

Speaker Biographies

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Sossina Haile is the Walter P. Murphy Professor of Materials Science and Engineering at Northwestern University, a position she assumed in 2015 after serving 18 years on the faculty at the California Institute of Technology. She earned her Ph.D. in Materials Science and Engineering from the Massachusetts Institute of Technology in 1992. Sossina Haile's research broadly encompasses materials, especially oxides, for sustainable electrochemical energy technologies. Amongst her many awards, in 2008 Sossina Haile received an American Competitiveness and Innovation Fellowship from the U.S. National Science Foundation in recognition of "her timely and transformative research in the energy field and her dedication to inclusive mentoring, education and outreach across many levels." In 2008 she was named by Newsweek Magazine as one of 12 people to watch, and in 2020 she was awarded the Turnbull Lectureship of the Materials Research Society. She is a fellow of the Materials Research Society, the American Ceramics Society, and the African Academy of Sciences, and an associate Fellow the Ethiopian Academy of Sciences.



Francis Nyongesa Wanjala is the academic Chair of the Department of Physics of the University of Nairobi. He obtained his PhD in Physics from the University of Nairobi in 2000. Prof. Francis Nyongesa has published more than 22 research articles in Material Science and Renewable Energy in refereed journals and delivered more than 15 oral presentations in international conferences in the following countries: United States of America (USA), Japan, Germany, Italy, China, South Africa, Ghana, Ethiopia, Uganda, and Tanzania. His research interests include: Functional Materials for Energy Efficient Systems, Solar Energy Materials (Perovskite Solar Cells, Dye Sensitized Solar Cells (DSSCs), and applications of Nanotechnology for Water Purification Systems. He is a recipient of the Third World Academy of Science (TWAS) Award for Young Scientist in 2007 for his contribution in scientific publications in Physics and several fellowships and research grants including: The PASET-RSIF Research Grants Award for PhD Program in 2020, the PASET-RSIF Capacity Building Grants Award in 2020, the National Science, Technology & Innovation (ST&I) Research grant (NACOSTI) in 2012, the U.S-Africa Materials Institute (USAMI) visiting fellowship at Princeton University (USA) in 2008 and the Abdus Salam Young Student Fellowship (Trieste, Italy) in 1999. He is among the founding members of the Global Young Scientists Academy (GYSA). He is a member of African Materials Research Society (AMRS) and the Ultrasonic Nondestructive Testing (NDT) Society of Kenya among others. He has served on the editorial board of the African Journal of Physical Sciences (AJPS) and the Tanzania Journal of Science.



Harry Atwater is the Otis Booth Leadership Chair of the Division of Engineering and Applied Science, and the Howard Hughes Professor of Applied Physics and Materials Science at the California Institute of Technology. Currently he is the Director for the Liquid Sunlight Alliance (LiSA), a Department of Energy Hub program for solar fuels. Atwater's scientific effort focuses on nanophotonic light-matter interactions and solar energy conversion. His current research in energy centers on high efficiency photovoltaics, carbon capture and removal, and photoelectrochemical processes for generation of solar fuels. His research has resulted in world records for solar photovoltaic conversion and photoelectrochemical water splitting. His work also spans fundamental nanophotonic phenomena, in plasmonics and 2D materials, and also applications including active metasurfaces and optical propulsion. From 2014-2020, Atwater served as Director of the Joint Center for Artificial Photosynthesis (JCAP), the DOE Energy Innovation Hub for solar fuels. Atwater was an early pioneer in nanophotonics and plasmonics; he gave the name to the field of plasmonics in 2001. Atwater is a Member of US National Academy of Engineering, and a Web of Science Highly Cited Researcher. He is also founder of 5 early-stage companies, including Captura, which is developing scalable approaches to carbon dioxide removal from oceanwater, and Alta Devices, which set world records for photovoltaic cell and module efficiency. He is also a Fellow of the SPIE as well as APS, MRS, Optica, and the National Academy of Inventors. He is also the founding Editor in Chief of the journal ACS Photonics, and Chair of the LightSail Committee for the Breakthrough Starshot program. He is the recipient of numerous awards, including the von Hippel Award of the Materials Research Society.



Joseph Berry is a Senior Research Fellow at the National Renewable Energy Laboratory working on halide perovskite solar cells. His efforts at NREL emphasize relating basic interfacial properties to relevant device level behaviors in traditional and novel semiconductor heterostructures including oxides, organics and most recently hybrid semiconductors. He is also a principal investigator on the NREL lead Department of Energy, Solar Energy Technology Offices "Advanced Perovskite Cells and Modules" program as well as being the director of the US-Manufacturing of Advanced Perovskites (US-MAP) Consortium, a Fellow at RASEI a joint energy institute between the University Colorado Boulder and NREL and an Associate Professor of Physics at the University of Colorado Boulder.



