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# Minnesota Microscopy Society

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



## Newsletter

February 2005

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### Minnesota Microscopy Society February Meeting

Thursday, February 17, 2005

#### The Visible Heart

**Speaker** Dr. Paul Iaizzo

Professor of Surgery and Physiology  
Distinguished University Teaching Professor  
Medtronic Professor of Visible Heart Research  
Director for Education of the Lillehei Heart Inst.  
Director of the Malignant Hyperthermia Muscle  
Biopsy Center  
University of Minnesota

**Location**

Earl Brown Continuing Education Center, Rm 83  
University of Minnesota, 1890 Buford Ave.  
St. Paul Campus (see location map on page 3)

**Schedule**

Registration and Social Hour	5:00 PM - 6:00 PM
Dinner	6:00 PM - 7:30 PM
Speaker	7:30 PM - 8:30 PM

**Cost**

The cost of the meeting and dinner is \$25.00 for MMS members and \$15.00 for students.

**Reservations**

Reservations for the meeting **MUST** be made no later than **Friday, February 11th**. Contact Paul Baker (763-514-4519, paul.baker@medtronic.com).

**Talk**

Paul A. Iaizzo, Ph.D., Professor of Surgery Physiology, worked in partnership with biomedical engineers at Medtronic Inc., to produce a large mammalian isolated beating heart. This ongoing research collaboration has resulted in a working four chamber isolated cardiac model that can simulate in situ physiological cardiac function. This beating heart model has provided an opportunity to simultaneously capture internal images of a working heart on video while recording various physiological parameters, such as: electrical potentials, pressure volume changes, ejection fractions, flows, etc. The Visible Heart® model is considered an invaluable tool in understanding the relationship between the dynamics of a beating heart and existing and emerging biomedical therapies.

**Dinner**

The dinner will be a buffet of “stuffed breast of chicken supreme” (breast of chicken filled with mushrooms and wild rice) accompanied by baby red potatoes and seasonal fresh vegetables. The buffet entrée comes with house salad, freshly baked rolls, coffee, tea, iced tea, and milk. Fruit pies is for dessert. Social hour will include various soft drinks.

## Annual Minnesota Joint Technical Symposium (MinnTS 2005)

Thursday, March 17, 2005

Come to Medtronic for MinnTS '05, the 3rd annual joint meeting of local technical societies. This year the topic is Biomaterials and Biotechnology, and we will have two speakers.

### *Artificial Retina*

**Vincent Chow**

Optobionics, [www.optobionics.com](http://www.optobionics.com)

Optobionics is a medical technology company, based in Naperville, IL that is developing treatments for patients who have previous untreatable, debilitating blindness due to retinitis pigmentosa (RP) using some very innovative computer chip technology. This disease afflicts 1.6 million people worldwide with ~100,000 in the U.S. Their first anticipated product, the ASR™ silicon chip device, is presently undergoing FDA clinical trials and has been implanted into the retinas of 10 patients and followed for a period of 24-51 months. Presentation will cover the basic design of the ASR™ silicon chip, engineering challenges, surgical methods and patient results to date.

### **Location**

Medtronic Inc.  
710 Medtronic Parkway (I-694 & Hwy 65)  
Fridley, MN 55432 (*see map on page 3*)

**Cost of the Meeting** \$25

### **Reservations**

Reservations for the meeting **MUST** be made no later than **Friday, March 11th**. Contact Bede Willenbring (Bede.Willenbring@hbfuller.com or 651-236-5470). You must include: name, company, e-mail address, phone number, affiliation (ACS, AIChE, ASM, AVS, MMS, SAS, SEMI, SID, or none). MinnTS will not share your personal information outside your affiliated organization.

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

### *Therapeutic Strategies, from Replacement Parts to Regenerative Medicine: Challenges and Opportunities*

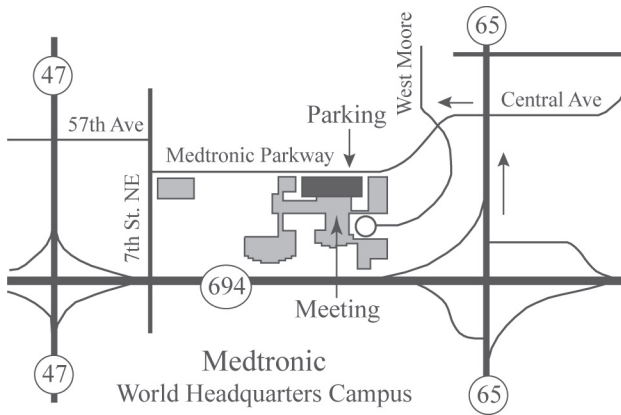
**Arthur J. Coury**

Genzyme Corporation, [www.genzyme.com](http://www.genzyme.com)

The development of modern materials such as structural polymers and metal alloys enabled the implementation of many medical therapeutic devices and drug delivery systems over the past half century. These biomaterials-based products, which often served to replace the function of organs, included devices such as prosthetic joints, teeth, lens, valves, breasts, pacemakers and bones. In the present era, the focus of medicine has shifted and the knowledge we have gained in physiology, cellular and molecular biology provides the potential for supplanting many mechanical, chemical and electronics based therapies by inducing the body to heal and regenerate its structures and functions. As with many disruptive technologies, regenerative medicine approaches such as those found in tissue engineering, gene therapy and growth factor implementation have experienced early resistance and setbacks. But the concepts are valid, major successes are unfolding and the era of regenerative medicine is arriving with only the timing in question. To achieve these breakthroughs, advanced materials technologies will be required to deliver, augment or enable the cellular and molecular components of regenerative medicine.

