For Immediate Release

Microscopy Society of America Announces 2019 Major Award Winners

Awardees to be honored at Microscopy & Microanalysis 2019 meeting in Portland, Oregon.

RESTON, Virginia – April 11, 2019 – The Microscopy Society of America (MSA) announced today its 2019 major award winners. Seven individuals will be honored on August 5 in Portland at Microscopy & Microanalysis 2019. The major awards of the Society honor distinguished scientific contributions to the field of microscopy and microanalysis by technologists and by scientists at various career stages, as well as distinguished service to the Society.

The Society's **Distinguished Scientist Awards** annually honor preeminent senior scientists, one each in the biological and physical sciences, for a long-standing record of achievement in the field of microscopy and microanalysis during his or her career. The 2019 MSA Distinguished Scientists are:
Bridget Carragher, *New York Structural Biology Center* (biological sciences); and
Philip E. Batson, *Rutgers University, Department of Physics and Astronomy* (physical sciences).

"Bridget Carragher received her Ph.D. in Biophysics from the University of Chicago in 1987. She then worked in a variety of positions, both in industry and academia until moving to the Scripps Research Institute in 2001. Since 2002 she has served, together with Clint Potter, as the Director of the National Resource for Automated Molecular Microscopy (NRAMM), an NIH funded national biotechnology research resource. The focus of NRAMM is the development of automated imaging techniques for solving three-dimensional structures of macromolecular complexes using cryo-transmission electron microscopy (cryoEM). The overall goal is to develop new methods to improve the entire process, from specimen preparation to the generation of the final three-dimensional map. In 2007 Bridget co-founded a new company, NanoImaging Services, Inc., whose goal is to provide cryoEM and other microscopy services to the biopharmaceutical and biotechnology industry. She serves as Chief Technical Officer of NanoImaging Services. In 2015 Bridget and Clint moved their academic lab from The Scripps Research Institute to the New York Structural Biology Center where they serve as Co-Directors of the Simons Electron

Microscopy Center. In May 2018 they were awarded a U24 grant to build the National Center for CryoEM Access and Training (NCCAT)."

"Philip E. Batson is a Distinguished Research Professor at Rutgers University, with appointments in Physics, and Materials Science, since his retirement from the IBM Thomas J. Watson Research Center in 2009. After receiving a Ph.D. in Applied Physics in 1976 at Cornell University, he did post-doctoral work at the Cavendish Laboratory in Cambridge England, and then moved to IBM in 1978. During the 1980's he built high resolution EELS equipment there and used it to explore spatially resolved EELS in the STEM, with studies of surface plasmon scattering in metal nanoparticle systems. In 2002, he was the first to demonstrate sub-Angstrom imaging using aberration correction, for which he was recognized with a 2002-2003 Scientific American 50 Award for Leadership in Imaging Sciences. Currently, he is exploring phonon behavior in nanometer sized structures using EELS with a 10 meV energy resolution. The NSF sponsored project in collaboration with Nion to improve EELS resolution was cited by the White House in 2010 as one of "100 Recovery Act Projects that are Changing America." He has authored about 210 publications and is a Fellow of the American Physical Society and the Microscopy Society of America."

The **Burton Medal** annually honors the distinguished contributions in the field of microscopy and microanalysis thus far in the career of a scientist of not more than 40 years of age. The 2019 Burton Medalist is:
Hari Shroff, *National Institute of Health*.

"Dr. Hari Shroff received a B.S.E. in bioengineering from the University of Washington in 2001, and under the supervision of Dr. Jan Liphardt, completed his Ph.D. in biophysics at the University of California at Berkeley in 2006. He spent the next three years performing postdoctoral research under the mentorship of Eric Betzig at the Howard Hughes Medical Institute's Janelia Farm Research Campus where his research focused on development of photoactivated localization microscopy (PALM), an optical super-resolution technique. Dr. Shroff is now chief of NIBIB's Section on High Resolution Optical Imaging laboratory, where he and his staff are developing new imaging tools for application in biological research. Current research areas include further development of super-resolution microscopy, light-sheet microscopy, inverse imaging problems, deep learning for microscopy, and the study of neurodevelopment in *C. elegans*."

The **Hildegard H. Crowley Award** and the **Chuck Fiori Award** annually

honor technologists, one each in the biological and physical sciences, respectively, for significant contributions in the field of microscopy and microanalysis. The 2019 Crowley Award winner is:
Matthew S. Joens *Washington University School of Medicine*;
the 2019 Fiori Award winner is:
Dmitri Zakharov, *Brookhaven National Laboratory*.

