



# NESM News

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## NESM Fall Meeting and Workshop on Cryo Techniques!

The Fall meeting of the New England Society for Microscopy kicks off with a pair of events on Cryo Techniques for specimen preparation. These techniques are useful for processing soft specimens for both SEM and TEM investigations. Soft, wet specimens are common in biological and human medical investigations. Perhaps less-appreciated are the relatively dry, soft polymers investigated by materials scientists and food technologists. The introductory event is a meeting at the **JEOL, USA, Inc.** facility in Peabody, MA. on **October 19th**, where there will be 3 lectures on Cryo Techniques in Microscopy. . Registration starts at 5:30 PM, followed by a buffet dinner, and 3 technical presentations from 7:30-9:00 pm. Please see the detailed agenda on page two of this newsletter.

NESM is pleased that JEOL, USA, Inc., a long-time corporate sponsor of the Society, has agreed to host this most interesting meeting. JEOL, USA, Inc. is a wholly owned subsidiary of JEOL, Ltd. Of Akishima, Japan with the corporate offices located in Peabody, Massachusetts. JEOL's primary business is the manufacture, sale and service of Electron Microscopes, such as SEMs and TEMs, and various types of analytical instruments including Mass Spectrometers, NMRs, ESRs, and Semiconductor Equipment.

Those especially interested in learning Cryo skills should also plan to attend the **two-day Workshop on Cryo-Ultramicrotomy on November 3-4**. This workshop, sponsored by RMC/Boeckeler, and supported by NESM, Harvard, and MIT, will be held at Harvard's Center for Imaging and Mesoscale Structures.

The registration form for the October meeting is included in this Newsletter on page 3 and should be sent to the NESM Treasurer, Paul Bain. The October 19<sup>th</sup> meeting costs \$5 for members and \$20 for non-members (non-members also receive a one-year NESM membership). The November 3-4 Workshop has a \$50 professional registration and a \$25 student registration. More detailed information can be found on page 8 of the newsletter.

**PLEASE NOTE:** The **Registration deadline** for the **October 19th** meeting is **Friday, October 15th** and the **registration deadline for the November 3-4 Workshop is Friday, October 22, 2004.**

**Correction:** The NESM website listed in the April 2004 newsletter was incorrect. The correct website is: <http://prism.mit.edu:8083>. (This correction is listed on page 7 of this newsletter under **NESM Officers 2004**). I apologize for any confusion in this matter.

## NESM'S October Meeting

JEOL, USA, Inc.  
11 Dearborn Road  
Peabody, MA 01960  
978-535-5900

**Tuesday October 19, 2004**

- |              |   |
|--------------|---|
| 5:30-6:10 pm | Registration<br>Open House-JEOL, USA, Inc. Facility-Dave Harling  |
| 6:10-7:25 pm | Buffet Supper<br>(Open House continues)   |
| 7:25 pm      | Introductory Remarks-Steve Stokowski, President-Elect, NESM   |
| 7:30-9:00 pm | Technical Presentations<br><br>* <b>Cryoultramicrotomy for the Biomedical and Materials Sciences</b><br>Robert Chiovetti, Ph.D., RMC Products/Boekeler Instruments, Inc.<br><br>* <b>SEM Imaging Options for Wet Samples</b><br>Donna Guarrera, JEOL, USA, Inc.<br><br>* <b>Cryo-Electron Microscopy of Biological Macromolecules</b><br>Yifan Cheng, Ph.D., Harvard Medical School |
| 9:00 pm      | Informal Question and Answer Period   |
| 9:15 pm      | Adjourn-Rick Rogers, President, NESM  |

**Advance Registration Form**  
**October Meeting, October 19, 2004**

**Registration Deadline**  
**October 15, 2004**

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

**Paul Bain**  
**Countway Library of Medicine**  
**10 Shattuck Street**  
**Boston, MA 02115**

If you have questions, please call Paul at (617) 432-3236.

First Name \_\_\_\_\_ Last Name \_\_\_\_\_ Dr. Ms. Mr.

Company \_\_\_\_\_ Title \_\_\_\_\_

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

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

E-mail \_\_\_\_\_

**Advance Registration-Buffer dinner included (courtesy of JEOL, USA, Inc.)**

- NESM Member \$ 5.00  
 Student/retired member \$ 5.00  
 Non-member \$20.00\*

Total enclosed \_\_\_\_\_

\*Non-member registration includes current-year NESM membership.

