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# Minnesota Microscopy Society

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



## Newsletter

January 2001

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### MMS February Meeting

Thursday, February 8, 2001

#### Tour of Physical Electronics (PHI)

##### Meeting Location:

Physical Electronics, Inc. (PHI)  
6509 Flying Cloud Drive  
Eden Prairie, MN 55344

##### Schedule of Events:

4:30 - 5:30 PM **Social Hour: Wine and Cheese**

5:30 - 7:00 PM **Surface Analysis Presentation**

Overview of Surface Analysis

John G. Newman - Assoc. Laboratory Manager  
Auger Electron Spectroscopy

John G. Newman - Assoc. Laboratory Manager  
Time of Flight Secondary Ion Mass Spectroscopy  
Paul R. Vlasak, PhD. - Staff Scientist

Tour of Evan PHI Analytical Laboratories

7:00 PM **Buffet Dinner at PHI**

##### Dinner:

Dinner will be at Physical Electronics (see page 2 for the menu). The cost of the dinner and the wine and cheese will be \$15.00 for members. This price includes a generous subsidy by PHI of at least \$4.00/person.

**To make reservations**, contact Peter McSwiggen at 612-624-7370 or [mcswi001@umn.edu](mailto:mcswi001@umn.edu) by **Wednesday January 31, 2001**.

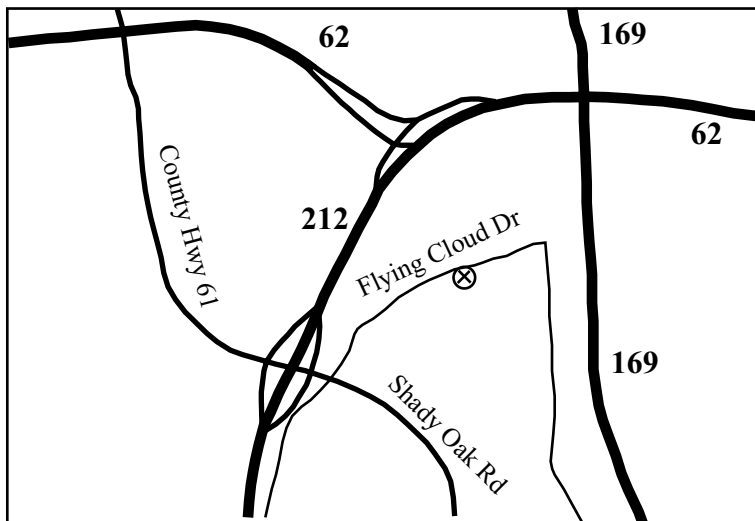
Physical Electronics (PHI) was incorporated in 1969 to produce surface analysis equipment. This technology was developed primarily at the University of Minnesota by the company founders: Paul Palmberg, Jerry Rich, Rowland Weber and Fred Wehner. Since that time, the company has gone through a few ownership changes and had associations with Perkin-Elmer, Charles Evans & Associates and ULVAC-PHI. Physical Electronics became known as Phymetrics in 2000 and is currently owned by High Voltage Engineering of Wakefield, CT.

Since 1969, PHI has become a world leader in supplying surface analysis equipment including the following systems: Auger (AES), X-Ray Photon Spectroscopy (XPS), Dynamic Secondary Ion Mass Spectroscopy (DSIMS), Time of Flight Secondary Ion Mass Spectroscopy (TOF-SIMS), and high vacuum components.

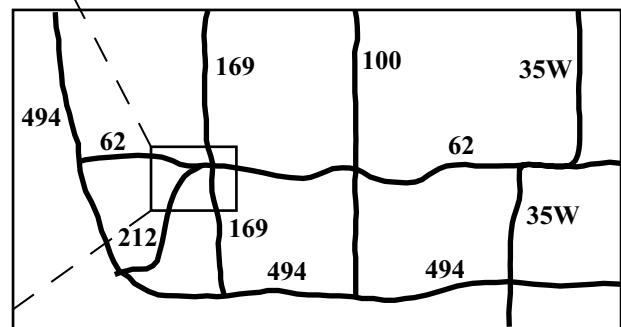
In 2000, the PHI Analytical Lab now called Evans PHI, merged with the Charles Evans & Associates Analytical Laboratory Network. This is an international network of laboratories dedicated to providing the best in problem solving and analytical services to a diverse range of clients by utilizing surface analysis equipment and high resolution field emission scanning electron microscopy.

