



AIMS Newsletter Winter 2021

PRESIDENT'S NOTE

Page Baluch, AIMS 2019-2021 President



Welcome to the New Year from sunny Tempe Arizona. As you will recall, we had to postpone our annual conference because of the COVID virus outbreak. Since there remains increased caution for public gatherings, we have chosen to make this our first ever virtual conference event!

Our AIMS2021 conference will be held on Friday March 19, 2021 and will be using an online hosting platform virtual platform containing all the features you have come to expect at an annual meeting plus more!

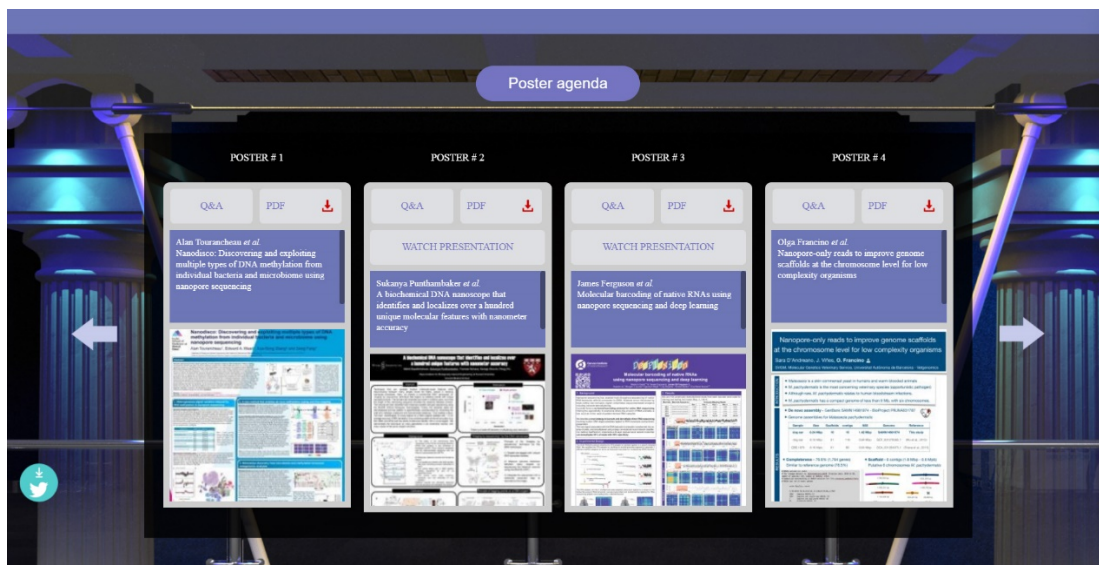
Our speakers are core facility directors from some of the most well-established microscopy labs in the country. They are leaders in microscopy education, development and research and will share their successes and insight into recent and anticipated advancements in microscopy techniques and instrumentation.



During the meeting, there will be a **Student Poster Session** and an **Art Exhibit Competition**. Undergraduate and graduate students as well as postdoctoral students are encouraged to register and present their work. There will be **\$100 prizes** awarded for the best light and EM based posters and **\$100 prizes** for the best microscopy inspired artwork.

Registration for the conference is a two-step process. We encourage all those working with microscopy within Arizona to support AIMS by registering as a member online at www.azmicroscopy.org at the student or individual level. Conference registration is separate and must be submitted through the website. The first 100 people to register will receive a GrubHub voucher for lunch!

We are looking forward to a great meeting and hope you will join us at the 2021 AIMS conference online!



ATTENTION STUDENTS: Scientific Poster Session

We invite any undergraduate or graduate student who use microscopy to visualize their research to submit a poster and mini prerecorded presentation. There will be **2 poster awards (\$100 each)** for the best light and EM based posters at the undergraduate and graduate level.

