



# The MMS Scope

## Minnesota Microscopy Society

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

december 2021

### In this Issue:

#### Winter social event

This winter, our Tours and Trivia combination returns! Register and plan to participate in this fun event happening Thurs, December 9.

#### President's address

MMS President Gail Celio greets members.

#### Up ahead:

Plans are in the works for a tour of Mayo Clinic Labs in February 2022.

#### MMS dues

Please submit your 2022 membership dues. (Student dues will be free for 2022.) Thank you.



December 9, 2021

7:00 p.m. CT

### "Tours & Trivia" returns!



Join us online on Thursday, December 9th for virtual tours of how magnets are made and how tequila is produced (BYOM&T).

Afterwards we'll have another round of Non-Microscopy Microscopy Trivia. Topics will cover "microscopy-adjacent" popular culture – no actual microscopy knowledge necessary!

Attendees will be assigned randomly to a team and Zoom breakout room. Teams will work together each round to answer five questions. After each round, teams will return to the main meeting room and give their answers directly to the moderator. Once all the responses are in, the moderator will reveal the correct answers. There will be four rounds total and the team with the most correct answers will be rewarded with a year of bragging rights. And if you can't be right, be creative!



### RESERVATIONS

There is no cost to attend, but registration is required.

Register here:

[https://umn-private.zoom.us/meeting/register/tJUrc-CtqjMqGNIoc\\_fBw\\_K-03qTtb5-3Fhb](https://umn-private.zoom.us/meeting/register/tJUrc-CtqjMqGNIoc_fBw_K-03qTtb5-3Fhb)

After registering, you will receive a confirmation email containing information about joining the event. Feel free to forward the registration link to colleagues. We're looking forward to seeing you!

You may also find the registration link on the [MMS events page](#).

## Welcome / Introduction from the president



### LETTER FROM THE PRESIDENT

*Dear MMS Members,*

*A heartfelt, if belated, hello and welcome! I'm honored to be serving as MMS's current president, and greatly appreciate the help and guidance that **Anette von der Handt** and the past and present board members continue to provide.*

*The previous year was a challenge for everyone – adapting to pandemic-related limitations, finding different ways to work, learn, and socialize – and we've done our best to meet it. While the health situation is improving, our organization remains mindful of the safety of its members. We have held remote events such as the Spring Symposium and the virtual tour of the University Imaging Centers at the University of Minnesota last July as well as October's talk from Dr. Lee Penn at UMN's Department of Chemistry. We will continue with our end-of-the-year Non-Microscopy Microscopy Trivia Mixer. However, we're keeping our options open (and fingers crossed) for a tour of Mayo facilities in Rochester in February.*

*Though the pandemic has kept us physically apart, technology has allowed us to expand our virtual reach. It's my hope that even as we reunite in person, we can use these now-familiar tools to share our enthusiasm about microscopy with new folks in new places. I look forward to working with the board and members to strengthen our existing connections and to potentially broaden our community!*



