral Fellowship, College of Engineering, Boston University (1994-1995); NRSA Individual Postdoctoral Fellowship, Heart Lung and Blood Institute, National Institutes of Health (1996-1999).

**Funding:** Whitaker Foundation – An Experiment-Based Computational Study of Microvascular Blood Flow and Transport during Sepsis (PI, 2001-2004); Canadian Institutes of Health Research (CIHR) – Optical Imaging of Microvascular Oxygen Transport in Skeletal Muscle (co-PI, 2005-2008); NSF – Experiments and Modules for a Capstone Course in Applied Mathematics (PI, 2005-2006); CIHR – Oxygen Supply Dependency: Mechanisms and Modulation (co-PI, 2006-2009); NIH – Microvascular O<sub>2</sub> Delivery: Impact of Erythrocyte-Released ATP (co-PI, 2007-2010).

**Grant Review:** National Science Foundation, Division of Mathematical Sciences, External Reviewer.

**Peer Review:** American Journal of Physiology (Heart and Circulatory Physiology); Annals of Biomedical Engineering; Biomechanics and Modeling in Mechanobiology; Bulletin for Mathematical Biology; Intensive Care Medicine; Journal of Biomechanical Engineering; Journal of Biomechanics; Journal of Neuroscience Methods; Journal of Theoretical Biology; Mathematical Biosciences; Mathematical Medicine and Biology; Microcirculation; Microvascular Research; Multiscale Modeling and Simulation; Royal Society Journal Interface; SIAM Journal of Applied Mathematics; SIAM Journal of Numerical Analysis.

**Current Research Interests:** Fundamental properties of microvascular blood flow and oxygen delivery; Integrative modeling of microvascular flow regulation; Tissue oxygenation and microvascular dysfunction in sepsis and type 2 diabetes.

**Personal Statement:** The Microcirculatory Society has been extremely important to the development of my scientific career, and I would appreciate the opportunity to support the MCS by serving as councilor. The physiological importance and complexity of the microcirculation gives this society a vital role in biomedical research; however, members are often drawn away into various areas of application (cancer, diabetes, etc.) or concentrate on highly focused sub-fields (e.g., ion channels). Therefore, I support holding meetings that are distinct from Experimental Biology and serve to maintain the cohesiveness of the society, promote integrated understanding of microcirculatory function, and encourage new members to join and become actively involved in the society.

## **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: (Membership Committee 2008-present), 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), NIH/NHLBI (R33, co-investigator), American Diabetes Association (P.I.).

**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 role of defects in erythrocyte-derived ATP in pathophysiology of peripheral vascular disease.

**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.



## Joseph Unthank, Ph.D.

**Present Position:** Professor, Departments of Surgery, and Integrative and Cellular Physiology Indiana University School of Medicine, Indianapolis, IN

**Education:** B.A. (Biology and Education, 1975) Cedarville College, Cedarville Ohio; M.S. (Education, 1979) Butler University, Indianapolis, IN; Ph.D. (Physiology, 1985) Indiana University, Indianapolis, IN; Post-doctoral Fellow (Microcirculation, 1985-7), Indiana University, Indianapolis, IN

**Professional Societies:** Microcirculatory Society (Awards Committee 1992-4, Chair 1994; Membership Committee 1995-7; Executive Council 2004-5; Development Committee 2007-Present, Chair, 2008); American Physiological Society (Awards Committee 2004-6; Special Awards Judge 2006), American Heart Association (Abstract Grader 2003), North America Vascular Biology Organization

Honors and Awards: Grant-In-Aid Award, National American Heart Association 1991, FIRST Award, National Institutes of Health 1991, Fellow, Cardiovascular Section of the American Physiological Society 1998, Microcirculatory Society President's Symposium, 2008

**Grant Review:** NIH Study Section Regular Member: Hypertension and Microcirculation 2004-7; NIH Study Section Ad Hoc: Hypertension and Microcirculation, 2003; NIH Special Emphasis Panels: ZRG1 CVS-A (02) Renal Hypertension 2004; ZRG1 CVS-G (90) Renal Function and Hypertension 2005; ZRG1 Regulation of Vascular Function 2005-6; ZRG1 CVS-E Clinical Cardiovascular System (AICS) SS 2007; National Library Of Medicine G13 (Scholarly Works) Program, 2008; Bioengineering Research Partnership Review Panel 2006;

**Peer Review:** Invited Reviewer for: Microcirculation , American Journal of Physiology (Heart & Circ., GI & Liver, Cell), Circulation, Circulation Research, Diabetes, Endothelium, European Journal of Physiology, Hypertension, Journal of Applied Physiology, Journal of Orthopedic Research, Journal of Pediatric Research, Journal of Vascular Research, Microvascular Research

**Funding:** PI: Skin Microvascular Adaptation in Hypertension. American Heart Association, Indiana Affiliate 1989-1991; Mechanisms in Vascular Responses to Arterial Occlusion. Grant-In-Aid Award, American Heart Association, National Center 1991; Vascular Adaptation in Pathophysiology, National Heart, Lung and Blood Institute, FIRST Award 1991-1996, R01 1996-2009; Co-I: Physiologic and Histologic Effects of Surgery for Venous Insufficiency. Veterans Administration Merit Review Grant. 1990-1993; Microvascular Effects of Venous Hypertension. American Heart Association, Indiana Affiliate. 1996-1998; Genetic Analysis of Vascular Aging. National Institute on Aging, R03, 2003- 2004; Mechanisms of Age-Related Impairment of Collateral Artery Growth. National Institutes of Heart Lung and Blood and Aging, Pending 16<sup>th</sup> percentile.

**Current Research Interests:** Microcirculation, vascular disease, vascular compensation to arterial disease, collateral growth, hypertension, angiotensin, endothelial dysfunction, oxidative stress, nitric oxide.

