

# Department of Industrial & Systems Engineering



Fall 2014

## Message from Department Head

As we come to the close of an exciting year for the Bulldogs, this newsletters captures some of the recent department news. Over the summer and fall semesters, we graduated 23 undergraduates, 3 master's, and 3 doctoral students. Again, this semester we had several classes take on projects in the community. These projects provided an excellent opportunity for students to work on real-world problems with responsibilities not just to their professor, but to stakeholder outside the academic environment. Students are working hard to finalize details for the 2015 IIE Student Regional Conference to be held here on campus on February 19-21. We will be hosting students from up to 18 ISE programs across the southeast. We are still in need of additional company sponsors, as well as companies to participate in the Career Fair. It is a great opportunity for your company to receive exposure and visit with a large number of high quality ISE students from a large number of programs. For more information company sponsorship, visit the conference website at: <http://msu2015iie.ise.msstate.edu/corporate-sponsorship/> or contact the IIE Faculty Advisor, Lesley Strawderman ([strawderman@ise.msstate.edu](mailto:strawderman@ise.msstate.edu)).

With regret the department said goodbye to Burak and Sandra Eksioglu as they left in August to join the IE department at Clemson University. This change along with the fact that Allen Greenwood began a one-year leave of absence, prompted the need for us to hire two Visiting Assistant Professors, Ridvan Gedik and Mohammad Marufuzzaman, to help with teaching responsibilities for this academic year. Given the two vacancies, we are currently in the process of searching for two new faculty members to join us next Fall. Also new to the department this past October is Richard Moore serving as our new Building Services Coordinator.

Many students have fond memories of the ISE study lounge, affectionately known as "The Bungalow." We are striving to refurbish and update this favored spot. Based on the input of students, a new design for this beloved room has been created and encompasses new furniture, equipment, computers, and study aids such as the collaboration station shown at right. If you would like to help make the bungalow update a reality, please see the instructions attached to this newsletter on ways you can contribute.



Merry Christmas and a Happy New Year,

John

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. This is the principal place where we post news on a regular basis. There are over 550 MSU ISE alumni members in that group, so it is a great way to reach out to other ISE Bulldogs. (Link is: <http://bit.ly/msu-ise>)

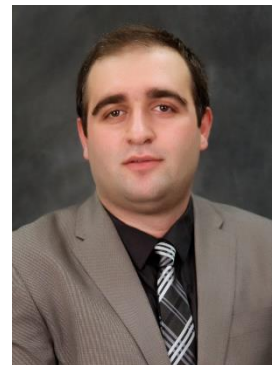
### Faculty & Staff

**Allen Greenwood** is on leave from MSU for the 2014-2015 academic year and serving as Professor and Chair of the Department of Engineering Management at Prince Sultan University (PSU) in Riyadh, Kingdom of Saudi Arabia. PSU, the first private, non-profit university in the Kingdom, was founded in 1999. The College of Engineering began just 4 years ago. The Engineering Department is composed of Production Management and Construction Management tracks; it currently has 14 faculty and 225 undergraduate students.

**Richard Moore** joined the department in October as the new Building Services Coordinator. Richard graduated from MSU in 1984 with a BS degree in Secondary Education. He met his wife at MSU and has been married for 30 Years. He has two daughters and four grandchildren. Prior to joining the department, Richard worked on-campus at the Mitchell Memorial library. We welcome Richard to the ISE family.

### Visiting Assistant Professors

**Ridvan Gedik** received his Ph.D. in Industrial Engineering from the University of Arkansas. He holds a B.S. and M.S. degree in Industrial Engineering from Middle East Technical University, Ankara, Turkey and the University of Arkansas, respectively. His primary research interests include developing efficient solution techniques for large scale optimization problems in the application areas of healthcare, transportation, homeland security and supply chain.



**Mohammad Marufuzzaman** received his Ph.D. in Industrial & Systems Engineering from Mississippi State University in 2014. He received his MASc degree in Industrial Systems Engineering from University of Regina, Canada in 2010 and B.Sc degree in Industrial & Production Engineering from Shah Jalal University of Science & Technology, Bangladesh in 2006. His main areas of interest are in supply chain optimization with applications in renewable energy, stochastic programming, decomposition methods, solving large scale supply chain network problems and supply chain risk management.



### In the Classroom...

During the fall semester, students in **Industrial Ergonomics** were assigned to one of two community partners: Starkville High School or the Starkville Public Library. Teams that were assigned to Starkville High School worked to redesign the cafeteria layout and processes to accommodate the additional students that will attend the



school next year after the consolidation with Oktibbeha county schools. The Starkville Public Library teams focused on improving the efficiency of the circulation procedures at the main circulation desk. All teams also provided recommendations for how to improve the ergonomics of the job for its employees by reducing the risk of WMSDs and strain injuries.