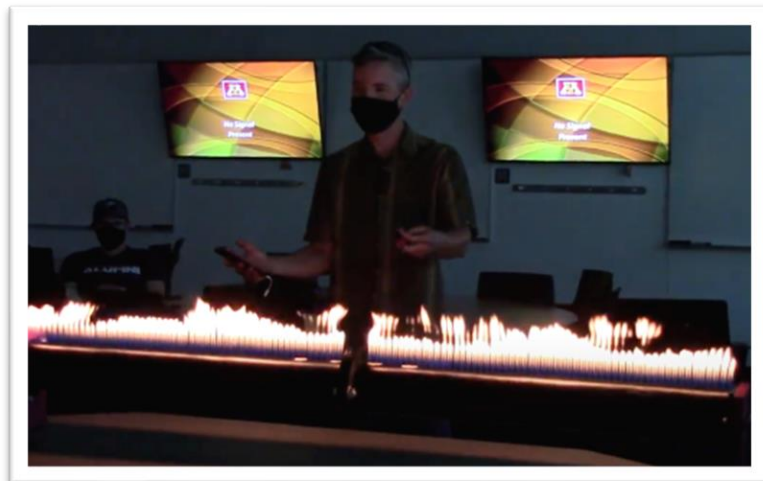
*Gail Celio*



## RECAP: Virtual Fall Kickoff

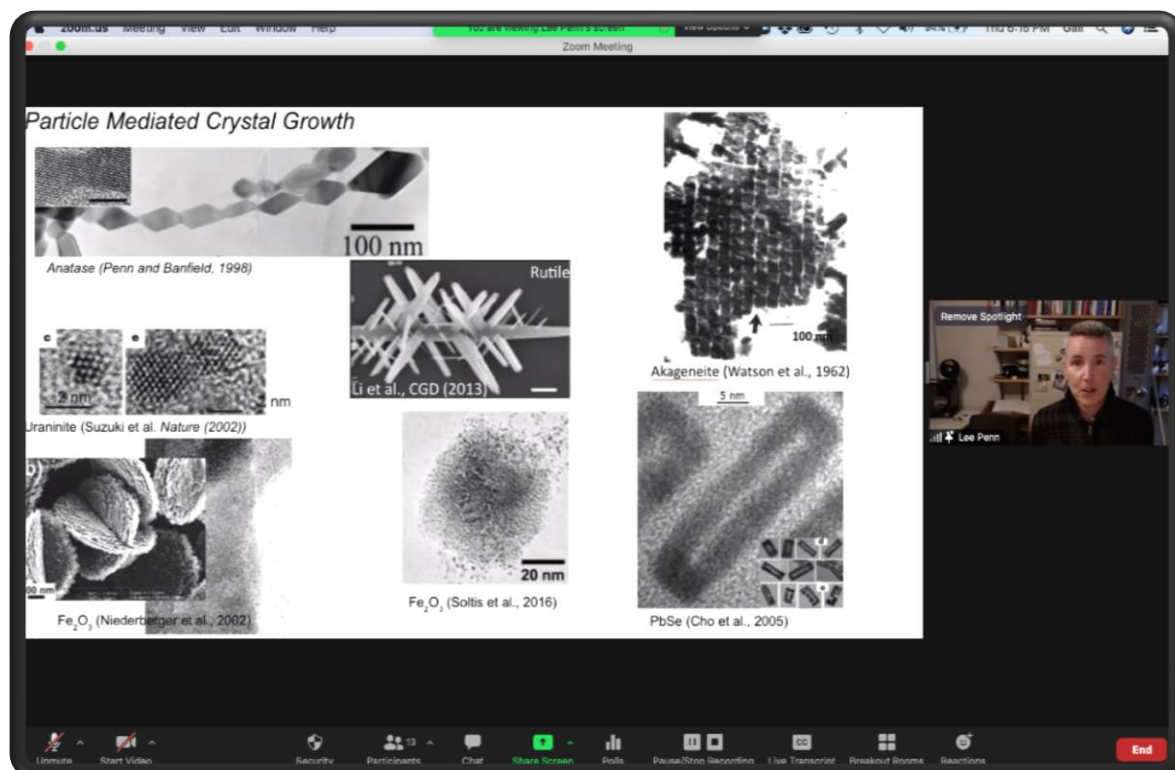
Virtual presentation by [Lee Penn](#), Department of Chemistry, University of Minnesota

On October 14, MMS hosted an online presentation by University of Minnesota chemistry professor Lee Penn titled "Characterizing Formation, Growth, Dissolution, and Transformation of Iron Oxide Nanoparticles." Prof. Lee shared some terrific images of different iron oxide crystals with various growth patterns, and data on how their shapes influenced their reactivity.



Review what you saw or see what you missed – click the link below to access the 2021 Fall Event.

 [youtu.be/8pUVvZYaLw8](https://youtu.be/8pUVvZYaLw8)





## Virtual Fall Kickoff - 2

Recording... You are viewing Lee Penn's screen View Options 55:11

### TPA-Silicalite-1: SAXS and TEM

Mechanism Similar at Higher Concentration

**Cryo-TEM at  $t_1$**   
20 nm

**$t_2 = 2$  hrs**

**$t_3 = 3$  hrs**

**$t_4 = 6$  hrs**

**$t_5 = 52$  hrs**

*Kumar et al., JPC, 2007*

Remove Spotlight

Lee Penn

Unmute Start Video Security Participants Chat Share Screen Polls Pause/Stop Recording Live Transcript Breakout Rooms Reactions End

Recording... You are viewing Lee Penn's screen View Options 28:40

**Chemistry, Green Chemistry, Environmental Chemistry, Geochemistry, Physical Chemistry, Analytical Chemistry, Materials Science**

