

Hello and War Eagle! Welcome to the spring edition of the Auburn University Department of Industrial and Systems Engineering (ISE) Newsletter. With the conclusion of the spring semester, we invite you to reflect with us on the department's most recent updates and accomplishments.

We are excited to announce that the former dean of the Samuel Ginn College of Engineering, Dr. Chris Roberts, was recently named the 21st president of Auburn University. Dr. Steven Taylor served the college admirably for a year as interim Dean while the university executed a national search for Dr. Roberts' replacement. We are now excited that Mario Eden, the Joe T. and Billie Carole McMillan Professor and Chair of Auburn University's Department of Chemical Engineering, has been selected as the new Dean of the College of Engineering. Additionally, Dr. Taylor has been named the Senior Vice President of Research for the university. We are well set for an exciting future in Auburn Engineering.

The ISE Department also continues to look for new opportunities for growth. Our research expenditures in the department have grown 360 percent in the last five years. New research areas include product innovation and potentially healthcare. With a growing trend of industrial engineers working in healthcare, our department is working to prepare our students for those opportunities. We are in the process of creating three new healthcare courses. The course Healthcare Systems, Policy, and Culture was offered for the first time this spring.

We graduated 91 students with bachelor's degrees, 85 students with master's degrees, and 9 doctoral degrees in the last year. Additionally, we have 15 tenure-track faculty, two lecturers, and two professors of practice, making all we do possible in the ISE department.

Our current faculty members continue to strive for excellence. We learned just this week that Jia (Peter) Liu has been awarded a National Science Foundation CAREER award! These awards are offered in support of junior faculty who exemplify the role of teacher-scholars through research and education. This is the first CAREER award for our department and we are thrilled about his achievement.

Our graduate program also continues to thrive. Spring graduate enrollment was 221, the largest in the College of Engineering, with more than 116 online graduate students. A good portion of this growth can be attributed to our graduate cohort industry partnerships. We currently have five partnerships through which groups of employees are earning graduate degrees. The newest partnerships include Honda Manufacturing and Jacobs Engineering. U.S. News and World Report recently ranked our online program as number eight in the nation.

The department recently filled a faculty position with the hire of assistant professor Rongxuan Wang. Dr. Wang is a recent doctoral graduate of Virginia Tech with a focus in advanced manufacturing systems. His skills and knowledge will be a great benefit to the Interdisciplinary Center for Advanced Manufacturing Systems (ICAMS) and the department as a whole. We will be adding two additional tenured faculty positions to replace Sean Gallagher, who retired in January, and Jeff Smith, who will retire in September.

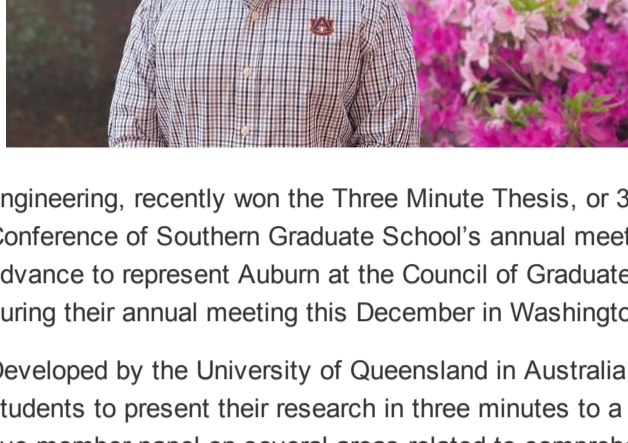
This first semester serving as chair of the ISE Department has been one of personal and professional growth, challenges, and excitement. The opportunity for a more in-depth understanding of the work of our faculty, staff, and students has made this transition one I am deeply proud to undertake. I look forward to learning even more and doing my part to support all of the great work that is to come.

Please read more about our latest achievements below and thank you for continuing to support the Auburn University Department of Industrial and Systems Engineering.

War Eagle!