**Personal Statement:** My career has been greatly enhanced by the MCS and interactions with its members and I am honored to have been nominated for this office. In my opinion, the current research environment provides an opportunity for the MCS to provide leadership in translational research involving *in vivo* and *in vitro* integrative approaches at and above the tissue level. If elected, I will encourage the MCS to develop a dynamic website promoting microvascular research and to sponsor unique workshops and interactive symposia focused on novel applications of microcirculatory with molecular techniques and emphasizing distinct advantages of microvascular approaches to appropriate contemporary problems.

Fall 2009 Meeting of  
the

# the Microcirculatory Society, Inc.

"Frontiers in Microcirculation:  
Control Processes and Clinical Applications"

October 16-17, 2009

The University of Missouri - Columbia

<a href="#">Home</a>	<a href="#">Meeting Summary</a>	<a href="#">Keynote Speakers</a>	<a href="#">Meeting Agenda</a>
<a href="#">Program Details</a>	<a href="#">Venue</a>	<a href="#">Logistics</a>	<a href="#">To Register</a>

### *Organizing Committee:*

Steven S. Segal, Ph.D. (Chair) –MU

Michael J. Davis, Ph.D. - MU

Mary D. Frame, Ph.D. - SUNY

Anatoliy A. Gashev, Ph.D. - TAMU

Michael A. Hill, Ph.D. -MU

Virginia H. Huxley, Ph.D. -MU

William F. Jackson, Ph.D. - MSU

Ronald J. Korthuis, Ph.D. -MU

Gerald A. Meininger, Ph.D. -MU

Timothy W. Secomb, Ph.D. - UAZ

Cuihua Zhang, M.D., Ph.D. -MU

Registration details and further information will be posted in  
late March.

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

On-line registration will open near the end of March. The registration fee will be \$250.00 and includes participation in all scientific sessions, exhibits, meals on site and the Awards Banquet.

For further details see:

[http://muconf.missouri.edu/MCS\\_MU2009/index.html](http://muconf.missouri.edu/MCS_MU2009/index.html)

**Proposed Revisions to the ByLaws**  
**For Consideration and Voting**  
**Annual Business Meeting April 19, 2009**

[refer to **blue text** below for proposed changes/deletions/insertions]

**ARTICLE I. Microcirculatory Society**

**Section 1.** The name of this organization is The Microcirculatory Society, Inc. (hereinafter known as the Society). The official abbreviation for the name is MCS.

**ARTICLE II. Purposes**

**Section 1.** The purposes of the Society are to actively encourage and promote all forms of innovative research and teaching leading to an increase in understanding of microcirculatory function in health and disease.

**ARTICLE III. Membership**

**Section 1.** The Society shall consist of regular members, student members, associate members, emeritus members, honorary members, supporting members, and sustaining members.

**Section 2. Regular Members.** Any person who has contributed to the increase in knowledge of the microcirculation, and is presently engaged in such work, shall be eligible for election to regular membership in the Society. Except in unusual circumstances, a regular member shall hold a doctoral degree. A regular member may attend and participate in the business meetings of the Society and is entitled to one vote.

**Section 3. Student Members.** Any person who is engaged as a full-time graduate **or medical** student in a recognized University program, and is actively involved in

research on the microcirculation or associated phenomena shall be eligible for election to student membership in the Society. Except in unusual circumstances, a student member shall not hold a doctoral degree. A student member may attend and participate in the business meetings of the Society, but shall not have the right to vote.

**Section 4. Associate Members.** Individuals who are interested in and engaged in work related to the microcirculation, but who do not meet the requirements for regular or student membership, shall be eligible for election to associate membership. Associate members may attend and participate in the business meetings of the Society but shall not have the right to vote.

**Section 5. Emeritus Members.** On approval by the Council, a regular member, after 20 years of regular membership or on retirement from regular employment, may, upon his or her written request, become an emeritus member. Emeritus members may attend and participate in business meetings of the Society and shall have the right to vote.

**Section 6. Honorary Members.** Individuals who have distinguished themselves by outstanding contributions in the study of microcirculatory phenomena may be elected honorary members by a special act of commendation [by the President, with approval of the Council. Any such membership may be terminated by the President with the approval of the Council.](#) Honorary members may attend and participate in the business meetings of the Society, but shall not have the right to vote.

**Section 7. Supporting Members.** Any regular member who voluntarily contributes \$250 or more annually over and above the dues of regular members shall be denoted a supporting member.

**Section 8. Sustaining Members.** Individuals and organizations that have an interest in the purposes of the Society and wish to contribute to its support may be invited by the President, with the approval of the Council, to become sustaining members. Any such membership may be terminated by the President, with the approval of the Council. Sustaining members may not attend or participate in business meetings of the Society and shall not have the right to vote.

**Section 9. Nomination and Election of Members.** Two regular members of the

Society shall join in the proposal of the person for regular, student, associate or honorary membership on appropriate forms ~~provided by the Secretary~~ through the Society's web site or other available means of communication. The Membership Committee shall receive these proposals and refer them with its recommendations to the President for approval. Those persons whose proposals are approved by the President shall be nominated for election to membership by a mail (including e-mail, fax) ballot of the Council. A two-thirds (2/3) majority positive vote by Council shall be required for election. Receipt of nominations and election to membership shall be carried out on a continuing basis throughout the year.

