

# CURRICULUM VITAE

## YAYUE PAN, PH.D.

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Updated: October 2022

### **EDUCATION**

**Ph.D. in Industrial and Systems Engineering**, University of Southern California, 2014.  
Dissertation: *Energy Control and Material Deposition Methods for Fast Fabrication with High Surface Quality in Additive Manufacturing using Photo-polymerization*  
Dissertation Advisor: Dr. Yong Chen

**M.S. in Mechanical Engineering**, Zhejiang University, China, 2010.  
Thesis: *Development of Computational Methods for Manufacturing Process Optimization of Beverage Bottles*  
Advisor: Dr. Xiaohong Pan

**B.S. in Industrial Engineering**, Zhejiang University of Technology, China, 2007.

### **PROFESSIONAL EXPERIENCE**

08/2020~ present: Associate Professor, Department of Mechanical and Industrial Engineering,  
University of Illinois at Chicago.

08/2014~ 07/2020: Assistant Professor, Department of Mechanical and Industrial Engineering,  
University of Illinois at Chicago.

### **AWARDS AND HONORS**

2020: **Technical Committee Leadership Award**, ASME Computers & Information in Engineering Division (CIE).

2019: **Outstanding Teaching Award**, College of Engineering, University of Illinois at Chicago.

2018: **Invited Panelist**, “*Research Professions in Academia, Industry & National Laboratories: An Early Career Forum*”, organized by ASME/MED and NAMRI/SME, sponsored by U.S. National Science Foundation and Department of Engineering Professional Development at the University of Wisconsin-Madison.

2017: **Outstanding Young Manufacturing Engineer Award**, Society of Manufacturing Engineers (SME).

2017: **Outstanding Research Award**, College of Engineering, University of Illinois at Chicago.

2017: **Invited Speaker**, Workshop: Accelerating NSF Research in Additive Manufacturing Towards Industrial Applications, University of Pittsburgh, Pittsburgh, PA, Aug.17-18, 2017.

2017: **Best Poster Award**, ASME 2017 Computers and Information in Engineering Conference (CIE 2017), Cleveland, Ohio, Aug. 6-9, 2017.

2013: **Outstanding Paper Award**, SME 41st North American Manufacturing Research Conference (NAMRC), Madison, WI, June 2013.

2013: **Honorable Mention Paper Award**, 8th International Conference on MicroManufacturing (ICOMM 2013), Victoria, BC, Canada, March 2013.

2013: **NSF Fellowship** for NSF Summer Institute on Nanomechanics, Nanomaterials, and Micro/Nanomanufacturing, Evanston, IL, May 29-31, 2013.

2012: **Best Paper Award**, ASME 2012 Manufacturing Science and Engineering Conference (MSEC2012), Notre Dame, IN, June 2012.

### **AWARDS AND HONORS PHD ADVISEES RECEIVED**

- 2022: Ms. Ketki M. Lichade received the **Faydor Litvin Honor Award** (\$1500 honorarium) from UIC Department of Mechanical and Industrial Engineering.
- 2022: Ms. Ketki M. Lichade received the **Deiss/Award for Graduate Research** from UIC Graduate College (\$5000 seed grant).
- 2022: Dr. Yizhou Jiang, who graduated from Pan lab in 2021, joined the Aerospace Engineering Department at **Embry-Riddle Aeronautical University** as an Assistant Professor starting from August 2022.
- 2021: Dr. Erina Joyee received **Outstanding Thesis/Dissertation Award** from the UIC Graduate College for the dissertation entitled “Magnetic Field-assisted Stereolithography for Productions of Multi-material Objects with Surface Structures.”
- 2021: Dr. Erina B. Joyee completed Ph.D. defense in May 2021 and joined the Mechanical Engineering and Engineering Science Department at the **University of North Carolina at Charlotte** as an Assistant Professor starting from August 2021.
- 2021: Ms. Erina Joyee received 2020-21 **COE Graduate Student Award for Exceptional Research Promise** (\$500 cash prize) from College of Engineering of University of Illinois at Chicago.
- 2019: Ms. Erina Joyee received the **Provost Graduate Research Award** from UIC Graduate College (\$5000 seed grant).
- 2015: Ms. Lu Lu received the **Faydor Litvin Graduate Award** (\$1500 honorarium) from UIC Department of Mechanical and Industrial Engineering.

## **RESEARCH**

### **RESEARCH INTERESTS**

- Polymer additive manufacturing system: equipment, process, sustainability, lifecycle, etc.
- Multi-material additive manufacturing for productions of composite or multi-material objects with material heterogeneity and highly-integrated functions.
- Multi-scale additive manufacturing for productions of objects with hierarchical surface structures.

## **RESEARCH INTERESTS (CONTINUED)**

- Applications of additive manufacturing techniques in fields of biomedical devices, soft robotics, biomimicry, electronics, energy management, and energy storage.
- New interests to explore in future 3 years: additive manufacturing of recycled/recyclable materials, additive manufacturing of biodegradable materials.

## **PUBLICATIONS:**

**Citation:** 2502 (all), 2315 (since 2017).

**H-index:** 28 (all), 26 (since 2017).

**i10-index:** 49 (all), 49 (since 2017).

### **Refereed Journal Publications (IF: Impact Factor of the journal in the publication year):**

#### **2022:**

69. "Fast and Simple Fabrication of Multimaterial Hierarchical Surfaces using Acoustic Assembly Photopolymerization (AAP)." *Advanced Materials Interfaces* (IF: 6.389), *in press*.
68. Plog, J., Wang, X., Lichade, K., Yarin, A.L., and Pan, Y., "3D Printing of Highly Conductive PEDOT:PSS-Based Polymers." *Journal of Manufacturing Science and Engineering* (IF 3.952), pp.1-25.
67. Djalilian, A.R., Yazdanpanah, G., Shen, X., Nguyen, T.T., Anwar, K., Jeon, O., Jiang, Y., Pachenari, M., Pan, Y., Shokuhfar, T. and Rosenblatt, M., 2022. In-Situ Repair of Corneal Stroma using A Light-Curable Hydrogel from Porcine Corneal Extracellular Matrix. *Investigative Ophthalmology & Visual Science* (IF 4.799), 63(7), pp.2639-2639.
66. Shahriar, M., Lui, Y.H., Zhang, B., Lichade, K., Pan, Y. and Hu, S., 2022. Acoustic Tweezer-Modulated Biomimetic Patterned Particle-Polymer Composite for Water Vapor Harvesting. *ACS Applied Materials & Interfaces* (IF: 9.229) <https://doi.org/10.1021/acsami.2c09280>
65. Lichade, K.M. and Pan, Y., 2022. 3D Printing of Anisotropic Multimaterial Structures using Acoustic Streaming-assisted Two-Photon Polymerization. *Manufacturing Letters*, 33, pp.644-655.
64. Plog, J., Wang, X., Pan, Y. and Yarin, A.L., 2022. Electrostatically-assisted direct ink writing with superior speed and resolution. *Journal of Manufacturing Processes* (IF: 5.010), 76, pp.752-757.
63. Rasul, M.G., Cheng, M., Jiang, Y., Pan, Y. and Shahbazian-Yassar, R., 2022. Direct Ink Printing of PVdF Composite Polymer Electrolytes with Aligned BN Nanosheets for Lithium-Metal Batteries. *ACS Nanoscience Au* (if:15.881). 2022. DOI: 10.1021/acsnanoscienceau.1c00056
62. Safaee, S., Schock, M., Joyee, E.B., Pan, Y. and Chen, R.K., 2022. Field-assisted additive manufacturing of polymeric composites. *Additive Manufacturing* (IF:10.998), 51, p.102642.
61. Yazdanpanah, G., Shen, X., Nguyen, T., Anwar, K.N., Jeon, O., Jiang, Y., Pachenari, M., Pan, Y., Shokuhfar, T., Rosenblatt, M.I. and Alsberg, E., 2022. A Light-Curable and Tunable Extracellular Matrix Hydrogel for In Situ Suture-Free Corneal Repair. *Advanced Functional Materials* (IF:18.808), p.2113383.