Greg Harris

Industrial and Systems Engineering Professor & Department Chair



ISE graduate student wins regional Three Minute Thesis competition

Shivaprasad Nageswaran, a graduate student in industrial and systems engineering, recently won the Three Minute Thesis, or 3MT, regional competition at the Conference of Southern Graduate School's annual meeting in Tampa, Fla. Nageswaran will advance to represent Auburn at the Council of Graduate Schools' national 3MT competition during their annual meeting this December in Washington, D.C.

Developed by the University of Queensland in Australia, the 3MT competition invites graduate students to present their research in three minutes to a general audience. They are judged by a five-member panel on several areas related to comprehension, engagement and communication.

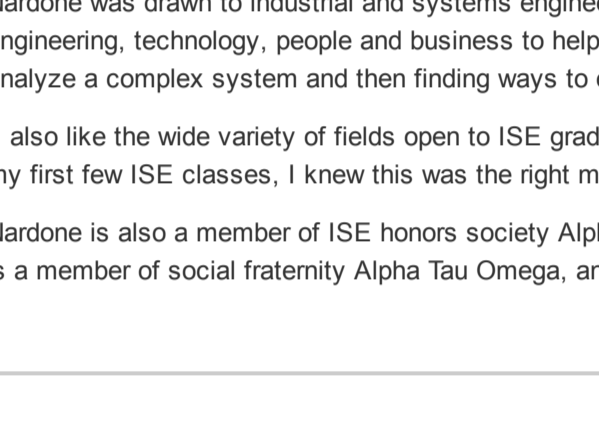
Nageswaran's presentation, "Investigating Seat Belt Safety in Rollover Accidents," focused on his research to determine the optimal buckle release force needed to free oneself from a seat belt if inverted after an automobile crash. As part of his doctoral research in the occupational safety and ergonomics program in the Department of Industrial and Systems Engineering, Nageswaran examines seat belt safety in both personal vehicles as well as school buses.



DoD awards ICAMS \$8.9M for smart manufacturing initiatives

The adoption of Smart Manufacturing is fast becoming a necessity for small and medium-sized manufacturers (SMMs) looking to stay competitive in the Industry 4.0 age. For those SMMs in the national security ecosystem, it's no longer a suggestion — it's a requirement. Enter, once again, the Interdisciplinary Center for Advanced Manufacturing Systems (ICAMS) at Auburn University.

Established in 2020 to help SMMs bridge the digital divide that threatens to render 85% of the American industrial base obsolete over the next decade, the center will use a significant portion of its latest and largest award from the Department of Defense's (DoD) Office of Industrial Policy's Industrial Base Analysis and Sustainment (IBAS) Program, \$8.9 million, to leverage its research and outreach efforts promoting advanced manufacturing in small and medium manufacturing operations in the defense industrial base.



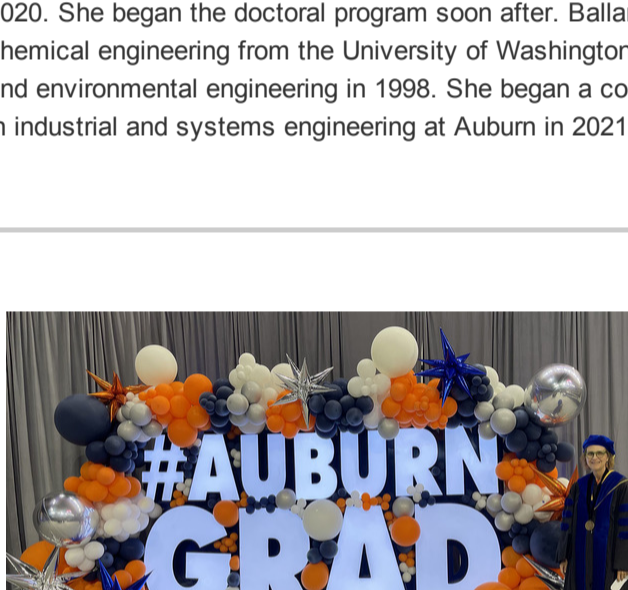
ISE names undergraduate student of the year

Auburn University senior Drew Nardone has been named the Department of Industrial and Systems Engineering's Undergraduate Student of the Year.

