



THE UNIVERSITY OF
MEMPHIS

Herff College of Engineering

ASEE-SE 2026 CONFERENCE

THE CONNECTED ENGINEER:
Bridging Technology, Humanity, and Innovation
March 8-10, 2026



 **ASEE** AMERICAN SOCIETY FOR
ENGINEERING EDUCATION



MEMPHIS IMPACT



Innovation • Research • Student Success • Workforce Development



THE UNIVERSITY OF
MEMPHIS

Herff College of Engineering

CONFERENCE LOCATIONS

Sunday, March 8, 2026

Edwards Research & Innovation Center (ERIC)

3837 Central Ave, Memphis, TN 38111

Monday, March 9, 2026

FedEx Institute of Technology (FIT)

365 Fogelman Dr, Memphis, TN 38152

Tuesday, March 10, 2026

FedEx Institute of Technology (FIT)

365 Fogelman Dr, Memphis, TN 38152

CONFERENCE SCHEDULE

Sunday, March 8, 2026 | Edwards Research and Innovation Center (ERIC)

| | | |
|--------------------|---------------------------------|--|
| 12:00 PM – 6:00 PM | Registration | ERIC North Lobby, 1 st floor |
| 3:00 PM – 5:30 PM | ASEE-SE Executive Board Meeting | ERIC 201/203 |
| 6:00 PM – 8:30 PM | Welcome Social/ Dinner | ERIC North Atrium, 2 nd floor |

Monday, March 9, 2026 | FedEx Institute of Technology (FIT)

| | | |
|---------------------|--|-------------------|
| 7:00 AM – 5:00 PM | Registration | Lobby |
| 7:30 AM – 8:30 AM | Breakfast & Business Meetings | Lobby |
| 8:40 AM – 9:45 AM | Welcome and Plenary | The Zone |
| 9:10 AM – 9:40 AM | Student Poster Setup | Cyber Café |
| 9:45 AM – 10:00 AM | Break | Lobby |
| 9:40 AM – 11:40 AM | Student Poster Competition | Cyber Café |
| 10:00 AM – 11:04 AM | Technical Session 1 – 1 | Classroom 225 |
| | Technical Session 1 – 2 | Fishbowl |
| | Technical Session 1 – 3 | Methodist Theatre |
| | Technical Session 1 – 4 | The Zone |
| 11:05 AM – 11:40 AM | Break | Lobby |
| 11:40 AM – 1:00 PM | Lunch and Thomas G. Evans Paper Presentation | Lobby |
| 1:00 PM – 2:00 PM | Workshop | Fishbowl |
| | Roundtable Discussions | Classroom 225 |
| | | Methodist Theatre |
| | | The Zone |
| 2:00 PM – 3:20 PM | Technical Session 2 – 1 | Classroom 225 |
| | Technical Session 2 – 2 | Fishbowl |
| | Technical Session 2 – 3 | Methodist Theatre |
| | Technical Session 2 – 4 | The Zone |
| 3:20 PM – 3:40 PM | Break | Lobby |
| 3:40 PM – 5:00 PM | Technical Session 3 – 1 | Classroom 225 |
| | Technical Session 3 – 2 | Fishbowl |
| | Technical Session 3 – 3 | Methodist Theatre |
| | Technical Session 3 – 4 | The Zone |
| 5:30 PM – 8:30 PM | Dinner & Awards Ceremony | Lobby |

Tuesday, March 10, 2026 | FedEx Institute of Technology (FIT)

| | | |
|---------------------|-------------------------------|-------------------|
| 7:30 AM – 10:00 AM | Registration | Lobby |
| 7:30 AM – 8:30 AM | Breakfast & Business Meetings | Lobby |
| 8:40 AM – 10:00 AM | Technical Session 4 – 1 | Classroom 225 |
| | Technical Session 4 – 2 | Fishbowl |
| | Technical Session 4 – 3 | Methodist Theatre |
| | Technical Session 4 – 4 | The Zone |
| 10:00 AM – 10:10 AM | Break | Lobby |
| 10:10 AM – 11:14 AM | Technical Session 5 – 1 | Fishbowl |
| | Technical Session 5 – 2 | Methodist Theatre |
| | Technical Session 5 – 3 | The Zone |
| 11:30 AM – 12:40 PM | Lunch & Business Meetings | Lobby |

2026 HOST SITE COORDINATORS



Steve Strain
Associate Professor of Teaching
Biomedical Engineering
University of Memphis



Daniel Kohn
Associate Professor
Engineering Technology
University of Memphis

We welcome you to the University of Memphis and the 2026 American Society for Engineering Education Southeastern Section Conference! Our host-site planning team has been at work since 2024 to bring this conference to fruition.

We met frequently to coordinate facilities, transportation, catering, budgeting, sponsorships, communications, and program materials—aiming to create a smooth, welcoming experience that also showcases the Herff College of Engineering and the University of Memphis. We are grateful for the many colleagues who contributed their time and expertise:

- Amy Curry and Stephanie Ivey offered invaluable support and assistance in coordinating the overall host-site effort, co-chairing planning meetings, and maintaining alignment of logistics and program content across venues and timelines
- Kimberly Rogers maintained conference web content, with the assistance of team member Colins Peeples, and assembled the printed/digital materials including but not limited to the call for papers, save-the-date postcard, and program booklet
- David Greganti led budget and registration operations and reporting
- Sheila S. Mathis, Connie Farmer, and Jaria A. Spencer coordinated hotel/block management, shuttle/transportation planning, and worked with Conference Services on catering, menus, and meal logistics
- Pegah Farshadmanesh coordinated speaker travel planning and continued sponsor/exhibitor outreach and follow-ups
- Kevin Berisso and Alex Headley supported sponsor/exhibitor outreach and helped coordinate student poster-competition logistics and judging
- Logan Sirbaugh supported social programming and campus tours, including Sunday networking/dinner concepts and banquet-venue contingency planning
- Kylee Ewell supported registration tracking and scheduling coordination as deadlines approached

We also thank the ASEE-SE officers and committee chairs, with special thanks to Anna Howard (ASEE-SE President) and Adam Barnes (Technical Program Chair) for their work on the broader technical program and conference operations, and we warmly thank all attendees, presenters, and student participants for making the 2026 conference possible!

