

Xiangjia (Cindy) Li

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School for Engineering of Matter, Transport & Energy
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EDUCATION**University of Southern California (USC), Los Angeles, CA**

Postdoctoral Research Associate in Industrial and Systems Engineering 12/2019

Advisor: Professor Yong Chen

Research area: Additive manufacturing process development and optimization,
multiscale nanocomposite printing, bioprinting

University of Southern California (USC), Los Angeles, CA

Ph.D. in Industrial and Systems Engineering 08/2019

Core field: Additive manufacturing

Advisor: Professor Yong Chen

Dissertation: Multi-scale biomimetic structure fabrication based on immersed surface
accumulation

University of Southern California (USC), Los Angeles, CA

05/2019

M.S. in Computer Science

Nanjing University of Aeronautics and Astronautics (NUAA), China

04/2014

M.E. in Manufacturing Engineering of Aeronautics and Astronautics

Nanjing University of Aeronautics and Astronautics (NUAA), China

06/2011

B.E. in Mechanical Engineering and Automation

EMPLOYMENT

01/2020 – present	Assistant Professor	Arizona State University
	Mechanical and Aerospace Engineering	
09/2019 – 12/2019	Postdoctoral Research Fellow	University of Southern California
08/2014 – 08/2019	Doctoral Research Assistant	University of Southern California
03/2014 – 05/2014	CAD&CAM Lecturer	Engineering Training Center, NUAA
09/2011 – 03/2014	Graduate Research Assistant	NUAA
09/2008 – 04/2012	Undergraduate Student Advisor Assistant	NUAA

HONORS AND AWARDS

2024	<i>1st Best Post Award</i>	ASME-MSEC
2024	Professor of Impact Award	ASU

2024	NSF CAREER Award	NSF-CMMI
2023	<i>1st Best Paper Award</i>	ASME-MSEC
2023	<i>Delcie R. Durham Outstanding Young Manufacturing Engineer Award</i>	SME
2023	Professor of Impact Award	ASU
2022	<i>Game Changer Academies Panel Fellow</i>	NSF-CMMI
2022	<i>1st Best Paper Award</i>	ASME-MSEC
2021	<i>ASU FSE Strategic Interest Seed Funding Award</i>	ASU
2021	<i>ASU FSE Strategic Interest Seed Funding Award</i>	ASU
2021	Collaborative research grant	NSF-CMMI
2020	<i>Outstanding Reviewer</i>	TCSME
2019	<i>1st Best Presentation Award</i>	USC Annual ISE Research Festival
2018	<i>Innovation Commercialization Award</i>	USC Stevens Center
2018	<i>NSF Student Travel Award</i>	ASME-MSEC 2018
2017	<i>2nd Best Poster Award</i>	USC ISE Open House
2017	<i>NSF Student Travel Award</i>	SFF 2017
2016	<i>NSF Student Travel Award</i>	SFF 2016
2016	<i>NSF Student Travel Award</i>	ICOMM 2016
2013	<i>National Graduate Student Fellowship</i>	NUAA
2011	<i>Advanced Individual of Social Activities</i>	NUAA
2010	<i>LG Display Corporation Scholarship</i>	LG, China
2008 - 2010	<i>Academic Excellence Scholarship</i>	NUAA
2008 - 2010	<i>Outstanding Student Leader</i>	NUAA

RESEARCH EXPERIENCE

01/20 – Present

PI - ASU

Physical field assisted 3D printing of heterogeneous materials

- *Electrostatic field assisted 3D printing of polymer matrix with metallic structures*
- *Magnetic field assisted 3D printing of polymer/ceramic matrix composite*
- *Acoustic field assisted 3D printing of solar cells*
- *Liquid crystal template assisted 3D printing of functional material*

Continuous Printing of multi-metals/alloys within minutes

- *Multi-Material CLIP process optimization*
- *Gradient multi-metal structures design*
- *Functional alloy morphology optimization*
- *Nom-powder based printing solution investigation*

Scalable Printing of energy harvesting and storage devices

- *3D printing of battery*

- *3D printing of perovskite solar cells in the air with low cost*

Volumetric 3D printing

- *Optical metasurface based structural beam formation*
- *Structural beam assisted 3D Printing*
- *Light initiated direct growth*

Bioprinting of implants for healthcare

- *Nanocomposite/Bioceramic based scaffold design and fabrication*
- *Bioinspired painless microneedle for programmable drug release*
- *Acoustic assisted 3D printing of artificial cells*

3D Printing of bioinspired structures for interfacial applications

- *Bioinspired structures with controllable roughness for stable and long-term air retention*
- *Bioinspired structures with hierarchical features for highly efficient water collection*

Featured News Article: [AdvancedScienceNews](#)

09/19 – 12/19

Postdoctoral Research Associate - USC

Vat photopolymerization of nanocomposite

- *3D printing of bioinspired painless microneedle array*

Selected Featured News Article: [3Dheals](#), [Tengcent](#),

08/14 - 08/19

Research Assistant at USC

Multi-scale additive manufacturing process development

- *Ultra-fast layer-less 3D printing with continuous liquid flow*
- *Multi-scale & multi-material hybrid 3D printing*
- *Immersive surface accumulation (ISA)*

Additive manufacturing of biomimetic material and structures

- *3D printing cactus-inspired spines for water collection*
- *3D printing nacre-inspired structures with self-sensing capability*

Featured News Article: [3Dprinting industry](#), [Phys.Org](#), [Solidsmark](#)

- *3D printing salvinia molesta inspired superhydrophobic structure*

Featured News Article: [NSFNews](#), [EurkAlert by AAAS](#), [Phys.Org](#), [3Dprintingindustry](#), etc.

- *3D Printing hair inspired flexible liquid sensor based on swelling of hydrogel*

08/14 - 08/19

Research Assistant at Alfred E. Mann Institute - USC

Bio-printing of ceramic composites for healthcare

- *3D Printing of biodegradable scaffold for craniofacial and long bone regeneration*
- *3D Printing temporary restoration within minutes for chairside in dental office*

Featured News Article: [Morgen-filament.de](#), [RICKREA](#)

PUBLICATIONS AND INTELLECTUAL

Journal Publications

[To be submitted / Submitted from ASU]

1. Qing An, Dawei Li, Wenhe Liao, Tingting Liu, Xiangjia Li, " Electromagnetic Absorption Mechanism of TPMS-based Metastructures: Synergy between Materials and Structures " *Advanced Functional Material*, Under Review
2. Daleanna C. S. Charoensook, *Ashiquzzaman Nipu*, Ana Girish[#], Xiangjia Li*, Yang Yang, "Additive Manufacturing of Bio-mimicked and Bioinspired Functional Microstructures for use in Fog Collection," *Biomimetics*, to be submitted.
3. *Tengteng Tang*, *Prem Kalpesh Nawab*, *Parimal Prabhudesai*, Saleh Alfarhan, Ivan Pesqueira[#], Kalyn VanWormer, Jingxing Li, Dawei Li, Kailong Jin, Xiangjia Li*, " Sustainable Vat Photopolymerization of Complex Functional Structures with Fast Dissolvable and Recyclable Supports," *International Journal of Extreme Manufacturing*, to be submitted.
4. *Tengteng Tang*, *Namratha Gopalabhatla*, *Ashiquzzaman Nipu*, Shenghan Guo, Xiangjia Li*, "Optimized Alignment Recognition and Quality Control in Electrically Assisted Vat Photopolymerization Using Machine Learning and In-Situ Monitoring," *Additive Manufacturing*, to be submitted.
5. *Tengteng Tang*, *Ashiquzzaman Nipu*, *Lakshya Tiwari*, Minju Yoo[#], Xiangjia Li*, " Effects of Interfacial Polymer Structures on Metallic Growth in Electrically assisted Vat Photopolymerization for Heterogenous Metal/Polymer Printing," *Journal of Manufacturing Processes*, to be submitted.
6. Xiangjia Li*, *Tengteng Tang*, Weitong Shan, Yiyu Chen, Yuan Yuan, Jiahui Rong, Yang Chai, Yong Chen, "3D Printing Trimmable Bioceramic Scaffold with High Mechanical Performances for Bone Tissue Regeneration," *Bioprinting*, to be submitted.
7. *Yizhen Zhu*, *Sheefali Ajay Balapure*, *Parimal Prabhudesai*, Xiangjia Li*, "Volumetric Printing of Structures via Light Initiated Direct Growth with Inhibition," *3D printing and Additive manufacturing*, to be submitted.
8. *Yizhen Zhu*, Xiangjia Li*, "Ultrafast Volumetric Printing of Multiscale Structures via Light Initiated Direct Growth," *Additive Manufacturing*, to be submitted.
9. Han Xu, Yang Xu, Xiangjia Li, Huachao Mao, Chi Zhou, Yong Chen. "The Status and Challenges of Vat Photopolymerization: Process Innovation and Perspective," *International Journal of Extreme Manufacturing*, to be submitted.