#### **ARTICLE IV. Officers**

**Section 1. Council.** The management of the Society shall be vested in its Council (all of whom must be regular members of the Society), with powers of direction, consisting of the President, President-Elect, immediate Past-President, Secretary, Treasurer, and six additional regular members elected by the members by written vote of the membership (through available means of communication). The President and President-Elect shall not succeed themselves after having served a full term. The terms of President and President-Elect shall be for one year. The Secretary and Treasurer shall be elected to two-year terms and these officers may succeed themselves for one term. The Secretary and Treasurer shall be elected on an alternating year basis, and the terms of the six additional elected Councilors shall be three years, so elected that only two Councilors are elected each year. Councilors may not succeed themselves to serve consecutive terms. All terms of office shall begin at the close of the regular annual meeting of the Society. The Council, by majority vote of its remaining qualified members, shall fill any interim vacancy in the office of the President-Elect, the Secretary, the Treasurer, and the Clerk, and may fill a vacancy of a Councilor. The term of office of a person elected to fill an interim vacancy shall expire following the tally of a valid regular ballot to elect his/her successor.

**Section 2. Executive Committee.** The Executive Committee of the Society shall be defined as the principal officers, namely the President, the President-Elect, the Past-President, the Secretary and the Treasurer. They shall attend to the ordinary running of the Society, making the decisions required for its smooth functioning. All major decisions shall be subject to the approval of the full Council or, **in exceptional circumstances**, the full membership.

**Section 3. President.** The President shall preside at all meetings of the Council and business meetings of the Society, shall be an ex-officio member of all standing committees, and shall have other duties as prescribed in the ~~appendix of these bylaws~~ [Operations Manual](#). The President, after consultation with the Council, shall appoint members of the standing committees where called for in these bylaws.

**Section 4. President-Elect.** The President-Elect shall undertake duties as may be delegated by the President. The President-Elect shall become the next regular President of the Society after completion of the regular term as the President-Elect. In the absence or during the disability of the President, the President-Elect shall have all of the powers and perform all of the duties of the President. Any service as an interim president of the Society shall not reduce the term of the President-Elect as the next regular President of the Society.

**Section 5. Past President.** The immediate Past President shall chair the Long-range Planning Committee and shall review and, where needed, recommend revisions of the Society's Bylaws, as described in Article X, Section 2.

**Section 6. Secretary.** The Secretary shall give bond to the Society, if required by the Council, for the faithful performance of his/her duties. The Secretary shall have custody of all documents and papers belonging to the Society (except his/her own bond which shall be kept by the President) and shall safely keep the same, and disburse the orders and rules of the Council. ~~The Secretary shall have co-custody of a bank account to meet the day-to-day operational expenses of the Society.~~ The Secretary shall give notice of all meetings as required by the bylaws, send out the various customary mailings to the membership, and shall inform the membership whatever the President or Council desires. The Secretary shall use the available means of communication to perform these duties. The Secretary shall also ~~keep a~~ [have access to the electronic database which has](#) a complete list of the name, title, and address of each member of the Society. The Secretary shall keep the minutes of the Council and of Business Meetings of the Society and shall have other duties as prescribed in the Operations Manual. In the absence of the Secretary, the President shall appoint a temporary secretary to record the minutes.

**Section 7. Treasurer.** The Treasurer shall give bond to the Society, if required by the Council, for the faithful performance of his/her duties. The Treasurer shall have custody of all monies, debts, obligations, contracts, and other property belonging to

the Society (except his/her own bond which shall be kept by the President) and shall safely keep the same, and shall collect all properties and all monies from time to time due and owing to the Society. ~~Society bank accounts will have a second officer as signatory in addition to the Treasurer.~~ The Treasurer shall also ~~keep~~ have access to an electronic database which has a ~~directory with the~~ complete list of the name, title, and address of each member of the Society and will verify at least annually the status of each member. Access to the directory information for individual members shall be made available on the Society's website. The Treasurer shall be chair of the Finance Committee to disburse the provision of Article VI, Section 3 of these bylaws.

The due date for Internal Revenue Service (IRS) filing for the Society is October 1. This reflects the fiscal tax year from the prior June 1 to the current May 31. The Treasurer, ~~and, if necessary, the past Treasurer,~~ will prepare the financial summary of the MCS for the fiscal year ending May 31 by August 1 of that year. This information will be sent to the MCS-approved Certified Public Accountant (CPA) firm during the first week of August, using certified mail. Upon mailing, the Treasurer will inform the President and Council that the appropriate documentation has been sent to the CPA firm. The CPA firm will use certified mail to return the completed US Form 990, Return of Organization Exempt from Income Tax and the Massachusetts Office of the Attorney General, Division of Public Charities, Form PC, to the Treasurer no later than September 15. Once the Treasurer has received the completed IRS Form 990, the Treasurer will have five business days to sign and mail the forms to the IRS, using certified mail to verify the posting date of before October 1. Upon mailing, the Treasurer will inform the President and Council that the IRS forms have been sent. During this time, ~~the Treasurer and President will sign will also mail~~ the annual Not-For-Profit Organization registration FORM PC ~~and the Treasurer will mail it~~ with the appropriate filing fee ~~of \$35~~ to the State of Massachusetts. The current CPA firm approved by the MCS is: Neil, Williamson & Staker, CPA, 1609 West Babcock, P.O. Box 1865, Bozeman, MT 59711-1865.

**Section 8. Clerk.** The Clerk shall be a resident of the Commonwealth of Massachusetts, and need not be a member of the Society. (The office is required as a condition of incorporation by the Commonwealth of Massachusetts.) The duties of the Clerk of this Society shall be those required by the statutes of the Commonwealth of Massachusetts. Such duties, to the extent permitted by law, may be assigned to others by the Council. The Clerk shall be appointed annually by the

President of the Society, and may serve in the Council and Business Meetings, without vote except as a member of the Society.