ATTENTION STUDENTS: Art Exhibit Session

We invite any undergraduate or graduate student who has created an original piece of art that was inspired by microscopy to present their art at the conference through a poster and mini prerecorded presentation. There will be **2 awards (\$100 each)** for the artwork that is **uniquely inspired by microscopy** in the undergraduate and graduate category.

Poster Hall Submission Instructions

You can register and submit your abstracts online at <http://azmicroscopy.org>. You must be a student member of AIMS to register your scientific or art poster. Posters will be uploaded to the virtual platform for visitors to view. You are encouraged to record a 5-minute presentation that can be added to your poster slot [pictured above]. Your **poster abstract, poster and 5-minute presentation [opt] must be submitted by March 12th** to be uploaded in time for the conference website. Details regarding the poster/presentation guidelines, format and evaluation criteria can be found on the AIMS website. Please contact page.baluch@asu.edu if you have any questions.



ImageJ/FIJI Workshop: March 18, 2021



ASU TEC Talk

This event is free and open to the public.

Registration is required.

[<http://azmicroscopy.org/events/special-event-open-to-the-public/>]

This workshop will introduce researchers to methods in analyzing microscope data using ImageJ/FIJI. Limitations of image manipulation and ethical responsibility will also be discussed.

Morning session [11:00AM-12:00PM] – This session focuses on the effective use of ImageJ, a set of open-source tools for analysis of microscope images. To participate in real time, please download FIJI from: www.fiji.sc before the seminar.

Lunch Break [12:00PM-1:00PM] – The first 40 people to register will receive a \$15 voucher through GrubHub to purchase lunch.

Afternoon Session [1:00PM-2:00PM] – The advanced session for experienced users will cover methods to take your ImageJ/FIJI analysis to the next level, with an overview of macro writing, batch processing, and automated analysis routines. AMT Imaging will present a demonstration of their hands-free, remotely operated hardware-to-analysis pipelines which take further advantage of advanced functions of ImageJ/FIJI.

Microscopy TODAY Micrograph Awards



Top prize winners of 2020

View previous finalists and submit your micrographs at:

https://www.microscopy.org/awards/micrograph_competition.cfm

Next submission deadline: **February 22, 2021**



2021 AIMS SPONSORS

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Silver Sponsor

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Visit these Platinum and Gold sponsor at their virtual booths. The booths will be open throughout the day during the conference and visitors can chat live with the company representatives. **Platinum sponsors will also have posters and mini prerecorded presentations in the poster hall.**

→ There will be opportunities to win prizes and receive special offers at the Exhibit Hall Booths and Poster Hall presentations so be sure to visit!

Conference Website: [AIMS2021.vfairs.com](https://aims2021.vfairs.com)

The conference will be hosted through the vFairs online platform. Registration will be redirected to the AIMS website but the conference will start at the AIMS2021 landing page at [AIMS2021.vfairs.com](https://aims2021.vfairs.com). Speakers and student presenters will be online during the day of the conference to answer questions live. The conference site will remain open until April 19, 2021.



2021 AIMS Conference Program| Online Platform

- | 8:30am - 5:00p.m. | **Exhibit Hall and Poster Hall**

- | 9:00 -10:00a.m. | **Advanced Microscopy Core Labs at ASU**
Honor Glen, Director of the Biodesign Imaging Facility, Arizona State University, Tempe Az
Emmanuel Soignard, Director of the Eyring Materials Center, Knowledge Enterprise Development, Arizona State University, Tempe AZ

- | 10:00 -11:00a.m. | **Florida Research and Innovation Center**
John Heddleston, Director of Microscopy in the Florida Research and Innovation Center [BSL2 and BSL3], Port St Lucie, FL.

- | 11:00 -12:00p.m. | **CRL Molecular Imaging Center at Berkeley**
Holly Aaron, Director of the CRL Molecular Imaging Center, Berkeley, Ca

- | 12:00 -1:30p.m. | **Lunch Break: Grubhub, Visit Poster and Exhibit Hall**

- | 1:30 –2:30p.m. | **Center of Biologic Imaging at the University of Pittsburgh**
Simon Watkins, Professor and Director of the Center of Biologic Imaging, University of Pittsburgh, PA.