[Published / Accepted from ASU]

1. Gang Wang, Dawei Li, Wenhe Liao, Xiangjia Li, "Multifunctional Metamaterial with Reconfigurable Electromagnetic Scattering Properties for Advanced Stealth and Adaptive Applications", *Advanced Materials*, Accepted
2. *Dylan Joralmon*, *Harsh Verma*, Stephanie Kim[#], Xiangjia Li*, "Continuous 3D Printing of Metal Structures using Ultrafast Mask Video Projection Initiated Vat Photopolymerization," *Additive Manufacturing*, (2024): 104314

3. Dhanush Patil, Siying Liu, Dharneedar Ravichandran, Sri Vaishnavi Thummalapalli, Yuxiang Zhu, Teng teng Tang, Yuval Golan, Guillaume Miquelard-Garnier, Amir Asadi, Xiangjia Li, Xiangfan Chen, Kenan Song, "Versatile Patterning of Liquid Metal via Multiphase 3D Printing" *Small*, (2024): 2402432.
4. Saleh Alfarhan, Jared Nettles, Parimal Prabhudesai, Jen-Chieh Yu, Clarissa Westover, *Teng teng Tang*, Wenbo Wang, Xiangfan Chen, Soyoung E. Seo, Xiangjia Li, Timothy Long, and Kailong Jin, "Directing Network Degradability using Wavelength-selective thiol-acrylate Photopolymerization", *Polymer Chemistry*, 15.12 (2024): 1141-1151
5. Qingqing He⁺, *Teng teng Tang*⁺, Yushun Zeng⁺, Nadine Iradukunda, Brandon Bethers, Xiangjia Li*, Yang Yang, "Review on 3D Printing of Bioinspired Structures for Surface/Interface Applications" *Advanced Functional Materials*, (2024): 2309323.
6. *Yizhen Zhu*, Rohan Ravishekar, *Teng teng Tang*, Banashree Gogoi, Carson Gockley, Sushmitha Venu, Terry L Alford, Xiangjia Li*, "Characterization of PEDOT: PSS Nanofilms Printed via Electrically Assisted Direct Ink Deposition with Ultrasonic Vibrations", *Molecules*, (2023), 28(20), 7109.
7. Amm G Hasib, Stanislaw Niazorau, Natalya Kublik, Sayli Jambhulkar, *Yizhen Zhu*, Dharneedar Ravichandran, Xiangjia Li, Kenan Song, Bruno Azeredo, "Imbibition and rheology of polymer-matrix nanoporous metal composites: Towards extrusion-based 3D printing", *Composites Part B: Engineering*, (2023), 265, 110913.
8. Banashree Gogoi, Carson Gockley, Sushmitha Venu, *Yizhen Zhu*, Pranith Alluri, Ayinawu Abdul Malik, Mitesh Suhas Deshpande, Raveena Phadnis, Evangeline Amonoo, Xiangjia Li*, Terry Alford*, " Ultrafast and Large-scale Fabrication of PEDOT:PSS Nanofilms using Electrical Field-Assisted Direct Ink Deposition," *Molecules*, 2023, 28(16): 5989.
9. *Teng teng Tang*, Gana Sai Kiran Avinash Raj Dwarampudi, Xiangjia Li*," Electrically assisted Vat Photopolymerization of Bioinspired Superhydrophobic Structures with Controllable Roughness for Hydrophobicity Enhancement Using Photocurable Resin/Carbon Nanotube," *The Journal of The Minerals, Metals & Materials Society*, (2023), 1-12.
10. Qing An, Dawei Li, Wenhe Liao, Tingting Liu, *Dylan Joralmon*, Xiangjia Li, Junming Zhao, "A novel ultra-wideband electromagnetic wave-absorbing metastructure inspired by bionic gyroid structures " *Advanced Material*, (2023), 2300659
11. *Teng teng Tang*, Saleh Alfarhan, Kailong Jin*, Xiangjia Li*, "4D Printing of Seed Capsule-inspired Hygro-responsive Structures via Liquid Crystal Templating assisted Vat Photopolymerization, " *Advanced Functional Materials*, (2023). (Featured as the [Back Inside Cover](#) of the issue).
12. *Teng teng Tang*, Dylan Joralmon, Xiangjia Li*,"Acoustic Levitation Assisted Contactless Printing of Microdroplets for Biomedical Applications," *ASME Journal of Manufacturing Science and Engineering*, (2023), pp1-30.
13. Lakshya Tiwari, *Teng teng Tang*, Jiahui Rong, Weitong Shan, Yang Yang, Xiangjia Li *, "Thermoelectric Material Fabrication using Mask Image Projection Based Stereolithography Integrated with Hot Pressing, " *Journal of Material Science and Technology Research*, (2022). 9(1), 105-113.
14. *Teng teng Tang*, Bhushan Ahire, Xiangjia Li*, "Scalable Multi-Material Additive Manufacturing of Polymeric Material with Metallic Structures via Electrically Assisted Stereolithography, " *ASME Journal of Manufacturing Science and Engineering*, (2022),

pp1-30.

15. Yizhen Zhu⁺, Banashree Gogoi⁺, Pranith Alluri, Mitesh Suhas Deshpande, John Hutchins[#], Edem Tagbor, Terry L. Alford, Xiangjia Li*, "Ultrafast 3D Printing of Largescale Functional Nanofilm using Electrically assisted Direct Ink Deposition," *Manufacturing Letters*, 33, (2022), pp744-751.
16. Dylan Joralmon, Saleh Alfarhan, Stephanie Kim[#], Tengtang Tang, Kailong Jin, Xiangjia Li*, "Three-Dimensional Printing of Liquid Crystals with Thermal Sensing Capability via Multimaterial Vat Photopolymerization," *ACS Applied Polymer Materials*, 4(4), (2022) pp2951-2959.
17. Yizhen Zhu⁺, Tengteng Tang⁺, Suyi Zhao⁺, Dylan Joralmon, Zachary Poit[#], Bhushan Ahire, Sanjay Keshav, Aaditya Rajendra Raje, Joshua Blaire[#], Zilong Zhang, Xiangjia Li*, "Recent Advancements and Applications in Additive Manufacturing of Functional Optics," *Additive Manufacturing*, (2022), pp102682.
18. Zilong Zhang, Yuan Gao, Xiangjia Li, Changming Zhao, Yuxiao Xing, Xin Wang, "Second Harmonic Generation of Laser Beams in Transverse Mode Locking States," *Advanced Photonics*, 4(2), (2022), pp026002.
19. Xiangjia Li*, Tommaso Baldacchini, Yong Chen, "An Investigation of Integrated Multi-scale Three-Dimensional Printing for Hierarchical Structures Fabrication," *Journal of Micro and Nano-Manufacturing*, 9(4), (2022), pp041005.
20. Yang Yang, Ziyu Wang, Qingqing He, Xiangjia Li, Gengxi Lu, Laiming Jiang, Yushun Zeng, Brandon Bethers, Jie Jin, Shuang Lin, Siqi Xiao, Yizhen Zhu, Xianke Wu, Wenwu Xu, Qiming Wang, Yong Chen, "3D Printing of Nacre inspired Structures with Exceptional Mechanical and Flame-retardant Properties," *Research*, (2022).
21. Dylan Joralmon[#], Evangeline Amonoo, Yizhen Zhu, Xiangjia Li*, "Magnetic Field Assisted 3D Printing of Limpet Teeth Inspired Polymer Matrix Composite with Compression Reinforcement," *ASME Journal of Manufacturing Science and Engineering*, (2021), pp1-45.
22. Chengqian Zhang, Xiangjia Li, Laiming Jiang, Daofan Tang, Han Xu, Peng Zhao, Jianzhong Fu, Qifa Zhou, Yong Chen, "3D Printing of Functional Magnetic Materials: From Design to Application," *Advanced Functional Materials*, (2021), pp2102777.
23. Zoe M. Johnson, Yuan Yuan, Xiangjia Li, Tea Jashashvili, Michael Jamieson, Mark Urata, Yong Chen, Yang Chai, "Mesenchymal Stem Cells and Three-dimensional-osteoconductive Scaffold Regenerate Calvarial Bone in Critical Size Defects in Swine," *Stem Cells Translational Medicine*, (2021), pp1-14.
24. Yizhen Zhu, Dylan Joralmon[#], Weitong Shan, Yiyu Chen, Jiahui Rong, Hanyu Zhao, Siqi Xiao, Xiangjia Li*, "3D Printing Biomimetic Materials and Structures for Biomedical Application," *Bio-Design and Manufacturing*, (2021), pp405-428.
25. Xiangjia Li*, Weitong Shan, Yang Yang, Dylan Joralmon[#], Yizhen Zhu, Yiyu Chen, Yuan Yuan, Han Xu, Jiahui Rong, Rui Dai, Qiong Nian, Yang Chai, Yong Chen, "Limpet Teeth Inspired Painless Microneedles Fabricated by Magnetic Field Assisted 3D Printing," *Advanced Functional Materials*, (2020), pp2003725 (featured as the [Back Inside Cover](#))

of the issue).

