



The Microcirculatory Society

NEWSLETTER

MESSAGE FROM THE PRESIDENT

Thanksgiving, after all, is a word of action.

W.J. Cameron

Greetings!

With heart-felt gratitude I would like to thank the hard work of MCS Committees, Council and Officers! MCS is seeing many changes this year. Some changes are in progress (e.g., the new face of the website) and others are operating at full steam (e.g., the option to use PayPal for membership dues). Today I am pleased to update you on our progress.

Have you checked out The Microcirculatory Society webpage's new features? For access to the MCS Directory, you use your Journal ID – yes, the same six-digit number that you use to access the journal itself. If you need a reminder of that number, you may contact either Executive Director, Bernadette Englert (Executive-Director@microcirc.org), or WebMaster Extraordinaire, Robert Hester (RHester@umc.edu). The security measure is part of the security transition allowing members to readily access other members, while spam-artists will be thwarted. Other features and upgrades for the website are nearly complete. MCS Council will be discussing options next week (via teleconference), and we will be sending a sample template to the membership for input after that meeting.

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PayPal will save us bucks! Thanks to Treasurer, Shayn Peirce-Cottler, and Executive Director, Bernadette Englert, for completing the PayPal option for paying dues. I have used this system and it is fast. Importantly, using PayPal removes two prior problems: it costs less, and it permits hyphenated names (like Peirce-Cottler!) and addresses with a variety of formats. The existing LinkPoint option will remain open to ensure that PayPal meets our needs completely, however, it will be phased out. Expect to have both options to pay your 2015 dues, and Banquet and Reception tickets for Experimental Biology 2015 in Boston.



Experimental Biology 2015 in Boston. Keep in mind the late abstract and registration deadlines for EB 2015. See page 3 of this newsletter. An outline of the MCS sessions that will be presented at EB 2015 is on page 4. Note there is both a Saturday Luncheon, as we have enjoyed over the past several years, and a Sunday Poster Session/Reception. The cost for each of these will be subsidized by MCS, making the cost to you competitive to restaurant meals. The Sunday Poster Session with Reception will showcase our Young Investigators (students and post-docs) in four themed poster discussions moderated by Early Stage Investigators. Travel Awardees will be expected to present at our Reception, and we invite any Young Investigators to also present at the Reception. Please Contact Bernadette! See page 3 for details. **Remember the Travel Awardee Deadline is December 2!** Finally, the Landis Award Lecture will be given by Professor Dai Fukumura, MD, PhD, and the Kaley Lecture will be given by Professor Mark Nelson, PhD.

Nominations for Council, Secretary and President-Elect are now being accepted. Please see the application form on page 11. You may nominate yourself, or another. If you are shy about nominating yourself, ask me to nominate you.

The World Congress Symposia in Kyoto, Japan is September 25-27, 2015. I am pleased to tell you that the MCS Awards Committee has chosen two symposia for MCS to sponsor. These symposia are:

Mechanobiology: Roles of Cellular and Non-Cellular Elements

Co-Chairs: Gerry Meininger and Michael Hill,
University of Missouri-Columbia

New insights into immune cell regulation in microcirculation

Co-Chairs: Klaus Ley, *La Jolla Institute for Allergy and Immunology* and Mariappan Muthuchamy,
Texas A&M Health Science Center

At the MCS General Business Meeting in San Diego, we also voted to sponsor 10 Early Stage Investigator Travel Awards at \$1,500 (USD) each. The call for applications will appear early in 2015. 'Early Stage Investigators' are 'MCS member in good standing ranging from graduate students to 6 years post terminal doctoral degree by the time of application'. Additionally, in early 2015 we will issue the call for Zweifach Award nominations for the Zweifach Lecturer who will speak in Kyoto. Join us in Kyoto in September 2015!

Respectfully,

Molly Frame
MCS President

RENEW YOUR MEMBERSHIP!!



We now have PayPal to make the renewal process easier for you!

Go to <http://www.microcirc.org/MEMBER/DuesOnlinePayPal.html>

and renew your membership today!!

