

The Microcirculatory Society, Inc.

Newsletter

Volume 32, Number 4

Spring 2005

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Officers

President:	H. Glenn Bohlen gbohlen@iupui.edu
President-elect:	Robert Hester rhester@physiology.umsmed.edu
Secretary:	Cynthia J. Meininger cjm@tamu.edu
Treasurer:	Mary (Molly) Frame mframe@notes.cc.sunysb.edu
Web Site:	http://microcirc.org

President's Message

H. Glenn Bohlen

I am sure most of you are busy with the last minute details of preparing posters and presentations for the members of our Society and those of the international meeting; this should be a very interesting and worthwhile meeting for all of us. Thanks to Cindy Meininger, our banquet on Sunday night, April 3rd, should be both a lot of fun and the buffet should be delightful. Banquet tickets can be ordered through the web site; information is enclosed later in the Newsletter.

For the Business Meeting on Friday, April 1, please plan to attend because we have a number of issues to consider. We need to add an Electronics Communication Committee to our By-Laws to continue the great work of Bob Gore in maintaining our Web Site. We have much of what needs to be in place already arranged. During the past year, I started an ad hoc Electronics Communication Committee lead by Robert Hester, our President-Elect, to begin a discussion of how this committee might operate. Now that we have credit card payment through the web site, the Treasurer must be involved in the web site and we need to spread the work load of maintaining the web site over four to six people to lower the burden on each person. A second major issue is how to deal with the problem of members paying their dues. Our Treasurer, Molly Frame, has been active in sending e-mail

messages to the Membership to encourage dues payment and this has definitely helped. However, we have some seriously absent-minded professors in our Membership. I took it upon myself to send a personal letter to each person who is two years behind in dues. On March 9, 2004, I mailed 227 letters to members who have not paid both 2004 and 2005 dues. I hope that the process of e-mails and letters to those a bit behind on their dues is carried on by Treasurers and Presidents in the future. If you have not paid your 2005 dues, please do so. If you have, bless you.

The Society has had an expensive year setting up two Fall meetings, contributing to the IUPS meeting, and con-

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tributing to the World Congress. The money is well spent and will strengthen our Society and provide interesting venues to discuss microvascular physiology. As a result of the IUPS meeting, APS will not be returning \$10,000 to us for our participation in the Experimental Biology Meeting. All these factors combined in one year have been expensive. However, our financial issues would largely be solved if the Membership paid their dues.

More than half of the Membership dues go to the print and electronic subscription to *Microcirculation* and the remainder is used for our various awards and a small amount for our business expenses. Over the past year, I have been trying to determine if we could lower the dues by having an electronic subscription to *Microcirculation* rather than a combined electronic and paper subscription. The American Physiological Society went to this approach for their journals and the approach was well received. The transition to both the option of an electronic or electronic and paper journal subscription seems to be possible from the standpoint of the Publisher, Editor Bill Jackson, and the Publications Committee. The savings for each Member would be on the order of \$40 per year for just an electronic subscription. However, Robert Hester, as our next President, will have to do a bit of negotiation with our Publisher to complete the process if agreed to by the Membership.

On a final note, our Society is alive and well despite a few bumps in the process. We continue to have a steady stream of new members added to our ranks. Both members of the Society and non-members continue to select our designated abstracts for the spring meetings. I believe this indicates an ongoing interest in sharing knowledge with and seeking feedback from our Membership. After all, that is the purpose of our Microcirculatory Society.



Welcome to New MCS Members

Regular Members

Lawrence Chan, M.D.
Department of Dermatology
University of Illinois at Chicago

Rong-zhen Zhang
Department of Medical Physiology
The Texas A&M University System HSC

Mariappan Muthuchamy
Department of Medical Physiology
The Texas A&M University System HSC

Student Members

Luke Wiley
Department of Physiology
Southern Illinois University

Postdoctoral Positions Available

Two postdoctoral positions are available in the laboratory of Dr. Aleksander S. Popel in the Department of Biomedical Engineering at Johns Hopkins University. To conduct research on computational and mathematical modeling in the area of: (1) Angiogenesis with a focus on the effects of growth factors (VEGF) and metalloproteinases in endothelial cells; (2) Transport of nitric oxide and oxygen in the microcirculation and their effects on the vascular wall, including conditions of hemorrhagic shock and resuscitation. Work closely with experimental collaborators. Requirements: Ph.D. in physiology, biochemistry, molecular/cell biology, biophysics, engineering, applied mathematics or equivalent. Strong background and experience in biology and computational/systems biology. Send applications including curriculum vitae and names of three references to: Dr. A.S. Popel, Dept. of Biomedical Engineering, School of Medicine, Johns Hopkins University, Baltimore, MD 21205. Telephone 410-955-6419, E-mail apopel@jhu.edu.

