

Brittney S. Freeman

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Address: 200 Benton Hall
Gainesville, FL 32611**Education**

Doctor of Philosophy in Mechanical Engineering May 2024

University of Florida

Department of Mechanical and Aerospace Engineering

Dissertation: *A Flat-Packed Optical Shear Stress Sensor Using Moiré Transduction*

Advisor: Dr. Mark Sheplak

Master of Science in Mechanical Engineering Dec. 2021

University of Florida

Department of Mechanical and Aerospace Engineering

Bachelor of Science in Aerospace Engineering May 2019

University of Florida

Department of Mechanical and Aerospace Engineering

Research Positions

Graduate Research Assistant Aug. 2019 – Present

Interdisciplinary Microsystems Group (IMG)

Principal Investigator: Dr. Mark Sheplak

University of Florida

- Design, fabrication, and characterization of instrumentation for fluid flow measurements to provide insight into boundary layer physics

Undergraduate Research Assistant Dec. 2017 – Aug. 2019

Interdisciplinary Microsystems Group (IMG)

University of Florida

- Responsible for quantifying vibration sensitivity of capacitive microsensors for design considerations
- Modeling and simulation of transducer vibratory response and characteristics

Teaching Experience

Fluid Mechanics I 2020

Department of Mechanical and Aerospace Engineering, University of Florida (UF)

Thermodynamics 2018

Department of Mechanical and Aerospace Engineering, UF

Mechanics of Materials 2017

Department of Mechanical and Aerospace Engineering, UF

Math Tutor 2013 – 2018

Mathematics Learning Lab, Santa Fe College

Fellowships and Honors

NASA Training Grant Fellowship NASA (via University of Florida)	2021 – 2024
Graduate Student Preeminence Award University of Florida	2019 – 2024
Board of Education Summer Fellowship Office for Graduate Diversity Initiatives University of Florida	2019
Knox T. Millsaps Outstanding Graduate Teaching Assistant Award Department of Mechanical and Aerospace Engineering University of Florida	2021

Relevant Coursework and Projects

Convection Heat Transfer	2021
Navier Stokes Equations	2020
Numerical Analysis	2020
Fluids I and Fluids II	2019 – 2020
<i>Project: An Examination of the Turbulent Boundary Layer</i>	
Data Measurement and Analysis	2019
<i>Project: Elimination of Linear Input Influence by Coherent Power Analysis</i>	

Service Roles

Social Media Committee Member IMG, University of Florida	2021
Laboratory Manager IMG, University of Florida	2020 – Present
Campus Orientation Assistant Department of Mechanical and Aerospace Engineering, UF	2020
Volunteer Science Fair Judge Alachua County Public Schools	2019 – 2021
K-12 Student Mentor Take Stock in Children	2018 – 2020
Volunteer Science Educator Alachua County Public Schools	2017 – 2018