

For Immediate Release

Microscopy Society of America Announces 2022 Society Awards Recipients

Awardees to be honored at Microscopy & Microanalysis 2022 meeting held in August in Portland, Oregon.

RESTON, Virginia – April 19, 2022 – The Microscopy Society of America (MSA) announced today its 2022 Society Awards Recipients. Nine individuals will be honored on August 3, 2022, at the Microscopy & Microanalysis 2022 meeting. The Society Awards 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 2022 MSA Distinguished Scientists are:

Kenneth A. Taylor, *Florida State University*, (biological sciences);
Rudolf Tromp, *IBM Yorktown Heights & University of Leiden*, (physical sciences)

“Professor **Kenneth A. Taylor** received his Ph.D. degree in Biophysics in 1975 from the University of California at Berkeley. His Ph.D. research demonstrated the feasibility of obtaining high resolution image data from unstained protein crystals embedded in ice. He then spent 4 years at the MRC Laboratory of Molecular Biology in Cambridge, England where he learned 3-D image reconstruction and started a 48 year career working on muscle structure and function. There followed a research faculty appointment in the Anatomy Department at Duke University Medical Center and then in 1995 a faculty appointment at Florida State University where he is currently employed.”

“**Rudolf Tromp** is a scientist at the New York IBM T.J. Watson Research Center and professor of physics at Leiden University. In 1989, after working with Medium Energy Ion Scattering and Scanning Tunneling Microscopy, he jumped into the then fledgling field of Low Energy Electron Microscopy (LEEM) and designed and built the second operational LEEM

instrument in the world (1991). Continuing improvements culminated in an aberration-corrected instrument (available through SPECS Instruments GmbH in Berlin) with ~1.5 nm resolution, about two times the wavelength of the 3.5 eV electrons used for imaging. He has applied LEEM to a range of topics in surface and interface science, including phase transitions, epitaxial growth, formation of quantum dots and nanowires, organic semiconductors, low energy electron beam exposure and lithography, electronic structure of 3D and 2D materials, etc. Tromp is the (co)author of about 280 publications, and holder of 47 US and International Patents. He is a fellow of APS, AVS, and MRS, and the recipient of the Wayne B. Nottingham Prize, the APS Davisson-Germer Prize, the APS Distinguished Lectureship Award on the Applications of Physics, the MRS Medal, and the AVS Medard W. Welch Award. He is also a member of the US National Academy of Engineering.”

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. This year, the Burton Medalist is awarded in both the biological and physical sciences:

Yuan He, *Northwestern University* (biological sciences);

Colin Ophus, *Lawrence Berkeley National Laboratory* (physical sciences)

“Dr. **Yuan He** obtained his Ph.D. in Biochemistry and Biophysics from Northwestern University. After doing a post-doctoral training with Eva Nogales at Berkeley, California, Dr. He returned to Northwestern University as an assistant professor to set up his independent lab. His lab is interested in studying the molecular mechanisms by which large, multi-subunit complexes engage in DNA-centric processes. Current research topics include two main area: (1) how eukaryotic gene transcription is regulated at different stages and (2) how various types of DNA damage are repaired and why deficiencies in these repair pathways lead to pathology of cancer predisposition or accelerated aging.”

“**Colin Ophus** received his BSc in Engineering Physics in 2005, and his PhD in Materials Engineering in 2010, both from the University of Alberta in Canada. He is now a staff scientist at the National Center for Electron Microscopy, part of the Molecular Foundry at Lawrence Berkeley National Lab, where he runs both a user program and independent research group. His research focuses on data science methods, algorithms, and codes for simulation, analysis, and design of transmission electron microscopy experiments.”

