I am pleased to share with you exciting news that occurred during the 2014–15 academic year. Our continuous improvement efforts are paying dividends. According to U.S. News & World Report, our department is ranked 16th among public engineering schools. Moreover, for the first time in 12 years, we exceeded our ambitious goal of $2 million in research expenditures. One of the metrics used by the university to assess the success of departments is grant expenditures. These accomplishments are a direct reflection of the hard work by our faculty.

I am also happy to report the Thomas Walter Center for Technology Management is now under the guidance of John Evans, who was appointed interim director. Construction is underway for the center to be housed by ISE in newly renovated space on the third floor of the Shelby Center.

As a strong supporter for international opportunities for our students, I led the study abroad industrial and systems engineering program in May. Several faculty members and I visited three Chilean universities to establish additional student and faculty exchange opportunities and research collaborations. As you read more about this international trip and learn about the achievements of our faculty, students and alumni, please also note the new design of our newsletter and let me know what you think.

War Eagle!
Jorge Valenzuela
Department Chair
Graduate students are exposed to diverse cutting-edge research and the application of industrial and system engineering during the Industrial and Systems Engineering Seminar Series. Each semester, the series features speakers who include graduate students and Auburn professors, industrial engineering faculty from other universities, as well as practicing engineers and consultants. We are always looking for engaging speakers who are willing to share their industrial engineering experience with graduate students. If you would like to be a speaker in the series or are interested in sponsoring the series, please send an email to Jorge Valenzuela at valenjo@auburn.edu.

Masood Jabarnejad, outstanding international graduate student, presents his doctoral research. He is presently an assistant professor at Western Kentucky University.

Ashkan Negahban, Auburn University doctoral candidate and 2014 outstanding doctoral student, was a featured speaker.

Evans named interim director of Thomas Walter Center

John Evans was appointed interim director of the Thomas Walter Center for Technology Management. The center now operates under the ISE department and, in keeping with its original mission, will expand the undergraduate Business-Engineering-Technology (BET) minor; develop a new master of engineering management degree with optional tracks in manufacturing, occupational safety and ergonomics and product innovation; evaluate engineering study abroad program options to partner with current College of Business programs; and expand corporate partnerships to increase product innovation opportunities for students.

Additional information about the center’s history and current programs is online at www.eng.auburn.edu/research/centers/twc/. If you are interested in partnering with the center, please contact John Evans at evansjl@auburn.edu.

Speakers create vibrant learning experience during seminar series

Fall Speakers Included:

J T. Black – Auburn University’s Department of Industrial and Systems Engineering, professor emeritus
David M. Blerch – Auburn University’s Department of Biosystems Engineering, assistant professor
Angela I. Calderón – Auburn University’s Department of Drug Discovery and Development in the Harrison School of Pharmacy, associate professor
Jaime Camello – Virginia Tech’s Grado Department of Industrial and Systems Engineering, Rolls-Royce Commonwealth professor for advanced manufacturing and associate professor
Ashkan Negahban – Auburn University’s Department of Industrial and Systems Engineering, doctoral student
Jennifer A. Pazour – University of Central Florida’s Industrial Engineering and Management Systems, assistant professor
P. K. Raju – Auburn University’s Department of Mechanical Engineering, Thomas Walter distinguished professor
Shu-Wen Tzeng – Auburn University’s Department of Industrial Design, associate professor
Andrew Wohrley – Auburn University’s Libraries, engineering librarian

Spring Speakers Included:

Felipe A. Feijoo – University of South Florida-Tampa’s Department of Industrial and Management Systems Engineering, doctoral candidate
Feng Ju – University of Wisconsin-Madison’s Department of Industrial and Systems Engineering, doctoral candidate
Sa’d Hamasha – State University of New York-Binghamton’s Department of Systems Science and Industrial Engineering, doctoral candidate
Masood Jabarnejad – Auburn University’s Department of Industrial and Systems Engineering, doctoral candidate
Jon Lowe – Clemson University’s Department of Industrial Engineering, doctoral candidate
Barry L. Nelson – Northwestern University’s Department of Industrial Engineering and Management Sciences, Walter P. Murphy professor
Mark C. Schall Jr. – University of Iowa’s Department of Occupational and Environmental Health, associate ergonomics professional and post-doctoral research scholar
Jeff Smith – Auburn University’s Department of Industrial and Systems Engineering, Joe W. Forehand Jr. professor
Alexander Vinel – University of Iowa’s Department of Mechanical and Industrial Engineering, doctoral candidate
Additive manufacturing takes shape

Andres Carrano, Philpott-WestPoint Stevens associate professor, has developed a new course titled Additive Manufacturing, which covers the fundamentals of various techniques of 3D printing, a revolutionary approach to building parts layer by layer. This is the only course being offered on the Auburn campus on the topic of 3D printing.