**Section 9. Nomination and Election of Officers and Councilors.** Nominations for all Officers, ~~and~~ including Council members, of the Society will be obtained by mail, fax, or e-mail on or before December 1 by requesting the membership to propose nominees. The request for nominations will be made in the Society Newsletter preceding the December 1 deadline ~~and by a direct e-mail to the membership~~. Nominations will be sent to the Chair of the Nominating Committee. For each office, the two persons (who agree to stand for election) with the highest number of nominations will be included on the ballot. ~~If two persons cannot be identified, then a single name can be placed on the ballot.~~ If two members of Council are to be elected ~~In years in which two members of the Council are to be elected,~~ a total of not more than four nominees for that office will be included on the ballot. Once all the nominations are complete, ~~the membership will be provided with short biographical sketches of the candidates by e-mail and in the Society Newsletter.~~ The Society's on-line voting site will then be activated and each member will receive notification by e-mail. ~~The membership will have the option of either voting on-line or printing out the ballot and returning it by mail or fax each member will receive and return by mail, fax, or e-mail, the ballot of officers and Council members. The ballots will be returned~~ to the Chair of the Nominating Committee for inclusion in the tabulation and determination of outcome. ~~The individual receiving the most votes will be declared the winner. If two Councilors are to be elected, then the two individuals receiving the most votes will be declared the winners.~~ In the event that a majority vote for ~~a given~~ any office is not obtained ~~by following the~~ regular vote, the Chair of the Nominating Committee will call immediately for a run-off election between the two candidates with the highest number of votes. The election will be conducted promptly ~~using the on-line voting site~~ and by mail, fax, or e-mail.

## **ARTICLE V. Council**

**Section 1. Management of the Society.** The property and affairs of the Society shall be managed and conducted by the Council with powers of directors. The members of the Council shall serve without compensation and shall be called Councilors.



**Section 2. Qualifications, Elections and Vacancies.** Specified in Article IV, Section 1 and Section 9.

**Section 3. Meetings.** At least one regular meeting of the Council shall be held during each annual meeting of the Society members, and for this regular meeting no notices shall be required. Other meetings of the Council shall be held as often as the needs of the Society may require. They may be held at regular intervals determined by the Council, or they may be called by the President or any three members of the Council. The Secretary shall notify each Councilor of each meeting of the Council. Notice of any meeting may be dispensed with if each member of the Council, by writing filed with the records of the meeting, waives such notice. No notices shall be required to be given of any adjourned meeting of the Council.

**Section 4. Quorum.** A majority of the Council shall constitute a quorum for the transaction of business, but a lesser number may adjourn any meeting from time to time, and a meeting may be held as adjourned without further notice. A majority vote of Councilors in attendance (unless otherwise specified elsewhere), with each entitled to one vote, shall decide any question brought before the Council, except that a majority of the qualified Councilors shall be required for temporarily filling a vacancy of an office. In the event of a tie vote, the President shall then be entitled to two votes.

## **ARTICLE VI. Standing Committees**

**Section 1. Standing Committees.** Standing committees and their Chairs shall be appointed by the President in consultation with the Council. The term of all standing committee members, except as otherwise provided elsewhere, shall be for three years. However, on adoption of these bylaws, the term shall be one, two, or three years for various committee members, as determined by the Council, so as to provide continuity of committee operation. Emeritus, Honorary, and Sustaining members may be appointed from time to time for terms up to one year. Sustaining members so appointed shall not have the right to vote. The President shall be an ex-officio member of all committees. Guidelines for committee operation shall be approved by Council. The President, in consultation with Council and upon recommendation and evidence submitted by the Committee Chair or committee members, will be empowered to terminate at any time the term of committee members failing to discharge their duties.

**Section 2. Membership Committee.** A Membership Committee, composed of three or more regular members of the Society, shall receive and review proposals for nomination to membership, and shall recommend regular, associate, and student nominees for membership to the Society according to Article III, Section 9.

**Section 3. Finance Committee.** A Finance Committee consisting of the Treasurer (who shall Chair the Committee) and two or more regular members appointed by the President shall receive and evaluate the impact of the various proposed budgets, shall determine the budgets and make recommendations and shall recommend a budget to the Council. This Committee shall supervise the capital investments of the Society, subject to the full authority of direction by the Council.

**Section 4. Nominating Committee.** A Nominating Committee shall consist of three or more regular members, none of whom shall simultaneously be an officer of the Society or the immediate Past-President. This Committee shall obtain nominations and conduct elections for officers and councilors as prescribed in Article IV, Section 9.

**Section 5. Liaison Committee.** The Liaison Committee shall consist of the President (who shall serve as Committee Chair), the MCS representative to the US National Committee for the International Union of Physiological Sciences (USNC for IUPS), the MCS member appointed liaison to the European Societies of Microcirculation, the MCS member appointed to the International Liaison committee, and the Secretary of the Society, and may include any other members at the pleasure of the President. This Committee shall maintain communication with scientific organizations that have interests in common with the Society, and shall officially represent the Society in the international community.

**Section 6. Long-range Planning Committee.** The Long-range Planning Committee shall consist of the ten (10) most recent Past-Presidents and shall be chaired by the immediate Past-President of the Society. This committee shall consider all aspects of society affairs to identify major issues of importance to the Society and to recommend [to the current Council](#) future strategies, plan meetings for the Society for a minimum of 3 years in advance of the next annual meeting, and new policy directions for Society function.

**Section 7. Development Committee.** The Development Committee shall consist of three or more regular members of the Society. This committee shall assist the MCS President and Council in identifying and implementing actions and activities to advance the objectives of the MCS and enhance its membership. ~~seek new supporting and sustaining members of the Society, and shall consider and recommend fund raising activities for Council consideration. Upon request of the President, this committee shall implement Council approved fund raising activities on behalf of the Society.~~

**Section 8. Historical Committee.** The Historical Committee shall consist of three or more regular members of the Society. This committee shall seek, identify, and obtain information, documents, films, and other items that have historical significance to the Society. This committee shall maintain updated lists of past officers and recipients of Society Awards.