Congratulations to our New Society Officers

The votes have been tallied and the new officers are...

President-Elect: **Timothy Secomb**

Secretary Elect: **Deborah Damon**

Councilors Elect: **Tara Haas**
Richard Price

The Society would like to thank Steve Segal and the members of the Nominations Committee for their efforts. Special thanks to Bob Gore for making the online voting possible.



Congratulations to our 2005 MCS Award Recipients

Annual Society Awards

Eugene M. Landis Research Award

Virginia H. Huxley

Department of Medical Pharmacology and Physiology, University of Missouri-Columbia

August Krogh Young Investigator Award

“Involvement of ROCK-mediated endothelial tension development in neutrophil-stimulated microvascular leakage.” **Jerome W. Breslin**, Hengrui Sun, Wenjuan Xu, Charles Rodarte, Alan B. Moy, Mack H. Wu, Sarah Y. Yuan. Department of ? University of Southern California, Davis.

Young Investigator Travel Award

Dr. Brant Isakson will travel to laboratories in Europe who are experts in microvascular physiology as it relates to differential connexin expression.

Zweifach Student Awards

“NG2 proteoglycan expression is dynamically upregulated by perivascular cells along venules during microvascular remodeling.” **Walter L. Murfee**, Shayn M. Pierce, Thomas C. Skalak. Department of Bio-medical Engineering, University of Virginia.

“Differential translocation of eNOS in response to selective agonist in endothelial cells.” **Fabiola A. Sánchez**, Nirav B. Savalia and Walter N. Durán. Department of Pharmacology and Physiology, UMDNJ-New Jersey Medical School.

“Microscopic assessment of skeletal muscle interstitial PO₂ kinetics at the onset of contraction.” **Michael A. Tevald**, Aleksander S. Golub, Helena de Carvalho, John D. Lowman, Roland N. Pittman. Department of Physiology, Virginia Commonwealth University.

“Recurrent DSS colitis induces hepatic inflammation similar to sclerosing cholangitis.” **Jacob Rullo**, Amanda BeGora, Jennifer Ramsay, Alison E. Fox-Robichaud. McMaster University Health Science Center.

“Ryanodine-induced vasodilation inhibits CA²⁺ in gerbil spiral modiolar artery.” **Keil Regehr**, Philine Wangemann. Kansas State University College of Veterinary Medicine.

Annual Journal Awards

Curt A. Wiederhielm Award (for most cited article in Microcirculation 2000-2004)

Malgorzata Milkiewicz, Department of Physiology and School for Sport and Exercise Sciences, University of Birmingham, Birmingham, United Kingdom

M. Milkiewicz, M.D. Brown, S. Egginton and O Hudlicka. "Association between sheer stress, angiogenesis and VEGF in skeletal muscle in vivo." *Microcirculation* 8(4): 229-241, 2001.

Mary E. Gerritsen Award (for most cited review article in Microcirculation 2000-2004)

Cameron W. Lush, Department of Physiology, University of Western Ontario, London, Ontario, Canada

C.W. Lush and P.R. Kvietys. "Microvascular dysfunction in sepsis." *Microcirculation* 7(2): 83-101, 2000.

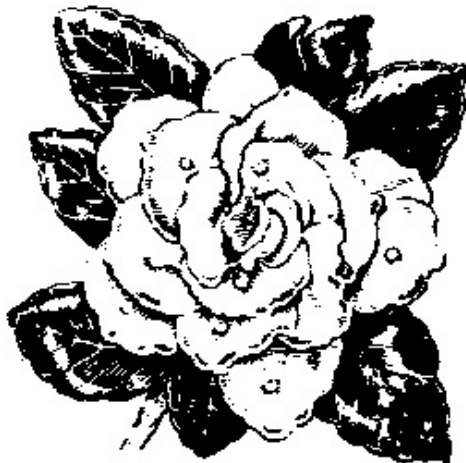
Other Awards Received by MCS Members

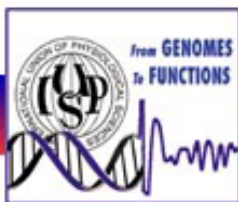
Dr. James Bassingthwaite is this year's American Physiological Society Cardiovascular Section Wiggers Award winner.

