

# CURRICULUM VITAE

## Xiao Zhang

Ph.D. student, Flexible Electronics and Additive Printing (FEAP) Laboratory, In-situ Characterization for Additive Printing (iCAP) Laboratory, Department of Industrial and Manufacturing Systems, Iowa State University

1117 Black Engineering Building  
2529 Union Drive  
Ames, IA, 50010-2030

email: xiao1@iastate.edu

---

## RESEARCH INTERESTS & AREAS OF EXPERTISE

Hybrid additive manufacturing and prototyping  
Electrohydrodynamic Ink-Jet Printing of micro/nano flexible electronics  
Laser diffraction technique; laser ablation technique  
Bio-printing, food printing, and concrete printing

## EDUCATION

---

**Ph.D. in Department of Industrial and Manufacturing Systems**, Expected Graduation Time 2021  
Iowa State University; Ames, Iowa

**Ph.D. in Mechanical and Aerospace Engineering**, 2016 – 2018  
North Carolina State University; Raleigh, North Carolina

**M.S. in Department of Material Science and Engineering**, 2012–2015  
Wuhan University of Technology; Wuhan, China

**B.A. in Department of Material Science and Engineering**, 2008–2012  
Wuhan University of Technology; Wuhan, China

**B.A. in Business Administration**, 2009–2012  
Wuhan University; Wuhan, China

## RESEARCH EXPERIENCE

---

**Graduate Research Assistant**, December 2017 - present  
Department of Industrial and Manufacturing Systems; Iowa State University  
*Fabricate flexible electronics by electrohydrodynamic jet printing technique combined with laser ablation*

Department of Food Science and Human Nutrition; Iowa State University  
*Print food for patients in hospital using 3D printer*

Center for Nondestructive Evaluation; Iowa State University  
*Conduct in-situ characterization for additive printing*

## TEACHING EXPERIENCE

---

**Graduate Student Mentor**, Summer 2019  
Summer Program for Interdisciplinary Research and Education – Emerging Interface Technologies (SPIRE-EIT)  
**Teaching Assistant**, Spring Semester 2018  
Engineering Fundamentals & Problem Solving; Iowa State University

## WORK EXPERIENCE

---

**Equipment Engineer**, March 2013 – September 2013

Semiconductor Manufacturing Incorporation (SMIC); Shanghai

*Packing and testing wafer, maintain PVD, CVD, photoresist coater/decoater machine, develop recipe*

## HONORS & AWARDS

---

**NSF Award Winner** of the 47th North American Manufacturing Research Conference, April 2019

**NSF Award Winner** of 2018 Annual International Solid Freeform Fabrication Symposium, August 2018

## PUBLICATIONS

- 
1. “Machine vision assisted micro-filament detection for real-time monitoring of electrohydrodynamic inkjet printing”, published, Procedia Manufacturing Journal & International Conference in Flexible in Flexible Automation and Intelligent Manufacturing Conference 2018, Ohio State University; June 2018
  2. “3D Printing and characterization of hydroxypropyl methylcellulose and methylcellulose for biodegradable support structures”, published, Polymer, April 2019
  3. “Laser Ablation of Polymers: A Review”, published, Polymer International, May 2019
  4. “In-situ monitoring of electrohydrodynamic inkjet printing via scalar diffraction for printed droplets”, submitted, Journal of Manufacturing Systems, April 2019
  5. “Evaluation of Cement Paste Containing Recycled Stainless Steel Powder for Sustainable Additive Manufacturing Construction & Building Materials”, Submitted, Journal of Construction & Building Materials, April, 2019
  6. “Correlation Approach for 3D Surface Measurement Data of Additive Manufacturing Parts Based On Optical Metrology”, Submitted, Journal of Manufacturing Science and Engineering, April 2019
  7. “X-ray characterization of functional silver microstructures via electrohydrodynamic inkjet printing”, Submitted, Journal of Materials Processing Technology, June 2019

## PRESENTATIONS & CONFERENCES

- 
1. IISE 2019/IISE Annual Conference and Expo. Rosen Shingle Creek Hotel, orlando, Florida; May 2018
  2. “Machin Vision Assisted Micro-Filament Detection for Real-Time Monitoring of Electrohydrodynamic Inkjet printing”, International Conference in Flexible Automation and Intelligent Manufacturing 2018 conference. Columbus, Ohio; June 2018.
  3. IISE 2018/IISE Annual Conference and Expo. Loews royal resort, Orlando, Florida; May 2018.
  4. ASME 2018/MSEC Manufacturing Science and Engineering Conference. Texas A&M University, TX; June 2018
  5. SFF 2018/2018 Annual International Solid Freeform Fabrication Symposium. Hilton hotel, Austin, Texas; August 2018
  6. Munich Shanghai Electronic Components Expo. Shanghai, China; March 2013
  7. Advanced Engineering Symposium. Wuhan, China; December 2011

## SERVICE

---

Reviewed articles for: The American Society of Mechanical Engineers

## MEMBERSHIP

---

IEEE Member (March 2018-present); ASME Member(March 2018- present); IISE Member (January 2019-present); SME Member (March 2018-present); ASNT Member (June 2019-present)