**Section 9. Awards Committee.** An Awards Committee, composed of six regular members, shall solicit from the voting membership the names of candidates for any awards that the Council has authorized. After selection of the candidates is made by the Awards Committee, the names of the candidates shall be approved by the President and the Council prior to any announcement of the awardees. Announcements of the winners of award~~ees~~ should be made known to voting members of the Society prior to the Annual Society scientific meeting.

**Section 10. Programs and Meetings Committee.** The Program Committee shall be chaired by an officer appointed by the President of the Society, and will serve a three year term. Members of the Committee shall be appointed for 3 years, by the President. The Committee shall: a) follow up on the recommendations to Council and the membership from the Long Range Planning Committee for the meeting(s) proposed for at least three years in advance, b) Serve as the liaison to the program committees of other societies or associations with whom the MCS may meet, with the Program Committee Chair ~~or designated committee member~~ as the official representative, and c) Make recommendations, to be approved by the Executive Committee of the MCS, with respect to: program style and format, commitments to other societies, local arrangements, and appointments to the program committees of umbrella associations.

**Section 11. Publications Committee.** The Publications Committee shall consist

of a Chair and at least two other members of the Society, appointed by the President and responsible to the Council of the Society. The Chair of the Committee is an ex-officio member of Council, without vote. The President, Treasurer, and Secretary of the Society are ex-officio members of the Committee, without vote. The duties are to oversee the journals and other publications of the Society, particularly with respect to the scientific quality of the journals and the fiscal interests of the Society. They shall appoint Editors ~~and editorial boards~~, prepare an annual summary report and an annual financial report, and in general, manage the publications of the Society under the policies determined by Council. The ownership of the title "Microcirculation" and the copyright of material published in the journal shall be held by MCS. The term of the Publications **Committee** Chair will be set to provide continuity during the time that contracts with publishers are negotiated or Editors of the Journal are chosen. When these decisions are being made, the term will likely be for two consecutive years.

The Editor of the journal will be appointed by Council for a five-year term and no individual will serve more than two consecutive five-year terms.

The appointment of Editor will be done via a recommendation to Council by a committee that will consist of the Publications Committee plus the President of the Society. The Chair of the Publications Committee will chair this committee.

The Publications Committee, plus the President of the Society and the Editor of the journal, is responsible for oversight of contractual agreements between the publisher of the journal and MCS.

The Editor will nominate the Associate Editors and the Editorial Board. These appointments will be submitted to Council for approval. The Editorial Board members will be appointed for a two-year term with one-third of the Editorial Board being ineligible for reappointment to a consecutive term. All members of the Editorial Board must be members of MCS.

**Section 12. Representative of the MCS to the US National Committee of the International Union of Physiological Sciences.** This position is to be filled by an appointee of the President of the MCS. The appointment is for three years, or four, designed to fit with the time interval between IUPS Congresses. The appointee should be a senior member of the Society, suitable to represent the Society's

interests in international planning not only of scientific meetings but in providing international leadership in science and education. Reappointment for a second term is allowable, in accord with IUPS committee rules.

**Section 13. Representative of the MCS to the European Societies for Microcirculation (ESM).** This position is to be filled by an appointee of the President of the MCS. The appointment is for three years, or four, designed to fit with the requirement of ESM. The appointee should be a senior member of the Society, who participates in the European Microcirculatory Society meeting, suitable to represent the Society's interests in international planning not only of scientific meetings but in providing international leadership in science and education. Reappointment for a second term is allowable, in accord with ESM rules.

**Section 14. Representatives of the MCS to the International Liaison Committee.** These three positions are to be filled by appointees of the President of the MCS. The appointment is for three years, or four, designed to fit with the time interval between World Congresses. The appointees should be senior members of the Society, suitable to represent the Society's interests in international planning not only of scientific meetings but in providing international leadership in science and education.

**Section 15. Communications Committee.** The Communications Committee shall consist of [a the Chair](#), [the Webmaster](#), and at least three other members of the Society, appointed by the President of the Society for up to three-year terms. This committee shall be responsible for the oversight of the Society's web page. The Society website address, [microcirc.org](http://microcirc.org), is the property of MCS. The committee's other primary function is to coordinate with the Program and Meetings committee, the Liaison Committee, the Publications Committee, as well as the parties who collect directory, dues, and newsletter information, to keep the membership informed of MCS activities. ~~The Communications committee will develop an annual report and budget for review by Council.~~

**Section 16. Other Committees.** The President may appoint temporary (ad hoc) committees as desired. The term of office of these temporary committees shall end with the next annual business meeting of the Society following such appointment, or earlier as the President desires.

## **ARTICLE VII. Dues**

### **Section 1. Annual Dues.**

Dues for members, in accordance with Article III, shall be proposed by the Council but shall be determined by majority vote of those voting at the annual business meeting of the Society. Dues shall be paid January 1 for the current fiscal year and shall be in arrears on April 1. Special assessments may be proposed by the Council but shall be determined by majority vote of those voting at the annual business meeting of the Society.

**Section 2. Nonpayment of Dues.** Any member whose dues are one year in arrears shall become an inactive member of the Society, and will be notified by the Treasurer. An inactive member will not receive the journal and will be ineligible to vote, and may not serve on committees. If an inactive member is in arrears for an additional year, he/she may reactivate membership in the Society by payment of all outstanding dues. The Treasurer shall notify the delinquent member of the right to request reinstatement of membership at least one time after dues are two years in arrears before they cease to be a member of the Society.

**Section 3. Emeritus Members.** A regular member who has been granted emeritus membership will be relieved from dues payment for the current and subsequent fiscal years.

