
Minnesota Microscopy Society

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



Newsletter

October 2000

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

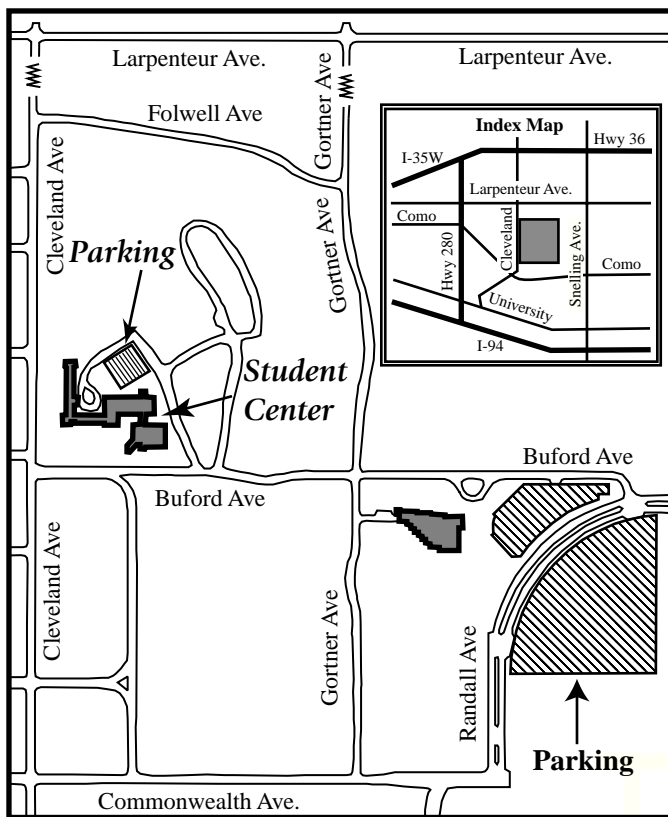
An accurate head count for the dinner is an absolute necessity. Contact Stuart McKernan **by Friday, October 6**, to make your reservation (612-624-6009, or stuartm@tc.umn.edu).

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.

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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.

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 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.****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