

Minnesota Microscopy Society

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



Newsletter

April 2012



FOCUS
ON
SCIENCE

Minnesota Microscopy Society Spring Symposium



Date: Friday, May 4, 2012

Location: [Science Museum of Minnesota](#)
120 W. Kellogg Blvd., St. Paul
Discovery Hall

Parking: Science Museum or River Centre
parking ramps

Schedule

7:30 – 8:15 AM Registration, Continental Breakfast, Vendor Displays

8:15 – 8:30 AM Welcome

8:30 – 9:30 AM **Ed Vincenzi, Research Scientist, Museum Conservation Institute**
Art Conservation at the Smithsonian

9:30 – 10:30 AM **Nicholas Ritchie, Physicist, NIST**
DTSA2 Spectral Processing Workshop, Part 1

10:30 – 11:00 AM Break and Vendor Displays

11:00 – 12:00 PM **Nicholas Ritchie, Physicist, NIST**
DTSA2 Spectral Processing Workshop, Part 2

12:00 – 1:30 PM Lunch and Vendor Displays

1:30 – 1:45 PM Business Meeting

1:45 – 2:45 PM **Bob Svare, Electrical Engineer, Svare Professional Engineering**
*Determining Fire Point-of-Origin and Progression by Examination of
Arcing Damage in the Single-Phase, Alternating-Current Electrical*

System

2:45 – 3:45 PM **Larry Hanke, Metallurgist, Materials Evaluation &
Engineering, Inc.**

Spring Symposium *continued*

Registration

The cost of the meeting will be \$80 for MMS members at the door (\$75 via PayPal), \$90 for nonmembers, and \$35 for students/K-12 teachers. The fee includes the meeting, buffet lunch, breakfast, coffee breaks and a free pass to the Museum exhibits.

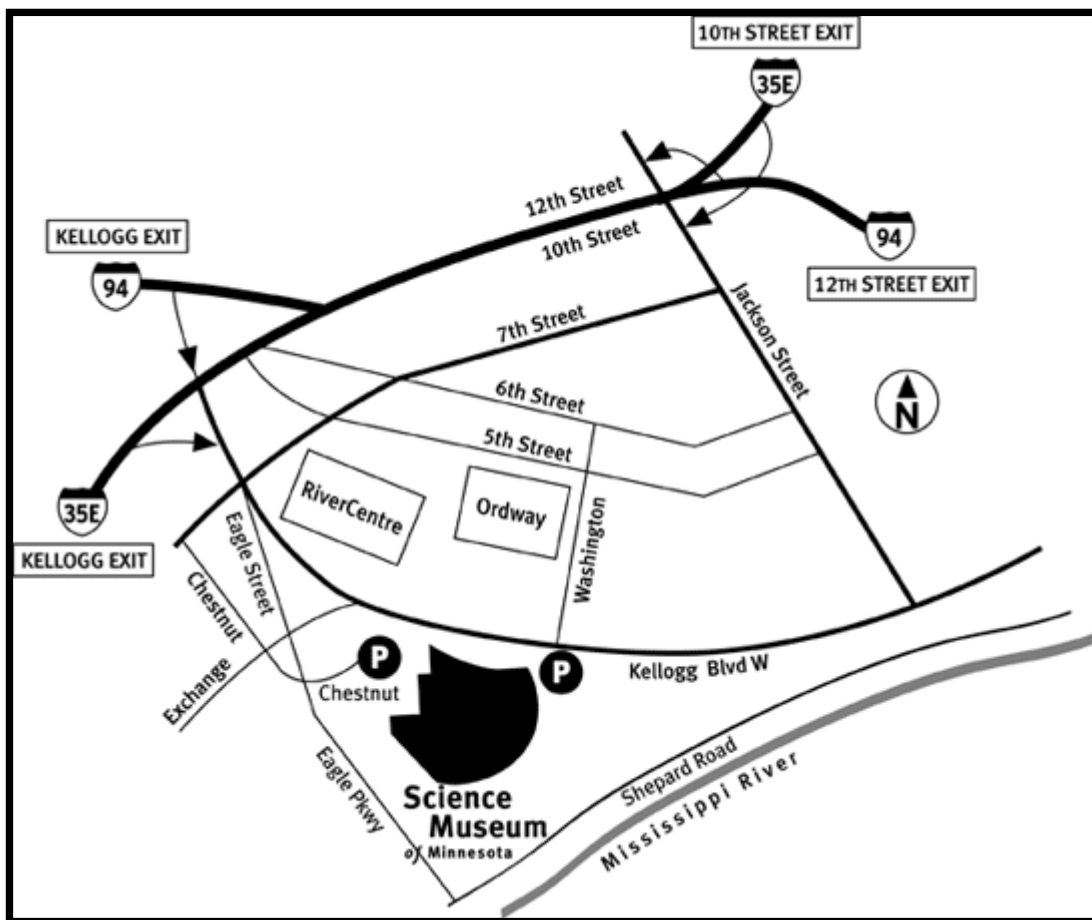
Reservations must be made no later than Saturday, April 28th.

