

Dr. Syed Bahauddin Alam



Bio: Prof. Syed Bahauddin Alam is an Assistant Professor in Nuclear, Plasma, and Radiological Engineering at the University of Illinois Urbana–Champaign. He is the recipient of the U.S. Department of Energy (DOE) Distinguished Early Career Award 2025 from the Office of Nuclear Energy. He is *one of eleven nationally appointed members* to the National Academies of Sciences, Engineering, and Medicine (NASEM) committee on Foundation Models for Scientific Discovery, contributing formal recommendations to the U.S. DOE. He was named as

the National AI Leader in the University of Illinois's official response to the White House AI Action Plan. He is the recipient of the 2025 HPCwire Editors' Choice Award in Energy, which honors the most *significant breakthroughs* and the *best and brightest minds* in supercomputing worldwide. He was selected as one of 100 global leaders by the Simons Foundation to advance foundation models and was named to the American Nuclear Society 40 Under. He has served as an Invited Speaker at the National Academies and the U.S. DOE on AI and Foundation Models for Nuclear Systems.

Current Position and Employer Institution: Assistant Professor, Department of Nuclear, Plasma, and Radiological Engineering, University of Illinois Urbana–Champaign (UIUC), with a joint appointment at the National Center for Supercomputing Applications (NCSA).

Academic Background:

- Year of PhD Completion: 2018
- Degree Field: Nuclear Engineering
- Institutions Attended:
 - University of Cambridge, Ph.D., Nuclear Engineering, 2018
 - University of Cambridge, M.Phil., Nuclear Energy, 2013
 - Bangladesh University of Engineering and Technology (BUET), B.Sc., Electrical and Electronics Engineering, 2011

Research Area: Dr. Alam's research advances energy-efficient artificial intelligence, digital twins, and agentic foundation models for real-time monitoring, diagnostics, and control of advanced nuclear reactors and complex energy systems.