
Minnesota Microscopy Society

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



Newsletter

February 2007

MinnTS

(Minnesota Technical Symposium)

Thursday, March 15, 2007

Nanotechnology / Batteries

MinnTS is an annual joint meeting of area technical and scientific organizations. This will be our fifth symposium. MinnTS was formed to provide a venue for local technical professionals to get together for networking, dining, and to provide an enriching evening of top quality speakers. Check the MinnTS web site at www.MinnTS.org for any late-breaking news about the meeting.

Location

Medtronic Inc.
710 Medtronic Parkway (I-694 & Hwy 65)
Fridley, MN 55432 (see location map on page 2)

Schedule

| | |
|-------------|--|
| 5:00 - 6:00 | Registration, Tours and Social |
| 5:00 - 5:30 | Medtronic Lab Tours (every 5 min) |
| 6:00 - 7:00 | Dinner |
| 7:00 - 7:15 | Welcome & Introductions Gary Korba |
| 7:15 - 7:25 | Overview of Nanotechnology Dr. Darrel Gubrud |
| 7:25 - 8:10 | Nanotechnology and the Consumer Dr. Frank Armatis |
| 8:10 - 8:20 | Break |
| 8:20 - 9:05 | Lithium-Ion Batteries Dr. Mark Obravac |

Cost \$25 for members / \$15 for students

Speakers

Dr. Darrel Gubrud - MN Nano
“Overview of Nanotechnology in Minnesota.”

Dr. Frank Armatis - 3M Company
“Nanotechnology and the Consumer.”
Nanomaterials are already impacting the consumer in many ways. Understanding and control of material properties on the nanoscale provide new benefits to products in various market segments, and these materials will continue to move into consumer markets. Examples will be provided showing how 3M technology migrates into consumer applications.

Dr. Mark Obravac - 3M Company
“Lithium-Ion Batteries - Technology & Materials”
Under certain conditions a battery's electrolyte can chemically react with materials in the battery electrodes. This can happen when a battery is overcharged, overheated, or has an internal short circuit caused by damage or manufacturing problems. This talk will discuss some of the advances in new electrolytes and electrode materials to address these battery safety issues and the ever growing need for increased capacity.

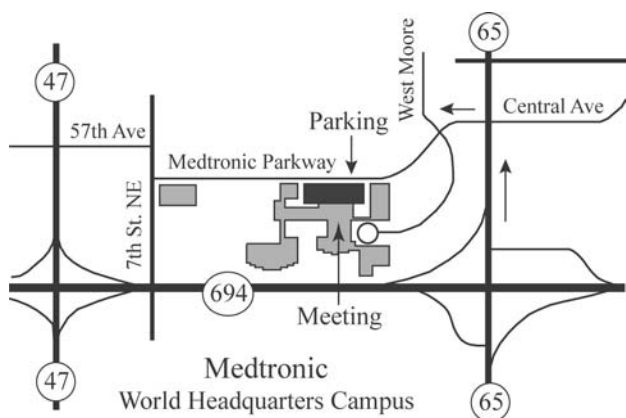
MinnTS 2007 - Continued

Registration

Reservations **MUST** be made no later than **Monday, March 12th**. Register at reservations@minnts.org, or by phone at 651-236-5470 (Bede Willenbring). Include your name, company, phone number, e-mail address and Society affiliation. Reservations cannot be cancelled after March 12th.

Dinner Menu

- ◆ Garden salad with assorted dressings
- ◆ Bakery fresh rolls and butter
- ◆ Herb crusted chicken with pan glaze, or wild mushroom strudel
- ◆ Potatoes
- ◆ Steamed carrots
- ◆ Assorted desserts (mini tarts, chocolate dipped fruits, mini cakes and pies)
- ◆ Assorted soda and water
- ◆ Coffee service with hot tea



Location map - Medtronic World Headquarters. Parking is in the ramp north of the building. Visitors enter on the third level.

Future Events

Minnesota Microscopy Society's Spring Symposium

“Emerging Technologies in Microscopy”

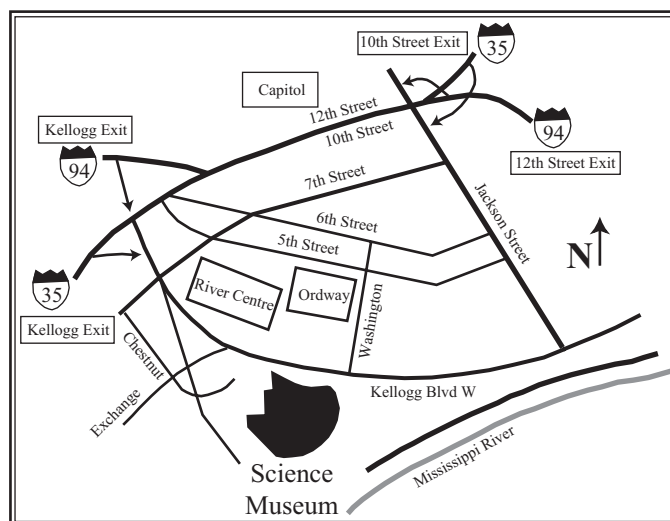
Friday, April 20, 2007

Location

Science Museum of Minnesota
120 W. Kellogg Blvd., St. Paul
Discovery Hall
(www.sci.mus.mn.us)

