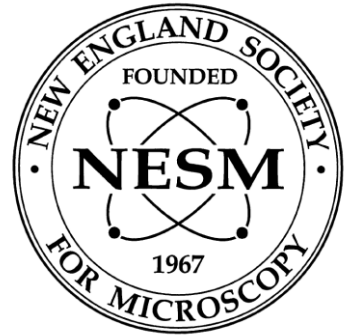


# NESM News



Published by the New England Society for Microscopy April 2011  
Visit our web page at: <http://nesm.cims.harvard.edu/>

## 28<sup>th</sup> Annual Spring Symposium in Woods Hole: May 6th

*We eagerly invite your attendance at our annual spring meeting! **Email register by April 26!***

Woods Hole in the Spring is always inviting, and NESM welcomes you to join us as we hold our first meeting for 2011. This year's Spring Symposium will be a Friday-only one-day affair. Given the shorter meeting format, we have focused our attention on assembling an outstanding group of speakers, covering biological and physical sciences.

We encourage student poster submissions and artistic micro-imaging. All presenters will automatically be entered for a chance to win a prize, but make sure you stick around until the closing remark when prizes are awarded!

The NESM corporate sponsors will be available for discussions during lunch and an extended afternoon coffee break. Please ask them what's new, since without their support, NESM could not function at the high level we all expect and enjoy.

Given that this Spring Symposium will be concluded Friday, you will have the opportunity to enjoy The Cape and The Islands over the weekend, whether you want to walk on the beach, visit other Cape Cod towns, take a ferry to Martha's Vineyard, go for a bike ride along the Shining Sea Bikeway, or fish in the ocean, the Cape Cod Canal, or on the bay side. This year we will not have Dan Gibson's tour of the Little Sippewissett salt marsh, but we hope to bring this back next year. We are looking forward to an excellent symposium and we hope you will join us.

*-NESM Board: Richard Schalek, President; Fettah Kosar, President-Elect; Blair Rossetti, Secretary; Robert Brandom, Clerk; Timothy McClure, Treasurer; Louis Kerr, Chris Rieken, Ming Zheng, Biological Science Directors; & David Bell, Tigran Dolukhayan, Arthur McClelland, Physical Science Directors*

**EXHIBITING VENDORS (as of April 18)**  
**Bruker Gatan, Inc.**  
**Summers Optical Tousimis**



### REGISTRATION FEES for 2011 Symposium (Friday May 6)

*Includes morning coffee and pastries, lunch and afternoon coffee break*

NESM member	\$65.00
Non-member (includes 2011 membership)	\$90.00
Student member	\$30.00
Retired member	\$50.00
Guest registration	\$50.00

### Accommodations at Swope Center, MBL

*Reservations must be indicated in your registration email by April 26 (specify gender)*

Double occupancy (shared)	\$45.40/person
Single occupancy	\$91.00

**28<sup>th</sup> Annual Woods Hole  
Spring Symposium Agenda  
Marine Biological Laboratory, Woods Hole, Massachusetts  
The New England Society for Microscopy**

**Friday, May 6**

9:00am **Registration:** Swope Center (Coffee and pastries served in Meigs Room)

10:00am **Welcome (Meigs Room):** Richard Schalek, NESM President

**Moderator:** Fettah Kosar, President-elect

10:10am **“Facial Reanimation: A Transgenic Approach to Muscle Re-Innervation”**, Dr. Alexander Woollard, University College London, UK.

10:50am **“Paleontological Applications of Synchrotron Imaging with Insights into Human Evolution”**, Dr. Tanya Smith, Harvard University.

11:30am **Vendor/ Poster Session**

12:00pm **Lunch**

1:15pm **Keynote: “Wide-Field and Stereo Scanning Electron Microscopy: An Introduction to Biodiversity and Biomimetics”**, Dr. James Weaver, University of California, Santa Barbara.

2:15pm **Afternoon Break:** Coffee and Refreshments Served

**Moderator:** Tigran Dolukhanyan, Physical Sciences Director

3:00pm **“In Situ Experiments in X-Ray Micro Tomography”**, Dr. Eric Maire, Universite de Lyon, France.

3:40pm **“Nanometer-sized Diamonds as Cathodoluminescent Markers”**, Dr. David Glenn, Harvard University.

4:20pm **“TEM Sample Prep using FIB Total Release”**, Nicholas Antoniou, Harvard University.

5:00pm **Closing Remarks:** NESM Board

## ☼☼☼☼ Directions to Woods Hole ☼☼☼☼

If you want to get directions from MapQuest, the ZIP Code for Woods Hole is 02543, the address of MBL is 7 MBL Street.