Register online (preferred) at <http://www.mnmicroscopy.org/calendar.html>. Or call Bede Willenbring at 651-236-5470 – include your name, company, phone number and email address.

Directions

The Science Museum's parking ramp can be accessed from either Kellogg Blvd or Chestnut St. Enter museum by taking parking ramp elevator to the Lobby level. The River Centre ramp is an alternative to the Science Museum ramp.

The meeting will be held in Discovery Hall. If entering the museum from Kellogg Boulevard, go through the Lobby, angle left just after the box office and continue to the stairs/elevators. The Discovery Hall is one floor down.



Spring Symposium 2012 - Speakers

Art Conservation at the Smithsonian

Edward Vincenzi, Research Scientist, Museum Conservation Institute



Biography

Ed Vincenzi is a research scientist and microanalysis expert at the Smithsonian Institution's Museum Conservation Institute. He uses a variety of techniques to probe natural materials to understand their origin and history. Ed has previously served as a researcher at the U.S. National Museum of Natural History, a staff member at Princeton University, and a postdoctoral fellow at Macquarie University in Australia. He obtained his BSc from McGill University, MS from the University of Oregon, and his PhD from Rensselaer Polytechnic Institute all in Earth Sciences.

DTSA2 Spectral Processing Workshop

Nicholas W. M. Ritchie, Physicist, NIST



Biography

Nicholas Ritchie had the pleasure of studying in Randall Hulet's laser trapping and cooling laboratory at Rice University. For his master's thesis, he contributed to our understanding of quantum measurements with the first experimental realization of a measurement of a "weak value" – a concept which had recently been proposed by Aharonov & Vaidman. For his doctorate, he built a magneto-optical trap and performed studies on trap loss mechanisms in magneto-optically trapped lithium atoms. He contributed to spectroscopic studies of weakly bound dilithium at millikelvin temperatures. After graduate school, Nicholas spent almost a decade in commercial instrument development for Aspex Corporation. Here he designed and implemented the software for their flagship product and lead the development effort for their next-generation electronics package. The Aspex system remains the state-of-the-art scanning electron microscope for high speed automated particle analysis. In 2004, he left Aspex to join NIST. At NIST he has continued his interest in automated particle analysis and has taken on new interests in quantitative x-ray microanalysis. In particular, he has developed the NISTMonte Monte Carlo simulator of electron and x-ray transport. NISTMonte is now fully integrated into another of Nicholas' projects, DTSA-II – a system for quantitative x-ray microanalysis. With NISTMonte and DTSA-II, Nicholas hopes to provide the community with an open-source tool set which helps microanalysts make high-quality measurements.

Spring Symposium 2012 - Speakers

Determining Fire Point-of-Origin and Progression by Examination of Arcing Damage in the Single-Phase, Alternating-Current Electrical System

Robert J. Svare, MSIE, PhD, P.E., CFI

Founder and Principal Engineer, Svare Professional Engineering



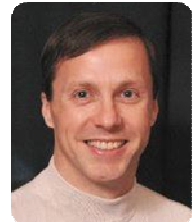
Biography

Bob Svare is experienced as a licensed Master Electrician, Electrical Contractor, Professional Electrical Engineer (MN, IL and SD) and educator who has been involved in the practice of design, consulting and forensic engineering since 1976. He is a graduate of the Brown Institute of Industrial Electronics, has a Bachelor of Science in electrical engineering and a doctorate degree in vocational education both from the University of Minnesota, and holds a Master of Science in industrial education from St. Cloud University. Bob is an IAAI Certified Fire Investigator. His hands-on experience as an electrician, scene investigator and legal fire setter has qualified him as an expert in all levels of court, from arbitration through federal, and he is listed as an expert witness by the United States Department of Justice. Bob has been a speaker/teacher for a wide variety of world audiences, from IAAI seminars to being the creator and instructor of in-depth electrical investigation classes at the United States ATF National Academy at the Federal Law Enforcement Academy in Glynco, Georgia.

Microscopy and Material Characterization in Forensic Investigations

Larry D. Hanke, P.E., FASM

Principal Engineer/Owner, Materials Evaluation & Engineering Inc.