ISE hosts first safe and lean manufacturing workshop at Auburn

The first Safe and Lean Manufacturing workshop was held at Auburn in the Shelby Center during summer 2014. During the three-week program, students from Beijing, learned from ISE faculty, toured local manufacturing sites and enjoyed American culture.

SAAV manufacturing gains momentum

Progress is being realized in the establishment of the Southern Alliance for Advanced Vehicle Manufacturing. Representatives from Auburn University, University of Alabama in Huntsville and Tennessee Tech University have been meeting with vehicle manufacturing companies. Initial projects have been selected from potential partners. Projects driven by industry partnerships are expected to benefit the manufacturing partners, as well as the educational institutions. A proposal to the National Science Foundation for project funding is expected to be submitted in September. The funding will support multidisciplinary research in manufacturing systems, occupational safety and ergonomics, lean manufacturing, data analysis, cyber security, additive manufacturing and advanced materials for vehicles. Please contact John Evans at evansjl@auburn.edu if you would like additional information about the Alliance.

Best wishes go to Chase Murray

Chase Murray, assistant professor since 2010, has accepted a position with the industrial and systems engineering department at the State University of New York (SUNY) in Buffalo. This past year he advised and supported Amanda Chu in starting the student chapter of the Institute for Operations Research and the Management Sciences, and he has been an adviser and committee member to a number of doctoral students. At SUNY Buffalo, he will be teaching optimization, supply chain and logistics courses, and his research will focus on autonomous system applications for drones and ground robots. We wish him success in his new position.

Graduate student Kamran Kardel is using 3D printing in his research to create different surfaces that are tested for their proficiency in growing algae.

Graduate student Kamran Kardel with one of the 3D-printed plastic surfaces

E-learning studio established by Smith

Jeff Smith, Joe W. Forehand Jr. professor, developed and implemented a departmental E-learning studio. Located in the Shelby Center, the studio can be used by the faculty to film lectures using Camtasia Studio software. Smith’s teaching assistant, Ashkan Negahban, recorded the lab lectures for the simulation class taught last spring. Students can view the lectures as often as needed during the course.

Smith has a library of recorded educational modules on his website, smith.co/node/26, that are available for use by students as well as the general public.
The student chapter of the Institute of Industrial Engineers promotes the profession of industrial engineering. Members gain knowledge beyond the classroom; learn communication, leadership and networking skills; build relationships and contacts; and network with industry to launch and maintain successful careers. LuAnn Sims is the faculty adviser.

Officers for the 2014-15 academic year were:
President - Amanda Chu
Vice President - Eduardo Rivera
Secretary - Mikayla Harvey
Treasurer - Chao Yang
E-Council Representative - Chia-Chun Chang

Officers for the 2015-16 academic year are:
President - Hung Yu Lee
Vice President - Nasrin Mohabbati Kalejah
Secretary - Guru Prasanna Rao
Treasurer - Kathryn Hoerlein
E-Council Representative - Sai Praneethy

Auburn’s chapter of Alpha Pi Mu, the industrial engineering honor society, inducted new members in April. Fadel Megahed advises Auburn’s chapter of Alpha Pi Mu. Congratulations to these new members!


The newly formed student chapter of the Institute for Operations Research and the Management Sciences (INFORMS) commenced this year. Members attended presentations by alumni and current professors. The chapter competed in a big data competition hosted by Texas A&M and two of the five teams reached the final round of competition. The faculty adviser for the chapter’s inaugural year was Chase Murray. The new adviser is Frank Oprandy.

