

DANIEL I. ADENIRANYE, Ph.D.

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RESEARCH INTERESTS

- **Transfer and transition pathways in engineering:** the institutional structures, advising systems, and policy conditions that shape how students move into, through, and out of engineering degree programs.
- **Artificial intelligence in engineering and STEM education:** AI literacy, responsible use, and students' judgment about when to use, limit, or decline AI in engineering and STEM coursework, how students decide whether to trust and verify AI output, and how AI competency demands are defined across engineering majors, co-op and internship settings, and the engineering and technical workforce.
- **Engineering formation and experiential learning:** first-year engineering formation, co-op and internship learning, and the preparation of engineering students for professional practice.
- **Methodological expertise:** qualitative (phenomenology, case study, self-study, Delphi, systematic and integrative review, document and policy analysis), quantitative (survey design and validation, descriptive and inferential analysis, secondary and institutional data analysis), and explanatory sequential and exploratory mixed-methods designs.
- **Data collection and analysis:** semi-structured and in-depth interviews, focus groups, classroom and program observation, survey design and administration, institutional and IPEDS data analysis, and thematic, deductive, and inductive coding.

EDUCATION

Doctor of Philosophy (Ph.D.), Engineering and Computing Education

August 2022 – May 2026

Florida International University, Miami, FL

- Department of Multidisciplinary Engineering and Computing Education, Systems and Management, College of Engineering and Computing
- **Dissertation:** *Understanding the Lived Experiences of Engineering Transfer Students at a Hispanic-Serving Institution: A Transcendental Phenomenological Study*
- Cumulative GPA: 3.95/4.0 (A in all coursework); FIU Doctoral Research Assistantship Scholar
- Outstanding Ph.D. Graduate, selected college-wide, College of Engineering and Computing (2026)

M.S., Project Management (Engineering Management minor)

December 2019

Southampton Business School, University of Southampton, United Kingdom

- Dean's List: Outstanding Dissertation Performance Award (top 1% of graduating class)
- Association for Project Management Finalist, Graduate of the Year; PTDF Scholar

M.S., Petroleum Engineering and Project Development

December 2016

IFP School, France, and University of Port Harcourt, Nigeria (jointly awarded)

- Cumulative GPA: 4.46/5.0; TotalEnergies/NNPC JV Scholar; World Bank Research Grant Recipient

B.Tech., Mechanical Engineering

April 2014

Ladoke Akintola University of Technology, Ogbomoso, Nigeria

- Summa cum laude; class rank 2 of 176; Best Graduating Student, Mechanical Engineering

Mini-MBA, Innovation, Growth and Digital Execution

2024

Tekedia Institute (Online)

ACADEMIC APPOINTMENTS

Lecturer (Associated Faculty) | Department of Engineering Education

August 2026 – Present

College of Engineering, The Ohio State University, Columbus, OH

- Full-time nine-month faculty appointment in one of the few standalone departments of engineering education in the United States
- Granted general principal investigator (PI) status by the Vice President for Research, The Ohio State University (September 2026); currently lead two institutional studies as PI

Instructor and Doctoral Research Assistant

August 2022 – July 2026

Department of Multidisciplinary Engineering and Computing Education, Florida International University

- Instructor of record for undergraduate and dual-enrollment engineering courses; research assistant on federally funded engineering education projects

Lecturer (Remote) | Department of Mechanical Engineering

Summer 2023 – Summer 2026

Ladoke Akintola University of Technology, Nigeria

Instructor | Department of Mechanical Engineering

2016 – 2018

Ladoke Akintola University of Technology, Nigeria

RESEARCH FUNDING AND GRANT ACTIVITY

Externally Funded Research (Awarded)

Research Fellow | Community College S-STEM Network (CCSN)

2026 – 2027

Individually awarded fellowship (\$15,000). National Science Foundation, DUE #2224623 | Education and Employment Research Center, Rutgers University

Co-Investigator | Denver Metro Engineering Consortium (DMEC)

Fall 2023 – Summer 2025

Cooperative agreement. U.S. Department of Defense, DoD STEM Community College Consortium | Project award: \$10,879,283

Co-Investigator | Better Together: Optimizing Black Engineering Student Pathways

Fall 2022 – Summer 2025

National Science Foundation, Award #2145961 | Project award: \$373,632

Key Personnel | Inclusive Engineering Consortium (IEC)

Fall 2022 – Summer 2025

2-to-4 engineering transfer. U.S. Department of Defense | Project award: \$10,997,746

Key Personnel | CREED²

Fall 2022 – Summer 2023

Culturally Responsive Engineering Experience Design and Development. National Science Foundation, Discovery Research K-12, Award #2201255 | Project award: \$1,837,566

Proposals Submitted, Under Review, and In Development

Principal Investigator | Preparing AI-Ready Engineers

Target submission: April 2027

Responsible Generative AI Use and Experiential Learning from the First Year to the Workplace. National Science Foundation, CyberAI Corps Scholarship for Service (CyberAI SFS), Innovation Track | Collaborators: Dr. Stephanie J. Lunn (Florida International University); Dr. Kadri A. A. Parris (The Ohio State University)

Lead Applicant | Use, Restraint, and Refusal: Program-Wide Evidence and Tools for AI Fluency Target submission: October 2026

Office of Academic Affairs, AI Fluency Innovation Microfunds, Tier 4: Project (\$10,850), The Ohio State University

- Proposes two program-wide survey administrations, 24 student interviews, and two co-design sessions with the Fundamentals of Engineering teaching team. Deliverables are an openly licensed survey instrument, an instructor guide, and findings briefs for Engineering Foundations, the College of Engineering, and the OAA AI Fluency group.

