

# Minnesota Microscopy Society

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



## Newsletter

March 2004

### Annual Minnesota Joint Technical Symposium (MinnTS 2004)

Thursday, March 18, 2004

#### “Web Coating for Fun and Profit”



Don McClure,  
3M Corporate Research  
Materials Laboratory  
A guided tour through the world of  
challenges in web coating. Techni-  
cal issues with size and substrate  
along with several interesting appli-  
cations from a 20+ year career.

#### “Displaying the Future”



Bill Smyth,  
3M Optical Systems Division  
What is now, and what is around the  
corner. See the future of displays  
with an expert in the field of display  
technology.

plus

#### Tours of the new Medtronic Research facilities will be available

Tours will be available at specific times between 4:30 and 5:30 PM only.

The MMS-ASM annual joint meeting has grown into its own symposium. It is now the Annual Minnesota Joint Technical Symposium or MinnTS (pronounced “mints”) for short. The participating Societies include the Minnesota Microscopy Society (MMS), Materials Information Society (ASM), American Chemical Society (ACS), American Vacuum Society (AVS), Semiconductor Equipment and Materials International (SEMI), and the Society for Information Display (SID).

Join us for a great evening including dinner, cross-society networking, tours, and two outstanding technical talks at the corporate headquarters and research center of Medtronic Inc.

**Location:** Medtronic Inc.

710 Medtronic Parkway (694 & Hwy 65)  
Fridley, MN 55432

**Cost of the Meeting** (pay at the door):

\$30.00 for Society members, \$35.00 for non-members, \$20.00 for MMS student members.

**Reservations:** Contact Mike Coscio at 763-505-4561  
or [mike.coscio@medtronic.com](mailto:mike.coscio@medtronic.com).

**Deadline for RSVP is Friday, March 12.**

Please include your name, **society affiliation**, employer, phone number and e-mail address with your reservation.



Seating is limited...RSVP today.



## Abstracts

### Web Coating for Fun and Profit

*Lessons from two decades of making it happen*

Don McClure, 3M Corporate Research Materials Lab

Vacuum web coating has a long history and an exciting future. The first half of the talk will present key technical issues for success. The remaining time will highlight an array of vacuum web coated products, presented as examples of the broad range of structures that are possible. This guided tour will be based on the author's experiences supporting a large variety of product programs during his career at 3M.

Vacuum web coating shares many aspects with other vacuum coating operations but is decidedly different in several ways. In large volume operations, the coaters can be enormous, with film substrates up to 4 meters (13 feet) wide and film transport speeds up to 30 miles per hour. These attributes place unique requirements on the pumping systems, the coating source designs, and the monitoring and control systems. We will discover how high quality evaporated films can be produced in web form at pressures high enough to cause almost all other evaporation coating processes to fail.

In many newer applications, particularly sputter deposition processes, the substrate widths are smaller and the speeds are much lower. Again web coating places unique requirements on the processes, especially in terms of heat removal, in the management of the outgassing from the substrate, and in coating uniformity.

### Displaying the Future

*An overview of the future of consumer television*

Bill Smyth, 3M Optical Systems Division

For the past 50 years, the Cathode Ray Tube (CRT) has been the only real option for consumer TV's. Most of these TV's were purchased at local big box consumer electronics stores and the vast majority of the programming that we have been watching is still supplied in the same 480 line NTSC format that was developed decades ago.

All of this is about to change. An unprecedented number of new display technologies are simultaneously converging on the vast consumer TV market. An increasing number of these new TV's will be purchased as direct sales by phone and the Internet. A growing amount of HDTV programming will become available with better resolution and superior audio quality. This improved programming will influence purchase decisions resulting in increased sales of large size displays and better audio systems.

This talk will describe the basic principals, advantages, issues and future trends for most of the major new consumer TV technologies including Plasma and Direct View LCD along with LCD, DLP and LCoS Microdisplay Projection TV's. This information will be supplemented with some discussion of HDTV formats and possible market trends.

Bill Smyth is the Manager of Marketing & Business Development for 3M's Optical Systems Division. He has over 25 years of experience developing and commercializing digital imaging products and systems.