**Lee Penn, They/Them**

Environmental Chemistry  
Pollutant Degradation  
Geochemical Cycling

Nanoparticle Synthesis:  
Controlled Size,  
Microstructure, and  
Morphology

Nanoparticle Properties:  
Reactivity, Magnetism, Aggregation,  
and Transport

AI LY

Remove Spotlight

Lee Penn

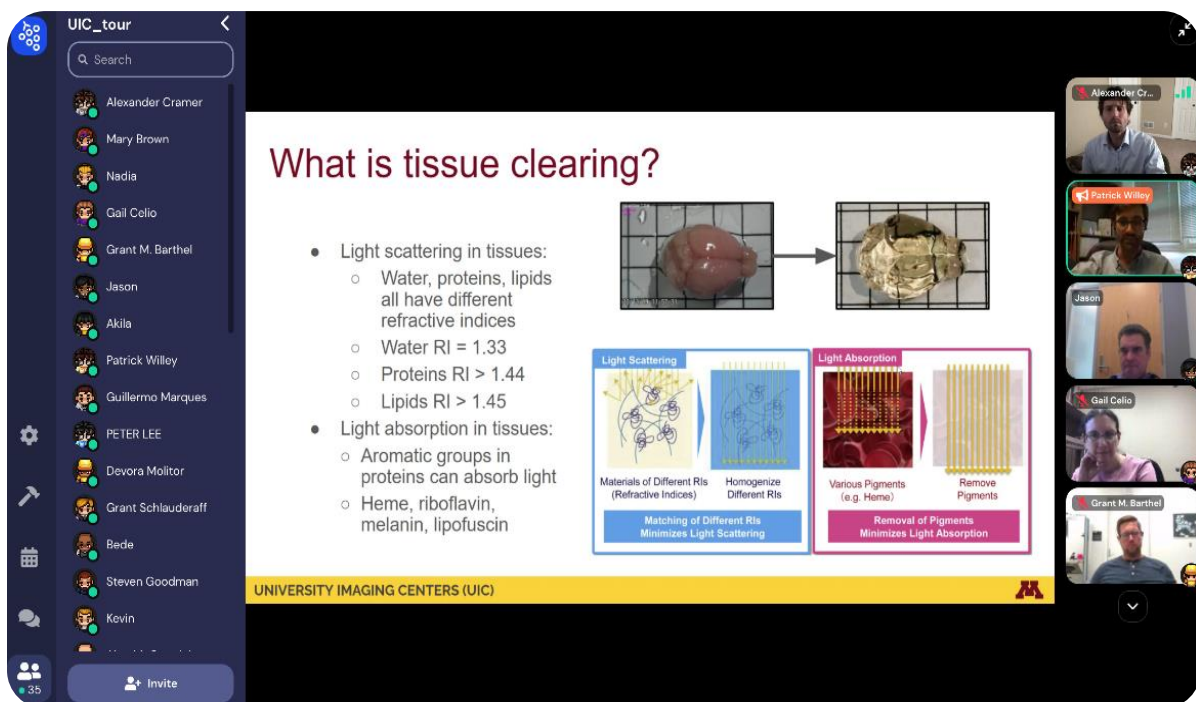
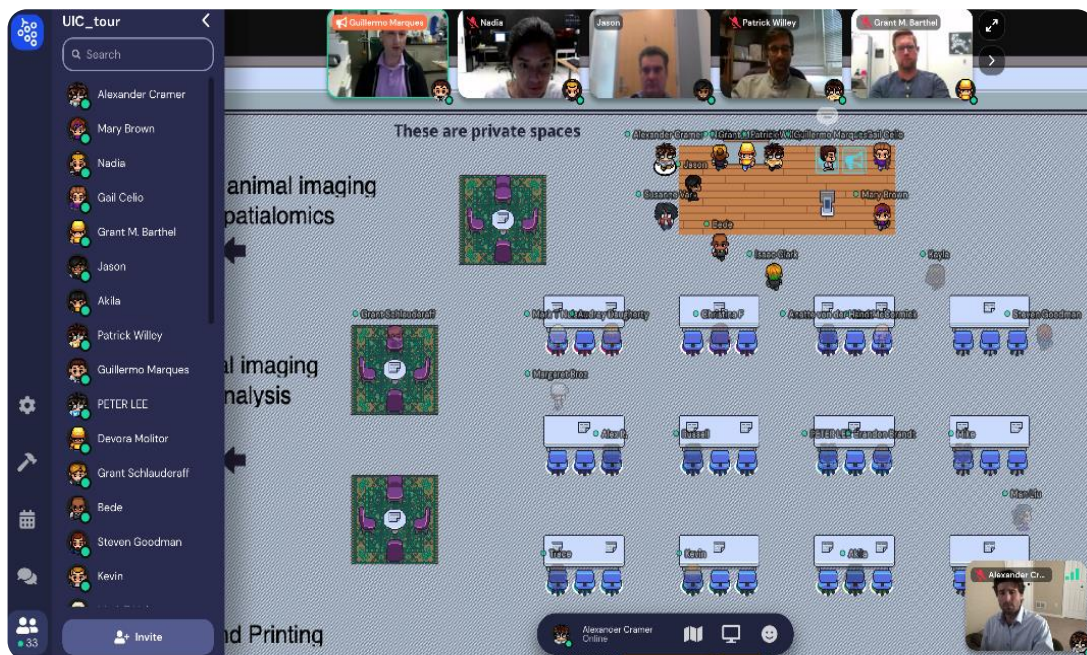
Unmute Start Video Security Participants Chat Share Screen Polls Pause/Stop Recording Live Transcript Breakout Rooms Reactions End