Principal Investigator | When to Trust, When to Check*Submitted October 2026*

How engineering students decide whether to verify AI-generated answers. Decision Sciences Collaborative Pilot Grant, The Ohio State University (\$2,990; under review) | Co-Investigator: Parkash Singh (Department of Computer Science and Engineering)

- Designed an incentivized decision experiment in which engineering students choose whether to pay a small, experimentally varied cost to verify AI-generated answers on MATLAB tasks
- Proposed a confidence-based benchmark that separates belief errors (misplaced trust in AI answers) from decision errors (doubting an answer but not verifying it), each pointing to a different instructional remedy
- First interdepartmental collaboration between Engineering Education and Computer Science and Engineering on this line of work

Lead Applicant | Usewright: AI Judgment Coach*Submitted October 2026*

2027 Tools Competition (Renaissance Philanthropy and The Learning Agency), Navigating Postsecondary Learning and Work track, Catalyst level (\$50,000); Phase I abstract under review

- Proposed an AI-supported tool that helps college students decide when to use, limit, or decline generative AI on coursework, coaches those decisions, and builds a shareable record of AI judgment for co-op, internship, and job applications; a working version launched at usewright.org in October 2026

Key Contributor | RISE*Submitted 2026*

Recognizing, Integrating, and Supporting Engineer Formation through Technician Pathways. National Science Foundation, Research in the Formation of Engineers (RFE), three-year project (under review)

- Proposal examines the processes, mechanisms, and institutional conditions that shape how engineering technicians transition into engineering degree pathways
- Led development of the research design section: a three-phase exploratory mixed-methods study integrating a two-round Delphi study, heterogeneous stakeholder focus groups with observations, and a two-day in-person convening
- Contributed to the conceptual framework grounded in collective impact, reciprocity, and the Six Conditions of Systems Change, and to the background, literature integration, and dissemination sections

Key Contributor | AI-Powered Interactive Transfer System*Fall 2025 – Summer 2026*

Codesigning an AI-powered interactive transfer system for STEM students and advisors. National Science Foundation, Improving Undergraduate STEM Education (IUSE), four-year project (under review)

- Proposal designs a co-curricular experience in which community college and four-year STEM students codesign an AI-powered transfer support tool alongside advisors, addressing structural barriers in vertical transfer pathways
- Contributed to the theoretical framing (Technology Acceptance Model, Transfer Student Capital, Model of Co-Curricular Support) and to the participatory, explanatory sequential mixed-methods research design
- Contributed to the background, literature review, and broader impacts sections, positioning the work at the intersection of human-centered computing, information systems, and engineering education

Key Associate | ENTER-AI*Summer 2025 – Fall 2025*

Engineering Technician Education for the Future: Integrating Industry Readiness and AI Competencies. National Science Foundation, Advanced Technological Education (ATE), Track 2, three-year project (under review)

- Contributed to a proposal for a credit-bearing engineering technician curriculum integrating AI competencies with industry-readiness skills
- Supported design of a professional development framework for community college faculty teaching emerging-technology courses

Sole Investigator | Attribution of Mind and Moral Status to AI*Submitted 2026*

Cross-cultural public attribution of mind and moral status to artificial intelligence. Longview Philanthropy, Digital Minds Research Fellowship, two-year (not funded)

PUBLICATIONS AND SCHOLARLY WORK

Peer-reviewed journal articles: 3 published, 1 accepted, 3 revised and resubmitted, 2 under review, 6 in preparation.
Peer-reviewed conference papers and presentations: 17 published or presented, 5 submitted.

Peer-Reviewed Journal Articles (Published)

- Adeniranye, D. I.**, Lunn, S. J., Mosobalaje, O., Eze, P., Berhane, B., & Adeniyi, D. (2026). Institutional structures, digital inequality, and AI integration in higher education. *Computers and Education Open*, 100400.
<https://doi.org/10.1016/j.caeo.2026.100400>
- Okekunle, P. O., & **Adeniranye, D. I.** (2015). Effects of pressure and heating rate on product release rates and yields during biomass pyrolysis in the thermally thick regime. *Journal of Energy Technologies and Policy*, 5(4), 35–49.
- Okekunle, P. O., **Adeniranye, D. I.**, & Osofade, E. A. (2014). Numerical investigation of the effects of reactor pressure on biomass devolatilization in the thermally thick regime. *Chemical and Process Engineering Research*, 28, 1–10.

Peer-Reviewed Journal Articles (Accepted)

- Adeniranye, D. I.**, Berhane, B. T., & Keah, A. (in press). AI technician workforce demand and community college curriculum development: A systematic secondary analysis of Maryland's Eastern Shore. *Journal of Career and Technical Education*.

Peer-Reviewed Journal Articles (Revised and Resubmitted)

- Adeniranye, D.** Paradoxical navigation: Black engineering transfer students' lived experiences at a Hispanic-Serving Institution. *Journal of Engineering Education*.
- Adeniranye, D.**, Dansu, V., & Olayemi, O. Beyond community cultural wealth: Diasporic cultural capital in a Nigerian engineering student's cross-national transitions. *Studies in Engineering Education*.
- Adeniranye, D.**, Berhane, B. T., Rodriguez, S., Liu, J., Sosa-Molano, J., & Sturgess, J. The importance of advisors in the engineering transfer process: How academic advisors describe the transfer process, transfer receptivity, and servingness in an HSRI. *Studies in Engineering Education*.

Peer-Reviewed Journal Articles (Under Review)

- Adeniranye, D. I.**, Berhane, B. T., Luszczynska, A., Delaine, D., Dickerson, D., & Fletcher, T. Non-centered populations at minority-serving institutions: Black students' perceptions of servingness at a Hispanic-Serving Research Institution. *AERA Open*.
- Ogwo, A., Berhane, B., Lee, E., **Adeniranye, D.**, Vaye, C., & Eze, P. "Still in the process to learn": The role of immigrant and racial identity in the adjustment experiences of Black immigrant engineering students in the transfer process. *Journal of Engineering Education*.

