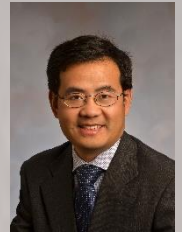


Nano Joining: The Past, Today and Beyond

Friday, October 28th, 2022
12:30 PM

Bowen Hall, Room 222
MAE Seminar Series



Anming Hu

University of Tennessee Knoxville

In this lecture, I will first introduce the concept of nanojoining and review the research development of nanojoining across the world in the past 20 years. I will focus on the thermal and nonthermal mechanisms and various nanomanipulations to realize nanojoining for functional devices. Recent research progresses on power electronics, nanobrazing for tubal blade repairing, and functional nanowire devices will be highlighted. Based on the version of metamorphic nanomanufacturing, I will discuss the future development and application of nanojoining in next-generation batteries, micro-nano-robotics, and molecular electronics.

Prof. Anming Hu received his first Ph. D degree from the Institute of Physics, Chinese Academy of Science, in 1997 and his second Ph. D degree from the Department of Physics and Astronomy, the University of Waterloo, in 2008 before he joined the Department of Mechanical and Mechatronics Engineering at the University of Waterloo as a Research Assistant Professor. In 2012 he was appointed as a guest Professorship in Institute of Laser Engineering, Beijing Institute of Technology, China. In 2012, he was a Visiting Professor at the School of Engineering and Applied Science at Harvard University. Since November 2013, he joined the Department of Mechanical, Aerospace, and Biomedical Engineering at the University of Tennessee Knoxville, USA, as an Assistant Professor and was promoted to Associate Professor in 2019. He has extensive research experience on ultrafast laser and nanomanufacturing. His current research interests include ultrafast laser-nanomaterial interactions, nanojoining, laser precision manufacturing and 3D microprinting, nanotechnology for energy, environment, and electronics application.

