Guoying **Dong**

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Work Experience

University of Colorado Denver — **Denver, CO, USA**
Job: Assistant Professor in Department of Mechanical Engineering — 2021.11 – Now
Research: Design for Additive Manufacturing, Machine Learning, Mechanics of Materials

Singapore University of Technology and Design — **Singapore**
Job: Research Fellow in Digital Manufacturing and Design Center — 2019.11 - 2021.11
Research: Feature-based surrogate model by machine learning
Product-Process Co-Design Methodology

Education

McGill University — **Montreal, Canada**
Ph. D. in Mechanical Engineering — 2015.09-2019.10
Research: Design, optimization and simulation of lattice structures, Conformal cooling channels

Northwestern Polytechnical University — **Xi'an, China**
B.Sc. in Aeronautical Engineering — 2011.09-2015.07

Grants and Awards

Grants:

Workforce Innovation Grant (WIG) Incumbent Worker Training (IWT) Program, Denver Economic Development & Opportunity, $250,000 — 2024

Undergraduate Program Equipment Grants, ASHRAE, $2,000 — 2024

Seed Grant, University of Colorado Denver, $10,000 — 2024

High-Resolution peripheral Quantitative Computed Tomography (HR-pQCT) Seed Grant, Colorado Clinical and Translational Sciences Institute, $10,000 — 2024

Teaching Innovation Grants, University of Colorado Denver, $995 — 2024

Early-Career Professional Development Grant (ECPD), University of Colorado Denver, $1,000 — 2023

Awards:

Chinese government award for outstanding self-financed students abroad — 2020
Journal of Mechanical Design Editors' Choice Award Honorable Mention — 2020
Reviewer's Favorite Award, ICED 19 Conference — 2019
Lorne Trottier Engineering Graduate Fellowship, McGill University — 2017

Publication

Google Scholar Citation: 1681, h-index: 19, i10-index: 23.

Selected Journal Publications

- **Jingchao Jiang**, Xun Xu, Yi Xiong, Yunlong Tang, **Guoying Dong**, and Samyeon Kim. "A novel strategy for multi-part production in additive manufacturing." The International Journal of Advanced Manufacturing Technology 109 (2020): 1237-1248.
- Sandford, Halston JC, Yunlong Tang, and **Guoying Dong***. "Investigation of fiber waviness in fused deposition modeling printed continuous fiber-reinforced polymers." The International Journal of Advanced Manufacturing Technology (2024): 1-10.
- Teawdeswan, Ladpha, and **Guoying Dong***. "Inverse design of multi-material gyroid structures made by additive manufacturing." International Journal of Mechanical Sciences 262 (2024): 108734.
- **Dong, Guoying***, Jian Cheng Wong, et al. "A part-scale, feature-based surrogate model for residual stresses in the laser powder bed fusion process." Journal of Materials Processing Technology (2022): 117541.
- Gao, Zhenyang, **Guoying Dong***, Yunlong Tang, and Yaoyao Fiona Zhao. "Machine learning aided design of conformal cooling channels for injection molding." Journal of Intelligent Manufacturing (2021): 1-19.
- **Dong, Guoying**, Tang, Y., Li, Dawei & Zhao, Y. F. (2020). "Design and Optimization of Solid Lattice Hybrid Structures Fabricated by Additive Manufacturing", Additive Manufacturing
- **Dong, Guoying**, Julien Marleau-Finley, and Yaoyao Fiona Zhao. (2019) " Investigation of electrochemical post-processing procedure for Ti-6Al-4V lattice structure manufactured by Direct Metal Laser Sintering (DMLS)" The International Journal of Advanced Manufacturing Technology,
- **Dong, Guoying**, Yunlong Tang, and Yaoyao Fiona Zhao. "A 149 Line Homogenization Code for Three-Dimensional Cellular Materials Written in MATLAB." Journal of Engineering Materials and Technology 141.1 (2019): 011005.
- **Dong, Guoying**, and Yaoyao Fiona Zhao. (2018) "Numerical and experimental investigation of the joint stiffness in lattice structures fabricated by additive manufacturing." International Journal of Mechanical Sciences, Volume 148, Pages 475-485
- **Dong, Guoying**, Wijaya, G., Tang, Y. & Zhao, Y. F. (2017). "Optimizing Process Parameters of Fused Deposition Modeling by Taguchi Method for the Fabrication of Lattice Structures." Additive Manufacturing, Volume 19, Pages 62-72.
- **Dong, Guoying**, Tang, Y., & Zhao, Y. F. (2017). "A Survey of Modeling of Lattice Structures Fabricated by Additive Manufacturing." Journal of Mechanical Design, 139(10), 100906.

