

## Message from Department Head

Fall exams have concluded, graduation has taken place, and the halls of McCain are quiet once again. Over the summer and fall semesters the department graduated six doctoral students, five masters students, and 19 undergraduates. At the start of this semester, the department welcomed two new faculty, Reuben Burch and Junfeng Ma. You will find a brief biography of each of them on the next page.

Our graduate students have been very active in making presentations at national conferences, as well as publishing their research in refereed journals. Examples of some of their work that has been recently recognized appear on page 3. Along with our graduate student involvement in research, faculty continue to encourage undergraduate students to become involved in research. As a result, we have seen growth in the number of students involved in funded research projects within the department. I am proud of the quality of both the undergraduate and graduate students in the department. This is a reflection of the high caliber of faculty we have in the department and their dedication to the students.

We wish you a great holiday season.

Hail State!  
John



## Summer/Fall 2016 Graduates

### Doctoral:

- **John Behrends** – “Using stochastic and deterministic approaches for integrating freight movement and aircraft taxiing to solve the gate assignment problem.” Advisor: **John M. Usher**
- **Adindu Emelogu** – “Optimal supply chain configuration for the additive manufacturing of biomedical implants.” Advisors: **Linkan Bian** and **Mohammad Marufuzzaman**
- **Carlos Marino** – “Optimization and decision making under uncertainty for distributed generation technologies.” Advisor: **Mohammad Marufuzzaman**
- **Apurba Nandi** – “Network interdiction models and algorithms for information security.” Advisor: **Hugh Medal**
- **Md Mahmudur Rahman** – “Optimization and decision making under uncertainty for distributed generation technologies.” Advisor: **Lesley Strawderman**
- **Eghbal Rashidi** – “Optimization models and algorithms for vulnerability analysis and mitigation planning of pyro-terrorism.” Advisor: **Hugh Medal**

### Master’s Thesis:

- **Rebecca Vander Linde** - “Optimal sequencing of aircraft engine maintenance events using particle swarm optimization.” Advisors: Hugh Medal and Mohammad Marufuzzaman

**Master’s Non-Thesis:** Arnie Bunch, Christopher Collins, Stephen Hayes, and Nicholas Jones.

**Undergraduates: Summer** - Andrew Adams, Joe Beard, Emilio Carneado, Aloryn Davis, Tanner Gray, Marcus Nicolas, Joshua Rhoads; **Fall** – Alexander Albritton, Kymesha Andrew, Mary Katherine Beall, Jonathan Burley, Shaqueena Edwards, Adam Kavanay, Logan Luke, Nathan Martin, Matthew Schenck, Leonard Sims, Megan Vandevender, and Shane Waldrop.

Visit us at: <http://www.ise.msstate.edu>

Contact: [usher@ise.msstate.edu](mailto:usher@ise.msstate.edu) or 662-325-7624

**Linked in** Aside from the ISE website, the best way to stay on top of the latest news about ISE students, faculty, and the department is to join the [Mississippi State University Industrial & Systems Engineering](#) LinkedIn group. There are nearly **700** MSU ISE alumni members in that group, so it is a great way to reach out to other ISE Bulldogs. (Use the link: <http://bit.ly/msu-ise> )

### New ISE Faculty – Dr. Reuben Burch

Before joining the ISE faculty as an assistant professor, Reuben F. Burch V received a doctorate degree in Industrial and Systems Engineering from Mississippi State University in 2014, which followed a master's degree in Engineering Management in Industrial and Manufacturing Systems Engineering from Kansas State University and a bachelor's degree in computer engineering from Mississippi State University.

Burch has over 14 years of industrial experience working for and with global Fortune 500 companies, as well as military and government institutions, including NASA, the Department of Energy, the Department of Defense and both the U.S. and German Navies. His past work includes hands-on experience in a broad array of areas, including virtual reality design, weapons systems and training, satellite systems and geospatial data, high-value financial software systems, logistics technology and management, and research and development. Burch serves as a logistics and technology advisor for numerous universities and multiple Fortune 100 companies around the world. As an advisory council member, he has influenced the design of existing and future industrial tools, specifically ruggedized handheld and tablet form factors.