Remember Membership in MCS provides you with:

Subscription to *Microcirculation*, the Official Journal of the Microcirculatory Society, **plus**

- no submission fee
- no page charges
- no charges for color figures
- electronic Table of Contents for each issue

Discounted registration for the MCS Annual Meeting at Experimental Biology

Eligibility for a large number of awards for young investigators, including:

- International Travel Award for Young Investigators
- Zweifach Student Awards
- Pappenheimer Postdoctoral Travel Awards
- August Krogh Young Investigator Award
- Award for Excellence in Lymphatic Research

Eligibility for awards for established investigators

- Eugene M. Landis Research Award
- Benjamin W. Zweifach Award

Connection to a vibrant and interdisciplinary group of scholars

EXPERIMENTAL BIOLOGY 2015 DATES, UPDATES AND OPPORTUNITIES

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Special Opportunity for Young Investigators: Get More Air Time! New!! Poster Discussion on March 29

Would you like to participate in the poster discussions at our Sunday evening reception? In addition to a lively atmosphere, refreshments and great opportunities to network, we will be holding poster discussions. Our Pappenheimer and Zweifach Student Award recipients will present their posters here in addition to their regularly scheduled MCS poster session. There is also the opportunity for other young MCS members to highlight their work as well. Again, this is in addition to any normally scheduled presentation. Discussants will visit each poster within a designated group for a brief presentation by the author and questions by the discussion leaders. The feedback that presenters will receive will be invaluable.

The poster discussions will correspond with our symposia themes for this year on Oxygen/Blood Flow, Inflammation and Signaling/Channels, with a fourth poster discussion for abstracts outside of these themes; groups will be lead by: Feilim Mac Gabhann, Fong Lam, Anjelica Gonzalez and W. Lee Murfee.

Due to limited space and time, we may not be able to accept all of the submissions. You will be notified if you are chosen. Selected poster presenters will be sent instructions regarding when and where to hang their posters for this event early in March 2015. We hope you will join us at the reception and take advantage of this opportunity.

If you would like to participate, please send:

- your contact information
- name of your supervisor (PI co-author)
- title of your abstract and its EB assigned number

to membership@microcirc.org by January 5, 2015.

Late-Breaking Abstract Submission

The late-breaking abstract site is now open, go to: <http://experimentalbiology.org/2015/Attendees/Abstract-Submissions.aspx>

Submit your late-breaking abstract to the APS topic: 619-APS Microcirculation

The deadline is **January 21, 2015**. However, if you are submitting an abstract for consideration for a student or postdoc award, you must submit your abstract prior to **December 2**.

December 2, 2014

MCS Award Application Submission Deadline

http://microcirc.org/ABOUT/MCS_Awards.html

Select the award you are applying for:

- August Krogh Young Investigator Award
- Microcirculatory Society Travel Award for Outstanding Young Investigators
- The Pappenheimer Postdoctoral Travel Award
- Microcirculatory Society Award for Excellence in Lymphatic Research
- Zweifach Student Award

January 5, 2015

Submission for March 29 Poster Discussion

See info at right, mail to membership@microcirc.org

January 21, 2015

Late-Breaking Abstract Submission Deadline

<http://experimentalbiology.org/2015/Attendees/Abstract-Submissions.aspx>

February 2, 2015

Deadline for Discounted Registration

<http://experimentalbiology.org/2015/Attendees/Registration.aspx>

February 23, 2015

Discounted Housing Deadline

<http://experimentalbiology.org/2015/Attendees/Housing.aspx>

MEETINGS

EXPERIMENTAL BIOLOGY 2015

MARCH 28 - APRIL 1, 2015

BOSTON CONVENTION AND EXHIBITOR CENTER

SESSIONS - MARCH 28

Oxygen/Blood Flow

9:30 - 11:30am

Chair: Molly Frame, Stony Brook University

Speakers: Roland Pitman,
Virginia Commonwealth University and
Congwu Du, Stony Brook University

Inflammation

1:30 - 3:00pm

Chair: Anjelica Gonzalez, Yale University

Speakers: Eric Schmidt,
University of Colorado and
Shayn Peirce-Cottler, University of Virginia

Signaling/Channels

3:30 - 5:00pm

Chair: Joshua Butcher, University of Virginia

Speakers: Jonathan LeDeaux, University of
Montreal and Andreas Beyer,
Medical College Wisconsin

