Greetings,

We hope this note finds you and your loved ones healthy and enjoying life. The school has had some exciting events occur this year and we wanted to make sure we let all our friends/alumni know. Last summer, Dr. Tieming Liu was promoted to full professor and Dr. Jennifer Glenn was promoted to Associate Professor of Teaching. We are proud of them both. Dr. Glenn was named Undergraduate Program Director and Dr. Terry Collins was named Director of the Master of Science in Engineering and Technology Management. They are both doing great things. Dr. Glenn has been working with one of our MS students to develop new materials and hands-on activities to use while introducing IE to junior high and high school aged students, as well as making several recruiting trips across the state.

Dr. Sunderesh Heragu was promoted last summer to Associate Dean of Academic Affairs for CEAT. He will be greatly missed in the department, but, thankfully, he’s only a short walk away. Our new head, Dr. Guiping Hu, joined IEM in July 2023. Her husband, Dr. Lizhi Wang will also be joining IEM. One more Assistant Professor, Dr. Pratima Saravanan, joined us in August. IEM is looking forward to welcoming all three of them!

We had to say goodbye last summer to Laura Brown, Dr. Farzad Yousefian and Dr. Bing Yao. Laura retired after serving the department faithfully for 10 years. Dr. Yousefian and his wife moved to New Jersey (Rutgers University) and Dr. Yao joined her husband on faculty at the University of Tennessee. We wish them all well. They will be missed.

Dr. Joseph Nuamah was awarded a $230,000 grant from NSF to study the temporal dynamics of resilience during human-computer interaction

Many people spend part of the day in stressful conditions, which are known in general to be a major contributor to burnout, diminished productivity, and numerous other health risks, whereas some people (including for example air traffic controllers, soldiers, and first responders) work in high stress environments seemingly with no ill effects. Why certain individuals perform better under high stress than others with similar training remains unexplored. Resilience, the ability to maintain performance during stressful events, is a crucial attribute of healthy individuals who work in such environments. Because resilience has important implications for human well-being and task performance, there is a need to identify healthy individuals who are vulnerable to stress-related performance decline, preferably prior to actual performance under stress to facilitate delivery of focused intervention that might help prevent the development of clinical stress disorders, which pose a tremendous burden both for the individual and for society in general. This project will fundamentally advance our understanding of stress resilience by addressing the limitations of existing stress resilience measures and identifying potential biomarkers of stress resilience.
We have three new staff members – Luann Bowman (Administrative Associate), Tammy Abbott (Financial Assistant) and Maria Gonzalez (Graduate Programs Coordinator), plus a new work-study student, Jayden Davis-Booker. Matt Taylor (UG Advisor) and Lenley Brown (Administrative Support Specialist) are still with us. Matt was promoted last fall to Senior Associate Academic Advisor and we couldn't be happier for him.

Dr. Juan Borrero was promoted to Associate Professor (with tenure) in June 2023 and Dr. Chenang Liu was reappointed as an Assistant Professor, also in June. Both have bright futures in IEM!

Dr. Borrero’s research interests pertain to the development of decentralized methodologies for large-scale optimization and machine learning problems in industrial IoT driven Cyber-Physical Systems. The hallmark of decentralized methods lies in their ability to deliver faster, scalable and privacy driven solutions without the need to transfer data.

Dr. Ramesh spearheads research at the Advanced Materials and Additive Manufacturing Laboratory at Oklahoma State University’s Helmerich Research Center. His research zeroes in on the complexities of additive manufacturing, employing numerical models to unpack the intricate processes of micro- and nano-scale printing of custom-formulated bioactive and conductive inks. The versatility of these insights is demonstrated through their application across a suite of manufacturing techniques. Parallel to this, Dr. Ramesh’s bioengineering interests lie in developing adaptive biomaterials and engineered tissues responsive to physiological changes in vivo. Further, his team is paving the way in improving bio-additive manufacturing precision and repeatability through the development of innovative control systems and machine learning models. In addition, all three are excellent teachers! The new knowledge and spark that they bring to the department is inspiring.

New Faculty
We initiated seven new members into Alpha Pi Mu in early November (Pictured, left), and our IISE chapter held a resume workshop as well as a Halloween bingo event in the fall. Dr. Chenang Liu took 17 IISE members to the Region V Student Paper Conference in Columbia, Missouri in February, where Kent Slater won second place in the competition.

Two of our IEM seniors, Jeff Stockel (Far left) and Braden White (Fourth from left) were selected for the OSU Homecoming Court.

Senior Emma Wilson received a scholarship from the Industrial Advisory Board during the Fall IAB meeting.
Dr. Baski Balasundaram received OSU's highest teaching honor in September – the Regents’ Distinguished Teaching Award. It should be noted that Baski also received the Regents’ Distinguished Research Award in 2019. It is rare that a faculty member is recognized for excellence in both areas. We are lucky to have him.

