

Novel Molecules with Atom-like Precision



Adam Hock

Assistant Professor of Chemistry Assistant Scientist, Chemical Sciences and Engineering Division

CURRENT RESEARCH

Technologies for the future of energy and computing

The industrial revolution was largely driven by advances in chemistry while the green revolution requires scientists to rethink and retool how materials are produced with everything from fuels to plastics, drugs to dyes, and computer chips to solar cells. Dr. Adam Hock, Assistant Professor of Chemistry at the Illinois Institute of Technology and Assistant Scientists at Argonne National Laboratory, is a leader in the next generation of materials revolution. He and his team are developing new ways to make materials for more efficient energy and for improved computing devices. With the unique skill of chemical synthesis, he and his team make novel catalysts that are advancing environmental solutions as well as helping to develop new electronic materials and scalable routes to them. Their impressive ability to assemble novel molecules with near atom-like precision in addition to their strong focus on societal impact, has resulted and is likely to continue to lead, to the reduction of byproducts and energy demand in the chemicals industry as well as new synthetic methods for other electronic materials used in computing, memory, and other components of future computer systems.

Dr. Hock's diverse training gives him the ability to bridge gaps and develop new areas of research at the interface between chemistry, materials science, engineering, and other branches of science. In this way, he and his team have the vocabulary and the knowledge necessary to work closely with people in a variety of fields while providing sustainable solutions to next-generation energy and computing applications. In addition, Dr. Hock and his team have access to world-leading facilities at Argonne National Laboratory, where they can make...

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AFFILIATION



Illinois Institute of Technology

EDUCATION

- Ph.D. in Inorganic Chemistry 2007, Massachusetts Institute of Technology
- B.S. with Distinction in Chemistry 2001, University of Delaware

AWARDS

- IIT Sigma Xi Junior Faculty Research Award, 2015
- 'Featured Article' chosen by the *Journal of Catalysis* staff (February issue), 2015
- Excellence in Research by a Junior Faculty Member Award, 2014
- Camille and Henry Dreyfus Environmental Chemistry Fellow, 2009 - 2010

RESEARCH AREAS

Technology, Chemistry, Materials Science / Physics, Semiconductor

FUNDING REQUEST

Your contributions will support the continued research of Dr. Adam Hock, at Illinois Institute of Technology and Argonne National Laboratory, as he develops new ways to make materials for more efficient energy use and for improved computing devices. Donations will fund the necessary \$40-50K/year required to support a single graduate student, \$4-10K/year for supplies for a given project, and \$4-6K/year for travel. Additionally, smaller donations could be directed towards supporting summer student research, materials for smaller projects, or partial-year proof-of-concept projects. Join in funding innovative research that is improving technologies in energy and computing for a more efficient and sustainable future.