

Message from Department Head

Enrollment was up this year with 205 undergraduates and 101 graduate students. We have been busy reaching out to potential students about the exciting career of industrial and systems engineering. I encourage you to take the opportunity to tell any junior-high and high school student you meet about industrial engineering and what you do for a living. This fall our IE program will be available to students on the coast of Mississippi as a part of the Bagley College of Engineering – *Engineering on the Coast* program offered on the Mississippi Gulf Coast Community College (MGCCC) campus in Gautier, MS. Students will complete their first two years at MGCCC and then take MSU-ISE courses at the Gautier campus where they will complete their degree as MSU students. It is an exciting opportunity for students on the coast.

The ISE faculty set a record this year with \$5.6M in research funding for the 2018 calendar year. This level of scholarly activity is evidence of the productivity of the faculty and staff within the department. I am very proud of their achievements. On the next page, you can read more about two of the research projects currently in process in the department.

Two new Assistant Professors will join us this fall semester, resulting in a total of 12 tenure-track faculty in the department. As well, we will have a new Assistant Clinical Professor start at the same time. This new position will provide additional teaching capacity as we work to transition to a new curriculum that will start with those students entering the program in the fall of 2020.

Hail State!

John



Spring 2019 Graduates

Master's Thesis:

- **Joshua Jeanson** – “A review of the feasibility of alternative energy system using an energy return on investment analysis.” Advisor: Brian Smith
- **Erin Stirgus** – “Determinants of holistic thinking in engineering demographics.” Advisor: Raed Jaradat

Master's Non-Thesis: Sam Miller, Annant Patel, Kelley Schreiber, and Eboni Smith.

Undergraduates:

- Megan Ancelet, Sarah Baxter, Jacob Billingsley, Kelson Bohna, Benjamin Boyd, Jessica Brown, Peter Chobot, Lucas Davenport, Noal Dendy, Kyra Devery, Wendell Goss, Alex Lindsey, Mary Lynch, Megan Magee, Derrick Outley, Ryan Stallcup, Rebecca Stewart, Haley Toporowski, and Tyler Vick.

Faculty News & Research

- ISE faculty, **Linkan Bian** (shown at right) was awarded the Bagley College of Engineering Faculty Research Award at the ORED Research Award banquet in April.
- **Linkan Bian** is also part of a research team that received **\$2M** from **National Institute of Health (NIH)** for improving the design of dental implants. This 5-year effort led by the University of Mississippi Medical Center aims to improve the durability of dental implants using design optimization and make health care more affordable.



- **Reuben Burch** (shown at left) was appointed a **Faculty Fellow** in MSU's National Strategic Planning and Analysis Research Center (nSPARC). nSPARC is an interdisciplinary research center that uses smart data, analytical techniques, and advanced technology to develop innovative research based solutions that are often used by policymakers and state government.
- As part of our Athlete Engineering wearables research here at MSU, **Reuben Burch** works with strength and conditioning coaches from athletic programs across the NCAA and all professional sports. Dr. Burch and his research team were recently funded by the **National Science Foundation (NSF I-Corps)** to investigate the state of wearables in sports to understand how

this quickly advancing technology is used. Have wearables been as widely adopted as advertised? Are wearables a big influencer of athletic health and safety decisions? Do wearables really provide the data that coaches need... or want? They asked over 150 strength coaches and athletic trainers, "if wearables were magic and free, what type of data would you like to collect on your athletes?" Overwhelmingly, one of the responses they heard across the country was that coaches wanted data they could trust. Follow the [nSPARC Nexus magazine link](#) to learn more about the technology arms

race: a story about wearables, athletics, and trust. Pictured (l-r) is Cory Bichey, Stephanie Mock, Reuben Burch, Marci Hoppa, Collin Crane. (Photo by Femi Sobayo of nSPARC)



Alumni News

- **Jeff Herren** has established a \$50,000 Excellence Endowment in the department. Funds from this endowment will be used to benefit the events and activities of both students and faculty. Jeff graduated from MSU in 1979 and later earned an MBA in finance from George Washington University. He is the current CEO of Herren Associates, a company he started in 1989 which was named as one of INC Magazine's 500 fastest growing private companies and as one of the 50 fastest growing companies by the Washington Business Journal. While Herren Associates, Inc. has enjoyed steady growth, Jeff acknowledges he is still learning and is quick to credit his MSU experience as an industrial engineering undergraduate with the confidence to launch an entrepreneurial career.
- **Xavier Harris**, an ISE BS alumnus, was recently recognized at the Black Engineer of the Year (BEYA) Conference for his educational leadership. Xavier, an Air Force Captain, serves as a chemistry instructor at the United States Air Force Academy Preparatory School. He was named to the BEYA conference list of 2019 Science Spectrum Trailblazers.



