



NESM News

Published by the New England Society for Microscopy · April 2001

Save May 11-12th for 18th Annual Woods Hole Symposium!

After a long, cold, snowy winter, and a spring that started much too late, come spend an enlightening weekend at Woods Hole. It's time for NESM's 18th Annual Spring Symposium! The meeting will be held, as usual, at the Marine Biological Laboratory in Woods Hole, Massachusetts on Friday, May 11th and Saturday, May 12th.

NESM again welcomes the Connecticut Microscopy Society (CMS), the Metropolitan Microscopy Society (MMS), and the New York Society of Experimental Microscopy (NYSEM) to the event!

This meeting, the most popular one of the year, is devoted to microscopy and its associated techniques. Scientists from both the materials science and biological arenas gather along with students, corporate members and fellow professionals to share ideas and renew old friendships.

Students, especially, are encouraged to participate. The weekend affords both a scientific and social meeting ground that allows for one-on-one communication with professionals in a wide variety of scientific and engineering endeavors.

Highlights of the meeting include:

- | | |
|----------------------------|---------------------------|
| ? Scientific Presentations | ? Cocktails & Banquet |
| ? Commercial Exhibits | ? Guest Speakers |
| ? Scientific Poster Awards | ? MRC Tours |
| ? Photo-As-Art Contest | ? Door Prizes |
| ? MSA Traveling Exhibit | ? Commemorative Tote Bags |

*****Marine Resources Center*****

This year, instead of the Cruise, two tours will be given of the Marine Resources Center at MBL. This state-of-the-art facility enables researchers & staff to conduct research on aquatic organisms, provide veterinary medical care to aquatic organisms, develop educational programs to expand the use of aquatic organisms, conduct basic research into the causes, treatment, and prevention of diseases affecting aquatic animals, and develop database reference & research resource materials for investigators, and the general public through the MBL homepage. PLEASE join us for this most interesting and educational tour!

! Accommodations

Swope Center at MBL

\$38/person, double occupancy

\$65/day, single occupancy

Rates include Saturday breakfast ONLY

To reserve a room at Swope, please use the registration form provided in this newsletter.

A limited number of rooms have been set aside for Symposium registrants at the establishments listed below. To reserve your room, please call and pay directly. Be sure to mention that you will be attending the NESM Symposium at MBL.

! **Nautilus Motel, Woods Hole**

800-654-2333

\$82 + tax/night, reserve by May 1st

! **Sands of Time Motor Inn, Woods Hole**

508-548-6300

\$82 + tax/night

! **Sleepy Hollow Motor Inn, Woods Hole**

508-548-1986

\$75 + tax/night

! **Inn on the Square by Ramada**

800-676-0000

\$120 + tax/night

! **Student Discount**

Full-time graduate and undergraduate students, accompanied by faculty advisor, will be able to pre-register for the meeting, enjoy dinner, and receive Friday night accommodations (double occupancy) at Swope Center for \$40.

****REGISTRATION****

Advance registration is a must! Rooms are reserved on a first-come/first-serve basis: **Dinner reservations must be made by May 4th.** Payment must accompany all registrations. Please use the registration form inside this newsletter.

Eighteenth Annual Spring Symposium

Marine Biological Laboratories ? Woods Hole, Massachusetts ? May 11 & 12, 2001

Friday, May 11th

12:00 pm

Registration: Swope Center

1:00 pm

Welcome: Lillie Auditorium—Rick Rogers, NESM President

Session I Materials Sciences-Chairperson: Trisha Rice, FEI Company

1:05 pm

Backside Deprocessing Tools/Techniques used to Detect Fault Locations in Microelectronic Devices: Case Studies in Failure Analysis

Mr. Gerry D'Urso, MA/COM

1:45 pm

Characterization of Nanodisperse Many-Particle-Systems by Electron Microscopy Techniques

Dr. Vlad Oleshko, Polaroid

2:35 pm

Focused Ion Beam Preparation of Samples for TEM

Dr. Terry Stark, Materials Analytical Services (MAS)

3:05 pm

Afternoon Break

Coffee served in Lillie 103

Session II Biological Sciences-Chairperson: Ezequiel Rivera, UMASS-Lowell

3:20 pm

Fluorescence Correlation Spectroscopy: Studying the Interaction of Macromolecules in Living Cells

Dr. Dylan Bulseco, UMASS Medical

4:00 pm

The Organization and Micromechanics of Cytoskeleton via Multiple Particle Tracking