26. Yang, Yang, Hongjie Hu, Zeyu Chen, Ziyu Wang, Laiming Jiang, Gengxi Lu, Xiangjia Li, Ruimin Chen, Jie Jin, Haochen Kang, Hengxi Chen, Shuang Lin, Siqu Xiao, Hanyu Zhao, Rui Xiong, Jing Shi, Qifa Zhou, Sheng Xu, Yong Chen, "Stretchable Nanolayered Thermoelectric Energy Harvester on Complex and Dynamic Surfaces," *Nano Letters*, (2020), pp4445-4453.
27. Xiangjia Li, Yang Yang, Luyang Liu, Yiyu Chen, Ming Chu, Haofan Sun, Yong Chen, "3D Printed Cactus-inspired Spine Structures for Highly Efficient Water Collection," *Advanced Materials Interfaces*, (2019) pp1901752 (featured as the [Front Cover](#) of the issue).

[Published Prior to ASU]

28. Xiangjia Li, Yuan Yuan, Luyang Liu, Yuenshan Leung, Yiyu Chen, Yuxing Guo, Yang Chai, Yong Chen, "3D Printing of Hydroxyapatite/Tricalcium Phosphate (HA/TCP) Scaffold with Hierarchical Porous Structure for Bone Regeneration," *Bio-Design and Manufacturing*, (2019), pp1-15.
29. Yang Yang, Xiangjia Li, Ming Chu, Haofan Sun, Jie Jin, Qifa Zhou, Yong Chen, "Electrically assisted 3D Printing of Nacre-inspired Structure with Self-Sensing Capability," *Science Advances*. 5(4), (2019), ppeaau9490.
30. Xiangjia Li, Huachao Mao, Yayue Pan, Yong Chen. "Mask Video Projection-based Stereolithography with Continuous Resin Flow," *Journal of Manufacturing Science and Engineering*, 141(8), (2019), pp081007.
31. Xiangjia Li, Yang Yang, Benshuai Xie, Ming Chu, Haofan Sun, Siyang Hao, Yiyu Chen, Yong Chen, "3D Printing of Flexible Liquid Sensor based on Swelling behavior of Hydrogel with Carbon Nanotubes," *Advanced Materials Technologies*, (2018), pp1800476.
32. Jun Zhang, Yang Yang, Benpeng Zhu, Xiangjia Li, Jie Jin, Zeyu Chen, Yong Chen, Qifa Zhou, "Multifocal Point Beam Forming by A Single Ultrasonic Transducer with 3D Printed Holograms," *Applied Physics Letters*, 113(24), (2018), pp243502.
33. Yuen-Shan Leung, Tsz-Ho Kwok, Xiangjia Li, Yang Yang, Charlie C.L. Wang, Yong Chen, "Challenges and Status on Design and Computation for Emerging Additive Manufacturing Technologies," *The ASME Journal of Computing and Information Science in Engineering*, 19(2), (2019), pp021013.
34. Xiangjia Li, Benshuai Xie, Jie Jin, Yang Chai, Yong Chen, "3D Printing Temporary Crown and Bridge by Temperature Controlled Mask Image Projection Stereolithography," *Procedia Manufacturing*, 26, (2018), pp1023-1033.
35. Yang, Yang, Xuan Song, Xiangjia Li, Zeyu Chen, Chi Zhou, Qifa Zhou, Yong Chen, "Recent Progress in Biomimetic Additive Manufacturing Technology: From Materials to Functional Structures," *Advanced Materials*, 30(36), (2018), pp1706539.
36. Yang, Yang⁺, Xiangjia Li⁺, Xuan Zheng, Zeyu Chen, Qifa Zhou, Yong Chen, "3D-Printed Biomimetic Super-Hydrophobic Structure for Microdroplet Manipulation and Oil/Water Separation," *Advanced Materials*, 30(9), (2018), pp1704912. (Featured as the [Inside](#)

[Back Cover](#) of the issue).

37. Chen, Zeyu, Yue Wu, Yang Yang, Jiapu Li, Benshuai Xie, Xiangjia Li, Shuang Lei, Jun Ou Yang, Xiaofei Yang, Qifa Zhou, Benpeng Zhu, "Multilayered Carbon Nanotube Yarn based Optoacoustic Transducer with High Energy Conversion Efficiency for Ultrasound Application," *Nano energy*, 46, (2018), pp314-321.
38. Xiangjia Li, Yong Chen, "Micro-scale Feature Fabrication using Immersed Surface Accumulation," *Journal of Manufacturing Processes*, 28, (2017), pp531-540.
39. Lei, Weijun, Xiaosheng Cheng, Ning Dai, Baosu Guo, Xiangjia Li, "Multi-Model Machining Path Planning Based on Improved Genetic Algorithm," *Journal of Mechanical Engineering*, 50(11), (2014), pp153-161.
40. Xiangjia Li, Ning Dai, Wenhe Liao, Baoshu Guo, Yongbo Wang, "An Algorithm for Tolerance Cutter-location Surface Generation of Measured Data Based on MLS Method," *China Mechanical Engineering* 26(8), (2015), pp1040.
41. Xiangjia Li, Ning Dai, Wenhe Liao, Baoshu Guo, Yongbo Wang, "A Fault-tolerant Offset Algorithm for Measured Data with Defects," *Advanced Materials Research*, 902, (2014), pp344-350.

Refereed conference publications

[Published / Accepted from ASU]

40. Tengtang Tang~, Kashish Patel, Ivan Pesqueira#, Xiangjia Li*, " A Novel 3D Printing Method For Continuous Fiber Reinforced Composites With Functional Embedded Framework via Vat Photopolymerization," *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
41. Tengtang Tang~, Bhushan Ahire, Xiangjia Li*, " Contactless 3D Printing of Artificial Cells in Air for Biomedical Applications," *ASME Manufacturing Science and Engineering Conference*, MSEC2023, June 12, New Brunswick, USA, 2023 (1st place Best Paper Award).
42. Tengtang Tang~, Bhushan Ahire, Xiangjia Li*, "Scalable Multi-Material Additive Manufacturing of Polymeric Material with Metallic Structures via Electrically Assisted Stereolithography," *ASME Manufacturing Science and Engineering Conference*, MSEC2022, June 27, West Lafayette, USA, 2022 (1st place Best Paper Award).
43. Yizhen Zhu~, Banashree Gogoi, Pranith Alluri, Mitesh Suhas Deshpande, John Hutchins#, Edem Tagbor, Terry L. Alford, Xiangjia Li*, "Ultrafast 3D Printing of Largescale Functional Nanofilm using Electrically assisted Direct Ink Deposition," *50th SME North American Manufacturing Research Conference*, NAMRC50, June 27, West Lafayette, USA, 2022.
44. Dylan Joralmon#, Evangeline Amonoo, Yizhen Zhu, Xiangjia Li*, "Magnetic Field Assisted 3D Printing of Limpet Teeth Inspired Polymer Matrix Composite with Compression Reinforcement," *ASME Manufacturing Science and Engineering Conference*, MSEC2021, June 21, Ohio, USA, 2021.
45. Xiangjia Li*~, Yang Yang, "3D Printing Collembola Cuticle Inspired Superhydrophobic Microstructures for Potential Deicing Application," *ASME 2020 International*

Symposium on Flexible Automation Conference, ISFA2020, July 8, virtual conference, 2020 (Invited).

[Published Prior to ASU]

46. Yang Yang, Jie Jin, Xiangjia Li, Yong Chen, "Electrically Assisted 3D Printing of Bioinspired Structures," *3rd World Congress on Micro and Nano Manufacturing Conference, WCMNM2019*, September 10, Raleigh, USA, 2019.
47. Xiangjia Li, Yong Chen, "Multi-scale 3D Printing of Bioinspired Structures for Functional Surfaces," *Proceedings of International Symposium on Flexible Automation, ISFA2018*, July 15, Kanazawa, Japan, 2018.
48. Xiangjia Li~, Yong Chen, "3D Printing Temporary Crown and Bridge by Temperature Controlled Mask Image Projection Stereolithography," *46th SME North American Manufacturing Research Conference, NAMRC46*, June 18, Texas, USA, 2018.
49. Xiangjia Li~, Huachao Mao, Yayue Pan, Yong Chen, "Mask Video Projection Based Stereolithography with Continuous Resin Flow to Build Digital Models in Minutes," *Proceedings of the ASME 2018 International Manufacturing Science and Engineering Conference. MSEC2018*, June 18, Texas, USA, 2018.
50. Xiangjia Li~, Yong Chen, "Micro-scale Feature Fabrication using Immersed Surface Accumulation," *45th Society of Manufacturing Engineers (SME) North American Manufacturing Research Conference, NAMRC45*, June 4, Los Angeles, CA, USA, 2017.
51. Xiangjia Li, Yang Yang, Yong Chen, "Bio-inspired Micro-Scale Texture Fabrication based on Immersed Surface Accumulation Process," *Proceedings of the World Congress on Micro and Nano Manufacturing Conference, WCMNM2017*, March 27, Kaohsiung, Taiwan, 2017.
52. Xiangjia Li~, Baldacchini T, Xuan Song, Yong Chen, "Multi-scale Additive Manufacturing: An Investigation on Building Objects with Macro-, Micro- and Nano-scales Features," *The 11th International Conference on Micro Manufacturing. ICOMM2016*, March 29, Irvine, CA, USA, 2016.
53. Xiangjia Li, Ning Dai, Wenhe Liao, "A Fault-tolerant Offset Algorithm for Measured Data with Defects," *2nd International Conference on Manufacturing Engineering and Technology for Manufacturing Growth. METMG2014*, January 20, Miami, Florida, USA, 2014.