Nardone was drawn to industrial and systems engineering because of how it combines engineering, technology, people and business to help solve problems. He enjoys learning how to analyze a complex system and then finding ways to optimize it.

"I also like the wide variety of fields open to ISE graduates after college," he said. "After taking my first few ISE classes, I knew this was the right major for me and have enjoyed it since."

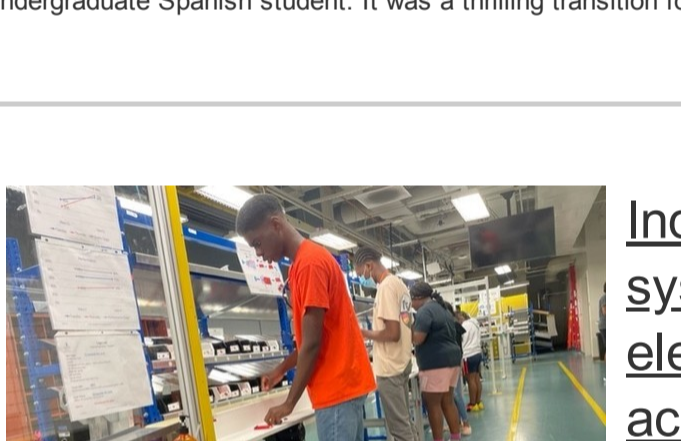
Nardone is also a member of ISE honors society Alpha Pi Mu, is a peer tutor for the college, and is a member of social fraternity Alpha Tau Omega, and the Italian Club.



Doctoral students awarded 100+ women strong departmental award

Madison Evans and Victoria Ballard, two doctoral students studying industrial and systems engineering, were recently awarded the Samuel Ginn College of Engineering's 100+ Women Strong Outstanding Departmental Annual Graduate Award. Two graduate students from each engineering department received this honor. These students have demonstrated academic excellence in the graduate program and were recommended by their program officer or department chair.

Evans graduated with a bachelor's degree in industrial and systems engineering from Auburn in 2020. She began the doctoral program soon after. Ballard earned a bachelor's degree in chemical engineering from the University of Washington in 1997, and a master's degree in civil and environmental engineering in 1998. She began a concurrent master's and doctorate program in industrial and systems engineering at Auburn in 2021.



ISE professor earns Spanish degree

In an effort to further collaborations with student recruiting in Latin America, Alice Smith, the Joe W. Forehand/Accenture Distinguished Professor of the Auburn University Department of Industrial and Systems Engineering, recently earned a Bachelor of Arts degree in Spanish from Auburn University.

Smith's original intent was not to earn a degree, but only to learn the language. She began by taking one course each semester. She wanted to earn grades in the classes as motivation and to do so she was required to register as an undeclared liberal arts undergraduate student. One fall semester, Smith was unable to register for classes. When she inquired about the problem with her advisor, she learned that she had too many credits to have an undeclared major.

"I told the advisor I was not interested in getting a degree, but she said I could by just taking more Spanish classes, as I intended to do anyway," Smith said. "So, I became an undergraduate Spanish student. It was a thrilling transition for me and one I never anticipated."