### **From Boston (81 miles)**

Take the SE Expressway (Rte 3) to the Sagamore Bridge (53 miles) The rotary at the Sagamore Bridge is gone! The easiest route is to cross the Sagamore Bridge, take the first exit, and get on Rte 6A South. This will take you to the Rotary that is on the Cape Cod side of the Bourne Bridge. Go 3/4 of the way around the Rotary to the Route 28 exit, and take it straight to Falmouth. (about 14 miles)

### **From the Mass Pike/I-495 exit (85 miles)**

From the Mass Pike get on I-495 South and follow it for about 60 miles where it turns into Route 25 South. Follow Rte 25 and it will take you over the Bourne Bridge to Route 28, which is halfway around the rotary at the end of the bridge. It is 14 miles down Rte 28 to Falmouth.

### **From Providence (80 miles)**

In Providence get on I-195 East. I-195 ends at Rte 25; take the exit for Rte. 25 South to Cape Cod. And right over the Bourne Bridge. As you exit the bridge, go halfway around the Rotary to

Rte 28 Take Rte 28 14 miles straight to Falmouth.

### **WHEN YOU GET TO FALMOUTH**

#### **(All Routes):**

Take Rte 28 for 14 miles, where the freeway will end. Rte 28 enters Falmouth as a 2-way road. Keep straight on this road (Palmer Ave.) through the traffic light. Route 28 turns left there, but you don't. Keep to the right, don't make any turns, and about 1/2 mile farther you will veer right at a fork in the road, go 4 miles (and 1 more traffic light) down Woods Hole Road, which ends in Woods Hole. Keep right, avoiding the road to the ferry on the left, and go straight down the main street. Turn right onto MBL street across from the waterfront park, and go down one block until you have to turn left. The Swope Center is right there, and three blocks farther down that road is the BAR NECK parking area, where you must park until after business hours.

#### **Bus to Woods Hole from Boston.**

<http://www.peterpanbus.com/tickets/fares.php>  
This website will give you fares and times from South Station to Woods Hole (Steamship dock, 5 mins. from MBL) Service from Providence to Woods Hole as well.

### ***SPECIAL PARKING PERMIT REQUIRED***

You will need to check in at Swope to receive your parking pass to be placed on your dashboard when you park in the Bar Neck Road parking lot (Lot E). Bar Neck Road is a continuation of the street that runs past the Swope Center. You have to park there until the end of the workday at 5.

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If you do not book ahead or prefer not to stay at the Swope Center, here are some local places to try:

- **Sleepy Hollow Motor Inn**, Woods Hole 508-548-1986 [www.shmotel.com](http://www.shmotel.com)
  - **Sands of Time Motor Inn**, Woods Hole 508-548-6300 [www.sandsoftime.com](http://www.sandsoftime.com)
  - **Inn on the Square by Ramada** ~4 miles away, & fancy 508-457-0606 [www.innonthesquare.com/](http://www.innonthesquare.com/)
- OTHER LODGINGS: the extensive list of motels/hotels in Woods Hole and Falmouth can be found on the MBL website at this URL: <http://www.mbl.edu/housing/hotels.html>

## *Corporate Members*

Thank you for your support. Your sustained commitment to NESM allows us to continue to promote excellence in microscopy here in New England. If your company is missing from this list, please contact Tim McClure at [mtim@mit.edu](mailto:mtim@mit.edu) for corrections and additions.

*AMT*

*Analytical Answers*

*Bruker Corporation*

*Carl Zeiss SMT*

*EDAX Inc.*

*EMS/Diatome*

*FEI Company*

*GATAN Inc.*

*Geller MicroAnalytical Lab*

*Horiba*

*JEOL-USA Inc.*

*Kimball Physics, Inc.*

*LEICA Microsystems, Inc.*

*Oxford Instruments*

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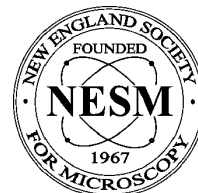
Ongoing support has also been provided by: Barry Scientific Inc., Denton Vacuum Inc., E.A. Fischione Instr. Inc., Energy Beam Sciences, Electro-Image Inc., Hitachi Scientific Instruments, Kimball Physics Inc., LADD Research Ind. Inc., Micro Star Technologies Inc., Nanotech Consulting, Technotrade International, Thermo Fischer

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Microscopy Society of America (MSA) 12100 Sunset Hills Rd., Suite 130 Reston, VA 20190  
1-800-538-3672 FAX: (703) 435-4390 Email: [MSAombudsman@microscopy.org](mailto:MSAombudsman@microscopy.org) Please see  
MSA website ([www.microscopy.org](http://www.microscopy.org)) for further information on the society and for submitting  
application for national society membership on-line.