Congratulations, Dr. Bassingthwaite!

Dr. Robert W. Gore has been awarded "The 2005 Arthur C. Guyton Physiology Educator of the Year" award. This prestigious award is sponsored by the American Physiological Society and the W.B. Saunders Company. It is the highest honor given for teaching in Physiology by the American Physiological Society recognizing: "...the significant impact on the students you teach, on your institution and an enduring and significant impact on physiology education on the national and international stage."

Congratulations Dr. Gore!





XXXV International Congress of Physiological Sciences

From GENOMES To FUNCTIONS

San Diego, CA, March 31 - April 5, 2005



Thursday, March 31, 2005

Los Angeles Room - San Diego Marriott Hotel

7:00 - 11:00 PM Executive Council Meeting

Friday, April 1, 2005

Room 30 B/C

2:00 PM

Landis Award

Lecture:

Microvascular Permeability: Perspectives from the Interface

Dr. Virginia Huxley

Department of Pharmacology and Physiology

University of Missouri-Columbia

Symposium:

**The Microcirculatory Society President's Symposium: Vascular
Regulatory Abnormalities in Obesity: Consequences of the Epidemic**

Sponsored by: The Microcirculatory Society

Chaired: H. Glenn Bohlen

3:15 PM

Altered vascular regulation in animal models of obesity

John Hall

University of Mississippi

4:15 PM

Impaired vascular regulation in human obesity

Alain Baron

Amylin Pharmaceuticals, Inc.

5:30 - 7:00 PM

Microcirculatory Society General Business Meeting

Saturday, April 3, 2005

Grand Horton Hotel

6:00 - 10:00 PM

MCS Awards Banquet

MCS Awards Banquet

San Diego Grand Horton Hotel

Southwest Buffet

Fresh Medley of Greens with Assorted Dressings
La Paz Seafood Salad
Roasted Pepper Salad with Orange Jicama
Seared Beef with Tomatillo Verde Sauce
Bean and Cheese Enchilada
with Red Pepper Sour Cream Sauce
Chicken Vera Cruz
Santa Fe Rice
Southwestern Ratatouille
Rolls and Butter
Horton Grand Coffee and Tea
Assorted Desserts

Sunday, April 3, 2005

Pre-Banquet Reception on the Patio
with a Cash Bar - 6 p.m. to 7 p.m.

Dinner and Awards
Presentations - 7 p.m. to 10 p.m.

Ticket Prices

\$40 for students and postdocs; \$50 for others

*You may purchase tickets on-line **until March 25.***

*See the newsletter posted on the Society website
for the ticket purchase link.*

*If you prefer to purchase tickets by mail,
turn to the next page for the form to send in with your check.*

MCS Awards Banquet

San Diego Grand Horton Hotel

Sunday, April 3, 2005

*Pre-Banquet Reception on the Patio
with a Cash Bar - 6 p.m. to 7 p.m.*

*Dinner and Awards
Presentations - 7 p.m. to 10 p.m.*

Students and Postdoctoral Research Associates *\$40 each*

Regular Price Tickets *\$50 each*

Number of Student/Postdoctoral Tickets *-----*

Number of Regular Price Tickets *-----*

Total Cost *-----*

*Please enclose a check with this completed form
and mail to:*

Dr. Molly Frame
*Department of Biomedical Engineering
Stony Brook University HSC T 18-030
Stony Brook, NY 11794-8181*

Dear Microcirculatory Members,

If you are interested in socializing with your APS Cardiovascular colleagues consider attending the APS Cardiovascular Section Banquet. Cardiovascular Section Banquet tickets for this year's meeting in San Diego are now on sale. **The banquet will be held Monday, April 4, 2005, 7:30 p.m. at the El Cortez, 702 Ash Street, San Diego, California 92101.**

Website: <http://www.elc.cc/home.htm>

Opened on Thanksgiving Day 1927 and nestled atop San Diego's Cortez Hill stands the historic El Cortez. Built on the site of Ulysses S. Grant, Jr.'s former home this carefully restored landmark has traditional Spanish revival architecture and a banquet room, the Don Room, that is one of the most exquisitely designed rooms in the state of California. It will provide a memorable venue for our banquet and the Wiggers Award lecture.

I am happy to announce that ticket prices are unchanged from last year. Ticket price is \$50.00 for regular members and \$40.00 for postdoctoral fellows and students. **Deadline for pre-meeting purchase is March 21, 2005.**

Please send a check or money order written out to APS-CVS to me at the address below. Credit Card payment is possible. E-mail me below and I will send the appropriate credit card payment form to you.