60. Lichade, K.M., Hu, S. and Pan, Y., 2022. Two-photon polymerization of anisotropic composites using acoustic streaming. *Manufacturing Letters*, 31, pp.110-115.

2021:

59. Cheng, M., Ramasubramanian, A., Rasul, M.G., Jiang, Y., Yuan, Y., Foroozan, T., Deivanayagam, R., Tamadoni Saray, M., Rojaee, R., Song, B., Yurkiv, V.R., Pan, Y., Mashayek, F., and Yassar, R., 2021. Direct Ink Writing of Polymer Composite Electrolytes with Enhanced Thermal Conductivities. *Advanced Functional Materials (IF:16.836)*, 31(4), p.2006683.
58. Lichade, K.M. and Pan, Y., 2021. Acoustic Field-Assisted Two-Photon Polymerization Process. *Journal of Manufacturing Science and Engineering (IF: 2.875)*, 143(10), p.104501.
57. Jiang, Y., Wang, X., Plog, J., Yarin, A.L. and Pan, Y., 2021. Electrowetting-assisted direct ink writing for low-viscosity liquids. *Journal of Manufacturing Processes (IF: 4.086)*, 69, pp.173-180.
56. Joyee, E.B., Huang, J., Lichade, K.M. and Pan, Y., 2021. Multi-material distribution planning for additive manufacturing of biomimetic structures. *Rapid Prototyping Journal (IF: 3.095)*. <https://doi.org/10.1108/RPJ-08-2020-0202>
55. Yazdanpanah, G., Jiang, Y., Rabiee, B., Omid, M., Rosenblatt, M.I., Shokuhfar, T., Pan, Y., Naba, A. and Djalilian, A.R., 2021. Fabrication, Rheological, and Compositional Characterization of Thermoresponsive Hydrogel from Cornea. *Tissue Engineering Part C: Methods (IF: 2.608)*, 27(5), pp.307-321.
54. Guidetti, M., Zampini, M.A., Jiang, Y., Gambacorta, C., Smejkal, J.P., Crutison, J., Pan, Y., Klatt, D. and Royston, T.J., 2021. Axially-and torsionally-polarized radially converging shear wave MRE in an anisotropic phantom made via Embedded Direct Ink Writing. *Journal of the Mechanical Behavior of Biomedical Materials (IF: 3.372)*, 119, p.104483.
53. Yazdanpanah, G., Jiang, Y., Jabbehdari, S., Anwar, K., Shen, X., An, S., Jalilian, E., Omid, M., Rosenblatt, M., Shokuhfar, T. Pan, Y., Naba, A., and Djalilian, A.R., 2021. Rheological and Proteomics Characterization of Thermoresponsive Hydrogel from Porcine Cornea Extracellular Matrix for Corneal Tissue Engineering Purposes. *Investigative Ophthalmology & Visual Science (IF: 3.812)*, 62(8), pp.872-872.
52. Lichade, K.M., Joyee, E.B. and Pan, Y., 2021. Gradient light video projection-based stereolithography for continuous production of solid objects. *Journal of Manufacturing Processes (IF: 4.086)*, 65, pp.20-29.
51. Plog, J., Jiang, Y., Pan, Y. and Yarin, A.L., 2021. Coalescence of sessile droplets driven by electric field in the jetting-based 3D printing framework. *Experiments in Fluids (IF: 2.335)*, 62(3), pp.1-9.
50. Lichade, K., Jiang, Y. and Pan, Y., 2021. Hierarchical Nano/Micro-structured Surfaces with High Surface Area/Volume Ratios. *Journal of Manufacturing Science and Engineering (IF: 2.875)*, pp.1-36.
49. Lichade, K.M., Hu, S., and Pan, Y., 2021. Two-photon polymerization of anisotropic composites using acoustic streaming. *Manufacturing Letters*, <https://doi.org/10.1016/j.mfglet.2021.09.001>.

## 2020:

48. Joyee, E.B., Szmelter, A., Eddington, D. and Pan, Y., 2020. 3D Printed Biomimetic Soft Robot with Multimodal Locomotion and Multifunctionality. *Soft Robotics (IF:6.160)*, <http://doi.org/10.1089/soro.2020.0004>
47. Joyee, E.B., Szmelter, A., Eddington, D.T. and Pan, Y., 2020. Magnetic-field-assisted Stereolithography for Productions of Multimaterial Hierarchical Surface Structures. *ACS Applied Materials & Interfaces (IF:8.758)*, 12 (37), 42357-42368, DOI: 10.1021/acsami.0c11693.
46. Plog, J., Jiang, Y., Pan, Y. and Yarin, A.L., 2020. Electrostatically-Assisted Direct Ink Writing for Additive Manufacturing. *Additive Manufacturing (IF: 7.002)*, 39, p.101644.
45. Rojaee, R., Cavallo, S., Mogurampelly, S., Wheatle, B.K., Yurkiv, V., Deivanayagam, R., Foroozan, T., Rasul, M.G., Sharifi-Asl, S., Phakatkar, A.H. Cheng, M., Son, S.B., Pan, Y., Mashayek, F., Ganesan, V., and Shahbazian-Yassar, R., 2020. Highly-Cyclable Room-Temperature Phosphorene Polymer Electrolyte Composites for Li Metal Batteries. *Advanced Functional Materials (IF:16.836)*, p.1910749.
44. Plog, J., Jiang, Y., Pan, Y. and Yarin, A.L., 2020. Electrostatic charging and deflection of droplets for drop-on-demand 3D printing within confinements. *Additive Manufacturing (IF: 7.002)*, 36, p.101400.
43. Jiang, Y., Yarin, A.L. and Pan, Y., 2020. Printable highly transparent natural fiber composites. *Materials Letters (IF: 3.019)*, 277, p.128290.
42. Joyee, E.B. and Pan, Y., 2020. Additive manufacturing of multi-material soft robot for on-demand drug delivery applications. *Journal of Manufacturing Processes (IF:4.086)*, 56, pp.1178-1184.
41. Nofal, M., Al-Hallaj, S. and Pan, Y., 2020. Thermal management of lithium-ion battery cells using 3D printed phase change composites. *Applied Thermal Engineering (IF: 4.026)*, p.115126.
40. Jiang, Y., Wang, Y., Lichade, K., He, H., Feinerman, A. and Pan, Y., 2020. Textured Window Design for Continuous Projection Stereolithography Process. *Manufacturing Letters (IF: 5.533)*, 24, pp.87-91.
39. Jiang, Y., Plog, J., Yarin, A.L. and Pan, Y., 2020. Direct ink writing of surface-modified flax elastomer composites. *Composites Part B: Engineering (IF:7.635)*, p.108061.
38. Jiang, Y., Wang, Y., He, H., Feinerman, A. and Pan, Y., 2020. Constrained Window Design in Projection Stereolithography for Continuous Three-Dimensional Printing. *3D Printing and Additive Manufacturing (IF: 3.579)*, 7(4), pp.163-169.

