

Advanced Manufacturing

Current Projects:

Project Title: Modeling and Simulations of Electrostatically Levitated Multiphase Liquid Drops
PI/co-PIs: Jonghyun Lee (Institutional PI)
Funding Agency: NASA
Dollar Amount and Duration: \$550,000; Oct 2019 - Sep 2024

Project Title: Feasibility Study of 3D Printing Concrete for Transportation Infrastructures
PI/co-PIs: K. Wang; S. Laflamme, S. Sritharan, P. Taylor, H. Qin
Funding Agency: IADOT Innovation Program
Dollar Amount and Duration: \$45,000; 09/1/2018 - 09/1/2020

Project Title: Three Dimensional Printed Scaffolds for Understanding Effect of Cavitation on Blood Brain Barrier
PI/co-PIs: Nicole Hashemi, Reza Montazami
Funding agency: DOD - Office of Naval Research
Dollar Amount and Duration: \$301,000; 5/31/2017 - 06/30/2020

Project Title: An Open-source Framework for the Computational Analysis and Design of Autothermal Chemical Processes
PI/co-PIs: A. Passalacqua, S. Subramaniam, R. Brown, M. Mba-Wright
Funding Agency: US DOE - AMO
Dollar Amount and Duration: \$1,072,830; June 1st 2018 - May 31st 2020

Project Title: SBIR: Innovative Multiphase Models for Enhanced Blast Effects
PI: Rodney Fox
Funding Agency: DOD – Air Force
Dollar Amount and Duration: \$25,000, 9/3/2019 - 3/27/2020

Project Title: Microfluidic Fiber Fabrication for Biotech Applications
PI/co-PIs: Nicole Hashemi (PI), Reza Montazami, Darin Heisterkamp
Funding agency: DOD - Army Research Office
Dollar Amount and Duration: \$69,771; 9/28/2017 - 1/31/2020

Completed 2019:

Project Title: SI2-SSE: A Next-Generation Open-source Computational Fluid Dynamic Code for Polydisperse Multiphase Flows in Science and Engineering
PI/co-PIs: A. Passalacqua, R. O. Fox, S. Mitra
Funding Agency: NSF - ACI
Dollar Amount and Duration: \$499,551; Oct. 1st, 2014 - Sep. 30th, 2019

Project Title: Microfibrous Scaffolds to Navigate Single Neurons
PI: Nicole Hashemi
Funding agency: DOD - Office of Naval Research
Dollar Amount and Duration: \$201,709; 2/1/2016 - 1/1/2019