SPECIAL EVENTS

SOCIETY BANQUET

Saturday, March 28, 11:45am - 1:15pm

LANDIS AWARD

DR. DAI FUKUMURA

Targeting tumor microvasculature
and microenvironment

Sunday, March 29, 3:30 - 4:30pm

MICROCIRCULATORY SOCIETY MEMBERSHIP BUSINESS MEETING

Sunday, March 29, 4:30pm - 5:30pm

MICROCIRCULATORY SOCIETY RECEPTION, AWARDS & POSTER DISCUSSIONS

Sunday, March 29, 5:30pm - 7:00pm

KALEY AWARD

DR. MARK T. NELSON

Ion channel cross-talk
in the microcirculation

Monday, March 30, 10:30am - 12:30pm

Early Registration Deadline: Monday, February 2, 2015



VASCULAR BIOLOGY 2014

MCS participated as a guest society at NAVBO's annual Vascular Biology meeting at the Asilomar Conference Grounds in Pacific Grove, California October 19-23, 2014. A tribute to past MCS President Brian Duling was given to the assembled societies (Duling was also a founding member of NAVBO) on Sunday evening after the keynote lectures.

The MCS had three sessions. The first session was "oxidative/nitrosative stress on microvascular responses in vascular disease" chaired by Jefferson Frisbee (West Virginia University) and Zoltan Ungvari (Oklahoma State University) with keynotes from Karen Stokes (Louisiana State University-Shreveport), David Stepp (Georgia Regents University) and Jefferson Frisbee. The second session was "new perspectives on the role of lymphatics in inflammation" chaired by Jerome Breslin (University of South Florida) and Mariappan Muthuchamy (Texas A&M Health Science Center) with keynotes from Pierres-Yves von der Weid (University of Calgary) and W. Lee Murfee (Tulane University). The last session was "molecular and cellular dynamics of angiogenesis" chaired

by Shayn Peirce-Cottler (University of Virginia) and Lee Murfee with keynotes from Mark Olfer (West Virginia University), Patricia D'Amore (Harvard) and William Stallcup (Sanford-Burnham Medical Research Institute).

Each session was very well attended with excellent discussions, two of the three sessions had standing room only that was composed equally of MCS and NAVBO members. The MCS abstracts from Vascular Biology will be published in *Angiogenesis*.

Lastly, there was a quorum for MCS Council and a meeting was held to discuss issues pertaining to the continued presence at Microcirculation World Conferences, the current Microcirculation World Conference in Kyoto, the MCS webpage and logo, and the most efficient management of MCS in general.

Overall, the meeting was considered by all polled as another successful "cross-pollination" between NAVBO and MCS with everyone expressing hope that these interactions continue.



Members of the MCS Council (from left to right: Shayn Peirce-Cottler, W. Lee Murfee, Brant Isakson and Trevor Cardinal) enjoy wine tasting along their way to beautiful Monterey to attend Vascular Biology 2014.

Information and photos of award winners can be found on page 10.

10th World Congress for Microcirculation

In conjunction with the 40th Japanese Society for Microcirculation

Date: **Sep. 25-27, 2015** Venue: **Kyoto International Conference Center**

President:

Makoto Suematsu M.D. Ph.D.
Keio University School of Medicine

President for 40th JSM:

Toyotaka Yada M.D. Ph.D.
Kawasaki University of Medical Welfare
Kawasaki Medical school

Executive Advisers:

- **Toshikazu Yoshikawa**
Kyoto Prefectural University of Medicine
- **Fumihiko Kajiya**
Kawasaki University of Medical Welfare

Plenary Lectures:

- **Vascular metabolism: principles and strategies**
Prof. **Peter Carmeliet**
Katholieke Universiteit, Leuven, Belgium
- **Catching pathogens in the microcirculation**
Prof. **Paul Kubes**
University of Calgary, Alberta, Canada.
- **Imaging brain activity from capillaries**
Prof. **Serge Charpak**
Institut National de la Santé et de la
Recherche Médicale, Paris, France

Congress Secretariat

c/o Congress Corporation
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Phone: +81-3-5216-5318 Fax: +81-3-5216-5552
E-mail: wcmic2015@congre.co.jp

KYOTO, JAPAN <http://www.congre.co.jp/wcmic2015>

FEATURED YOUNG INVESTIGATOR'S RECENT STUDY IN *MICROCIRCULATION**

THE RUNNING BRAIN

Featuring: **Denise Arrick** (graduate student) in the laboratory of William G. Mayhan at the LSU Health Sciences Center-Shreveport.