[Steve Strain and Dan Kohn](#)

ASEE-SE 2026 Conference Host Co-Coordinators

WELCOME!

ASEE Southeastern Section Conference Attendees,

Welcome to all of you! Faculty colleagues, graduate students (or as I like to think of you, soon-to-be faculty colleagues), administration, guests, undergrads, all, y'all, welcome! I hope you can find something here that rings true and that you leave with a list of things you could try to improve Engineering Education.

I want to offer my heartfelt thanks to the team from the University of Memphis: Steve Strain, Amy Curry, Daniel Kohn, Logan Sirbaugh, and many others. Though I'm writing this before publication time, I believe this conference is going to be awesome just from all the amazing hard work that team has put in. Thank you also to Adam Barnes and all the Division Chairs: this was our first time trying to go back to our historical ways of running the conference within NEMO. I appreciate your patience as we worked that all out.

The Executive Board will present new constitution and bylaws documents for the section members to vote on. I am very grateful to everyone on and off the board who helped get those documents ready for the membership.

Breakfast on Monday and Tuesday will serve as a chance for us to get to know each other in our Division Meetings and find new folks ready to get involved at whatever level they wish. I look forward to seeing everyone there and throughout the conference! This section has become my professional home, and it has been my honor to serve as your president this year. Thank you all for coming!

Sincerely,

Anna Howard, PhD

President, ASEE Southeastern Section



Welcome to the Herff College of Engineering and the University of Memphis!

We are delighted to welcome you to the ASEE Southeast Section Conference and to our campus in Memphis. It is a privilege to host colleagues from across the region who share a deep commitment to advancing engineering education, fostering innovation and supporting student success.

The Herff College of Engineering is home to a vibrant and diverse community of students, faculty and researchers dedicated to impactful teaching, transformative research and meaningful community engagement. Our programs span both traditional and emerging engineering disciplines, with a strong emphasis on experiential learning, industry collaboration and applied research that addresses real-world challenges.

During your visit, I encourage you to explore our facilities, connect with our faculty and students and experience the dynamic spirit of our campus. We also hope you will take time to enjoy Memphis; a city celebrated for its rich culture, history and warm hospitality.

Thank you for being part of this conference. Our planning committee has worked diligently to create a meaningful and engaging program, and we are truly pleased to have you with us.

Okenwa O.I. Okoli Ph.D. CEng. CSci. FIMMM

Dean and Professor
Herff College of Engineering



SPEAKERS



Dr. David J. Russomanno, Executive Vice President for Academic Affairs and Provost, The University of Memphis

Anchoring the Digital Delta: The University of Memphis as Tennessee's AI University

This presentation highlights the University of Memphis as Tennessee's AI University, showcasing more than three decades of leadership in artificial intelligence research, education, and innovation. It outlines the Digital Delta region's strategic advantages for AI-driven growth, the University's historic and ongoing contributions to intelligent systems, and its comprehensive, cross-disciplinary approach to AI literacy, workforce

development, and translational research. The presentation also introduces major initiatives—including new academic programs, applied research centers, public-facing AI training, and regional consortium partnerships—that position Tennessee to lead nationally in AI adoption, infrastructure, and societal impact.

Dr. David J. Russomanno became Executive Vice President for Academic Affairs and Provost at the University of Memphis in 2023. He previously served as dean of the Purdue School of Engineering and Technology at Indiana University–Purdue University Indianapolis from 2010 to 2023.

Russomanno first joined the University of Memphis in 1993 as a tenure-track assistant professor following his work as an engineer with Pratt & Whitney Aircraft, Michelin Tire and Intergraph Corporation. During his earlier tenure at Memphis, he held several leadership and faculty roles, including chair of the Department of Electrical and Computer Engineering in the Herff College of Engineering from 2004 to 2010. He also held the R. Eugene Smith Professorship, received the Herff College Outstanding Faculty Research Award and the Outstanding Faculty Teaching Award and was a founding fellow of the FedEx Institute of Technology.

His research spans intelligent sensors and supporting software infrastructure, knowledge representation and inference including data and knowledge visualization, software engineering, logic programming applications and geographic information systems.

Russomanno earned a Ph.D. in computer engineering and a Master of Engineering in electrical and computer engineering from the University of South Carolina. He holds a Bachelor of Electrical Engineering from Auburn University.



Olaf Schulz, Director, Venture Development & Zeroto510, Epicenter Memphis

Stuff I Wish I Learned in Engineering School

*What if the most important parts of engineering success extend beyond the curriculum? In *Stuff I Wish I Learned in Engineering School*, Olaf Schulz examines the formative lessons — direction, failure, curiosity, and communication — that provide practical tools for navigating real-world engineering careers.*

Olaf Schulz is a biomedical engineer with over 28 years of leadership experience in the medical device industry, spanning startups to mid-size corporations. He has led 27 product launches contributing more than \$300 million in sales. His expertise includes full-cycle product development, R&D, manufacturing, operations, quality systems, regulatory strategy, and business development.

