

# Casey A. Barnard

(954)-422-3307 – [cbarnard511@ufl.edu](mailto:cbarnard511@ufl.edu)

## **Education – University of Florida – College of Engineering**

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- **Bachelors of Science in Aerospace Engineering – 2011**
  - **Minor in Biomechanics**
  - Cumulative Undergraduate GPA: 3.62
- **Masters of Science in Aerospace Engineering – 2013**
- **Masters of Science in Electrical Engineering – 2016**
- **Certificate of Engineering Innovation and Leadership – 2016**
- **Certificate of Microsystems Technology - 2016**
- **Doctorate of Philosophy in Mechanical Engineering – 2017**
  - Cumulative Graduate GPA: 3.92
  - Sandia National Labs Campus Executive Fellowship
  - University of Florida Graduate Student Fellowship
  - Dissertation title: An aerodynamic wall shear stress vector measurement system

## **Experience and Activities**

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### **Student Intern – Sandia National Laboratories – Summer of 2010, 2011, 2012, and 2015**

- Designed and built testing setups for characterizing numerous forms of MEMS transducers, including microfluidic valves, optical microphones, liquid metal accelerometers and others
- Led small team of undergraduate interns to establish new procedures for making high-temperature measurements of silicon-carbide based MEMS

### **Teaching Assistant - Graduate Fluid Mechanics I (2011) and Undergraduate Aerodynamics (2012)**

### **Nanoscale Research Facility – User Advisory Committee - 2013 to present**

- Provide advice and feedback on the current operations and new initiatives of the NRF facility

### **College of Engineering Graduate Student Council (EGSC) - 2013 to present**

- Vice-chair in 2014-2015: major projects included revitalizing the recruitment efforts for the college and developing a guide for Department Best Practices
- Chair in 2015-2016: major projects included establishment of distinct graduate student councils for all departments and early drafts of the Individual Development Plan initiative

### **Mechanical and Aerospace Engineering Graduate Student Council - 2015 to present**

- Founded new version in conjunction with MAE graduate coordinator
- Ensured appointment of board members and ratification of constitution, with continuing commitments to department functions and service

### **Attributes of a Gator Engineer – Leadership – 2016**

- Awarded yearly to students who most embody one of the five core attributes UF has identified for success

## **Interdisciplinary Microsystems Group (IMG) - Lab Service**

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### **Lab Manager – Mechanical and Electrical Testing**

- Oversee the two lab rooms for basic testing shared by over 40 students
- Responsible for all users including ensuring safety, maintaining equipment, arranging time sharing of in-demand tools, and maintaining an organized working space

### **Tool Super-User for Probe Station and Circuit Board Milling Machine**

- Perform maintenance, repairs, and testing of equipment to maintain functionality
- Provide training or services-on-request for all IMG members

**Coffee Committee** – ensure the IMG espresso machine is operational and fully stocked with caffeine at all hours – over 40,000 shots served so far – my most important job for IMG to function