Journal Articles (In Preparation)

- Adeniranye, D. I.** The demand-curriculum gap in Ohio: Artificial intelligence competencies in engineering job postings and institutional provision.
- Adeniranye, D.** AI competency demands and STEM decision-making in community colleges: A scoping review.
- Adeniranye, D.**, & Berhane, B. T. Institutional website transfer receptivity in Florida four-year universities: A systems analysis of digital communication and student information needs.
- Liu, J., Berhane, B. T., Najera, G., **Adeniranye, D.**, & Sosa-Molano, J. Embracing "productive struggle": Early lessons from applying collective impact to optimize engineering pathways between community colleges and minority-serving institutions.
- Sturgess, J. M., Liu, J., **Adeniranye, D.**, Sosa-Molano, J., Berhane, B. T., Yowell, J., & Stites, N. Engineering momentum: Post-traditional transfer students. *Community College Journal of Research and Practice*.

Berhane, B. T., Liu, J., Sosa-Molano, J., Long, H., Secules, S., & **Adeniranye, D.** A systems perspective about the undergraduate engineering students we want, the ones we don't, and why it matters. *Journal of Engineering Education*.

Conference Papers (Submitted, 2027)

Adeniranye, D. I., & Parris, K. A. A. (2027, June). *Use, restraint, and refusal: How first-year engineering students engage with generative AI in their first semester* [Abstract submitted]. 2027 ASEE Annual Conference & Exposition, Toronto, Ontario, Canada.

Adeniranye, D. I. (2027, June). *From shared materials to enactment: A self-study in first-year engineering* [Abstract submitted]. 2027 ASEE Annual Conference & Exposition, Toronto, Ontario, Canada.

Adeniranye, D. I., & Tyson, W. (2027, June). *Reading the signals: How S-STEM scholars perceive artificial intelligence and whether it shapes their persistence, transfer, and career decisions* [Abstract submitted]. 2027 ASEE Annual Conference & Exposition, Toronto, Ontario, Canada.

Adeniranye, D. I., & Tyson, W. (2027, June). *Time, not just tuition: How S-STEM scholars use scholarship support and how it relates to persistence* [Abstract submitted]. 2027 ASEE Annual Conference & Exposition, Toronto, Ontario, Canada.

Peer-Reviewed Conference Proceedings and Presentations (2026)

Adeniranye, D., Brijmohan, Y., Wasay, A., & Jaco, M. (2026, June). Understanding undergraduate students' use of generative AI for learning in STEM: An integrative literature review. *Proceedings of the 2026 ASEE Annual Conference & Exposition*, Charlotte, NC.

Adeniranye, D., & Berhane, B. (2026, June). AI technician workforce demand and community college curriculum development: A systematic mixed-methods analysis of Maryland's Eastern Shore. *Proceedings of the 2026 ASEE Annual Conference & Exposition*, Charlotte, NC.

Adeniranye, D., & Eze, P. (2026, June). Predicting international partnership readiness: What institutional factors shape AI integration capacity in Nigerian universities' engineering programs? *Proceedings of the 2026 ASEE Annual Conference & Exposition*, Charlotte, NC.

Eze, P., & **Adeniranye, D.** (2026). Why African universities should prioritize open-source large language models: Evidence from computing career guidance across ten countries. In M. Cunningham & P. Cunningham (Eds.), *IST-Africa 2026 Conference Proceedings* (pp. 1–8). IST-Africa Institute and IIMC. <https://doi.org/10.67725/IST-Africa.2026.MBRA5267>

Keah, A., Berhane, B., & **Adeniranye, D.** (2026, June). Credit for prior learning in engineering for non-degree technicians: A comparative policy analysis. *Proceedings of the 2026 ASEE Annual Conference & Exposition*, Charlotte, NC.

Liu, J., Berhane, B. T., & **Adeniranye, D.** (2026, June). Support services: Insights from the survey of post-traditional undergraduate engineering students at a Hispanic-Serving Institution. *Proceedings of the 2026 ASEE Annual Conference & Exposition*, Charlotte, NC.

Olatunde, M., **Adeniranye, D.**, Aku, M., Ibeh, P., Ojebile, P., & Olayemi, M. (2026, August). From data to pedagogy: A framework for integrating the Volve oilfield dataset into data analytics and machine learning for the petroleum engineering undergraduate curriculum. *SPE Nigeria Annual International Conference and Exhibition*, Lagos, Nigeria.

Peer-Reviewed Conference Proceedings and Presentations (2025)

Adeniranye, D., Berhane, B., Liu, J., Sosa-Molano, J., & Najera, G. (2025, June). Policy and program leaders' lenses: Enhancing educational transitions and success for engineering transfer students. *Proceedings of the 2025 ASEE Annual Conference & Exposition*, Montreal, Canada. <https://peer.asee.org/57050>

Liu, J., Berhane, B., **Adeniranye, D.**, Yowell, J., Sosa-Molano, J., Sturgess, J., & Stites, N. (2025, June). Building college capital for community college students: The perspectives of students participating in an engineering program. *Proceedings of the 2025 ASEE Annual Conference & Exposition*, Montreal, Canada.

Liu, J., Berhane, B. T., Najera, G., **Adeniranye, D.**, & Sosa-Molano, J. (2025). Embracing “productive struggle”: Early lessons from applying collective impact to optimize engineering pathways between community colleges and minority-serving institutions. *2025 Council for the Study of Community Colleges (CSCC) Conference*.

Peer-Reviewed Conference Proceedings and Presentations (2024)

Adeniranye, D., Berhane, B., Sturgess, J., & Liu, J. (2024, June). Tracing Black transfer students’ success in engineering: A comparative insight into transfer student trends at two state minority-serving institutions. *Proceedings of the 2024 ASEE Annual Conference & Exposition*, Portland, OR. <https://peer.asee.org/48168>

Adeniranye, D., Olayemi, M., Dansu, V., Arigye, J., Benjamin, M., & Babalola, I. (2024, March). From virtual premises to real promises: Tracking the formation of the African Engineering Education Fellows in Diaspora. *Proceedings of the 68th Annual Comparative and International Education Society Meeting*, Miami, FL.

Anderson, E. W., **Adeniranye, D. I.**, Amaya, N., Kumar, N., Sanchez Perdomo, S., & Vaye, C. N. (2024, April). Picturing place through photostory. *American Educational Research Association Annual Meeting*, Philadelphia, PA.

