

Minnesota Microscopy Society

Local affiliate of the *Microscopy Society of America*
and the *Microanalysis Society*



Newsletter

September 2014

The Unique Role of a Chemist in the World of Art

Deanna M. O'Donnell

Assistant Professor, Chemistry
Hamline University
St. Paul, MN 55104

Email: dodonnell02@hamline.edu

Web: <http://www.hamline.edu/faculty-staff/deanna-odonnell/> and

<https://sites.google.com/site/deannaodonnell/lu/>



Date

Thursday, October 16, 2014

Schedule

6:00 – 6:30 p.m. Check-in

6:30 – 7:30 p.m. Dinner

7:30 – 8:30 p.m. Speaker

Location

Hamline University, Klas Center,
Kay Fredricks Room



Click image for
full-size pdf of
Hamline
campus map

Reservations / Menu Choices

Cost for the fall program is \$10. Reservations and menu preferences (below) are being taken through **11:59 p.m. on Wednesday, October 8**. Reservations may be made via Paypal by going to the MMS website's Calendar of Events page at <http://www.mnmicroscopy.org/calendar.html>.

HERB ROASTED CHICKEN BREAST: Seasoned and roasted chicken breast topped with a light *au jus*, served with duchess potatoes and green beans. Also includes rolls and butter and a slice of chocolate layer cake.

ASPARAGUS SHIITAKE PASTA ROLL: Pasta filled with sautéed shiitake mushrooms, asparagus and ricotta cheese, served with arugula and topped with a tomato basil cream sauce. Also includes rolls and butter and New York cheesecake.

MMS Fall Kickoff Event – The Unique Role of a Chemist in the World of Art *continued*

Speaker Bio

Dr. Deanna O'Donnell joined the faculty at Hamline University in 2011 as an Assistant Professor of Chemistry. She earned her BS in Chemistry at McMaster University in Hamilton, Ontario, Canada. Her doctoral work was conducted at the University of Notre Dame studying radiolytically-generated radical species in aqueous solutions principally using Time-Resolved Resonance Raman Spectroscopy. Dr. O'Donnell held a postdoctoral appointment at the City College of New York and Metropolitan Museum of Art in New York City. Her postdoctoral research aimed to develop Surface Enhanced Raman Spectroscopy as a comprehensive tool for identifying trace amounts of dyes in textiles and media in a non-destructive manner. This effort included refining extraction methods to be coupled with SERS and developing new SERS methods to enhance detection limits. She continues this research in analytical method development in the areas of art conservation and forensic sciences at Hamline University.



Abstract

The materials from which art is composed, at their simplest level, are chemicals. This statement is not meant to belittle or disrespect the work of artists. On the contrary, artists have an astonishing ability to leverage the physical and chemical properties of matter to create their works. Sadly though, any piece is susceptible to deterioration due to the hands of time. Oxidation and photodegradation can irreversibly change a piece, with the artist's original intent getting lost in the process. It is these chemical changes, as well as the fragility of the physical structures, that require the skill and training of an art conservator to devise a plan to mitigate the damage. Knowledge of the composition of a work of art is vital to the development and execution of this plan. Herein lies a world in which a chemist can contribute collaboratively with art conservators and historians to support their ventures. Chemical instrumentation is often employed to deconstruct the chemical composition of an art or cultural heritage object. In this presentation, Dr. O'Donnell, an analytical chemist, will share the unique role a chemist can play in this world and some examples from the community and her own research.

Minnesota Microscopy Society – Sigma Zeta Joint Meeting

*Interdisciplinary nanotechnology research:
the science and its many applications*

[Dr. Nathan Lindquist](#)

Assistant Professor of Physics
[Bethel University NanoLab](#)

Date

Thursday, November 4, 2014

Schedule

5:30 p.m. Check-in
6:00 p.m. Dinner
7:00 p.m. Speaker

Location

Bethel University
Community Life Center
3900 Bethel Drive
St. Paul, MN 55112
<http://www.bethel.edu/about/maps-directions/>



More info about Nathan:
<http://www.bethel.edu/stories/physics/nathan-lindquist>

Registration

Cost for the meeting is \$10. Registration deadline is **Tuesday, October 28**. Reservations may be made via Paypal by going to the MMS website's Calendar of Events page at <http://www.mnmicroscopy.org/calendar.html>.