Mariana Bertoni is the Fulton Energy and Materials Professor in the School of Electrical, Computer and Energy Engineering at Arizona State University. She joined ASU's faculty after holding senior scientist positions at two startup companies in the photovoltaic industry and a postdoctoral fellowship at the Massachusetts Institute of Technology. Professor Bertoni received her Ph.D. from Northwestern University in Materials Science and Engineering in 2007 and her Diploma in Chemical Engineering from the Instituto Tecnológico de Buenos Aires. She is a former Fulbright Scholar and a Marie Curie Fellow. In 2022, she was named Hopkins Professor and in 2018, she won the National Academy of Engineering Grainger Foundation Frontiers of Engineering Award for Advancement of

Interdisciplinary Research. Her research aims to understand how intrinsic and extrinsic defects affect the electrical and optical properties of energy materials and accordingly engineer the processing steps that will maximize performance.



Simon Billinge earned his Ph.D in Materials Science and Engineering from University of Pennsylvania in 1992, following a BA at Oxford University. He spent 2 years at Los Alamos National Laboratory in New Mexico as a post-doc before joining the faculty as an Assistant Professor in the Department of Physics and Astronomy at Michigan State University in 1994. He became Associate professor in 1999 and full professor in 2003. In 2008 he took up his current position as Professor of Applied Physics, Applied Mathematics and Materials Science at Columbia University and Scientist at Brookhaven National Laboratory. Prof. Billinge has published more than 200 papers in scholarly journals. He is a fellow of the American Physical Society and the Neutron Scattering Society of America, a former Fulbright and Sloan fellow and has earned a number of awards including being honored in 2011 for contributions to the nation as an immigrant by the Carnegie Corporation of New York, the 2010 J. D. Hanawalt Award of the International Center for Diffraction Data, University Distinguished Faculty award at Michigan State, the Thomas H. Osgood Undergraduate Teaching Award. He is Section Editor of Acta Crystallographica Section A: Advances and Foundations. He regularly chairs and participates in reviews of major facilities and federally funded programs.



Shannon Boettcher is a Professor in the Department of Chemistry and Biochemistry at the University of Oregon. His research is at the intersection of materials science and electrochemistry, with a focus on fundamental to applied aspects of energy conversion and storage. He has been named a DuPont Young Professor, a Cottrell Scholar, a Sloan Fellow, and a Camille-Dreyfus Teacher-Scholar. He is a 2019-2022 ISI highly cited researcher (top 0.1% over past decade) and in 2021 was a Blavatnik National Award Finalist. In 2019 he founded the Oregon Center for Electrochemistry and the first graduate program in Electrochemical Technology in the USA.



Fikile Brushett is an Associate Professor in the Department of Chemical Engineering at the Massachusetts Institute of Technology. Before joining the Institute, he received his Ph.D. in Chemical Engineering from the University of Illinois at Urbana-Champaign and performed postdoctoral work in the electrochemical energy storage group at Argonne National Laboratory. His research group seeks to advance the science and engineering of electrochemical technologies that enable a sustainable energy economy. He is especially interested in the fundamental processes that define the performance, cost, and lifetime of present day and future electrochemical systems. His group currently works on rechargeable batteries for grid energy storage and electrochemical processes for resource management. He also serves as the Research Integration Co-Lead for the Joint Center for Energy Storage Research, a DOE-funded Energy Innovation Hub.



David Cahen studied chemistry & physics at the Hebrew Univ. of Jerusalem (HUJI), materials research at Northwestern Univ., and, as PD, biophysics (of photosynthesis) at the HUJI and the Weizmann Inst. of Science (WIS). As WIS faculty he focusses on opto(bio)electronic materials chemistry & physics, emphasizing what can make such materials sustainable, recently studying self-healing of PV materials and protein electronics. He is presently AVS, MRS and Helmholtz Int'l fellow and visiting prof at Chiba Univ. He is active in energy & sustainability research (first director of the WIS' effort in the field) and education, and in science for peace; from 2017-2022 he headed a group at near-

by Bar-Ilan Univ.



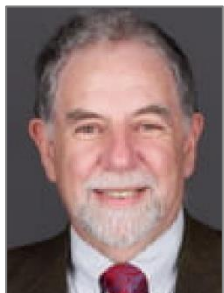
Kelsey Hatzell is an assistant professor at Princeton university in the Andlinger Center for Energy and Environment and department of Mechanical and aerospace engineering. Hatzell's group primarily work on energy storage and is particularly interested at using non-equilibrium x-ray techniques to probe materials for energy and separation applications. Dr. Hatzell earned her Ph.D. in Material Science and Engineering at Drexel University, her M.S. in Mechanical Engineering from Pennsylvania State University, and her B.S./B.A. in Engineering/Economics from Swarthmore College. Hatzell's research group works on understanding phenomena at solid|liquid, solid|gas, and solid|solid

interfaces broadly work in energy storage and conversion. Hatzell is the recipient of several awards including the ORAU Powe Junior Faculty Award (2017), NSF CAREER Award (2019), ECS Toyota Young Investigator Award (2019), finalist for the BASF/Volkswagen Science in Electrochemistry Award (2019), the Nelson "Buck" Robinson award from MRS (2019), Sloan Fellowship in Chemistry (2020), and POLiS Award of Excellence for Female Researchers (2021), NASA Early Career Award (2022) and ONR Young investigator award (2023).



