

# NEWSLETTER



## GUIPING HU, PHD,

PROFESSOR AND HEAD  
DONALD & CATHEY HUMPHREYS CHAIR

School of Industrial Engineering and  
Management, Oklahoma State University  
345 Engineering North, Stillwater, OK  
74078

→ **Email**  
[guiping.hu@okstate.edu](mailto:guiping.hu@okstate.edu)

→ **Phone**  
405-744-2519

Dear IEM family and friends,

Greetings from the School of Industrial Engineering and Management (IEM) at Oklahoma State University! As we wrap up the Spring 2024 semester, our school has much to celebrate. Our faculty, students, and alumni have demonstrated research, teaching, and service excellence through various local, regional, national, and international awards and recognitions.

On May 2nd, we held a special event to honor Dr. Ken Case by establishing a giving society: Kenneth E. Case giving society. Every gift will be a symbol of Ken's countless gifts, contributions of time and energy, and the passion that he has invested in the discipline of industrial engineering – specifically at Oklahoma State University. Since the launch of the giving society, we have received eight new pledges all at \$10,000 and above. Thank you all for your generosity and support!

As the third oldest Industrial Engineering program in the nation, Oklahoma State University graduated the first IEM student in 1926. I am excited to announce that the school is planning for IEM's centennial celebration in 2026. Please share your thoughts and ideas as we plan for this momentous event.

Thank you all for your hard work, support, and dedication. Together we make IEM. I look forward to meeting a lot of you on campus or during my trips to where you are.

*Go Pokes!*



01.

## DR. HERAGU NAMED IISE PRESIDENT – FIRST INDIVIDUAL TO RECEIVE THREE PINNACLE AWARDS FROM IISE



[CEAT news announcement read more](#)



[IISE News announcement read more](#)

## 02. IEM LAUNCHES THEIR FIRST UNDERGRADUATE RESEARCH ASSISTANT (URA) PROGRAM

IEM has launched their first Undergraduate Research Assistant (URA) program. The URA is a 10-week long program where a cohort of 12 undergraduate students will be working with eight IEM faculty members and graduate student mentors on seven different research projects. Below is a list of projects and the faculty mentors. This program was made possible by the generous support from the Donald & Cathey Humphreys Endowment fund, an NSF grant led by Dr. Lizhi Wang and Dr. Guiping Hu, and the Center of Data Analytics at OSU, which is co-directed by Dr. Sunderesh Heragu, Dr. Rick Wilson, and Dr. Lizhi Wang.



## URA PROJECTS

01.

Dr. Saravanan, "Influence of Cognitive Workload on the Gait and Balance of Pedestrians"

02.

Dr. Saravanan, , "Effect of Artificial Intelligence on the Cognitive Workload of Students"

03.

Dr. Deep and Dr. Ramesh, "Towards Smart 3D Printers: Sensor Integration with Raspberry Pi"

04.

Dr. Wang, "Understanding drought resistance of turf grass through data collection and data analytics"

05.

Dr. Borrero, "Testing and developing an Android app for a modified Monopoly game"

06.

Dr. Nuamah, "Cognitive Workload Classification System"

07.

Dr. Hu, "Data Analytics and Applications of AI in Parkinson's Disease"



## CONGRATULATIONS TO OUR MAY 2024 GRADUATES



### B.S. IEM:

Bella Baker  
Peyton Dayer  
Zachary Hall  
Hannah Hazelip  
Hwanee Hwang  
Ethan Inman  
Austin Kirk  
Joshua Linholm  
Landon Lucas  
Andrew Munson  
Jacob O'hara  
Banner Penwell  
Makaya Reed  
Brenna Rodgers  
Lindsay Sanford  
Austin Sawyer  
Ananya Singh  
Madison Wilson

### M.S. IEM:

Hari Prasad Ananda  
Adithya Ashwathi  
Akhileswar Biragi  
Patrick Cook  
Snehal Durugkar  
Abinash Kumar Gupta  
Ainsley Kyle  
Shubham Mohite  
Satarupa Nandy  
Rahul Nomula  
Sai Krishna Vamsi Paravatharaju  
Akshay Patil  
Rakesh Ravichandran  
Prafulla Sature  
Aditya Dilip Shete