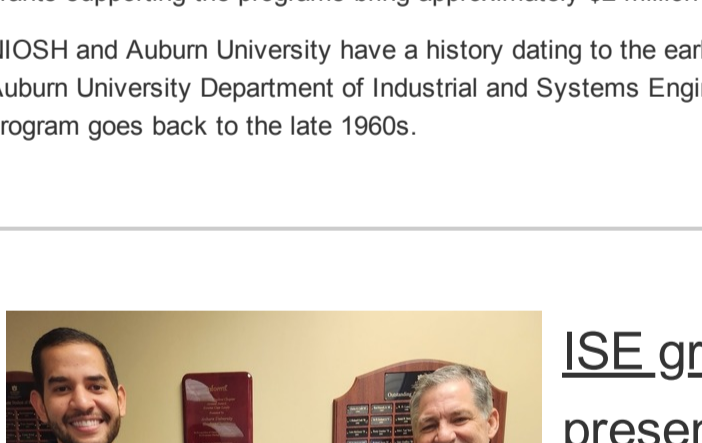
Industrial and systems engineering elevates online academic experience

As the professor for the Tiger Motors Lean Engineering Lab, one of the more popular labs in the Samuel Ginn College of Engineering, Tom Devall, director of auto manufacturing initiatives for the department, selected Caputo as the recipient of the award.

hears from online graduate students that they would love the opportunity to participate more in lab activities.

"The online students have felt a little left out," Devall said. "We have wanted to make it a better experience for them for a while."

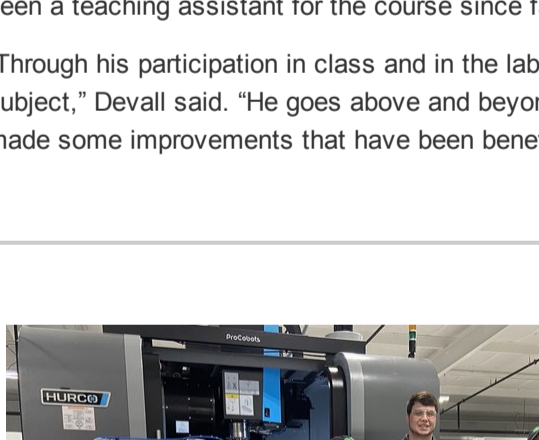
The Tiger Motors team decided to work to install high-quality cameras and microphones in the lab to make the experience better. The Department of Industrial and Systems Engineering recently invested \$26,000 in the lab to install five ultra-HD digital cameras that can pan and zoom, five wireless microphones, and 10 drop-down mics that can capture all five areas of the lab. During broadcasts, students can log on to Panopto to view several camera angles, listen in, and chat live with TAs.



Occupational safety education and research programs renewed

The Center for Occupational Safety, Ergonomics, and Injury Prevention, part of the Auburn University Department of Industrial and Systems Engineering, recently had two education and research training programs renewed for five years by the National Institute for Occupational Safety and Health (NIOSH). The programs are part of the Deep South Center for Occupational Health and Safety, a collaboration with the University of Alabama at Birmingham (UAB). The grants supporting the programs bring approximately \$2 million to Auburn.

NIOSH and Auburn University have a history dating to the early 1970s, and the history of the Auburn University Department of Industrial and Systems Engineering safety and ergonomics program goes back to the late 1960s.

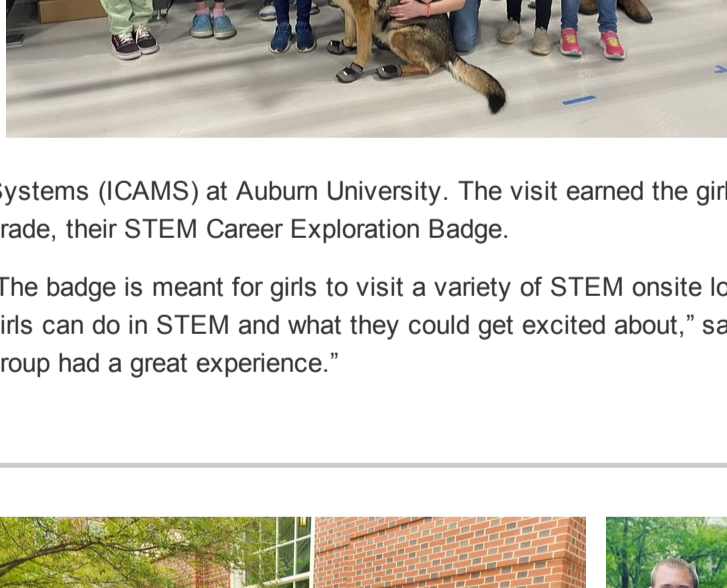


ISE graduate student presented Lean Engineering Award

Diego Caputo, a graduate student in the Auburn University Department of Industrial and Systems Engineering, was recently named the 2022 JT Black Lean Engineering Student of the Year. Tom Devall, director of auto manufacturing initiatives for the department, selected Caputo as the recipient of the award.