Marta Hatzell is an Associate Professor of Mechanical Engineering and Chemical and Biomolecular Engineering at Georgia Institute of Technology. Hatzell's research group focuses on exploring how to electrify catalytic and separation-based processes to enable sustainable industrial systems. Her group works on materials, characterization, and system analyses for electrolysis, fuel cells, desalination, and solar energy conversion processes. Hatzell completed her BS, MS, and Ph.D. in Mechanical Engineering from Penn State University and an M.Eng in Environmental Engineering from Penn State University. Hatzell's Ph.D. research conducted with Prof. Bruce Logan explored

environmental technologies for energy generation and water treatment. She was a NSF graduate research fellow and PEO fellow during her PhD. Hatzell received the outstanding award for early career research at Georgia Tech in 2023. In addition, Hatzell received of other awards including the Moore Inventor Fellowship (2021), ONR Young Investigator Award (2020), Sloan Foundation Fellowship in Chemistry (2020), and the NSF Early CAREER award (2019). Hatzell currently serves as a Senior Editor of the Journal ACS Energy Letters.



Tom Mallouk received his bachelor's degree from Brown University, where he did undergraduate research with Aaron Wold. He was a Ph.D. student with Neil Bartlett at the University of California, Berkeley from 1979 to 1983 and a postdoctoral fellow with Mark Wrighton at MIT from 1983-85. He has held faculty positions at the University of Texas at Austin, the Pennsylvania State University, and the University of Pennsylvania, where he is currently Vagelos Professor in Energy Research in the Department of Chemistry. He was associate editor of the Journal of the American Chemical Society from 1996-2020. His research focuses on the synthesis of inorganic materials and their application to solar energy conversion, catalysis and electrocatalysis, nano- and microscale robotics, low dimensional physical phenomena, chemical separations, and environmental remediation. Mallouk is the author of 400+ publications, including a few good ones. He received the Schreyer Honors College and Priestley teaching awards from Penn State, and his research contributions have been recognized with several awards, including the ACS Award in the Chemistry of Materials. He is a Fellow of the American Chemical Society, a member of the American Academy of Arts and Sciences, and a member of the U.S. National Academy of Sciences.



Dr. Y. Shirley Meng is a Professor at the Pritzker School of Molecular Engineering at the University of Chicago. She serves as the Chief Scientist of the Argonne Collaborative Center for Energy Storage Science (ACCESS) Argonne National Laboratory. Dr. Meng is the principal investigator of the research group - Laboratory for Energy Storage and Conversion (LESC), that was established at University of California San Diego since 2009. She held the Zable Chair Professor in Energy Technologies at University of California San Diego (UCSD) from 2017-2022. Dr. Meng received several prestigious awards, including the C3E technology and innovation award (2022), the Faraday Medal of Royal Chemistry Society (2020), International Battery Association IBA Research Award (2019), Blavatnik Awards for Young Scientists Finalist (2018), American Chemical Society ACS Applied Materials & Interfaces Young Investigator Award (2018), C.W. Tobias Young Investigator Award of the Electrochemical Society (2016) and NSF CAREER Award (2011). Dr. Meng is elected Fellow of Electrochemical Society (FECS), Fellow of Materials Research Society (FMRS) and Fellow of American Association for the Advancement of Science (AAAS). She is the author and co-author of more than 280 peer-reviewed journal articles, two book chapters and six issued patents. she is the Editor-in-Chief for Materials Research Society MRS Energy & Sustainability. Dr. Meng received her Ph.D. in Advance Materials for Micro & Nano Systems from the Singapore-MIT Alliance in 2005. She received her bachelor's degree in Materials Science with first class honor from Nanyang Technological University of Singapore in 2000. Sara Skrabalak



G. Jeffrey Snyder obtained his B.S. degree in physics, chemistry and mathematics at Cornell University (1991) focusing on solid state chemistry which he continued during a two year stay at the Max Planck Institut FKF (Festkörperforschung) in Stuttgart, Germany. He received his Ph.D. in applied physics from Stanford University (1997) where he studied magnetic and magneto-electrical transport properties of metallic perovskites as a Hertz Fellow. He was a Senior Member of the Technical Staff in the thermoelectrics group at NASA's Jet Propulsion Laboratory for 9 years (1997-2006) and as a Faculty Associate in materials science at the California Institute of Technology (Caltech) 2006-2014 where he focused on thermoelectric materials and devices. His interests include the discovery of new Zintl phase thermoelectric materials and nanostructured thermoelectric composites using bulk processing, band structure engineering and thermoelectric performance optimization. Dr. Snyder has published over 400 articles, book chapters and patents. He served as treasurer of the international thermoelectric society and vice president of the international thermoelectric academy.