### M.S. ETM:

Kwasi Alleyne  
Nicholas Banks  
Cash Billups  
Justin Fisher  
Jared Hindman  
Ryan Hostetter  
Tim Martin  
Bradford McAllister  
Cody Newberry  
John Pollard  
Marisa Reyes  
Raj Gideon Selvaraj  
Connor Williams

On February 29th, the Industrial Advisory Board (IAB) convened for their Spring 2024 meeting. During this session, the Senior Design teams showcased their projects to both the Industrial Engineering and Management (IEM) faculty and the IAB members.

Five teams, each consisting of three to four students, presented their innovative solutions in the following areas:

01.

Business Process Improvement for a Professional Services Organization.

02.

Enhancing the Pick, Pack, and Ship Process and Layout for a Warehouse.

03.

Warehouse Layout Optimization Project.

04.

Strategies for Increasing Income for a Non-Profit Organization.

Teams received feedback and input on problem statements, score and initial data collections ideas for their projects.

## OSU IEM INDUSTRIAL ADVISORY BOARD SPRING 2024 MEETING/ SENIOR DESIGN PRESENTATIONS



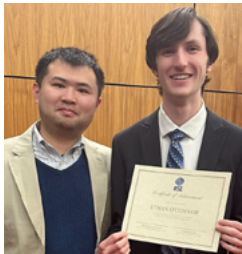
# The School of Industrial Engineering and Management holds first ever Research Symposium

→ [read more](#)

## 05. DR. SARAVANAN'S COGNITIVE PERFORMANCE (CoPe) LAB

→ [thecopelab.org](http://thecopelab.org)

Dr. Saravanan's Cognitive Performance (CoPe) Lab kicked off the Spring 2024 semester with hands-on training on Noldus Portable Lab and ObserverXT. They were able to learn a lot about behavioral research. The training was led by Paul Hamblin from Noldus Information Technology. Visit the [copelab.org](http://copelab.org) to learn more about their research.



## 06. IISE ATTENDS THE 2024 IISE SOUTH CENTRAL CONFERENCE

Oklahoma State University Industrial Engineering and Management (IEM) students attended the 2024 Institute of Industrial and Systems Engineers (IISE) South Central Regional Conference, hosted by the University of Arkansas, from February 29th to March 2nd. We are proud to announce that Ethan O'Connor, an IEM junior, secured 2nd place in the Undergraduate Paper Competition. His paper was titled "Towards Personalized Inhalation Therapy by Correlating Chest CT Imaging and Pulmonary Function Test Features Using Machine Learning". Ethan's work was mentored by Dr. Chenang Liu.







## 07. KENNETH E. CASE DAY

On May 2nd, we held a special event to honor and recognize Dr. Ken Case and his contribution of time, energy, and passion that he invested in the Discipline of Industrial Engineering - specifically at Oklahoma State University.

The celebration was attended by Mayor Will Joyce, Dean Huang, Associate Deans Heragu and Veenstra, along with guests who have been taught by, collaborated with, and worked alongside Dr. Case.

Mayor Joyce has declared **May 2nd as 'Kenneth E. Case Day'** and a new giving society has been established in Dr. Case's name: Kenneth E. Case Giving Society. To which we have already received eight new pledges at \$10,000 and above.

**THANK YOU FOR ALL YOUR GENEROSITY AND SUPPORT!**



08.