Since 2019, Olaf has served in leadership roles at Epicenter Memphis, an economic development organization dedicated to building, growing, and scaling venture-backable startups in the region. He leads the flagship ZeroTo510 MedTech programs, including its nationally recognized 13-week Accelerator that prepares early-stage companies for every stage of pre-revenue development — from prototype refinement to 510(k) clearance and launch strategy. Through this work, Olaf has mentored hundreds of founders and emerging engineers in translating technical innovation into real-world impact. In 2025, his contributions were recognized with the Spark Award for Technology Educator of the Year.

TECHNICAL SESSIONS

Monday, March 9 | Technical Session 1 | 10:00-11:04 a.m.

| Location | Classroom 225 | Fishbowl 203/205 | Methodist Presentation Theatre 103 | The Zone 102D |
|---------------|---|---|--|--|
| Session | 1-1 Student Engagement | 1-2 Environmental Impact and Engineering Education | 1-3 Expanding Pre-College STEM | 1-4 STEM Instruction |
| Moderator | Emmabeth Parrish Vaughn | Jun Wang | Andrea Arce-Trigatti | Benjamin Dinan |
| 10:00 – 10:16 | Bridging the Engagement Gap: How the Concrete Canoe Competition Enhances Learning Engagement Among Underrepresented Engineering Students Jing Yan* | Integrating Climate Change and Flood Risk Analysis into Engineering Education: A Case Study from Antananarivo, Madagascar Attianna Fara Adriantsitohara* | Inspiring Future Engineers? That's SWEET: Lessons Learned from a SWE-Led Middle School Engineering Outreach Program Adaline M. Buerck* | Bridging the Hardware-Software Divide: A Dual-Language Approach to ECE Programming Education Shobhit Aggarwal* |
| 10:16 – 10:32 | Is Attendance Necessary to Perform Better in Engineering Courses? A Case Study M. A. Karim* | Sustainable Irrigation Through Renewable Energy: A Case Study in Florida Agriculture Fazil T. Najafi* | EXPAND TN: Using engaged learning to inspire dual enrollment students to explore a career in engineering or technology Bradley Harris* | Prerequisite Exam with a Review Strategy for a Second-in-Sequence Thermodynamics Course Morgan Green* |
| 10:32 – 10:48 | From Single Prompts to Conversations: Enhancing Student Work Quality and Engagement with Generative AI in Construction Education Mi Sun An* | Sustainable Urban Water Management in a Region Vulnerable to Storm Surge Fazil T. Najafi* | Building Future Engineers Through Regional K-12 Robotics Partnerships Logan Sirbaugh* | Developing a Integrating Cognitive, Teaching, and Social Presences in Asynchronous Course Design: An Engineering Economy Example Simon Thomas Ghanat* |
| 10:48 – 11:04 | Framework for the Inclusion of Virtual Reality in Building Information Modeling (BIM) Courses Ryan Daniel Doczy* | | Redesigning K-12 Curriculum for a Paradigm Shift: Backward Design, Deconstruction, and Critical Thinking for Innovation in Engineering, Computer Science, and Business Yohannes B Bekele* | In Engineering, "Study" Should Be a Dirty Word Timothy Aaron Wood* |

*Presenting author

Monday, March 9 | Undergraduate Poster Competition | 9:40-11:40 a.m.

| No. | Students | Faculty Mentors | Division | Poster Title |
|-----|--|--|----------------|--|
| 1 | Justin Rodriguez | Aaron Adams | Individual | Influence of Process Parameters for 316L Stainless Steel in Fused Deposition Modeling Manufacturing |
| 2 | Justin Rodriguez | Aaron Adams, Dominic Mandato, Samantha Bevis, Edgar Bryant | Individual | Influence of Process Parameters for 316L Stainless Steel in Metal Additive Manufacturing |
| 3 | Ross Rodriguez and Steven Warth | Dr. Emmabeth Vaughn | Upper-Division | Parameters Affecting the Mechanical Properties and Fidelity of 3D-Printed Materials |
| 4 | Diego Garcia | Chuck Margraves | Upper-Division | Comparing Experimental to Numerical Solutions for a Transient Heat Transfer Lab |
| 5 | Andrew Fryman, Josh Halka, James Lawrimore, Ansley Riddle | Daniel Wilson, Todd Schweisinger | Lower-Division | Improving Makerspace Quality: Confinement and Capture of Ultrafine Particles Produced by 3D Printers |
| 6 | Megan Sears | Dr. Amro Khasawneh | Lower-Division | Analyzing and Optimizing Patient Perception of AI Generated Health Care Advice. |
| 7 | Natasha Kendall, Sydney Stapleton, Hannah Kermicle | Sarah Bauer | Upper-Division | From Wood Waste to Soil Health: Evaluating HTL-Derived Biochar as a Soil Amendment |
| 8 | Joshua Barber, Cameron Parker, Riley Lazansky | Dr. Saumya Amarasiri | Upper-Division | Evaluation of Performance Test Results for Polymer Modified Asphalt Balanced Mix Designs |
| 9 | Rebecca Mullaly, Julianna Ledford | Adaline Buerck and Sarah Bauer | Upper-Division | Inspiring Future Engineers? That's SWEET: A SWE- Led Middle School Outreach Program |
| 10 | Henry Fraley, Gracy Padgett, Victoria Villani | Dr. Sarah K. Bauer | Upper-Division | From Waste to Worth: Nutrient Recovery from HTL-Derived ACP via Struvite Precipitation |
| 11 | Gabrielle Hinson and Bri Sellers | Melinda Hollingshed | Upper-Division | Prompting Process Improvement: Using Generative AI to Generate Future State Value Stream Maps |
| 12 | Emily Ender | Dr. Pedro E. Arce | Individual | Guiding Students' Learning Via a Taxonomy of Conservation Principles: Conceptual Aspects, Implementation, and Examples. |
| 13 | Eli Patton, Landon Haywood, Jake Lancaster | Georg Pingen | Upper-Division | Maximizing Heat Transfer out of a Fluid through Heat Pipes in a Wind Tunnel |
| 14 | Anugrah Detha, Landon Yarbrough | Dr. Chandan Roy | Upper-Division | Experimental Analysis of the Resistivity of Graphene Sheets When Used as a TIM Conforming to ASTM D5470-12 |
| 15 | Gerrell Dabbs | Chrysanthe Preza | Individual | The Impact of Noise in Hyperspectral Anomaly Detection |
| 16 | David Adaway | Chrysanthe Preza | Individual | A Comparative Study of Image Restoration Methods for 3D Fluorescence Microscopy |
| 17 | Aidan Benefield and Noah Harrell | Dr. Chandon Roy | Upper-Division | Thermal performance of Indium heat spring as Thermal Interface Material using a steady-state thermal testing apparatus |
| 18 | Rachel Allabaugh, Jonathan Carroll, Gideon Miller, Matthew Meyn, Jordan Prunty, and Cody Tjomsland | Dr. Robert Wamble and Dr. Georg Pingen | Upper-Division | Remote Monitoring and Pressure Adjustment System for the Acetone Bubbling Stage in Plastination |
| 19 | Caleb Luo-Gardner, Angel de Jesus Ramos, Sofia Arias Magaña, Joceline Mendez Mane | Dr. Arash Afshar, Dr. Dorina Mihut, Dr. Stephen Hill | Upper-Division | A Multi-Material Surface Roughness Measurement Laboratory for Mechanical Engineering Students |
| 20 | Caleb Luo-Gardner, Angel de Jesus Ramos, Sofia Arias Magaña, Joceline Mendez Mane | Dr. Arash Afshar, Dr. Dorina Mihut, Dr. Stephen Hill | Upper-Division | Manufacturing-Dependent Degradation and Abrasion Behavior of 3D-Printed and Molded ABS and PETG under UV-Moisture Exposure |