## 2019:

37. Joyee, E.B., Lu, L. and Pan, Y., 2019. Analysis of mechanical behavior of 3D printed heterogeneous particle-polymer composites. *Composites Part B: Engineering (IF:6.864)*, 173, p.106840.
36. Plog, J., Löwe, J.M., Jiang, Y., Pan, Y. and Yarin, A.L., 2019. Control of Direct Written Ink Droplets Using Electrowetting. *Langmuir (IF: 3.683)*, 35(34), pp.11023-11036.

35. Jiang, Y., Cheng, M., Shahbazian-Yassar, R. and Pan, Y., 2019. Direct Ink Writing of Wearable Thermoresponsive Supercapacitors with rGO/CNT Composite Electrodes. *Advanced Materials Technologies (IF: 5.395)*, 4(12), p.1900691.
34. Lu, L., Zhang, Z., Xu, J. and Pan, Y., 2019. 3D-printed polymer composites with acoustically assembled multidimensional filler networks for accelerated heat dissipation. *Composites Part B: Engineering (IF:6.864)*, 174, p.106991.
33. Joyee, E.B. and Pan, Y., 2019. A Fully Three-Dimensional Printed Inchworm-Inspired Soft Robot with Magnetic Actuation. *Soft robotics (IF: 6.403)*, 6(3), pp.333-345.
32. He, H., Yang, Y. and Pan, Y., 2019. Machine learning for continuous liquid interface production: Printing speed modelling. *Journal of Manufacturing Systems (IF: 3.642)*, 50, pp.236-246.
31. Löwe, J.M., Plog, J., Jiang, Y., Pan, Y. and Yarin, A.L., 2019. Drop deposition affected by electrowetting in direct ink writing process. *Journal of Applied Physics (IF:2.328)*, 126(3), p.035302.
30. Nofal, M., Hallaj, S. A., and Pan, Y., 2019. Experimental investigation of phase change materials fabricated using selective laser sintering additive manufacturing. *Journal of Manufacturing Processes (IF: 3.462)*, 44, pp.91-101.
29. Li, X., Mao, H., Pan, Y. and Chen, Y., 2019. Mask Video Projection based Stereolithography with Continuous Resin Flow. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, pp.1-31.

2018:

28. Cheng, M., Jiang, Y., Yao, W., Yuan, Y., Deivanayagam, R., Foroozan, T., Huang, Z., Song, B., Rojaee, R., Shokuhfar, T., Pan, Y., Lu, J., and Yassar, R., 2018. Elevated-temperature 3D printing of hybrid solid-state electrolyte for Li-ion batteries, *Advanced Materials (IF:25.809)*, p.1800615.
27. He, H., Xu, J., Yu, X. and Pan, Y., 2018. Effect of Constrained Surface Texturing on Separation Force in Projection Stereolithography. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 140(9), p.091007.
26. Jiang, Y., Hu, S. and Pan, Y., 2018. A Normalized Trace Geometry Modeling Method with Bulge-Free Analysis for Direct Ink Writing Process Planning. *3D Printing and Additive Manufacturing (IF: 3.259)*. 5(4), pp.301-310.
25. Lu, L., Tang, X., Hu, S. and Pan, Y., 2018. Acoustic Field-Assisted Particle Patterning for Smart Polymer Composite Fabrication in Stereolithography. *3D Printing and Additive Manufacturing (IF: 3.259)*, 5(2), pp.151-159.
24. He, H., Pan, Y., Feinerman, A. and Xu, J., 2018. Air-Diffusion-Channel Constrained Surface Based Stereolithography for Three-Dimensional Printing of Objects With Wide Solid Cross Sections. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 140(6), p.061011.
23. Lu, L., Joyee, E.B. and Pan, Y., 2018. Correlation Between Microscale Magnetic Particle Distribution and Magnetic-Field-Responsive Performance of Three-Dimensional Printed Composites. *Journal of Micro and Nano-Manufacturing (IF: 1.818)*, 6(1), p.010904.

## 2017:

22. Chen, B., Jiang, Y., Tang, X., Pan, Y. and Hu, S., 2017. Fully packaged carbon nanotube supercapacitors by direct ink writing on flexible substrates. *ACS applied materials & interfaces (IF: 8.456)*, 9(34), pp.28433-28440.
21. De Vellis, A., Gritsenko, D., Lin, Y., Wu, Z., Zhang, X., Pan, Y., Xue, W. and Xu, J., 2017. Drastic sensing enhancement using acoustic bubbles for surface-based microfluidic sensors. *Sensors and Actuators B: Chemical (IF: 6.393)*, 243, pp.298-302.
20. Yang, Y., Li, L., Pan, Y. and Sun, Z., 2017. Energy consumption modeling of stereolithography-based additive manufacturing toward environmental sustainability. *Journal of Industrial Ecology (IF: 4.826)*, 21(S1), pp. S168-S178.
19. Gritsenko, D., Yazdi, A.A., Lin, Y., Hovorka, V., Pan, Y. and Xu, J., 2017. On characterization of separation force for resin replenishment enhancement in 3D printing. *Additive Manufacturing (IF:7.173)*, 17, pp.151-156.
18. Yang, Y., Gao, S., Chen, K., Pan, Y. and Guo, P., 2017. Vibration analysis and development of an ultrasonic elliptical vibration tool based on a portal frame structure. *Precision Engineering (IF: 2.685)*, 50, pp.421-432.
17. Lu, L., Guo, P. and Pan, Y., 2017. Magnetic-field-assisted projection stereolithography for three-dimensional printing of smart structures. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 139(7), p.071008.
16. Yang, Y., Pan, Y. and Guo, P., 2017. Structural coloration of metallic surfaces with micro/nano-structures induced by elliptical vibration texturing. *Applied Surface Science (IF: 5.155)*, 402, pp.400-409.
15. Pan, Y., Patil, A., Guo, P. and Zhou, C., 2017. A novel projection based electro-stereolithography (PES) process for production of 3D polymer-particle composite objects. *Rapid Prototyping Journal (IF: 2.801)*, 23(2), pp.236-245.
14. Pan, Y., He, H., Xu, J. and Feinerman, A., 2017. Study of separation force in constrained surface projection stereolithography. *Rapid Prototyping Journal (IF: 2.801)*, 23(2), pp.353-361.
13. Pan, Y., Chen, Y. and Yu, Z., 2017. Fast mask image projection-based micro-stereolithography process for complex geometry. *Journal of Micro and Nano-Manufacturing (IF: 1.818)*, 5(1), p.014501.
12. Engelhard, H.H., Pernal, S.P., Gaertner, Z.A., Levin, A.G., Pan, Y., Morris, S.C., Sabo, M.E. and Creighton, F.M., 2017. A Novel Tissue Culture Tray for the Study of Magnetically induced Rotation and Translation of Iron Oxide Nanoparticles. *IEEE Magnetics Letters (IF: 1.672)*, 8, pp.1-5.
11. Pan, Y. and Dagli, C., 2017. Dynamic resolution control in a laser projection-based stereolithography system. *Rapid Prototyping Journal (IF: 2.801)*, 23(1), pp.190-200.

## 2016:

10. Pan, Y. and Chen, Y., 2016. Meniscus process optimization for smooth surface fabrication in Stereolithography. *Additive Manufacturing (IF: 7.173)*, 12, pp.321-333.

9. Nagarajan, H.P., Malshe, H.A., Haapala, K.R. and Pan, Y., 2016. Environmental performance evaluation of a fast mask image projection stereolithography process through time and energy modeling. *Journal of Manufacturing Science and Engineering (IF:2.616)*, 138(10), p.101004.
8. Chen, K., Gao, S., Pan, Y. and Guo, P., 2016. Self-running and self-floating two-dimensional actuator using near-field acoustic levitation. *Applied Physics Letters (IF: 3.521)*, 109(12), p.123503.
7. Yazdi, A.A., Popma, A., Wong, W., Nguyen, T., Pan, Y. and Xu, J., 2016. 3D printing: an emerging tool for novel microfluidics and lab-on-a-chip applications. *Microfluidics and Nanofluidics (IF: 2.437)*, 20(3), p.50.