Exercise training has been used as a viable therapeutic approach for the treatment of individuals following a stroke. However, whether pre-conditioning by exercise training can be beneficial on brain function prior to the onset of an ischemic event remains unclear. We suggest that pre-conditioning exercise training may be an important therapeutic tool for an improvement in lifestyle for individuals that suffer from a stroke later in life. In addition, we suggest that pre-conditioning exercise training may be important for individuals with pre-existing conditions that increase their overall risk for a stroke (e.g., chronic hypertension and/or diabetes). In our study ([Microcirculation 21\(6\): 516-523, 2014](#)), we determined the effects of vigorous exercise training prior to an ischemic stroke on brain injury and cerebrovascular function. We found that vigorous exercise training for 8-10 weeks decreased

infarct volume following occlusion of the middle cerebral artery and increased reactivity of cerebral arterioles to NOS-dependent agonists. The mechanisms involved are not entirely clear, but we believe that a key finding may center upon the ability of pre-conditioning exercise training to improve cerebrovascular function prior to the ischemic event. We speculate that enhanced vascular reserve produced by pre-conditioning exercise training would alleviate/prevent dramatic decreases in cerebral blood flow from occurring during ischemia, and thereby preserve the viability of brain tissue. The preservation of cerebral blood flow during a stroke would decrease the severity of sensory and motor dysfunction. Further, the economic burden for rehabilitation of these individuals would be greatly diminished. Additional experiments are necessary to determine the cellular and molecular pathways responsible for the beneficial effects of pre-conditioning exercise training.

*Note this new Featured Article will appear in each MCS Newsletter and will be chosen from recent publications in *Microcirculation* our Official Journal. If you have a recent publication in *Microcirculation*, that includes young investigators as authors, and would like your study to be considered for this Featured Article, then send your study and reference to Executive Director Bernadette Englert at executivedirector@microcirc.org.

Microcirculation

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Original Articles

[Impact of Increased Intramuscular Perfusion Heterogeneity on Skeletal Muscle Microvascular Hematocrit in the Metabolic Syndrome](#)

Joshua T. Butcher, Shyla C. Stanley, Steven D. Brooks, Paul D. Chantler, Fanwu and Jefferson C. Frisbee

[Oregonin from the Bark of *Alnus japonica* Restrained Ischemia-Reperfusion-Induced Mesentery Oxidative Stress by Inhibiting NADPH Oxidase Activation](#)

Nguyen Huu Tung, Kai Sun, Jing-Yu Fan, Yukihiro Shoyama and Jing-Yan Han

[Negative Correlation of CD34+ Cells with Blood-Brain Barrier Permeability following Traumatic Brain Injury in a Rat Model](#)

Xuelong Jin, Feifeiwang, Xingju Liu, Bin Liang, Zequn Chen, Junfeng He, Hong Zhang and Jianning Zhang

[Pretreatment with Andrographolide Pills® Attenuates Lipopolysaccharide-Induced Pulmonary Microcirculatory Disturbance and Acute Lung Injury in Rats](#)

Ning Yang, Yu-Ying Liu, Chun-Shui Pan, Kai Sun, Xiao-Hongwei, Xiao-Wei Mao, Fang Lin, Xue-Jun Li, Jing-Yu Fan and Jing-Yan Han

[Cytosolic Calreticulin Inhibits Microwave Radiation-Induced Microvascular Endothelial Cell Injury Through the Integrin-Focal Adhesion Kinase Pathway](#)

Fei-Fei Xu, Tian-Qi Tao, Xiao-Rengwang, Yu-Zhen Li, Dan-Dan Song, Mi Liu and Xiu-Hua Liu

[No Major Impact of Skin Aging on the Response of Skin Blood Flow to a Submaximal Local Thermal Stimulus](#)

Julien Vionnet, Irene Calero-Romero, Abigaël Heim, Corina Rotaru, Rolf Peter Engelberger, Benoît Dischl, Bernard Noël, Lucas Liaudet, Bernardwaeber and François Feihl

[Effect of Resistance Training on Microvascular Density and eNOS Content in Skeletal Muscle of Sedentary Men](#)

Matthew Cocks, Christopher S. Shaw, Sam O. Shepherd, James P. Fisher, Aaron M. Ranasinghe, Thomas A. Barker, Kevin D. Tipton and Anton J. M. Wagenmakers

[Compromised Endothelium-Dependent Hyperpolarization-Mediated Dilations can be Rescued by NS309 in Obese Zucker Rats](#)

