Chelsea D. McMeen ***Curriculum vitae***

CONTACT INFORMATION

Auburn University
Department of Industrial and Systems Engineering
3322 Shelby Center for Engineering Technology
Auburn, AL 36849 USA

Mobile: +1-256-682-7591
E-mail: chelsea@auburn.edu
Web: chelsmau.github.io

QUALIFICATIONS AND INTERESTS

Product innovation, human factors, ergonomics, systems safety, industrial hygiene, resilience engineering, occupational risk exposure assessment, engineering psychology, personal protective equipment, psychosocial safety, musculoskeletal and cumulative trauma disorders, hearing loss prevention, environmental stressors, fatigue, advanced manufacturing systems, engineering controls, total worker health, machine safety, patient handling, productive aging, strategic foresight, workplace violence, healthcare systems

AVAILABILITY

- Geographic location is flexible; Auburn, Alabama is preferred

EDUCATION

Auburn University, *Auburn, Alabama*

Ph.D., Industrial and Systems Engineering, *anticipated Dec 2027* GPA: 3.93 (4.0 scale)

- Thesis Topic: *An Adaptive Spatiotemporal Data Fusion Framework for Systems-Based Occupational Noise Exposure Assessment*
- Advisor: Dr. Richard F. Sesek
- Area of Study: Occupational Safety and Ergonomics

M.S., Industrial and Systems Engineering, **August 2025** GPA: 3.93 (4.0 scale)

B.S., Industrial and Systems Engineering, **May 2013** GPA: 3.43 (4.0 scale)

- *cum Laude*, With Honors in Engineering

Columbus State University, *Columbus, Georgia*

M.A.T., Secondary Mathematics Education, **December 2018** GPA: 4.0 (4.0 scale)

PROFESSIONAL EXPERIENCE

Auburn University Samuel Ginn College of Engineering, *Auburn, Alabama*

Graduate Teaching Assistant **August 2024 to Present**

- Provided direct instructional support for undergraduate/graduate Occupational Safety and Ergonomics (INSY 3020), Safety Engineering I (INSY 6010), and Human Factors Engineering (INSY 6080) courses.
- Advised and mentored students, leading review sessions and holding office hours to clarify course content and, if applicable, guide project development.
- Assessed student performance through grading homework, projects, and examinations, ensuring accurate and timely feedback.

Engineer Together Fellow **August 2024 to July 2025**

- Graduate student assisting the Associate Dean of the Samuel Ginn College of Engineering.
- Job duties include developing and championing programs and events designed to foster a welcoming culture for all engineering students.

Auburn University Libraries, *Auburn, Alabama*

Graduate Student Assistant **August 2023 to July 2024**

- Graduate student assisting in the DataSpace department of Auburn University's Innovation and Research Commons at the campus's main library.
- Specialties included programming assistance to faculty and students across various disciplines with research data analytics in Excel, Matlab, Python, and R.

Northside High School, *Columbus, Georgia*

Secondary Mathematics Teacher **January 2019 to May 2020**

- Engineering magnet high school within the Muscogee County School System
- Courses taught: Algebra I, Honors Geometry, Accel. Geometry B/Algebra II
- Organized collaboration between subject level mathematics instructors and district coaches for common assessment baseline process development, improvement, and revision in accordance with GA state standards
- Performed statistical analytics for school stakeholders and administrators in regards to Positive Behavioral Interventions and Supports (PBIS) and GA College and Career Ready Performance Index (CCRPI)

Brookstone School, *Columbus, Georgia*

Secondary Educator **July 2014 to December 2016**

- Courses taught: Pre-Algebra, Algebra I, 8th Grade Physical Science, 6th Grade Technology, 8th Grade Technology
- Coach for the Middle School Math Team, mentor for FIRST Robotics Team, and assistant coach for the Middle School Girls' Soccer Team
- Created and designed the 8th Grade ACCEL program curriculum and process for gifted students
- Created and presented instructional support and design materials for colleagues for the integration of Google Apps for Education (Google A4E) in classrooms

Glenwood School, *Smiths Station, Alabama*

Secondary Educator **July 2013 to July 2014**

- Courses taught: Algebra I, Regular and Honors Chemistry, Honors Physics, ACT Prep, and Robotics
- Guided and mentored students who advanced to the Alabama State Science Fair and Regeneron International Science and Engineering Fair
- Champion and advocate for the adoption and integration of Google A4E at the school's secondary level to aid in synchronous on-site and remote instructional material delivery and assessment
- Head Coach for school's Boosting Engineering, Science, and Technology (BEST) Robotics Team

Grants and Sponsored Research

[1] **C.D. McMeen**, R.F. Sesek, & N.E. Youngblood *(Co-Principal Investigators)*. NoiseHelp: Development and Dissemination of Practical Engineering Noise Control Solutions, Deep South Center for Occupational Health and Safety Pilot Project Research Training (PPRT) Grant, University of Alabama at Birmingham. ($10,000), [07.01.2025–06.30.2026]. *Not Funded.*

[2] **C.D. McMeen**, R.F. Sesek, & L. Mignot-Rocha *(Co-Principal Investigators)*. NoiseHelp: Advancing NORA Objectives for Hearing Loss Prevention Through