## DR. LIZHI WANG IS WORKING ON TWO LARGE RESEARCH PROJECTS.



*Professor and Ken & Lynn Case Endowed Chair*

### Project 1

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The first one is a \$2M project funded by the National Science Foundation titled “LEAP HI GOAL: Engineering crops for genetic adaptation to changing environments”. Dr. Wang serves as the lead PI, and Dr. Guiping Hu (OSU), Dr. William Beavis (Iowa State University), Dr. Sotirios Archontoulis (Iowa State University), and Jack Kloeber (MicroMGx) are co-PIs, and Syngenta and Corteva are industry partners of this project. The goal of the project is to accelerate the genetic adaptation of crops to changing environments. The research team has been designing novel models and algorithms for understanding how genotype, environment, and their interactions jointly determine the phenotype. In the summer of 2024, the research team is collaborating with two groups of OSU teams to experimentally validate the models and algorithms that have resulted from the project. In one experiment, Dr. Wang and Dr. Hu are working with Dr. Glenn Zhang (OSU Animal Science) to conduct microbiome experiments in chickens to explore novel approaches to enhancing disease resistance. In the other experiment, Dr. Wang and Dr. Hu are working with Dr. Mingying Xiang (OSU Horticulture) and Dr. Shuhao Yu (OSU Horticulture) to grow more than 200 varieties of Bermuda grass in both field and greenhouse environments and use data analytics to help identify superior varieties that are both drought resistant and winter hardy.

### Project 2

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The second project is a \$20M project jointly funded by the National Science Foundation and USDA-NIFA titled “AI Institute for Resilient Agriculture”. Dr. Baskar Ganapathysubramanian (Iowa State University) is the lead PI and Dr. Wang serves as the lead on Thrust 2 Model Deployment. In this project, Dr. Wang has been developing a digital twin framework and deploying it to multiple plant and animal species, including maize, soybean, sorghum, and mealworm. This framework integrates data analytics and machine learning techniques with mechanistic models that represent the physiological processes of the plant’s or animal’s growth cycles. Successful deployment of a digital twin enables the user to not only identify environmental stresses in the plants or animals growth stages but also explore optimal management strategies to reduce the stress, enhance productivity, and balance profitability and environmental sustainability.





## 10. DR. MAJID AKHGAR SELECTED AS A FINALIST FOR THE WORLD'S LEADING OPERATIONS RESEARCH AND ANALYTICS AWARD

Majid Akhgar, Ph.D., who got his Ph.D. in IEM from OSU in Spring 2023 and was a student of Dr. Juan S. Borrero, was selected as a finalist for the World's Leading Operations Research and Analytics Award: the 2024 INFORMS Franz Edelman Award, as part of the American Airlines Operations Research Team. As per the award summary "Leveraging optimization and AI techniques, American Airlines has developed the Hub Efficiency Analytics Tool (HEAT), an industry-leading technology that helps the airline more effectively manage irregular operations during severe weather. HEAT dynamically adjusts the timings of flight departures in a coordinated fashion to ensure that passengers, crew members and aircraft keep moving when weather threatens to disrupt the flight operation. Since its deployment in 2022, HEAT has been used more than 100 times during summer months at the airline's largest hub airports and prevented nearly 1,000 flight cancellations across the network."

## 11. US NEWS AND WORLD REPORT RANKS OSU'S ENGINEERING AND TECHNOLOGY MANAGEMENT PROGRAM AMONG NATION'S BEST

→ [OSU news announcement read more](#)

→ [U.S News announcement read more](#)

Outstanding News! The US News and World Report college rankings are out for 2024, and our IEM Engineering and Technology Management (MSETM) graduate online program received a ranking of ninth for the best online program for Veterans. The MSETM program ranked 14th for the best overall online program out of 109 total Engineering Management programs. You can view the MSETM program rankings on the US News and World Report rankings website: Oklahoma State University - Online Graduate Engineering Program - US News Best Online Colleges . Currently, the MSETM program has launched a curriculum review to further improve program offerings. As part of the review process, the School of IEM and The Cowboy Academy are teaming up together to conduct an extensive benchmarking study of the top Engineering Management programs. The results of the curriculum review should be available later this year.







13. DR. HU SELECTED FOR 2024 IISE FELLOW AWARD

→ read more

12. FACULTY STAFF BANQUET

OSU CEAT held its annual faculty, staff and student awards banquet on April 30 to celebrate accomplishments from high achievers.



01. Dr. Katie Jurewicz - CEAT Excellent Teacher Award for Junior Faculty

02. Matt Taylor - Academic Unit Outstanding Performance Award

03. Enrico Laoh - IEM Outstanding Graduate Student Award

04. Ananya Singh - IEM Outstanding Senior Student Award

14. IEM PHD STUDENT EMMANUEL YANGUE NAMED IISE GRADUATE RESEARCH AWARD WINNER



→ read more