With primary research interests centered around human factors, ergonomics and future generations of technologies, Burch is particularly interested in the design of human interaction with rugged mobile and wearable tools, robotics and autonomy, and contextual awareness within the industrial workplace. Other work includes studying the current demographic shift in the global workforce and what new expectations from a self-actualized generation of workers mean for the future of all industrial technology.

Burch has a number of publications regarding ruggedized handheld devices in the industrial work environment and has filed a significant amount of new intellectual properties and inventions as part of his research.



### Dr. Junfeng Ma

Junfeng Ma joined Mississippi State University's ISE department in 2016, after receiving his doctoral degree in Industrial Engineering and Operations Research from Pennsylvania State University. He also earned a master's degree in Engineering Management from Wilkes University in 2010 and a bachelor's degree in Mechanical Engineering and Automation from China's Xi'an Jiaotong University in 2007.

His primary research concentrates on operations, research and data analytics in engineering and management. The implementations involve additive manufacturing, analysis and improvement, energy consumption and sustainable product and systems design, among others.

His publications have appeared in journals including the Journal of Cleaner Production, the International Journal of Advanced Manufacturing Technology and Supply Chain Forum: An International Journal, as well as several conference proceedings.

He is an active member of Institute of Industrial and Systems Engineers (IISE), The American Society of Mechanical Engineers (ASME), The Design Society (DS) and American Society for Engineering Education (ASEE). He was named the ASME-DFMLC scholar in 2014 and 2015, and was also received second place in the Best Paper Award in Design and Manufacturing Track in ISERC in 2014.



## Department News

- The **INFORMS** National Chapter recognized the MSU-ISE INFORMS Student Chapter with the **Student Chapter Annual Award at the Cum Laude level**, for the third year in-a-row. The purpose of the award is to recognize the outstanding achievements of student chapters. The award was presented at the Student Awards Ceremony in November at the INFORMS Annual Meeting in Nashville, TN. **Sushil Poudel** (PhD student) serves as the current President of the chapter with **Dr. Linkan Bian** serving as their Faculty Advisor.

- **Linkan Bian** was elected as a council member of DM-QSR (Data Mining – Quality, Statistics, Reliability) section within the INFORMS professional society. The DM-QSR Section is a newly combined group composed of the prior Data Mining section and the Quality, Statistics, and Reliability section. Their purpose is to encourage discussion and interaction among individuals having an interest in these areas.



- A conference paper entitled "Identification of External Design Preferences in Autonomous Vehicles" by ISE graduate students **Shuchisnigdha Deb, Sushil Poudel** and **Suyogya Bhandari** was selected to receive the IIE SEMS Best Student Paper Award at the 2016 IIE Annual Conference & Expo in Anaheim, California.

- **Amir M. Aboutaleb** (PhD student) was named as a finalist for a best paper on collaboration with ISE assistant professor **Linkan Bian**. The four finalists competed for the award at the annual INFORMS conference held November 13-16 in Nashville, Tennessee. The paper, titled "An Optimum Design of Laser-based Additive Manufacturing Experiments by Leveraging Analogous Prior Data", was selected from a pool of submissions to the QSR section of INFORMS.



- Congratulations to **David Schweitzer** (PhD student) on being awarded a three-year CyberCorps: Scholarship for Service offered by the U.S. Office of Personnel Management.