#### 2015:

6. Pan, Y. and Chen, Y., 2015. Smooth surface fabrication based on controlled meniscus and cure depth in microstereolithography. *Journal of Micro and Nano-Manufacturing (IF: 1.818)*, 3(3), p.031001.
5. Song, X., Pan, Y. and Chen, Y., 2015. Development of a low-cost parallel kinematic machine for multidirectional additive manufacturing. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 137(2), p.021005.

#### 2010-2014:

4. Pan, Y., Zhou, C., Chen, Y. and Partanen, J., 2014. Multi-tool and multi-axis CNC accumulation for fabricating conformal features on curved surfaces. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 201(4), p.136.
3. Zhao, X., Pan, Y., Zhou, C., Chen, Y. and Wang, C.C., 2013. An integrated CNC accumulation system for automatic building-around-inserts. *Journal of Manufacturing Processes (IF: 3.462)*, 15(4), pp.432-443.
2. Pan, Y., Zhao, X., Zhou, C. and Chen, Y., 2012. Smooth surface fabrication in mask projection based stereolithography. *Journal of Manufacturing Processes (IF: 3.462)*, 14(4), pp.460-470.
1. Pan, Y., Zhou, C. and Chen, Y., 2012. A fast mask projection stereolithography process for fabricating digital models in minutes. *Journal of Manufacturing Science and Engineering (IF: 2.616)*, 134(5), p.051011.

#### **Book Chapters:**

1. Lu, L., Joyee, E., Pan, Y., "Additive Manufacturing of Magnetic Particle-polymer Composites", in *Manufacturing in the Era of 4<sup>th</sup> Industrial Revolution*, World Scientific. March 2021, 97-126. [https://doi.org/10.1142/9789811222825\\_0005](https://doi.org/10.1142/9789811222825_0005)

#### **Patents/Invention Disclosures:**

6. Plog, J., Jiang, Y., Pan, Y., and Yarin, A., "Electric-field assisted drop and jet control in 3D printing and direct writing", 63/032,555, May 30, 2020, US.
5. Chen, Y. and Pan, Y., University of Southern California (USC), 2018. "Process planning of meniscus shapes for fabricating smooth surfaces in mask image projection based additive



manufacturing". U.S. Patent 9,943,996.

4. Pan, Y. and Patil, A., "A Projection based Electro-Stereolithography Process for Composite Printing", 62/304, 702, March 7, 2016, US.
3. Pan, Y. and Xu, J., "A Method and Apparatus for Continuous 3D Printing", 62/267, 629, December 15, 2015, US.
2. Chen, Y. and Pan, Y., "Digital Mask Image Projection based Additive Manufacturing with Smooth Surfaces." University of Southern California. US2013/0313756 A1, Pub. Date: May 2013.
1. Chen, Y. and Pan, Y., "A Fast Mask Projection Stereolithography Process for Building Digital Models in Minutes.", 61/650,876, May, 2012. US.

### **Refereed Conference Publications:**

\*: published by abstract and a presentation was made.

Others: published by full conference paper and a presentation was made.

37. Lichade, K., Pan, Y., "3D Printing of Anisotropic Multimaterial Structures using Acoustic Streaming-assisted Two-Photon Polymerization." 50<sup>th</sup> Annual North American Manufacturing Research Conference (NAMRC), West Lafayette, IN, June 27-July 1, 2022.
36. Joyee, E., Pan, Y., Investigation of a Magnetic-field-assisted Stereolithography Process for Printing Functional Part with Graded Materials, ASME 2020 International Symposium on Flexible Automation (ISFA), Chicago, IL, July 8-9, 2020.
35. Joyee, E., Pan, Y., Multi-material Additive Manufacturing of Functional Soft Robot, 47<sup>th</sup> Annual North American Manufacturing Research Conference (NAMRC), Erie, PA, June 10-14, 2019.
34. \* Jiang, Y., Pan, Y., Direct Ink Writing of Thermoresponsive Supercapacitors, The Mineral, Metals & Materials (TMS) 2019 Annual Meeting & Exhibition, TMS 2019, San Antonio, Texas, March 10-14, 2019.
33. \* Nofal, M., Pan, Y., Al-Hallaj, S., Thermal Management of Li-ion Batteries using Phase Change Composite fabricated by Selective Laser Sintering, The 29th Annual International Solid Freeform Fabrication Symposium, SFF 2018, Austin, Texas, August 13-15, 2018.
32. \* He, H., Yang, Y., Pan, Y., Machine Learning for Modeling of Printing Speed in Continuous Projection Stereolithography, The 29th Annual International Solid Freeform Fabrication Symposium, SFF 2018, Austin, Texas, August 13-15, 2018.
31. \* He, H., Wang, Y., Feinerman, A., and Pan, Y., Investigation on Air Permeable Windows for Continuous Projection Stereolithography, The 29th Annual International Solid Freeform Fabrication Symposium, SFF 2018, Austin, Texas, August 13-15, 2018.
30. \* Lu, L., Pan, Y., Tang, X., Hu, S., Investigation of Acoustic Field for Localized Particle Manipulation in Projection Photopolymerization, The 29th Annual International Solid Freeform Fabrication Symposium, SFF 2018, Austin, Texas, August 13-15, 2018.
29. Lu, L. and Pan, Y. 3D printed particle polymer composites with acoustically localized particle distribution for thermal management applications, ASME 2018 International Manufacturing Science and Engineering Conference, MSEC 2018, College Station, Texas, June 18-22, 2018.
28. \* Jiang, Y., Pan, Y., A Normalized Geometry Modeling Method with Bulge-free Analysis for Path Planning in Direct Ink Writing, The 28th Annual International Solid Freeform