**MARK YOUR CALENDARS!**

**Upcoming NESM Meetings**

\* November 3-4th-Cryo-Ultramicrotomy Workshop-Harvard Center for Imaging and Mesoscale Structures

\* Thursday, December 2nd-Fall Symposium at Gordon College



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  
BEEM  
Boekeler Instr. Corp.  
Denton Vacuum  
E.A. Fischione Instr. Inc.  
Eastman Kodak  
EDAX, Inc.  
Electro-Image, Inc.  
Emispec Systems, Inc.  
EMS/Diatome  
Energy Beam Sciences  
Ernest F. Fullam  
FEI Philips Electron Optics  
Gatan, Inc.  
Geller MicroAnalytical Lab  
Hacker Instru. & Industries  
HKL Technology  
Hysitron, Inc.  
International Instr. Sales  
JEOL-USA, Inc.  
Ladd Research Indust., Inc.  
Leica Microsystems, Inc.  
LEO Electron Microscopy  
MEDTEC  
Micro Star Technologies  
NanoTech Consulting  
Optechs, Inc.  
Oxford Instruments America  
Quality Images  
SSSC  
SensIR Technologies  
Technotrade International  
Thermo Electron  
Tietz Video & Image  
Processing Systems  
Tousimis Research Corp.

## MSA Application for Membership

Mail directly to MSA!

### Microscopy Society of America

230 East Ohio Street, Suite 400 ■ Chicago, IL 60611-3265 ■ 800-538-3672  
FAX: 312-644-8557 ■ E-mail: BusinessOffice@MSA.Microscopy.Com

Name (print) \_\_\_\_\_  Dr.  Ms.  Mrs.  Mr.

Mailing address (○Home ○Office) \_\_\_\_\_  
\_\_\_\_\_

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

Phone (days) \_\_\_\_\_ Fax \_\_\_\_\_ Major Interest:  Physical Sciences

Biological Sciences

E-mail \_\_\_\_\_  Both

Institutional Affiliation: \_\_\_\_\_

Circle Major Interests: Light/Optical - Confocal - 2 Photon - Near Field - R/Raman - Acoustic

Scanning Probe - Scanning Ion - X-Ray Microscopy - SEM - TEM - STEM - IVEM/HVEM

LEEM - AEM - EELS - EDS - WDS - EMPA - AES - ESCA - SIMS - FIM/AtomProbe - MRI

XRF/XRD - Other \_\_\_\_\_

Nominating MSA member: Nestor J. Zaluzec

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: \$45 annually (North America-U.S./Canada/Mexico)

Regular Member: \$63 annually (outside of North America)

Student (fulltime): \$15 annually  Student (part-time): \$33 annually (outside of No. America)

Corp. Member: \$375 annually  Corp. Member: \$393 annually (outside of No. America)

Visa/Master Card Number (include all numbers) \_\_\_\_\_

Expires Month/Year: \_\_\_\_\_ Exact Name on Card: \_\_\_\_\_

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

Would you like to receive MSA related News by Email?:  Yes  No

Would you like someone from MSA to contact you to answer a membership question?

Yes  No

Please see MSA website ([www.msa.microscopy.com](http://www.msa.microscopy.com)) for further information on the society and for submitting application on-line.



**DIRECTIONS TO JEOL, USA, Inc.  
October 19th Meeting**

**JEOL, USA, Inc.  
11 Dearborn Road-Peabody, MA 01960  
978-535-5900**

**To JEOL via Rt. 128:**

**If traveling North** on Route 128, take Exit 44B, Rt.1 North (Danvers). Continue on the exit ramp for Rt.1 North (Danvers) until you see the sign for Dearborn Rd. on the left. This is an access road for Dearborn Road and is easy to miss. At the end of the access road, go right onto Dearborn Rd. JEOL is the second building on the right. The entrance is to the rear of building.

**If traveling South** on Route 128, take Exit 44, Rt. 1 North (Topsfield). Continue on the exit ramp for Rt.1 North until you see the sign for Dearborn Rd. on the left. This is an access road for Dearborn Road and is easy to miss. At the end of the access road, go right. JEOL is the second building on the right. The entrance is to the rear of building.

**To JEOL via Rt. I-95:**

**If traveling North** on Rt. I-95 follow directions for ROUTE 128 North because I-95 and 128 are the same road at this point.

**If traveling South** on Rt. I-95, follow the signs for I-95 South (Waltham). After Rt.I-95 feeds into 128 South, take Exit 44 Rt. 1 North (Topsfield), until you see the sign for Dearborn Rd. on the left. This is an access road for Dearborn Road and is easy to miss. At the end of the access road, go right. JEOL is the second building on the right. The entrance is to the rear of building.

**To JEOL from Logan Airport:**

Exit Logan Airport and proceed NORTH on Route 1A to rotary (junction of 1A and Route 60).

Go through rotary, bearing left onto Route 60, Squire Road. Proceed around second rotary (junction of Route 107), continuing on Route 60, through 2 sets of lights.

At the next intersection/overpass, exit right, onto Rt.1 North for about 7 miles. After passing the Rt. 128/I-95 exit in Peabody, look for a small, green Dearborn Road sign on the right. Take this right (just before Wendy's Restaurant). JEOL is the second building on the right. The entrance is to the rear of building.