Abstract publications

[Published / Accepted from ASU]

1. *Tengteng Tang~*, Ivan Pesqueira[#], Xiangjia Li*, 3D Printing of Magnetic Helical Microrobots via Magnetic-Assisted Vat Photopolymerization, ISFA, July 21, Washington, USA, 2024.
2. *Tengteng Tang~*, Xiangjia Li*, Highly Removable Support via Vat Photopolymerization of Recyclable Polymer, *Workshop for Additive Manufacturing, WAM2024*, July 1, Los Alamos, NM, USA, 2024.
3. *Dylan Joralmon~*, Xiangjia Li*, Continuous 3D Printing of Metal Structures using

Ultrafast Mask Video Projection initiated Vat Photopolymerization, *Workshop for Additive Manufacturing*, WAM2024, July 1, Los Alamos, NM, USA, 2024.

4. *Tengteng Tang*[~], Xiangjia Li*, Electrical assisted Vat Photopolymerization of Bio-inspired Functional Materials, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
5. *Tengteng Tang*[~], Xiangjia Li*, Vat Photopolymerization of Support Structures via Fast Dissolvable and Recyclable Polymer, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
6. *Dylan Joralmon*[~], *Tengteng Tang*, *Vaibhav Mistari*, *Sriram Prakash*, John Walling[#], Xiangjia Li*, Continuous 3D Printing of Metal Structures using Ultrafast Mask Video Projection initiated Vat Photopolymerization, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
7. *Tengteng Tang*[~], Xiangjia Li*, Highly Removable Support via Vat Photopolymerization of Recyclable Polymer, 2024 Material Research Society (MRS) Spring Meeting & Exhibit, April 22, Seattle, Washington, USA, 2024.
8. Banashree Gogoi, Carson Gockley, Sushmitha Venu, *Yizhen Zhu*, *Mitesh Suhas Deshpande*, Raveena Phadis, Xiangjia Li*, Terry L. Alford*, William T. Petuskey*, Electrical Field-Assisted Direct Ink Deposition of Methylammonium Lead Iodide Layers for Fabricating Large-scale Inverted Perovskite Solar Cells (PSC), MRS Fall 2023, Boston, Massachusetts, USA.
9. Banashree Gogoi, *Yizhen Zhu*, *Pranith Alluri*, Ayinawu Abdul Malik, Carson Gockley, Sushmitha Venu, *Mitesh Suhas Deshpande*, Evangeline Amonoo, Xiangjia Li*, Terry L. Alford*, Large-scale and Ultrafast Fabrication of PEDOT:PSS Nanofilms with Improved Film Properties Using Electrical Field-Assisted Direct Ink Deposition, MRS Fall 2023, Boston, Massachusetts, USA.
10. Banashree Gogoi, Carson Gockley, Sushmitha Venu, *Yizhen Zhu*, *Mitesh Suhas Deshpande*, Raveena Phadis, Xiangjia Li*, Terry L. Alford*, William T. Petuskey*, Improved Microstructure of Open-Air Fabrication of Methylamine Lead Iodide Films Fabricated Using the Electrical Field-Assisted Direct Ink Deposition Technique by the Combined Use of Tween-20 and Methylamine (MA) Vapor Anneal, MRS Fall 2023, Boston, Massachusetts, USA.
11. *Tengteng Tang*[~], Saleh Alfarhan, Kailong Jin, Xiangjia Li, Thermal Enhancement of SiC Nanocomposites Fabricated via Liquid Crystal Templating Assisted Vat Photopolymerization, ASME 2023 Aerospace Structures and Materials Conference (SSDM2023), San Diego, CA, USA, 2023.
12. Xiangjia Li[~], "3D printing of bioinspired programmable nanocomposite via liquid crystal templating-assisted vat photopolymerization," *SPIE Additive Manufacturing for Photonics 2022 workshop*, Los Angeles, CA, USA, 2022.
13. *Nadine Iradukunda*[~], *Tengteng Tang*, Saleh Alfarhan, Kailong Jin, Xiangjia Li*, "Properties evaluation of bioinspired nanocomposite fabricated by liquid crystal templating-assisted 3D printing," *ACS Spring 2022*, San Diego, CA, USA, 2022.

14. Stephanie Kim[#], Dylan Joralmon, Xiangjia Li*, "3D printing of Bioinspired Damage-Tolerant Ceramic Matrix Composite," *ACS Spring 2022*, San Diego, CA, USA, 2022.
15. Yizhen Zhu, ShengYinghao Chen[#], Xiangjia Li*, "Investigation of Mechanical Properties of Structures fabricated by Continuous Volumetric Photopolymerization based 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2022, Austin, Texas, 2022.
16. Tengteng Tang, Saleh Alfarhan, Kailong Jin, Xiangjia Li*, "Bioinspired Smart Nanocomposite Fabrication via Liquid Crystal Templating-assisted 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2022, Austin, Texas, 2022.
17. Tengteng Tang, Dylan Joralmon, Saleh Alfarhan, Kailong Jin, Xiangjia Li*, "Fabrication of Bioinspired Optical Material with Self-sensing Capability via Thermal Field assisted 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2021, Austin, Texas, 2021.

[Published Prior to ASU]

18. Yang Yang, Jun Zhang, Zeyu Chen, Xiangjia Li, Jie Jin, K Kirk Shung, Yong Chen, Qifa Zhou, "Multi-focused Acoustic Holograms by 3D Printing," In *Ultrasonics Symposium (IUS)*, 2017 IEEE International (pp. 1-1). IEEE, 2017.
19. Xiangjia Li[~], Benshuai Xie, Yong Chen, "3D Printed Bio-inspired Humidity Sensor based on Swelling Kinetics of Carbon Nanotube Composite Hydrogel, " *Solid Freeform Fabrication Symposium*, SFF 2017, Austin, Texas, 2017.
20. Xiangjia Li[~], Yong Chen, "Bio-inspired Micro-Scale Texture Fabrication based on Immersed Surface Accumulation Process," *Solid Freeform Fabrication Symposium*, SFF 2017, Austin, Texas, 2017.
21. Xiangjia Li[~], Yong Chen, "Surface-based CNC Accumulation: A Flexible High Resolution Additive Manufacturing Process," *Solid Freeform Fabrication Symposium*, SFF 2016, Austin, Texas, 2016.
22. Xiangjia Li[~], Huachao Mao, Yayue Pan, Yong Chen, "Mask Video Projection based Stereolithography with Continuous Resin Flow for Building Digital Models in Minutes," *Solid Freeform Fabrication Symposium*, SFF 2015, Austin, Texas, 2015.

Book Chapter

[Published from ASU]

1. Tengteng Tang, Dylan Joralmon, Xiangjia Li*, "3D Printing of Biomimetic Functional Nanocomposite via Vat Photopolymerization," Book Chapter, in book title "Advances in 3D Printing", IntechOpen, 2023.
2. Tengteng Tang, Lakshya Tiwari, YangYang, Xiangjia Li*, " Additive Manufacturing of Polymer Matrix Composite via Direct Ink Writing Process," Book Chapter, in book title "Additive Manufacturing of Polymer-based Composite Materials: Materials, Processes, And Properties", ELSEVIER, 203-245, 2024.
3. Dylan Joralmon, Teng teng Tang, Lakshmi Jayant, Minju Yoo, Xiangjia Li*, "Recent advances and Prospects in Selective Laser Sintering (SLS) and melting (SLM) and Multiphoton Lithography for 3D Printing," Book Chapter, in book title "Laser-based

Techniques for Nanomaterials: from processing to Characterization and Applications", Royal Society of Chemistry, Accepted.

[Published Prior to ASU]

4. Yang Yang, Xiangjia Li, Yong Chen, "Additive Manufacturing of Bio-inspired Structures via Nanocomposite 3D Printing," chapter6 in book titled "Recent Advances in Additive Manufacturing-Manufacturing in the Era of 4th Industrial Revolution" Publisher: World Scientific Publishing, 2021, pp127-161.
5. Xiangjia Li, Yong Chen, "Vat Photopolymerization based Ceramic Manufacturing," in ASM Handbook Volume 24: Additive Manufacturing Processes. Publisher: ASM International, 2020.

Intellectual Property

[To be submitted / Submitted from ASU]

1. Yizhen Zhu, Xiangjia Li, "*Ultrafast Volumetric Printing of Multimaterial Polymer Components*". Non-provisional US patent, submitted to Skysong Center, 2024.
2. Dylan Joralmon, Xiangjia Li, "Rapid, low-cost, and continuous layer-less printing of metal objects with smooth surfaces and isotropic properties". US provisional patent application, submitted to ASU Skysong Center, filed Dec 2023.
3. Tengtang Tang, Xiangjia Li, "*Method of Forming a Polymer Composite and Apparatus for the Same*". US provisional patent application, 63/657,453, 06/07/2024.
4. Tengtang Tang, Xiangjia Li, "*Acoustic Levitation assisted Contactless Droplet Printing*". Non-provisional US patent, 63/493,849, 04/03/2023.
5. Tengtang Tang, Xiangjia Li, "*Scalable Additive Manufacturing of Polymeric Material with Metallic Structures in a Room Environment*". Non-provisional US patent, 60980.13950, 07/26/ 2022.