THREE of our senior IEs, Keaton Carter, Raegen Daigle and Emma Wilson, were named “Seniors of Significance” for Oklahoma State. This select group of only 51 students across campus represents the top 1% of all graduating seniors. Keaton was also named as an “Outstanding Senior,” in recognition of her academic achievement, campus/community involvement and work ethic while at OSU. IEM senior, Sarah Bishop, received the honor of wearing the ‘Orange Robe’ at graduation in May, recognizing her as the Dean’s choice for the Outstanding Senior in CEAT and Emmanuel Yangue (C. Liu, Advisor) was selected as the Outstanding Graduate Student in IEM.

Yuxuan Li (Advisor: C. Liu) received the Doctoral Phoenix Award from the Graduate and Professional Students’ Society in Spring 2023. This is the highest recognition bestowed by GPSGA on a doctoral student and recognizes exemplary achievement in leadership and scholarship, community and university service and professional involvement.

OSU-IEM MS graduate, David Boyer, was named to the Hall of Fame for the College of Engineering, Architecture and Technology, the college’s highest honor. Dave is the Chief Operating Officer for Webco Industries, a member of The Cowboy Academy (TCA) and has supported IEM for many years. We enjoyed hosting him in the department prior to the banquet and learning even more from him.

In September, we recognized six new members of TCA: (left to right) John Deming, Jared Green, Farhan Khan, Jeff Moore, Virginia Pitts and Jim Poteet. More information can be found about them and TCA at https://ceat.okstate.edu/iem/people/cowboy-academy/academy-members.html
Dr. Jennifer Glenn received BOTH the Outstanding Senior Faculty Award for Teaching in the College of Engineering, Architecture and Technology, 2022 - 2023 AND the Outstanding Faculty Award for Diversity, Equity and Inclusion in the College of Engineering, Architecture and Technology, 2022 – 2023. Wow!

Dr. Katie Jurewicz was named a Science Policy Fellow through the Human Factors and Ergonomics Society (HFES). As a fellow, she aids in promoting the importance of HF/E science among federal agencies and legislators. HFES has engaged in advocacy efforts related to safety and health in a variety of industries and to funding support for human factors/ergonomics research. Dr. Jurewicz supports the development of policy statements for legislators to use at the federal level. In Fall 2022, Dr. Jurewicz made a trip to DC to meet with congressional offices to advocate for human factors engineering research and most notably, she met with House Science, Space, and Technology Committee, Research and Technology Committee Staff from the Office of Representative Frank Lucas. Dr. Jurewicz continues to serve as a science policy fellow and is currently working on health science policy related to improving accessibility to healthcare & overcoming health disparities as well as developing policy statements related to interface design for quantum computing.

Several IEM students received national scholarships this year

- Melissa Mata received the Harold & Inge Marcus Scholarship from the Institute of Industrial and Systems Engineering (IISE)
- Loryn (Grace) Hendrix received the Dwight D. Gardner Scholarship, also from IISE
- Ashton Parkey, Ethan O’Connor, Seth Thibodeau and Alan Meenan all received scholarships from the Material Handling Education Foundation (MHEFI)

IEM finalized a ‘transfer map’ with Tulsa Community College, a first step to offering a BSIE degree at OSU-Tulsa. Students will take the first two years of their engineering coursework at TCC and then transfer to OSU-Tulsa to complete their degree. We are excited about creating a new pipeline for IEM graduates. In addition, IEM (Drs. Chenang Liu and Sri Ramesh), MAE and Material Science were involved in designing new laboratories on the campus of OSU-Tulsa to support a proposed Manufacturing Engineering option. These $2.2M labs will be instrumental in helping us grow the IEM undergraduate program in Tulsa.

Facts and Data for Academic Year 2022-23

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<tr>
<th>DEGREES</th>
<th>BS-IEM (highest since AY 19-20)</th>
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<th>Total Scholarships Awarded by IEM</th>
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<td>MS-IEM</td>
<td>$71,000</td>
<td>Average Salary – BS graduates in AY 21-22</td>
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<td>MSETM</td>
<td>~$700,000</td>
<td>Total Research Expenditures for AY 22-23</td>
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<td>PhD</td>
<td>34</td>
<td>Publications in Peer-Reviewed Journals</td>
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# BSIE Graduates Academic Year 22-23

## Fall 22
- Rawan Albahraini
- Abdulrahman Aljouher
- Jamayel Alnajem
- Rachel Bebb
- Darcie Golden
- Samantha Harizal
- Hallie Hopper (Blanton)
- Jared Jenkins
- Jared Johnson
- Bradyn Newberg
- Walter Penn
- Marco Pina-Perez
- Luke Ratke
- Javier Rodriguez
- Caleb Triplett
- Grace Voth

