



PRESIDENT'S NOTE

Aubrey Funke, AIMS 2017-2018 President



Welcome back to another great year of microscopy! I would like to extend a big thank you to Page Baluch who did a great job planning and hosting the 2017 AIMS conference at Arizona State University. We also wish to congratulate last year's poster award winners: Shelbi Peck, Robert Schafer, Ethan Lawrence, Destiny

Valenzuela and Bukola Obayomi.

Each year we trade off and host the event at one of Arizona's state university campuses and this year the 2018 conference is scheduled for **Friday, March 30, 2018** at **Northern Arizona University** in Flagstaff, Arizona at the **Dubois Center Ballroom**. Due to the long commute for many of our members, the event will start a little later, beginning at 11:30am and running until 5:45pm. Vendors will be able to access the Dubois Center Ballroom beginning at 10:00am to set up. On page 5 you will find the conference agenda.

Registration for the conference is a two step process. You must first register for membership online at www.azmicroscopy.org at the student, individual or corporate level then register for free admission to the AIMS conference. Corporate members have the option to register at various sponsorship levels. Gold level and above include a table at the conference. Again this year, vendors who sponsor at the Platinum level will have first choice of their table location at the event.

During the meeting there will be a **student poster session**. Undergraduate and graduate students as well as postdoctoral students are encouraged to register and present their work. There will be **3 cash prizes** awarded for the best light and EM based posters. As a new feature this year we are **inviting sponsors to present a poster** during the vendor exhibits/poster session. Vendor posters will not be judged as part of the poster competition; however, we hope this optional feature will help vendors to better engage with meeting attendees.

We are looking forward to a great meeting and hope you will join us at the 2018 AIMS conference!



ATTENTION STUDENTS:

The Arizona Imaging and Microanalysis Society annual meeting is scheduled for **Friday, March 30th at NAU's Dubois Center Ballroom (building #64)**. We would like to invite any undergraduate or graduate student who uses microscopy to visualize their research to present a poster at the conference. There will be **3 poster awards (\$100 each) for the best light and EM based posters**. You can register and submit your abstracts online at <http://azmicroscopy.org>. Your student membership, only \$5, will pay for your admission to the conference and lunch at the event. You can pay the membership fee at the check in table on the day of the conference, submit your payment online or mail a check in advance to the address listed on the website. You must **register in advance** to enter the poster competition and to have admission to the conference and luncheon. Your **poster abstract must be submitted by March 23rd** to be included in the conference program. Below I have listed the poster guidelines and evaluation criteria for the competition. Please feel free to contact me if you have any questions: aubrey.funke@nau.edu.

Aubrey Funke
AIMS President
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Student Poster Guidelines:

1. Applicants must be or have been an undergraduate, graduate or postdoctoral student during the academic year of the meeting.
2. The work must consist of original research authored by the participant and be coauthored by his/her advisor.
3. The poster must be formatted to fit within an area of 48 inches wide by 36 inches high.
4. The poster should contain: title, author and affiliation, abstract, introduction, methods and materials, results, discussion, figures and legends, and references.

Award Evaluation Criteria:

The AIMS judges will use the following criteria to evaluate the student's poster and oral presentation:

1. Scientific merit and soundness of the research proposal
2. Experimental design and thoroughness of investigation
3. Validation of conclusions
4. Application of microscopy/microanalysis in answering the experimental question
5. Quality of micrographs/images/data
6. Presentation
7. Response to questions
8. Diversity of instrumentation and techniques



2018 AIMS SPONSORS

Platinum Sponsors

Electron Microscopy Sciences

ThermoFisher Scientific

Gold Sponsors

Gatan Inc.

Hamamatsu

Nanomegas

North Central Instruments

Olympus Microscopy

Oxford Instruments

Park Systems Inc.

Tescan-USA

Silver Sponsors

Photometrics/QImaging

SPI Supplies

****Don't see your name? It's not too late to become a sponsor for the meeting. Go to <http://azmicroscopy.org> to register!**

Traveling to the 2018 Conference?

For anyone traveling to the Flagstaff, Arizona area and looking for hotel accommodations, we have a special rate with the Drury Inn and Suites for \$189.99 per night. If you need to book a hotel, you should do so soon because the special rate is only good until February 25. Members can use this link to book the room or by calling 1-800-325-0720 and referring to the group number: 2331805.

<https://www.druryhotels.com/bookandstay/newreservation/?groupno=2331805>

2018 AIMS Conference Program | Northern Arizona University

NAU Dubois Center Ballroom

March 30, 2018

| 10:30 - 11:30a.m. | **Check-In**

| 11:30 – 11:45a.m. | **Opening remarks**

Aubrey Funke - AIMS President

| 11:45 -12:45p.m. | **Geometric Effects on Light Driven Photocatalytic Micro-motors**

Dylan Nicholls, Postdoctoral Research Scholar

Dr. John Gibbs' Research Laboratory, Department of Physics, Northern Arizona University, Flagstaff, AZ

| 12:45 -2:00p.m. | **Buffet Lunch – Dubois Center Ballroom, NAU**

| 2:00 –3:00p.m. | **Chewing the Fat: The Role of Microscopy in Uncovering the Role of Lysosomes in the Atherosclerotic Cellular Lipid Accumulation**

Jay Jerome, Co-director of the Cell Imaging Shared Resource, Vanderbilt University, Nashville, TN.

