

Jennie M. Daigler

Education:

M.S., Mechanical Engineering, Mississippi State University, December 2020
B.S., Mechanical Engineering, Mississippi State University, December 2018
A.A., Northeast Mississippi Community College, May 2016

Academic Experience:

Mississippi State University, Instructor, August 2021-present, full time
Mississippi State University, Lecturer, August 2020-May 2021, part time

Non-Academic Experience:

Research Engineer I, *Center for Advanced Vehicular Systems, Starkville, MS, 2019 - 2021*

- Experimental Testing
 - Designed, manufactured, and tested notched tension specimen of high-hard steel to observe effects of triaxial stress state at various strain rates.
 - Designed and manufactured fixturing for testing set-up of large samples that mimicked in service components
 - Constructed and executed experimental test plan for component level testing to compare various material combinations
 - Experimentally tested material with novel heat treat for use in automotive application
- Analyzed automotive structures to provide weight reduction ideas for cost reduction, associated risk, and manufacturability
- Developed semester long rotational mentoring program for Mississippi School of Math and Science student to show applications of engineering research at the university level
- Lab Safety Manager for Split Hopkinson Pressure Bar Work Area

Graduate Research Assistantship

Center for Advanced Vehicular Systems – Starkville, MS

January 2019 – July 2019

- Technology Development
 - Redesigned patented technology to implement simple manufacturing techniques and modularity
 - Conducted finite element analysis to simulate complex, dynamic stress states
- Experimental Testing
 - Evaluated the effects of strain rate variance on strength and ductility of high-hard armored steels by performing uniaxial tension tests at strain rates of 10^{-8} /s to 10^3 /s using Instron 5882, Split Hopkinson Pressure Bars, and an in-house, intermediate-strain-rate mechanical testing machine
 - Experimentally tested friction materials using Digital Image Correlation (DIC) to collect velocity and acceleration profiles for use in high speed actuation
- Teaching Assistant
 - Worked with multiple industries across the southeast to recruit and scope projects for the Capstone Design Course in Mechanical Engineering
 - Aided in management and mentorship of 20 projects each semester
 - Developed website to showcase Capstone Projects and collect new project ideas

Private Consulting

Wilburn Whittington, Ph.D. – Starkville, MS

March 2019 - July 2019

- Performed kinematic projectile analysis and prepared expert witness report for use as evidence in support of a successful trial outcome

Mechanical Engineer Intern/Project Management Assistant

Gresham Smith - Nashville, TN

May 2018 - August 2018

- Worked collaboratively with multidiscipline internal and external teams to develop a 10-year Master Plan that included strategic responses for various economic situations and product changes.
- Reviewed contractors change requests on drawings for industrial HVAC systems

Process Engineer Intern

Faurecia Automotive Seating - Madison, MS

May 2017 - August 2017

- Designed assembly line layout and ergonomic part presentation to account for supply logistics, assembly process, and operator efficiency using AutoCAD software
- Used Microsoft Excel to compare customer broadcasted builds at two process locations and helped decide which broadcast location to use in supplying an automated storage and retrieval system
- Installed wireless torquing equipment on an assembly line and integrated into system programming as a quality checkpoint to resolve the most common quality issue on that specific assembly line

Current Membership in Professional Organizations: (2022-23)

- American Society of Engineering Education

Service Activities:

- Mechanical Engineering Laboratory Curriculum and Standardization Committee (CSC) Member, Mississippi State University
- Mechanical Engineering Mechanical Systems Curriculum and Standardization Committee (CSC) Member, Mississippi State University
- Undergraduate Committee Member, Mechanical Engineering Department, Mississippi State University

Most Important Publications/Presentation:

- Leonard, III RY, **Maddox J**, Krivanec C, El Kadiri H, Rhee H, Allison P, Whittington WR. Strain Rate Dependency of HSLA 420 using the Johnson Cook Model. Society of Experimental Mechanics Annual Conference. Reno, NV (2019).
- **Maddox J**, Smith R, Leonard, III RY, Rhee H, El Kadiri H, Whittington WR. Effect of Triaxiality on Armored Steels at Quasi-Static and High Strain Rates. Society of Experimental Mechanics Annual Conference. Orlando, FL (2020).

Professional Development Activities:

- Online Teaching 101: Best Practices in Online Instruction, Center for Teaching and Learning, Mississippi State University, 2022