- Fabrication Symposium, SFF 2017, Austin, Texas, August 7-9, 2017.
27. \* Lu, L., Pan, Y., Acoustic Field-assisted Particle Patterning for Smart Polymer Composite Fabrication in Stereolithography, The 28th Annual International Solid Freeform Fabrication Symposium, SFF 2017, Austin, Texas, August 7-9, 2017.
  26. \* He, H., Pan, Y., Xu, J., Yu, X., Effect of Surface Texturing on Separation Force in Projection Stereolithography, The 28th Annual International Solid Freeform Fabrication Symposium, SFF 2017, Austin, Texas, August 7-9, 2017.
  25. Lu, L., Joyee, E., Pan, Y., Investigation of the correlation between micro-scale particle distribution in 3D Printing and macroscopic composite performance, ASME 2017 International Manufacturing Science and Engineering Conference, MSEC2017, Los Angeles, California, June 4 –8, 2017.
  24. Nofal, M., Pan, Y., Hallaj, S., Selective Laser Sintering of Phase Change Materials for Thermal Energy Storage Applications. 45<sup>th</sup> Annual North American Manufacturing Research Conference, Los Angeles, California, June 4 –8, 2017.
  23. \* Nofal, M., Pan, Y., Laser Sintering of Phase Change Materials for Thermal Energy Storage Applications, 2016 Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference, Austin, Texas, August 8–10, 2016.
  22. \* Lu, L., Pan, Y., Magnetic-field-assisted 3D Printing of Smart Polymer Composites, 2016 Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference, Austin, Texas, August 8–10, 2016.
  21. \* He, H., Pan, Y., A Novel Design of Constrained Surface for Production of 3D Objects with Wide Solid Cross Sections, 2016 Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference, Austin, Texas, August 8–10, 2016.
  20. Lu, L., Tangen, K. M., Gabor, T., Pan, Y., Linninger, A. A. and Purandare, N. Additive Manufacturing of Subject-specific Spine Model for In-vitro Intrathecal Drug Delivery Study, ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC 2016, August 21-24, 2016.
  19. Pan, Y. and Lu, L. Additive Manufacturing of Magnetic Field-Responsive Smart Polymer Composites, ASME 2016 International Manufacturing Science and Engineering Conference, MSEC 2016, Blacksburg, Virginia, June 27-July 1, 2016.
  18. Tangen, K. M., Gabor, T., Lu, L., Pan, Y., Sriram, N. and Linninger, A. A. Digital Manufacturing and in silico Modeling for rational design of drug delivery to the central nervous system, 2016 Summer Biomechanics, Bioengineering and Biotransport Conference. National Harbor, MD, June 19- July 2, 2016.
  17. Pan, Y. and Hu, M. A Data-Driven Modeling Approach for Digital Material Additive Manufacturing Process Planning, 2016 International Symposium on Flexible Automation, ISFA 2016, Cleveland, Ohio, August 1-3, 2016.
  16. He, H., Pan, Y., Xu, J., Yu, X. and Botton, V. Effect of Surface Texturing on Separation Force in Projection Stereolithography, 11th International Conference on Micro Manufacturing, ICOMM 2016, Irvine, California, March 29-31, 2016.
  15. Pan, Y. and Dagli, C. Dynamic Resolution Control in a Laser Projection based Stereolithography System. Solid Freeform Fabrication Symposium, Austin, Texas, Aug. 10-12, 2015.

14. Pan, Y., Patil, A. and Zhou, C. A novel projection based electro-stereolithography (PES) process for composite printing. Proceedings of Solid Freeform Fabrication Symposium, Austin, Texas, Aug. 10-12, 2015.
13. Malshe, H., Nagarajan, H., Pan, Y. and Haapala, K. Profile of Sustainability in Additive Manufacturing and Environmental Assessment of a Novel Stereolithography Process, Proceedings of the ASME 2015 International Manufacturing Science and Engineering Conference, MSEC2015, Charlotte, North Carolina, June 8-12, 2015.
12. \* Pan, Y., Optimal Meniscus Planning in SL-related AM for Improvement of Surface Finish and Geometric Accuracy, INFORMS Annual Meeting, INFORMS 2014, San Francisco, California, November 9-12, 2014.
11. Pan, Y. and Chen, Y. Smooth Surface Fabrication based on Controlled Meniscus in Micro-Stereolithography, 9th International Conference on Micro Manufacturing, ICOMM 2014, Singapore, March 25-28, 2014.
10. Pan, Y. and Chen, Y., Process Planning and Optimization in Meniscus Control for Stereolithography, Proceedings of Solid Freeform Fabrication Symposium, Austin, Texas, August 5, 2014
9. Pan, Y., Zhao, X. and Chen, Y., Micro-Scale Fabrication in Large Area: Investigation on Integrating Large-Area and Micro-Scale Mask Image Projection Stereolithography, Proceedings of Solid Freeform Fabrication Symposium, Austin, Texas, August 14, 2013.
8. Song, X., Pan, Y., and Chen, Y., Development of a Low-Cost Parallel Kinematic Machine for Multi-Direction Additive Manufacturing, Proceedings of Solid Freeform Fabrication Symposium, Austin, Texas, August 12-14, 2013.
7. Pan, Y. and Chen, Y., Fast Micro-Stereolithography Process based on Bottom-up Projection for Complex Geometry, Proceedings of the 8th International Conference on Micro Manufacturing, ICOMM 2013, March 25-28, 2013.
6. Zhao, X., Pan, Y., Zhou, C., Chen, Y. and Wang, C. L., An Integrated CNC Accumulation System for Automatic Building around Inserts, Proceedings of 41st Annual North American Manufacturing Research Conference, June 10 - 14, 2013.
5. Pan, Y., Zhou, C. and Chen, Y. Rapid Manufacturing in Minutes: The Development of a Mask Projection Stereolithography Process for High-speed Fabricating, Proceedings of the 2012 International Manufacturing Science and Engineering Conference, Notre Dame, Indiana, June 4-8, 2012.
4. Pan, Y., Zhao, X., Zhou, C. and Chen, Y., Smooth Surface Fabrication in the Mask Projection based Stereolithography, Proceedings of 40th SME-North American Manufacturing Research Conference, NAMRC40-7715, Notre Dame, Indiana, June 4 - 8, 2012.
3. Pan, Y., Chen, Y. and Zhou, C., Fast Recoating Methods for the Projection-based Stereolithography Process in Micro- and Macro-scales, Proceedings of Solid Freeform Fabrication Symposium, Austin, Texas, August 8-10, 2012.
2. Pan, Y., Chen, Y. and Zhou, C., Fabrication of Smooth Surfaces based on Mask Projection Stereolithography, Proceedings of Solid Freeform Fabrication Symposium, pp. 263-278, Austin, Texas, August 8-10, 2011.
1. Pan, Y., Zhou, C., Chen, Y. and Partanen, J., Fabrication of Conformal Ultrasound

Transducer Arrays and Horns Based on Multi-axis CNC Accumulation, Proceedings of the 2011 International Manufacturing Science and Engineering Conference, MSEC2011-50139, Corvallis, Oregon, June 13 - 17, 2011.

## **INVITED TALKS**

22. Seminar presentation – Sep. 30, 2022  
“*Multi-material Additive Manufacturing of Functional Materials and Objects*”, Fall 2022 NIU ISE Graduate Colloquium, Department of Industrial and Systems Engineering, Northern Illinois University.
21. Seminar presentation – April 8, 2022  
“*Additive Manufacturing of Particle-Polymer Composite Materials and Devices with Locally-engineered Properties and Functions*”, Department of Mechanical and Aerospace Engineering, University of Central Florida, Orlando, FL.
20. Seminar presentation – Dec.10, 2021  
“*Multi-material Multi-scale Additive Manufacturing*”, Department of Mechanical Engineering, Federal University Of São Carlos (UFSCar), São Carlos, SP, Brazil.
19. Seminar presentation – Oct. 20, 2021  
“*Multi-functional Additive Manufacturing of Smart Materials and Devices*”, Department of Mechanical Engineering, University of Wisconsin–Madison, Madison, WI.
18. Seminar presentation – Sep. 7, 2021  
“*Multi-functional Additive Manufacturing of Smart Materials and Devices*”, Daniel J. Epstein Department of Industrial and Systems Engineering, University of Southern California, Los Angeles, CA.
17. Colloquium talk – Nov. 1, 2019  
“*Multi-material Additive Manufacturing of Soft Robots and Medical Devices*”, School of Computing, DePaul University, Chicago, IL.
16. Invited talk – Mar. 14, 2019  
“*Direct Ink Writing of Thermoresponsive Supercapacitors*”, TMS 2019 Annual Meeting & Exhibition, San Antonio, Texas.
15. Seminar presentation – Aug. 30, 2018  
“*Direct Digital Manufacturing of Multi-material and Multi-functional Objects*”, Department of Mechanical, Industrial and Aerospace Engineering, Concordia University, Montreal, Canada.
14. Panel speaker – Jun.20, 2018  
“*Research Professions in Academia, Industry & National Laboratories: An Early Career Forum*”, organized by ASME/MED and NAMRI/SME, sponsored by U.S. National Science Foundation and Department of Engineering Professional Development at the University of Wisconsin-Madison.
13. Invited workshop presentation – Aug. 17, 2017  
“*Projection Stereolithography (SL) Process Planning and System Design for Fast Production and Multi-material Printing*”, NSF-America Makes sponsored workshop “Accelerating NSF Research in Additive Manufacturing toward Industrial Applications”, University of Pittsburgh, Pittsburgh, PA.
12. Invited talk – June 2, 2017  
“*Introduction of 3D Printing/Additive Manufacturing*”, Harper High School, Chicago, IL.
11. Seminar presentation – February 22, 2017  
“*Fast Production and Multi-material Printing using Stereolithography related Additive Manufacturing*”, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL.
10. Seminar presentation – September 25, 2015