MSA Sponsored Speaker and past MSA President



3:00 -4:00p.m.	Vendor Exhibits/Student Poster Session/Vendor Posters
4:00 –5:00p.m.	Slime Molds and Cotton: Using EM Cyro-Preservation Techniques to Study the Deposition of the Cellulose Extracellular Matrix in Relation to Structure, Function and Development Mark Grimson , Senior Scientist, W.L. Gore and Associates, Inc., Flagstaff, AZ
5:00 -5:15p.m.	Final Announcements/Student Awards
5:15 –5:45p.m.	Business Meeting Annual Society general meeting – open to the public

SPEAKERS

Dylan Nicholls

Postdoctoral Research Scholar Dr. John Gibbs' Research Laboratory, Department of Physics, Northern Arizona University, Flagstaff, AZ

Dr. Dylan Nicholls is a Postdoctoral Research Scholar and Lab Manager working with Dr. John Gibbs at Northern Arizona University. His research expertise involves surface and interface physics at the atomic level and micro-particle interactions. His current research focuses on Glancing Angle Deposition fabrication and analysis of tunable, self-propelled micro-motors. These micro-motors have potential applications in targeted drug delivery systems, physical break-up of blood clots, hydrogen fuel cells and environmental remediation.

Jay Jerome

Co-director of the Cell Imaging Shared Resource, Vanderbilt University, Nashville, TN. MSA Sponsored Speaker and past MSA President

Jay Jerome is a member of the faculty at Vanderbilt University in the department of Pathology, Microbiology and Immunology. He is a fellow of the Microscopy Society of America, American Heart Association and the American Association for the Advancement of Science and a past President of MSA. He is co-director of Vanderbilt's Cell Imaging Shared Resource and has an active research program in cellular lipid metabolism. His interest is in quantification of structure as a means of correlating structure changes with metabolic alterations.

Mark Grimson

Senior Scientist, W.L. Gore and Associates, Inc., Flagstaff, AZ

Dr. Mark Grimson is currently the lead electron microscopist for the Medical Products Division of W. L. Gore and Associates in Flagstaff. Prior to this position he was Director of the Texas Tech University Imaging Center for 25 years, where he taught SEM and TEM, developed cryo-techniques, and performed service work for the campus. He also enjoyed a small, funded research program studying how the deposition patterns of cellulose are controlled by the organism to determine not only cell shapes, but its final morphology as well.



MICROSCOPY & MICROANALYSIS 2018 CONFERENCE



We invite you to join us on August 5-9, 2018 at the Baltimore Convention Center in Baltimore, Maryland for the Microscopy & Microanalysis 2018 Conference. Microscopy and Microanalysis 2018 provides scientific diversity, spanning disciplines from life to the physical sciences, all unified by the tools of our trade. The program committee has developed a strong program highlighting the latest microscopic and micro analytical advances in the three primary fields of Biological sciences, Materials science, and Analytical sciences. Many interdisciplinary symposia have been organized, reflecting the current environment of collaboration between scientists in different disciplines. The exhibits will demonstrate state-of-the-art equipment, and the vendor tutorials will continue to be a significant part of the meeting. The meeting will also feature tutorials and workshops to be held during the meeting in addition to the traditional short courses. For more information, go to:

[http://www.microscopy.org/MandM/2018/.](http://www.microscopy.org/MandM/2018/)

CURRENT ARIZONA MICROSCOPY NEWS

UA Has the Tools to Analyze Asteroid's Dirt

In the basement of a building constructed with NASA funds in the early 1960s, scientists already are preparing to study the sample from OSIRIS-REx, a first-of-its-kind mission. Full Story: <https://uanews.arizona.edu/story/ua-has-tools-analyze-asteroids-dirt>

ASU Winter School is Back again

Offered each year in January, The Center for Solid State Science hosts its annual EM training program. The aim of Winter School is to introduce the theory and practice of high resolution electron microscopy to scientists currently using transmission electron microscopes for materials science studies. It is expected that people taking the course will have some familiarity with basic crystallography, diffraction contrast, and routine microscope operation. More Information: <https://le-csss.asu.edu/winterschool>

Center adds new Dimension to ASU's Material Science Research

New Center for 4D Materials Science a collaboration between Arizona State University, ZEISS, and US Office of Naval Research. A new research center, devoted to studying the structure of advanced, high-performance materials in three dimensions was established within the Ira A. Fulton Schools of Engineering earlier this month. Headed by Nik Chawla, Fulton Professor of Materials Science and Engineering and funded by a collaboration between Arizona State University, ZEISS and the US Office of Naval Research, the Center for 4D Materials Science, or



4DMS, provides a unique and ground-breaking dimension to materials research — time. Full Story: <http://blogs.zeiss.com/microscopy/news/en/center-adds-new-dimension-to-asus-material-science-research/>