Speaker Abstract

Over the past few years, Bethel has invested in building a "NanoLab" for inter-disciplinary student / faculty research on microscopy, spectroscopy, imaging, bio-sensing, nano-fabrication and nano-characterization. The recent addition of a scanning electron microscope further builds our potential for cutting-edge projects. This talk will provide some background on the science of nanotechnology, the tools of the trade, and its many promising applications. Come find out how nano-research is directly aimed at solving some of our biggest challenges in energy, healthcare, and the environment.



2014/2015:

September 23

What: **Minnesota Academy of Science | Science Salon**

"Fracking: Is the Water More Precious Than the Oil?"

Time: 6:30 pm (lecture) + 7:30 pm (Biodale lab tour)

Location: University of Minnesota / BioTechnology Institute
Cargill Building Atrium, St. Paul, MN

Register: <http://www.mnmas.org/science-salon/upcoming-science-salons>



November 1

What: **Microscope Day**

Time: 12:00 – 4:00 pm

Location: Science Museum of Minnesota
St. Paul, MN

Anyone interested in volunteering, please contact Ann Palmer: palme003@umn.edu



March 19

What: **13th Annual MinnTS**

Location: Medtronic World Headquarters
Fridley, MN (I-694 and Central Av)

May 1

What: **Spring Symposium**

Location: Minnesota Science Museum
St. Paul, MN

MMS Is a Tax-Exempt Organization

When MMS was created, the Society was created as a Minnesota non-profit corporation. But there is no indication in the Society records that the Society was ever established as a tax-exempt entity with the IRS. This apparent oversight was brought to light three or four years ago when the IRS tightened up its requirements for organizations to retain their exempt

status. Last August (2013), MMS filed a request with the IRS for tax-exempt status. We recently received our acceptance letter from the IRS. *MMS is now officially a 501(c)(4) tax-exempt organization.*



**Tax-Exempt
501(c)(4) Status**

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 2013-2014. To become a Corporate Sponsor, complete and return the MMS membership form at the end of the newsletter.

| | | |
|------------------------|---|--------------------|
| Mike Boykin | Mager Scientific, Inc. | 734-426-3885 |
| Shannon Brooks-Lehnerz | Carl Zeiss NTS | 734-223-5337 |
| Dave Bush | IXRF Systems, Inc. | 512-386-6100 |
| Bill Chauvin | Oxford Instruments USA | 608-831-0760 |
| Doug D'Arcy | DMS, Inc. | 630-983-1704 |
| Melissa Dubitsky | Tousimis Research Corp. | 301-881-2450 |
| Chris Frethem | Characterization Facility at the U of MN | 612-624-4652 |
| Jeff Gschwend | Hitachi High Technologies | 847-816-6098 |
| Larry Hanke, P.E. | Materials Evaluation & Engineering, Inc. | 763-449-8870 |
| Mike Hehr | North Central Instruments, Inc. | 763-559-3008 |
| Jerry Jasso | Ted Pella, Inc. | 800-237-3526 x 244 |
| Mark Kelsey | Bruker AXS Microanalysis | 708-386-9684 |
| Stacie Kirsch | Electron Microscopy Sciences / Diatome | 215-412-8400 |
| Dean Krogman | FEI Company | 608-358-2455 |
| Laurie Krupa | EDAX | 312-238-0260 |
| Lori La Vanier | Evans Analytical Group, LLC | 952-641-1242 |
| Peter McSwiggen | McSwiggen & Associates | 612-781-2282 |
| Robert Mierzwa | JEOL USA, Inc. | 920-803-8945 |
| Steve Nagy | Gatan, Inc. | 612-616-9557 |
| Mark Nelson | Microscopy Innovations, LLC | 715-384-3292 |
| Joe Robinson | Thermo Fisher Scientific | 503-327-3008 |
| Jean Schlosser | Crane Engineering, Inc. | 763-557-9090 |
| Ryan Stromberg | Hysitron, Inc. | 952-835-6366 |
| Dehua Yang | Ebatco | 952-334-5486 |
| Peter Yurek | Medtronic Inc. | |

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.