2015 slate of officers includes:
President: Sharan Kalva
VP of Membership: Rayna Chupp
VP of Finance: Philip Taylor
VP of Professional Outreach: Ben Brigham
PR Chair: Nathan Fincher
Engineering Council Representative: Heidi Keller

The student chapter of the Institute of Industrial Engineers promotes the profession of industrial engineering. Members gain knowledge beyond the classroom; learn communication, leadership and networking skills; build relationships and contacts with friends and colleagues; and network with industry members to launch and maintain successful careers. LuAnn Sims is the faculty adviser.
Senior design teams partner with local businesses and Auburn departments

While the formal end of undergraduate education is the commencement celebration, senior design marks the informal end for ISE students. In this project-oriented class, teams of five to seven students work with local companies to solve a real-world problem faced by business partners. Senior design teams employ the Define, Measure, Analyze, Improve and Control Six Sigma structure as a guide for their projects and apply what they have learned during their four years of formal coursework. Students share their results with the Industrial and Systems Alumni Council during an informal poster discussion and then formally present their solutions to their partnered companies.

This year’s project teams worked with All American Embroidery, American Industrial Hygiene Institution, Auburn Athletics, Auburn Concessions, Auburn and Opelika Fire Departments, Auburn Recreation and Wellness Center, CoachComm, Freudenberg-NOK Sealing Technologies, Kahua, Kirklin Clinic of UAB Hospital, GE, MasterBrand Cabinets, Niagra Drinking Water, Inc., NIOSH Occupational Safety and Ergonomics Center in ISE, Neptune Technology Group, Tiger Motors, UAB Highlands Orthopedics Clinic and Weidmann Plastics.

One senior design team partnered with the Auburn Recreation and Wellness Center staff and assisted with a concern that guests at the racquetball courts were experiencing long wait times during peak hours. Applying the DMIAC Six Sigma structure, the design team made a recommendation to the center’s management to assign an employee to monitor the courts based on newly defined rules limiting the play time when groups are waiting to use the courts.

Research and Industrial Relations committee learns about SAAV progress

The Research and Industrial Relations committee of the Auburn Research Advisory Board invited John Evans to speak during one of their monthly series of webinars featuring Auburn University faculty researchers. Evans discussed the plan for the Southern Alliance for Advanced Vehicle Manufacturing. The multi-university research center for vehicle manufacturing is expected to address the needs of regional vehicle manufacturers and their suppliers.

Ergo Divas earn top five finish

This year’s Ergo Divas team placed in the top five in the 8th Annual Ergonomics Design Competition for Student Teams. The team included Kristen Haynes, Brittany Williams, Pam Halstead, Mei Xu and Meghana Tella.

Students learn about ISE department and Backster training aid at E-day

Middle and high school students learned about industrial and systems engineering during E-Day. Faculty and student volunteers informally visited with students and their parents, answered questions about Auburn Engineering and campus and discussed potential careers in ISE. In the spring, 3,000 students and teachers representing 20 states attended E-Day. Visiting students also learned about Backster, an ergonomics and biomechanics training aid. Low back disorders are one of the most common and costly musculoskeletal disorders facing industry. Backster demonstrates the loads experienced on an individual’s lower back due to poor postures and weight of objects being handled. Backster measures the relative force experienced on its back using a force scale. The training aid is able to demonstrate that lifting a weight in awkward postures multiplies the force experienced by the low back, leading to low back pain.

OSE group attends Ergo conference

The occupational safety and ergonomics group was well represented at the Applied Ergonomics Conference in Nashville, Tennessee in March. From left: Akash Shettannavar, Richard Sesek, Abhishek Rao, Yousif Abulhassan, Rong Huangfu, Meng Niu, Bob Granzow, Menekse Salar, Nick Smith, Robert Thomas, Li Cao, Tianqi (Tenchi) Gao Smith, Sinan Su, Fehmi Capanoglu and John Pentikis.

Students Yousif Abulhassan and John Pentikis and Associate Professor Sean Gallagher demonstrate Backster to students and parents at E-Day 2015.

From left: Occupational Safety and Ergonomics graduate students Yousif A. Abulhassan and John Pentikis.
On behalf of the Alabama Governor’s Safety and Health Planning Committee, Rob Thomas was awarded the 2014 William H. Weems Lifetime Achievement Award. Thomas was recognized for his contributions to the State of Alabama’s occupational health and safety profession at a ceremony in Orange Beach.

Richard Sesek was selected as a recipient of the Graduate Student Council’s annual Outstanding Graduate Mentor awards based on students’ letters of support.


Andres Carrano was selected by the students as Outstanding Professor for the 2014-15 academic year.

John Evans was elected as a member of the Alabama Automobile Manufacturers Association board of directors. Evans will co-chair the AAMA research sub-committee.