Don't delay - DO IT NOW - we have a limited number of tickets available!

Sincerely,

Gerry M.

Gerald A. Meininger, Ph.D.
Regents Professor and Associate Head
Department of Medical Physiology
Director for Division of Vascular Biology
Cardiovascular Research Institute
College of Medicine
Reynolds Medical Building, Rm. 349
Texas A&M University Health Science Center
College Station, Texas 77843-1114
USA

Work Tel: 979-845-7491
Work Fax: 979-862-4638
E-mail: gam@tamu.edu

New Directions in Exercise Physiology Official Satellite Conference to the 35th International Union of Physiological Sciences

Dates:

March 29-30, 2005

Location:

San Diego, California, USA

Website:

www.exercisephysiology.elsevier.com

Organizers:

Organized and hosted by Elsevier in association with *Respiratory Physiology and Neurobiology*

Secretariat:

Nina Woods

Exercise Physiology Conference Secretariat

Elsevier, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK

Telephone: +44 (0) 1865 843297



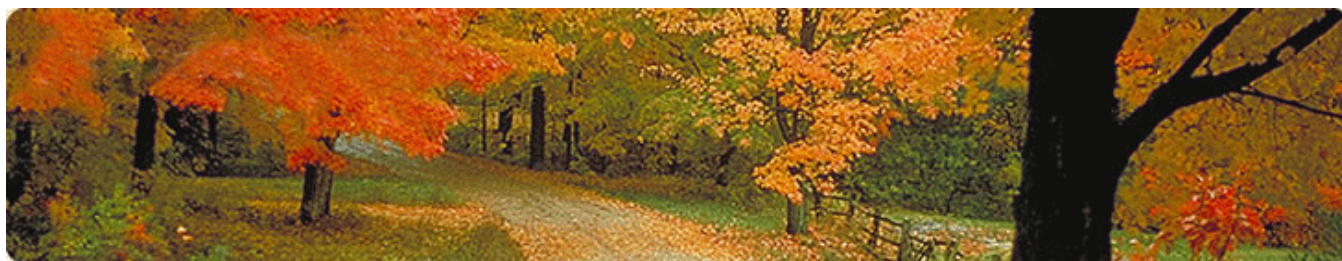
A Special Transatlantic Meeting of The Microcirculatory Society, Inc. and The British Microcirculatory Society

September 11 - 13, 2005
Abstract Deadline: June 10, 2005

University of New Hampshire
Durham, New Hampshire, USA

Email Dr. Ann Baldwin: abaldwin@u.arizona.edu

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Microcirculatory Society, Inc. and British Microcirculatory Society Meeting Program Information

Oral and Poster Communications Categories:

Angiogenesis
EDHF, NO and other EDRFs
Endothelial Cell Biology
Cell-Cell and Cell Matrix Interactions
Interstitium
Inflammation
Vascular Permeability
tion

Renal Microcirculation
Blood Brain Barrier
Synovial Microcirculation
Tumor Microvasculature
Diabetes
Lymphatic Biology
Other Aspects of Microcirculation

Oral communications will be selected from submitted abstracts and are welcome on all aspects of microvascular and endothelial biology. Those not selected for oral presentation will be presented as posters.

Keynote Lecture:

Interactions Between Circulating Blood Cells and the Endothelium in the Microcirculation in Oxidative Stress.

Dr. D. Neil Granger, Louisiana Health Sciences Medical Center, Shreveport, LA, USA

Joint Societal Symposium:

Role of Reactive Oxygen Radicals in Vascular Cell Signaling in Health and Disease.

[Co-organizers: Professor Ann Baldwin (USA) and Professor Giovanni E. Mann (UK)]

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Microcirculatory Society, Inc. and British Microcirculatory Society Meeting Joint Symposium Schedule

Sunday 11 September

- 09:00 - 09:05** Introduction.
- 09:05 - 09:35** Reactive oxygen radicals: Intracellular mediators of altered protein kinase activity and gene expression
Dr. Kathy K. Griendling
Division of Cardiology, Emory University, Atlanta, Georgia, USA
- 09:35 - 10:05** Nrf2-mediated regulation of antioxidant gene expression in endothelial and smooth muscle cells in oxidative stress
Prof Giovanni E. Mann:
Centre for Cardiovascular Biology & Medicine, King's College London, Guy's Campus, London, UK
- 10:05 - 10:30** Mechanisms underlying oxidative stress-induced vascular leakage, in vivo
Dr. Ann L. Baldwin
Department of Physiology, College of Medicine, University of Arizona, Tucson, Arizona, USA.
- 10:30 - 11:00** Bifunctional role for VEGF-induced heme oxygenase-1 in vivo: Induction of angiogenesis and inhibition of leukocytic infiltration
Dr. Justin C. Mason
British Heart Foundation Cardiovascular Medicine Unit, Imperial College London, Hammersmith Hospital, London, UK