## **ARTICLE VIII. Meetings of Society Members**

**Section 1. Annual Meeting of Members.** The Society shall hold an annual meeting of members, for the transaction of business, and for presentation of scientific communications and related activities. Such annual meetings shall be held each year at a time and place designated by the Council ~~and approved by the membership~~. The time and place for the annual meeting shall be chosen at least eleven months in advance at an annual business meeting. The place, day, and hour shall be specified in the notice of any meeting of the Society.

**Section 2. Special Meetings of Members.** Special meetings of members shall be called by the Secretary or any other officer upon the request of the President or the Council or on the written request of one-quarter of the members entitled to vote. The current list of members with their addresses ~~shall promptly be made available~~

~~to any member entitled to vote, on request, but~~ shall not be utilized by anyone for purposes not directly pertaining to the business of the Society without the written permission of the President.

**Section 3. Notice to Members.** Notice of all meetings of the members shall be made known to each member not less than 30 nor more than 180 days before the meeting, but no notice shall be required if every member entitled thereto, or his/her attorney thereunto, authorizes, by a writing which is filed with the records of such a meeting, a waiver of such notice.

**Section 4. Quorum for Annual and Special Meetings.** At all meetings of members of the Society, 40 regular members, present in person and entitled to vote, shall constitute a quorum, but less than a quorum shall have power to adjourn from time to time until a quorum be present. No member shall cast a ballot by proxy at any meeting of the Society.

**Section 5. Parliamentary Authority.** The rules contained in Robert's Rules of Order, Revised, shall govern the conduct of the business meetings of the Society in all cases to which they are applicable and in which they are not inconsistent with the bylaws or special rules of order of the Society.

## **ARTICLE IX. Miscellaneous**

### **Section 1. Prohibitions.**

Notwithstanding any provision of these bylaws which might be susceptible to contrary interpretation:

- a. The Society is organized and operated exclusively for scientific and educational purposes.
- b. No part of the net earnings of the Society shall accrue to the personal benefit of any member except as provided by the Society awards (Article VI, section 9).
- c. No substantial part of the activities of the Society shall consist of carrying on propaganda, or otherwise attempting to influence local, state, or national legislation, except with respect to science policy or to other special issues such as the obligations to perform biological experimental studies. The Society shall not participate in or intervene in any campaign of any candidate for government public

office.

~~d. No substantial part of the activities of the Society shall consist of carrying on propaganda, or otherwise attempting to influence local, state or national legislation. The Society shall not participate in or intervene (including publishing or distribution of statements) in any campaign of any candidate for governmental public office.~~

e [d]. The Society is not organized, nor is it to be operated, for profit.

f [e]. The membership list of the Society shall not be supplied to anyone for any purpose ~~except as provided under Article VIII, Section 2, or~~ except as specifically provided by Council.

**Section 2. Fiscal Year.** The fiscal year of the Society shall end with the 31st day of ~~March~~ **May** of each year.

**Section 3. Audit.** All statements of net assets and related statements of income, expenditures, fund capital, and liabilities shall be ~~audited~~ reviewed annually in accord with the statutes of the Commonwealth of Massachusetts. ~~The audit~~ A report will be made annually by the Finance Committee. ~~and every third year by an independent auditing firm.~~

**Section 4. Term of Office.** Where a term of office is stated in years, a year is to be considered as extending from the end of one annual business meeting to the end of the following one.

**Section 5. Operations Manual.** The Secretary of the Society shall maintain an operations manual providing outlines of procedures found useful by the Executive ~~Council~~ **Committee** and Committees of the Society.

## **ARTICLE X. Amendments.**

**Section 1. Amendments.** These bylaws may be amended, altered, or repealed at any business meeting of the Society members **by a vote of two-thirds (2/3) of the regular members in attendance** or by mail (e-mail, fax) ballot of the Society members by a vote of three-quarters (3/4) of the regular members entitled to vote, provided notice of the proposed repeal, alteration, or amendment, with a statement



of the substance thereof and of the Articles to be affected thereby, is given in the call for the meeting. Approved bylaw changes will be added to the published bylaws by the immediate Past-President as stipulated in Article IV, Section 5.

**Section 2. The Past-President shall review the Society Bylaws,** incorporate approved changes following the annual business meeting of the Society, and submit a complete copy of the Bylaws to the President at least 3 months prior to the next annual meeting. Any proposed changes that require Council and membership approval shall be presented in a complete copy of the Bylaws, labeled with proposed revisions. All words and phrases deleted from existing approved Bylaws shall be indicated by a horizontal line through them. Continuous underlining, italics or a different color shall indicate all new words and phrases.

**Lists of MCS information archived at the Geisel Library, University of California, San Diego.**

**The Register of Microcirculatory Society Records\_1954 - 1999\_MSS 0632  
Mandeville Special Collections Library\_Geisel Library\_University of California, San Diego  
Extent: 2.80 linear feet (7 archives boxes)**

### **Abstract**

The Microcirculatory Society Records, 1954-1999, document the society from its beginning through the 1990s. Documents within the collection include society by-laws, meeting agendas, conference information, membership lists, directories, committee meeting notes, and correspondence.

### **Historical Background**

The Microcirculatory Society was organized in 1954 with Edward Bloch as the first president. It was organized from isolated and independent groups or individuals concerned with research on microcirculation. The Society first met in conjunction with the 67th annual meeting of the American Association of Anatomists. The conference was conceived and implemented by Edward Bloch, Department of Anatomy, Western Reserve University (now Case-Western Reserve) and John W. Irwin, Department of Medicine, Massachusetts General Hospital and subsequently Director of the Microcirculatory Laboratory, Massachusetts Eye and Ear Infirmary, Boston. The Society has met every year since then, with researchers being invited to present their findings and to discuss the latest news on microcirculation. At the second conference in 1955, also held in conjunction with the American Association of Anatomists, the members voted to incorporate and hold separate annual conferences.