*"Research in Additive Manufacturing (AM) Processes"*, Department of Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, Illinois

9. Seminar presentation – December 25, 2014  
*"Research in Additive Manufacturing (AM) Processes and AM-enabled Designs"* School of Mechanical Engineering, Zhejiang University, China.
8. Invited talk – November 7, 2014,  
*"Manufacturing In-Vitro Models of the Central Nervous System: Anatomical Consistent, Functional, and Fast."* UIC Imaging Mini-Symposium at Neurophysiatic Institute, Department of Bioengineering, University of Illinois at Chicago.
7. Seminar presentation – March 2, 2014  
*"Design and Development of Novel Additive Manufacturing Processes and Applications."* Department of Mechanical Engineering, Clemson University.
6. Seminar presentation – Feb. 27, 2014  
*"Research in Stereolithography based Additive Manufacturing and Thoughts on Next Generation Direct Digital Manufacturing"*. Department of Mechanical and Aerospace Engineering (MAE), State University of New York at Buffalo.
5. Seminar presentation – January 14, 2014  
*"Research in Stereolithography based Direct Digital Manufacturing Process (SL-DDM)."* Department of Mechanical Engineering, National University of Singapore, Singapore.
4. Seminar presentation – December 17, 2013  
*"Smooth Surface Fabrication based on Controlled Meniscus in MIP-uSL"*, Epstein Department of Industrial and Systems Engineering, University of Southern California, Los Angeles, CA.
3. Proposal presentation – November 19, 2013  
*"Multi-scale Manufacturing Methodologies for Mask Image Projection Stereolithography."* Academic Professional Development Institute Final Presentation, University of Southern California, Los Angeles, CA.
2. Workshop presentation – October 09, 2013  
*"Process Design and Development for Mask Image Projection Stereolithography."* Workshop on Additive Manufacturing, Epstein Institute at Viterbi School of Engineering, University of Southern California, Los Angeles, CA.
1. Guest Speaker – June 02, 2011  
*"Research on Mask Projection Stereolithography Process."* Sponsored by NSF ADVANCE Grant, Cal Poly Pomona ADVANCE Program, California State Polytechnic University, Pomona, California.

### **INDUSTRIAL COMPANIES WORKED WITH**

- 3D Systems Inc., Rock Hill, SC
- USG Corp., Chicago, IL
- AllCell Technologies Corp., Chicago, IL
- E-P Equipment Corp., Inman, SC
- ZSFab, Inc., Cambridge, MA
- SprintRay Inc., Los Angeles, CA

# TEACHING AND EDUCATION

## **NEW COURSE DEVELOPMENT**

- ME/IE481, Additive Manufacturing Processes, 3 credits/ 4 credits.
- ENGR111, Engineering Practicum in Additive Manufacturing, 1 credit.

## **TEACHING**

- IE442, Design and Analysis of Experiments in Engineering, 3 credits/ 4 credits, Spring 2022 (Teaching evaluation: 4.35/5)
- ME/IE481, Additive Manufacturing Processes, 3 credits/ 4 credits, Spring 2022 (Teaching evaluation: 4.22/5)
- ME/IE467, Discrete Event Computer Simulation, 3 credits / 4 credits, Fall 2021 (Teaching evaluation: 4.00/5)
- ME/IE481, Additive Manufacturing Processes, 3 credits/ 4 credits, Spring 2021 (Teaching evaluation: 4.38/5)
- IE442, Design and Analysis of Experiments in Engineering, 3 credits/ 4 credits, Spring 2021 (Teaching evaluation: 4.46/5)
- ME/IE467, Discrete Event Computer Simulation, 3 credits / 4 credits, Fall 2020 (Teaching evaluation: 4.29/5)
- IE442, Design and Analysis of Experiments in Engineering, 3 credits/ 4 credits, Spring 2020 (Teaching evaluation: 3.96/5)
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Spring 2020 (Teaching evaluation:4.47/5)
- IE442, Design and Analysis of Experiments in Engineering, 3 credits/ 4 credits, Spring 2019 (Teaching evaluation: 4.59/5)
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Spring 2019 (Teaching evaluation: 4.58/5)
- ME/IE467, Discrete Event Computer Simulation, 3 credits / 4 credits, Fall 2018 (Teaching evaluation: 4.47/5)
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Spring 2018 (Teaching evaluation: 3.93/5)
- ENGR111, Engineering Practicum in Additive Manufacturing, 1 credit, Fall 2017
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Spring 2017 (Teaching evaluation: 4.41/5)
- ENGR111, Engineering Practicum in Additive Manufacturing, 1 credit, Spring 2017
- ME/IE467, Discrete Event Computer Simulation, 3 credits / 4 credits, Fall 2016 (Teaching evaluation: 3.12/5)
- ENGR111, Engineering Practicum in Additive Manufacturing, 1 credit, Fall 2016
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Spring 2016 (Teaching evaluation: 4.04/5)
- ME/IE467, Discrete Event Computer Simulation, 3 credits / 4 credits, Fall 2015 (Teaching evaluation: 3.6/5)
- IE345, Regression Analysis and Forecasting in Engineering, 3 credits, Spring 2015 (Teaching evaluation: 2.7/5)
- ME/IE594, Advanced Topics in 3D Printing/ Additive Manufacturing, 4 credits, Fall 2014. (Teaching evaluation: 4.14/5)