## Spring 23
- Brady Amox
- Sarah Bishop
- Gabriel Bisogno Mendez
- Keaton Carter
- Aymen Charmi
- Patrick Cook
- Keegan Cook
- Raegen Daigle
- Christopher Dyer
- Hope Goodwin
- Jackson Green
- Jayden Grilliette
- Cameron Groenteman
- Reece Hamar
- Charles Hatfield
- Chloe Jones
- Ainsley Kyle

## Summer 23
- Jackson Linson
- Caitlin Mantooth
- Lauren Millis
- Ian Penney
- Ricky Reed
- David Schwartz
- Kent Slater
- Jeffrey Stockel
- Vamsee Krishna Sunkar
- Calvin Ward
- Braden White
- Nathan Whitehead
- Drew Williams
- Emma Wilson
- Chas Wright

# MSIE, MSETM and PhD Graduates Academic Year 22-23

## Fall
- **MSETM**
  - Karla Antunez Marinez
  - Mitchell Carlson
  - Thomas Clark
  - Conner Copeland
  - Kyle Corriente
  - Joseph Defalco
  - Geraldine Fuentes
  - Terry Head
  - Daniel Nava
  - Guillermo Throckmorton
  - Taylor
  - Thomas Jason Zerbe

- **MSIEM**
  - Enrico Laoh
  - Sushrut Kirtikant Lokhande
  - Vicky Rijhwani

## Spring
- **MSETM**
  - Allan Balcita
  - Alexander Burkdoll
  - Stevenson Dang
  - Jean-Claude Francois
  - Brandon Fugate
  - Alexander Manco
  - Aaron Napier
  - Warren Pettaway
  - Joshua Reed
  - Andrew Restivo
  - Taylor Rodgers
  - Matthew Speaks
  - Shannon Stansfield
  - Michael Taylor
  - Partrick Turner

- **MSIEM**
  - Md Suman Ahammed
  - Adwait Chabukswar
  - Nimeet Doshi
  - Kylie Dowers

## Summer
- **MSIEM**
  - Oday Bani Ahmad
  - Emmanuel Yangu

## PhD
- **MSETM**
  - Yuxuan Li
  - (C. Liu, Advisor)
  - Zhangyue Shi
  - (C. Liu, Advisor)

## PhD
- **MSIEM**
  - Majid Akhgar Farsani
  - (J. Borrero, Advisor)
  - Mehdi Ansari Hadipour
  - (J. Borrero, Advisor)
Matthew Nare, IEM PhD student (Advisor: K. Jurewicz), formed a planning committee (Amey Thorat, CHEME, and Amjid Khan (MAE) and organized the first CEAT Graduate Student Research Conference in February 2023. The conference had over 50 posters, with 10 faculty judges from across CEAT and welcomed over 100 participants. Three illustrious CEAT faculty members, Drs. Ritesh Sachan (MAE), Tyler Ley (Civil and Environmental), and Sunderesh Heragu (IEM/Dean’s office) made keynote addresses. This unique opportunity was made possible through Matthew and his committee’s hard work, CEAT Associate Dean of Research, Dr. Chuck Bunting, and the support of the Heads of Civil/Environmental, Electrical/Computer, Industrial, Mechanical/Aerospace and Technology. We hope this conference will become an annual event!

Dr. Chenang Liu had two students, Jacob O'Hara and Kent Slater, present their research at the OSU Undergraduate Research Conference. Dr. Sri Ramesh also had two students, Olivia Fulkerson and Erik Inman, who presented at the conference. Erik received the prestigious Wentz Research Award from the Lew Wentz Foundation to continue his research with Dr. Ramesh next fall.


Numerical and experimental investigation of aerosol jet printing
S Ramesh, C Mahajan, S Gerdes, A Gaikwad, P Rao, DR Cormier, ...
Additive Manufacturing 59, 103090, 2022
Computational fluid dynamics and experimental validation of aerosol jet printing with multi-stage flow focusing lenses
S Ramesh, Z Xu, IV Rivero, DR Cormier
Journal of Manufacturing Processes 95, 312-329. 2023

**Grants Awarded in Academic Year 22-23**


*Research on Data Science and Machine Learning for Business Process Improvement and Automation*, UW Madison (sub-award via Jewelers Mutual Insurance Company), 09/01/2022 - 08/31/2023, $10,000, A Deep.

Joseph Nuamah (PI). HCC: Small: **Investigating the temporal dynamics of resilience during human-computer interaction**: an EEG-fNIRS study, 05/15/2023 – 04/30/2025, $230,090. National Science Foundation
We are always happy when alumni come back!

Brandon Martens (BSIE-2013), Rachel Seo (BSIE-2013), Camille DeYong and Erin (Lee) Cunningham (BSIE-2013)

Kedar Adavadkar & Family

Somadatta Karanjekar & Family

Please know we think of our alumni and friends often. We would love to hear from you – at any time, you can send an email to iem@okstate.edu. Pertinent information *might* include: name, year of graduation, degree, address, summary of your career, etc. Of course, pictures and updates on children, grandchildren and pets are always welcome! You might even end up in a future newsletter...