

## 36th Distinguished lecture on Advanced Design and Manufacturing

**Title:** Center for e-Design at UMass Amherst

**Speaker:** Professor [Sundar Krishnamurty](https://www.umass.edu/engineering/about/directory/sundar-krishnamurty)

Ronnie & Eugene M. Isenberg Distinguished Professor in Engineering  
Department Head, Department of Mechanical & Industrial Engineering  
University of Massachusetts Amherst  
(<https://www.umass.edu/engineering/about/directory/sundar-krishnamurty>)

**Date, time & venue:** 9th January 2024, 17:00-18:00, MMCR, Dept. of Design and Manufacturing (erstwhile Centre for Product Design and Manufacturing), Indian Institute of Science (IISc), Bengaluru

**Abstract:**

My talk will highlight the ongoing research at the Center for e-Design at UMass Amherst on knowledge management and predictive analytics in product realization, with a particular emphasis on additively manufactured systems. As part of my talk, I will introduce an ontology-based engineering knowledge management framework, focusing on how it supports design ideation, information and knowledge capture, design, and manufacturability. I will follow that up with a metamodeling-based mathematical framework to represent constituent system behavior to study, analyze, diagnose, forecast, and design additively manufactured systems. I will summarize with an overarching theme of how predictive analytics, supported by knowledge management, can facilitate digital design and smart manufacturing. I will close my talk by highlighting my academic and cross-campus leadership positions as Department Head, Ronnie & Eugene Isenberg Distinguished Professor in Engineering, and Principal Investigator for the National Science Foundation's (NSF) I-Corps at UMass program.

**Bio:**

Dr. Sundar Krishnamurty is the Ronnie & Eugene Isenberg Distinguished Professorship in Engineering and Department Head in the Department of Mechanical and Industrial Engineering at the University of Massachusetts Amherst. He is the PI for the NSF I-Corps at UMass Amherst program and the Site Director for the NSF I/UCRC Center for e-Design. Krishnamurty was a member of the 2023 National Academy of Engineering (NAE) Study Committee on Strengthening the Talent for National Defense: Infusing Advanced Manufacturing in Engineering Education. Krishnamurty is a fellow of the American Society of Mechanical Engineers (ASME) and is an elected member of the Department Head/Chair of the ASME Executive Committee. For his pioneering work in modeling and simulation and engineering knowledge management in design and manufacturing, Krishnamurty received the 2022 Excellence in Research Award from the Computers and Information in Engineering (CIE) Division of ASME.