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# Minnesota Microscopy Society

Local affiliate of the *Microscopy Society of America*  
and the *Microbeam Analysis Society*



## Newsletter

October 2000

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### MMS October Meeting

Thursday, October 12, 2000

#### Nature's Jewels and Scientific Tools: Confessions of a Career Diatomist

**Speaker:** Mark B. Edlund, Research Scientist  
St. Croix Watershed Research Station  
Science Museum of Minnesota  
Marine on St. Croix, MN 55047  
mbedlund@smm.org

Mark Edlund has a PhD in Natural Resources from the University of Michigan, and has been specializing in diatoms for the last ten years. Besides field work in the United States, he has done work at Lake Baikal in Siberia, and recently in Mongolia.

**Program:**

5:30-6:00 PM	Social hour
6:00-7:00 PM	Dinner
7:00-7:15 PM	Business meeting
7:15-8:15 PM	Speaker

During the social hour, wine, cheese and crackers will be served. The dinner will include roast turkey, mashed potatoes, carrots, and desert will be carrot cake. The cost of the meal is \$20 per person.

**Location:** Cherrywood Room,  
2nd Floor, St. Paul Students Center  
St Paul Campus, University of Minnesota,  
2017 Buford Ave., St. Paul  
(see map on page 2 for location)

#### Abstract:

Diatoms are single-celled or colonial microorganisms that possess a cell wall of ornamented opaline silica (biologically-produced glass) and are commonly referred to as the golden-brown algae. It is the wall ornamentation and shape that are used to identify the nearly 25,000 species of living diatoms. Diatoms were "discovered" within the first hundred years of microscopy; Leeuwenhoek himself may be credited with one of the earliest illustrations (1703). Since that time, diatoms have been the jewels, the postage stamps, and the tools of amateur and professional diatomists. Microscopical societies burgeoned in the latter half of the 19th century with members actively exchanging diatomaceous material, slides, and methods and discussing publications and exsiccatae. Diatoms figured strongly in the development of light microscopy as test organisms for resolving power; even today, many microscopists have an *Amphipleura pellucida* slide in the drawer.

(Abstract continues on page 2)

#### Make Your Reservations Today

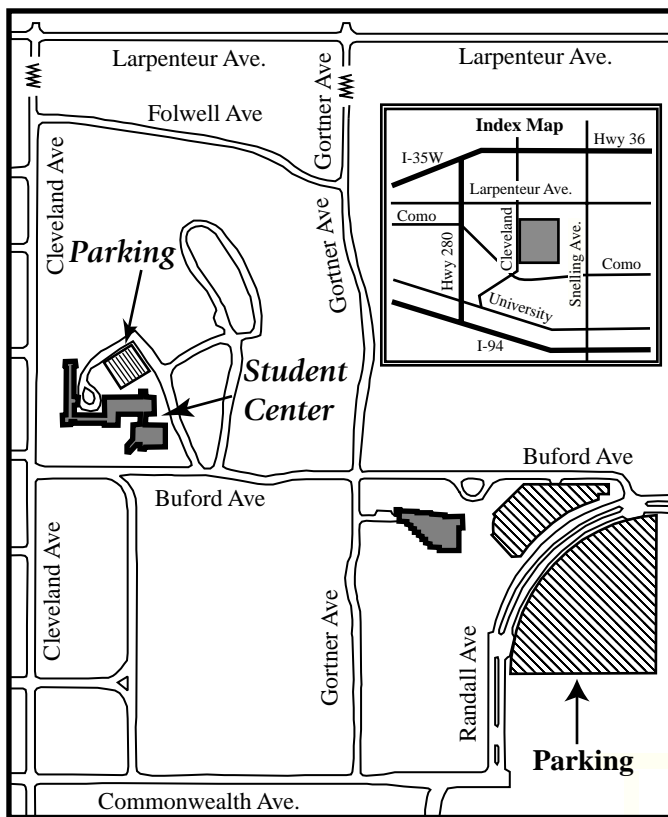
An accurate head count for the dinner is an absolute necessity. Contact Stuart McKernan **by Friday, October 6**, to make your reservation (612-624-6009, or [stuartm@tc.umn.edu](mailto:stuartm@tc.umn.edu)).

**Abstract** (continued from page 1)

Transmission electron microscopy revealed much-needed knowledge on the cytology and mechanism of cell wall formation in diatoms, but it has been the scanning electron microscope that has truly changed the field. Ultrastructural details seen in the SEM coupled with “rediscovery” of beautiful cytological work done in the late 1800’s and early 1900’s radically changed our modern understanding of diatom systematics. Lastly, diatoms have proved to be excellent indicators of water quality and environmental change. Whereas descriptive and biodiversity studies are still common, applied methods now dominate the current scientific efforts.