Monday, March 9 | Technical Session 2 | 2:00-3:20 p.m.

| Location | Classroom 225 | Fishbowl 203/205 | Methodist Presentation Theatre 103 | The Zone 102D |
|-------------|--|--|--|--|
| Session | 2-1 STEM Instruction 2 | 2-2 Curriculum Assessment | 2-3 Labs in STEM Education | 2-4 Artificial Intelligence 1 |
| Moderator | Lin Li | JuEun Lee | Chandan Roy | Jing Yan |
| 2:00 – 2:16 | On Developing Resources for Enhancing Student Success in STEM Courses Through Pre-Class Learning and Prior Knowledge Integration Autar Kaw* | Assessing the Integration of the EOP Framework into First- and Second-Year Engineering Courses Adaline M. Buerck* | Enhancing Student Understanding of Heat Treatment and Microstructure Through Integrated Laboratory Experiences Benjamin Dinan* | Development and Initial Offering of a Graduate Course on Artificial Intelligence for Workplace Safety Donald S Burke* |
| 2:16 – 2:32 | 'Survive and Advance': Capstone Senior Design Story Nancy Moore* | Project Assessment Ruler (PAR): A Benchmarking Reference for Capstone Design Programs Matthew Banks* | Laboratory Experiments as Hands-on Homework Assignments for a Mezzanine Course on Electromagnetic Compatibility Gregory J. Mazzaro* | Ancillary Learning Reflection: A Portable Scaffold for Responsible GenAI Use in Traditional Engineering Assignments Daniel Adrian Doss* |
| 2:32 – 2:48 | Cross-Disciplinary Perspectives on Student Learning in STEM Eazaz Sadeghvaziri* | A Correlational Study of ABET Student Outcome and Fundamentals of Engineering Exam Performance Ryan Daniel Doczy* | An Instructor-Friendly, Template-Based Workflow for the Development of GUI Software for Arduino Lab Kits: Applications for Engineering Lab Courses Jasmeet Singh Bhatt* | Work-in-Progress: Reshaping Automotive Engineering Education in the Face of AI Revolution Mary Zadeh* |
| 2:48 – 3:04 | Upgrading Industrial Drives Education: Integrating Legacy PowerFlex 700 with ControlLogix via EtherNet/IP Bradley Deken* | Study of Impact of the Muddiest Points in Asynchronous Online Course Simon Thomas Ghanat* | Effectiveness of an Experiential Learning Approach to Robotics Education at Hampton University - A Case Study Moses Garuba* | An Integrated Approach to AI, Probability and Robotics Education for Mechanical Engineering Students James Writer* |
| 3:04 – 3:20 | Systematic Categorization of Educational Technologies to Support Informed Selection in Engineering Classrooms Ariadna Mendoza* | Educating for Responsibility: A Look at Standards in Undergraduate Engineering Curricula UrLeaka Woodard Newsome* | Mini Labs for Introduction to Programming: A Hybrid Approach for ECE Students Using C, Python, and ESP32 Shobhit Aggarwal* | Development of Artificial Intelligence Chatbot (AI Chatbot) for Undergraduate Engineering Students Shubha Majumder* |

*Presenting author

Monday, March 9 | Technical Session 3 | 3:40-5:00 p.m.

