



North American Vascular Biology Organization - eNews

18501 Kingshill Road, Germantown, MD 20874-2211

Vol 3 #4

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Next newsletter will be issued March 15 - submit items you would like to have included by Mar 1

OPEN POSITIONS

Postdoctoral Fellows

Evgenia

Gerasimovskaya

**University of Colorado
Denver**

Jeff Isenberg

University of Pittsburgh

Michael Simons

Yale University

Robert Terkeltaub

Univ of California, SD

Staff Positions

Developmental Vascular Biology Workshop

Today, December 15, is the deadline for submission of an abstract to the DVB workshop and also the expiration of the early bird discount. Go to www.navbo.org/event/dvb for all meeting information.

Tax Deduction for 2009

Please consider making a contribution to NAVBO. We specifically seek support for the IVBM Travel Awards, Vasculata Scholarships and NAVBO Programs. Any amount is welcomed and appreciated. You can make your donation online at:

www.navbo.org/donations.

For US residents, NAVBO is a 501(c)(3) organization, in which contributions qualify as deductible under IRS regulations. Please consult your tax accountant for deductibility.

TECH CORNER

Detection of NO - Using Diaminofluoresceins

The detection of nitric oxide (NO) in biological samples has greatly evolved over the past twenty five years, and researchers now have a variety of techniques available to them to measure NO. In 1998, Kojima and colleagues developed a series of NO-sensitive compounds called diaminofluoresceins (DAFs) that allow for the direct visualization of NO production in cultured cells using fluorescent microscopy¹. The most widely published derivative, 4,5-diaminofluorescein diacetate (DAF-2 DA), is readily taken up by cells within 30 minutes and is converted by intracellular esterases into a triazolofluorescein derivative (DAF-2T), which is highly fluorescent and retained within the cell. One of the advantages of this technique is that the excitation and emission wavelengths (495nm and 515 nm respectively) are in the visible light range, and an increasing number of labs have access to fluorescent microscopes that can detect this signal. Many labs have documented the specificity of DAF-2's sensitivity to NO through the use of NO donors or by inhibiting nitric oxide synthase-derived

President's Message

Times are difficult, and NAVBO has certainly not been immune to the problems facing the world economy. Increased effort has been needed to obtain corporate support and grant funding for the organization. With the multitude of personal and professional financial troubles facing our membership, expanding NAVBO's member base has also been tough. Despite these challenges, NAVBO remains committed to its core goals, the most important of which is facilitating communication between vascular biologists through sponsorship of high-quality, cutting-edge scientific conferences.

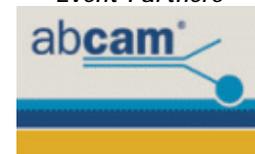
As you will probably know from the emails you have already received from NAVBO, today is the early registration and regular abstract submission deadline for our longest-running workshop, Developmental Vascular Biology, being held February 10-13, 2010 in Monterey, CA. This is the fourth installment of what has been a very highly regarded and informative series of meetings held every two years on the scenic Asilomar Conference Grounds. The DVB workshop has become the premiere meeting for developmental vascular biology research. The meeting focuses on molecular control of vascular development, cell signaling pathways in angiogenesis and lymphangiogenesis, hemangioblasts and hemogenic endothelium, cardiac development, and mechanisms of patterning blood vessel growth and migration, among other things. It is attended by researchers using a wide variety of models, including mice, frogs, fish, birds, flies, and cell culture. Previous DVB meetings have featured some of the latest, cutting-edge, unpublished findings in vascular developmental biology, findings that have become major topics of widespread basic and clinical research study. The upcoming meeting is on track to be equally exciting and informative with outstanding invited speakers representing many of the premiere research labs at the intersection of development and vascular biology (the

Special thanks to our Developmental Vascular Biology Workshop Supporters -

Workshop Partners



Event Partners



Visit the IVBM Web Site - <http://ivbm.mcdb.ucla.edu>



Abstract submission deadline: April 10. The International Vascular Biology Meeting will serve as NAVBO's annual meeting in 2010. Our Membership Business Meeting and our Award lectures will be held at the IVBM.

www.navbo.org

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Harold A. Singer
Albany Medical College

Robert Terkeltaub
Univ of California, SD

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NO with compounds like L-NAME. Although these studies help to validate the use of this compound, it has been demonstrated that the intracellular reaction product between NO and O₂ (N₂O₃) is what generates the fluorescent DAF-2T compound. Therefore, care must be taken when working with culture environments containing high levels of reducing agents such as ascorbate or glutathione which can scavenge N₂O₃, as they have been shown to cause a reduction in fluorescence intensity².