[Published Prior to ASU]

6. Yong Chen, Huachao Mao, and Xiangjia Li. "*Mask Video Projection Based Stereolithography with Continuous Resin Flow*". U.S. Patent 15/187, 713, Status: Active
7. Yong Chen, Xiangjia Li. "*Surface-based CNC Accumulation: A High-Resolution 3D Printing Process*" U.S. Patent 15/868, 891, Status: Active
8. Yang Chai, Yong Chen, Xiangjia Li, Yuxing Guo, Yuan Yuan. "*Stem Cells and Devices for Bone Regeneration*". US20200276361A1/WO2019094617A1/EP3707240A4.
9. Yong Chen, Xiangjia Li, Yang Yang. "*3D-Printed Superhydrophobic and Superoleophilic Structures for Oil/Water Separation and Recycle*". U.S. Provisional Patent Application filed October 2017
10. Yang Chai, Yong Chen, Xiangjia Li. "*Ceramic Scaffold*". US201962929630P WO2021087335A1, EP4051326A1.

LEGEND

(*) Corresponding Author

Italic: ASU Ph.D. Student; Underline Font: ASU Master's Student for whom Dr. Xiangjia Li is the primary advisor

(#) ASU Undergraduate Student; (∞) Other/Visiting Undergraduate Student;

(+) Equal Contributions; (~) Presenting author

PRESENTATIONS AND TALKS

Invited Presentations

[From ASU]

1. Xiangjia Li. "Biomimetic Additive Manufacturing of Functional Biomaterials for Healthcare Applications, " Biomaterial Day, Arizona State University, AZ, Oct 27, 2023
2. Xiangjia Li. "Additive Manufacturing of Biomimetic Structures and Material via Vat-Photopolymerization based Nanocomposite Printing," Georgia Southern University, GA, Sep 28, 2022
3. Xiangjia Li, "3D printing of bioinspired programmable nanocomposite via liquid crystal templating-assisted vat photopolymerization," SPIE Additive Manufacturing for Photonics 2022 workshop, Los Angeles, CA, USA, Sep 13, 2022
4. Xiangjia Li. "Fabrication of Bioinspired Functional Materials and Structures via Multiscale Nanocomposite Printing, "Solid Freeform Fabrication Symposium, Plenary Talk, SFF2022, Austin, TX, July 25, 2022
5. Xiangjia Li, "Additive Manufacturing of Bioinspired Sustainable Materials and Structures for Biomedical Application, "ASU SM3 Technical Conference, Tempe, AZ, Feb 27, 2022
6. Xiangjia Li, "Fabrication of Biomimetic Functional Materials and Structures Via Multiscale Nanocomposite Printing," Vebleo Fellow Webinar on Materials Science, Engineering and Technology, Dec 20, 2021

[Prior to ASU]

1. Xiangjia Li. "Multi-scale 3D Printing of Bioinspired Functional Structures," Annual ISE Research Festival, University of Southern California, Los Angeles, CA, Apr 19, 2019
2. Xiangjia Li, "Multi-scale 3D Printing of Bioinspired Functional Material," Department of Mechanical Engineering, University of Georgia, GA, Feb 26, 2019
3. Xiangjia Li. "Multi-scale 3D Printing of Bioinspired Functional Structures," SEMTE, Arizona State University, Tempe, AZ, Feb 19, 2019
4. Xiangjia Li, "Multi-scale Additive Manufacturing of Bioinspired Functional Material," Department of Mechanical Engineering, University of New Hampshire, Jan 29, 2019
5. Xiangjia Li, "Multi-scale Additive Manufacturing of Bioinspired Functional Material," Department of Mechanical Engineering, University of Connecticut, Jan 23, 2019
6. Xiangjia Li, "Additive Manufacturing of Bioinspired Sustainable Materials and Structures for Biomedical Application," ASU SM3 Technical Conference, Tempe, AZ, Feb 27, 2022
7. Xiangjia Li, "Multi-scale 3D Printing of Bioinspired Functional Structures, " Viterbi EXPO,

University of Southern California, Los Angeles, CA. Nov 18, 2018

8. Xiangjia Li, "Multi-scale 3D printing of Bioinspired Functional Structures, " Daniel J. Epstein Dept. of Industrial & System Engineering PhD Open House, University of Southern California, Los Angeles, CA. Mar 2, 2018

Conference presentation

[From ASU]

1. *Tengteng Tang*[~], Ivan Pesqueira[#], Xiangjia Li*, 3D Printing of Magnetic Helical Microrobots via Magnetic-Assisted Vat Photopolymerization, ISFA, July 21, Washington, USA, 2024.
2. *Tengteng Tang*[~], Xiangjia Li*, Highly Removable Support via Vat Photopolymerization of Recyclable Polymer, *Workshop for Additive Manufacturing*, WAM2024, July 1, Los Alamos, NM, USA, 2024.
3. *Dylan Joralmon*[~], Xiangjia Li*, Continuous 3D Printing of Metal Structures using Ultrafast Mask Video Projection initiated Vat Photopolymerization, *Workshop for Additive Manufacturing*, WAM2024, July 1, Los Alamos, NM, USA, 2024.
4. *Tengteng Tang*[~], Xiangjia Li*, Electrical assisted Vat Photopolymerization of Bio-inspired Functional Materials, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
5. *Tengteng Tang*[~], Xiangjia Li*, Vat Photopolymerization of Support Structures via Fast Dissolvable and Recyclable Polymer, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
6. *Dylan Joralmon*[~], *Tengteng Tang*, *Vaibhav Mistari*, *Sriram Prakash*, John Walling[#], Xiangjia Li*, Continuous 3D Printing of Metal Structures using Ultrafast Mask Video Projection initiated Vat Photopolymerization, *ASME Manufacturing Science and Engineering Conference*, MSEC2024, June 17, Knoxville, USA, 2024.
7. *Tengteng Tang*[~], Xiangjia Li*, Highly Removable Support via Vat Photopolymerization of Recyclable Polymer, 2024 Material Research Society (MRS) Spring Meeting & Exhibit, April 22, Seattle, Washington, USA, 2024.
8. Banashree Gogoi, Carson Gockley, Sushmitha Venu, *Yizhen Zhu*, *Mitesh Suhas Deshpande*, Raveena Phadis, Xiangjia Li*, Terry L. Alford*, William T. Petuskey*, Electrical Field-Assisted Direct Ink Deposition of Methylammonium Lead Iodide Layers for Fabricating Large-scale Inverted Perovskite Solar Cells (PSC), MRS Fall 2023, Boston, Massachusetts, USA.
9. Banashree Gogoi, *Yizhen Zhu*, *Pranith Alluri*, Ayinawu Abdul Malik, Carson Gockley, Sushmitha Venu, *Mitesh Suhas Deshpande*, Evangeline Amonoo, Xiangjia Li*, Terry L. Alford*, Large-scale and Ultrafast Fabrication of PEDOT:PSS Nanofilms with Improved Film Properties Using Electrical Field-Assisted Direct Ink Deposition, MRS Fall 2023, Boston, Massachusetts, USA.
10. Banashree Gogoi, Carson Gockley, Sushmitha Venu, *Yizhen Zhu*, *Mitesh Suhas Deshpande*, Raveena Phadis, Xiangjia Li*, Terry L. Alford*, William T. Petuskey*, Improved

Microstructure of Open-Air Fabrication of Methylamine Lead Iodide Films Fabricated Using the Electrical Field-Assisted Direct Ink Deposition Technique by the Combined Use of Tween-20 and Methylamine (MA) Vapor Anneal, MRS Fall 2023, Boston, Massachusetts, USA.