Dr. Dennis Wirtz, John Hopkins University

4:40 pm

Molecular Mechanics of Recombinant Myosin V

Dr. Jeffrey Moore, University of Vermont

5:30 pm

Cocktails and Dinner: Swope Center

7:30 pm

After Dinner Talk Meigs Room, Swope Center

Science in the Art Museum

Mr. Richard Newman, Museum of Fine Arts, Boston

Saturday, May 12th

7:00 am

Breakfast: Swope Center

Session III– Symposium on Remote Access Microscopy-Chairperson: Anthony Garratt-Reed, MIT

8:30 am

A World Away: Microscopy and the Internet

Mr. Mike Kersker, JEOL

9:00 am

Remote Microscopy at Oak Ridge

Dr. Larry Allard, Oak Ridge National Labs

9:30 am

The School House Project: Educational Applications of Remote Access Microscopy

Gary Casuccio and Jim Lang, RJ Lee Co.,/PA Teacher

10:00 am

Commercial Exhibits and Posters and Live demos of Remote Access Microscopy: Swope Center

Coffee and doughnuts will be served

12:00 pm

Presentation of Poster and Photos-As-Art Awards and Door Prizes

Poster Area, Swope Center

12:00 pm

1st. 45-minute Tour of Marine Resource Center (Ed Enos, Superintendent)

1:00 pm

2nd. 45-minute Tour of Marine Resource Center (Ed Enos, Superintendent)

PLEASE NOTE: Lunch at the Swope Center is optional this year, a la carte price \$16.00

CALL FOR POSTERS

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

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 that you feel has that 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.

† **Deadline** for receipt of Posters and Photos-As-Art registration is **May 4, 2001**.

† Registration

Use special Poster and Photomicrograph registration form (be sure to include your abstract) and send with a stamped, self-addressed envelope to:

Ken Orndorff
H.C. Englert Cell Analysis
Laboratory
Dartmouth Med. School
Borwell 383 W
Lebanon, NH 03756

AWARDS

\$100 Best Poster
 \$50 Best Student Poster
 \$50 Best Photo-As-Art
 2nd and 3rd Place
 Honorable Mentions

Directions to Woods Hole

From Boston (81 miles)
 Take the SE Expressway (Rte 3) to the Sagamore Bridge Rotary (53 mi). Do not go over the Sagamore Bridge. Take the first rotary exit towards the Bourne Bridge along the Bourne Scenic Hwy (Rte 6E). At the Bourne Rotary, follow the signs for, and go over, the Bourne Bridge. At the base of the bridge, go around the rotary to the Rte 28 exit and continue on Rte 28. After 14 miles, Rte 28 becomes a 2-way road. Continue straight through the intersection after 1 mile. After 1/2 mi., the road forks at a stop sign. Turn right towards Woods Hole. Continue for 4 mi. (through one intersection) to Woods Hole.

From New York (252 miles)
 Take Rte 95 (US1) North

through CT to Providence, RI. In Providence, exit to Rte 195. Follow 195 through New Bedford to its end, and exit right onto Rte 25 towards Cape Cod. Follow Rte 25 to the Bourne Bridge and continue over the Bourne Bridge. At the base of the bridge, go around the rotary to the Rte 28 exit and continue on Rte 28. (Pick up same directions as before from Boston).

Bus to Woods Hole:

The easiest mode of transportation to Woods Hole is via Bonanza Bus from the Boston Greyhound Terminal. The bus drops you a few minutes walk from the MBL as shown in the lower center of the map. For more information, visit their web page at:
<http://www.bonanzabus.com>

SPECIAL PARKING PERMIT REQUIRED

If you drive to the meeting, please be sure to register at the Swope Center as soon as possible to receive a *special parking permit*. The permit should then be placed on the dashboard of your car. The MBL has begun to enforce the Parking-by-Permit-Only policy in its lots on a year round basis. Once you have the permit, **you are to park in the Bar Neck Road Lot #E only during business hours**. If you are staying overnight, you can move your car to one of the lots behind the Swope Center, entering from Millfield St.

Corporate Exhibitors

All Corporate Members of NESM are invited to join our Commercial Exhibition on Saturday, May 12th at the Woods Hole Symposium. If you are interested in exhibiting, and didn't receive an application, contact Marilyn Wadsworth at 802-656-0813 or by e-mail: mwadswor@zoo.uvm.edu. Reserve your table today!

Commemorative Totes

The Society will be offering canvas tote bags this year. They will be screen-printed with the NESM logo and "Spring Symposium 2001" on one side and a Woods Hole design on the back. Send in your order on the Advance Registration Form as there will be only a limited number for sale at the meeting. The cost is \$12.00/bag.