# RECAP: Virtual Tour of the University Imaging Centers

On July 23, MMS members took a tour of the University Imaging Centers (UIC), a core microscopy facility at the University of Minnesota. The UIC cover over 11,000 square feet of resources in three primary sites on the Twin Cities campuses, and meeting attendees got to learn about it virtually through the social platform Gather. Folks could move their 8-bit avatars through a 2-D representation of the facility, seeing images of the instruments and hearing brief presentations from the staff about techniques and services. Topics included optical microscopes, animal tissue clearing, small animal imaging, electron microscopy, and 3D printing.





## CALENDAR of EVENTS

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**FEB 2022**

### Tour of Mayo Clinic Labs

Planned for in-person

Hosted by Jeff Salisbury



**MAYO CLINIC  
LABORATORIES**

\* Project MICRO

*Remains on hold until further notice.*



**Project MICRO**



## REMINDER

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Please remember to submit your membership dues for 2022. Student dues will be free for the year.



## TREASURY REPORT

### MMS Cash Flow Summary 01/01/2021 through 09/25/21

#### INCOME

##### Dues

|            |        |
|------------|--------|
| Corporate  | 800.00 |
| Patron     | 350.00 |
| Regular    | 30.00  |
| Student    | 15.00  |
| Sustaining | 400.00 |

|                                    |                 |
|------------------------------------|-----------------|
| <b>Total Dues</b>                  | <b>1,595.00</b> |
| <b>Interest Income</b>             | <b>0.69</b>     |
| <b>MinnTS Meeting Registration</b> | <b>0.00</b>     |
| <b>Miscellaneous Income</b>        | <b>0.00</b>     |
| <b>Spring Symposium Income</b>     | <b>0.00</b>     |

**TOTAL INCOME** **1,595.69**

#### EXPENSES

|                                  |               |
|----------------------------------|---------------|
| <b>Interest</b>                  | <b>0.00</b>   |
| <b>PayPal Credit Card Fees</b>   | <b>80.23</b>  |
| <b>Insurance</b>                 | <b>327.62</b> |
| <b>Meeting Expenses:</b>         |               |
| MMS Regular Meeting Expenses     | 0.00          |
| MinnTS Meeting Expenses          | 0.00          |
| <b>Total Meeting Expenses</b>    | <b>0.00</b>   |
| <b>Miscellaneous</b>             | <b>0.00</b>   |
| <b>Newsletter</b>                | <b>680.00</b> |
| <b>Website</b>                   | <b>165.05</b> |
| <b>Project Micro</b>             | <b>0.00</b>   |
| <b>Spring Symposium Expenses</b> | <b>103.00</b> |

**TOTAL EXPENSES** **1,355.90**

**OVERALL TOTAL** **239.79**



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

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If any sponsors are missing from this list, please contact Jason Heffelfinger (763-514-1021, [jason.r.heffelfinger@medtronic.com](mailto:jason.r.heffelfinger@medtronic.com)).





