工学系WINGS産学協創教育推進基金

第450回GMSI公開セミナー／第195回WINGSセミナー

Advanced Materials and Additive Manufacturing for Sustainable Energy and Personalized Health

Professor Yanliang Zhang

Advanced Materials and Manufacturing Collegiate Chair
Department of Aerospace and Mechanical Engineering
University of Notre Dame

Date: Monday, June 9, 2025 14:00-15:00
Venue: Faculty of Engineering Bldg. 2, Room 31A

Abstract:
In this talk, I will present our recent research breakthroughs on creating novel multi-materials additive manufacturing and autonomous hybrid manufacturing methods to manufacture and transform a broad range of emerging materials into advanced energy and sensing systems in a highly scalable and intelligent manner. I will present our recent research progress on several closely related topics. First, I will present our work on developing novel additive, hybrid and autonomous/smart manufacturing methods capable of printing and integrating a broad range of materials with precise control over both the structures and local compositions and properties. Second, I will talk about high-throughput discovery and development of high-efficiency and flexible thermoelectric materials and systems for energy harvesting and thermal management. Finally, I will introduce the high-throughput multi-materials printing and nonthermal processing of flexible/stretchable bioelectronics for continuous health monitoring of humans and plants.

Prof. Yanliang Zhang
University of Notre Dame

Bio:Yanliang Zhang is Professor and Advanced Materials and Manufacturing Collegiate Chair at University of Notre Dame. He received his Ph.D. in Mechanical Engineering from Rensselaer Polytechnic Institute in 2011, and his M.S. and B.S. from Southeast University in 2008 and 2005. His research focuses on multi-materials additive manufacturing, autonomous and hybrid manufacturing, sustainable energy and electronic systems, and wearable/implantable devices for precision and personalized health. He has received honors including NSF Career Award, Young Investigator Award from International Thermoelectric Society, IBM Fellowship award, and multiple best paper awards at international conferences. His lab has published papers in top journals including *Nature, Energy & Environmental Science, Chemical Society Review, Advanced Materials, etc.*

主催：
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