NESM would like to welcome as a new corporate member, Travelers, located in Windsor, Connecticut.

Meetings, Conferences, & Courses 2001

May 4, 2001

Professional Development Short Course: Ultra-Resolution Optical Microscopy (broadcast via satellite from 11-5pm)
www.bu.edu/disted/dis/dislist.html

May 5-7, 2001

SCANNING 2001:
 (FAMS) New York, NY
 Contact: Paula Pivnick
 (201) 818-1010
scanning@fams.org

May 11-12, 2001

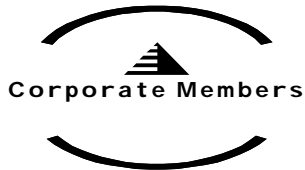
NESM's 18th Annual-Woods Hole Meeting
 Woods Hole, MA
 Contact: Mary McCann
 (617) 484-7865
mccanns@tiac.net

June 6-8, 2001

28th Annual AGM
 Fredericton, New Brunswick Canada
 Contact: Dr. Joseph White
 (506) 447-3185
www.unb.ca/msc2001

June 18-21, 2001

17th Annual Short Course on Molecular Microspectroscopy
 Oxford, Ohio
 (513) 529-2874



Thank you for your support. Your sustained commitment to NESM allows us to continue to promote excellence in microscopy here in New England.

- AMT
- Barry Scientific
- BOC Edwards Vacuum
- CF Associates
- CRI
- Denton Vacuum
- EDAX
- Electro-Image
- EMS/Diatome
- Energy Beam Sciences
- FEI Company
- Fischione Instruments
- Ernest F. Fullam
- Gatan, Inc.
- Geller MicroAnalytical
- Hitachi
- ICT
- JEOL-USA, Inc.
- Kimball Physics
- KLA-Tencor/AMRAY
- Ladd Research
- LEICA
- Leo Electron Microscopy
- MEDTEC
- Micro Star Technologies
- NanoTech Consulting
- Noran Instruments
- Optechs, Inc.
- Oxford Instruments
- Polaroid
- Princeton Instruments
- Rontec
- Scanning
- South Bay Technology
- Spectra Physics
- SPI/Structure Probe, Inc.
- SSSC
- Ted Pella, Inc.
- Travelers
- Zeiss

March Meeting at Perkin Elmer Derailed by a Blizzard!

Perkin Elmer Life Sciences Inc., Boston, MA, who graciously offered to host NESM's March meeting, had to postpone the meeting to April due to a blizzard which chose a most inconvenient date to arrive!

We want to thank all our speakers for agreeing to reschedule their talks, especially Dr. Terry McCann, PKI, who had arrived in Boston from England, prior to the storm! Dr. McCann was stranded in Boston until flights resumed, flew back to England and returned in April for the meeting!

After a welcome by PKI, the society was feted to a wonderful catered buffet meal—white table clothes and all! We were then given a tour and demo of the Ultraview Confocal Microscope by Dr. McCann.

The technical presentations followed and were excellent. There were three presentations including a "new technology" talk, a recently added topic to the Society's meeting agendas.

Dr. Terry McCann (PKI) gave this talk on "High Resolution Live Cell Imaging" and showed how this technology will contribute to our understanding of genomic and proteomic data output.

Dr. Barbara Beltz (Wellesley College) spoke on "Fluorescence Imaging and Neurobiology" and beautifully illustrated how serotonin influences the development of olfactory processing areas in the lobster *Homarus americanus*.

Finally, Dr. Anna Swan (Boston University) spoke on "Self-Interference Fluorescence Microscopy", a new method of fluorescence imaging using the unique spectral signature of the fluorescent emission intensity above a reflecting surface to determine vertical position unambiguously.

The Society wants to thank Perkin Elmer Life Sciences and especially Russell Garlick, Vice President Life Sciences and the local PKI arrangements coordinator, for a wonderfully exciting meeting.

MSA Application for Membership

Mail directly to MSA!

Microscopy Society of America

435 North Michigan Avenue, Suite 1717 Chicago, IL 60611-4067 800-538-3672
 FAX: 312-644-8577 E-mail: Business Office@MSA.Microscopy.Com

Name (print) _____ Dr. Ms. Mr.

Mailing address _____

Phone (days) _____ Fax _____ E-mail _____

Institutional Affiliation: _____ Major Interest: Physical Sciences
 Biological Sciences

Signature of nominating MSA member: _____

Signature of Advisor (for student applicants): _____

Signature of Applicant: _____ Date: _____

Enclose a check (US funds drawn on a US bank) for one year's dues, payable to MSA, or complete the credit card information below. Also enclose a brief statement of your qualifications, experience, and/or student status.