- | 2:30 –3:30p.m. | **Live Cell Imaging and Electron Microscopy Core Facilities at UT Southwestern Medical Center**
Kate Luby-Phelps, Professor and Director of the Live Cell Imaging and Electron Microscopy Core Facilities, UT Southwestern Medical Center

- | 3:30 -4:30p.m. | **Center for Advanced Microscopy & Nikon Imaging Center at Northwestern University**
Constadina 'Dina' Arvanitis, Director of the Center for Advanced Microscopy & Nikon Imaging Center, Northwestern University, IL



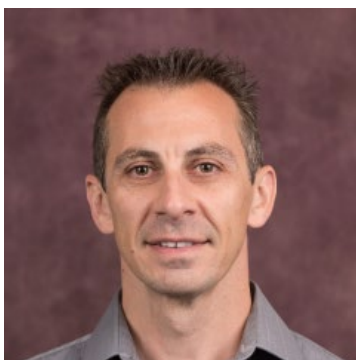
SPEAKERS



Honor Glenn

Director of the Biodesign Imaging Facility, Arizona State University, Tempe, AZ

Honor Glenn manages the Biodesign Imaging Facility (BIF), part of the Advanced Light Microscopy Core in the Biosciences division of ASU Core Facilities. The BIF is a full service, state of the art light microscopy facility serving ASU researchers as well as the surrounding academic and non-academic research communities. This core is customized for live cell imaging and offers modalities such as confocal, super-resolution, and total internal reflection fluorescence (TIRF) microscopy. Dr. Glenn has over 20 years of experience in confocal and other optical microscopy techniques. She has applied these approaches to numerous research areas such as cancer physiology, muscle development, extra-cellular matrix related signaling, cell motility, inflammation, materials science, and virology.



Emmanuel Soignard

Eyring Materials Center Director, Knowledge Enterprise Development, Arizona State University, Tempe, Az

Emmanuel Soignard is the Eyring Materials Center (EMC) operations director. The EMC is a multidisciplinary core facility initially established in 1974 focusing on materials analysis, including biological samples, as well as materials synthesis, processing, and even high-pressure synthesis. Dr. Soignard's has been using a wide range of X-ray diffraction techniques since 1999, including synchrotron radiation-based instruments. He also has built several Raman spectroscopy instruments. Dr. Soignard's research interest is in the area of materials under extreme conditions and in particular high pressure. He is interested in understanding the structural changes occurring in a material compressed to several 10s of gigapascals in a diamond anvil cell or a large volume press.

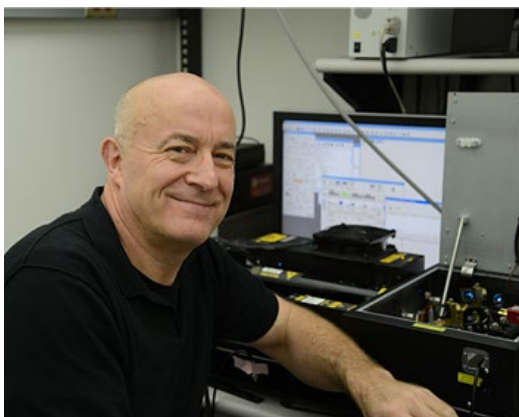


John Heddlestone, Director of Microscopy in the Florida Research and Innovation Center [BSL2 and BSL3], Port St Lucie, FL.