Irwin, C., Dickerson, D., Ellis, J., **Adeniranye, D.**, Berhane, B., Green, A., Lamy, B., & Oehm, N. (2024, March). Professional development design and implementation to foster planning for culturally responsive engineering experiences. *National Association for Research in Science Teaching (NARST) Annual International Conference*, Denver, CO.

Sturgess, J., Berhane, B., Secules, S., Long, H., **Adeniranye, D.**, & Liu, J. (2024, June). Expanding the broadening participation in engineering focus to include data on nontraditional students. *Proceedings of the 2024 ASEE Annual Conference & Exposition*, Portland, OR. <https://peer.asee.org/47386>

Peer-Reviewed Conference Proceedings and Presentations (2023)

Adeniranye, D., & Berhane, B. (2023, June). Understanding the academic journey of an international West African engineering graduate student in the United States. *Proceedings of the 2023 ASEE Annual Conference & Exposition*, Baltimore, MD. <https://peer.asee.org/44545>

Berhane, B. T., Vaye, C. N., Sturgess, J. R., & **Adeniranye, D. I.** (2023, June). Exploring the potential for broadening participation in engineering through community college and minority-serving institution partnerships. *Proceedings of the 2023 ASEE Annual Conference & Exposition*, Baltimore, MD. <https://peer.asee.org/43637>

Educational Textbooks

Adeniranye, I. D. (2013). *First Class Physics: A physics guide through keynotes and examples for undergraduates*. First-Class Profs’ Publisher.

Adeniranye, I. D. (2008). *First Class Physics: A physics guide through examples for undergraduates*. Toks Law Venture.

Theses and Technical Reports

Adeniranye, D. I. (2019). *Assessment of education and training background of effective project managers in international oil and gas companies* [Master’s thesis, University of Southampton].

Adeniranye, D. I. (2016). *Effect of tubing size on oil well productivity* [Master’s project report]. IFP School / University of Port Harcourt.

Adeniranye, D. I. (2014). *The design and fabrication of a brake system model for educational purposes* [Undergraduate project report]. Ladoke Akintola University of Technology.

RESEARCH PROJECTS AND EXPERIENCE

Independent and Lead-Investigator Research

Principal Investigator | Use, Restraint, and Refusal

Autumn 2026 – Present

Engineering students' engagement with generative artificial intelligence during the transition into university. The Ohio State University; exempt protocol STUDY20262206 submitted to the Office of Responsible Research Practices (October 2026; in pre-review). Co-Investigator: Dr. Kadri A. A. Parris (Senior Director, Engineering Foundations)

- Designed a repeated cross-sectional survey study of first-year Fundamentals of Engineering students, administered at the end of the first semester and the first year (Autumn 2026 through Spring 2028), examining use, selective use, and deliberate non-use of generative AI in coursework
- Secured endorsement from the Michael V. Drake Institute for Teaching and Learning and support from the Fundamentals of Engineering program for distribution across the standard, honors, and transfer sequences
- Integrated Social Cognitive Career Theory with Schlossberg's transition theory, treating the decision to use or decline AI as a reasoned strategy rather than failed adoption
- Operationalized Ohio State's six AI Fluency learning outcomes as student self-assessment measures, producing engineering-specific evidence for Engineering Foundations and the College of Engineering

Principal Investigator | AI Competency Development in Co-ops and Internships

Autumn 2026 – Present

The Ohio State University, in partnership with Engineering Career Services; protocol in development, building on a 2026 exempt protocol at Florida International University (IRB-26-0185)

- Designing a study of how AI competencies are defined, developed, and assessed in engineering co-ops and internships across Ohio State engineering majors
- Anchored in Social Cognitive Career Theory and Ohio State's AI Fluency outcomes, extending a transition-focused program of AI research to students entering professional practice

Principal Investigator | When to Trust, When to Check

Autumn 2026 – Present

Interdepartmental decision experiment, The Ohio State University; exempt protocol to be submitted upon funding. Co-Investigator: Parkash Singh (Computer Science and Engineering)

- Prepared study materials, including a bank of 30 MATLAB task items with answer keys verified by code execution, a Qualtrics build plan, and analysis code tested on simulated data
- Framed students' verification of AI output as a value-of-information choice, linking decision science to engineering education research on AI

Creator and Lead Investigator | Usewright: AI Judgment Framework

May 2026 – Present

Independent research and design project; platform live at usewright.org

- Developed a five-step framework (plan and try first, do the work, reflect and explain without AI, coach and record, revisit) that treats the decision to use, limit, or decline generative AI as a learnable and assessable skill, with the plan-action gap as a measure of how intended and actual AI use compare
- Grounded each step in learning research (self-explanation, the illusion of explanatory depth, retrieval practice, and AI assessment scales) and aligned the framework with ABET student outcomes and ASCE Policy Statement 573 on engineering judgment
- Round-1 usability testing with instructors, graduate supervisors, and students at other institutions begins in October 2026, followed by an IRB-reviewed pilot measuring AI literacy before and after use

Research Fellow | Community College S-STEM Network (CCSN)

June 2026 – Present

Rutgers Education and Employment Research Center; NSF DUE #2224623. Mentors: Dr. Michelle Van Noy (Rutgers University) and Dr. Will Tyson (University of South Florida)

- Selected to the second national cohort of a competitive 15-month research fellowship building capacity for collaborative research with community college S-STEM practitioners

- Designing an independent mixed-methods study, in coordination with the CCSN leadership team, of how AI competency demands shape low-income community college STEM students' decisions to persist, transfer, or enter the workforce
- Adapting a validated AI self-efficacy and career readiness instrument as a module within the CCSN national student survey to enable cross-institution comparison across S-STEM grantees
- Collaborating on the network's research portfolio, including pilot case studies and a systematic review, with working papers and conference dissemination planned for 2027

Principal Investigator and Lead Author | AI Expectations Across Engineering Disciplines Spring 2026 – Present
Multi-institutional study; approved as exempt at Florida International University (IRB-26-0152); Ohio State protocol in preparation