**“No Shows” Cost the Society**

Each year the Minnesota Microscopy Society spends a considerable amount of its resources to cover the costs of members who make reservations for one of the monthly meetings and then don’t show up. Since the number of meals needed are ordered in advance of each meeting, the Society ends up paying the difference between the number of meals ordered and the number of members who actually attend. Because this is putting a strain on the Society’s resources, this year the Board has decided to bill members who make reservations for one of the meetings, but fail to show up. If an emergency arises and you cannot attend the meeting, just notify the contact person for that meeting by phone or by e-mail.



Map of the St. Paul Campus of the University of Minnesota.

**Upcoming MMS Meetings**

- November 9** Chuck Moody, JEOL USA, Inc.  
Topic: Scanning probe microscopes
- December 1** Imaging workshop, or  
**or 8** (To be announced)
- February 8** (To be announced)
- March ?** Joint meeting with ASM
- April ?** Tour, possibly at Medtronic Inc.
- May 4** Spring Symposium  
“Investigative Microscopy”

## Upcoming National Meetings

### Scanning 2001

**Date:** May 5 - 7, 2001  
**Location:** Roosevelt Hotel  
 45th at Madison Ave.  
 New York City, New York  
**Sponsors:** FAMS, Inc. (Foundation for the  
 Advances in Medicine and Science)  
 and *Scanning, The Journal of Scanning  
 Microscopies*  
**Contact:** Mary K. Sullivan, SCANNING 2001  
 201-818-1010; scanning@fams.org, or  
 www.scanning.org

### Microscopy and Microanalysis 2001

**Date:** August 5 - 9, 2001  
**Location:** Long Beach, California  
**Sponsors:** Microscopy Society of America and  
 Microbeam Analysis Society  
**Contact:** MSA Business Office: 800-538-3672  
 www.msa.microscopy.com

## Upcoming Regional Meetings

Midwest Microscopy and Microanalysis Society  
**Date:** Friday, September 29, 2000  
**Location:** Memorial Union South  
 University of Wisconsin  
 227 North Randall Avenue  
 Madison, WI 53715  
**Contact:** Robert Mierzwa  
 MMMS Program Coordinator  
 c/o JEOL USA, Inc.  
 920-803-8945, 920-803-8946 (fax)  
 mierzwa@jeol.com

It is a day long program from 9:45 AM - 4:45 PM.

Talks include:

- > The current state of vacuum science in microscopy, or why it still takes so long to pump down to an operating vacuum.
- > 3D Imaging of cell structures by high resolution, low voltage, field emission SEM.
- > Leaf surfaces, microscopy and thievery useful in analysis.
- > Application of multiphoton microscopy to the study of embryo development.
- > Interaction of Pb and Ca and its effect on graphite morphology in cast irons.
- > Redox reactions in silicate melts and glasses.
- > Synthesis and initial crystallization of amorphous Al alloys.

## Microscopy Community News

### Get Your News into this Space

The Minnesota Microscopy Society is looking for contributions for its newsletter. These contributions can be either news items or short articles on a technical topic that would be of general interest to the Society's members. Does your company have a new product or a new sales representative for this area? If you have news that would be of interest to MMS members, send it to the Newsletter Editor, Peter McSwiggen, University of Minnesota, Department of Geology & Geophysics, 310 Pillsbury Drive SE, Minneapolis, MN 55455, or e-mail it to: mcswi001@tc.umn.edu

## Sustaining Members

Sustaining members are the backbone of financial support for the Society. These members make it possible for the Society to support Project Micro, and to cover many expenses of the regular meetings and the Spring Symposium. We greatly appreciate the continued support of these individuals and corporations. To become a Sustaining Member, fill out the MMS membership form at the end of the newsletter.

Randy Beaubien	<b>FEI Company</b>	513-474-4168
Peter Braverman	<b>Cadmet Inc.</b>	800-543-7282
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Curt Morrison	<b>Leeds Precision Instruments</b>	612-546-8575
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Roger Teppert	<b>Hitachi Scientific Instruments</b>	847-966-2980
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John Treadgold	<b>LEO Electron Microscopy Inc.</b>	847-290-9566
Steve Ziegler	<b>Digital Instruments</b>	512-912-1615

If any Sustaining Members are missing from this list, *please* contact either: Diana Kittleson (651-917-5859, dkittleson@pillsbury.com) or Peter McSwiggen (612- 624-7370, mcswi001@tc.umn.edu)

## MMS Patron Members

The Minnesota Microscopy Society would like to express our thanks to our Patron Members. These members provide financial support to the organization above the standard membership fee. This type of continued support makes it possible for MMS to maintain its financial well being. To become a Patron Member, fill out the MMS membership form at the end of the newsletter.