PLEASE POST

# CALL for POSTERS & PHOTOMICROGRAPHS

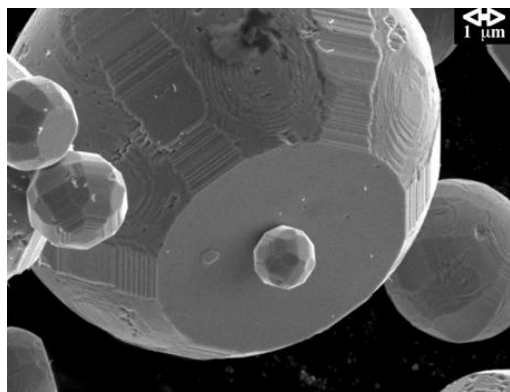
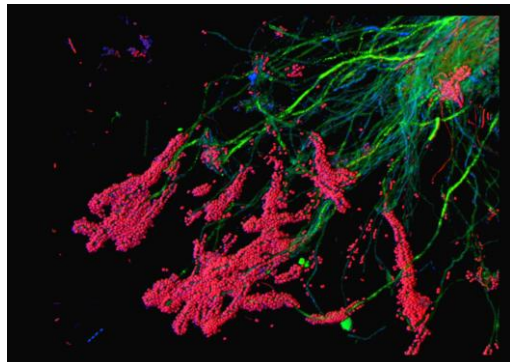


28<sup>th</sup> Annual Spring Symposium

Woods Hole, MA

Friday, May 6<sup>th</sup> at 11:30 - Noon

*Win for Best Poster,  
Best Student Poster, or  
Best Photo-as-Art*



*Prizes will be awarded during the  
closing remarks at 5:00*

One of the Symposium's most exciting events is the poster session. In an informal setting, members and students alike have an opportunity to present preliminary results or exhibit data that has been presented nationally to a friendly yet informed audience.

The **Photo-As-Art** session is intended for the photomicrograph you feel has special aesthetic quality.

\* **Posters** should be submitted with a title and abstract (200 words or less)

\* **Photomicrographs** will be displayed along with the posters and should be submitted with a title or caption and a short technical explanation.

**Extended deadline!!! You can submit on the day of the meeting!!!**

\*\*\*\*\*

Please email the following: your name, affiliation, email address, status (student, etc.), poster title, presenting author, & abstract to Blair Rossetti [brossetti@mbi.edu](mailto:brossetti@mbi.edu)

# NESM APPLICATION FOR MEMBERSHIP 2011

Date \_\_\_\_\_

## Member Information:

Name \_\_\_\_\_

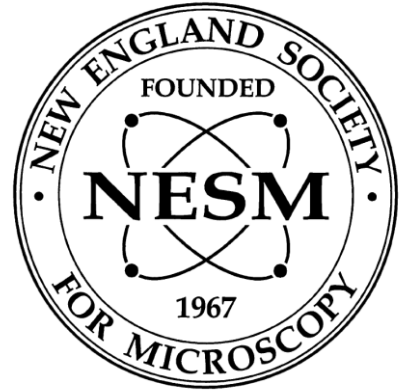
Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

Company/University \_\_\_\_\_



*The Society's communications (newsletters, announcements, etc.) are typically sent electronically. If you wish to have your email address kept private (BCC and secret from other members), please check here:*

## Membership Status:

- Regular Member: \$25.00     Student Member: \$10.00     Retired Member: \$10.00  
 Corporate Member\*: \$150.00     Change of Address Only (Current Members)

\*Each Corporate Membership entitles two representatives to membership benefits. Please give the information of the second representative:

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

## Areas of interest: (please check all that apply -- optional)

- Optical     Confocal     TEM     SEM     FIB     Other: \_\_\_\_\_  
 AFM/STM     Instrumentation     Accessories/Supplies     Other: \_\_\_\_\_

Please make your **check** payable to **NESM** and send it with this application to:

**NESM Treasurer**  
**PO Box 425794**  
**Cambridge, MA 02142-5794**

NESM has a calendar-year membership; new members may join at anytime. Members joining after September 1<sup>st</sup>, in any year will be credited with the following year's membership. To join, please check one of the member categories, and return the above application along with the check payable to NESM. Dues for renewing members are payable on January 1<sup>st</sup> each year and may be sent by check to the Treasurer at the above address or paid at a Society meeting.