- Direct all phases of research design, IRB protocol development, instrument design, and multi-institutional recruitment strategy
- Lead an explanatory sequential mixed-methods study examining how engineering industry stakeholders, faculty, and undergraduates perceive AI workforce expectations and preparedness across mechanical, electrical, and biomedical engineering
- Ground the theoretical framework in Social Cognitive Career Theory, examining self-efficacy, outcome expectations, and learning experiences as predictors of AI career readiness
- Coordinate recruitment through national professional organizations (SWE, NSBE, SHPE, ASME, IEEE, BMES) and faculty networks across U.S. institutions

Founding Member | Collaborative Intelligence and AI in Engineering Education Spring 2026 – Present
Multi-institutional research collaborative

- Contribute to a research collaborative advancing the study of AI in engineering education, including a peer-reviewed 2026 ASEE publication on undergraduate students' use of generative AI for learning in STEM
- Lead and support additional studies of AI in engineering education currently in progress

Doctoral Dissertation Research | Engineering Transfer Students 2024 – 2026
Transcendental phenomenological study, Florida International University

- Designed and executed an independent qualitative study of the lived experiences of engineering transfer students at a Hispanic-Serving Institution, producing three manuscripts currently in revision at *Journal of Engineering Education* and *Studies in Engineering Education*

Funded Project Research Experience

Co-Investigator | Denver Metro Engineering Consortium (DMEC) Fall 2023 – Summer 2025
U.S. Department of Defense, DoD STEM Community College Consortium

- Designed and implemented mixed-methods research protocols, including interview guides, focus-group protocols, and survey instruments for underrepresented student populations
- Led participant recruitment and conducted qualitative data collection across multiple institutional sites
- Performed data analysis and contributed to peer-reviewed publications and conference presentations
- Collaborated with investigators across consortium institutions, including colleagues at the University of Colorado Boulder, producing co-authored ASEE conference papers on engineering transfer pathways

Co-Investigator | Better Together: Optimizing Black Engineering Student Pathways Fall 2022 – Summer 2025
National Science Foundation

- Managed IRB protocol development and compliance for a multi-institutional study
- Facilitated focus groups and interviews across 15 ABET-accredited HBCU engineering programs and 15 community colleges
- Collected and analyzed institutional data via IPEDS and direct institutional partnerships; presented findings to federal funding agencies

Key Personnel | Inclusive Engineering Consortium (IEC): 2-to-4 Engineering Transfer *Fall 2022 – Summer 2025*
U.S. Department of Defense

- Contributed to research design for studying community college to minority-serving institution transfer pathways
- Led qualitative data collection with underserved student populations, including veterans and military spouses

Key Personnel | CREED² *Fall 2022 – Summer 2023*
National Science Foundation, Discovery Research K-12

- Developed and implemented Summer Institute curriculum for in-service high school teachers
- Led literature review efforts, designed qualitative protocols, and facilitated teacher-undergraduate partnerships serving Latinx and Black high school students

Community-Engaged Researcher | FLAME and the Young People's Project (YPP) *Spring 2023 – Fall 2024*
Florida Local Alliance for Math Literacy and Equity

- Developed qualitative protocols documenting program impact on historically underserved populations in mathematics education
- Evaluated the Algebra Project to identify best practices; presented findings at the 2023 National Flagway Tournament

Research Scientist and Data Consultant | The 50K Coalition *May – August 2023*
National coalition of engineering professional societies

- Developed institutional assessment frameworks and led multi-institutional data collection across community colleges, engineering schools, and professional organizations
- Delivered strategic recommendations through detailed reports and stakeholder presentations

TEACHING EXPERIENCE

Lecturer | First-Year Engineering, Department of Engineering Education *August 2026 – Present*
College of Engineering, The Ohio State University

- Teach three sections of foundational first-year engineering courses using active-learning, project-based instruction supporting engineering formation and professional development
- Lead an instructional team of six undergraduate and three graduate teaching assistants across the three sections

Instructor | EGN 3910: Human-Centered Design within Systems and Society *AY 2025–2026*
Florida International University

- Taught a project-based undergraduate course preparing students for senior design through human-centered design and systems analysis
- Facilitated engagement with community stakeholders through observation, interviewing, and empathy-building to formulate authentic problem statements
- Guided interdisciplinary teams through stakeholder analysis, constraint identification, and solution generation within complex systems
- Integrated ethical and culturally responsive practices throughout the design process, preparing students for capstone and industry contexts

Guest Lecturer | EGS 3060: Engineering Professional Development for a Global Society *AY 2025–2026*
Florida International University

- Delivered instruction on industry-standard AI tools (ChatGPT, Claude, Gemini) for professional development applications
- Taught critical evaluation of AI-generated content and ethical considerations in AI-assisted career planning
- Led hands-on workshops applying AI tools to resume development, technical writing, and career research

Instructor of Record | EGS 2053: Foundations of Interdisciplinary Engineering

AY 2023–2024

Florida International University (redesigned, fully online dual-enrollment course)

- Taught a redesigned dual-enrollment course delivered fully online to high school seniors, achieving a 100% course completion rate
- Led human-centered design projects in which students designed and prototyped solutions to authentic community challenges
- Implemented active-learning strategies including studio-style sessions, rapid prototyping workshops, and collaborative design critiques
- Integrated technology-enhanced learning through Canvas LMS and collaborative digital tools using an asset-based pedagogy
- *Student feedback: “This design process is beginning to make more sense since you started teaching us”; “Thank you for always engaging us with activities that make our milestone deliverables easier.”*

Lecturer (Remote) | Engineering Project Methodology; Engineering Pathways

Summer 2023 – Summer 2026

Ladoke Akintola University of Technology, Nigeria

- Designed and delivered synchronous remote instruction and served as academic mentor for undergraduate engineering students
- Facilitated project-based learning connecting theoretical principles with real-world applications and career preparation
- Evaluated and provided formative feedback on senior capstone projects; adapted curriculum for effective online delivery