- IE599, Ph.D. Thesis Research (Ketki Lichade, Xinnian Wang), Fall 2021
- IE599, Ph.D. Thesis Research (Ketki Lichade, Erina Joyee), Spring 2021
- IE599, Ph.D. Thesis Research (Ketki Lichade, Erina Joyee, Yizhou Jiang), Fall 2020
- ME598, M.S. Thesis Research (Ketki Lichade, Kevin Sanchez Amay), Spring 2019
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Erina Joyee), Spring 2019
- ME598, M.S. Thesis Research (Kevin Sanchez Amay), Fall 2018
- ME392, Undergraduate Research (David Laczak), 1 credits, Fall 2018
- ME392, Undergraduate Research (Alexander Bulger), 3 credits, Fall 2018
- IE598, M.S. Thesis Research (Ketki Lichade), Fall 2018
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal, Yizhou Jiang, Erina Joyee), Fall 2018
- IE596, Independent Study (Yizhou Jiang), 4 credits, Spring 2018
- IE596, Independent Study (Yilong Wang), 1 credit, Spring 2018
- IE598, M.S. Thesis Research (Can Gao), Spring 2018
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal, Yizhou Jiang, Erina Joyee), Spring 2018
- ME392, Undergraduate Research (Jose Luis Salinas, Anas Sayoury, Raheel Jafarani), 3 credits, Spring 2018
- ME392, Undergraduate Research (Kevin Sanchez Amay), 2 credits, Spring 2018
- ME392, Undergraduate Research (Kevin Sanchez Amay), 3 credits, Fall 2017
- ME392, Undergraduate Research (Jose Luis Salinas), 2 credits, Fall 2017
- IE598, M.S. Thesis Research (Can Gao), Fall 2017
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal, Yizhou Jiang, Erina Joyee), Fall 2017
- ME596, Independent Study (Mengren Wu), 1 credit, Fall 2017
- ME596, Independent Study (Yilong Wang), 4 credits, Fall 2017
- ME392, Undergraduate Research (Jose Luis Salinas), 1 credits, Summer 2017
- IE392, Undergraduate Research (Diego Jaimes), 3 credits, Spring 2017
- IE598, M.S. Thesis Research (Erina Joyee), Spring 2017
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal, Yizhou Jiang), Spring 2017
- ME392, Undergraduate Research (Theodore Gabor), 1 credit, Fall 2016
- IE596, Independent Study (Erina Joyee), 4 credit, Fall 2016
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal, Yizhou Jiang), Fall 2016
- ME596, Independent Study (Prathmesh Shah), 1 credit, Fall 2016
- ME596, Independent Study (Harsh Dhruve), 3 credits, Fall 2016
- IE599, Ph.D. Thesis Research (Lu Lu), Summer 2016
- IE392, Undergraduate Research (Yanguang Li, Majed Takieddine), 3 credits, Spring 2016
- IE598, M.S. Thesis Research (Chintan Dagli, Duoyuan Wang, Abhishek Patil), Spring 2016
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal), Spring 2016
- ME392, Undergraduate Research (Theodore Gabor), 1 credits, Spring 2016
- IE392, Undergraduate Research (Ovidiu Ciurbe, Yanguang Li, Katarzyna Smolinska, Hyeun Tortora), 3 credits, Fall 2015
- IE596, Independent Study (Lu Lu), 1 credit, Fall 2015
- IE598, M.S. Thesis Research (Chintan Dagli, Duoyuan Wang, Abhishek Patil), Fall 2015
- IE599, Ph.D. Thesis Research (Haiyang He, Lu Lu, Malek Nofal), Fall 2015

- ME392, Undergraduate Research (Elias El Metennani, Theodore Gabor), 3 credits, Fall 2015
- ME596, Independent Study (Anuj Mokashi, Annemarie Moni), 4 credits, Fall 2015
- IE392, Undergraduate Research (Stivi Gjini), 3 credits, Summer 2015
- IE598, M.S. Thesis Research (Chintan Dagli, Mukund Bhaskar), Summer 2015
- IE596, Independent Study (Sachin George, Vijaykarthik Thyaharaj, Shashank Sheshadri Iyer, Rahul Sridharan), 1 credit, Spring 2015
- IE596, Independent Study (Brian Katamay, Jasen Massey, Abhishek Patil, Anish Pillay), 4 credits, Spring 2015
- IE598, M.S. Thesis Research (Chintan Dagli, Mukund Bhaskar), Spring 2015
- IE599, Ph.D. Thesis Research (Haiyang He), Spring 2015
- IE596, Independent Study (Vivek Solanki), 1 credit, Fall 2014
- IE599, Ph.D. Thesis Research (Haiyang He), Fall 2014

## **RESEARCH SUPERVISION**

### **In Progress:**

#### PhD students:

- Ketki M. Lichade, Additive Manufacturing of Hierarchical Surface Structures. Expected graduation date: 05/15/2023
- Xinnian Wang. Expected graduation date: 05/15/2025
- Yinong Chen. Expected graduation date: 05/15/2025
- Anupam Ajit Deshpande. Expected graduation date: 05/15/2026

### **Completed:**

#### PhD students:

- Haiyang He, PhD dissertation: *Layerless Additive Manufacturing for Objects with Large Solid Cross Section*, graduated in 2019. Now working for **ANSYS**.
- Lu Lu, PhD dissertation: *3D Printing of Functional Particle-polymer Composites: External Field Assisted Projection Stereolithography*, graduated in 2019. Now working for **GE Healthcare**.
- Malek Nofal, PhD dissertation: *Selective Laser Sintering of Phase Change Materials for Thermal Energy Storage Applications*, graduated in 2020. Now working for **APPLE**.
- Yizhou Jiang, PhD dissertation: *Direct Ink Writing of Functional Fiber Composites*, graduated in 2021. Yizhou joined the Aerospace Engineering Department at **Embry-Riddle Aeronautical University** as an Assistant Professor in 2022.
- Erina B. Joyee, PhD dissertation: *Magnetic Field-assisted Stereolithography for Productions of Multi-material Objects with Surface Structures*, graduated in 2021. Erina joined the Mechanical Engineering and Engineering Science Department at the **University of North Carolina at Charlotte** as an Assistant Professor in August 2021.

#### MS students with thesis:

- Mukund Bhaskar, Master thesis: *Intelligent thermal energy storage system for HVAC using phase change materials*, graduated in 2017. Now working for *Whirlpool*.
- Chintan Dagli, Master thesis: *Investigation on Laser Projection based Additive Manufacturing Process*, graduated in 2016. Now working for *ImageXpert*.
- Abhishek Patil, Master thesis: *Projection based Electro-Stereolithography Process Design and Development*, graduated in 2016. Now working for *Mack Trucks, Volvo*



Group.

Graduate/undergraduate researchers:

- Minji Kim, Queena Zhang, Kevin X. S. Amay, Raheel Jafarani, Jose Luis Salinas, Ana Sayoury, Yanguang Li, Agata Chmiel, Anuj Mokashi, Sumaiyya Ahmed, Theodore Gabor, Anthony Tran

Visiting Scholar:

- Dr. Meipeng Zhong, Associate Professor, from Jiaying University. Visiting period: July 1, 2017- January 1, 2018.

## SERVICE

### **PROFESSIONAL MEMBERSHIPS**

- Society of Women Engineers (SWE), since 2014
- Women in Science and Engineering (WISE), since 2014
- Society of Manufacturing Engineers (SME), since 2012
- American Society of Mechanical Engineers (ASME), since 2010

### **PROFESSIONAL ACTIVITIES**

ASME MED Technical Committee

**Chair**, Additive Manufacturing Track, 2021-2023

**Vice Chair**, Additive Manufacturing Track, 2019-2021

ASME CIE Division Executive Committee

**Secretary**, 2021-2022

ASME CIE-CAPPD Technical Committee

**Chair**, Computer-aided Product and Process Development (CAPPD) Committee, 2019

**Vice Chair**, Computer-aided Product Development (CAPD) Committee, 2018

**Secretary**, Computer-aided Product Development (CAPD) Committee, 2017

ASME MSEC Technical Committee

**Scientific Committee**, 2017-2022

SME North American Manufacturing Research Institute

**Scientific Committee**, 2016-2022

NSF Workshop for Accelerating NSF Research in Additive Manufacturing towards Industrial Applications

**Invited Speaker**, NSF, CMMI Division, August, 2017

### **JOURNAL SERVICE AND CONFERENCE SERVICE**

- Associate Editor, ASME Journal of Computing and Information Science in Engineering, 1/2022 – to date
- Symposium Organizer, MRS SF02: Additive Manufacturing—From Material Design to Emerging Applications, Materials Research Society (MRS) Fall Meeting & Exhibit, 2021.
- Symposium Organizer, CIE-8 Computer-Aided Product and Process Development (CAPPD General), ASME Computer and Information in Engineering Conference (CIE), 2019.
- Symposium Organizer, CIE-29 CAPPD Panel, ASME Computer and Information in Engineering Conference (CIE), 2019.

