**Yong Huang,** Professor, Mechanical and Aerospace Eng., Biomedical Eng., and Materials Sci. and Eng.
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## EDUCATION

| | | | |
|---|---|---|---|
| Ph.D. | Mechanical Engineering | Georgia Institute of Technology, Atlanta, GA | 2002 |
| M.S. | Electrical & Computer Engineering | Georgia Institute of Technology, Atlanta, GA | 2002 |
| M.S. | Mechanical Engineering | University of Alabama, Tuscaloosa, AL | 1999 |
| M.S. | Mechanical Engineering | Zhejiang University, Hangzhou, China | 1996 |
| B.S. | Mechatronics Engineering | Xidian University, Xi'an, China | 1993 |

**RESEARCH SUMMARY:** Processing of biological and engineering materials for healthcare/energy applications and understanding of dynamic material behavior and process-induced damage/defect structures

1. Advanced Tissue Fabrication
   - *1-1 Biofabrication using modified laser-induced forward transfer and nozzle jetting/extrusion*
   - *1-2 Biophysical modeling of fabrication-induced cell injury and engineered construct performance*
   - *1-3 Functional microsphere/microcapsule/nanoparticle fabrication*
2. Precision Engineering/Machining
   - *2-1 Precision engineering/machining of medical implants*
   - *2-2 Modeling of process-induced variation of material microstructure and performance*
3. Intelligent and Green Manufacturing
   - *3-1 Process monitoring and environmentally conscious manufacturing*
   - *3-2 Energy manufacturing using bioelectrochemical system*

For all the above topics, the research team seamlessly integrates the expertise in analytical, computational, and experimental trainings from various science and engineering fields.

## FIVE RECENT REPRESENTATIVE PUBLICATIONS


- Jin, Y., Compaan, A., Chai, W., and **Huang, Y.**, "Functional Nanoclay Suspension for Printing-then-Solidification of Liquid Materials," *ACS Applied Materials & Interfaces*, Vol. 9(23), pp. 20057–20066, 2017.
- Jin, Y., Liu, C., Chai, W., Compaan, A., and **Huang, Y.**, "Self-Supporting Nanoclay as Internal Scaffold Material for Direct Printing of Soft Hydrogel Composite Structures in Air," *ACS Applied Materials & Interfaces*, Vol. 9(20), pp. 17456–17465, 2017.
- Xu, C., Zhang, Z., Fu, J., and **Huang, Y.**, "Study of Pinch-Off Locations during Drop-on-Demand Inkjet Printing of Viscoelastic Alginate Solutions," *Langmuir*, Vol. 33 (20), pp. 5037–5045, 2017.
- Xiong, R., Zhang, Z., Chai, W., **Huang, Y.**, and Chrisey, D.B., "Freeform Drop-on-Demand Laser Printing of 3D Alginate and Cellular Constructs," *Biofabrication*, Vol. 7(4), pp. 045011-1-13, 2015.
- Christensen, K., Xu, C., Chai, W., Zhang, Z., Fu, J., and Huang, Y., "Freeform Inkjet Printing of Cellular Structures with Bifurcations," *Biotechnology and Bioengineering*, Vol. 112(5), pp. 1047-1055, 2015.


## LEADERSHIP IN RESEARCH SOCIETIES

- Technical Program Chair of 2010 ASME Int. Manufacturing Science and Engineering Conference (MSEC) and 2012 Int. Symposium on Flexible Automation (ISFA)
- Associate Editor for ASME Journal of Manufacturing Science and Engineering (JMSE) and other three journals

## MAIN HONORS AND AWARDS

- ASME Fellow, 2011
- ASME International Symposium on Flexible Automation Outstanding Young Investigator Award, 2008
- NSF CAREER Award, 2008
- SME Branimir F. von Turkovich Outstanding Young Manufacturing Engineer Award, 2006
- ASME Blackall Machine Tool and Gage Award (for the best paper in manufacturing), 2005