



Massachusetts Institute of Technology. His contributions have led to a variety of honors, including election to both the National Academy of Engineering and the Institute of Medicine, the Society for Biomaterials Clemson Award, the IADR Distinguished Scientist Award,

NIH MERIT Award, Nature Biotechnology SciCafe Award, Einstein Visiting Fellow, and Fellow of the National Academy of Inventors. He is only the second individual to win both of Harvard's main teaching awards—the Everett Mendelsohn Excellence in Mentoring Award

(Harvard Graduate Student Council) and Phi Beta Kappa Prize for Excellence in Teaching (Harvard College).

The Mid-Career Research Award, endowed by MilliporeSigma (Sigma-Aldrich Materials Science), recognizes exceptional achievements in materials research.



## Falk to receive MRS Impact Award for STEM education

**M**ichael Falk, Department of Materials Science and Engineering, Johns Hopkins University (JHU), will receive the Materials Research Society (MRS) Impact Award during the 2018 MRS Spring Meeting “for broadened participation in STEM education in Baltimore elementary schools; for bringing attention to professional and educational climate issues faced by LGBTQ students and researchers; and for pioneered research-based methodologies for integrating computation into the Materials Science and Engineering curriculum.” This award honors outstanding individuals who have displayed excellence in areas of science communication, education, advancing diversity, mentoring, or community engagement, which reflect

the Society's pursuit to advance materials science and technology to improve the quality of life.

Falk is working to develop techniques that aim to extend the time scales accessible with simulation. These methods will also be extended to inherently nonequilibrium simulations. He anticipates that the simulations will enable the analysis of transitions in frictional response with respect to sliding rate and temperature.

Falk is the head of STEM Achievement in Baltimore Elementary Schools, a National Science Foundation (NSF)-funded outreach partnership between JHU and Baltimore City Schools. This \$7.4 million outreach effort to students in the third through fifth grades has altered the course of STEM instruction in Baltimore schools

by integrating an innovative curriculum, teaching professional development, conducting out-of-school-time investigations, and engaging the community.

Falk has served in many capacities on campus and nationally as a champion for LGBTQ equality in the materials science disciplines. He is an advisor to both the Diverse Sexuality and Gender Alliance (a JHU LGBTQ undergraduate organization) and the JHU chapter of Out in Science, Technology, Engineering and Mathematics. For this service, he received a Diversity Recognition Award from the John Hopkins Institutions Diversity Leadership Council in 2011.

Falk received his BA degree in physics from Johns Hopkins University and his PhD degree in physics from the University of California, Santa Barbara. He received the NOGLSTP Educator Award, the Jon R. and Beverly S. Holt Award for Excellence in Teaching, and the NSF Career Award. He has written several articles and presentations, and has received extensive funding for materials research and outreach and education efforts.

Falk will be recognized at the Awards Ceremony on Wednesday, April 4 at the PCC.



## Chueh named 2018 MRS Outstanding Young Investigator for ionic and electronic charge transport

**W**illiam Chueh, assistant professor of materials science and engineering at Stanford University,

has been named a 2018 Materials Research Society (MRS) Outstanding Young Investigator. Chueh was cited

“for groundbreaking research on ionic and electronic charge transport and interface chemistry relevant to electrochemical devices.” He will receive the award Wednesday, April 4, at the 2018 MRS Spring Meeting in Phoenix and will present his talk Monday, April 2 at the PCC.

Chueh's current research focuses on ionic and electronic charge transport and interface chemistry relevant to electrochemical devices, such as batteries and fuel cells. He and his research group seek to understand and engineer



ion-insertion reactions at the levels of electrons, ions, molecules, and particles using a bottom-up approach. They have pioneered the use of state-of-the-art *in situ* and *in operando* techniques, employing novel methods of transmission electron microscopy, synchrotron x-ray spectroscopy, and diffraction to study processes such as ion intercalation into battery electrodes and local

structural changes at interfaces during redox reactions.

Chueh and his group utilize a wide range of solutions, vapor, and solid-state routes to create high-performance electrochemical devices, such as photoelectrochemical cells, fuel cells, electrolyzers, and metal-air batteries.

He received his BS degree in applied physics and his PhD degree in materials

science from the California Institute of Technology. Chueh is recognized as a Top 35 Innovator under the Age of 35 by *MIT Technology Review*, he received the President Harry S. Truman Distinguished Postdoctoral Fellowship from Sandia National Laboratories, the BASF/Volkswagen Science Award for Electrochemistry, the Camille Dreyfus Teacher-Scholar Award, and an NSF Career Award.



## Wood named 2018 MRS Outstanding Young Investigator for work with transport processes

Vanessa Wood, Department of Information Technology and Electrical Engineering, ETH Zürich, has been named a 2018 Materials Research Society (MRS) Outstanding Young Investigator. Wood was cited “for innovative work in visualizing, quantifying, and explaining transport processes in materials and devices.” She will receive the award Wednesday, April 4, at the 2018 MRS Spring Meeting in Phoenix and will present her talk Monday, April 2 at the PCC.

Wood currently heads the Laboratory for Nanoelectronics at ETH Zürich. The Laboratory investigates the potential of nanoscale materials in electronic devices at each point in the energy life cycle—collection, storage, and usage. Using a combination of experiment and theory, the group studies the fundamental electronic properties of materials and applies the findings to the rational design of devices that harness the novel form factors and properties provided by nano-sized materials.

Her research focuses on the development of analytical techniques to study the electronic and ionic transport in solution-processed structures composed of materials with nanoscale dimensions. The information gained from these studies is then applied to developing new materials and device architectures for optoelectronic and electrochemical energy-storage applications, such as LEDs, solar cells, and lithium-ion batteries.

Wood received her BSc degree in applied physics from Yale University and her PhD degree in electrical engineering from the Massachusetts Institute of Technology. She has earned the World Economic Forum Young Scientist Award, the BASF/Volkswagen Award for Electrochemistry, the Goldene Eule Teaching Award, the Intel Early Career Faculty Award, and is a TED Fellow, among other recognitions.



## Banerjee and Xu to receive MRS Postdoctoral Awards

Arnab Banerjee, Oak Ridge National Laboratory, has received a Materials Research Society (MRS) Postdoctoral Award “for groundbreaking experiments providing evidence of topological excitations in a two-dimensional magnet, moving toward lossless qubits in

quantum computing,” and Jie Xu, Stanford University, has received the award “for applying polymer physics concepts to realize integrated, intrinsically stretchable transistors for skin electronics.”

Banerjee received a BSc degree in physics from the Indian Institute of Technology

and his PhD degree in physics from the University of Chicago. He led a team of researchers to make high-quality powder and single crystals of the graphene-like honeycomb insulator  $\alpha$ -RuCl<sub>3</sub>. He then performed various experiments to reveal that the ground state of  $\alpha$ -RuCl<sub>3</sub> is close to a true quantum spin liquid ground state. He pioneered the field with experiments that resolved a controversy of stacking faults in these 2D materials.

Xu received a BS degree in chemistry and a PhD degree in polymer physics from Nanjing University. Her current work focuses primarily on developing new material chemistry concepts for next-generation stretchable electronics. She has been able to integrate a