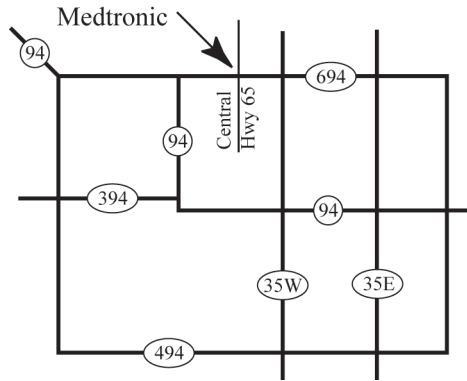
### Meeting Schedule

4:30 - 5:45 PM	Registration and Social, Tours
5:45 - 7:15 PM	Dinner
7:15 - 7:30 PM	Welcome by Medtronic Director
7:30 - 8:10 PM	Speaker: Don McClure
8:10 - 8:50 PM	Speaker: Bill Smyth
9:00 PM	Adjourn

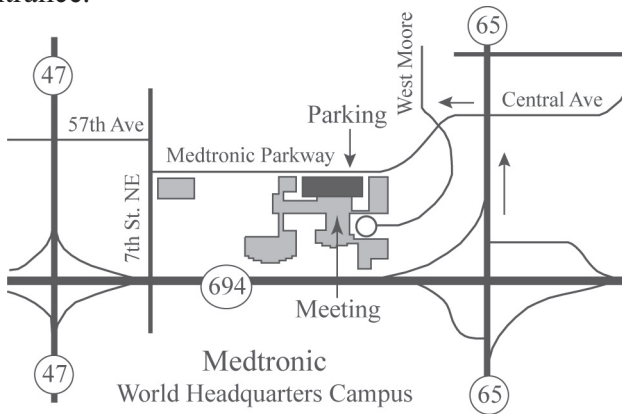
### Dinner Menu

Green Salad With Assorted Dressings
Pecan Crusted Chicken Breast
Salmon With Lemon & Dill
Wild Mushroom Strudel
Rice Or Potatoes
Vegetable Medley
Assorted Mini Tarts, Chocolate Dipped Fruits,
Cakes & Pies

**Medtronic Location Map**



Directions: From 694 take the Hwy 65 (Central Ave.) exit North. At Medtronic Parkway, take a left. Take another left into the first entrance of the parking ramp. Follow visitor entrance signs to the visitor entrance.



**MMS**

**Spring Symposium**

**Our Digital World**

**Friday, May 7, 2004**

Again this year the MMS Spring Symposium will be held at the Science Museum of Minnesota. As in the past, it will be a full day symposium focused on a single topic. This year's topic is, "Our Digital World." The days of Polaroid pictures are gone. Today, digitally capturing images is the more cost effective and versatile approach. So what do we need to know about the various strategies for acquiring, storing, and displaying images?

The keynote speaker will be John MacKenzie from North Carolina State University. He frequently offers a short course on this subject through the Microscopy Society of America. Emphasis will be on basic principles of input, storage, output, and networking, with special attention paid to affordable solutions and components.

**Digital Micrograph Contest**

At the MMS Spring Symposium, there will be a contest for the best digital micrographs. There will be two categories for entries, unaltered and enhanced. Each MMS member may enter one image in just one of the two categories. First and second place prizes will be awarded in both categories. The best images will be used for next year's MMS poster. To enter, you must be a MMS member and agree to allow the Society to use your image in upcoming publications.

**Make sure May 7th is on your calendar!!**

**Microscopy and Microanalysis 2004**

**Upcoming MSA and MAS Meeting**

This year the Microscopy and Microanalysis Conference will be held August 1st - 5th in Savannah, GA. Savannah is a charming old southern town with lots of history and things to do. It is a beautiful city with elegant antebellum mansions and restored houses, lovely city squares with stately old trees draped in Spanish moss, and fabulous restaurants with gracious service.

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## 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, complete and return 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: Jason Heffelfinger (763-514-1021, [jason.r.heffelfinger@medtronic.com](mailto:jason.r.heffelfinger@medtronic.com)) or Peter McSwiggen (612-781-2282, [PMcS@McSwiggenAssoc.com](mailto:PMcS@McSwiggenAssoc.com)).

## MMS Patron Members

The Minnesota Microscopy Society would like to express a sincere thanks to our Patron Members. These members provide financial support to the organization above the standard membership fee. This type of added 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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**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 (\_\_\_\_) \_\_\_\_\_

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

**Minnesota Microscopy Society**  
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Forwarding and Address  
Correction Requested

**March 18, 2004****Annual Minnesota Joint  
Technical Symposium****(MinnTS 2004)**