The figure depicts DAF-2 fluorescence in pulmonary endothelial cells plated in 8-well chamber slides and visualized live with a Nikon Diaphot inverted microscope. The cells were loaded with 5 μM DAF-2 DA for 30 minutes in a HEPES-buffered Hank's balanced salt solution. Using a fluorescence imaging system with a digital camera attachment, fluorescence intensity from 5-10 cells was simultaneously collected every 2 seconds. After baseline measurements were collected, cells were treated with acetylcholine, acetylcholine + 100 nM L-NAME or the NO donor MAHMA-NONOate. DAF-2T fluorescence was then measured over the course of 15 minutes³. As the figure depicts, DAF-2 fluorescence in response to the NO donor is robust and almost immediate while the response to acetylcholine begins after 3-4 minutes and is almost completely inhibited by L-NAME.

With novel fluorescent probes becoming increasingly available, the simultaneous analysis of nitric oxide production and other biological endpoints will be possible. Several groups have already reported dual analysis of NO and intra-cellular calcium in cultured cells using a combination of DAF-2 and Fura-2. ([Click here for full article, including graph, references, acknowledgements](#))

Werner Risau Prize 2010 for Outstanding Studies in Endothelial Cell Biology

Together with the German Society for Cell Biology (DGZ) the prize committee will award a prize for "outstanding studies in endothelial cell biology" to candidates within the first 5 years after obtaining their PhD or MD (except in the case of maternal leave). The Prize will be awarded for an article already published or in press, and consists of a personal diploma and

preliminary program is available at <http://www.navbo.org/?DVB4Program>). In addition to invited speakers, talks will be selected from the submitted abstracts. With two long poster sessions and even more time allotted for talks programmed from abstracts than in previous DVB meetings, there will be many opportunities for meeting attendees to present their research findings to other participants. Preliminary program, additional information, registration and abstract submission are available at: <http://www.navbo.org/event/dvb>.

Although today is the deadline for regular abstract submission, the site will re-open for additional late-breaking poster presentations.

As mentioned in our last newsletter, NAVBO will hold concurrent workshops beginning in 2011. First up are our Workshops on Biology of Signaling in the Cardiovascular System and Vascular Matrix Biology and Bioengineering. Dates and a venue have now been selected for these meetings. Current plans are for October 16-20, 2011, at the Resort and Conference Center at Hyannis on Cape Cod in Massachusetts. The individual workshops will each be organized and run separately, and retain the informality and interactive flavor that has made NAVBO workshops so popular with their participants. However, both workshops will be open to all participants in either workshop, and a joint session of both meetings will provide a venue for lectures of broad interest and presentation of NAVBO awards. The 2011 workshops will be followed in 2012 by a concurrent presentation of the Developmental Vascular Biology and Genetics and Genomics of Vascular Disease workshops. We hope to hold these at Asilomar in California.

We encourage you to attend these NAVBO-sponsored meetings, and let your friends and colleagues know about all of the wonderful opportunities for scientific interaction available to them through NAVBO.

Update on Brad Berk's Recovery

On October 8, Bradford Berk, M.D., Ph.D., was discharged from Strong Memorial's Rehabilitation Unit. His first priority is continuing outpatient physical and occupational therapy in Rochester. Mark Taubman, M.D., remains Acting CEO. For more information go to:

Join the NAVBO Now! Feed - get quick up to date information about NAVBO, meetings, NIH funding, etc. Go to www.navbo.org/now

[See FAQs #1](#)
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Remember, if you haven't logged into the new site yet, your email address is your username and your password is your Member ID number. Enjoy the visit!

a financial contribution of 4000 Euro.

Applicants are requested to send a letter together with their CV and one copy of the article to:

Werner Risau-Preiskomitee
c/o Prof. Dr. Britta Engelhardt
Universität Bern
Theodor Kocher Institut
Freiestrasse 1
CH-3012 Bern
Switzerland - Suisse

Applications should also be sent by e-mail (preferably in pdf format) to:

Ursula.Zingg@tki.unibe.ch

Application deadline: January 15, 2010

The prize will be awarded during the Annual Meeting of the German Society for Cell Biology (March 10-13, 2010) in Regensburg, Germany.

<http://www.urmc.rochester.edu/berk/>

Corporate Membership

Find out how your organization can become a corporate member - see Sponsorships on our web site (www.navbo.org/?CorpMbr).

Contact bernadette@navbo.org if your organization is interested in becoming an educational partner.