

# 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

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## RESEARCH INTERESTS & AREAS OF EXPERTISE

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Electrohydrodynamic Jet Printing for fabricating micro/nano flexible electronics  
In-situ Image processing and close-loop control process  
Laser diffraction and laser ablation manufacturing technique  
Bio-printing and Food printing manufacturing  
Large Scale Integrated Circuit manufacturing

## EDUCATION

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**Ph.D. in Department of Industrial and Manufacturing Systems**, in progress  
Iowa State University; Ames, Iowa

**Ph.D. in Mechanical and Aerospace Engineering**, December 2017  
North Carolina State University; Raleigh, North Carolina

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

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

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

## RESEARCH EXPERIENCE

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

**Graduate Research Assistant**, March 2018 - present  
Department of Food Science and Human Nutrition; Iowa State University  
*Food printing for patients in hospitals*

**Graduate Research Assistant**, December 2017 - present  
Center for Nondestructive Evaluation; Iowa State University  
*In-situ characterization for additive printing*

**Graduate Research Assistant**, October 2016 – March 2017  
Department of Biological and Agricultural Engineering; North Carolina State University  
*Air quality evaluation, data processing for modeling and simulation*

**Graduate Research Assistant**, September 2013 – June 2015  
Department of Material Science and Engineering; Wuhan University of Technology

*Helical gear deformation technique and optimization for the mold*

**Graduate Research Assistant**, September 2013 – June 2015

Department of Automotive Engineering; Wuhan University of Technology

*Fine blanking deformation technique including the machine, process, material.*

**Graduate Research Assistant**, September 2013 – June 2015

Department of Material Science and Engineering; Wuhan University of Technology

*National Natural Science Foundation of China project “Helical cylindrical gear precision forming mechanism and technology research” (project number: Project Number: 51375356).*

## TEACHING EXPERIENCE

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**Teaching Assistant**, January 2018 – Present

Eng160F; Iowa State University

**Tutor For Undergraduate Research**, December 2013 – June 2014

Department of Material Science and Engineering; Wuhan University of Technology

## WORK EXPERIENCE

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

Semiconductor Manufacturing Incorporation (SMIC); Shanghai

*Wafer package and testing, PVD, CVD, photoresist coater/decoater machine maintenance, recipe development*

## HONORS & AWARDS

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National Scholarship, Wuhan University of Technology, 2013–2014

University Scholarship, Wuhan University of Technology, 2009–2011

## PUBLICATIONS & REPORTS

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1. “Machine vision assisted micro-filament detection for real-time monitoring of electrohydrodynamic inkjet printing”, in process, FAIM2018, Ohio State University; June 2018.

## PRESENTATIONS

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1. “MICRO-FILAMENT DETECTION OF ELECTROHYDRODYNAMIC JET PRINTING”, Industry/University Research Center Semi-Annual Review. Ames, Iowa; April 2018.
2. “Application of 3D Printing to Food Preparation at Ames Hospitals”, poster competition, Center for Crops Utilization Research BioCentury Research Farm. Ames, Iowa; April 2018.
3. “Model Reconstruction in Additive Printing: A New Approach for in-situ Monitoring and Nondestructive Evaluation of Printed Constructs”, Industry/University Research Center Semi-Annual Review. Ames, Iowa; April 2018.

4. "Machine vision assisted micro-filament detection for real-time monitoring of electrohydrodynamic inkjet printing, Rahul in process", FAIM2018 conference. Columbus, Ohio; June 2018.

## OTHER MEETINGS & WORKSHOPS

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1. ASME 2018/MSEC Manufacturing Science and Engineering Conference. Texas A&M University, TX; June 2018
2. Industry/University Research Center Semi-Annual Review. Ames, Iowa; April 2018
3. The 15<sup>th</sup> Shanghai International Automobile Industry Exhibition. Wuhan, China; April 2013
4. Munich Shanghai Electronic Components Expo. Shanghai, China; March 2013
5. Advanced Engineering Symposium. Wuhan, China; December 2011

## SERVICE

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Reviewed articles for:

*The American Society of Mechanical Engineers*

Vice president of Information and Cyber Association, Wuhan University of Technology

*August 2009- May 2012*

## MEMBERSHIP

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IEEE Member; March 2018 - present

ASME Member, March 2018 - present

## OTHER SKILLS

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VBA, Python, MATLAB, SOLIDWORKS, ANSYS, DEFORM, PROE, ORIGIN