The ME Connection

UE Mechanical Engineering Newsletter

May 2025

"I believe that every right implies a responsibility, every opportunity an obligation, every possession a duty." — *John D. Rockefeller*

Symbolic Rings

Each spring, the senior class is invited to accept the *Obligation of an Engineer* and formally join the Order of the Engineer. In the US, the Order of the Engineer fosters a spirit of pride and responsibility in the engineering profession and presents a visible symbol identifying the engineer to the public. That symbol is a stainless-steel ring worn on the fifth finger of the working hand. The Class of 2025 pledged to accept the Obligation and were welcomed to the Order in a ceremony last month.

Student posters are on display on the 2nd floor of Koch Center if you visit campus and are interested in reading more about the student projects and conference presentations mentioned in this edition.
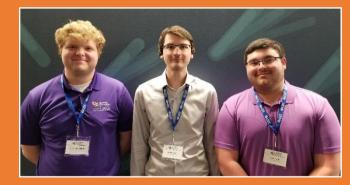
Special Thanks to MEAC Members

Thank you to the Mechanical Engineering Advisory Council for volunteering their time to support our program and engage with our students last month.

ASME Fueling Connections

The American Society of Mechanical Engineers student leaders planned and hosted a cookout for the School of Engineering and Computer Science. Students, faculty, and staff gathered to enjoy food, fellowship, and games as a community celebrating the end of the academic year. Thanks, ASME!

Congratulations Corner

Congratulations to three students who recently presented their peer-reviewed work at the American Society for Engineering Education's (ASEE) Illinois-Indiana Section Conference. Christopher Martin *(left, Class of 2027)* and Kevin Baehl *(right, Class of 2026)* presented their work with Dr. Fulcher and Ray Shelton on 3D printed materials titled, "Adaptation of Existing Material Testing Equipment for Tensile Testing of Additive Manufactured Materials."

Quinn Fossier *(center, Class of 2026)* published and presented his independent research paper titled, "Efficacy of Generative Design and Topology Optimization Compared to Traditional Design Processes Using the Case Study of a Cantilevered Beam."

"The ASEE Conference was a great experience where I was able to connect with fellow engineers and contribute to the advancement of Engineering Education." - *Kevin Baehl*

We love to share what our alumni are doing!
Please submit a photo and short blurb to: mechanicalengineering@evansville.edu

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Student Spotlight: Senior Design Teams

Thermosiphon

The 2024-25 *Thermosiphon* team successfully achieved its research objective of studying the effect of constant hot-leg height with varying collector angles, an area previously unexplored in the field. In fact, during the seniors' presentation at the National Conference on Undergraduate Research, no similar studies were identified, highlighting the importance of this work. The team developed robust, repeatable, and accurate data, setting a standard for quality data. Teams' underclassmen led major facility improvements, while our junior team member introduced an ambient temperature measurement system. The team's motivation, collaboration, and commitment made this year a successful one.

Ace's Racing

The 2024-2025 *Ace's Racing* team elected to do FSAE formula series this year. The team was looking for a challenge as the university hasn't had a formula team since 2017-18. The team had high expectations with having 8 seniors and 12 other team members. All design work was completed in the fall and fabrication took place in the spring. The major design components of the car included frame, front and rear suspension, intake and dynamometer, steering and brakes, drivetrain, and aerodynamics. The team completed fabrication and successfully tested the vehicle to ensure reliability and performance. The team elected not to go to competition this season as this was the first year back in the formula circuit. The team this season surpassed expectations and has laid the groundwork for many years to come.

Q: What did the engineer exclaim when they invented hydropower? A: Dam it!