Biography

Larry Hanke, P.E, FASM, is principal engineer at Materials Evaluation and Engineering, Inc., an independent company specializing in failure analysis and advanced materials characterization. Larry has been a failure analyst for more than 30 years and has conducted thousands of product evaluations on components from toys and recreational vehicles to medical devices and nuclear power plants. Many of those projects have been for product failures involved in litigation, and he frequently has been called to testify in trials and depositions. Larry holds a Bachelor of Science degree in metallurgical engineering from Iowa State University and professional engineering licenses in Minnesota and California. He has taught the *Practical Fracture Analysis* course for ASM International and presents frequently in the Failure Analysis Symposium at the MS&T and other technical conferences. He holds memberships in ASM International, ASTM, NACE, AWS, NSPE and SPE, as well as MMS. He currently is a member of the ASTM Committee E58 on Forensic Engineering, is the chairman of the ASM Failure Analysis Committee, and is a past chair of the ASM Handbook Committee.



July 11 - 13 What: Cryo Electron Microscopy Short Course

Location: Amundson Hall, University of Minnesota
(421 Washington Ave SE, Minneapolis)

Details: This short course will enable industrial and academic scientists and engineers, with no prior knowledge of electron microscopy, to gain insight into cryo-techniques to image nanostructures in liquids, soft materials, and biological systems.

Full details [here](#).

Register: Registration and fees information [here](#).

- Early registration discount available by **April 15th!**
- Net proceeds from the course will go to support educational efforts at the [CharFar](#), the University of Minnesota Characterization Facility.
- Registration includes instruction, lab demonstrations, course materials, lunches, refreshments and reception.

Reminder: MMS Moved to **PayPal**™ This Year!



In 2012, MMS moved to PayPal for processing payments made via credit card. With the former system, MMS paid a fixed monthly fee to maintain the service, even if no transactions occurred, in addition to any per transaction fees. The majority of credit card transactions occur in September to November and February to May. Even though the per transaction fee is slightly higher with PayPal, eliminating the monthly fees results in a significant savings to MMS.

Moving to PayPal also provides a somewhat simplified process for making reservations for society meetings. Going forward, the "Calendar of MMS Events" link in the upper left corner of the MMS website home page will lead to a list of events for the year with a PayPal link to make your reservation and pay the registration fee. For those unable or unwilling to use PayPal, pay-at-the-door reservations will continue to be taken via telephone or e-mail. Pay-at-the-door will be cash or check only as we will no longer have a way to process credit card payments outside of PayPal. To encourage use of PayPal, we will offer a small discount for doing so.

Election of Officers

Per MMS Bylaws, the election of officers (President Elect, Secretary and Treasurer) is conducted during the business meeting at the Spring Symposium. The board has nominated the following candidates:

President-Elect	Larry Hanke, Materials Evaluation & Engineering, Inc.
Secretary	Patricia Sanft, H.B. Fuller Company
Treasurer	Bede Willenbring, H.B. Fuller Company

Nominations from the floor will also be accepted at the business meeting.

MMS Corporate Sponsors

Corporate Sponsors 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. MMS gratefully acknowledges the Corporate sponsorships provided by the following companies in 2009-2010. To become a Corporate Sponsor, complete and return the MMS membership form at the end of the newsletter.

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If any Corporate Sponsors are missing from this list, please contact Jason Heffelfinger (763-514-1021, jason.r.heffelfinger@medtronic.com).

The Minnesota Microscopy Society would like to express sincere thanks to our Sustaining and 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 or Sustaining Member, complete and return the MMS membership form at the end of the newsletter.

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Reminder: Membership in MMS runs from Jan. through Dec. 2012 dues are due now!

Please visit the MMS website, <http://www.mnmicroscopy.org/MMSform.pdf>, for a pdf version of the membership form that can be filled in online, printed and mailed or saved and emailed. To pay via credit card, please go to <http://www.mnmicroscopy.org/MMSMembership.html>.

Minnesota Microscopy Society – Membership Form

All microscopists are urged to support their Society at one of the membership levels offered below. 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 (____) _____

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Address _____ ZIP _____

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(Newsletter notifications will be e-mailed to the address above.)

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

Are you an MSA member? MAS Member?

Student (\$5-\$9) Basic (\$10-\$24) Patron (\$25-\$99) Sustaining (≥ \$100)

Payment: Check PayPal (Please go to <http://www.mnmicroscopy.org/MMSMembership.html> to make your payment via PayPal.)

Make checks payable to MMS and mail to our Treasurer:

Bede Willenbring, MMS Treasurer
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