MMS Sustaining Members

| | | | |
|----------------|--------------------------|---------------|----------------|
| Michael Coscio | Medtronic Inc. – Retired | Steve Skorich | Medtronic Inc. |
|----------------|--------------------------|---------------|----------------|

MMS Patron Members

| | | | |
|------------------|------------------------------------|------------------|-------------------------------|
| Tony Anderson | Surmodics, Eden Prairie | Ev Osten | 3M Company - Retired |
| Steven Axdal | Seagate Technology, Mpls | Ann Palmer | University of Minnesota, Mpls |
| Amanda Borchardt | Pace Analytical, St. Cloud | Jeffrey Payne | 3M Company, St. Paul |
| Mary Buckett | 3M Company, St. Paul | Alice Ressler | U of M CharFac, Mpls |
| Carolyn Casoria | Honeywell Inc., Plymouth | Craig Smith | Honeywell, Plymouth |
| Rick Freiberg | Seagate Technologies, Richfield | Bill Stratton | 3M Company, St. Paul |
| Jeff Haggerty | Haggerty Analytical, St. Paul Park | Mary Swierczek | 3M Company, St. Paul |
| Clayton Hamilton | 3M Company, St. Paul | Jeff Thole | Macalester College, St. Paul |
| Greg Haugstad | U of M CharFac, Mpls | Oden Warren | Hysitron, Inc. |
| Richard Kvittek | Seagate Technology, Mpls | Bede Willenbring | H.B. Fuller Co., St. Paul |
| Lisa Lagoo | Medtronic Inc., Mpls | Mark Windland | Honeywell, Plymouth |
| Robert Lundquist | Boston Scientific, Mpls | Mike Wroge | Cymbet Corp., Elk River |
| Brian McAdams | University of Minnesota, Mpls | Klaus Wormuth | U of M CharFac, Mpls |
| Stuart McKernan | 3M Company, St. Paul | Elizabeth Wurdak | St. John's University |
| Augusto Morrone | Seagate Technology, Mpls | Karen Zaruba | University of Minnesota, Mpls |



MMS BOARD and OFFICERS 2014-2015



President: Eric Morrison,
1202 Cherokee Ave.,
West St. Paul, MN 55118;
(651) 795-5633; mister.ericm@yahoo.com

Past-President: Larry Hanke, Materials Evaluation
& Engineering, Inc.,
13805 1st Avenue North, Suite 400,
Plymouth, MN 55441;
(763) 449-8870; hanke@mee-inc.com

President-Elect: Jeff Haggerty, Haggerty
Analytical,
1032 Marshall Ave.,
St. Paul Park, MN 55071;
pffeconsultant@yahoo.com

Secretary: Patricia Sanft, H.B. Fuller Co.,
P.O. Box 64683, St. Paul, MN 55164;
(651) 236-5384; patricia.sanft@hbfuller.com

Treasurer: Bede Willenbring, H.B. Fuller Co.
(retired),
New Hope, MN; (763) 533-0649;
treasurer@mnmicroscopy.org

MAS Representative: Michael Coscio, Medtronic
Inc. (retired), 12650 88th Ave N.,
Maple Grove, MN 55369;
(763) 493-3500; mikecoscio@comcast.net

Project MICRO Director: Jeff Payne, 3M Center,
Bldg. 201-BE-16, St. Paul, MN 55144-1000;
(651) 733-2352; jjpayne@mmm.com

Corporate Liaison: Jason Heffelfinger, Medtronic
Inc., 6700 Shingle Creek Parkway, Brooklyn
Center, MN 55350; (763) 514-1021;
jason.r.heffelfinger@medtronic.com

Webmaster: Stuart McKernan, 3M Center,
Bldg. 201-BE-16, St. Paul, MN 55144-1000;
(651) 736-5993; smckernan@mmm.com

Newsletter Editor: Maria Graff, Maria Graff
Communications, Minneapolis, MN;
mariagraff@me.com

Other Board Members

Peter McSwiggen, McSwiggen & Associates
St. Anthony, MN; PMcS@McSwiggen.com

Ann Palmer, University of Minnesota
Dept. of Pediatrics, Mpls, MN; palme003@umn.edu

Klaus Wormuth, University of Minnesota
Minneapolis, MN; 612-626-9803

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 (_____) _____

Affiliation _____ Position _____

Address _____ ZIP _____

E-mail address _____

(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
4763 Decatur Ave. North, New Hope, MN 55428-4402
E-mail: Treasurer@MNmicroscopy.org