

# Wenhua Yang, Ph.D.

## CURRICULUM VITAE

[wyang27@central.uh.edu](mailto:wyang27@central.uh.edu) • 662-370-9343  
Mechanical Engineering Department of Cullen  
College of Engineering of University of Houston

### EDUCATION

#### **Doctor of Philosophy in Mechanical Engineering**

Mississippi State University  
Starkville, MS – 2021

#### **Master of Science in Mechanical Engineering**

Mississippi State University  
Starkville, MS – 2018

#### **Bachelor of Science in Mechanical Engineering**

Jiangxi Agricultural University  
Nanchang, China – 2004

### EMPLOYMENT

- 2023-Present **Lecturer**, Department of Mechanical Engineering, Cullen College of Engineering, University of Houston
- 2021-2023 Post-doctoral Research Fellow, Department of Mechanical Engineering, College of Engineering and Computer Science, University of Michigan-Dearborn
- 2021-2021 Instructor of the course of Thermodynamics I and Heat Transfer, Mechanical Engineering Department, James Worth Bagley College of Engineering, Mississippi State University
- 2012-2016 Program manager, Department of Quality Engineering, DENSO (China) Investment Shanghai technical center, Shanghai, China
- 2009-2012 Senior assistant manager, Department of Quality Engineering, DENSO (China) Investment Shanghai technical center, Shanghai, China
- 2007-2009 Quality Engineer, Department of Quality Engineering, DENSO (China) Investment Shanghai technical center, Shanghai, China
- 2005-2007 Global Sourcing Engineer, Sourcing Department, Mahindra (China) Tractor Co., LTD, Nanchang, Jiangxi, China
- 2004-2005 Assistant of Ford Director, Department of Research and Development, Jangling Motor Co., Ltd, Nanchang, Jiangxi, China

2002-2002 Physics Teacher, Mechanical Engineering Department, Institute of Mechatronic Technology, Nanchang, Jiangxi, China

## TEACHING AND MENTORSHIP EXPERIENCES

### Courses Taught

#### Mississippi State University, Starkville, MS

Spring 2021 ME 3513–Thermodynamics I Evaluation score 4.1

Summer 2021 ME 3313–Heat Transfer I Evaluation score 4.3

#### University of Houston, Houston, TX

Fall 2023 MECE 3363–Introduction to Fluid mechanics

Fall 2023 MECE 3345–Material Science

Spring 2024 MECE 2334–Thermodynamics

Spring 2024 MECE 3336–Mechanics II

Spring 2024 MECE 3338– Dynamics & Control of Mechanical system

### Students Mentored

#### Mississippi State University, Starkville, MS

- Allen Perkins, Undergraduate Student of Mechanical Engineering Department, Mississippi State University, “Internal State Variable Plasticity-Damage Model”, February 2019.
- Chaimae Jouhari, Graduate Student of Mechanical Engineering Department, Mississippi State University, “Grain Growth Model Using Phase Field Method”, January 2021.

## AWARDS AND HONORS

2021 Summer 2021 Bagley College of Engineering Bridge Assistantship, Mississippi State University

2020 2020 ASME-CIE Hackathon: Identifying, Extracting, Analyzing Value from Large Unstructured Data Sets in Mechanical Engineering, Virtually November 14 – 15, 2020, **First Place**

2018 Fall 2018 Bagley College of Engineering Bridge Assistantship, Mississippi State University

2018 Finalist for the best paper in ASME Manufacturing Science and Engineering

	Conference (MSEC, 2018)
2002	First prize winner of English Speech Contest, Jiangxi Agricultural University
2001	Second Place Scholarship, Jiangxi Agricultural University