- Symposium Organizer, Symposium 1-3: Advances in Micro- and Nano- Additive Manufacturing, ASME International Manufacturing Science and Engineering Conference (MSEC), 2018.
- Symposium Organizer, Symposium 1-3: Advances in Micro- and Nano- Additive Manufacturing, ASME International Manufacturing Science and Engineering Conference (MSEC), 2017.
- Symposium Co-Organizer, DFMLC-5 Design for Sustainable Additive Manufacturing, ASME Design for Manufacturing and The Life Cycle Conference (DFMLC), 2017.
- Guest Editor, ASME Journal of Micro and Nano-Manufacturing, Special section on “Micro- and Nano- Additive Manufacturing”, 2017.
- Symposium Co-Organizer, DFMLC-5: Design for Sustainable Additive Manufacturing, ASME Design for Manufacturing and The Life Cycle Conference (DFMLC), 2016.

### **CONFERENCE SESSION ORGANIZED**

- Session Chair, SF02.13: Additive Manufacturing Techniques, Characterizations, and Applications IV, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Chair, SF02.16: Additive Manufacturing Techniques, Characterizations, and Applications VII, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Co-chair, SF02.01: Additive Manufacturing Methods, Characterizations, and Mechanics I, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Co-chair, SF02.01: Additive Manufacturing Methods, Characterizations, and Mechanics II, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Co-chair, SF02.09: Emerging Area in Additive Manufacturing, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Co-chair, SF02.10: Multifunctional Structures I, Material Research Science (MRS) 2021 Fall Meeting & Exhibit, 2021.
- Session Chair, CIE Computer-Aided Product and Process Development, ASME Computer and Information in Engineering Conference (CIE), 2020
- Session Chair, Additive manufacturing sensing and control 1, ASME International Symposium on Flexible Automation (ISFA), 2020
- Session Chair, Session 1-3-3: Advances in Micro- and Nano-Additive Manufacturing – III, ASME International Manufacturing Science and Engineering Conference (MSEC), 2018.
- Session Chair, Track 3 Additive Manufacturing – Surface Finishing and Dimensional Accuracy, North American Manufacturing Research Conference (NAMRC), 2018.
- Session Organizer, CIE-26-1: Graduate Student Poster, ASME Computer and Information in Engineering Conference (CIE), 2017.
- Session Chair, T3: Additive Manufacturing Sensing and Control, ASME/ISCIE International Symposium on Flexible Automation (ISFA), 2016.
- Session Co-chair, Area: 3D Printed Smart Polymer, ASME International Manufacturing Science and Engineering Conference (MSEC), 2016.
- Session Chair, DFMLC-5-1: Design for Sustainable Additive Manufacturing, 2016.
- Conference Coordinator, Design for Manufacturing Life Cycle (DFMLC), 2016.
- Associate Editor, ASME International Symposium on Flexible Automation (ISFA), 2016.
- Session Co-chair, CIE-11-3: Design and Simulation for AM- I, ASME Computer and Information in Engineering Conference (CIE), 2015.
- Session Chair, Track 3-1: Novel Additive Processes, North American Manufacturing Research Conference (NAMRC), 2015.
- Session Chair, Applications VI: Process. Solid Freeform Fabrication Symposium, 2015.

- Conference Coordinator, ASME Design for Manufacturing and The Life Cycle Conference (DFMLC), 2015.

## **PAPER REVIEW**

### Journal Reviewer:

Science  
Nature Communications  
Science Robotics  
Nature Microgravity  
Advanced Materials  
Advanced Functional Materials  
ACS Applied Materials & Interfaces  
Additive Manufacturing  
Composites Part B: Engineering  
Soft Robotics  
Small  
Sensors & Actuators: A. Physical  
Computer-Aided Design  
Computers and Graphics  
Robotics and Computer Integrated Manufacturing Journal  
IIEE Transactions  
3D Printing and Additive Manufacturing  
International Journal of Advanced Manufacturing Technology  
International Journal of Computer Integrated Manufacturing  
Advances in Manufacturing  
Journal of Mechanical Engineering  
Rapid Prototyping Journal  
Materials  
Polymers  
Materials and Design  
Journal of Mechanical Engineering Research  
ASME - International Symposium on Flexible Automation  
ASME - Journal of Nanotechnology in Engineering and Medicine  
ASME - Journal of Manufacturing Science and Engineering  
ASME - Journal of Micro and Nano- Manufacturing  
ASME - Journal of Nanotechnology in Engineering and Medicine  
ASME – Manufacturing Letters  
SME - Journal of Manufacturing Processes  
SME - Journal of Manufacturing Systems  
IEEE Transactions on Industrial Informatics

### Conference Proceeding Reviewer:

SIGGRAPH  
IEEE CASE Conference  
ASME MSEC Conference  
SME NAMRC Conference  
ASME IDETC Conference  
ASME CIE Conference  
ASME ISFA Conference  
SFF Conference  
ICOMM Conference

## **GRANT PROPOSAL REVIEW**

- **International Reviewer**, Czech Science Foundation (GACR), Czechia, 2022.

- **Panel Reviewer**, National Science Foundation (NSF), ENG Division (IIP program), 2022.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2022.
- **Panel Reviewer**, National Science Foundation (NSF), CBET Division, 2021.
- **Ad hoc Reviewer**, National Science Foundation (NSF), CMMI Division, 2021.
- **External Reviewer**, Research Grants Council, Hong Kong SAR, China, 2021.
- **Reviewer**, U.S. Army Research Office (ARO), 2020.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2020.
- **Reviewer**, Department of Energy (DOE), Office of Technology Transfer, 2020.
- **Reviewer**, United States – Israel Binational Science Foundation, 2020.
- **Ad hoc Reviewer**, National Science Foundation (NSF), CMMI Division, 2020.
- **External Reviewer**, Research Grants Council, Hong Kong SAR, China, 2019.
- **External reviewer**, Swiss National Science Foundation (SNSF), Div. Mathematics, Physical and Engineering Sciences, 2019.
- **Ad hoc Reviewer**, National Science Foundation (NSF), CMMI Division, 2018.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2018.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2017.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2016.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2015.
- **Panel Reviewer**, National Science Foundation (NSF), CMMI Division, 2014.

## ***INSTITUTIONAL SERVICES***

### UIC Department of Mechanical and Industrial Engineering:

- IE B2F Search Committee Chair, 2022-2023.
- Advisory Committee, 2022-2023.
- Undergraduate Committee, 2022-2023.
- Industrial Engineering Curriculum Committee, 2022-2023.
- Industrial Engineering Faculty Search Committee, 2022-2023.
- Mechanical Engineering and Industrial Engineering Tenure-track Faculty Search Committee, 2021-2022.
- ABET Committee, 2021-2022.
- Evaluation of Teaching Committee, 2021-2022.
- Junior Faculty Mentoring Committee, 2020-2021.
- Graduation Committee, 2020-2021.
- Seminar Committee, 2020-2021.
- Industrial Engineering Program Promotion Committee, 2020-2021.
- Industrial Engineering Program Promotion Committee, 2019-2020.
- Graduate Committee, 2019-2020.
- Graduate Committee, 2018-2019.
- Industrial Engineering Faculty Search Committee, 2018-2019.
- Mechanical Engineering Faculty Search Committee, 2018-2019.
- Advisory Committee, 2018-2019.
- Industrial Engineering Faculty Search Committee, 2017-2018.
- Advisory Committee, 2016-2017.
- Industrial Engineering Lecturer Search Committee, 2015-2016.
- UIC Commencement Marshal, 2015.

- Graduate Committee, 2014-2015.
- Industrial Engineering Faculty Search Committee, 2014-2015.
- Industrial Engineering Lecturer Search Committee, 2014-2015.

UIC College of Engineering:

- Search Committee for associate director of the MakerSpace, Engineering administration position, College of Engineering, 2016.