11. *Tengteng Tang*[~], Saleh Alfarhan, Kailong Jin, Xiangjia Li, Thermal Enhancement of SiC Nanocomposites Fabricated via Liquid Crystal Templating Assisted Vat Photopolymerization, ASME 2023 Aerospace Structures and Materials Conference (SSDM2023), San Diego, CA, USA, 2023.
12. *Yizhen Zhu*, ShengYinghao Chen[#], Xiangjia Li^{*}, "Investigation of Mechanical Properties of Structures fabricated by Continuous Volumetric Photopolymerization based 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2022, Austin, Texas, 2022.
13. *Tengteng Tang*[~], Dylan Joralmon, Saleh Alfarhan, Kailong Jin, Xiangjia Li^{*}, "Bioinspired Smart Nanocomposite Fabrication via Liquid Crystal Templating-assisted 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2022, Austin, Texas, 2022.
14. *Tengteng Tang*[~], Bhushan Ahire, Xiangjia Li^{*}, "Scalable Multi-Material Additive Manufacturing of Polymeric Material with Metallic Structures via Electrically Assisted Stereolithography," *ASME Manufacturing Science and Engineering Conference*, MSEC2022, June 27, West Lafayette, USA, 2022, (1st place Best Paper Award).
15. *Yizhen Zhu*[~], Banashree Gogoi, Pranith Alluri, Mitesh Suhas Deshpande, John Hutchins[#], Edem Tagbor, Terry L. Alford, Xiangjia Li^{*}. "Ultrafast 3D Printing of Largescale Functional Nanofilm using Electrically assisted Direct Ink Deposition," *50th SME North American Manufacturing Research Conference*, NAMRC50, June 27, West Lafayette, USA, 2022.
16. *Nadine Iradukunda*[~], *Tengteng Tang*, Saleh Alfarhan, Kailong Jin, Xiangjia Li^{*}, "Properties evaluation of bioinspired nanocomposite fabricated by liquid crystal templating-assisted 3D printing," *ACS Spring 2022*, San Diego, CA, USA, 2022, (invited).
17. Stephanie Kim[#], Dylan Joralmon, Xiangjia Li^{*}, "3D printing of Bioinspired Damage-Tolerant Ceramic Matrix Composite," *ACS Spring 2022*, San Diego, CA, USA, 2022, (invited).
18. *Tengteng Tang*[~], Dylan Joralmon, Saleh Alfarhan, Kailong Jin, Xiangjia Li^{*}, "Fabrication of Bioinspired Optical Material with Self-sensing Capability via Thermal Field assisted 3D Printing," *Solid Freeform Fabrication Symposium*, SFF 2021, Austin, Texas, 2021.
19. Dylan Joralmon[#], Evangeline Amonoo, Yizhen Zhu, Xiangjia Li^{*}, "Magnetic Field Assisted 3D Printing of Limpet Teeth Inspired Polymer Matrix Composite with Compression Reinforcement," *ASME Manufacturing Science and Engineering Conference*, MSEC2021, June 21, Ohio, USA, 2021.
20. Xiangjia Li^{*}, Yang Yang, "3D Printing Collembola Cuticle Inspired Superhydrophobic Microstructures for Potential Deicing Application," *ASME 2020 International Symposium on Flexible Automation Conference*, ISFA2020, July 8, virtual conference, 2020, (invited).

[Prior to ASU]

21. Xiangjia Li[~], Yong Chen, "3D Printing Temporary Crown and Bridge by Temperature

- Controlled Mask Image Projection Stereolithography," *46th SME North American Manufacturing Research Conference*, NAMRC46, June 18, Texas, USA, 2018.
22. Xiangjia Li~, Huachao Mao, Yayue Pan, Yong Chen, "Mask Video Projection Based Stereolithography with Continuous Resin Flow to Build Digital Models in Minutes," *ASME 2018 International Manufacturing Science and Engineering Conference*, MSEC2018, June 18, Texas, USA, 2018.
 23. Xiangjia Li~, Benshuai Xie, Yong Chen, "3D Printed Bio-inspired Humidity Sensor based on Swelling Kinetics of Carbon Nanotube Composite Hydrogel," *Solid Freeform Fabrication Symposium*, SFF 2017, Austin, Texas, 2017.
 24. Xiangjia Li~, Yong Chen, "Bio-inspired Micro-Scale Texture Fabrication based on Immersed Surface Accumulation Process," *Solid Freeform Fabrication Symposium*, SFF 2017, Austin, Texas, 2017.
 25. Xiangjia Li~, Yong Chen, "Micro-scale Feature Fabrication using Immersed Surface Accumulation," *45th Society of Manufacturing Engineers (SME) North American Manufacturing Research Conference*, NAMRC45, June 4, Los Angeles, CA, USA, 2017.
 26. Xiangjia Li~, Yong Chen, "Surface-based CNC Accumulation: A Flexible High Resolution Additive Manufacturing Process," *Solid Freeform Fabrication Symposium*, SFF 2016, Austin, Texas, USA, 2016.
 27. Xiangjia Li~, Baldacchini T, Xuan Song, Yong Chen, "Multi-scale Additive Manufacturing: An Investigation on Building Objects with Macro-, Micro- and Nano-scales Features," *The 11th International Conference on Micro Manufacturing*, ICOMM2016, March 29, Irvine, CA, USA, 2016.
 28. Xiangjia Li~, Huachao Mao, Yayue Pan, Yong Chen, "Mask Video Projection based Stereolithography with Continuous Resin Flow for Building Digital Models in Minutes," *Solid Freeform Fabrication Symposium*, SFF 2015, Austin, Texas, USA, 2015.

LEGEND

(*) Corresponding Author

Italic: ASU Ph.D. Student; Underline Font: ASU Master's Student for whom Dr. Xiangjia Li is the primary advisor

(#) ASU Undergraduate Student; (+) Equal Contributions; (~) Presenting author

PROFESSIONAL ACTIVITIES AND SERVICE

Conference Organizer:

1. Conference Program committee, ASME International Symposium on Flexible Automation Conference (ISFA), virtual meeting, July 8-9, 2020
2. Conference Program committee, ASME International Symposium on Flexible Automation Conference (ISFA), Seattle, WA, July 21-24, 2024
3. Session Organizer, ASME Manufacturing Science and Engineering Conference (MSEC), Track 2 Biomanufacturing, BioM03-02: Advances in Manufacturing of Tissue

Constructs/Medical Implants and Bioinspired Materials/Structures for Healthcare Applications, Knoxville, TN, June 17-June 21, 2024

4. Session Organizer, ASME Manufacturing Science and Engineering Conference (MSEC), Track 2 Biomanufacturing, Session 3-1 Additive Manufacturing of Functional Devices and Bioinspired Structures, New Brunswick, New Jersey, June 12-June 16, 2023
5. Session Organizer, ASME Manufacturing Science and Engineering Conference (MSEC), Track 1 Additive Manufacturing, Session 1-1-1 Additive Manufacturing of Functional Devices and Bioinspired Structures, West Lafayette, Indiana, June 27-July1, 2022
6. Session Organizer, ASME Manufacturing Science and Engineering Conference (MSEC), Track 1 Additive Manufacturing, Session 1-1-1 Advances in Bioinspired Additive Manufacturing, Virtual conference, June 21-25, 2021
7. Session Organizer, ASME International Symposium on Flexible Automation Conference (ISFA), Track3 Digital Design and Manufacturing, Session1, virtual meeting, July 8-9, 2020
8. Session Chair, Solid Freeform Fabrication Symposium (SFF), Track Applications, Session Polymers, Austin, TX, July 25-27, 2022
9. Session Chair, ASME Manufacturing Science and Engineering Conference (MSEC), Track 1 Additive Manufacturing, Session 1-1-1 Additive Manufacturing of Functional Devices and Bioinspired Structures, West Lafayette, Indiana, June 27-July1, 2022
10. Session Chair, ASME Manufacturing Science and Engineering Conference (MSEC), Track 1 Additive Manufacturing, Session 1-1-1 Advances in Bioinspired Additive Manufacturing, virtual conference, June 21-25, 2021
11. Session Chair, ASME International Symposium on Flexible Automation Conference (ISFA), Track3 Digital Design and Manufacturing, Session1, virtual conference, July 8-9, 2020

Peer-Review Service for Book Chapter, Journals and Conferences:

1. Elsevier for the mechanics of materials and mechanical engineering book review
2. Science, Nature Communication, Advanced Material, Advanced Science, Advanced Functional Material, Additive Manufacturing, ACS Nano, Light Science and Application, Virtual and Physical Prototyping, International Journal of Extreme Manufacturing, International Materials Reviews, Matter, 3D Printing and Additive Manufacturing, Transactions of the Canadian Society for Mechanical Engineering, Journal of Mechanical Engineering Science, ASME Journal of Manufacturing Science and Engineering, Journal of Micro- and Nano-Manufacturing, Composites Science and Technology, Polymer Testing, Journal of Mechanical Design, Recent Patents on Nanotechnology, Journal of Material Research, Journal of Manufacturing Science and Engineering, Buildings, Coatings, Foods, Applied Sciences, Mathematical Biosciences and Engineering, Machines, Biopolymers, Scientific Report, Journal of Biomechanical Engineering, Bio-design and Manufacturing, International Journal for Numerical Methods in Biomedical Engineering, Journal of Functional Biomaterials, Sustainability, Computer Methods in Biomechanics and Biomedical Engineering, Polymers, etc.