Development and Dissemination of Practical Engineering Noise Control Solutions, Southern California NIOSH Education and Research Center Occupational Health and Safety Pilot Project Research Training (PPRT) Grant, University of California Los Angeles/Irvine (UCLA/UCI). ($10,000), [07.01.2025–06.30.2026]. *Not Funded.*

[3] **C.D. McMeen** & R.F. Sesek *(Co-Principal Investigators).* Dynamic Isopleth Generation for Mapping Occupational Exposures. Funded by Grant W52PLJ-20–9-3045, awarded to the Interdisciplinary Center of Advanced Manufacturing Systems (ICAMS) by the US Army, with funding from the Industrial Base Analysis & Sustainment Program of the Industrial Base Policy Office of the Secretary of Defense, United States. ($25,000), [01.01.2025–12.31.2025]. *Awarded.*

Awards and Honors

[4] Martin Hirschorn IAC Graduate Student Project Prize for *A Physics-Informed Framework for High-Resolution Noise Exposure Visualization in Complex Indoor Environments*, Institute of Noise Control Engineering USA (INCE-USA), 2025.

[5] NIOSH Fellow Award, National Institute for Occupational Safety and Health (NIOSH) Training Grant (T42 OH008436). Human Systems Integration Center, Auburn University, 2023–Present.

[6] Inducted Member, Alpha Pi Mu Industrial Engineering Honor Society, Industrial and Systems Engineering Department, Auburn University, 2012.

Patents and Intellectual Property

[7] R.F. Sesek, R.M. Sesek, **C.D. McMeen**, "Technologies for Dynamic Isopleth Generation and Application," U.S. Patent Application 63/716,361, filed Nov. 5, 2025. Patent pending.

[8] R.F. Sesek, **C.D. McMeen**, D. Abassi, L. Mignot-Rocha, "Flexible Porous Baffle Muffler for Acoustic Energy Dissipation via Non-Linear Flow Path," Auburn University Intellectual Property Exchange Disclosure No. 2026-001, filed Oct. 7, 2025.

[9] R.F. Sesek, R.M. Sesek, **C.D. McMeen**, "Ear to Ear Empathy Hearing Loss Simulator," U.S. Provisional Patent Application 63/703,299, filed Oct. 4, 2024.

Invited Talks

[10] **C.D. McMeen**, Human Factors of Occupational Noise Controls: Background & Research Updates. Presented to the Auburn University Human Factors Engineering Class, November 18, 2025.

[11] **C.D. McMeen**, Innovations for Noise Survey Assessments: Updates to Research & Patent Applications. Presented to the Auburn University Occupational Safety and Ergonomics (OSE) Forum, March 19, 2025.

[12] **C.D. McMeen**, Research into Occupational Noise and Patent Applications. Presented to the Auburn University Safety Engineering Class, November 12, 2024.

[13] **C.D. McMeen**, Explorations in Ph.D. Research and Invention Disclosures. Presented to the Auburn University Occupational Safety and Ergonomics (OSE) Forum, November 6, 2024.

Workshops

[14] R.F. Sesek, M.S. Barim, R.M. Sesek, **C.D. McMeen**, "OSH Practitioners Workshop for Generating Solutions with Limited Resources by Thinking Like a Research Scientist." 8-hour workshop presented at 41st Annual Conference on Safety and Industrial Hygiene (invited). Salt Lake City, Utah. October 9, 2024.

[15] **C.D. McMeen**, "Data Wrangling with R Programming." 1.5-hour workshop presented at Auburn University's Savvy Researcher Bootcamp (invited). Auburn, Alabama. February 3, 2024.

Academic Service

Auburn University, *Auburn, Alabama*

- Human Factors and Ergonomics Society, *Chapter President*, 2024–present.
- American Society of Safety Professionals, *Chapter President*, 2024–present.
- Alpha Pi Mu Industrial Engineering Honor Society, *Treasurer*, 2012–2013.
- Society of Women Engineers, *Outreach Officer*, 2011–2012.

Community Service

Auburn University, *Auburn, Alabama*

- Industrial and Systems Engineering Departmental Ambassador, *Auburn University College of Engineering Graduate Students (CEGS)*, 2024–2025
- Member, Design for Humanity Competition Committee, *Engineer Together Day*, 2024–2025
- Judge, Equity in Design, *Engineering Undergraduate Capstone Design Showcase*, 2024

Professional Memberships

- American Society of Safety Professionals, 2023–present
- Human Factors and Ergonomics Society, 2023–present
- Society of Manufacturing Engineers, 2023–present
- Society of Women Engineers, 2010–present

Hardware and Software Skills

- Instrumentation, Test, and Measurement:
  - Movella^{TM} Xsens Inertial Motion Capture System
  - Tobii Eye Motion Tracking System
- Programming:
  - R, Python, JavaScript, LaTeX, Matlab, Mathematica
- Software Packages:
  - AutoCAD, SolidWorks, MINITAB, 3DSSPP
- Desktop Editing and Productivity Software:
  - Adobe (Acrobat, Illustrator, Photoshop, Lightroom)
  - TeX (LaTeX, BibTeX),
  - Microsoft Office App Suite, Google Drive Apps
  - GIMP, InkScape