## PUBLICATIONS

### Published or Accepted

1. Xuan Song, Li He, **Wenhua Yang**, Lei Chen, “Additive Manufacturing of Bi-Continuous Piezocomposites with Triply Periodic Phase Interfaces for Combined Flexibility and Piezoelectricity”, *Journal of Manufacturing Science and Engineering*, Nov 2019, 141(11): 111004 (12 pages).
2. Zhuo Wang, Chen Jiang, Pengwei Liu, **Wenhua Yang**, Lei Chen, “Uncertainty Quantification and Reduction in Metal Additive Manufacturing”, *NPJ Computational Materials*, Nov 2020, vol. 6, no. 1, p. 175, (10 pages).
3. Yaohong Xiao, Matt Cagle, Shiraz Mujahid, Pengwei Liu, Zhuo Wang, **Wenhua Yang**, Lei Chen, “A Gleeble-assisted study of phase evolution of Ti-6Al-4V induced by thermal cycles during additive manufacturing”, *Journal of Alloys and Compounds*, 2021, vol. 860, p. 158409, (12 pages).
4. **Wenhua Yang**, Zhuo Wang, Tiannan Yang, Li He, Xuan Song, Yucheng Liu, and Lei Chen, “Exploration of the Underlying Space in Microscopic Images via Deep Learning for Additively Manufactured Piezoceramics”, *ACS Applied Materials & Interfaces* 2021 13 (45), 53439-53453
5. Zhuo Wang, **Wenhua Yang**, Lei Chen, “Data-driven modeling of process, structure and property in additive manufacturing: a review and future directions”, *Journal of Manufacturing Processes Volume 77, 2022, Pages 13-31*
6. Zhuo Wang, **Wenhua Yang**, Lei Chen, “Multi-input Convolutional Network for Ultrafast Simulation of Field Evolvment”, *Patterns* (2022)
7. Zhuo Wang, Xiao Wang, **Wenhua Yang**, Lei Chen, “yNet: a multi-input convolutional network for ultra-fast simulation of field evolvment”, arXiv:2012.10575, (9 pages).
8. **Wenhua Yang**, Xinxin Yao, Zhuo Wang, “Time-dependent Deep Learning Predictions of 3D Electrode Particle-resolved Microstructure Effect on Voltage Discharge Curves”, *Journal of Power Sources Volume 579, 2023, Pages 233087*.

### Peer Reviewed Conference and Technical Papers

1. Li He, Zhuo Wang, **Wenhua Yang**, Lei Chen, and Xuan Song, “Investigation on a New Stereolithography-based Process for the Fabrication of Complex Ceramic Components without Building Support Structures” North American Manufacturing Research Conference, University of Southern California, Los Angeles, June 4-8, 2017.
2. Xuan Song, Li He, **Wenhua Yang**, Zhuo Wang, “Co-continuous piezocomposites with triply periodic phase interfaces for enhanced mechanical flexibility and piezoelectricity”, MSEC2018-6704, 13th Manufacturing Science and Engineering Conference, 2018.
3. Allen Perkins, **Wenhua Yang**, “Finite Element Analysis of the Effect of Porosity on the Plasticity and Damage Behavior of Mg AZ31 and Al 6061 T651 Alloys”, paper no. IMECE 2019-10672, Proceedings of ASME 2019 International Mechanical Engineering Congress & Exposition, Salt Lake City, UT, USA, November 11 – 14, 2019.

4. Li He, **Wenhua Yang**, “Additive manufacturing of flexible 3-3 ferroelectric ceramic/polymer composite based on triply periodic cellular micro-skeleton”, 2019 Annual International Solid Freeform Fabrication Symposium.
5. **Wenhua Yang**, Zhuo Wang, “An Integrated Model for Prediction of Process-Structure-Property Relationship for Additively Manufactured Al-10Si-Mg Alloy” , SAE Technical Paper 2020-01-1075, Proceedings of SAE 2020 World Congress Experience, Detroit, MI, USA, April 21 – 23, 2020.

### **Posters**

1. Zhuo Wang, **Wenhua Yang**, “Additive manufacturing of triply periodic co-continuous piezocomposites for enhanced piezoelectricity”, 2018 ASME IMECE, David L. Lawrence Convention Center, Pittsburgh, PA, November 13, 2018.
2. **Wenhua Yang**, Yucheng Liu, Li He, Tiannan Yang, Zhuo Wang, Xuan Song, “Microstructural Effects on the Effective Piezoelectric Responses of Additively Manufactured Triply Periodic Co-Continuous Piezocomposite”, NSF Mechanics of Materials and Structures (MOMS) Grantees’ Meeting, Washington University in St. Louis, St. Louis, MO, October 13, 2019.
3. Caleb Yenusah, Yucheng Liu, **Wenhua Yang**, Mark F. Horstemeyer, and Lei Chen, “Investigation of Precipitation of  $\gamma$ ” in Inconel 625 at Non-Equilibrium Thermal Conditions during Additive Manufacturing”, NSF Mechanics of Materials and Structures (MOMS) Grantees’ Meeting, Washington University in St. Louis, St. Louis, MO, October 13, 2019.

### **Dissertation**

1. **Wenhua Yang**, “A data-driven approach for the investigation of microstructural effects on the effective piezoelectric responses of additively manufactured triply periodic bi-continuous piezocomposite”, Mississippi State University, Starkville, MS, USA, 2021.

### **Seminars and Conference Presentations**

1. “Microstructure Design of Flexible Piezoelectric Ceramic Composites”, Presentation at Center for Advanced Vehicular Systems, Mississippi State University, Starkville, MS, USA, October 31, 2017.
2. “Finite Element Analysis of the Effect of Porosity on the Plasticity and Damage Behavior of Mg AZ31 and Al 6061 T651 Alloys”, Presentation at ASME International Mechanical Engineering Congress and Exposition, 2019.