Alice Smith participated in a grant from the Chilean equivalent of NSF, Comisión Nacional de Investigación Científica y Tecnológica, to work on a two-year research project on logistics for port containers with the Pontificia Universidad Catolica de Valparaiso.

Sean Gallagher’s paper entitled, “Evaluation of visual performance when using incandescent, fluorescent and LED machine lights in mesopic conditions,” was nominated for the 2014 Charles C. Shepard Science award. Congratulations also to Gallagher for being granted tenure.
Grants provide income to support departmental research as well as graduate education. During the 2013-14 academic year, the department was granted $2.5 million in new research awards, a 25 percent increase from the previous year, and reported $2.2 million in research expenditures. Our faculty members manage grants, perform research, teach and participate in related tasks such as outreach, mentoring and service.

John Evans has secured a series of grants through the Center for Advanced Vehicle Electronics and other industry partners to research new lead-free soldering materials to solve long-term reliability and aging issues for automotive, aerospace, industrial and military applications. These grants represent the largest research program in the United States on the use of lead-free soldering materials to solve such reliability and aging issues. The research will be conducted along with the mechanical engineering and physics departments at Auburn.

Fadel Megahed and his doctoral student Yao-Te Tsai received a grant from the Deep South NIOSH Center to study the impact of public policy on trucking accidents in the Southeast United States. In addition, he received funding from Amazon Web Services for cloud computing work for the third straight year. In collaboration with SUNY Buffalo, he was awarded a grant by the ASSE Foundation to study workplace fatigue. Finally, he was granted a provisional patent for an adaptive cruise controller with doctoral student Mohammed Yazdi and colleagues from the Department of Civil Engineering and the Raymond J. Harbert College of Business.

Sean Gallagher and his doctoral student Tianqi (Tenchi) Gao Smith received a grant from the Deep South NIOSH Center to test the effects of loading and rest on measures of muscle inflammation.

Jeff Smith received funding as a co-principal investigator from the Systems Engineering Research Center at the Stevens Institute of Technology in Hoboken, New Jersey, to study Kanban scheduling systems for lean and just-in-time production.

Chase Murray received grants from Defense Advanced Research Projects Agency, the U.S. Navy through Archarithms, Inc., Air Force Research Laboratory and U.S. Federal Highway Administration through Leidos.

Tom Devall began a new research project with Steelcase, a recognized lean manufacturing company. The project involves numerous initiatives to reduce product lead time.

Andres Carrano obtained a grant from the Auburn University Intramural Grants program to purchase equipment for a 3D printed-surface laboratory.

Diverse Chilean culture provides unique educational experience

Connor Kennedy, Hudson Carr, Jake MacKay, Jay Gandhakwala, Joshua Connelly, Prianka Patel, Rayna Chupp and Will Stout participated in the third-annual Engineering Study Abroad in Chile program. Led by Jorge Valenzuela, the program provides students with a global learning experience. The students participated in a three-week course in international logistics and were exposed to diverse Chilean cultural and educational opportunities.

Students shopped for ingredients in a local market and made empanadas and pebre in a cooking class. From left: Joshua Connelly, Valentina Oyarzun Muñoz, Rayna Chupp, Prianka Patel, Chef Inés Marques Bertoni, Jay Gandhakwala, Will Stout, Hudson Carr, Connor Kennedy, Jake MacKay and Martin Eliceiry Loyola
Faculty from industrial and systems and mechanical engineering visited three Chilean universities in January 2015. Universities included the Pontifical Catholic University of Chile in Santiago, the Technical University Federico Santa Maria in Valparaiso and Puerto Montt Austral University of Chile in Puerto Montt.

The industrial engineering department has ongoing relationships with the Technical University Federico Santa Maria in Valparaiso and Puerto Montt Austral University. ISE students have participated in a study abroad program at the Technical University Federico Santa Maria in Valparaiso. A member of the Puerto Montt Austral University faculty will be an industrial and systems engineering doctoral candidate in spring 2016.

While in Puerto Montt, faculty members presented research at the first Industrial and Computer Engineering workshop. The trip was successful and solidified the relationship and continued collaboration between faculty and students at Auburn and Puerto Montt Austral University.
Alumni News

Apple Chief Executive Officer Tim Cook, ’82 industrial engineering, was inducted into the Alabama Academy of Honor for his outstanding service and achievements in the business and technology industry. He is the founding chair of ISE's Alumni Council, founded the ISE Endowed Fund for Excellence and the Tim Cook Leadership Scholarship and established the Tim Cook Endowed Professorship.