-
- 11:00 - 11:30** [Pentose phosphate pathway coordinates multiple redox-controlled relaxing mechanisms in coronary arteries](#)
Prof. Michael S. Wolin
Department of Physiology, New York Medical College, Valhalla, New York, NY, USA
- 11:30 - 12:00** [NADPH oxidase-derived reactive oxygen species and their role in generating Ca²⁺ oscillations in agonist stimulated endothelial cells](#)
Dr. Roy C. Ziegelstein
Department of Medicine, Division of Cardiology, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
- 12:00 - 12:30** [Regulation of endothelial pro-inflammatory responses in the lung capillary by compartmental production of diffusible oxidants](#)
Dr. Jahar Bhattacharya
Department of Physiology and Cellular Biophysics, St. Luke's-Roosevelt Hospital Center, Columbia University, New York, NY, USA
- 12:30 - 13:00** [Mechanisms underlying the programming of small artery dysfunction in vascular disease](#)
Prof. Lucilla Poston
Fetal and Maternal Health Unit, King's College London, St. Thomas' Campus, London, UK

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Proposed Changes to Society By-Laws

Proposed Changes for 2005

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 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. Honor-

ary 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, or 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 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 annual regular 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 Council or the full membership.

Section 3. President.

The President shall preside at all meetings of the Council and business meetings of the Society, and shall be an ex-officio member of all standing committees, and shall have other duties as prescribed in the appendix of these bylaws. 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 directory with the 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. The Treasurer shall also keep 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 4 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 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 will also mail the annual Not-For-Profit Organization registration FORM PC with the 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.

Nomination for all Officers and 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. 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. In years in which two members of the Council are to be elected, a total of not more than four nominees will be included on the ballot. Once the nominations are complete, 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 tabulation and determination of outcome. In the event that a majority vote for a given office is not obtained by regular vote, the Chair of the Nominating Committee will call immediately for a run-off election between the two candidates with the highest votes. The election will be conducted promptly 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 members 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 future strategies, plan meetings for the Society for a minimum of 5 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 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 which 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 awardees 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 as the official representative. 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, 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 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 at the recommendation to Council by a committee which 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 MCS’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 Chair 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, 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. Electronic Communications Committee

The Chair of the Committee will be a former member of the Electronic Communications Committee to preserve continuity of performance. The Chair will be appointed for a two-year term by the President in consultation with the Council. The Committee will be composed of the Chair, the Treasurer of the Society, four or five additional members appointed for three-year terms by the Chair and the President, and the Secretary of the Society will serve as an Ad Hoc member. The Treasurer must be a member of the Committee to oversee and be responsible for all financial issues that are carried out over the Web Site. Any dealings with financial matters, such as credit card companies, banks, or other organizations in which money will be involved will be discussed with the President and Council before final agreements are made. The members of the Committee will have various parts of the Web Site delegated to them so that no one person has too great a service. The key areas for upkeep will include but not be limited to:

- (a) Membership information
- (b) Updating Web Site information
- (c) Electronic voting, as needed
- (d) Electronic emails to the membership
- (e) Financial issues handled via the Web Site through consultation with the Treasurer as the responsible party
- (f) Any information the Secretary needs to communicate to the Membership
- (g) Advertisements, if approved jointly by the Committee, President, and Council to have such. Advertisements could include, but are not limited to, companies wishing to link to the MCS Web Site for a negotiable fee, members wishing to advertise employment opportunities for a small fee, Universities or Companies wishing to advertise employment opportunities for a small fee, and other opportunities as they arise in the future.
- (h) Preparation of mailing labels for the hard copy of the Society's Journal and communications with members for their online access number for the Journal.

Section 17. 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 assess-

ments 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, 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 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 a 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 by laws 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. The Society is not organized for, nor is it to be operated for profit.
- f. 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 of each year.

Section 3. Audit.

All statements of net assets and related statements of income, expenditures, fund capital, and liabilities shall be audited annually in accord with the statutes of the Commonwealth of Massachusetts. The audit 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 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 and 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.