Negara Tajbakhsh and Elke M. Sokoya

[Oxidative Stress increases Pulmonary Vascular Permeability in Diabetic Rats through Activation of Transient Receptor Potential Melastatin 2 Channels](#)

Silu Lu, Lusha Xiang, John S. Clemmer, Peter N. Mittwede and Robert L. Hester

[Pressure-induced Vasodilation and Reactive Hyperemia at Different Depths in Sacral Tissue Under Clinically Relevant Conditions](#)

Sara Bergstrand, Ulrika Källman, Anna-Christina Ek, Lars-Göran Lindberg, Maria Engström, Folke Sjöberg and Margareta Lindgren

MEET SOME OF OUR NEWEST MEMBERS

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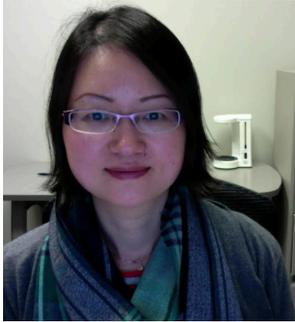
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Shan Liao, Ph.D. is an Assistant Professor in the Department of Microbiology, Immunology and Infectious Diseases at the University of Calgary. Her research interests are in interest is in lymphatic function and immune regulation in health and diseases.

Stefano Tarantini is a Graduate Student at the Reynolds Oklahoma Center on Aging Research at the University of Oklahoma Health Sciences Center, in Oklahoma City, OK. His research interests include hypertension-induced cerebral microhemorrhages and their role in the development of age-dependent vascular cognitive impairment.



Takahiro Murata, M.D. PhD. is a neurosurgeon and Assistant Professor in the Department of Neurosurgery at Shinshu University School of Medicine in Matsumoto, JAPAN. His recent research interests are magnesium vasodilation in cerebral penetrating arterioles and also early vascular injury of arteriole following subarachnoid hemorrhage.



Marta Noa Valcarcel Ares, Ph.D. is a Postdoctoral fellow at the University of Oklahoma Health Sciences Center in the Geriatric Medicine Department. Marta's main research interest is age-related cognitive impairment. In particular, the implication of the cerebral microvasculature in the aged brain.



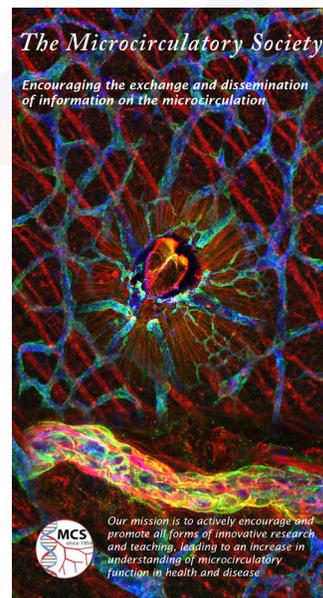
William Okech, M.S. is a Graduate Student at the University of Rochester. The goal of William's research is to determine the role of extracellular matrix fibronectin in mechanosignaling to endothelial cells under flow.

This work will help in understanding the effect of changes in ECM composition on vascular function.

Elena Y. Senchenkova, Ph.D. is a Postdoctoral Fellow in the Department of Molecular and Cellular Physiology at Louisiana State University Health Science Center in Shreveport. My research covers the mechanisms underlying accelerated thrombotic responses and leukocyte recruitment in microcirculation associated with chronic and acute inflammation.



[Download the new MCS Brochure](#)



TRAVEL AWARDS TO VASCULAR BIOLOGY 2014

The Microcirculatory Society prides itself on supporting the career of young investigators. Enabling these young investigators to attend meetings where they are able to network, learn and possibly meet their next mentor or collaborators, embodies this spirit. MCS is very proud to highlight the recipients of Travel Awards to Vascular Biology 2014, where MCS was a guest society of the North American Vascular Biology Organization (NAVBO) and sponsored symposia, see page 4 of this newsletter for additional details about the meeting.

Travel award recipients were recognized during the Opening Session. Dr. Rolando Rumbaut, Baylor College of Medicine, President-elect of the Microcirculatory Society, presented each awardee with a certificate and check for \$500!



Kenneth Gojun of California Polytechnic State University - San Luis Obispo. Kenneth's poster, *Vasodilation in mature arterIALIZED collateral capillaries increases flow in ischemic arterial tree*, was presented in the Microcirculation Session on Monday evening.