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Selected Conference Proceedings

- Wong, Jian Cheng, Chin Chun Ooi, Joyjit Chattoraj, Lucas Lestandi, **Guoying Dong**, Umesh Kizhakkinan, David William Rosen, Mark Hyunpong Jhon, and My Ha Dao. "Graph Neural Network Based Surrogate Model of Physics Simulations for Geometry Design." In 2022 IEEE Symposium Series on Computational Intelligence (SSCI), pp. 1469-1475. IEEE, 2022.
- **Guoying Dong**, Yuchen Ding, Ladpha Teawdeswan, Chaoqian Luo, Kai Yu, (2022). Experimental And Numerical Analysis Of Lattice Structures With Different Heterogeneities, In 2022 International Solid Freeform Fabrication Symposium. University of Texas at Austin.
- Jayashankar, D. K., Devarajan, A., **Dong, Guoying**, & Rosen, D. (2021). Design and Manufacture of a Continuous Fiber-Reinforced 3D Printed Unmanned Aerial Vehicle Wing. In 2021 International Solid

Freeform Fabrication Symposium. University of Texas at Austin.

- **Dong, Guoying**, Tessier, D., Zhao, Y. F. (2019). “Design of Shoe Soles Using Lattice Structures Fabricated by Additive Manufacturing.” ICED19 conference, Delft, The Netherlands.
- **Dong, Guoying**, Tang, Y., Li, D., & Zhao, Y. F. (2018). “Mechanical Properties of Continuous Kevlar Fiber Reinforced Composites Fabricated by Fused Deposition Modeling Process.” Procedia Manufacturing, 26, 774-781.
- **Dong, Guoying**, Tang, Y., & Zhao, Y. F. (2017). “Simulation of Elastic Properties of Solid-lattice Hybrid Structures Fabricated by Additive Manufacturing.” Procedia Manufacturing, 10, 760-770.

Book Chapter

- **Dong, Guoying**, Tang, Y, & Fiona Zhao, Y. "Mesoscale Lattice Structure Design and Simulation with the Support of a Property Database." Advances in Computers and Information in Engineering Research, Volume 2. Ed. Michopoulos, JG, Paredis, CJ, Rosen, DW, & Vance, JM. ASME, 2021.

Conference Organization

Manufacturing Science and Engineering Conference **Knoxville TN, USA**
Symposium: Advances in Sustainable Manufacturing for Improved Component Life Cycle Performance June 17–21, 2024
Conference Role: Organizer

46th North American Manufacturing Research Conference **College Station, USA**
Presentation: Mechanical Properties of Continuous Kevlar Fiber Reinforced Composites 2018, June
Conference Role: Session Chair

Review Activities

I have reviewed more than 50 manuscript for international journals. I listed the journals that Selected reviewed journals:

Additive Manufacturing
Scientific Report
Materials and Design
International Journal of Computer Integrated Manufacturing
3D Printing and Additive Manufacturing
Thin-Walled Structures
Engineering Science and Technology, an International Journal
Smart Health
Biomimetics
Composites Part B: Engineering
Proceedings of the Institution of Mechanical Engineers
IEEE Transactions on Automation Science and Engineering
Journal of Computational Design and Engineering
Journal of Industrial Information Integration
Manufacturing Letters