In 2020, Dr. Heddlestone became the founding director of the Florida Research and Innovation Center. This state-of-the-art facility is under development and will contain the infrastructure for BSL3 viral imaging. Previously, John worked at the Advanced Imaging Center at Janelia and has over a decade of experience at the interdisciplinary boundary of engineering, physics, and biology. Prior to joining the AIC, he was a National Research



Council postdoctoral fellow at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD. At NIST, John leveraged his expertise in cancer biology to adapt optical spectroscopy techniques for use in biological systems, including using coherent anti-stokes Raman spectroscopy (CARS) as a method of unbiased chemical analysis of normal and pathologic tissue specimens. John received his Ph.D. in Cell and Molecular Biology from Case Western Reserve University in Cleveland, Ohio where he investigated the influence of the tumor microenvironment on glioblastoma multiforme epigenetic state and tumorigenicity.



Simon Watkins

Professor and Director of the Center of Biologic Imaging, University of Pittsburgh, Pittsburgh, PA

Dr. Simon Watkins is the Founder and Director of the Center for Biologic Imaging at the University of Pittsburgh and a member of the Pittsburgh Cancer Institute. He is also a Distinguished Professor and Vice Chairman within the Department of Cell Biology. The CBI builds, tests, and uses cutting edge optical tools for all types of research microscopic imaging in cells, tissues and animals from the single molecule to the

whole animal, the goal being to build highly flexible, maximally effective imaging solutions, to be used by academic researchers. Most recently he has been developing very high-speed deep tissue imaging solutions to collect quantitative images at the diffraction limit of entire tissues including brain. The devices being worked on are effectively 20-30 times faster than a conventional confocal microscope making truly massive scale imaging a possibility. These studies are performed in both living and fixed systems.



Kate Luby-Phelps, Professor and Director of the Live Cell Imaging and Electron Microscopy Core Facilities, UT Southwestern Medical Center, TX

Kate Luby-Phelps is director of the Live Cell Imaging and Electron Microscopy core Facilities. The core facility offers a variety of microscope imaging modalities including laser-scanning confocal, multiphoton, spinning-disk confocal, wide-field deconvolution, TIRF, and single-molecule imaging. It also has workstations for offline image processing and analysis, including volume rendering, neuron tracing, 3D measurement, and 3D particle tracking. The EM Facility includes a variety of TEM and SEM instruments and provides services for correlative LM and EM

imaging, negative staining and immunogold labeling.



Holly Aaron, Director of the CRL Molecular Imaging Center, Berkeley, CA

Holly has been in charge of the MIC since its inception in 2001, expanding it from an initial two instruments to nearly 20 today. She enjoys learning about exciting new technology and customizing instruments to meet the unique research demands at UC Berkeley. She is still actively involved in training new and experienced users. Prior to the MIC, she worked in the research core at Genentech and in the lab of neuroscientist Carla Shatz (while at UC Berkeley). Studying biomedical engineering and electrical engineering, she

received her undergraduate degree from the University of Southern California, and graduate degree from Drexel University in Philadelphia.



Constadina 'Dina' Arvanitis, Director of the Center for Advanced Microscopy & Nikon Imaging Center, Northwestern University IL

Constadina Arvanitis, PhD, research associate professor of Cell and Developmental Biology, is director of the Center for Advanced Microscopy and Nikon Imaging Center at Northwestern University in Illinois. Arvanitis received her PhD in chemical and systems biology from Stanford University. Her research focused on mechanisms of tumor regression upon oncogene inactivation. She was a postdoctoral fellow in the laboratory of Leong Chew (now director at Janelia), where she studied the cytoskeletal rearrangements that occur in endothelial cells when cancer cells breach the endothelium

during tumor cell extravasation. The Center for Advanced Microscopy is equipped with over 20 instruments dedicated towards light and electron imaging. The CAM also houses a Nikon Imaging Center (NIC) that further compliments the core resources available to users.

MICROSCOPY & MICROANALYSIS 2021 CONFERENCE



We invite you to join us on August 1-5, 2021 for the Microscopy & Microanalysis 2021 Conference. Microscopy and Microanalysis 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. 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/2021/>.