### **Schedule of Events**

4:30 - 5:30	Registration, tours, and social
5:30 - 6:40	Dinner
6:40 - 6:45	Move into auditorium
6:45 - 7:00	Welcome message(s) and Vincent Chow introduction
7:00 - 7:50	Vincent Chow presentation & questions
7:50 - 8:00	Break
8:00 - 8:05	Arthur Coury introduction
8:05 - 8:55	Arthur Coury presentation & questions



*Location map for the MinnTS 2005 meeting at the Medtronic world headquarters.*

### Menu

- Garden salad with assorted dressings
- Herb crusted chicken with pan glaze
- Salmon with lemon and dill
- Wild mushroom strudel
- Rice or potatoes
- Steamed carrots
- Bakery fresh rolls and butter
- Assorted Desserts (mini tarts, chocolate dipped fruits, mini cakes and pies)
- Assorted soda and water
- Coffee service with hot tea

### MinnTS 2005 Sponsoring Organizations

- American Chemical Society, Minnesota chapter (ACS)
- American Institute of Chemical Engineers, Upper Midwest Section (AIChE)
- American Society for Materials, Minnesota chapter (ASM)
- American Vacuum Society, Minnesota Chapter (AVS)
- Minnesota Microscopy Society (MMS)
- Society for Applied Spectroscopy, Minnesota chapter (SAS)
- SEMI-MN
- Society for Information Display, Midwest chapter (SID)

*Location map for the Earl Brown Center at the University of Minnesota. Parking is on the east side of the building.*

## Future Meetings

### Annual MMS Spring Symposium “Cutting Edge Technologies in Microscopy”

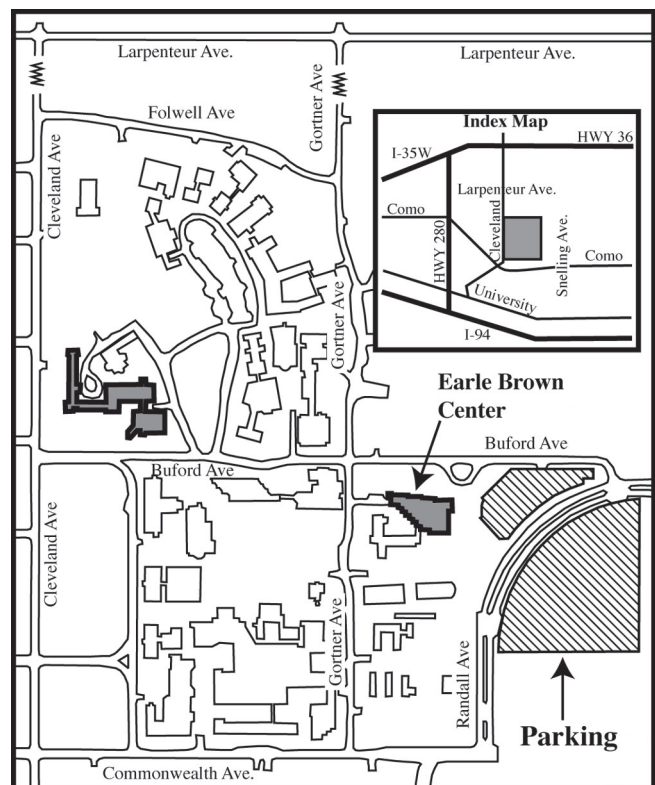
Friday, May 6, 2005

#### Location

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

As always the Minnesota Microscopy Society’s big event is our day-long Spring Symposium. Speakers will include:

- Tom Isabell, JEOL USA  
Aberration corrected electron microscopes
- Paul Voyles, University of Wisconsin  
STEM imaging of single atoms
- Duane Krueger, University of St. Thomas  
Confocal laser scanning microscopes and the ESEM
- Scott and Amy Chumbley, Iowa State University  
The WebSEM



## 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.

Tory Bourgholtzer	<b>Foundation for Advances in Medicine &amp; Sci.</b>	201-818-1010
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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 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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<b>Stuart McKernan,</b>	University of Minnesota, Mpls	<b>Neal Zimmermann,</b>	Seagate Technology, Prior Lake

## MMS BOARD and OFFICERS 2004-2005

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**Corporate Liaison:** Jason Heffelfinger, Medtronic Inc.,  
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Copy Editing: Barbara Meier

**MAS Representative:** Michael Coscio, Medtronic Inc.,  
710 Medtronic Parkway, Minneapolis, MN 55432-5604;  
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### Other Board Members:

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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 \_\_\_\_\_

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Indicate the method by which you would like to receive the Newsletter: mail \_\_\_\_\_ e-mail/web \_\_\_\_\_ both \_\_\_\_\_

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

Make checks payable to MMS and mail to our Treasurer:

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

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 \_\_\_\_\_ Light \_\_\_\_\_ SEM \_\_\_\_\_ TEM \_\_\_\_\_ X-ray \_\_\_\_\_

Per MMS bylaws, article VIII: "For purposes of membership The Society's year shall run from October 1 to September 30.  
Dues shall be payable between October 1 and December 31st of each year."

**Minnesota Microscopy Society**  
Peter McSwiggen, MMS Editor  
McSwiggen & Associates  
2855 Anthony Lane South, Ste B1  
St. Anthony, MN 55418

Forwarding and Address  
Correction Requested

**February 17, 2005**

*The Visible Heart*