Regular Member: \$40 Student Member: \$10 Sustaining Member: \$350

Expires: _____
 Visa/Master Card Number (include all numbers) _____ Month/Year

For applicants outside of North America, please add \$18 to each membership to cover the cost of mailing.

NESM NEWS

NESM's upcoming **October meeting** will take place on **Tuesday, October 16th** at the JEOL facility in Peabody, MA. The meeting will take a different format from usual. Instead of covering several topics, it will look in more depth at a single subject: electron back-scatter diffraction analysis (EBSD) in the SEM.

EBSD is a powerful, relatively new technique in scanning electron microscopy, by which crystallographic information may be readily obtained from bulk samples. This provides an easy way to measure orientation relationships between grains in a solid, grain sizes, crystallographic texture in, for example, thin films, and so on. It is also a powerful way of determining the structure of unknown phases. It is being rapidly and widely adopted in many fields of materials research, including thin film technology, semiconductors, metallurgy and geology.

Representatives of the four major suppliers of EBSD systems will be taking part. A tentative list of presenters includes Paul Mainwaring (EDAX/TSL), John Sutliff (HKL Technology), Pat Camus (Thermo Noran) and a speaker from Oxford Instruments Micro analysis Division. There will be two presentations on the theory and applications of EBSD. Following the presentations, thanks to the generosity of JEOL, who not only are hosting the meeting, but also making available the SEMs in their Applications Lab, there will be demonstrations of two systems actually installed on SEMs. Even people who do no work with crystalline samples will be amazed at the power and widespread applicability of this electron micro-analytical technique.

Any local workers using EBSD will be invited to prepare and present a poster of their work at the meeting. Please bear this in mind over the coming months!

Full details of times, travel directions, and the exact program will be available in the early fall. In the meantime, mark this date on your calendars—you will not want to miss it! Council will welcome members' feedback on this program format.

Tony Garratt-Reed (Materials Sciences Director, NESM)

Professional Development Short Course : Ultra-Resolution Optical Microscopy

Featuring Dr. Bennett Goldberg and Dr. M. S. Ünlü, Boston University,
Physics Department, Electrical and Computer Engineering and Photonics Center

For information goto: <http://www.ntu.edu/pd/pdcourse.asp?CID=EN01050403>
or: <http://www.bu.edu/disted/dls/dlslist.html>

Date: This course will be **broadcast via satellite Friday May 4th 11-5 pm.**

COURSE DESCRIPTION: The course will address the theory, development, and application of high-resolution optical microscopy with a concentration on near-field scanning optical microscopy and solid immersion microscopy. It is designed for engineers, scientists, managers, and optical professionals interested in using high-resolution microscopy to examine optical properties of materials and devices beyond the diffraction limit. The course will review the basics of optics and microscopy near the diffraction limit, including the basic principles of beam optics, resolution limitations, and scanned-probe microscopy.

Advanced topics to be covered include the theory of near-field scanning optical microscopy and scanned probe microscopes; the design, construction, and assessment of near-field microscopes; and the application of near-field microscopy to waveguides, photonic devices, and semiconductor characterization, including the solid-immersion-lens microscope and ultra-resolution microscopy techniques in biological and semiconductor systems.

Advance Registration Form

Registration after May 4th will **not** include dinner

To register, please fill out this form below and send it with your check, payable to NESM, to:

Mary McCann
NESM c/o McCann Imaging
161 Claffin Stree
Belmont, MA 02478

If you have questions, please call Mary at (617) 484-7865.

First Name _____ Last Name _____ Dr. Ms. Mr.

Company _____ Title _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____ E-mail _____

Name of Guest _____

Name of Faculty Advisor (*for student discount only*) _____

(*A list of attendees will be published*)

Advance Registration including Dinner on 5/11/01

NESM Member	\$40.00	Dinner (choose 1)	Swordfish	<u>Please note:</u> Dinner reservations cannot
Non-member	\$55.00*		Prime Ribs	be accepted after May 4th.
Student/retired member	\$40.00		Vegetarian	
Student/retired non-member	\$45.00*			
Guest Registration	\$40.00			

Accommodations

Swope Center at MBL (1st come, 1st served)

Double Occupancy \$38.00/person**

Single Occupancy \$65.00/person**

Student Housing *included with Registration (double occupancy only)*

(*For additional housing options, see Accommodations on front page of this newsletter*)

Please reserve _____ (#) room(s) for the following nights: Thurs Fri Sat Handicapped-access

Tote Bags _____ # of bags @ \$12.00 each

*Non-member and Student Non-member Registration includes 1-year NESM membership.