Instructor | Introduction to Engineering Pathways; Engineering Design

2016 – 2018

Ladoke Akintola University of Technology, Nigeria

- Delivered foundational instruction bridging theoretical concepts with practical engineering applications
- Designed and facilitated hands-on design projects emphasizing iterative problem-solving, prototyping, and teamwork
- Created assessment frameworks aligned with learning objectives to track progress and inform instruction

Graduate Teaching Assistant | Engineering Mathematics; Calculus

AY 2014–2015

Delta State University, Abraka, Nigeria

- Provided instructional support and academic mentoring; contributed to assessment design for foundational mathematics courses

Graduate Teaching Assistant | Assigned Project I; Engineering Mathematics; Advanced Calculus

2014

Ladoke Akintola University of Technology, Nigeria

- Guided capstone project design and execution, delivered supplemental instruction in advanced mathematics, and assessed projects using industry-aligned rubrics

MENTORING AND ADVISING

Doctoral Research Mentoring (Informal) | Engineering Education

2024 – Present

Florida International University and multi-institutional research collaborations

- Mentor three doctoral students in engineering and computing education on program milestones, research design, manuscript development, and dissertation progress through regular individual meetings
- Mentored a doctoral co-author through the development and publication of a manuscript now in press at the *Journal of Career and Technical Education*
- Mentored a doctoral research assistant and an undergraduate researcher (since graduated) through collaborative work on AI in engineering education, including a peer-reviewed 2026 ASEE publication
- Mentorship is informal and collaborative; not a committee member of record at these institutions

Instructional Team Supervision | Department of Engineering Education

Autumn 2026 – Present

The Ohio State University

- Supervise and mentor six undergraduate and three graduate teaching assistants across three course sections, each staffed by two undergraduate assistants and one graduate assistant
- Meet weekly with each section's instructional team for instructional planning, feedback on teaching practice, and coordination of assessment
- Support graduate teaching assistants in developing classroom facilitation, assessment, and student-feedback skills transferable to future faculty careers
- Engaged a graduate teaching assistant from Computer Science and Engineering as co-investigator on an interdepartmental research proposal, mentoring him in experimental design, proposal writing, and research ethics

Graduate Student Mentoring | African Engineering Education Fellows in Diaspora

2023 – Present

Executive Council Member

- Mentor graduate students entering engineering education research and develop retention strategies for the fellowship community

Capstone and Senior Project Supervision and Assessment

2014 – Present

- Senior Project Assessor, Ladoke Akintola University of Technology (Summer 2023 – Present)
- External Evaluator, IDE Capstone Design Project II, Florida International University (April 2023)
- Classroom observation and evaluation, EGS 2053 project exhibition (December 2022) and EGN 4943 (September 2022), Florida International University

Transfer and Prospective Student Advising | Florida International University

2022 – 2023

Graduate Program Ambassador and Recruitment Specialist

- Led orientation sessions for newly transferred students and presented at the Ph.D. program open house and graduate student fair

Undergraduate Mentoring | First Class Profs' Academy

2008 – 2014

Founder and Lead Tutor: Engineering Mathematics, Advanced Calculus, Applied Physics, Engineering Dynamics

- Founded and managed a tutorial service serving more than 200 engineering undergraduates annually
- Recruited, trained, and supervised a team of more than 15 STEM tutors across multiple campuses
- 85% of tutored students graduated in the top quartile of their cohorts

CURRICULUM AND PROGRAM DEVELOPMENT

Record of designing interdisciplinary engineering curricula emphasizing hands-on, experiential learning across secondary, undergraduate, and doctoral levels, with implementation in minority-serving institutions, international settings, and dual-enrollment programs.

Ph.D. Program Redesign (AI and Emerging Technologies)

2024 – July 2026

Ph.D. in Engineering and Computing Education, Florida International University

- Served on the committee revising Ph.D. program milestones for the doctoral program
- Contributed to the doctoral program redesign incorporating AI and emerging technologies
- Contributed to revisions of the graduate program handbook

EGS 2053: Foundations of Interdisciplinary Engineering (Course Redesign)

AY 2023–2024

Florida International University

- Collaborated with Drs. Monica Cardella and Bruk Berhane to redesign a dual-enrollment undergraduate course
- Integrated interdisciplinary frameworks connecting engineering with the social sciences and humanities
- Developed project-based modules and studio-style experiences emphasizing iterative design, rapid prototyping, and collaborative problem-solving
- Created assessment strategies measuring both technical competency and interdisciplinary thinking

Model United Nations Curriculum for High School Seniors (Program Development)

January 2020

Ministry of Education, United Arab Emirates

- Designed and implemented an MUN curriculum approved by the national education ministry, enrolling the first cohort in March 2020
- Developed modules combining global problem-solving, diplomacy, and community engagement with leadership-focused assessment frameworks

Assigned Project I (Capstone Course Redesign)

Summer 2014

Ladoke Akintola University of Technology, Nigeria

- Restructured a mechanical engineering capstone course with industry-aligned assessment criteria and mentorship protocols

LEADERSHIP AND SERVICE

Peer Review and Proposal Review Service

Review Panelist | U.S. National Science Foundation

October 2026

- Evaluated 11 grant proposals in undergraduate STEM education against NSF's Intellectual Merit and Broader Impacts criteria
- Served as lead panelist and scribe for three proposals, facilitating panel discussion and authoring consensus panel summaries
- Contributed to panel deliberations and funding recommendations as part of a multidisciplinary federal review panel

Reviewer | ASEE Annual Conference and Exposition

2023 – Present

American Society for Engineering Education

National and International Service

Division Chair, Immediate Past Chair, and Advisor | ASEE Student Division

June 2023 – Present

American Society for Engineering Education

- Provide strategic leadership for more than 624 student members across national and international chapters
- Chaired Executive Committee meetings and coordinated a 15-member executive board
- Oversaw technical program development, annual conference coordination, compliance, reporting, and budget
- Progressed through Program Chair and Interim Division Chair (2023–2024), Division Chair (2024–2025), and Immediate Past Chair (2025–2026); currently serve in an advisory capacity