| Location | Classroom 225 | Fishbowl 203/205 | Methodist Presentation Theatre 103 | The Zone 102D |
|-------------|--|---|--|--|
| Session | 3-1 Pre-College Engineering Education | 3-2 Cognition and Perspective | 3-3 Expanding ERM Impact | 3-4 Artificial Intelligence 2 |
| Moderator | Georg Pingen | Mi Sun An | Stephanie S Ivey | Richard Blackmon |
| 3:40 – 3:56 | Continuous Improvement of the Aerospace Engineering Summer Camps - Past to Present Adeel Khalid* | Engineering Educators: When Do You Think about Other's Perspectives? Emmabeth Parrish Vaughn* | Transfer Shock in Engineering: Early Insights from GPA Trajectories at a Large Public University Alejandra Del Valle Muguerza* | Object Identification and Segmentation using Student Developed Machine Learning (ML) Algorithm for Unmanned Aerial System (UAS) Thermal Imaging Adeel Khalid* |
| 3:56 – 4:12 | Expanding Nuclear Science and Engineering Literacy: Pre-Collegiate Outreach and Education Through a Reactor Sharing Program Ira Harkness* | Cultivating Reflective and Communicative Engineers: A Narrative Approach to Design Education Raghu Pucha* | Bridging Transfer Shock: Design and Early Outcomes of the ELITE Program Andrea Arce-Trigatti* | A Collaborative Case Study: Increasing Undergraduate Research in Artificial Intelligence and Cybersecurity in Under-resourced Environment Idongesit O Mkpogon-Ruffin* |
| 4:12 – 4:28 | Top Challenges of Home School Students Entering Engineering Disciplines Jennifer Lynn Goodrich* | Comprehensive Predictors of Engineering Success Using Cognitive and Non-Cognitive Variables Rebekah Martin* | Documents as Dialogue: A Qualitative Exploration into how Community Alignments can support Interdisciplinary Graduate Program Design in Engineering Jing Yan* | AI Augmentation of a Systems Engineering Course Ian Chisholm* |
| 4:28 – 4:44 | The Development, Growth and Success of an Engineering Ambassador Program Priya T Goeser* | Measuring Student Preparedness, Anxiety and Performance: Then and Now Kweku Tekyi Brown* | Exploring the Impacts of Learning Assistants on Students' Learning Engagement and Sense of Belonging in STEM Classrooms Tayler Rae Bachmann* | Research Participants who Helped Design AI/ML Data Training Interface Trend toward Increased Interest in Research Career Teresa Angelie Myrthil* |
| 4:44 – 5:00 | | Title Evaluating the Effectiveness of a Taxonomy Intervention for Cognitive Understanding and Application of Conservation Principles Shanae Denae Tyree* | Connecting Education and Application Through Machine Learning Aaron Ramses Beschorner Lira* | Generative AI Applications for Enhancing Student Learning: Opportunities and Examples Mostafa Batouli* |

*Presenting author

Tuesday, March 10 | Technical Session 4 | 8:40-10:00 a.m.

| Location | Classroom 225 | Fishbowl 203/205 | Methodist Presentation Theatre 103 | The Zone 102D |
|--------------|--|---|--|---|
| Session | 4-1 Undergraduate Research | 4-2 Professional Skills | 4-3 Student Engagement | 4-4 Artificial Intelligence 3 |
| Moderator | M. A. Karim | Shobhit Aggarwal | Joshua Paul Steimel | Pegah Farshadmanesh |
| 8:40 – 8:56 | Integrating Water Quality Testing and Best Practices in Refugee Settings: A Case Study in the Middle East Sarah K. Bauer* | Work-in-Progress: Adding an Experiential Learning Activity to an Existing Ethics Lesson Amy K Barton* | Enhancing Student Engagement in Thermodynamics through WileyPlus Integration Chandan Roy* | Empowering Engineers: Teaching Feedback Dynamics Through Generative AI Bryn Elizabeth Seabrook* |
| 8:56 – 9:12 | Predictors of Student Evaluations in Engineering Course-Based Undergraduate Research Experiences at an HBCU Li Yang* | Global collaboration to solve EV fire challenges James A. Ejiwale* | Enhancing Electro-Pneumatic and Hydraulic Education Through Interactive Logical Hydraulic System Simulation Getachew Ambaye* | Trust but Verify: Engineering Students' Adoption of Generative AI and Pedagogical Implications Across Disciplines Mike Borowczak* |
| 9:12 – 9:28 | Impacts of Undergraduate Research on Student Learning Eazaz Sadeghvaziri* | Entrepreneurship Education Across Engineering Levels and Its Impact on Innovation and Identity Jerald Dumas* | Applying Engineering Tools for Student Engagement and Problem-Solving Mazen I. Hussein* | Lowering Barriers to Undergraduate Research: Opportunities and Risks of Generative AI at Primarily Undergraduate Institutions Mostafa Batouli* |
| 9:28 – 9:44 | Embedded Research Experiences: A Multi-Disciplinary Work-Based Learning Partnership Logan Sirbaugh* | Enhancing Construction Workforce Safety Education through Industry-Academic Partnerships Mohammad Nafe Assafi* | Enhancing Lifelong Learning and Self-Directed Skills through Learning-by-Teaching or Self-taught Lessons: A Case Study in BIM Education Nahid Vesali* | An Exploratory Case Study of Generative AI in ABET Accreditation Assessment Richard Blackmon* |
| 9:44 – 10:00 | | Building Bridges for Student Success through a Strategic Industry Partnership Lorena Andrea Benavides Riano* | Win, Lose, or Solve: Introducing Code-Constrained Problem-Solving Using Board Games Timothy Aaron Wood* | Revolutionizing Cybersecurity Education in Undergraduate Curriculum by Leveraging Retrieval-Augmented Generation with Large Language Models Yohannes B Bekele* |

*Presenting author

Tuesday, March 10 | Technical Session 5 | 10:10-11:14 a.m.