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 2022 Crowley Award winner is:

Janice Green Pennington, *University of Wisconsin-Madison*;

The 2022 Fiori Award winner is:

Hendrik O. Colijn, *The Ohio State University*

“**Janice Green Pennington** has 40 years of experience as an electron microscopist and has a bachelor’s degree in Biology and a master’s degree in Botany from Oklahoma State University (OSU). She spent her first eleven years as a microscopist in the core EM Facility at OSU becoming in the last three years, the core manager and instructor of the laboratory portion of an electron microscopy course. She has held positions as a research electron microscopist at the University of Kentucky, IU School of Medicine in Indianapolis and Purdue University. While working at the Purdue Cryo-EM Facility she learned approaches for single particle analysis for the study of virus particles and prepared high pressure frozen samples in resin, to study the replication complexes of Dengue virus in S2 cells. The past nine years she has worked with Dr. Paul Ahlquist at the Institute for Molecular Virology at the University of Wisconsin and was instrumental in resolving the crown structure in the mitochondrial replication complex of a Nodavirus using cryo-electron tomography. During this time, she also worked with Dr. Marisa Otegui using high pressure freezing, immunolabeling, and electron tomography to study endomembrane trafficking in plants. Janice was the Chair of the MSA Technologists’ Forum between 2018 and 2020 and has been a member of various Local Affiliate Societies. She is currently the Manager of the 3D Cell Microscopy Facility in the Center for Quantitative Cell Imaging at the University of Wisconsin, Madison.”

“**Hendrik O. Colijn** is currently the Assistant Director for Operations at the OSU Center for Microscopy & Analysis (CEMAS). Since joining The Ohio State University in 1982, he has assisted researchers and taught students in the areas of TEM, SEM, Auger, FIB, XRD, and microCT.”

The **Morton D. Maser Award** annually honors an MSA member who has provided significant volunteer service to the Society over a sustained period of time. This Award recognizes outstanding volunteer service to the Society as exemplified by Mort Maser, who served the Society for many years with great dedication. The 2022 Maser Award winner is:

Edward Patrick Calomeni, *The Ohio State University Medical Center*

“**Edward Calomeni** earned a B.S. in Medical Technology and a B.S. in Microbiology 1980 from Michigan State University, where he learned transmission electron microscopy. In 1981, Edward moved to Baylor College of Medicine, Houston, Texas to work in the Department of Virology. The majority of his endeavors involved rotavirus research but was part of the very early HIV research. In 1991, Edward moved to a human clinical EM lab at the Medical College of Ohio (now the University of Toledo Health Science Center). Edward is currently at Wexner Medical Center Ohio State University. He became a member of MSA’s Certification Board in 1993 and remains active on the Board today.”

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 2022 Palade Award winner is:

Melody G. Campbell, *Fred Hutchinson Cancer Research Center*

The 2022 Crewe Award winner is:

Jordan Adam Hachtel, *Oak Ridge National Laboratory*

“**Melody Campbell** received a BS in Biochemistry from the University of Michigan and earned a PhD in Biophysics from the Scripps Research Institute under the supervision of Bridget Carragher and Clinton S. Potter where she developed novel methodologies to characterize and correct for biological specimen movement and boost resolution in cryo-electron microscopy using direct electron detectors. Concurrently, she developed processing workflows to untangle heterogeneous populations of proteins and map out their conformational trajectories using single-particle analysis, which she continued to do as a post-doc in Yifan Cheng's lab at the University of California, San Francisco. As an assistant professor at the Fred Hutchinson Cancer Center, she is now leveraging this expertise to uncover the structural basis of bidirectional signal transduction across the cell membrane.”

“**Jordan Hachtel** is a staff scientist at the Center for Nanophase Materials Sciences at Oak Ridge National Laboratory. He received his Ph.D. in Physics from Vanderbilt University and performed his postdoctoral research at Oak Ridge as well. Throughout his research career Hachtel has specialized in nanoscale spectroscopy of novel quasiparticles in the electron microscope, with a special focus on monochromated electron energy-loss spectroscopy. At ORNL, Hachtel focuses on frontier experimental development and advanced analyses for EELS spectroscopy on ultralow-energy excitations, such as phonons, polaritons, plasmons,

molecular vibrations, excitons, and shallow electronic states, with nanoscale spatial localizations.”

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 2022 will be held July 31-August 4 in Portland, Oregon.

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 the 2022 Society Awards Recipients can be found on the MSA website:
https://www.microscopy.org/awards/2022_awardsrecipient.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.

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