“Matthew is an analytical chemist by undergraduate training and has over 10 years of electron microscopy experience. His introduction into microscopy included internships at the University of California – San Diego (UCSD) with Dr. Timothy Baker, one of the founding fathers of cryo-electron microscopy, and with the National Center for Microscopy Imaging Research (NCMIR), a NIH funded lab headed by Dr. Mark Ellisman. Following these internships, he moved to the Salk Institute for Biological Studies where he worked with Dr. James Fitzpatrick to establish and grow the electron microscopy division of the Waitt Advanced Biophotonics Center. Matthew was later recruited by Dr. Fitzpatrick to help build the Center for Cellular Imaging at the Washington University School of Medicine in St. Louis. His background includes extensive experience with cryo sample preparation, immunolabeling, 3D electron microscopy, and selective staining chemistries. His main interests are in correlative sample preparation and imaging techniques, spanning light, x-ray, ion, and electron microscopies.”

“Dmitri N. Zakharov received his M.S. degree in Solid State Physics from Moscow State Engineering Physical Institute, Department of Theoretical and Experimental Physics in 1995, his Ph.D. in Solid State Physics from the Institute of Crystallography of the Russian Academy of Sciences in 2001, and postdoctoral trainings at Max Planck Institute of Microstructure Physics and Lawrence Berkeley National Laboratory. After spending 6 years as a Staff Scientist at Birck Nanotechnology Center at Purdue University, Dr. Zakharov joined the Center for Functional Nanomaterials at Brookhaven National Laboratory in 2012 in a Staff Scientist role.”

The **George Palade Award** and the **Albert Crewe Award** annually honor early career scientists, one each in the biological and physical sciences, respectively, for significant contributions in the field of microscopy and microanalysis during the first six years since doctoral graduation. The 2019 Palade Award winner is:
Alex Noble, *New York Structural Biology Center;*
the 2019 Crewe Award winner is:
Layla Mehdi, *University of Liverpool*.

“Alex Noble earned his B.S. in Physics and B.A. in Applied Mathematics from UC San Diego and his M.S. and Ph.D. in Physics at Florida State University. He is currently an NIH Kirschstein Postdoctoral fellow in the laboratory of Bridget Carragher and Clint Potter at the Simons Electron Microscopy Center (SEMC) in the New York Structural Biology Center. He is broadly focused on developing, distributing, and applying methods that further the progress of the cryo-electron microscopy (cryoEM) field and individual cryoEM projects, along with applying those methods himself to specific biological systems. Each focus is driven by a motivation to make positive biomedical and thus humanitarian impacts.”

“Dr B. Layla Mehdi is currently an Assistant Professor and Associate Director of the Imaging Centre at the University of Liverpool (ICaL), UK. She received her Master’s in Analytical Chemistry from the University of Warsaw, Poland and her Ph. D. in Chemistry from Miami University, USA working in the area of electrochemical detectors coupled with gas chromatography for cancer therapy. Following her Ph.D., in 2013 she joined the Physical Sciences Directorate at the Pacific Northwest National Laboratory (PNNL) as a postdoctoral research associate and in 2016 was promoted to Staff Scientist. Her work at PNNL involved the development of an in-situ stage to study dynamic processes in next generation batteries with applications to Li-ion and beyond Li chemistries being supported as part of the Joint Centre for Energy Storage Research (JCESR) funded by the US Department of Energy.”

The Microscopy Society of America was founded as the Electron Microscope Society of America in 1942, a time of rapid development for an instrument that promised, for the first time, better resolving power than that of the traditional light microscope. The Society adopted its current name on the occasion of its 50th anniversary, to reflect the diversity of microscopy techniques represented by its membership. Today, a variety of microscopes are capable of imaging individual atoms, and providing chemical information to identify what kind of atom is being imaged, while a variety of microscopes of lower resolving power continue to play an enabling role in understanding the world around us at a microscopic scale. The Microscopy Society of America champions all forms of microscopy and the development of new imaging technologies through its annual meeting, its publications, and its educational outreach.

Microscopy & Microanalysis (M&M) is the annual meeting of the Microscopy Society of America and the Microanalysis Society (MAS). M&M 2019, to be held August 4-9 in Portland Oregon, USA, will be cosponsored with the International Field Emission Society (IFES).

The Microscopy Society of America is an affiliate society of the American Institute of Physics (AIP) and the American Association for the Advancement of Science (AAAS).

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For promotional purposes, photographs and biographic profiles of individual major award winners can be found on the MSA website: http://www.microscopy.org/awards/society.cfm

For more information on each awardee click on the “List of Recipients” link then on the name of the individual award winner in the list. Information on previous award winners can also be found on the MSA website.

For more information, please contact:

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