

38th Annual Hilliard Symposium

Thursday, May 20 • 8:20 AM – 4:00 PM CT

The day-long symposium will feature presentations highlighting our student's original research. Friends and alumni of the department are welcome, attendance is free.



Keynote at 8:30 AM CT

Hilliard Keynote Speaker • Dr. Mariana Bertoni, Arizona State University

Mariana Bertoni is an associate 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 2016, she was named Outstanding Assistant Professor in the Fulton Schools of Engineering and in 2017 was invited to the National Academy of Engineering U.S. Frontiers of Engineering as one of the nation's outstanding young engineers. In 2018, she won the NAE's Grainger Foundation Frontiers of Engineering Award for Advancement of Interdisciplinary Research, received the 2018-2019 Joseph Palais distinguished faculty award and the 2020-2021 Fulton Entrepreneurial Professor Fellowship. 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.

Chasing the sun from academia to industry and back again

The solar PV market continues to accelerate in adoption and over the last decade we have seen it move from niche generation to reaching grid parity and becoming a mainstream electricity generation source. The reality of silicon module prices below \$0.35/Wdc and updated Nationwide goals of \$0.02/kWh by 2030 has fundamentally changed solar R&D. As we move towards an "electric-powered world" and everything around us starts demanding electricity in a clean and efficient way, new challenges arise. Similar to many consumer applications, R&D hurdles centered around aesthetics, customization and functionality will be part of our everyday life. In this talk, I will share with you my adventures in solar R&D in academia, industry, and the start-up world. We will walk through the maturity of various solar technologies, research at the pace of industry and the hurdles for the implementation and mass adoption of new technology.



Dr. Michael J. Rawlings, Science and Engineering Lead at The Mineral, Metals and Materials Society (TMS)

Presentation • 12:30 – 1:30 PM CT (Delivered during the Hilliard lunch hour.)

Implicit Bias Workshop led by NU Talent Acquisition Partner Stefanie Hicks • 4:00 – 5:00 PM CT

This year's symposium will include a workshop and presentation to initiate conversations on diversity, equity, and inclusion (DEI) within the department led by Dr. Michael Rawlings and Stefanie Hicks.

Michael Rawlings received a B.S. in Applied Physics from Morehouse College in 2010 and a PhD in Materials Science and Engineering from Northwestern University in 2015. Today, he is the Science and Engineering Lead at The Minerals, Metals & Materials Society (TMS), where he oversees new initiatives in emerging materials-related fields such as the use of Artificial Intelligence in MSE, the exploration of HEA design approach and the implementation of advance manufacturing techniques in 3D printing and Metamorphic Manufacturing. Prior to joining TMS, Dr. Rawlings served as an American Association for the Advancement of Science (AAAS) Science and technology Policy Fellow at the National Science Foundation (NSF). During his time at NSF, he worked through the Engineering Directorate to help implement several of the NSF "Big Ideas" including Harnessing the Data Revolution and NSF INCLUDES, which focuses on broaden participation in science and engineering. Dr. Rawlings has served as board member, organizer, advisor and/or volunteer for a number of national and local DEI initiatives and consortia. In his free time, he enjoys sculpting, investing and spending time with his wife and 2-year-old son.

Presentations | [Registration Link](#)

Workshop | [Registration Link](#)

Symposium winners will be announced at 5:00 PM, following the DEI workshop.
Questions? Please contact Kristina Lugo Kristina.lugo@northwestern.edu.