**NESM members who bring 2 new members to join during 2011, will receive free membership for 2012!!**

*The New England Society for Microscopy (NESM), a local affiliate of the Microscopy Society of America (MSA) and the Microbeam Analysis Society (MAS) is a professional organization dedicated to the promotion and advancement of the science and practice of all microscopical imaging, analysis, and diffraction techniques. Each year, the Society holds four local meetings which feature speakers from both biological and physical science backgrounds. Social hours and buffet dinners are enjoyed at each meeting.*

## *Past & Future Meetings*

**NESM Fall Symposium at Gordon College** The 44<sup>th</sup> Annual NESM Fall Symposium and Business Meeting was held in December 2010 at Gordon College, and again the weather was wonderful. Prior to a wonderful dinner hosted by the Gordon students, our symposium started with 5 technical talks; and the after dinner speaker was Dr. David Bell of Harvard who presented work from his new Aberration-Corrected TEM with an information limit below 100 picometers! Our other speakers included Yong Zhang of MIT who took an old problem of Hydrogen embrittlement in 2-phase Ti alloys and showed how it can be controlled for Hydrogen (fuel) storage, as well as improved mechanical structures in airplanes. Neil Rowlands of Oxford Instruments showed how new Si drift detectors (SDD) greatly enhance x-ray detection in the modern STEM. Stephen Mick described how Protochips, Inc. is developing new *in situ* holders for TEM experiments enabling microelectronics to be electrically tested in the TEM. Khuloud Jaqaman of Harvard presented live-cell single-molecule imaging with a resolution better than light(!) as a consequence of mathematical multi-scale motion analysis. Donna Guarrera of JEOL presented work of the new ClairScope, which enables both SEM and optical imaging of samples at atmospheric pressures. The Business meeting elected new board members, as well as discussed the financial status of the Woods Hole Meeting. A majority of members requested the cost of the meeting to go down; and a majority of members voted to increase spending to entice more well-known speakers in order to increase attendance. Changes to the format of the Woods Hole meeting were discussed, such as 1 full day rather than 2 half days.

### **Coming Soon!!**

2011 Fall Meeting (Details Pending): Harvard Center for Biological Imaging, Biolabs Building, Harvard University, Cambridge, MA; in September or early October. Tour the new light microscopy facility at Harvard; home to nearly 20 instruments from fluorescent stereomicroscopes to TIRF and 2-photon confocals. Hosted by Carl Zeiss MicroImaging, LLC.

2011 Annual Symposium and Business Meeting (Details Pending): Ken Olsen Science Center at Gordon College, Wenham, MA; in early December. The symposium will feature several technical talks followed by the annual business meeting and dinner.

**ATTENDEES LIST:** *A list of Symposium attendees and their contact information will be available at the meeting. If you prefer to have any of your contact info left off the list, please notify in advance by emailing Blair Rossetti at [brossetti@mbl.edu](mailto:brossetti@mbl.edu), or when you register at the meeting.*

If you brought your kids, the Woods Hole Science Aquarium is only open on weekdays this time of year. For your interest:

**The Ocean Science Museum at Challenger House** on School Street is part of the Woods Hole Oceanographic Institution; it is great for kids but unfortunately is not open on Saturday and closes at 4:30 on Friday (<http://www.whoi.edu/page.do?pid=9135>).

**The Woods Hole Science Aquarium** is run by the National Marine Fisheries Service and is also excellent for kids, but until summer it will have no weekend hours: closes at 4 PM on Friday (<http://www.nefsc.noaa.gov/nefsc/aquarium/>).

Something that *is* open Saturday and is worth a look is **Under the Sun**, next to the post office on Water Street and beyond the drawbridge. It's part gallery, part jewelry/gift store, with lots of cool stuff (<http://www.underthesunwoodshole.com/>).

**Chamber of Commerce** Check out the Woods Hole (<http://www.woodshole.com/happenings.htm>) and Falmouth (<http://www.falmouthchamber.com/more/calendar/local/05-2011>) for weekend events in the area.

**Maritime Days** The weekend of May 6<sup>th</sup> is during the 18<sup>th</sup> Annual Maritime Days. Check their website (<http://www.eapechamber.com/MaritimeDays/>) for events running throughout the weekend.

**Shining Sea Bikeway** Interested in getting a little exercise and checking out the Cape scenery? Bike, walk, or run the Shining Sea Bikeway from Woods Hole to North Falmouth ([http://www.friendsoffalmouthbikeways.com/yahoo\\_site\\_admin/assets/docs/ShiningSeaBikeway\\_map\\_2009\\_logos\\_lowrez.21162756.pdf](http://www.friendsoffalmouthbikeways.com/yahoo_site_admin/assets/docs/ShiningSeaBikeway_map_2009_logos_lowrez.21162756.pdf)), or check out other trails on Cape Cod Bike Guide (<http://www.capecodbikeguide.com/canal.asp>).

**Fishing on the Canal** Looking for a more relaxing pastime? Check out the Corps of Engineer' facility on the Cape Cod Canal for recreational activities and fishing. Please note that beginning in 2011, all fishermen over 16 years of age need a fishing permit for saltwater fishing if fishing in the canal or ocean (<http://www.nae.usace.army.mil/recreati/ccc/recreation/recreation.htm>).