| Location | Fishbowl 203/205 | Methodist Presentation Theatre 103 | The Zone 102D |
|---------------|--|--|--|
| Session | 5-1 Civil and Environmental Engineering | 5-2 Supporting STEM Students | 5-3 Student Perceptions |
| Moderator | Gregory J. Mazzaro | Jerald Dumas | Bryn Elizabeth Seabrook |
| 10:10 – 10:26 | Smart and Sustainable Urban Infrastructure : A Comparative Case Approach Using Chandigarh, Reston, Amsterdam and Singapore Fazil T. Najafi* | Reframing Failure and Building Support: Pathways to Retaining Women in Engineering Bethany Brinkman* | Student Perception on the Effectiveness of Mathematics Review Exercises in an Introductory Engineering Course Charles D Newhouse* |
| 10:26 – 10:42 | Developing Buried Structures Competition for ASCE Student Symposiums or Similar Events Coleman Vaughan* | Equity-Centered Capstone Design in a Resource-Constrained Rural Engineering Program Joshua Paul Steimel* | Student Perceptions of AI Tools in the Classroom Eazaz Sadeghvaziri* |
| 10:42 – 10:58 | Bringing Specifications to Life: Integrating Standards, Codes, and Hands-On Learning in Civil Engineering Materials Education Shenghua Wu* | Integrating Experiential Learning into a First-Year Manufacturing Course to Support Diverse and Non-Traditional Students Mahesh Kumar Pallikonda* | Student Perceptions of Critical Personal Skills and Attributes in Engineering Michael V Potter* |
| 10:58 – 11:14 | | Backing Potential: The Link Between Financial Support, STEM Outreach, and Engineering Student Success Stephanie S Ivey* | Linking Student Perceptions, Curriculum Design, and FE Exam Performance in Civil Engineering Education. Charles D Newhouse* |

*Presenting author

CONFERENCE INFORMATION

FOR THE LATEST INFORMATION and UPDATES, GO TO



Conference Website

REGISTRATION DESK HOURS AND LOCATIONS

Sunday 12:00 P.M. – 6:00 P.M. Edwards Research & Innovation Center, North Lobby
3837 Central Ave, Memphis, TN 38111

Sunday Parking: From Central Ave, turn south on Zach Curlin St. Turn right on Norriswood Ave to park or keep straight on Zach Curlin and park in the first lot to your left. The Edwards Research & Innovation Center (ERIC) is located at the corner of Norriswood and Zach Curlin.

Monday 7:00 A.M. – 5:00 P.M. FedEx Institute of Technology, Lobby
365 Fogelman Dr., Memphis, TN 38111 (Innovation Drive)

Tuesday 7:30 A.M. – 10:00 A.M. FedEx Institute of Technology, Lobby

Monday and Tuesday Parking: From Central Ave, turn south on Fogelman Drive, also known as Innovation Drive. Turn left into the parking garage (PG1). The FedEx Institute of Technology (FIT) is located directly across from the garage entrance.

SHUTTLE SERVICE

Memphis International Airport to/from DoubleTree Hilton:

The DoubleTree Hilton provides free shuttle transportation to/from Memphis International Airport. Contact the hotel at 901.767.6666 for schedule details.

DoubleTree Hilton to/from Conference Site:

Regular shuttle service between the DoubleTree Hilton and University of Memphis conference site is provided. The shuttle bus will run hourly between sites:

Sunday 2:00 p.m. – 8:00 p.m.
Monday 7:00 a.m. – 8:00 p.m.
Tuesday 7:00 a.m. – 1:00 p.m.

NUMBERS TO KNOW

- » Emergency: 911
- » University of Memphis Police Services: 901.678.HELP (4357)
- » University of Memphis Conference and Event Services: 901.678.5000
- » DoubleTree Hilton: 901.767.6666

WIFI

WiFi network: um-guest

Enter your email address to gain access. Access typically lasts 24 hours, so this process will need to be repeated each day.

Having trouble connecting? See detailed instructions here: <https://www.memphis.edu/umtech/solutions/wireless.php>



GUIDELINES FOR PRESENTERS AND MODERATORS

Before the Session

Presenters and moderators should arrive 10 minutes early to the room where the session is being held. The moderator should meet the presenters as they enter the room and review the pronunciation of their names. Presenters and moderators should load and open all presentations on the session room computer before the session starts. Moderators should bring a timing device such as a smartphone or watch.

Beginning the Session

Moderators will start the session with personal introductions and review time limitations (12 min. presentation per paper with 4 minutes for Q&A and transition). The moderator will provide visual warnings for 5 minutes and then 2 minutes left.

Transition Between Presentations

At the end of each presentation, the next presenter should come up and ready their presentation. The moderator will introduce the next presenter.

Maintain the Presentation Schedule

Schedule management is the primary responsibility of the moderator; all presenters should begin and finish their presentations on time, as shown in the Technical Session schedules on the following pages. If a presenter is not in the room or has canceled, please wait to begin the next paper at the scheduled time so that all who planned to attend the remaining paper(s) can do so. The moderator has the authority to respectfully stop a presentation that is about to run over time.

QUIET WORK ZONE

Monday, March 9 | 8:00am – 4:30pm

Tuesday, March 10 | 8:00am – 11:30am

FedEx Institute of Technology, Video Conference Center 313

Take a moment to pause, focus and recharge.

This space is designed especially for conference attendees who need a calm environment to catch up on email, prepare for sessions, handle grading, or simply enjoy a peaceful break from the conference bustle.

Please help us keep this room restful for everyone by keeping conversations low and devices on silent.

Make yourself comfortable and enjoy the quiet!

