

For Immediate Release

Microscopy Society of America Announces 2018 Major Award Winners

Awardees to be honored at Microscopy & Microanalysis 2018 in Baltimore, Maryland, USA.

RESTON, Virginia – April 2, 2018 – The Microscopy Society of America (MSA) announced today its 2018 major award winners. Seven individuals will be honored on August 6 in Baltimore at MSA's annual convention, Microscopy & Microanalysis 2018. 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 2018 MSA Distinguished Scientists are:

Richard Leapman, *National Institutes of Health* (biological sciences); and **Yimei Zhu**, *Brookhaven National Laboratory* (physical sciences).

"Richard Leapman's continuous interest in developing and refining methods in electron spectroscopy and element-specific imaging has led to many publications elucidating details of biological systems including the calcium content of acidocalcisomes in trypanosomes and the quantitation of the sulfur content of L-granules in keratinocytes" said Christine Brantner, biological sciences co-chair of the MSA Awards Committee. "Richard's work in scanning transmission electron microscopy has led to mass determinations in unstained specimens. Of note is his work with amyloid fibrils that accumulate in the brains of Alzheimer's patients."

"Yimei Zhu has made significant contributions to advancing ultrafast electron diffraction instruments and developing fast direct-electron-detectors" said Molly McCartney, Awards Committee physical sciences co-chair. "Yimei's contributions to instrumentation and methods are extensive. His most highly recognized achievement is the successful imaging, at atomic resolution, of the atomic structure of bulk catalysts by detecting the secondary electron emission."

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 2018 Burton Medalist is:

Lena Kourkoutis, *Cornell University*.

“Lena Kourkoutis’s accomplishments during her young career include pioneering work in developing and applying spectroscopic and cryogenic methods to image the atomic-scale composition and bonding of interfaces and nanoscale materials” remarked Brantner. “Her work has been valuable for topics from conditions of superconductivity at oxide interfaces to dead layers in manganites. Her cryogenic methods are having an immediate impact in the battery community.”

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 2018 Crowley Award winner is:

Anchi Cheng, *New York Structural Biology Center*,

The 2018 Fiori Award winner is:

Chengyu Song, *Lawrence Berkeley National Laboratory*.

“Anchi Cheng has been a driver of technology her whole career. She has been involved in most major technological innovations in 3D EM, a major contribution to the field of cryo-EM” said Brantner. “Anchi has trained hundreds of Post-docs and graduate students to use Legimon/Appion software and best practices for high-resolution data collection. She has also helped setup cryo-EM labs and train users from around the world.”

“Chengyu Song’s responsibility and dedication to instrument support and user training at the National Center for Electron Microscopy at Lawrence Berkeley National Laboratory is the driving force behind the productivity of the Center” noted McCartney. “Chengyu both trains and supervises hundreds of users every year on a wide array of instrumentation, including sample preparation, the CM200 and CM300 microscopes, the Technai F20 and the aberration-corrected TEAM microscopes. He provides a source of continual positive interactions with users and staff that enhances the reputation of the entire lab in the broad research community.”

The **Morton D. Maser Distinguished Scientist Award** honors outstanding volunteer service over a sustained period of time by a member of the Society.

The 2018 Maser Award winner is:

Donovan Leonard, *Oak Ridge National Laboratory*.

“Donovan Leonard exemplifies the true nature of volunteerism in support of the education mission of MSA as a teacher, mentor, organizer and leader” said Brantner. “He has dedicated time and effort to the Society’s outreach programs. Donovan has served enthusiastically on many committees over the years and has worked tirelessly to provide a rich learning environment for society members.”

The **Albert Crewe Award** annually honors an early career scientist, in the field of physical sciences, for significant contributions in the field of microscopy and microanalysis during the first six years since doctoral graduation.

The 2018 Crewe Award winner is:

Timothy Pennycook, *Max Planck Institute for Solid State Research-Germany.*

“Timothy Pennycook had insight into the importance of drift and collection angle on the EELS elemental mapping data before even beginning his PhD. He is an innovator who pushes the bounds of what is physically possible with technological development” said McCartney. “His work has shed light on the dynamics of materials and was the first to see the dynamics of a chemical reaction in atomic scale detail.”

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, and the development of new technologies. The Microscopy Society of America champions all forms of microscopy 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 2018, to be held August 5-9 in Baltimore, Maryland, USA, will be cosponsored with the Microscopical Society of Canada.

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).

For promotional purposes, photographs and biographic profiles of individual major award winners can be found on the MSA web site:

<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 web site.

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