Joshua Heuslein of the Colorado State University presented his poster, *Mechanotransductive mechanisms of amplified arteriogenesis in collateral artery segments exposed to a reversal in hemodynamic flow direction*, on Monday evening, October 20.



Jamie Mayo of the Idaho State University, presented her poster, *Stimulating pericytes: An exosome driven promotion of angiogenesis*, in Monday night's poster session.

Xun Zhang of the University of South Florida, also presented his poster titled, *Sphingosine-1-Phosphate (S1P) induces localized RhoA activation in association with endothelial barrier enhancement*, on Monday evening.



Congratulations to our Outstanding Poster Award Recipients:

Nicole Madfis, University of California, Merced

Poster: *TGFBI Signaling in Vascular Endothelial Subphenotypes from Embryonic Stem Cells*

Joshua Scallan, University of Missouri

Poster: *Lymphatic Vascular Integrity is Disrupted in Diabetes and is Restored by Phosphodiesterase Inhibition*

CALL FOR NOMINATIONS OF OFFICERS AND COUNCILORS

The MCS Nominating Committee is now seeking nominees for:

PRESIDENT-ELECT, SECRETARY, AND TWO COUNCILORS

2014-2015 Microcirculatory Society Nomination Ballot
is available on the MCS Web site -

Go to [http://microcirc.org/MCS Nomination Ballot 2014-2015.pdf](http://microcirc.org/MCS%20Nomination%20Ballot%202014-2015.pdf)
or print and complete the form at the end of this newsletter

You will need to provide the names and email addresses of nominees to Travis Hein, Chair of the Nominating Committee.

From the MCS By-laws:

Nominations for all Officers, including Council members, of the Society will be obtained by mail, fax, e-mail or other approved forms of communication 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, a total of not more than four nominees for that office will be included on the ballot.

The deadline for receipt of nominations has been extended to December 16, 2014

Please complete the form and email it by December 16 to:

Travis Hein, PhD
Chair, MCS Nominating Committee
Department of Surgery
Texas A&M Health Science Center
Email: thein@tamu.edu

MCS OFFICERS & EXECUTIVE COUNCIL, 2014-2015

TITLE	NAME	TERM	EMAIL
President	Mary (Molly) D. Frame	2015	President@microcirc.org
President-elect	Rolando Rumbaut	2015	PresidentElect@microcirc.org
Past-President	Jefferson C. Frisbee	2015	PastPresident@microcirc.org
Secretary	Trevor R. Cardinal	2015	Secretary@microcirc.org
Treasurer	Shayn Peirce-Cottler	2016	Treasurer@microcirc.org
Councilor	Brant E. Isakson	2015	bei6n@virginia.edu
Councilor	Anatoliy A. Gashev	2016	gashev@tamu.edu
Councilor	Dwayne N. Jackson	2016	dwayne.jackson@schulich.uwo.ca
Councilor	Jerry Breslin	2017	jbreslin@health.usf.edu
Councilor	Walter Lee Murfee	2017	wmurfee@tulane.edu
Councilor	Kim Dora	2017	kim.dora@pharm.ox.ac.uk

The Rosters of all Committees can be found on our web site at:
http://www.microcirc.org/ABOUT/MCS_Committees1a.htm

CALENDAR

UPCOMING MEETINGS

[International Stroke Conference](#)

Nashville, TN – February 11-13, 2015

[The Microcirculatory Society Annual Meeting](#)

Boston, MA - March 28-29, 2015
at Experimental Biology

[Experimental Biology 2015](#)

Boston, MA – March 28-April 1, 2015

[Arteriosclerosis, Thrombosis and Vascular Biology/Peripheral Vascular Disease 2015](#)

San Francisco, CA – May 7-9, 2015

[Basic Cardiovascular Sciences Scientific Sessions 2015](#)

New Orleans, LA – July 13-16, 2015

[The Fourteenth International Conference on Endothelin](#)

Savannah, GA – September 2-5, 2015

[Hypertension Scientific Sessions 2015](#)

San Francisco, CA – September 9-12, 2015

[10th World Congress for Microcirculation](#)

Kyoto, Japan – September 25-27, 2015

[Biomedical Engineering Society Annual Meeting](#)

Tampa, FL – October 7-10, 2015

[Vascular Biology 2015](#)

Hyannis, MA – October 18-22, 2015

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