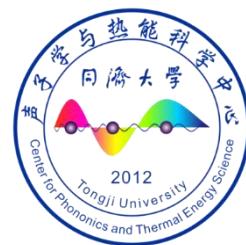




# 学术讲座



同济大学  
TONGJI UNIVERSITY



**报告人: Prof. Yanliang Zhang**

**Dept. of Aerospace and Mechanical Engineering**

**University of Notre Dame**

**Email: [yzhang45@nd.edu](mailto:yzhang45@nd.edu)**



**时间: 11月27日 (周一), 上午10:00-11:00**

**地点: 南校区第一实验楼423会议室**

## **Nano Engineering and Additive Manufacturing Towards Innovative Thermal and Energy Systems**

### **报告摘要:**

Nano engineering and additive manufacturing methods have led to many scientific and technology breakthroughs for thermal and energy related applications. This talk will discuss several topics. First, this talk will present fundamental study of thermal and thermoelectric transport properties in nanostructured materials fabricated using scalable nanomanufacturing methods, which have led to significant increases in thermoelectric figure of merit  $ZT$ . Second, this talk will discuss novel additive manufacturing and interface engineering methods to fabricate efficient and flexible thermoelectric devices using colloidal nanocrystals which resulted in unprecedented high power density and ultralow cost. Third, this talk will discuss design, modeling and manufacturing of high-performance nanostructured thermoelectric generator systems for waste heat recovery applications. Finally, this talk will present a novel scanning thermal probe method to map thermal and thermoelectric properties of nanostructured materials with high spatial resolution.

The above research breakthroughs are on track to create a sustainable and commercially viable technology for automotive, industrial, electronics, and personal energy harvesting and thermal management applications.

### **个人简介:**

Yanliang Zhang is an assistant professor and the Director of Advanced Manufacturing and Energy lab in the Department of Aerospace and Mechanical Engineering at University of Notre Dame. He received Ph.D. degree in Mechanical Engineering from Rensselaer Polytechnic Institute in 2011. He is a recipient of the prestigious U.S. National Science Foundation Career Award, an IBM Fellowship awardee, and multiple best paper awards at international conferences. Dr. Zhang's research has been sponsored by prestigious funding awards from U.S. Department of Energy and National Science Foundation, and he has directed several major multi-institutional research projects. Dr. Zhang's research work has been published on top scientific journals of high impact, including *Nature Materials*, *Science Advances*, *Advanced Materials*, *Nano Letters*, *Scientific Reports*, *Energy Conversion and Management*, *Applied Physics Letters*, etc.

[Prof. Zhang's lab has multiple openings for PhD students and postdocs. Interested students are highly encouraged to attend his talk and meet Prof. Zhang after his seminar.](#)



同濟大學  
TONGJI UNIVERSITY

[Prof. Zhang's lab has multiple openings for PhD students and postdocs. Interested students are highly encouraged to attend his talk and meet Prof. Zhang after his seminar.](#)

## **Multiple PhD student and postdoc openings at the University of Notre Dame in US**

The Advanced Manufacturing and Energy Lab directed by Prof. Yanliang Zhang **at the University of Notre Dame (a top 15 University in US)** have multiple fully-funded opening positions for PhD students and postdoc to work on cutting-edge research topics including nano engineering for thermal energy transport and conversion, additive manufacturing for functional materials and devices, and flexible and wearable sensor and energy harvesting devices. Interested students are highly encouraged to send resume to **Prof. Zhang by email ([yzhang45@nd.edu](mailto:yzhang45@nd.edu)) before November 20th. Prof. Zhang will visit Tongji University on Nov. 27th and give a seminar, and he can schedule meetings with interested applicants.**

The Advanced Manufacturing and Energy Lab (AMEL) focuses on cutting-edge research on additive- and nano- manufacturing, thermal science and energy conversion, and advanced energy and sensor technologies. We integrate an “Atomic to System Engineering” approach to close the gap between basic research and system applications in order to change the world we are living in. Prof. Zhang is a recipient of the prestigious career award from U.S. National Science Foundation. Prof. Zhang's research has been sponsored by competitive funding awards from U.S. Department of Energy and National Science Foundation, and he has directed several multi-institutional research projects with total funding exceeding \$10 million. Dr. Zhang's research work has been published on numerous scientific journals of high impact including Nature Materials, Science Advances, Advanced Materials, Nano Letters, Scientific Reports, Energy Conversion and Management, Applied Physics Letters, etc. More information about his research can be found from our lab website: <https://ame.nd.edu/zhanglab>.

Being a top-ranked research university in US, Notre Dame offers highest quality education and outstanding research opportunities. Notre Dame is located in the heart of the Midwest adjacent to several major cities (Chicago, Indianapolis, etc.), is surrounded by a dozen of other major research universities, national labs and high-tech companies.