### Menu for PHI Tour Buffet

- >Garden Green Salad with Dressings
- >Marinated Vegetable Salad
- >Cucumber Salad
- >Grilled Chicken Breast with Bay Shrimp Ragout
- >Steak Lyonnaise topped with Onion Rings
- >Scallop Potatoes
- >Green Beans
- >Assorted Bakery Cakes, Pies and Tortes
- > Coffee, Tea.



Location map for Physical Electronics, Inc.,  
6509 Flying Cloud Drive, Eden Prairie



### U of M Bell Museum of Natural History presents ScienceFest 2001!

Saturday, February 3, 2001 10:00 AM - 3:00 PM  
Bell Museum of Natural History  
U of M East Bank  
(corner of University Ave and 17th St.)

Experience the fun of scientific discovery through hands-on activities and demonstrations at ScienceFest, the Bell Museum of Natural History's annual science fair for children and their families. Volunteers from across the community and campus will be on hand to peak your curiosity with live birds of prey, model volcanoes, hi-tech hearts, slime, lego robots, paper making, skeletons, live amphibians and reptiles, microscopes, and more!

ScienceFest is coordinated through the International JASON Project which introduces the world of science through live satellite broadcasts. Dr. Robert Ballard, the ocean explorer who found the Titanic, started the program in 1989. As part of your ScienceFest experience, you can participate in a LIVE interactive satellite expedition broadcast from the volcanoes of Hawaii.

## MMS March Meeting

MMS Joint Meeting with the American Society of Metals (ASM)

Wednesday, March 28, 2001

### Nano-mechanical Testing Techniques for metallic thin films and ceramic coatings

**Speaker:** Vincent Reis  
Seagate Technology

Vincent Reis has been working in Atomic Force Microscopy, since 1996 when he graduated from the University of Wisconsin in River Falls with a B.S. degree in Physics.

**Program:** 6:00-6:30 PM      Social Hour  
6:30-7:00 PM      Dinner  
7:15-8:00 PM      Technical Program

**Location:** St. Louis Park VFW Hall  
5606 West 36th St.  
(Corner of Hwy. 100 and West 36th St.)

**Dinner:** The dinner will be a buffet and will cost \$13.50 for MMS members.

#### Topics:

>> Force depth curves - The basic principle of using force/depth curves to determine a materials hardness and reduced modulus.

>> Tip Shape Issues - Selecting appropriate tip shape geometry and tip shape calibration curves.

>> Other considerations - Surface roughness, depth control testing, and "thin film vs thick film vs multi-layer vs single crystal samples."

**Make reservations** by calling the ASM office at 763-413-7935, faxing 763-413-3273, by sending e-mail to jimclifford@msn.com, or you can do it over the web at: [www.freenet.msp.mn.us/org/mnasm/reserv.htm](http://www.freenet.msp.mn.us/org/mnasm/reserv.htm). Reservations should be made by Friday, March 23, 2001

### Metallography/Microscopy Poster Session

In addition to the technical presentation, this meeting will feature an opportunity for members to display their metallographic and technical microscopy work. Prepare your best microscopy images for display at the meeting on posters up to 4 feet by 4 feet. Start working on your poster display now!!!

### MMS Project Micro Event

The Bell Museum has again invited us to setup and demonstrate the Project Micro kits at their ScienceFest. This is being run in conjunction with the Jason Project. In previous years we (together with the Imaging Consortium from the St. Paul campus) have had many volunteers, and were able to show the microscopy kits to more than 200 kids. This year we need more volunteers - even if you can only come and help setup or clean up afterwards. The date this year is EARLY - Saturday, February 3 from 10:00 AM to 4:00 PM. It is at the Bell Museum on the East Bank campus (see accompanying article on page 2).

If you are interested in volunteering, or have any questions, please contact Stuart McKernan (612-624-6009, [stuartm@umn.edu](mailto:stuartm@umn.edu)) as soon as possible.

## MMS April Meeting

Thursday April 12, 2001

**Tour of Medtronic, Inc.**

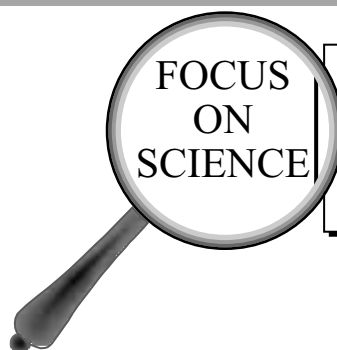
**Location:** Medtronic, Inc.  
7000 Central Ave., NE  
Fridley, MN 55432

Medtronic is one of the world's leading medical technology companies, providing lifelong solutions for people with chronic disease. This includes treatments for diseases of the cardiovascular system; neurological disorders, back and spinal pain and disorders, and ear nose, throat and eye disorders and diseases. Around the world, Medtronic's products and therapies save or enhance one person's life every 15 seconds.