## **Stephen D. Lee Society**

*Mr. & Mrs. Durward Dunn, III*

*Mr. & Mrs. Franklin T. Myers*

## **J. Charles Lee Associates**

*Mr. & Mrs. Patrick Nelson*

## **Eugene Butler Fellows**

*Colonel & Mrs. E.G. Foresman*

*Mr. Frederick W. Hamilton*

*Mr. & Mrs. Thomas H. Walker*

*Mr. & Mrs. J. Ron Walsh*

*Mr. & Mrs. Kip B. Zacharias*

## **President's Partner**

*Mr. & Mrs. William W. Botts, Jr.*

*Dr. & Mrs. Larry G. Brown*

*Mr. & Mrs. Frederick Buie*

*Mr. Charles A. Cascio*

*Mrs. Cherie Cole*

*Ms. Theresa G. Maxwell*

*Mr. Prentice McKibben*

*Mr. Charles H. Oswald*

*Mr. & Mrs. Jesse H. Oswald*

*Mr. & Mrs. Harold White*

## **President's Associate**

*Mr. & Mrs. Glenn Antee*

*Deborah & John Hammack*

*Mr. Andrew F. Linskey*

## **Patrons Associate**

*Ms. Kimberly A. Brown*

*Mr. & Mrs. Jeffrey R. Davidson*

*Mr. Steven R. Ford*

*Mr. & Mrs. Marcus E. Oswald*

## **Dean's Trustee**

*Jennifer & Justin Chance*

*Ms. Margaret E. Devine*

*Mr. & Mrs. Kenneth L. Stacy*

*Mr. & Mrs. Robert Weston, Jr.*

## **Dean's Scholar**

*Dr. Daniel G. Hotard*

*Drs. Jack & Jessica Matson*

*Mr. & Mrs. Roy F. Pearson*

*Mr. & Mrs. Parker Sullivan*

*Mr. & Mrs. William G. Thompson*

*Mr. & Mrs. Henry Tylicki, Sr.*

*Mr. & Mrs. Walter L. Wallace*

## **Dean's Delegate**

*Mr. & Mrs. Timothy C. Allred*

*Mr. T. Cary Beane*

*Mr. Christopher D. Blackledge*

*Mr. William F. Carson*

*Ms. Elizabeth A. Horton*

## **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](mailto:usher@ise.msstate.edu)) or Bennett Evans, Director of Development (662-325-0386; [bevans@bagley.msstate.edu](mailto: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](http://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 four years.

### **Dean's Delegate (continued)**

*Mr. & Mrs. Wendell Ladner*

*Ms. Ashley McCall*

*Mr. John McLin*

*Mr. Tony R. McMahan*

*Mr. Raymond W. Quon*

*Dr. & Mrs. Juandalyn Rankins*

*Mr. Charles A. Sparrow, Jr.*

*Mr. Meredith M. Walker*

### **Alumni**

*Mr. & Mrs. Todd K. Mauldin*

*Mr. Michael Barbee*

### **Students**

*Ms. Mary Katherine Beall*

*Mr. Trakilion Gilmore*

*Ms. Alexa N. Green*

### **Corporations**

*Baxter International*

*Enterprise Products*

*International Paper*

*K & S Custom Warehousing*

*Oswalt's Building Materials, Inc.*





Yes! I am proudly making an infinite impact!

First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Address \_\_\_\_\_

Address \_\_\_\_\_

City/State/ZIP \_\_\_\_\_

Home Phone \_\_\_\_\_

Cell Phone \_\_\_\_\_

Email \_\_\_\_\_

I WOULD LIKE TO CONTRIBUTE THE FOLLOWING AMOUNT:

\$50  \$100  \$250  \$500  \$1,000  Other: \_\_\_\_\_

I WOULD LIKE TO SUPPORT:

IE Advancement Fund (310506)

Other: \_\_\_\_\_

PAYABLE AS FOLLOWS:

My check is enclosed, payable to the MSU Foundation, Inc.

Please charge my credit card:

VISA  MasterCard  AMEX  Discover

Enter card number below (all digits)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Expiration date (MM/YY): \_\_\_\_/\_\_\_\_ Security code: \_\_\_\_\_

Signature \_\_\_\_\_

My employer will match my gift:  YES  NO

Please contact me with more information about:

Establishing a scholarship

Including MSU in my estate plans



MSU Foundation  
Office of Annual Giving  
Post Office Box 6149  
Mississippi State, MS 39762