The fee for rooms at Swope includes Saturday breakfast **only. Lunch at the Swope is optional this year, a la carte for \$16.00.

CALL FOR POSTERS AND PHOTOMICROGRAPHS

To be presented at the Spring Symposium, Saturday, May 12th, 2001 at 12:00 NOON

Name _____ Student

Entry Title _____

Address _____ City _____ State _____ Zip _____

Phone _____ Fax _____ E-mail _____

Poster: Include title and abstract (200 words or less)

Photomicrograph: Include title or caption and short technical explanation

Send this form, your abstract, and a self-addressed, stamped Envelope to confirm entry to:

Ken Orndorff

H.C. Englert Cell Analysis Lab

Dartmouth Medical School - Borwell 383 W

Lebanon, NH 03756

(603) 650-7661 Email: keno@dartmouth.edu

Deadline for Receipt of Entries: May 4, 2001

Please return application only; we will confirm contest entry by return mail.

Posters and photomicrographs must be hand-carried to Symposium.

Enter and Win Money\$\$! Awards include:

BEST POSTER BEST STUDENT POSTER BEST PHOTO-AS-ART

NESM Application for Membership

New Members:

Regular Member	\$15.00
Student Member	\$5.00
Retired Member	\$5.00
Corporate Member*	\$100.00

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

NESM
c/o Mary McCann
McCann Imaging
161 Claflin Street
Belmont, MA 02478

Mailing Information:

Date _____ Dr. Ms. Mr.

Name _____

Mailing Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Email _____

Company/University _____

(if not part of mailing address)

Current Members:

Change of Address Only

*Each Corporate Membership entitles two representatives to receive our newsletter. Please duplicate mailing information form as needed.

Major Interest: Biological Sciences Physical Sciences
Microscope Type: SEM TEM Light
 Confocal STEM Other

NESM Membership News 2001

The New England Society for Microscopy (NESM), a local affiliate of the Microscopy Society of America (MSA), 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, NESM holds four local meetings which feature speakers from both biological and physical science backgrounds. Social hours and buffet dinners are enjoyed at each meeting.

New Members: NESM has a calendar-year membership; new members may join at anytime. To join, please check one of the member categories, and return the above application along with your check payable to NESM.

Membership Renewal: An invoice for annual membership dues will be sent with the first newsletter each year. Dues are payable at meeting registration, or by check no later than May 31st.

Please make check payable to NESM and send c/o Mary McCann, 161 Claflin Street, Belmont, MA 02478

NESM Officers 2001

President 2001	Rick Rogers HSPH (617) 432-3472 rogers@bioimage.harvard.edu	Materials Science Directors 2001	Anthony J. Garratt-Reed MIT (617) 253-4622 tonygr@MIT.edu
President-elect 2002	Lynne Garone-Polaroid Corporation (617) 386-1446; GaroneL@Polaroid.com	2002	Hei-Ruey Harry Jen M/ACOM Division (978) 442-4804; jenh@tycoelectronics.com
Past President 2000	Doug Taatjes UVM (802) 656-8892 dtaatjes@salus.uvm.edu	2003	Trica Rice, FEI Company (978) 538-6711; trice@feico.com
Treasurer 2001	Mary McCann McCann Imaging (617) 484-7865 mccanns@tiac.net	Biological Sciences Directors 2001	Eben Oldmixon-HSPH (617) 432-2243; eben@ids.net
Recording Secretary 2001	Marilyn Wadsworth UVM (802) 656-0813 mwadswor@zoo.uvm.edu	2002	Ken Orndorff Dartmouth Medical School (603) 650-7661; keno@dartmouth.edu
Corresponding Secretary 2001	Peggy Sherwood (617) 724-4839 MGH-Wellman Labs of Photomedicine MESnesm@aol.com	2003	Ezequiel R. Rivera University of Mass Lowell (978) 934-2868; ezequiel_rivera@uml.edu

Please Post

18th Annual Spring Symposium

hosted by

The New England Society for Microscopy (NESM)

May 11th & 12th at
The Marine Biological Laboratory
Woods Hole, MA

A Regional meeting devoted to microscopy and related techniques. It brings together investigators and students from a wide variety of disciplines ranging from biology to materials science.

Highlights

Invited Presentations Commercial Exhibits
Banquet & Cocktail Get-Together Inexpensive Accommodations
Poster and Photomicrograph Awards Contest Tours of Marine Resources Center

For more information, call your local contact _____ at _____

or Mary McCann, NESM, at e-mail: mccanns@tiac.net