**Ronald Adkins**, 3M Company, St. Paul, MN  
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**Stan Erlandsen**, Cell Biol. & Neuroanatomy, U of M  
**Chris Frethem**, Cell Biol. & Neuroanatomy, U of M  
**Kathryn Hanna**, College of Biol. Science, U of M  
**Mike Herron**, Medicine, University of Minnesota  
**Dave Lindman**, Minneapolis Police Crime Lab  
**Susan Okerstrom**, Medtronic Inc., Brooklyn Center

**Ev Osten**, 3M Company, St. Paul, MN  
**Ann Palmer**, Entomology, University of Minnesota  
**Jeff Payne**, 3M Company, St. Paul, MN  
**Patricia Schachern**, Otolaryngology, U of M  
**Dan Schaub**, Philips Electron Optics, Inc., Oronoco  
**Carolyn Sutherland**, Otolaryngology, U of M  
**Jerry Tangen**, JEOL USA, Inc., Monticello, MN  
**Greg Trettel**, BF Goodrich Aircraft Sensors, MN  
**Rae Vigeant**, Random Microscopy Services, St. Paul

## MMS BOARD and OFFICERS 2000-2001

**President:** Jean Schlosser, Crane Engineering  
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 MN 55447, (612) 557-9090,  
 Fax (612) 557-0710, tcrane@skypoint.com

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 55108 (612) 624-3454, msanders@biosci.umn.edu

**President-Elect:** Peter McSwiggen, University of Minnesota,  
 Dept. of Geology & Geophysics, Minneapolis, MN 55455;  
 (612) 624-7370, mcswi001@tc.umn.edu

**Secretary:** Mary Swierczek, 3M Center, Bldg.  
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 Fax (651) 733-0648, mjswierczek@mmm.com

**Treasurer:** Dwight Erickson, 3M Center, Bldg. 251-1A-03, St.  
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 usmmm214@ibmmail.com

**Corporate Liaison:** Diana Kittleson, Pillsbury Technology East,  
 737 Pelham Blvd., St. Paul, MN, (651) 917-5859,  
 dkittleson@pillsbury.com

**Webmaster:** Stuart McKernan, CIE Microscopy Center, Univer-  
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 6009, FAX (612) 626-7530, stuartm@tc.umn.edu

**Newsletter Editor:** Peter McSwiggen, University of Minnesota,  
 Dept. of Geology & Geophysics, Minneapolis, MN 55455;  
 (612) 624-7370, mcswi001@tc.umn.edu

**MAS Representative:** Michael Coscio, Medtronic Inc., 6700  
 Shingle Creek Parkway, Brooklyn Center, MN 55430, (736)  
 514-1331; mike.coscio@medtronic.com

### Other Board Members:

Mark Cavaleri, 3M Center, Bldg. 201-1E-15,  
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Sue Okerstrom, Medtronic Inc.,  
 7000 Central Ave. NE., Minneapolis MN 55432 (612) 514-  
 4678, sue.okerstrom@medtronic.com

**Your MMS Annual Membership dues are payable in September/October!**

All microscopists are urged to support their Society at one of the membership levels offered below. The more dues-paying members we have, the more likely we are to attract sustaining corporate memberships which form the financial backbone of our Society. Often, supervisors will support MMS memberships out of their project budget because they recognize that it is a very inexpensive way to maintain and increase the skills of their microscopists. If you have been a member over the years and recognize the value of MMS to the community of microscopists it serves, consider upgrading your membership this year to the Patron or Sustaining level. Thank you.

Name \_\_\_\_\_ Dr \_\_\_\_\_ Mr \_\_\_\_\_ Ms \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Affiliation \_\_\_\_\_ Position \_\_\_\_\_

Address \_\_\_\_\_ ZIP \_\_\_\_\_

Indicate the method by which you would like to receive the Newsletter: mail \_\_\_\_\_ e-mail/web \_\_\_\_\_ both \_\_\_\_\_

Check here \_\_\_\_\_ if you do NOT want your name and address to appear in the Society directory.

Are you an MSA Member? \_\_\_\_\_ MAS Member? \_\_\_\_\_ Other professional groups? \_\_\_\_\_

Area of interest: Bioscience \_\_\_\_\_ Materials Science \_\_\_\_\_ SEM \_\_\_\_\_ TEM \_\_\_\_\_ X-ray \_\_\_\_\_

Check membership level: Basic \$10 \_\_\_\_\_ Patron \$25 \_\_\_\_\_ Sustaining \$100 \_\_\_\_\_ Student \$5 \_\_\_\_\_

**Make checks payable to MMS and mail to our treasurer:**

**Dwight Erickson, MMS Treasurer, 3M Center, Bldg. 251-1A-03, Saint Paul, MN 55144-1000.**

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**Minnesota Microscopy Society**

Peter McSwiggen, MMS Editor  
University of Minnesota  
310 Pillsbury Drive, SE,  
Minneapolis, MN 55455

**October 12:**

**“Nature’s Jewels and Scientific Tools:  
Confessions of a Career Diatomist”**

Forwarding and Address  
Correction Requested