

ENGINEERING UNDERGRADUATE RESEARCH

SANDIA NATIONAL LABORATORIES

September 17, Thursday, 5:00 - 6:00 PM Speakers: Amy Halloran, Jason Petti, Nicole Streu, and more

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Sandia National Laboratories is a world-class research & development community that delivers on national security missions while advancing the frontiers of science and engineering. A key component of Sandia's success is our foundational scientific research, which provides us with knowledge and capabilities that are essential for solving the most pressing and difficult issues facing the world today.

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Speakers:



Amy Halloran, P.E., is the Sr Manager for Renewable Energy Technologies at Sandia National Laboratories. She leads Sandia's \$40M Renewable Energy R&D Program which includes over 100 staff, Postdocs, and students performing fundamental and applied R&D in the areas of Geothermal, Concentrating Solar, Solar PV, Marine Hydrokinetic, and Wind Energy for the DOE, DOD, and private industry. She was also the Deputy for Sandia's Climate and Engineered Earth Systems Program. Prior to joining Sandia, Ms. Halloran spent 22 years at CH2MHILL, managing and delivering projects in the areas of energy and the environment. Her final position at CH2MHILL was Vice President and Technology Manager for their Environmental Engineering from the University of Illinois. She is currently Sandia's Campus Executive for our partnership with the University of Illinois.



Dr. Jason Petti is the Manager of the Nuclear Safety Technologies Department at Sandia National Laboratories. His department supports Sandia's three nuclear facilities through ensuring regulatory compliance and conducting R&D studies related to nuclear safety. He also manages the Nuclear Criticality Safety Program for the lab. He currently leads Sandia's Recruiting Team for the University of Illinois. Prior to his current position, Jason was a Test Director at Sandia's Rocket Sled Tracks, leading teams through execution of complex high-speed impact tests. He was also a Principal Investigator and Structural Analyst supporting numerous projects for the US Nuclear Regulatory Commission. In 2013, Jason participated in an International Atomic Energy Agency visit to the Fukushima Nuclear Power Plants site in Japan to review decommissioning plans. Jason received his BS, MS, and PhD degrees in Civil and Environmental Engineering from the University of Illinois.



Nicole Streu is a Recruiting Specialist within Talent Acquisition for Sandia. She is responsible for recruiting strategy and execution at six universities throughout the country. Nicole graduated from the University of New Mexico with a degree in Business and Marketing. She started her career in retail management and eventually moved into recruiting and account management for a global staffing agency before finding her way to Sandia over two years ago. She is the epitome of an extrovert, finding herself absolutely energized by being on campus and getting to talk to hundreds of students about the great work Sandia is doing for our nation. Most of her time outside of work is spent with her twin toddlers and husband, as well as the volunteer work she does throughout several organizations in the community.

Khalid Hattar is a Principle Member of the Technical Staff at Sandia National Laboratories. He received a B.S. in Chemical Engineering from University of California, Santa Barbara and a Ph.D. in Materials Science and Engineering from University of Illinois, Urbana-Champaign in 2009. He specializes in determining the property-microstructure relationship for a variety of structural, electrical, and optical materials through *in situ* TEM in various extreme environments, as well as tailoring local properties of materials through ion beam modification.

Matt Magill received a B.S. from the University of Rochester in 2009 and M.S and Ph.D. degrees from the University of Illinois at Urbana-Champaign in 2011 and 2015, all in electrical & computer engineering. He is currently a controls engineer in the Guidance, Navigation, and Controls group at Sandia National Laboratories with research interests in electric machines, control systems, and the simulation and optimization of large multi-physics systems.

Fred Rothganger is a refugee from the world of Artificial Intelligence. He earned his PhD playing with robots and computer vision at the University of Illinois. After sliding into despair about the inherent ceiling of modern AI techniques, he turned to the brain for answers. His focus is on building computer tools to assemble comprehensive models. He leads the development of N2A ("Neurons to Algorithms"), a framework for expressing neural dynamics across a wide range of scales. Fred has published in computational neuroscience, machine vision and robotics. When he gets fed up with lack of progress in the real world, he writes science fiction.

Henry Padilla received his BS, ME and PhDs in Mechanical Engineering from the University of Illinois at Urbana/Champaign between 2001 and 2008. Following graduation, he moved his family to Albuquerque to take a position as a post-doctoral researcher at Sandia in the area of fatigue, wear and deformation of nanocrystalline metals. In 2012, he accepted a position as a staff member in the Power Sources Technology Group at Sandia, where he has worked as a Production Engineer and Design Engineer for thermal batteries. Henry is currently serving as the acting manager for the Thermal Battery Design and Development Department, and enjoys spending time solving challenging problems, mountain biking, and spending time with his wife and children.