Bagley College Distinguished Fellow

Don Meeler was recognized as a 2019 Distinguished Fellow in the Bagley College of Engineering. After graduating from MSU in 1986 with a BS in IE, his career started at Armstrong World Industries. Meeler progressed through different engineering and manufacturing leadership roles across multiple sites where he was instrumental in starting up multiple manufacturing and warehousing operations. He also developed expertise in both six sigma and lean manufacturing and led continuous improvement activities. He currently serves as Operations Director for Strategy and Program Execution at **Raytheon**. Meeler and his wife, Ellen Sims Meeler, reside in Brandon, Mississippi. They have two daughters, Amanda and Alison, both of whom are MSU alumni and are currently employed with the university.



Alumni Update

Maeghan Hudon has been at Amazon for two years and recently joined Amazon's World Wide Advanced Technology team as the Director of Product Acceleration where they are looking forward to her bringing her process focus, engineering experience, and program expertise to the organization. During her two years at Amazon, Maeghan has led the Engineering Planning & Analytics organization, including Capital Planning, Configuration & Change Management, Business Intelligence, and Operations Design teams across NACF, GSF, AMZL, ATS NA & EU, and AIR. During her tenure, she drove improvement and mechanisms for the organization, enabling a platform for a very dynamic and quickly scaling set of businesses.



Prior to joining Amazon, Maeghan worked for Boeing as the Production System Integration & Industrial Engineering Leader on the 777 Program. She led the Industrial Engineering organization, responsible for comprehensive business and operations planning for the 777/777X assembly and helped transform operations to adopt robotics, AGVs, and automated systems into manufacturing processes.

Maeghan received both her bachelor's and master's degrees in industrial engineering at MSU. In her free time, Maeghan chases around her two-year old son who loves to be outside. Maeghan and her husband Nic are working on building a cabin on the east side of the Cascades and own a business in real estate renovations and investing.

Student Highlights

- ISE PhD student, **Eboni Smith**, won the “**Creativeness in Ergonomics (CE) Student of the Year**” award at the 2019 Applied Ergonomics Conference for her presentation entitled: “Comfort Analysis of Using Smart Glasses During ‘Picking’ and ‘Putting’ Tasks”. (Pictured at right with her advisor **Dr. Reuben Burch**).



- **Ashley Mikle**, a senior ISE student, is a member of the student organization entitled **Minorities in Agriculture, Natural Resources, and Related Sciences**. This organization is dedicated to promoting academic and professional advancement for students across a broad number of disciplines. As part of different student teams, Ashley participated in three events at the 34th Annual National Conference in Kansas on April 3-6. The three events included a quiz bowl, a case study challenge, and a student debate competition, in which they placed 3rd out of the 6 teams competing.

- **J. Ron Walsh Student Awards:**

- Outstanding MS Student Award – **Jack Francis**
- Outstanding PhD Student Award – **Mojtaba Khanzadehdaghalian**
- Outstanding Student Research Paper Awards:
 - **Niamat Ullah Ibne Hossain** – “A Framework for Modeling and Assessing System Resilience Using a Bayesian Network: A Case Student of an Interdependent Electrical Infrastructure System”
 - **Jack Francis** – “Deep Learning for Distortion Prediction in Laser-Based Additive Manufacturing”
- The following undergraduates participated in the **Spring Undergraduate Research Symposium** where they presented the results of the research projects they worked on during the semester:
 - **Caroline Bearden** – Advisors: Lesley Strawderman and Reuben Burch
 - **Kelson Bohna** – Advisor: Wenmeng Tian
 - **Elizabeth Dell’Orco** – Advisors: Lesley Strawderman and Reuben Burch
 - **Pronnoy Tarafdar** – Advisor: Junfeng Ma

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Your support makes a difference...

We wanted to be sure you know that when giving to the University, it is possible for you to make gifts directly to the ISE Department through the MSU Development Foundation. However, this requires that you explicitly specify that your gift is for the Department of Industrial & Systems Engineering.

The gifts that we receive from alumni, corporate sponsors, and other partners directly impact the student, staff, and faculty of the department. The ISE department needs your help with:

- scholarships and fellowships for recruiting and retaining students,
- funding access to state-of-the-art technology through equipment purchases for enhancing classroom and laboratory experiences,
- support for student leadership groups, and
- professorships to attract and retain top-caliber faculty.

These programs are not supported through state appropriations and therefore, are not possible without your help. Such gifts are an investment in the future, helping us to achieve excellence in the classroom and laboratory. You can use the form on the next page to contribute to these programs. You can also contact John Usher (662-325-7624; usher@ise.msstate.edu) or Bennett Evans, Director of Development (662-325-0386; bevans@bagley.msstate.edu) to learn about other ways to support the department.

If you want to make a donation online you can go to msufoundation.com and click on the "Give Now" link at the top right of the screen. When specifying the "Designation" select "College/School/Preferred Area." When a new screen comes up, type "Systems Engineering" and select "Industrial & Systems Engineering (310506)". The account 310506 should appear as the "Selected Designation."

Please join those listed at left who made a difference with their support to the department in the last three years.

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