## MMS SUSTAINING & PATRON MEMBERS

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 (retired)    | Bill Theilacker  | Medtronic, Fridley |
| Jeffrey Salisbury | Mayo Clinic, Rochester | Bede Willenbring | retired, New Hope  |
| Steven Skorich    | Medtronic (retired)    |                  |                    |

### MMS Patron Members

|                       |                                    |                  |                               |
|-----------------------|------------------------------------|------------------|-------------------------------|
| David Aastuen         | 3M Company, St. Paul               | Ann Palmer       | University of Minnesota, Mpls |
| Tony Anderson         | Medtronic, Fridley                 | Jeffrey Payne    | 3M Company, St. Paul          |
| Steven Axdal          | Abbott, St. Paul                   | Robert Peterson  | 3M Company, St. Paul          |
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| Jeff Haggerty         | Haggerty Analytical, St. Paul Park | Douglas Stauffer | Bruker Nano, Eden Prairie     |
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| Lloyd Meissner        | Crane Engineering, Plymouth        | Mike Wroge       | Cymbet Corp., Elk River       |
| Ev Osten              | retired, St. Paul                  |                  |                               |

### MMS Board & Officers 2021-2022

**President:** Gail Celio, University Imaging Centers, Univ. of Minnesota, 35 Snyder Hall, 1475 Gortner Ave., St. Paul, MN 55108, [celio001@umn.edu](mailto:celio001@umn.edu)

**Past-President:** Anette von der Handt, Dept. of Earth Sciences, University of Minnesota, 116 Church St. SE, Minneapolis, MN 55455; (612) 624-7370; [avdhandt@umn.edu](mailto:avdhandt@umn.edu)

**President-Elect:** Jeff Salisbury, Dept. of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN 55905; [salisbury@mayo.edu](mailto:salisbury@mayo.edu)

**Secretary:** Patricia Sanft, Uponsor, 5925 148th St. West, Apple Valley, MN 55124; [patricia.sanft@uponor.com](mailto:patricia.sanft@uponor.com)

**Treasurer:** David Burleson, Ecolab, 655 Lone Oak Dr., ESC F64, Eagan, MN 55121; (651) 795-5887; [david.burleson@ecolab.com](mailto:david.burleson@ecolab.com)

**Student Representative:** open

**MSA Representative:** Stuart McKernan, retired, St. Paul, MN; [stuart.mckernan@gmail.com](mailto:stuart.mckernan@gmail.com)

**Project MICRO Director:** Jeff Payne, 3M Center, Bldg. 201-BS-03, St. Paul, MN 55144-1000; (651) 733-2352; [jjpayne@mmm.com](mailto:jjpayne@mmm.com)

**Corporate Liaison:** Jason Heffelfinger, Medtronic, 6700 Shingle Creek Pkwy, Brooklyn Ctr, MN 55350; (763) 514-1021; [jason.r.heffelfinger@medtronic.com](mailto:jason.r.heffelfinger@medtronic.com)

**Webmaster:** David Burleson, Ecolab, 655 Lone Oak Dr., ESC F64, Eagan, MN 55121; (651) 795-5887; [david.burleson@ecolab.com](mailto:david.burleson@ecolab.com)

**Newsletter Editor:** Maria Graff, Minneapolis, MN; [mariaGraff@me.com](mailto:mariaGraff@me.com)

## Other Board Members

Tony Anderson, Medtronic, plc  
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Jeff Haggerty, Abbott Laboratories  
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## MINNESOTA MICROSCOPY SOCIETY | MEMBER INFORMATION 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.

Dr  Mr  Mrs  Ms  First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Affiliation \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

E-mail address \_\_\_\_\_

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

Are you an MSA member?  MAS Member?

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

Payment: Check  PayPal

(Please go to [mnmicroscopy.org/membership](http://mnmicroscopy.org/membership) to make your payment via PayPal.)

### Make checks payable to MMS and mail to our Treasurer:

David Burluson, MMS Treasurer  
846 Arlington Ave. W, Saint Paul, MN 55117  
E-mail: [treasurer@mnmicroscopy.org](mailto:treasurer@mnmicroscopy.org)

*We are asking for membership dues for 2022, however, student memberships will be free for the year.*