### **Scope and Content**

The Microcirculatory Society Records, 1954-1999, are comprised of Society by-laws, meeting agendas, newsletters and correspondence. They are arranged in seven series: 1) ADMINISTRATIVE, 2) GENERAL CORRESPONDENCE, 3) CONFERENCES, 4) 25th ANNIVERSARY MEETING, 5) COMMITTEES, 6) MEMBERSHIP and 7) NEWSLETTERS.

#### **1) ADMINISTRATIVE**

The ADMINISTRATIVE series, 1969-1999, contains Society by-laws, meeting minutes, treasurer's reports and notes contributed by members.

#### **2) GENERAL CORRESPONDENCE**

The GENERAL CORRESPONDENCE series contains correspondence of past presidents Herbert J. Berman (1972-1973), William L. Joyner (1987-1988), Robert W. Gore (1988-1989) and James B. Basingthwaight (1990-1991).

#### **3) CONFERENCES**

The CONFERENCES series contains documents on the annual conference held by the Society from 1954-1997 (not a complete run).

#### 4) 25th ANNIVERSARY MEETING, 1979

The 25th ANNIVERSARY MEETING series contains correspondence between Edward Bloch and possible host locations, site location requests and responses, meeting correspondence, notes and a paper written by George P. Fulton documenting the history of the society to 1979.

#### 5) COMMITTEES

The COMMITTEES series has information on the various committees of the Society, including the Awards Committee, which chooses the winners of the Landis, Travel, Innovative Instrumentation and Young Investigator awards; the Liason Committee which organizes events with the World Congress on Microcirculation; and the Publications Committee.

#### 6) MEMBERSHIP

The MEMBERSHIP series contains membership lists, 1955-1998.

#### 7) NEWSLETTERS

The NEWSLETTERS series contains Society newsletters from the 1970s through the 1990s.

### Inventory of printed materials for Microcirculatory Society Archives Sept 5,2008

- 1 .Proceedings of first meeting, April 7-9, 1954 (2 copies)
- 2.Proceedings of second meeting, April 5, 1955
- 3.Proceedings of fifth meeting, April 1, 1958
- 4.Abstracts of sixth meeting, October 24, 1 958 and Proceedings of seventh meeting May 4, 1959.
- 5.Proceedings of eighth meeting, April 12, 1960 in Angiology 12(7) 1961
- 6.Proceedings of ninth meeting, March 20-21, 1961 in Angiology 12(7) 1961
7. Proceedings of tenth meeting, March 20, 1962 in Angiology 14(3), 1963
- 8.Envelope entitled: Laboratory of EH Bloch, Case Western Reserve U. 1960's ( Dr. Bloch was Professor of Anatomy at that institution)

9. Plastic notebook sheet with 2x2 slides that belonged to Dr. Bloch.
10. Envelope entitled: M.H. Knisely containing photos and communications. (Dr. Knisely was Professor of Anatomy at the Medical University of South Carolina)
11. Envelope entitled Life May 31, 1948 contains story on blood sludge and the microcirculation featuring Drs Bloch and Knisely.
12. Envelope entitled: WRU, Faculty Exhibit, 1968.
13. Envelope entitled: E H Bloch (1 971 lecture)
14. Envelope entitled: E H Bloch (negatives)
15. Envelope entitled: E H Bloch (1 947) (Fritz Goro photographs) Edward Bloch and Louise Warner are in laboratory photos
16. Envelope entitled: E H Bloch (1 967- Boston Conf.) Contains photo with (from left to right, Melvin Knisely, Edward Bloch, Mrs John (Mary) Irwin and John Irwin. Dr. Irwin was at Massachusetts General Hospital

**Microcirculation Films on DVD archived at UCSD Library – April 2008**

Robert S. McCuskey

<b>Orig.</b>	<b>Title</b>	<b>Author</b>	<b>Date</b>
	<b><u>DISC 1</u></b>		
NLM	Subcutaneous Blood Flow in Rat: Active Vasomotion	Richard L. Webb Paul A. Nicol	1948
NLM	Dynamics of Tumor Embolism Part 1 and Part 2	Summer Wood	1967
NLM	Effects of Certain Chemicals And Drugs Upon Living Mesenteric Lymphatics	Richard L. Webb	1947
NLM	Dynamic Pathogenesis of Viral Hepatitis MHV-3	E.H. Bloch K.S. Warren M. Rosenthal	1974
NLM	Dynamics of Transcapillary Exchange	E.H. Bloch	1966
NLM	Sequential Quantitative Measurements in Microseconds Of Living Tissue	E.H. Bloch R.S. McCuskey	1966
	Dynamic Histology of Organs	E.H. Bloch	1974

*In situ*

**DISC 2**

	Microscopy of Living Kidney Graphs	Carl F. Oestermeyer	1975
NLM	Dynamics of Diapedesis	E.H. Bloch	1967
NLM	Human Bulbar Conjunctiva	E.H. Bloch	1965
NLM	Biodynamics of Phagocytosis: The Lung and Carbon	E.H. Bloch	1972
	Bulbar Conjunctiva: Method of Observation and Cine Recording	E.H. Bloch	1965
NLM	Pressure-Flow Relationships in the Microvascular System	E.H. Bloch R.S. McCuskey Gerald Tucker Joyce Mencin	1961

**DISC 3**

NLM	<i>In vivo</i> Microscopy of the Liver Microscopy of the Living Spleen	R.S. McCuskey R.S. McCuskey P.A. McCuskey	1998 1975
NLM	The Living Pancreas	R.S. McCuskey T.M. Chapman	1967
NLM	The Living Pancreas: Microcirculation	R.S. McCuskey T.M. Chapman	1967
NLM	Hepatic Microvascular Responses To Endotoxemia and Sepsis	E.H. Bloch	1972
NLM	S. Masoni in Transparent Chambers in Mice and Hamsters	E.H. Bloch	1972
	Hepatic Microcirculation	R.S. McCuskey	1980
	Hepatic Microcirculation and Phagocytosis	R.S. McCuskey	1980
	The Microcirculation	R.S. McCuskey	1970