Samuel “Sam” Ginn, ’59 industrial management and namesake of the College of Engineering, received the 2015 Auburn Alumni Association’s Lifetime Achievement Award. A telecommunications industry leader, he was instrumental in the creation of Auburn’s wireless engineering degree program and serves on its advisory board.

Carl A. Register, ’63 industrial management, was recognized as the ISE outstanding alumnus of the year. He has more than 45 years of experience in the construction materials industry. He served as division president of Vulcan Materials Company and later as president and CEO of Redland Stone Products Company. He is currently president and owner of CARCO Mineral Resources, Inc. and Railcar Solutions, Ltd.

Student News

Anna Bradley, Andrew Sikkens, Ian Kirkconnell, Neil Granberry, Thomas Sirna and Valerie Castrillon attended a one-week non-credit workshop at the Bravo Energy Mexico facility this summer. Taught by Bravo Energy engineers, the workshop focused on state-of-the-art management and treatment of used oil. Adviser LuAnn Sims accompanied the students.

Amanda Grace Chu was one of four finalists for the Auburn co-op student of the year award. She co-oped with Mississippi Power Company in Hattiesburg. During her co-op, she was responsible for learning the practice of power engineering. She gained experience working with residential, commercial and industrial customers, participated in ground line treatment inspections and worked in storm restoration as a result of tornado damage in Hattiesburg.

Alejandro Teran-Samohano received an award from the Committee on Underrepresented Women and Minorities of the INFORMS Simulation Society. The 2014 award assists graduate students with the costs associated with attending the winter simulation conference each year.

Fehmi Capanoglu, Yousif Abulhassan, Rong Huangfu, Claire Schmidt, Kristen Haynes, and Menekse Salar each received an American Society of Safety Engineers scholarship.

Tianqi (Tenchi) Gao Smith was selected as the 2015-16 recipient of the prestigious Liberty Mutual scholarship. Gao is the first student in our department to receive this award. In addition, she received the Material Handling Education Foundation Honor scholarship for the 2015-16 academic year from the Material Handling Education Foundation, Inc.

Doctoral student Sabahattin Ozden was awarded the Ergonomic Assist Systems and Equipment Council Honor scholarship for the 2014-15 academic term from the Material Handling Education Foundation, Inc.

Joseph Ekong and Shahab Derhami, among others in ISE, participated in the fall 2014 Graduate Engineering Research Showcase. Ekong was awarded an overall honorable mention for his presentation, “A Simultaneous Approach for Solving a Combined U-shaped Assembly Line Balancing and Worker Allocation Problem.” Derhami was the ISE department winner for his presentation, “Optimizing Space Utilization in Block Stacking Warehouses.”

Masood Jabarnejad won the interactive session at the 2014 INFORMS annual meeting with his poster, “Operations Research to Reduce the Cost of Electricity.”
Two of the ISE teams were named finalists in the Simio Student Simulation contest. The Plainsmen team included **Jackson Keidel, Colleen Beyer** and **Sawyer Nell**. The IE’s Get Degrees team participants were **Dylan Caple, Suzanne Crisanti, Bess Glanton** and **Nicole Furno**. The contest involved simulation modeling and the development of strategies for improving a transportation logistics problem loosely based on an actual problem provided by Shell Oil.

**Outstanding ISE Students honored**

**Amanda Grace Chu**, outstanding undergraduate student, is from Huntsville, Alabama. She graduated in August 2015 with bachelor’s degrees in industrial and systems engineering and applied mathematics and a minor in business. Awarded scholarships including the Auburn University Presidential Scholarship, the Boeing Scholarship, and William Howard IV Scholarship, she is a member of Tau Beta Pi, the national engineering honor society, and an vice president of Alpha Pi Mu, the Industrial and Systems Engineering honor society. She was scholarship chair for the Institute for Industrial Engineers and founding president of Auburn’s student chapter of Institute for Operations Research and the Management Sciences. She co-oped with Mississippi Power Company for three semesters and will be attending Georgia Tech in the fall to pursue her doctoral degree.

**Jean “Neely” (Ketzler) Bridges**, outstanding master’s student, graduated in May 2015 and currently lives in Atlanta. She was a National Institute of Occupational Health and Safety fellow and was funded by the Deep South Education and Research Center. While at Auburn, she participated in the Applied Ergonomics conference as the executive student chair.