As always, the Minnesota Microscopy Society's big event is our day-long Spring Symposium. Some of the possible topics include:

- He Ion Microscopy
- EDS Silicon Drift Detector
- Low Angle Backscattered Detector
- Table top TEM / SEM
- VPSEM Gas Luminescence Detector
- Raman Spectroscopy.



Location map - Science Museum of Minnesota. Parking is available in the ramp on the south side of the building.

MMS Cash Flow - Year 2006

INCOME

Dues

| | |
|-----------|----------|
| Corporate | 1,850.00 |
| Patron | 530.00 |
| Regular | 413.00 |
| Student | 40.00 |

Total Dues **2,833.00**

Interest Income **320.60**

Meeting Income

| | |
|---------------------|----------|
| MMS Registration | 2,798.38 |
| MinnTS Registration | 5,829.66 |

Total Meeting Income **8,628.04**

Spring Symposium 2006 Income **6,475.00**

TOTAL INCOME **\$18,256.64**

EXPENSES

Total Credit Card Fees **613.03**

Meeting Expenses

| | |
|-----------------|----------|
| MMS Meetings | 3,976.81 |
| MinnTS Expenses | 5,826.12 |

Total Meeting Expenses **9,802.93**

Miscellaneous **82.48**

Newsletter **264.81**

Spring Symposium 2006 Expense **6,181.78**

TOTAL EXPENSES **\$16,945.03**

NET INCOME **\$1,311.61**

Microscopy & Microanalysis 2007

Location

Broward County Convention Center
Fort Lauderdale, Florida

Dates

August 5 - August 9, 2007

Tutorials

- High pressure freezing for electron microscopy of biological specimens.
- Freeze substitution method: tutorial and roundtable discussion.
- A novel sample freezing method.
- Electron tomography for materials science.
- LACSBI: incoherent imaging for quantitative TEM.
- Atomic force microscopy (AFM) and related microscopy techniques and applications.
- X-ray microCT.

More Information

<http://microscopy.org/MMMeetings/MM07/>

ASM Materials Camp

The Minnesota Chapters of ASM (The Materials Information Society) and ASME (American Society of Mechanical Engineers) will be hosting the inaugural sessions of the Minnesota Materials Camp June 12-14, 2007 at the University of Minnesota. The objective of Materials Camp is to introduce students to challenging and rewarding careers in science and technology. The camp is for students who will be in their Junior or Senior year of high school in the Fall 2007. Small groups of students will be paired with practicing engineers and scientists for laboratory-intensive, hands-on experience. Applications are due March 16th. More information is available on-line at www.mnasm.org/camp

Digital Holographic Microscope (DHM) from Lyncee Tec (www.lynceetec.com)

A new microscope from Lyncee Tec combines nanoscale resolution with real-time, non-invasive 3D observation and quantitative measurements. The DHM generates the 3D digital images using the principle of holography. The holograms are created by combining a reference light wave directly from a laser source with the light wave that has interacted with the sample. The DHM software can determine surface roughness, topography, and quantitative metrological data from a single hologram acquired in a few microseconds. This makes it possible to view the sample in 3D, while the sample is in motion.

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, complete and return the MMS membership form at the end of the newsletter.

| | | |
|--------------------|---|--------------|
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| David Leland | ThermoFisher Scientific | |
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| Ken Witherspoon | IXRF Systems, Inc. | 281-286-6485 |

If any Sustaining Members are missing from this list, *please* contact either: Jason Heffelfinger (763-514-1021, jason.r.heffelfinger@medtronic.com) or Peter McSwiggen (612-781-2282, PMcS@McSwiggen.com).

MMS Patron Members

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

| | | | |
|--------------------|----------------------------------|------------------|---------------------------------|
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Minnesota Microscopy Society – Membership Form

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 _____

E-mail address _____

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? _____

Student (\$5) _____ Basic (\$10-\$24) _____ Patron (\$25-\$99) _____ Corporate Sustaining (\$100-) _____

Payment: _____ Check _____ Visa _____ Mastercard _____ American Express _____ Discover _____

Credit Card Number: _____ - _____ - _____ Exp. Date: _____ / _____ Billing zip code: _____

Make checks payable to MMS and mail to our Treasurer:

Bede Willenbring, MMS Treasurer, 4763 Decatur Ave. North, New Hope, MN 55428-4402

Minnesota Microscopy Society
Peter McSwiggen, MMS Editor
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Forwarding and Address
Service Requested

March 15, 2007

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