Co-Chair | Policy Action Network Group

2024 – 2025

NSF and DoD-funded initiative

- Co-led monthly virtual collaboration sessions among national leaders in STEM education and transfer student success
- Facilitated strategic conversations using collective impact frameworks and systems-thinking methodologies

Executive Council Member | African Engineering Education Fellows in Diaspora

2023 – Present

- Provide executive oversight for strategic planning and mentorship across the fellowship network

Institutional Service

Student Advisor and Founding Member | ASEE Student Chapter

Fall 2025 – August 2026

Florida International University

Elected Representative | STEM Transformation Institute Committee

2023 – 2025

Florida International University

- Contributed to institutional policies on student success and inclusive practice
- Advocated for international student needs and cross-cultural considerations in STEM education

Community and K-12 Engineering Outreach

- Regional Robotics Competition Judge, M-DCPS VEX IQ Tournament, Bob Graham Robocats STEM Academy (December 2022): evaluated design portfolios and presentations for more than 20 K-12 teams
- Cultural Relevance in Engineering Advocate, Engineers on Wheels, Ransom Everglades Campus (February 2023): facilitated discussions on inclusive K-12 engineering pedagogy

INVITED TALKS, PANELS, AND PRESENTATIONS

Research Presentations and Academic Panels

- “Overview of Phase 1 Findings: Better Together Project.” NSF-DoD Stakeholder Convening, FIU Washington, D.C. Office, May 2024
- “Exploring the Journey of the African Engineering Education Fellow in the United States.” Engineering Education Research Network Panel, July 2023
- “Three-Minute Thesis Presentation.” College of Engineering and Computing, Florida International University, December 2022
- “Understanding the Academic Journey of an International West African Engineering Graduate Student in the United States.” Engineering and Computing Education Research Symposium, Miami, FL, November 2022

Invited Workshops and Keynote Presentations

- “Understanding Qualitative Coding: Deductive and Inductive Approaches in Engineering Education Research.” Dr. MO Research Lab, University of Oklahoma, November 2025
- “Navigating U.S. Immigration: F-1 to Permanent Residency Pathways for STEM Graduate Students.” African Graduate Students Association, Florida International University, October 2025
- “Practical Strategies for Academic and Career Growth.” Nigerian Students Association, University of Louisiana at Lafayette, April 2025
- “Time Management and Pathways to Permanent Residency.” African Graduate Students’ Association, Florida International University, April 2025

Community Engagement and Outreach

- “50K Data Collection Effort.” The 50K Coalition Webinar, July 2023
- “What’s the Big Idea Math Problem.” Young People’s Project Flagway Festival, Miami, FL, May 2023

HONORS, FELLOWSHIPS, AND AWARDS

Research Fellowships and Scholarships

- **2026–2027** Research Fellow (\$15,000) | Community College S-STEM Network (CCSN), NSF-funded (DUE #2224623)
- **2022–2026** Doctoral Research Assistantship (full tuition and stipend) | Florida International University
- **2024** Graduate Scholarship (\$1,000) | FIU Student Government Association
- **2018** International Graduate Fellowship (£42,000) | Petroleum Technology Development Fund
- **2016–2017** Graduate Research Dissertation Grant; Post-Graduate Research Grant | World Bank Group
- **2015** Postgraduate Fellowship | TotalEnergies E&P / NNPC Joint Venture
- **2015** Academic Excellence Award (₦500,000) | D.K. Olukoya Foundation

Institutional Excellence and Service Recognition

- **2026** Outstanding Ph.D. Graduate (Summer 2026), selected college-wide | College of Engineering and Computing, Florida International University
- **2026** Inductee, Edward A. Bouchet Graduate Honor Society | Yale University (nominated by Florida International University)
- **2025** Outstanding Service Recognition | ASEE Student Division

- **2025** Outstanding Service Award | Florida International University
- **2023** Outstanding Service Award | Florida International University
- **2023** Service Recognition Award | American Society for Engineering Education
- **2022** Three-Minute Thesis Competition Award | College of Engineering and Computing, Florida International University

Competitive Travel and Conference Awards

- **2026** Conference Travel Award (\$1,598), 2026 ASEE Annual Conference & Exposition, Charlotte, NC | FIU Office of Research and Economic Development
- **2026** Conference Travel Award (\$1,970), Bouchet Graduate Honor Society Conference, Hartford, CT | FIU Office of Research and Economic Development
- **2025** Conference Travel Award (\$1,527), 2025 ASEE Annual Conference & Exposition, Montreal, Canada | FIU Office of Research and Economic Development
- **2024** Conference Travel Award (\$2,100), 2024 ASEE Annual Conference & Exposition, Portland, OR | FIU Office of Research and Economic Development
- **2023** Conference Travel Award (\$1,475), 2023 ASEE Annual Conference & Exposition, Baltimore, MD | FIU Office of Research and Economic Development

Academic Excellence and Leadership Awards

- **2021** National Ambassadors Program Implementation Award | Ministry of Education, United Arab Emirates
- **2020** Graduate of the Year Finalist | Association for Project Management
- **2020** Leadership Recognition Award; Best Delegate Award (Model United Nations) | Ministry of Education, United Arab Emirates
- **2019** Dean's List Outstanding Dissertation Performance Award (top 1%) | University of Southampton
- **2017** Young Professional Team Winner, Field Development Project (NAICE) | Society of Petroleum Engineers, Lagos Section
- **2016** Best Student, Applied Mathematics for Petroleum Engineers | IFP School
- **2015-2016** Outstanding Leadership and Performance Awards | National Youth Service Corps, Nigeria
- **2014** Best Graduating Student, Mechanical Engineering; Subject Excellence Awards (Advanced Strength of Materials, 99%; Fluid Machinery, 95%) | Ladoke Akintola University of Technology

PROFESSIONAL EXPERIENCE BEYOND THE ACADEMY

Founder | Usewright (usewright.org)