ENGINEERING EDUCATORS' LOUNGE

Monday, March 9 | 8:00am – 4:30pm

Tuesday, March 10 | 8:00am – 11:30am

FedEx Institute of Technology, Digital Living Room 315

Take a break, settle in, and connect with colleagues who share your passion for shaping the future of engineering education.

This lounge is your space to relax, recharge, and spark new ideas through conversation.

Whether you're here to exchange teaching innovations, build collaborations, or simply meet new friends in the field, we invite you to make the most of this welcoming environment.

Grab a seat, start a conversation, and enjoy the power of community!

WORKSHOP

Monday, March 9 | 1:00 – 2:00 PM | Fishbowl

From Tool to Teammate: Using Generative AI to Foster Entrepreneurial Mindset

Facilitator: Stephen Hutt, Department of Educational Psychology, University of Minnesota

This interactive workshop explores how generative AI can be integrated into engineering education to support the development of the entrepreneurial mindset. Participants will engage in guided activities that position AI as a collaborator in ideation, exploration, and iterative problem solving. Through discussion and reflection, attendees will identify strategies for designing learning experiences that encourage curiosity, resilience, and innovation while using AI thoughtfully and transparently. Participants will leave with adaptable practices ready for classroom implementation.

To get the most out of the session, participants are encouraged to bring a device that can access a chat-based large language model (e.g., Claude, Gemini, ChatGPT, etc.)

Stephen Hutt is an Assistant Professor in the Department of Educational Psychology at the University of Minnesota. His research is at the intersection of education, learning sciences, and artificial intelligence. His work explores how students develop mindset, engage in productive struggle, and regulate their learning, and how AI can be designed to support these processes in ethical, human-centered ways. He focuses on using insights from real educational settings to help educators leverage AI not as a replacement for teaching, but as a tool to foster growth-oriented learning in classrooms.



ROUNDTABLES

Monday, March 9 | 1:00 – 2:00 PM

First-Year Engineering That Sticks: Building Identity, Belonging, and Momentum

Moderator: Russell Deaton

Location: Methodist Presentation Theater

What helps first-year engineering students persist, engage, and begin to see themselves as engineers? This roundtable will explore practical strategies for designing early-course experiences that build confidence, community, and motivation while maintaining appropriate academic challenge. Participants will share approaches to first-year design experiences, student support, and course structures that improve retention and long-term momentum.

What Counts as Rigor in Engineering Education Today?

Moderator: Amy de Jongh Curry

Location: Classroom 225

As engineering programs evolve, faculty continue to wrestle with a central question: what does rigor really mean in today's learning environment? This roundtable invites participants to examine rigor beyond workload alone, including conceptual depth, problem-solving, design uncertainty, communication, and professional judgment. Attendees will discuss how to maintain high standards while promoting meaningful learning and student success.

Helping Students Learn How to Learn Engineering

Moderator: Aaron Robinson

Location: The Zone

Many students struggle not only with engineering content, but with the process of learning engineering effectively. This roundtable focuses on metacognition, self-regulated learning, and practical ways faculty can help students develop stronger study habits, problem-solving approaches, and reflective practices. Participants will share techniques for embedding "learning how to learn" into courses without sacrificing technical content.

Thomas C. Evans Engineering Education Paper Award

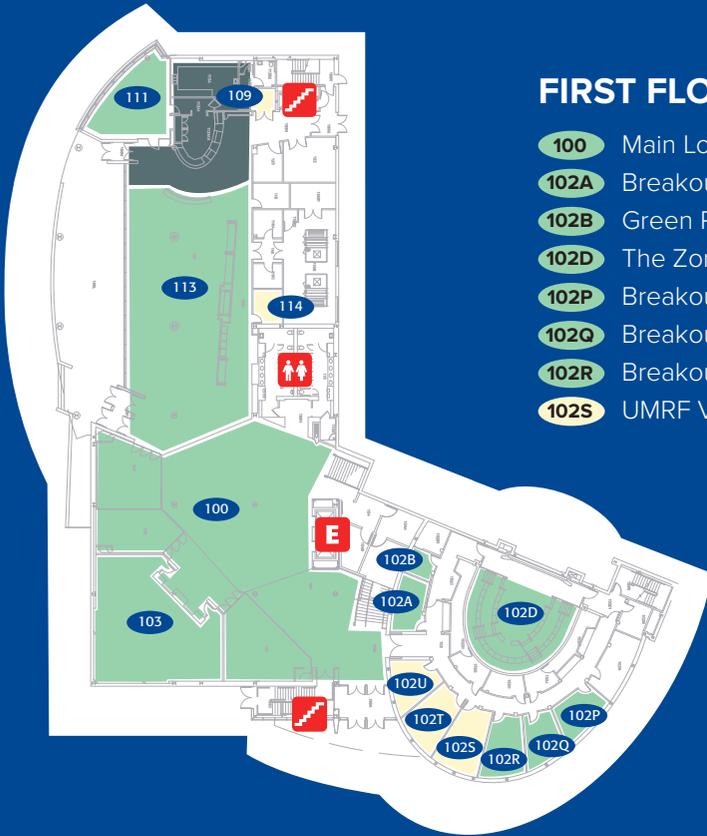
Title: Integrating AI-Assisted Learning Analytics for Personalized STEM Instruction

Author: Eazaz Sadeghvaziri, School of Engineering, Mercer University

ACKNOWLEDGEMENTS

We would like to acknowledge the following for the generous contribution of their time, resources, and support of our efforts to host the ASEE-SE 2026 conference:

- The ASEE-SE Executive Board for managing paper and poster submissions and reviews, coordinating with our local committee regarding the conference schedule, technical program presentations, and student poster competition, and for creating a wonderful regional community of caring, committed, and competent engineering educators;
- Members of the Herff College of Engineering Host Site Planning Committee for two years of continual, consistent commitment in support of our goal of successful conference;
- Herff College Dean Dr. Okenwa Okoli and the Dean's Office Staff for critical logistic, administrative, and organizational support;
- The Division of Research and Innovation at the University of Memphis for sponsoring conference facilities in the Fedex Institute of Technology;
- The City of Memphis Public Works/City of Memphis Engineering for their sponsorship of our conference;
- Olaf Schultz, Director of Venture Development and Zeroto510 at Epicenter Memphis, for generously donating his time as a keynote speaker for our Awards Banquet;
- Dr. David Russomanno, Executive Vice President for Academic Affairs and Provost of the University of Memphis, for his unwavering support and contribution as a keynote speaker;
- Dr. Stephen Hutt, Assistant Professor in the Department of Educational Psychology at the University of Minnesota, for contributing his expertise on effective and appropriate use of generative AI in educational contexts;
- Musicians Julian Henderson, Gene Micofsky, Tony Thomas, Benjamin Birkenmaier, and Delara Hashemi for enlivening our Welcome Dinner and Awards Banquet with their musical talents;
- The Mississippi State University Bagley College of Engineering Host Site Committee for the ASEE-SE 2025 Conference, especially Professors Alexis Nordin and Morgan Greene for sharing their experience and providing critical counsel in preparing our sequel to their excellent conference;
- All of the workshop facilitators, roundtable moderators, session moderators, and conference attendees;
- And our teachers, colleagues, students, family, friends—including all whom have made up the wonderful community that made it possible for us to have the privilege of hosting this conference!



FIRST FLOOR

- 100** Main Lobby
- 102A** Breakout Space
- 102B** Green Room
- 102D** The Zone
- 102P** Breakout Space
- 102Q** Breakout Space
- 102R** Breakout Space
- 102S** UMRF Ventures
- 102T** UMRF Ventures
- 102U** UMRF Ventures
- 103** Methodist Presentation Theatre
- 109** UofM Dining
- 111** Private Dining Room
- 113** Cyber Café
- 114** Office Space

SECOND FLOOR

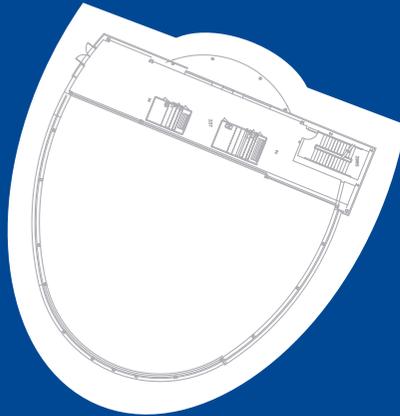
- 201** Graduate School Office Suite
- 203** Fishbowl
- 205** Fishbowl
- 208** West Tennessee STEM Hub
- 210** FIT Research Clusters
- 212** FIT Office
- 214** UMRF Office
- 225** FIT Training Classroom
- 226** Classroom
- 227** Classroom
- 228** Conference & Event Services
- 232** FIT Office





THIRD FLOOR

- 303** FIT Administrative Office Suite
- 305** FIT Office
- 307** MD2K Office
- 309** UMRF Ventures
- 310** MD2K Office
- 312** IIS Office
- 313** Video Conference Center
- 314** MD2K Research Space
- 315** Digital Living Room
- 316** MD2K Research Space
- 324** Center for Information Assurance Classroom
- 326** UMRF Ventures – Call Center
- 334** FIT Innovation Showcase
- 335A** Center for Information Assurance Research Lab
- 335** MD2K Administrative Offices
- 336** MD2K Office Space

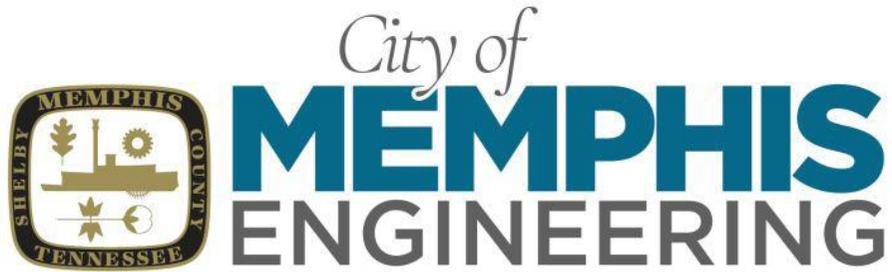


FOURTH FLOOR

- 403** IIS Offices and Lab Space
- 408** IIS Office
- 406** IIS Office
- 405** Classroom
- 407** Classroom
- 410** IIS Collaborative Work Area
- 430** IIS Library
- 436** IIS Director's Office
- 438** Eye Tracking Lab
- 440** FIT VR Immersion Lab

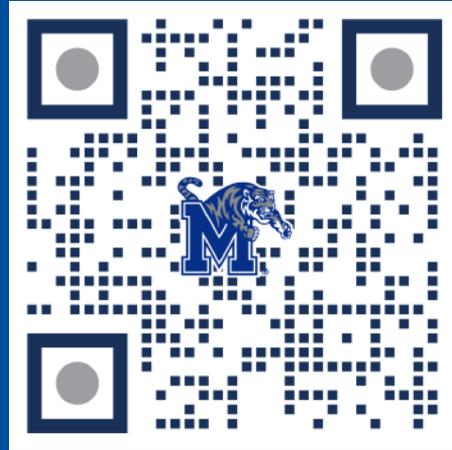


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