## NESM APPLICATION FOR MEMBERSHIP

- |                          |                   |          |
|--------------------------|-------------------|----------|
| <input type="checkbox"/> | Regular Member    | \$15.00  |
| <input type="checkbox"/> | Student Member    | \$5.00   |
| <input type="checkbox"/> | Retired Member    | \$5.00   |
| <input type="checkbox"/> | Corporate Member* | \$100.00 |

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

**NESM c/o Paul Bain  
Countway Library  
10 Shattuck Street  
Boston, MA 02115**

Current Members:

- Change of Address Only

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

Mailing Information:

Date \_\_\_\_\_  Dr.  Ms.  Mr.

Name \_\_\_\_\_

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

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

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

Email \_\_\_\_\_

Company/University \_\_\_\_\_  
(if not part of mailing address)

Major Interest:  Biological Sciences  Physical Sciences

Microscope Type:  SEM  TEM  Light

Confocal  STEM  Other

### NESM Membership News 2004

*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:  
Paul Bain, Countway Library, 10 Shattuck St.,  
Boston, MA 02115**

### NESM Officers 2004

**President**  
2004

Rick Rogers  
HSPH (617) 432-3472  
rogers@bioimage.harvard.edu

**President-elect**  
2005

Steve Stokowski  
Stone Prod. Cons. (508) 881-6364  
CrushStone@aol.com

**Past President**  
2003

Tony Garratt-Reed  
MIT (617) 253-4622

**Treasurer**  
2004

Paul Bain  
Countway Library (617) 432-3236  
mccanns@tiac.net

**Recording Secretary**  
2004

Mary McCann  
McCann Imaging (617) 484-7865  
mccanns@tiac.net

**Corresponding Secretary**  
2004

Peggy Sherwood  
MGH-Wellman Labs of Photomedicine  
(617)724-4839; mesnesm@rcn.com

**Materials Science Directors**  
2004

N. Carl Miller-Raytheon (retired)  
(978) 369-3755; ncmiller@gowebway.com

2005

James F. Mancuso-AMT  
(978) 774-5550; info@amtimaging.com

2006

Warren Moberlychan-Center for Imag/Mesoscal Strt.  
(617) 496-8832; moberlychan@cims.harvard.edu

**Biological Sciences Directors**

2004

Daniel G. Gibson-WPI  
(508) 831-5543; dgibson@WPI.EDU

2005

Russell R. Camp-Gordon College  
(978) 867-4385; camp@gordon.edu

2006

Renee Dickie-HSPH  
(617) 432-0123; rdickie@hsph.harvard.edu

**Mailing Address:** NESM, P.O. Box 425232, Cambridge, MA 02142

**NESM Web site:** <http://prism.mit.edu:8083>

**Workshop on Cryoultramicrotomy  
for Biological and Materials Sciences**

**November 3 and 4, 2004  
Center for Imaging & Mesoscale Structures (CIMS)  
Bauer Building  
Harvard University  
Cambridge, MA**

The technique of cryoultramicrotomy will be of special interest to anyone working with biological specimens, polymers or other materials which could benefit from sectioning or surface "polishing" at low temperatures (no embedding required). The sections may be used for TEM, optical microscopy, IR spectroscopy and FTIR. The polished surface of the bulk material is suitable for AFM, SEM, X-ray microanalysis and elemental mapping.

This is a two day mini-workshop with presentations, demonstrations and hands-on laboratory sessions for the following:

Making Cryotools: Wire Loops and Hair Probes  
Glass Knifemaking  
Operation of The Cryoultramicrotome

The first day will include lectures, demonstrations and practice sessions for making cryotools and glass knives, and a general introduction to the cryoultramicrotome. The second day will be devoted to hands-on sessions at the cryoultramicrotome.

Well-characterized biological specimens, polymers and composite materials will be used for the demonstration and practice sessions. There will be a limited amount of time to work with individual specimens; therefore attendees who wish to bring their own specimens **must** pre-register and contact us before the workshop to discuss their specimens.

Attendance is open to everyone for the presentations on Day #1 (9:00am-10:00am). However, attendance is limited to 15 people for the demonstrations on Day #1 (11:00am-4:00pm) and for the cryoultramicrotomy hands-on sessions on Day #2 (9:00am-4:00pm).

To reserve a position for the first day's hands-on demos and the second day's activities, advance registration is essential. Send your name, along with contact information and your registration fee to Paul Bain at Harvard Medical School, Countway 212, 10 Shattuck Street, Boston, MA 02115, Tel 617-432-3236, Fax 617-432-0693, email Paul\_Bain@hms.harvard.edu. **Registration is limited to 15 people**, so reserve your spot early! To discuss specimens which you wish to bring to the workshop, please contact Dr. Robert Chiovetti at bob@boeckeler.com.

Registration for this workshop is \$25 for students and \$50 for professionals. Checks should be made payable to NESM. Meals and refreshments will be served. The **deadline** for registration is Friday, **October 22, 2004**.

(Registrants please contact Warren Moberlychan at (617)496-8832 or by email:moberlychan@cims.harvard.edu for directions to the workshop).

**This Workshop is presented by:**

**The New England Society for Microscopy  
P.O.Box 425794  
Cambridge, MA 02142  
<http://prism.mit.edu:8083>**

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