3. SME North American Manufacturing Research Conference (NAMRC) 2017, 2019, 2020, 2022, 2023
4. ASME Manufacturing Science and Engineering Conference (MSEC) 2017, 2021, 2022, 2023
5. ASME International Symposium on Flexible Automation Conference (ISFA) 2020
6. ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC-CIE) 2019
7. 13th International Symposium on Visual Computing (ISVC) 2018

Journal Editing Service for Journal:

1. Associate Editor, Biodesign and Manufacturing
2. Member of Editorial Board, Scientific Report
3. Member of Editorial Board, Journal of Material Science and Technology Research
4. Guest Editor, Special issue on “Software Engineering for Smart Manufacturing”, Mathematical Biosciences and Engineering
5. Guest Editor, Special issue on “Design and Manufacturing of Bioinspired Material and Structures”, Materials
6. Guest Editor, Special issue on “Machine Learning in Micro Fabrication” in Micromachines

Proposal Review Service:

1. NSF proposal panel reviewer for Future manufacturing- EcoManufacturing, 2022
2. Orau Ralph E. Powe Junior Faculty Enhancement Awards Program, 2023
3. Pre-submission review for NSF CAREER proposal for Binghamton University, 2024

ASU University Service:

1. SEMTE Faculty Search Committee for Advanced Manufacturing, 2023
2. SEMTE Faculty Search Committee for Additive Manufacturing, 2022
3. SEMTE Faculty Search Committee for Machine Learning, 2022
4. SEMTE Faculty Search Committee for Advanced Manufacturing and Biomanufacturing, 2021

STUDENT MENTORING & GRADUATE THESIS COMMITTEES

Current Student Advisees:

PhD students:

Tengteng Tang (Fall 2021 -), Mechanical Engineering

Dylan Joralmon (Fall 2023 -), Mechanical Engineering

Ashiquzzaman Nipu (Fall 2024 -), Manufacturing Engineering

M.S. Project Students:

- Lakshmi Jayant (Fall 2023-), Mechanical Engineering
MORE Project: 3D Printing of Reinforced Lithium Salt Electrolyte Material with Intricate Structures towards High-Performance Lithium-Ion Batteries

Other M.S. Students (Research):

- Venkata Subrahmanya Krishna Vamshi Vemuri (Spring 2024-), Mechanical Engineering
- Namratha Gopalabhatla (Summer 2024-), Software Engineering

Undergraduate Students (Research):

- John Walling (Spring 2023-), Mechanical Engineering
FURI project: Fabrication of Multi-Metal 3D Objects via Mask Image Projection Initiated Vat Photopolymerization
- Ana Girish (Spring 2023-), Mechanical Engineering
FURI project: Vat Photopolymerization of resin/liquid crystal based polarizer with enhanced anisotropic property for optical steganography
- Minju Yoo (Fall 2023-), Mechanical Engineering
FURI project/Honor thesis: Vat Photopolymerization of 4D-printed Property of Surface Roughness with Hygroresponsive Polymer

High-School Students (Research):

- Chase Nettles (Gary K. Herberger Young Scholars Academy, Spring 2023-)

Graduated Student Advisees

PhD students:

Yizhen Zhu (Fall 2020 – Summer 2024), Thesis topic: Volumetric Printing of Multiscale and Multimaterial Structures via Light Initiated Direct Growth

M.S. Thesis Students Graduated:

- Lakshya Tiwari, (Spring 2023), Thesis topic: Microstructures evaluation and mechanical property of Metal-composite via electrical field-assisted heterogeneous material printing
- Gana Sai Kiran Avinash Raj Dwarampudi (Spring 2023), Thesis topic: Electrically assisted 3D printing of bioinspired hierarchical structures with controllable roughness
- Rohan Ravishekar (Spring 2023), Thesis topic: Fabrication of multilayers nanofilms of solar cells via electrically assisted direct ink deposition with ultrasonic vibration
- Prem K Nawab (Spring 2023), Thesis topic: Vat photopolymerization of functional Structures using recyclable support
- Harsh Verma (Spring 2023), Thesis topic: High resolution fabrication of 3D metal objects using vat photopolymerization

M.S. Project Students Graduated:

- Sheefali Balapure (Spring 2024), Mechanical Engineering
Applied project topic: Volumetric 3D Printing Optimization with Dual Wavelength Polymerization.
- Soham Khairnar (Spring 2024), Mechanical Engineering
Applied project topic: Innovative Silicon Anode Enhancement: A Biomimetic Lithium

Battery Performance Solution.

- Sriram Rama Prakash (Spring 2024), Mechanical Engineering
Applied project topic: 3D Printing of Alloyed Metal Structures using Photopolymerization through Video Projection
- Mistari Vaibhav Gopal (Spring 2024), Mechanical Engineering
Applied project topic: Fabrication of Multi-metal Objects with Continuous Resin Flow via Mask Image Initiated Vat Photopolymerization
- Amal Rai (Fall 2023), Mechanical Engineering
Applied project topic: Optimizing Dispersant Concentration for Enhanced Printing Precision and Surface Quality in CLIP Printed Metal
- Parimal Pradeep Prabhudesai (Fall 2023), Mechanical Engineering
Applied project topic: Eco-friendly 3D Printing of Advanced Functional Structures through Multi-wavelength Vat Photopolymerization
- Ivan Pesqueira (Fall 2023), Mechanical Engineering
MORE Project: Innovative Magnetic Field Design and Modulation for 3D Printing Biomimetic Microrobots with Programmable Material Distribution
- Dhanashree Sargar (Fall 2023), Mechanical Engineering
MORE Project: Evaluation of Air Retention of 3D printed Biomimetic Super-Hydrophobic Structures
- Jessica Westerham (Fall 2022), Mechanical Engineering
Applied project topic: 3D Printing of Aligned Porous Structures via Photopolymerization Induced Phase Separation
- Gana Sai Kiran Avinash Raj Dwarampudi (Spring 2023), Mechanical Engineering
MORE Project: Electrically assisted Vat Photopolymerization of Bioinspired Hierarchical Structures with Hydrophobicity Enhancement
- Nadine Iradukunda (Spring 2022), Mechanical Engineering
Applied project topic: Properties Evaluation of Bioinspired Nanocomposites Fabricated by Liquid Crystal Templating assisted 3D Printing
- Krishna Koparde (Fall 2021), Mechanical Engineering
Applied project topic: Continuous Multimaterial Printing via Structural Beams assisted Stereolithography (not updated in the ipos)
MORE Project: Structural Beam based Continuous Stereolithography for Rapid Continuous Additive Manufacturing
- Aaditya Rajendra Raje (Spring 2021), Mechanical Engineering
MORE Project: Novel Solid Fuel Fabrication using Direct Ink Writing based Additive Manufacturing
- Bhushan Ahire (Spring 2021), Mechanical Engineering
MORE Project: Polymer Material with Metallic Structures via Electrically Vat Photopolymerization

Other M.S. Students (Research) mentored:

- Mitesh Suhas Deshpande (Spring 2023), Mechanical Engineering, Graduate Service Assistantship (GSA)
- Pranith Alluri (Spring 2023), Mechanical Engineering, Graduate Service Assistantship (GSA)
- Xiaotian Shen (Spring 2020), Mechanical Engineering
- Chintan Shan (Fall 2020), Mechanical Engineering
- Sanjay Keshava Murthy (Fall 2020), Mechanical Engineering
- Shreya Reddy (Fall 2020), Mechanical Engineering
- Madison Walker (Fall 2021), Mechanical Engineering
- Sushant Lakhavade (Fall 2021), Materials Engineering
- Darsh Shah (Spring 2022), Robotics & Autonomous System

Undergraduate Project Students mentored:

- Emily A Hudson (Fall 2023), Chemical Engineering
FURI project: 3D Printing of Membranes with Bioinspired Porous Structures for Water Treatment
- Angelina Barron (Fall 2023), Mechanical Engineering
FURI project: 3D Printing of Microrobots with Iron Hydroxide
- Prakhar Ghirnikar (Spring 2022), Computer Science
FURI project: Smart Meta-Structures with Highly Removable and Recyclable Supporting Polymers via Vat Photopolymerization.
- Tochukwu Anyigbo (Fall 2022), Materials Sci & Engineering
FURI project: 3-D Printing Artificial Cells using Acoustic Levitation
- Sarah Mathias (Spring 2022), Biological Sciences
BIO485 Applied project: 3D Printing of Scaffolds using Functional Biomaterial for Covid Infection Screening
- Shenyinhao Chen (Fall 2021), Mechanical Engineering
FURI Project: Mechanical Properties of Structures Fabricated by Continuous Volumetric Photopolymerization based 3D Printing
- John Hutchins (Fall 2021), Mechanical Engineering
Honor thesis: Electrically assisted 3D Printing of PEDOT:PSS Film for Solar Cells
FURI Project: Electrically assisted 3D Printing of PEDOT:PSS Film for Solar Cells Fabrication
- Stephanie Kim (Spring 2021), Mechanical Engineering
FURI project: 3D Printing of Bioinspired Damage-Tolerant Ceramic Matrix Composite
- Omar Serag (Fall 2020), Mechanical Engineering
FURI Project: 3D Printing of Bioinspired Anisotropic Wetting Surface
- Leena Jalaghi (Fall 2020), Mechanical Engineering
FURI Project: Electrically assisted 3D Printing of Perovskite Film for Solar Cells Fabrication

- Joshua Blair (Fall 2020), Mechanical Engineering
FURI Project: Design and Optimization of Fuel Briquette with Bioinspired Structures for Properties Enhancement
- Dylan Joralmon (Fall 2020), Aerospace Engineering
FURI Project: 3D Printing of Iron Hydroxide-based Anode with Bioinspired Structures for Lithium-ion Battery
- Syed Taha Iftikhar (Spring 2020), Mechanical Engineering
Honor Contract Project: Statistical Analysis of a Shape Completion Algorithm

Other UG Students (Research) mentored:

- Shivvyansh Gupta (Spring 2022), Aerospace Engineering
- Jillian Colacicco (Spring 2021), Mechanical Engineering
- Zachary Poit (Fall 2020), Mechanical Engineering

Student Fellowship and Awards:

- Travel Award for WAM2024: Tengteng Tang
- 2024 GPSA Group Travel Award: Tengteng Tang
- SME MSEC2024 1st Best Poster Award: Dylan Joralmon, Tengteng Tang, Vaibhav Mistari, Sriram Prakash, John Walling
- 2024 ASU Inspiring Global Citizen Award: Tengteng Tang
- 2024 Graduate College Completion Fellowship: Tengteng Tang
- ASU GPSA Three Minute Thesis (3MT) Competition Winner (Engineering Sector): Tengteng Tang
- NSF Travel Award for NAMRC/MSEC 2024: Tengteng Tang
- 2024 Graduate College Travel Award: Tengteng Tang
- 2024 ASU Graduate College and GPSA Graduate Research Support Program (GRSP) grant: Tengteng Tang
- 2023-2024 Mistletoe Research Fellowship: Tengteng Tang
- 2023 ASU GPSA Outstanding Mentor Award: Tengteng Tang
- 2023 ASU GPSA Outstanding Research Award: Tengteng Tang
- 2023 ASU GPSA Publication Research Grant: Tengteng Tang
- 2023 ASU GPSA Jumpstart Research Grant: Tengteng Tang
- 2023 Chinese Government Award for Outstanding Self-financed Students Abroad: Tengteng Tang
- 2022/2023/2024 ASU GPSA Travel Grant: Tengteng Tang
- 2023 ASU GPSA Leadership Scholarship: Tengteng Tang

- 2023 ASU GPSA Innovation Fellows Program: Tengteng Tang
- 2023/2024 ASU GPSA Jumpstart Research Grant: Tengteng Tang
- SME MSEC2023 1st Best Paper Award: Tengteng Tang, Dylan Joralmon, Tochukwu Anyigbo
- SME MSEC2022 1st Best Paper Award: Tengteng Tang, Bhushan Ahire
- SME MSEC2022 NSF Student Travel Award: Tengteng Tang
- SFF2022 NSF Student Travel Award: Tengteng Tang
- W.L. Gore & Associates Research Project Support: Leena Jalaghi
- ACS SPRING 2022 NSF Student Travel Award: Stephanie Kim
- ACS SPRING 2022 NSF Student Travel Award: Nadine Iradukunda
- SFF2021 NSF Student Travel Award: Tengteng Tang
- 2021 Arizona State University Graduate Fellowship: Tengteng Tang

Graduate Thesis Committee:

Doctoral defense committee

1. Yash Mistry (PhD, Summer 2024, Advised by Professor Dhruv Bhate, ASU) “Abstraction, Implementation, and Validation of Bioinspired Design Principles using Computational Design and Additive Manufacturing”
2. Yizhen (PhD, Summer 2024, Chair, ASU) “Ultrafast Manufacturing of Multiscale Structures using Single Photon assisted Volumetric Photopolymerization”
3. Yuxiang Zhu (PhD, Spring 2024, Advised by Professor Kenan Song, ASU) “3D Printing Biocompatible Polymers for Biomedical Applications”
4. Amm Golam Hasib (PhD, Fall 2022, Advised by Professor Bruno Azeredo, ASU) “Understanding the Role of Rheology in Binder-based Metal Additive Manufacturing of Solid and Nanoporous Metals”
5. Koushik Paul (PhD, Spring 2022, Advised by Professor Leila Ladani, ASU) “High-Frequency Ultrasound Analysis of Soft Material Characterization”

Master defense committee

1. Abhinav Chavali (M.S., Summer 2024, Advised by Professor Sui Yang, ASU) “Direct Ink Writing of PVDF/PEG/CA Water Treatment Membranes”
2. Ujjawal Jha (M.S., Spring 2023, Advised by Professor Xiangfan Chen, ASU) “3D Printing of Microstructures using u-CLIP Method”
3. Lakshya Tiwari, (M.S., Spring 2023, Chair), Microstructures Evaluation and Mechanical Property of Metal-composite via Electrical Field-assisted Heterogeneous Material Printing
4. Rohan Ravishekar, (M.S., Spring 2023, Chair), Fabrication of Multilayers Nanofilms of Solar Cells via Electrically assisted Direct Ink Deposition with Ultrasonic Vibration
5. Prem K Nawab, (M.S., Spring 2023, Chair), (M.S., Spring 2023, Chair), Vat Photopolymerization of Functional Structures using Recyclable Support

6. Harsh Verma, (M.S., Spring 2023, Chair), High Resolution Fabrication of 3D metal objects using vat photopolymerization
7. Gana Sai Kiran Avinash Raj Dwarampudi, (M.S., Fall 2022, Chair), Electrically assisted 3D Printing of Bioinspired Hierarchical Structures with Controllable Roughness
8. Jackson Opoku (M.S., Spring 2022, Advised by Professor Leila Ladani, ASU) “Mechanical and Electrical Properties of High Conductive, High Strength Copper Material with Fine and Ultra-Fine Grain Size at Room Temperature”
9. Chonghan Wen (M.S., Spring 2022, Advised by Professor Patrick Phelan, ASU) “Triply Periodic Minimal Surface Structure Density Effect on the Power Conversion Performance of a Thermogalvanic Brick”
10. Kunal Gide (M.S., Fall 2021, Advised by Professor Qiong Nian, ASU) “Study Thermal Property of Stereolithography 3D Printed Multiwalled Carbon Nanotubes Filled Polymer Nanocomposite”

Doctoral Qualifying Examination Committee

1. Tengtang Tang (PhD, Spring 2022, Chair, ASU) “Scalable Multi-Material Additive Manufacturing of Polymeric Material with Metallic Structures via Electrically Assisted Stereolithography”
2. Yizhe Zhu (PhD, Spring 2022, Chair, ASU) “Ultrafast Manufacturing of Multiscale Structures using Single Photon assisted Volumetric Photopolymerization”
3. Yash Mistry (PhD Spring 2022, Advised by Professor Dhruv Bhate, ASU) “Abstraction, Implementation and Validation of Bioinspired Design Principles for the Additive Manufacturing of Cellular Materials”
4. Yuxiang Zhu (PhD, Advised by Professor Kenan Song, ASU) “3D Printed Tissue Scaffolds and 3D Printed Thermoelectric Devices”

Doctoral Comprehensive Exam/ Dissertation Proposal Prospectus Examining Committee

1. Emmanuel Dasinor (PhD, Fall 2023, Advised by Professor Bruno Azeredo, ASU) “Flexible and Stretchable Porous Catalytic Stamps for Conformal Electrochemical Nanoprinting of Silicon: Mechanical Perspective”
2. Yizhen Zhu (PhD, Fall 2023, Chair, ASU) “Ultrafast Manufacturing of Multiscale Structures using Single Photon assisted Volumetric Photopolymerization”
3. Tengtang Tang (PhD, Spring 2023, Chair, ASU) “Scalable Multi-Material Additive Manufacturing of Polymeric Material with Metallic Structures via Electrically Assisted Stereolithography”
4. Yuxiang Zhu (PhD, Spring 2023, Advised by Professor Kenan Song, ASU) “3D Printed Tissue Scaffolds and 3D Printed Thermoelectric Devices”
5. Yash Mistry (PhD Spring 2023, Advised by Professor Dhruv Bhate, ASU) “Abstraction, Implementation and Validation of Bioinspired Design Principles for the Additive Manufacturing of Cellular Materials”
6. Amm Golam Hasib (PhD, Spring 2021, Advised by Professor Bruno Azeredo, ASU) “Rheology scaling of metal particle reinforced polymer matrix composite (PMC) for 3D

printing of dense metal parts via Fused Filament Fabrication (FFF) and the study of polymer imbibition into porous metal”

7. Koushik Paul (PhD, Fall 2020, Advised by Professor Leila Ladani, ASU) “Soft Material Characterization Through High-Frequency Ultrasound”

TEACHING EXPERIENCE

- Spring 2024: MAE494 *Mechatronics Engineering for Design & Manufacturing* (19 undergraduate students) Teaching Mean [3.93/5.0]
- Spring 2024: MAE598 *Mechatronics Engineering for Design & Manufacturing* (20 graduate/undergraduate students) Teaching Mean [4.61/5.0]
- Fall 2023: MAE301 *Applied Experimental Statistic* (104 undergraduate students) Teaching Mean [4.05/5.0]
- Fall 2023: ASU101 *The ASU Experience* (20 undergraduate freshmen) Teaching Mean [4.30/5.0]
- Spring 2023: MAE598 *Mechatronics Engineering for Design & Manufacturing* (20 graduate students) Teaching Mean [4.87/5.0]
- Spring 2023: MAE494 *Mechatronics Engineering for Design & Manufacturing* (20 undergraduate students) Teaching Mean [4.89/5.0]
- Fall 2022: MAE301 *Applied Experimental Statistic* (73 undergraduate students) Comparative Evaluation [3.70/5.0]
- Fall 2022: ASU101 *The ASU Experience* (19 undergraduate freshmen) Comparative Evaluation [3.76/5.0]
- Spring 2022: MAE201 *Mech. Particles/Rigid Bodies I* (88 undergraduate students) Teaching Mean [3.71/5.0] Comparative Evaluation [4.34/5.0]
- Spring 2021: MAE301 *Applied Experimental Statistic* (51 undergraduate freshmen) Teaching Mean [4.23/5.0] Comparative Evaluation [4.46/5.0]
- Spring 2020: MAE301 *Applied Experimental Statistic* (62 undergraduate students) Teaching Mean [4.15/5.0] Comparative Evaluation [4.46/5.0]