Devall said Caputo was an exceptional student in his Lean Systems engineering course and has been a teaching assistant for the course since fall 2022.

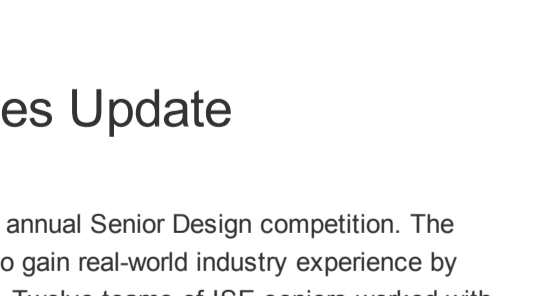
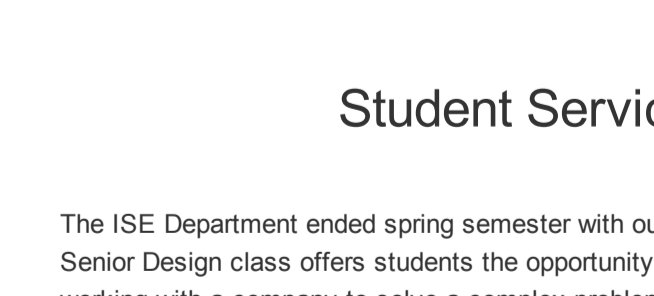
"Through his participation in class and in the lab, it was clear he was passionate about the subject," Devall said. "He goes above and beyond in making sure things are done well and has made some improvements that have been beneficial to the lab."



Girl Scouts troop gains hands-on experience at ICAMS

A local Girl Scouts troop recently gained some hands-on manufacturing experience at the Interdisciplinary Center for Advanced Manufacturing Systems (ICAMS) at Auburn University. The visit earned the girls, who ranged from first to fifth grade, their STEM Career Exploration Badge.

"The badge is meant for girls to visit a variety of STEM onsite locations and learn what careers girls can do in STEM and what they could get excited about," said troop leader Karen Dane. "The group had a great experience."



Student Services Update

The ISE Department ended spring semester with our annual Senior Design competition. The Senior Design class offers students the opportunity to gain real-world industry experience by working with a company to solve a complex problem. Twelve teams of ISE seniors worked with companies that included Honda and Publix, as well as internal Auburn University entities such as Engineering Online and the Tiger Motors Lab. ISE faculty and members of the ISE Alumni Council judged the competition.

Tom Devall, the professor of the Tiger Motors Lab, requested a simulation of the lab from one of the teams for use during class as a teaching tool. Greg Purdy, industrial and systems engineering assistant professor, served as the team's faculty advisor. Based on the five categories judged in the competition - Define, Measure, Analyze, Improve, and Control - the Tiger Motors Lego Lab Simulation team was awarded first place.

The team created a simulation of the Tiger Motors Lab through simulation software. The model created an environment for students to learn about Lean Engineering tools outside of the lab.

"This project was really in-depth and we all worked together really well," said team member Andrew Cox. "We all put our minds together and put out a great product for Tom Devall to use for future students in the Lean Lab."

ISE Undergraduate Student of the Year, as well as ISE Student of the Year nominees, were also awarded at the event.

"I'm so proud of this year's outstanding undergraduate students," said ISE Student Services Coordinator Branden Farmer. "They are such an amazing group with bright futures. We're lucky to have such incredible students!"

