ASME Energy Sustainability 2021 National Laboratory Panel
June 17, 2021, 10:10 am to 11:40 am
(US Eastern Daylight Time)

The United States Department of Energy's national laboratory system is home to 17 institutions that produce world-leading research in energy efficiency, nuclear and renewable energy, advanced power generation, materials, fundamental physics, and a broad array of related topics. Often referred to as the "crown jewels" of the national research ecosystem, the labs are home to thousands of engineers and scientists who transfer cutting edge science from concept to technology. These researchers come from myriad backgrounds and are trained in a variety of fields, but share a common goal of advancing the state of knowledge for energy-related applications to benefit U.S. interests.

We welcome a panel of researchers from four national laboratories who will offer perspective on selected areas of active research at their respective institutions, provide insight into work and life at a national lab, and offer guidance on skills that may be helpful in pursuing a career as a lab researcher.

Dr. Mark Messner, *Principal Mechanical Engineer, Argonne National Laboratory*
Dr. Messner conducts research on modeling, simulation, and design of high temperature materials and structures. His research areas include meso-structural modeling, structural and material design and optimization, machine learning for design problems, the development of simulation methods, and engineering design method development. Dr. Messner is a member and chair of several of the ASME Section III Boiler and Pressure Vessel Code working groups responsible for high temperature design. He received is BS, MS, and PhD in Civil Engineering from the University of Illinois – Urbana-Champaign.

Dr. Judith Vidal, *Group Manager, National Renewable Energy Laboratory*
Since joining NREL in 2010, Dr. Vidal has established an international reputation for her cutting-edge work on thermal systems. Her work has produced first-class capabilities such as the Thermal Storage Materials Laboratory and the Thermal Systems Process and Components Laboratory at NREL. Dr. Vidal is a joint faculty member at the Colorado School of Mines. She earned her BS and MS in Materials Engineering from Simon Bolivar University (Venezuela) and her PhD in Metallurgical and Materials Engineering from Colorado School of Mines.

Dr. Paul Talbot, *Computational Postdoctoral Research Associate, Idaho National Laboratory*
Dr. Talbot is a post-doctoral computational scientist with experience in industry, academics, and government laboratories. He has made research contributions in the areas of optimization, uncertainty quantification, simulation and surrogate modeling, software development, reactor physics and neutron transport. Dr. Talbot earned a PhD in Nuclear Engineering at the University of New Mexico, an MS at Oregon State University, and a BS in Physics BYU-Idaho.

Dr. Kenneth Armijo, *Senior Member of the Engineering Staff, Sandia National Laboratory*
Dr. Armijo leads molten salt and molten alkali metals R&D at the National Solar Thermal Test Facility (NSTTF). His research interests are in alternative energy technologies and sustainability, as they pertain to scientific and technological innovation, business and policy. He is recognized for work in the development of U.S. and international arc-fault detection and mitigation codes and standards. Dr. Armijo holds a BS, MS, and PhD in Mechanical Engineering from the University of California, Berkeley with minors in Energy and Resources, and business credentials in Management of Technology.

Panel moderator:
Dr. Michael Wagner, Assistant Professor, University of Wisconsin-Madison,
and Senior Researcher, National Renewable Energy Laboratory