As well this fall, students in the **System Simulation I** class conducted a production system study for nearby PACCAR Engine Company of Columbus, MS. The project offered a unique opportunity for the class to apply simulation practices to a state-of-the-art facility. PACCAR's automated data collection systems and machine reliability information provided real-world and complex material for the analysis. As

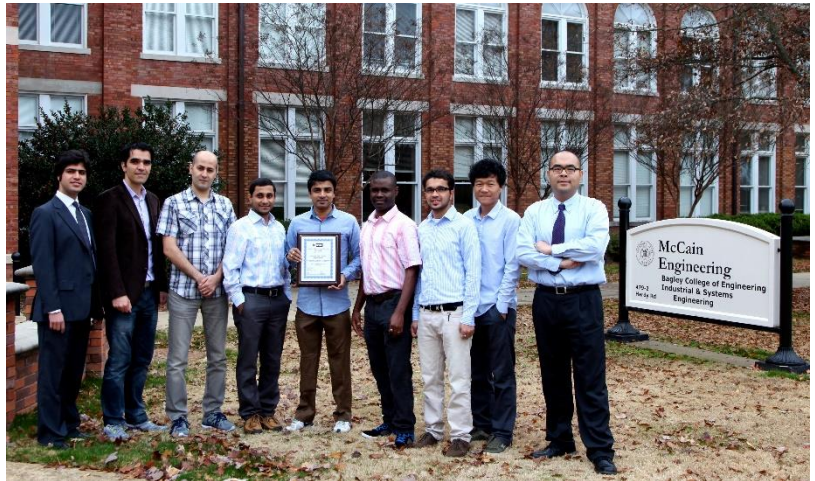
part of their project completion, students recommended different strategies to PACCAR management for the integration of a new diesel engine model used at Peterbilt and Kenworth truck manufacturers.

### Undergraduates In Research

- **Gabrielle Davis** (senior) completed an undergraduate research project this fall with Dr. Kari Babski-Reeves. The purpose of her project was to quantify the effect of wearing Google Glass on balance (measured using force plates), depth perception (using simulations of work tasks), and user perceptions (using custom questionnaires) during simulations of actual work activities.
- **Max Mosely** (senior) and **Ryan Weitzel** (senior) participated in the Bagley Undergraduate Research Program under the supervision of Dr. Medal. Max worked with **Will Leonard** (junior) on the project, which involved estimating the likelihood of a pyro-terror (terrorist attack using wildfires) on the United States. Ryan's project sought to identify potential uses of GPS technology at a major package carrier.

### Graduate Student Highlights

- **Abby Werth** (PhD student) received a Graduate Student Publication Award for her journal publication entitled “Effects of Portable Computing Devices on Posture, Muscle Activation Levels and Efficiency.”
  - The INFORMS National Chapter has recognized the MSU-ISE INFORMS Student Chapter as winning the Student Chapter Annual Award at the Cum Laude level (see picture below). The purpose of the award is to recognize the outstanding achievements of student chapters. The award will be presented at the Student Awards Ceremony on November 10th at the upcoming INFORMS Annual Meeting in San Francisco, CA.
- Satish Vadlamani** serves as the current President of the chapter with **Dr. Linkan Bian** serving as their Faculty Advisor.



### 2014 Summer and Fall Graduates

#### Doctoral:

- **Seratun Jannat** – “Guidelines for developing flexible supply chains in a stochastic environment,” Advisor – **Allen Greenwood**
- **Mohammad Marufuzzaman** – “Models for a carbon constrained, reliable biofuel supply chain network design and management,” Advisor – **Sandra Eksioglu**
- **Paul Rowe** – “Recycling procurement strategies with variable yield suppliers,” Advisor – **Burak Eksioglu**

#### Master’s Thesis:

- **Angela Cannon** – “Understanding how age, input method, and input content impact user error.” Advisor – Lesley Strawderman
- **Katherine King** – “Wayfinding in a city environment: Driver experience and strategies.” Advisor – Lesley Strawderman

#### Master’s Non-Thesis: Tawfik El-Sarrag

**Undergraduates:** Brianna Cates, Robert Daniels, Gabrielle Davis, Johnny Hardges, Jericho Harris, Stephen Hayes, Walt Henson, Ethan Hosea, Stacy Jones, Drew Kelley, Giuliano Mancini, Johnathan McKenzie, Marcellius Moore, Billy Pitts, John Roberson, Zachary Trace, Alexandra Vaughan, Seth Wedgeworth, DaVonta Whalum, and John Wilson

**Sample of the companies hiring students:** FedEx, NASA, International Paper, Frito Lay, PACCAR, Shaw Industries, Camgian, Molex, and Versant Supply Chain.

## 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.”

We encourage you to join those listed at right who made a difference with their support to the department in the last three years.



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