**Program:** 3:30 - 5:30 PM

This will include a tour of the facility and a presentation by Medtronic scientists on their products and manufacturing processes.

**Dinner:** To be arranged.



Minnesota Microscopy Society  
Spring Symposium  
**Investigative Microscopy**

**Date:** May 4, 2001

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

The program this year will focus on investigative microscopy. The full list of speakers is still being compiled, but will include:

Valerie Woodward

B.F. Goodrich, Copely, Ohio:

“What the Heck Happened to This ??”: A Real Life Failure Analysis Using Microscopy and Microanalysis.

Valerie Woodward is one of the MAS Tour Speakers.

### Microscopist Wanted - University of Oregon

The Department of Geological Sciences at the University of Oregon in Eugene invites applications for an electron beam specialist in a modern microanalytical facility. The facility houses a four-spectrometer Cameca SX-50 microprobe and a JEOL JSM-6300 SEM. It serves faculty and students in the Department of Geological Sciences, Chemistry, Physics and the Materials Science Institute. Primary responsibilities include instrument maintenance, instruction and research collaboration. Additional responsibilities include maintenance and operation of support and sample preparation equipment as well as optical microscopes and a network of computers used for file archival and data/image analysis.

We seek an individual with expertise and experience in WDS and EDS analytical techniques, SEM imaging and instrument maintenance.

Additional desired skills include experience with network computers (UNIX/Windows), applied computer-aided microscopy and instruction in instrument use. An advanced degree in petrology, mineralogy or analytical chemistry is desirable.

This is a full-time, annually renewable position. Salary and title will be commensurate with experience and education. Applicants should send curriculum vitae, a statement of experience and interests, and the names, addresses, phone numbers and e-mail addresses of at least three references to the EPMA/SEM Search Committee, Department of Geological Sciences, 1272 University of Oregon, Eugene OR 97403-1272. We will begin reviewing completed applications February 1, 2001, and will continue until the position is filled.

## Microscopy Community News

### CALLING ALL STUDENTS!!

The "Microscopy & Microanalysis 2001" meeting will be held at the Long Beach Convention Center, August 5-9, 2001. This meeting will include a special Student Research Forum (Session 19) chaired by Zed Mason and Robert Koch. Its purpose is to provide an opportunity for students to present their research. We expect to have sessions for both physical and biological sciences depending on the number of submissions. PLEASE NOTE: Significant funding has been made available to help cover registration fees for students participating in the Student Research Forum. By submitting a paper and indicating SESSION 19 as your primary choice, students will automatically be considered for competitive awarding of these funds. Notification of the awards will occur by mid-April. To qualify, the student must be the first and presenting author on the paper. Faculty advisors may coauthor the paper.

All research projects using light microscopy, confocal microscopy, electron microscopy and microanalytical methodologies are eligible. Please encourage all of your students to submit a paper. The deadline for abstract submission is 15 FEBRUARY 2001. This session also serves as the 2001 California State University Microscopy Colloquium. Registration and other information can be obtained at:

<http://www.microscopy.com/MSAMeetings/MM01/MMHomePage.html>

## Upcoming National Meetings

### Scanning 2001

**Date:** May 5-7, 2001  
**Location:** Roosevelt Hotel  
 45th at Madison Ave.  
 New York City, New York  
**Sponsor:** 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](mailto:scanning@fams.org), or [www.scanning.org](http://www.scanning.org)

### Microscopy and Microanalysis 2001

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

### Get Your News into this Space

The Minnesota Microscopy Society is looking for contributions to 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@umn.edu](mailto:mcswi001@umn.edu)

## Sustaining Corporate 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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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@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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**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

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**MAS Representative:** Michael Coscio, Medtronic Inc., 6700  
 Shingle Creek Parkway, Brooklyn Center, MN 55430, (763)  
 514-1331; mike.coscio@medtronic.com

### Other Board Members:

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Sue Okerstrom, Medtronic Inc.,  
 7000 Central Ave. NE., Minneapolis MN 55432 (763) 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 \_\_\_\_\_

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

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

Basic \$10 \_\_\_\_\_ Patron  $\geq$  \$25 \_\_\_\_\_ Corporate 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

**February 8, 2001:****Tour of Physical Electronics, Inc.**

Forwarding and Address  
Correction Requested