May 2026 – Present

Independent educational technology project

- Conceived and launched a free web platform that helps students, instructors, project teams, and graduate supervisors decide when to use, limit, or decline generative AI, explain their work without AI, and keep a record of that judgment
- Led product design and AI-assisted full-stack development and deployment (Next.js, TypeScript, PostgreSQL with row-level security, Vercel), from concept to public release in October 2026
- Built privacy into the data model: instructors see only anonymous class patterns after a minimum number of responses, never individual entries, and the platform never detects AI or collects submitted work
- Created supporting resources for course, team, and research supervision use, including an oral check kit for instructors, AI use statements for disclosure, and a guide for students whose work is flagged by AI detectors

Founder and Principal Consultant | SaintDaniels Global LLC

March 2024 – Present

- Develop professional development frameworks for STEM professionals grounded in engineering education and pedagogical principles
- Provide consulting that integrates career development strategy, professional positioning, and pathway planning for STEM professionals

Project Manager | Edunetix (Remote)*January 2023 – May 2026*

- Collaborated with instructional designers and engineering educators to develop AI-enhanced learning experiences for STEM education platforms
- Led AI-driven digital transformation initiatives using Agile methodologies across cross-functional teams
- Managed project timelines, product roadmaps, and stakeholder collaboration for technology innovation projects

STEM Specialist and Mathematics Teacher | Ministry of Education, UAE*September 2019 – August 2022*

- Led development and standardization of STEM curriculum aligned with international benchmarks
- Designed and delivered professional development for mathematics educators and established formative assessment frameworks
- Implemented data-driven approaches for monitoring student progress and designing interventions

Model United Nations Lead Instructor and Consultant | Ministry of Education, UAE*January – August 2020*

- Led global problem-solving programs for high school students and designed leadership training for MUN delegates

Founder | Gracemyexam Technologies*December 2019 – December 2022*

- Led EdTech platform development coordinating content creators, designers, and engineers
- Conducted user experience research and managed the product lifecycle from concept through quality assurance

Assistant Lead Manager and Educational Consultant*November 2018 – September 2019**Oasis of Life, United Kingdom*

- Designed and facilitated career-exploration workshops and individualized counseling for a diverse international student population
- Coordinated an intensive academic and career preparation program integrating academic rigor with practical experience

Research and Development Intern*June – December 2012**Federal Institute of Industrial Research, Oshodi (FIRO), Nigeria*

- Contributed to design and prototyping of industrial machines, focusing on functionality and efficiency
- Organized industrial excursions and delivered presentations on engineering operations for visiting high school students

PROFESSIONAL DEVELOPMENT, TRAINING, AND CERTIFICATIONS

Teaching with Artificial Intelligence

- Teaching and Learning to Build AI Fluency Teaching Endorsement, Michael V. Drake Institute for Teaching and Learning, The Ohio State University (in progress; expected January 2027)
- Building Students' AI Fluency, Michael V. Drake Institute for Teaching and Learning, The Ohio State University (2026)
- Designing Assignments for AI Fluency, Michael V. Drake Institute for Teaching and Learning, The Ohio State University (2026)

Teaching, Instructional Design, and Educational Technology

- Scholarship of Teaching and Learning (SoTL) and Discipline-Based Education Research (DBER) Learning Community, 2026–2027 cohort, Michael V. Drake Institute for Teaching and Learning, The Ohio State University (in progress; expected April 2027)
- New Faculty FIT Program, 2026–2027 cohort, Michael V. Drake Institute for Teaching and Learning, The Ohio State University (in progress)
- Instructional Design Essentials: Models of ID (2024); Diploma in STEM (2020, 84%)
- Distance Learning Approaches; Challenges and Solutions; Blended Station Teaching (2020); Teaching for Impactful Learning (2021)
- Education Neuroscience: Brain Structure and Function; Learning and Sleep (2021)

- Best Delegate MUN Teacher Certification, Level 1 (Distinction)

Research Ethics and Methodology

- Social/Behavioral Human Research, CITI Program (2025, 100%); Responsible Conduct of Research (2024, 100%)
- Research Integrity Workshop: RCR Civility Issues (2023); Foundations of Interdisciplinary Global Learning Research (2023)

Project Management, AI, and Technology

- Professional Scrum Master, Scrum.org (2024); Professional Scrum Product Owner, Scrum.org (2024, 92.5%)
- Microsoft Azure AI Fundamentals (AI-900), Microsoft (2024); Career Essentials in Generative AI, Microsoft and LinkedIn (2024)
- Data-Driven Product Management (2024); Microsoft 365 Copilot Integration (2024)

Industry and Technical Certifications

- National Registry of Environmental Professionals (NREP), Associate Professional
- U.K. Award in Industrial Risk Assessment (Distinction); U.K. Award in Health and Safety at Work (Distinction)
- Stanford University: Reservoir Geomechanics (100%); IFP School: Oil and Gas (97%) and Sustainable Mobility (100%)

TECHNICAL SKILLS AND SOFTWARE

- **Quantitative analysis:** SPSS, R, STATA, advanced Excel analytics
- **Qualitative and mixed methods:** NVivo, Dedoose, mixed-methods integration
- **Survey and data visualization:** Qualtrics, SurveyMonkey, Google Forms; Tableau, Power BI
- **Learning management and course design:** Canvas, Blackboard, Moodle; backward design, competency-based assessment
- **Instructional media:** PowerPoint, Canva, Figma; OBS Studio, Loom; H5P, Articulate Storyline
- **AI and productivity tools:** ChatGPT, Claude, Microsoft Copilot; Microsoft 365 and Google Workspace
- **Web application development:** AI-assisted full-stack development and deployment (Next.js, React, TypeScript, PostgreSQL and Supabase, Vercel)
- **Project management and reference:** Microsoft Project, Asana, Trello, Monday.com, Slack; Zotero, Mendeley, EndNote

PROFESSIONAL MEMBERSHIPS

- American Society for Engineering Education (ASEE): Student Division; Community Engagement Division; Educational Research and Methods Division; Multidisciplinary Engineering Division; Data Science and AI Constituent Committee
- Project Management Institute (Member ID: 10864882)
- Comparative and International Education Society (CIES)
- National Registry of Environmental Professionals (NREP)

References available upon request.