She also received the Tichauer award for Best Podium Session at the AIHA national conference in June 2014. She conducted research with **Professor Emeritus Robert Thomas** to validate current and proposed ergonomic assessment tools regarding their usefulness in evaluating and preventing occupational injuries to optimize worker performance and increase productivity.

**Tianqi (Tenchi) Gao Smith**, outstanding doctoral student, is a third-year doctoral student. Funded by the Federal Highway Administration and NIOSH, her research is focused on human machine interaction and musculoskeletal disorder development and prevention. Smith serves as the student chapter president of the Human Factors and Ergonomics Society at Auburn University and has been a graduate school council senator and graduate ambassador since 2013.

**Masood Jabarnejad**, outstanding international graduate student, received his bachelor’s degree in industrial engineering from Bu-Ali Sina University in Hamedan, Iran, in 2003, master’s degrees in industrial engineering from Middle East Technical University in Ankara, Turkey, in 2010 and in industrial and systems engineering from Auburn in 2012, and he earned a doctoral degree in industrial and systems engineering from Auburn this summer. He will join the Western Kentucky University faculty this fall as an assistant professor. His research interests include operations research and its applications in the optimization of the energy production and distribution systems. He is a member of INFORMS and the Institute of Industrial Engineers.

**Forehand Leadership Scholars named**

Forehand Leadership Scholars for 2015-16 are **Helen Custodio** and **Christian Lloyd**. Established through a gift from Joe W. Forehand (BIE, ’71), retired chairman and CEO of Accenture, the scholarships recognize ISE students who have demonstrated academic excellence along with strong evidence of leadership accomplishments.

**Helen Custodio** is a senior from Alexandria, Virginia. She has been a co-op student with Rexnord Industries for four semesters, working in quality, safety, and continuous improvement programs. In addition to making improvements that can be noticed throughout the shop, she learned about dealing with the complexity of human interaction and how it effects making these improvements last. Helen is a member of engineering honor societies Alpha Pi Mu as well as Tau Beta Pi, where she holds the position of corresponding secretary. She also serves as philanthropy chair for Alpha Omega Epsilon, the nation’s oldest engineering sorority, and has organized a school supply drive for Auburn Daycare, a visit to Monarch Estates Retirement Home to deliver valentines and a fundraiser to benefit Children’s Miracle Network through an AU dance marathon. Under Helen’s leadership, AOE has also participated in Auburn Engineering events such as Baja SAE Auburn, Nanodays and BEST Robotics.

**Christian Lloyd** is a junior in industrial and systems engineering from Franklin, Tennessee. She is pursuing a minor in computer science and spent the past summer as an IT intern with Aegis Health Group. While on the dean’s list for her first two years, Christian participated in a few organizations on campus, including her favorite, Student Recruiters.

**Suzanne Crisanti** and **Nicole Furno** as they participate in Auburn Engineering events such as Baja SAE Auburn, Nanodays and BEST Robotics.
As a member, she shares facts about Auburn’s history to prospective students and parents. She has loved sharing Auburn’s rich traditions with tour groups and says there are few things in life that bring her more joy than when a student tells her he chose to attend Auburn because of a tour! Christian served as secretary for the Pi chapter of the Lambda Sigma Honor Society, is an active member of social sorority Alpha Chi Omega and serves as vice president of risk management for the executive committee. Last summer, Christian served as a Camp War Eagle parent counselor and says that while Student Recruiters is her current favorite organization, nothing will ever top being a parent counselor for Camp War Eagle 2014.

**Kirsten Failing** is a junior from Madison, Alabama. While pursuing a bachelor’s degree in industrial and systems engineering, Kristen is also working toward a second major in applied mathematics and a minor in business. She is a member of IIE and will serve as next year’s fundraising administrative officer. She is also a member of the SAE Baja Auburn team and Alpha Pi Mu industrial engineering honor society. An athlete, she competes with the sailing club throughout the Southeast and is a member of intramural sport teams. Kirsten has volunteered as a mathematics tutor, an administrative assistant at the Huntsville Public Library and with the AU Sailing Club at various community events. Kirsten works for Auburn as a peer-career adviser at the Career Center, a tutor at Study Partners and as a competitive sports supervisor for the Auburn Athletics Department. She worked this summer as an industrial engineering intern for Lockheed Martin Missiles and Fire Control.

