

Yanliang Zhang, Ph.D.

Professor

Advanced Materials and Manufacturing Collegiate Chair

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Brief Statement

Prof. Yanliang Zhang is a Full Professor and Advanced Materials and Manufacturing Collegiate Chair at University of Notre Dame. He has been active in thermoelectric community since 2008 and was elected as a board member of International Thermoelectric Society (ITS) in 2023. He has made significant contributions to thermoelectric field in creating novel additive manufacturing and scalable nanomanufacturing methods to produce high-performance, low-cost, and flexible thermoelectric materials and devices. He has successfully led multiple projects on large-scale industrial applications of thermoelectric technology in waste heat recovery, sustainable energy harvesting and cooling. He has served in several ITS award committees, and chaired many thermoelectric sessions.

Prof. Zhang has received honors including prestigious U.S. National Science Foundation Career Award, ITS Young Investigator Award, IBM Fellowship award, etc. His lab has published papers in top journals including *Nature, Energy & Environmental Science, Advanced Materials, Chemical Society Review,* etc.

Education

Ph.D.	Mechanical Engineering, Rensselaer Polytechnic Institute (RPI)	08/2008–12/2011
M.S.	Mechanical Engineering, Southeast University (SEU)	08/2005 – 03/2008
B.S.	Mechanical Engineering, Southeast University (SEU)	08/2001 – 07/2005

Professional Appointments

University of Notre Dame

Professor, Aerospace and Mechanical Engineering	07/2025 – Present
Advanced Materials and Manufacturing Collegiate Professorship	07/2023 – Present
Associate Professor, Aerospace and Mechanical Engineering	07/2020 – 06/2025
Assistant Professor, Aerospace and Mechanical Engineering	07/2017 – 06/2020

Boise State University

Assistant Professor, Mechanical and Biomedical Engineering Department,	02/2013 – 06/2017

GMZ Energy

Senior Engineer,	12/2011 – 1/2013

Awards and Honors

- Elected Board Member of International Thermoelectric Society 2023
- 2020 International Thermoelectric Society Young Investigator Award 2020

- NSF Career Award 2017
- 2019 Emerging Investigator– Journal of Materials Chemistry A 2019
- Best paper award in thermoelectric session in MRS Fall 2010 2010
- IBM Fellowship Award 2008 – 2010

Selected Journal Publications

[1] Md. Omarsany Bappy, Guoyue Xu, Kaidong Song, Qiang Jiang, Paribesh Acharyya, Berardo Matalucci, Allen Gray, Mercouri Kanatzidis, Tengfei Luo, and **Yanliang Zhang*,** Scalable, Low–Cost Ink–Based Processing of High–Performance Silver Selenide Thermoelectrics, ***Materials Horizons***, 2026

[2] K Song, J Zhou, C Wei, A Ponnuchamy, MO Bappy, Y Liao, Q Jiang, Y Du, C J Evans, B Wyatt, T O'Sullivan, R K Roeder, B Anasori, A J Hoffman, L Jin, X Duan, **Y. Zhang*,** A Printed Microscopic Universal Gradient Interface for Super Stretchable Strain–Insensitive Bioelectronics, ***Advanced Materials*****,** 2025

[3] A. N. M. Tanvir, M. O. Bappy, M. Zeng, W. Shang, K. Wang, K. Song, Y. Liu, E. Isotta, M. G. Kanatzidis, G. J. Snyder, A. W. Dowling, T. Luo, **Y. Zhang*,** High Performance Thermoelectric Composites via Scalable and Low–cost Ink Processing, ***Energy & Environmental Science,*** 2024

[4] M. Zeng, Y. Du, Qiang Jiang, N. Kempf, Chen Wei, M. Bimrose, A. N. M. Tanvir, J. Chen[+], D. Kirsch, J. B. Martin, B. C. Wyatt, T. Hayashi, M. Saeidi–Javash, [@] H. Sakaue, B. Anasori, Lihua Jin, M. D. McMurtrey, and **Y. Zhang*** High–throughput Printing of Combinatorial Materials from Aerosols, ***Nature***, 2023

[5] W Shang, M Zeng, ANM Tanvir, K Wang, A. W. Dowling, T. Luo, and **Y. Zhang*,** Hybrid Data-driven Discovery of High-performance Silver Selenide-based Thermoelectric Composites, ***Advanced Materials*****,** 2023

[6] M. Saeidi–Javash, K. Wang, M. Zeng, T. Luo, A. W. Dowling, and **Y. Zhang*** Machine Learning–Assisted Ultrafast Flash Sintering of High–Performance and Flexible Silver–Selenide Thermoelectric Devices, ***Energy & Environmental Science***, 2022

[7] M Zeng, D Zavanelli, J Chen, M Saeidi–Javash, Y Du, S LeBlanc, G J Snyder, and **Y Zhang***, Printing Thermoelectric Inks Toward Next-generation Energy and Thermal Devices, ***Chemical Society Reviews***, 2022

[8] T. Varghese[@], C. Dun[+], N. Kempf[@], M. Saeidi–Javash[@], J. Richardson[#], D. Estrada, **Y. Zhang***, Flexible Thermoelectric Devices of Ultrahigh Power Factor by Scalable Printing and Interface Engineering, ***Advanced Functional Materials***, 1905796, 2019.

[9] **Y. Zhang***, M. Cleary, X. Wang, N. Kempf[#], L. Schoensee[#], J. Yang, G. Joshi, L. Meda, High–Temperature and High–Power–Density Nanostructured Thermoelectric Generator for Automotive Waste Heat Recovery, ***Energy Conversion and Management***, 2015.

[10] R. J. Mehta, **Y. Zhang**, C. Karthik, B. Singh, R. W. Siegel, T. Borca–Tasciuc, G. Ramanath, A New Class of Doped Nanobulk High Figure of Merit Thermoelectrics by Scalable Bottom–Up Assembly, ***Nature Materials***, 11, 233, 2012.