**DISC 4**

NLM	<i>In Vivo</i> Microscopy of Bone Marrow Grafts in the Hamster Cheek Pouch	R.S. McCuskey P.A. Reed Howard A. Meineke	1973
NLM	Microscopic Anatomy of the Living	R.S. McCuskey	1968

	Pancreas	T.M. Chapman	
NLM	Biodynamics of the Liver -Phagocytosis of Particulates	R.S. McCuskey E.H. Bloch	1977
NLM	Microscopy of Living Organs <i>In Situ</i>	R.S. McCuskey	1969
	Role of Endotoxin in the Hepatic Microvascular Response to Ethanol	R.S. McCuskey	1994
	KC Symposium 1990	R.S. McCuskey	1990
	<b><u>DISC 5</u></b>		
	Microscopy of Living Kidney Grafts	Carl Oestermeyer	1975
NLM	Biodynamics of the Liver- Phagocytosis of Particulates	R.S. McCuskey E.H. Bloch	1977
	(Misabeled – Pressure/Flow Histology of Organs)	E.H. Bloch	1960
NLM	Contractibility of Muscular Vessels In Capillary Bed	Robert Chamber B.W. Zweifach	1946
NLM	Subcutaneous Blood Flow in the Bat: Vascular Patterns	Richard C. Webb Paul A. Nicoll	1947
NLM	Control of Small Blood Vessels	George P. Fulton Brenton R. Lutz	1941
	<b><u>DISC 6</u></b>		
NLM	Pathologic Microcirculation in The Liver	A.M. Rappaport	1979
	<b><u>DISC 7</u></b>		
NLM	Knowlesi Malaria in Monkeys	Melvin H. Kinisely W.K. Stratman-Thomas Theodore S. Eliot E.H. Bloch	1944
	<b><u>DISC 8</u></b>		
NLM	Settling in Frogs Initiated by Deep Anesthesia	Fann Harding Melvin H. Kinisely	1958
NLM	Micromanipulation Studies of Blood Capillaries in the Frog	Robert Chambers B.W. Zweifach	1945
NLM	Normal Circulation in the Frog	August Krogh	1920

NLM	Microcirculation in Chamber in Rabbit Ear – Effects of Temperature	Elliot Clark	1933
NLM	Blood Circulation Seen Thru Microscope of Chamber in Rabbit's Ear	Elliot Clark Eleanor Clark	1935
NLM	Dilation and Contraction of Blood Vessels in Chamber in Rabbit Ear	Elliot Clark Eleanor Clark	1935
	<b><u>DISC 9</u></b>		
	Hepatic Microcirculatory Dysfunction Following Bile Duct Ligation	Yoshiya Ito R.S. McCuskey	2000
	Microcirculatory Dysfunction During Hepatic Veno-Occlusion Disease	L.D. Deleve Yoshiya Ito Nancy Machen R.S. McCuskey	2001
	Effect of Parenchymal Cell Transplantation on the Hepatic Microcirculation	Yoshiya Ito S. Gupta S. Slehria R.S. McCuskey	2001
	Effect of Immunoglobulin on the Hepatic Microvascular Inflammatory Response During Sepsis	R.S. McCuskey J. Nichida D. McDonald R. Urbaschek B. Urbaschek	1993
	<b><u>DISC 10</u></b>		
NLM	Wirkung von Endotoxinen und Biogenen Aminen an der Terminalen Strombahn	Bernhard Urbaschek Renate Urbaschek	1971
NLM	High Speed Cine-Photomicrography Of Hemodynamics	E.H. Bloch	1960
NLM	Observations in Bone Marrow Tissue <i>in situ</i>	R. Kinoshita S. Ohmo H.R. Bierman	1956
NLM	The Circulation in Living Autografts in Spleen	R.G. Williams	1950
	<b><u>DISC 11</u></b>		
NLM	Blood Supply of the Auditory Labyrinth	Merle Lawrence	

NLM	Effects of Quinine Dihydrochloride On Spinal Capillary Flow	Merle Lawrence	
NLM	In Vivo Microscopy of the Liver in Mice Infected with Malaria	Edward H. Bloch	1973
	Hepatic Microvascular Response To PCA	R.S. McCuskey F. Vonnahme M. Green	1982
NLM	Microscopy of the Living Mamalian Spleen	E.H. Bloch	1968
NLM	Hepatic Microvascular Responses to Endotoxin	R.S. McCuskey P.A. McCuskey	
NLM	S. Mansoni in Transparent Chambers in Mice and Hamsters	E.H. Bloch	1979
NLM	High Speed Cine-Photomicrography Of Hemodynamics	Edward H. Bloch	1960
	<b><u>DISC 12</u></b>		
NLM	In Vivo Microscopy of Bone Marrow Grafts in the Hamster Cheek Pouch	R.S. McCuskey P.A. McCuskey H.A. Meineke	1974
NLM	Microscopy of the Living Spleen	R.S. McCuskey P.A. McCuskey	1976
NLM	The Living Liver	R.S. McCuskey	1968
NLM	Microscopy of Living Bone Marrow "In Situ"	R.S. McCuskey S.G. McClugage W. Younker	1969
NLM	Evaluation of Renal Allografts In Hamsters Cheek Pouch Chambers	C.F. Oestermeyer E.H. Bloch	1975
	Hepatic Microcirculatory Disturbances and Oxidation Stress	M. Tsuchiya	