

Guest Speaker

Jason R. Hattrick-Simpers, PhD

**Materials for Energy and Sustainable
Development Group, National Institute of
Standards and Technology**

jason.hattrick-simpers@nist.gov

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12:00pm -1:00pm

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Meeting Information

Meeting link:

<https://universityofdc.webex.com/universityofdc/j.php?MTID=mdc34ed139603a35eb17a49df9f2a668b>

Meeting number: 798 413 901

Password: 1234

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Center for Nanotechnology Research and Education Seminar A.I. in Materials Science Opportunities for Autonomy and Challenges of Trust

Jason R. Hattrick-Simpers, PhD, National Institute of Standards and Technology

Scientists are increasingly turning to the power of artificial intelligence (AI) to increase the rate of knowledge extraction, provide insight into new materials and discover unexpected correlations. In some cases, robust AIs have been coupled with experimental (or theoretical) automation to generate autonomous scientific platforms capable of planning and executing experimental designs. Here, I will discuss our recent work incorporating AI into high-throughput experimental workflows, demonstrating that AI-based hypothesis generation turns the experimentalist into the rate limiting step. This rate limiting step will be addressed by an autonomous electrochemical platform capable of synthesizing and characterizing experiments without human input. Closing remarks will examine AI's warts and focus on trust in the context of model (ir) reproducibility and the issues with training on archival data.

BIOGRAPHY

Dr. Jason Hattrick-Simpers is a Materials Research Engineer in the Materials and Manufacturing for Sustainable Development group at the National Institute of Standards and Technology (NIST). He got his PhD in Materials Science and Engineering at the University of Maryland. Prior to joining NIST, he was an Assistant Professor of Chemical Engineering at the University of South Carolina in the SmartState™ Center for the Strategic Approaches to the Generation of Electricity (SAGE).