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AVS Announces Its Major Award Winners of 2021

New York, October 28, 2021 —The AVS has selected its major award winners for 2021. The AVS established an annual awards program to encourage excellence in research and innovation in technical areas of interest to the AVS. Listed below are the major award winners:

Medard W. Welch Award— Tony F. Heinz, Stanford University, “For seminal contributions to the field of 2D materials, including the ground-breaking discoveries of the distinctive electronic and optical properties of atomically thin two-dimensional semiconductors.” The award recognizes and encourages outstanding accomplishments in the fields of interest to AVS. The award consists of a cash award, a medal, a plaque, and an honorary lectureship at a regular session of the International Symposium.

John A. Thornton Memorial Award and Lecture— Darrell Schlom, Cornell University, “For pioneering contributions to the development of molecular-beam epitaxy for the growth of complex oxides and its judicious application to create oxides with unparalleled properties.” The award recognizes outstanding research or technological innovation in the areas of interest to AVS with emphasis on the fields of thin films, plasma processing, and related topics. The award is conferred biennially as a suitable candidate may be identified. The award consists of a cash award, a plaque, and an honorary lectureship at a regular session of the International Symposium.

Peter Mark Memorial Award— Bharat Jalan, University of Minnesota, “For excellence and international leadership in metal-organic molecular-beam epitaxy of complex oxide heterostructures for new electronic materials.” The award recognizes outstanding theoretical or experimental work by an early career scientist or engineer, at least part of which must have been published in an AVS Journal. The nominee must have worked in a scientific/technical field(s) for no more than 10 years (cumulative) after receiving their Ph.D. The award consists of a cash award, a plaque, and an honorary lectureship at a regular session of the International Symposium.

George T. Hanyo Award— Bang To, IBM Research, “For continued support of advanced plasma research by excellence in engineering operations and SEM support.” The award recognizes outstanding performance in technical support of research and development. The award consists of a cash award and a plaque setting forth the reasons for the award.

A complete list of the Fellows as well as the 2021 graduate student winners is attached. Nominations for the 2022 awards are currently being solicited. For more information, please contact Angela Klink, AVS, 212-248-0200, fax 212-248-0245, e-mail angela@avs.org.

Additional Awards

2021 AVS Fellows

AVS Fellows are members who have made outstanding contributions in areas of interest to AVS.

Paul S. Bagus, University of North Texas, “For ground-breaking work on the fundamental understanding of x-ray photoelectron spectra”

Ian Ferguson, Kennesaw State University, “For significant contributions to the growth of compound semiconductor materials and devices for photonic and opto-electronic applications in the IR, visible and UV”

B. Robert Ilic, National Institute of Standards and Technology, “For creation of a revolutionary GDSII CAD design program and fundamental contributions to the understanding of surface functionalization, chemical and biological sensing, dissipation and non-linear dynamics of interacting nanoelectromechanical systems”

Suzanne Mohney, The Pennsylvania State University, “For research on electronic materials and metal/semiconductor contacts, leadership in graduate education, contributions to diversity and retention of students in science and engineering, and service to the profession”

Christopher Muratore, University of Dayton, “For advancing scalable synthesis of transition metal dichalcogenide films and uncovering their mechanical, thermal, optical and electronic properties for use in diverse applications ranging from tribological coatings to low-cost virus sensors”

Lisa M. Porter, Carnegie Mellon University, “For contributions to understanding the processing and properties of metal-semiconductor contacts and interfaces in wide bandgap semiconductors”

José Rodriguez, Brookhaven National Laboratory, “For seminal contributions to the understanding of reactions associated with desulfurization and C1 chemistry on surfaces of metals, oxides, carbides, and sulfides”

Beatriz Roldan Cuenya, Fritz-Haber Institute of the Max Planck Society, Germany, “For exceptional contributions to the mechanistic understanding of thermal and electro-catalytic reactions based on well-defined nanostructured materials combined with advanced in situ and operando microscopic and spectroscopic characterization”

Vaithiyalingam Shutthanandan (Shuttha), Pacific Northwest National Laboratory, “For outstanding contributions to the development and application of specialized surface science and high-energy ion scattering capabilities to address materials and environmental problems and sharing his passion with next generation scientists”

Alan Spool, Western Digital Corporation, “For excellence in the fundamentals, data interpretation and application of TOF-SIMS”

Andrew Teplyakov, University of Delaware, “For advances in surface chemical functionalization”

Michael D. Williams, Clark Atlanta University, “For contributions to understanding the kinetics and electronic effects of constituent migration at semiconductor surfaces and interfaces”

Joshua M.O. Zide, University of Delaware, “For contributions to molecular beam epitaxy (MBE) growth of dissimilar materials heterostructures and interfaces”

2021 AVS National Student Awardees

There are five (5) top-level named Graduate Student Awards and three (3) Graduate Research Awards, described below. The recipients of these awards are determined after a general competition with all the graduate research applicants and a presentation to the Awards Committee.

Russell and Sigurd Varian Award

The Russell and Sigurd Varian Award was established in 1982 to commemorate the pioneering work of Russell and Sigurd Varian. It is presented to recognize and encourage excellence in graduate studies in the sciences and technologies of interest to AVS. The award is supported by Agilent Technologies Vacuum Products Division. It consists of a cash award, a certificate, and reimbursed travel support to attend the International Symposium.

- Sayantan Mahapatra, University of Illinois at Chicago

Nellie Yeoh Whetten Award

The Nellie Yeoh Whetten Award was established in 1989, in the spirit of Nellie Yeoh Whetten, to recognize and encourage excellence by women in graduate studies in the sciences and technologies of interest to AVS. A fund to support the award was established by Timothy J. Whetten, friends and family of Nellie Yeoh Whetten, and AVS. The award consists of a cash award, a certificate, and reimbursed travel support to attend the International Symposium.

- Minh Nhat Tran, New York University

Dorothy M. and Earl S. Hoffman Award

The Dorothy M. and Earl S. Hoffman Award was established in 2002 to recognize and encourage excellence in graduate studies in the sciences and technologies of interest to AVS. It is funded by a bequest from Dorothy M. Hoffman, who was president of AVS in 1974 and held other positions of responsibility in the Society. The award consists of a cash award, a certificate, and reimbursed travel support to attend the International Symposium.

- Dongxue Du, University of Wisconsin-Madison

Dorothy M. and Earl S. Hoffman Scholarships

The Dorothy M. and Earl S. Hoffman Scholarships were established in 2002 to recognize and encourage excellence in graduate studies in the sciences and technologies of interest to AVS. They are funded by a bequest from Dorothy M. Hoffman. The scholarships consist of a cash award, a certificate, and reimbursed travel support to attend the International Symposium.

- Marie Turano, Loyola University Chicago
- Chenghao Wan, University of Wisconsin-Madison

2021 Graduate Research Awards

The Graduate Research Awards were established in 1984 to recognize and encourage excellence in graduate studies in the sciences and technologies of interest to AVS. Each consists of a cash award, a certificate, and reimbursed travel support to attend the International Symposium.

- Michelle Brann, University of Chicago
- Trevor Donadt, Cornell University
- Sarah Zaccarine, Colorado School of Mines

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