Joe Researcher

Contact Information

Research Interest	Multiphase flow, atomization, turbulence modeling, high performance computing

Education

Ph.D. Mechanical Engineering — August 2017 to present
Baylor University — Waco, TX

M.S. Mechanical Engineering — August 2017
Baylor University — Waco, TX

- Thesis title: Three dimensional topology optimization with orthotropic material orientation design for additive manufacturing structures
- Adviser: Dr. Douglas Smith

B.S. Mechanical Engineering — May 2015
Minor: Math
Baylor University — Waco, TX

Research Experience

Graduate Assistant — August 2017 to present
Baylor University — Waco, TX

Graduate Assistant — August 2015 to August 2017
Baylor University — Waco, TX

Journal Papers

1. **Delin Jiang** and Yue Ling. Destabilization of a planar liquid stream by a co-flowing turbulent gas stream. *International Journal of Multiphase Flow*, 122:103121, 2020
2. **Jiang, Delin**, Robert Hoglund, and Douglas E Smith. Continuous fiber angle topology optimization for polymer composite deposition additive manufacturing applications. *Fibers*, 7(2):14, 2019
3. **Delin Jiang** and Douglas E. Smith. Anisotropic mechanical properties of oriented carbon fiber filled polymer composites produced with fused filament fabrication. *Additive Manufacturing*, 18:84 – 94, 2017

Conference Papers & Presentations

1. **D. Jiang**, L. Jiang, and Y. Ling. Numerical investigation of flow-blurring airblast atomization. In *ASME - JSME - KSME Joint Fluids Engineering Conference 2019, San Francisco, California, US*, 2019
2. **D. Jiang**, S. Zaleski, G. Tryggvason, and Y. Ling. Impact of inlet gas turbulent intensity on the characteristics of droplets generated in airblast atomization. In *Winner of Flow Visualization Showcase, AIAA Aviation 2019 Forum, Dallas, TX, USA*, 2019
3. **Jiang, Delin**, Yue Ling, Gretar Tryggvason, and Stephane Zaleski. Impact of inlet gas turbulent intensity on the characteristics of droplets generated in airblast atomization. In *AIAA Aviation 2019 Forum*, page 3721, 2019

4. **D. Jiang** and Y. Ling. Effect of inlet gas turbulence on airblast atomization. In *The Bluebonnet Symposium on Thermal-Fluid Sciences, University of Texas, Dallas, TX*, 2019
5. **Jiang, Delin**, Yue Ling, Daniel Fuster, Stephane Zaleski, and Gretar Tryggvason. Manipulating gas-assisted atomization by inlet gas turbulence. *Bulletin of the American Physical Society*, 2019
6. **D. Jiang**, S. Zaleski, G. Tryggvason, and Y. Ling. Airblast atomization of a planar water jet assisted by a coflowing turbulent air stream. In *Gallery of Atomization and Sprays, 14th Triennial International Conference on Liquid Atomization and Spray Systems, Chicago, Illinois, USA*, 2018
7. **D. Jiang**, S. Zaleski, G. Tryggvason, and Y. Ling. Effect of inlet gas turbulence on air-blast atomization. In *Proceeding of 14th Triennial International Conference on Liquid Atomization and Spray Systems, Chicago, Illinois, USA*, 2018
8. **D. Jiang** and Y. Ling. On the effect of inlet gas turbulence on airblast atomization. In *The Bluebonnet Symposium on Thermal-Fluid Sciences, University of Texas, Dallas, TX*, 2018
9. **Jiang, Delin**, Stephane Zaleski, Gretar Tryggvason, and Yue Ling. Destabilization and breakup of a planar liquid stream assisted by a co-flowing turbulent gas stream. *Bulletin of the American Physical Society*, 2018
10. **Jiang, D** and DE Smith. Topology optimization for 3d material distribution and orientation in additive manufacturing. In *Proceedings of the 28th Annual International Solid Freeform Fabrication Symposium, Austin, TX, USA*, pages 7–9, 2017
11. **Jiang, D** and DE Smith. Predicting short fiber composite material distribution and orientation using optimization for additive manufacturing applications. *Optimization*, 27:28, 2017
12. **Jiang, D** and DE Smith. Mechanical behavior of carbon fiber composites produced with fused filament fabrication. *press, Additive Manufacturing*, 2017

Awards

- 2019 AIAA Aviation Flow Visualization Showcase: Most Quantitatively Descriptive Flow Visualization
- 2018 International conference on liquid atomization & spray systems student travel award
- Baylor Graduate School Fellowship Scholarship
- Baylor Graduate student travel awards (Five)
- Baylor University Anonymous Endowed Scholarship Fund
- Baylor Transfer Student Scholarship

Teaching Experience

Baylor University — Waco, TX
Teaching Assistant — August 2015 to May 2017

- Instrumentation and Measurements
- Materials and Manufacturing Processes Lab
- Dynamic Systems
- Mechanical Engineering Materials and Manufacturing Processes

Professional Affiliations

- American Society of Mechanical Engineering — April 2018 to Present
- Society of Plastic Engineers — August 2015 to Present
- Society of Women Engineers — August 2018 to Present
- Society of Automotive Engineers — August 2013 to August 2015

- Golden Key Honor Society — October 2016 to Present
- Pi Tau Sigma Honor Society — November 2014 to Present
- Tau Sigma Honor Society — April 2014 to Present