

Dennis Parnell Jr.

PhD Student, Mechanical Engineering

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Gainesville, FL

EDUCATION

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| Doctor of Philosophy in Mechanical Engineering <i>Graduate Certificate in Engineering Education</i> University of Florida, Gainesville | May 2025 |
| Master of Science in Mechanical Engineering University of Florida, Gainesville | Dec. 2021 |
| Bachelor of Science in Mechanical Engineering <i>Cum Laude</i> The University of Alabama, Tuscaloosa | May 2019 |

RESEARCH EXPERIENCE

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| Graduate Research Assistant , University of Florida Advisor: Mark Sheplak, PhD Dissertation: <i>High-Bandwidth Heat Flux Sensor Measurements in Hypersonic Flows</i> <ul style="list-style-type: none">Developing a MEMS-based heat flux sensor for insight into the dynamics of hypersonic boundary layer transition which will enable the design of hypersonic vehicles | Aug. 2019 – Present |
| SURF Intern , University of Florida Advisor: Mark Sheplak, PhD Project: <i>Design and Fabrication of a Platinum Resistor for a MEMS-Based Heat Flux Sensor</i> <ul style="list-style-type: none">Fabricated thin film platinum resistors on a sapphire wafer to support the development of a MEMS heat flux sensor | May 2018 – Aug. 2018 |
| Undergraduate Research Assistant , The University of Alabama Advisor: Joshua Bittle, PhD Project: <i>Demonstrating a Direct-Injection Constant-Volume Combustion Chamber as a Validation Tool for Chemical Kinetic Modeling of Liquid Fuels</i> <ul style="list-style-type: none">Collected and analyzed ignition delay data on n-heptane and iso-octane fuels to prove the Cetane Ignition Delay (CID) 510 system can be used to strengthen chemical kinetic model validationPlaced second in the College of Engineering for the 2018 University of Alabama Undergraduate Research and Creative Activity Conference (URCA) poster presentation | Aug. 2017 – May 2018 |

PROFESSIONAL INTERNSHIPS

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| MEMS Manufacturing Engineering Intern , Collins Aerospace <ul style="list-style-type: none">Characterized a replacement glass frit paste for strain products by identifying the critical bond process variablesInvestigated a method to eliminate wafer fixtures during the iso-etch process to reduce scrap and improve operator ergonomicsQualified a new sputter deposition tool for an aluminum target to reduce material scrap, process time, and the workload on another tool | May 2019 – Aug. 2019 |
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Engineering Co-op, Mercedes-Benz U.S. International

Jan. 2016 – Aug. 2017

- Supervised a continuous improvement project for contractor manpower
- Created and managed a training program for shipping protection audits
- Created Polyworks models for carrier pallets to increase the speed of pallet repairs

PUBLICATION

Conference Paper

A. E. Suttle, B. T. Fisher, **D. R. Parnell Jr.** and J. A. Bittle, "Demonstrating a Direct-Injection Constant-Volume Combustion Chamber As a Validation Tool for Chemical Kinetic Modeling of Liquid Fuels," in *ASME 2018 Internal Combustion Engine Division Technical Conference*, San Diego, 2018.

FELLOWSHIPS AND AWARDS

Fellowships/Scholarships

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| Florida Education Fund McKnight Doctoral Fellowship | 2019 – Present |
| Southeastern Conference (SEC) Engineering Deans Graduate Fellowship | 2019 – Present |
| University of Florida Graduate School Preeminence Award | 2019 – Present |
| The University of Alabama President’s Cabinet Engineering Scholarship | 2014 – 2019 |
| The University of Alabama UA Scholar Award | 2014 – 2019 |
| The University of Alabama Engineering Leadership Scholarship | 2014 – 2019 |

Awards

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| Most Outstanding Senior, National Society of Black Engineers (UA) | 2019 |
| BFSA Academic Excellence Award (UA) | 2015 – 2019 |

SERVICE

University

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| Officer, ECE Graduate Student Wellness Working Group (UF) | 2021 - Present |
| Member, Diversity & Academic Inclusion Group (UF) | 2021 - Present |
| Member, IMG Leadership Council (UF) | 2021 – Present |
| President, Gator McKnights Unite (UF) | 2020 – Present |
| President, IMG Social Media Committee (UF) | 2020 – Present |
| Mentor, Undergraduate Peer Partnering (UA) | 2018 – 2019 |
| Math Tutor, Mathematics Technology Learning Center (UA) | 2018 – 2019 |
| Ambassador, Cooperative Education Program (UA) | 2017 – 2019 |
| Vice President, National Society of Black Engineers (UA) | 2017 – 2018 |
| Parliamentarian, Collegiate 100 Black Men of America (UA) | 2017 – 2018 |
| Academic Excellence Chair, National Society of Black Engineers (UA) | 2016 – 2017 |

Community

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| Robotics Instructor, Boy Scouts of America | 2019 |
| Judge, Regional Alabama Science Olympiad Tournament | 2018 – 2019 |
| Coach, 100 Black Men of America African American History Challenge | 2017 – 2019 |
| Volunteer, Tuscaloosa Habitat for Humanity | 2017 – 2018 |
| Mentor, The Tuscaloosa Foundation Project | 2016 – 2017 |
| Facilitator, AmeriCORPS Bridges Leadership Conference | 2015 |