**Bess Glanton** is a senior from Carrollton, Georgia. She is a member of the Society of Women Engineers, Alpha Pi Mu Industrial Engineering Honor Society, Tau Beta Pi Engineering Honor Society, Lambda Sigma Honor Society and Phi Kappa Phi Honor society. She serves as a Cupola Engineering Ambassador, 100 Women Strong student liaison and a student member of Industrial Engineering Alumni Council. Bess has been a member of leadership committees to help plan Auburn’s Big Event community service day and Auburn’s Dance Marathon to raise funds for Children’s Miracle Network. Bess has participated in industrial engineering internships during the summers between semesters.

Her interest in engineering was peaked her senior year in high school when she joined Southwire Engineering Academy, a junior internship program that exposed high school students to the various engineering and problem solving roles within one of the world’s leading wire manufacturing facilities. She interned at Southwire, Milliken and Company, the advisory practice of KPMG. Bess is a member of Alpha Delta Pi sorority where she serves as a freshman Bible study leader. She is also actively involved in Project Uplift where she has been a “big sister” for two years.

**Doctoral degrees conferred**

Congratulations to the following students who received doctoral degrees during 2014 graduations. Faculty advisers are listed for each graduate:

- Wonseok Kang, Chan Park
- Seungbae Park, Chan Park
- Christopher Perr, Jerry Davis and Drew Hamilton
- Zhou Hai, John Evans
- Seyedamirabbas Mousavian, Jorge Valenzuela
- Nader Al Theeb, Chase Murray
- Onur Uludag, Kevin Gue

**Facts and figures**

for 2014–15

- Undergraduate enrollment: 379
- Graduate enrollment: 160
  - Master’s students: 102
  - Doctoral students: 58
- Bachelor’s degrees awarded: 46
- Master’s degrees awarded: 38
- Doctoral degrees awarded: 7
- OSE certificates awarded in 2014: 16
Departmental Gifts May 2014 – April 2015

Mr. Justin Paul Allred ’05
Mr. James O’Neal Ballenger ’59
Mrs. Bettye Bowman Ballenger ’59
Dr. J. Temple Black
Mrs. Cynthia Louise Bliss ’07
Mr. John W. Brodak
Mr. Howard Houston Burkart II ’66
Mrs. LuAnn Sims Carpenter ’11
Mr. Andres Carrano
Mr. James Clarence Clark ’55
Dr. David Stanley Cochran ’86
Comer Foundation
Mr. David Linton Curry ’61
Dr. Gerard Albert Davis ’96
BG Robert L. Davis ’74
Mrs. Barbara Baker Davis ’72
Ms. Nancy Kay Denning ’84
Dr. Nathan T. Dorris ’04
Mrs. Jerry Lynn Dorris
Mrs. Sharlene Reed Evans ’86
ExxonMobil Corporation
Mr. Edward B. Fischer ’67
Mrs. Deborah D. Flint ’85
Mr. Frank R. Fryer ’66
Mr. Richard F. Fullerton ’55
Mr. Gary Wayne Gray ’69
Mrs. Jo Evelyn Gray
The Greater Kansas City
Community Foundation
Mr. Ruskin Clegg Green ’91
Mr. Donald W. Griffis ’61
Mr. Patrick D. Higginbotham ’81
Mrs. Nancy Y. Higginbotham ’80
Mr. Stephen Garrard Hill ’80
Mr. Keith F. Hornbuckle ’80
Mr. Charles C. Huang ’74
Mr. Brian Howard Hunt ’90
Mr. Francis M. Jessup III ’81
Mrs. Susan Bryan Jessup ’86
Dr. Victoria S. Jordan ’87
Mr. Lester H. Killebrew Sr. ’68
Ms. Cynthia Louise Kirk ’07
Mr. Terry Kenneth League ’66
Mr. Jyh Cheng Lin ’88
Dr. Ying-Hsin Andrew Liou ’84
Dr. Cynthia R. Lovelace ’87
Mr. Lawrence L. Lynch Jr. ’72
Mr. Charles F. Manfre ’60
Mrs. Jill M. Manfre
Material Handling Industry
Mr. Steven James McDonough ’84
Mr. Lionel C. Mitchell Jr. ’71
Mr. J. C. Nelson ’50
Mr. Hal N. Pennington ’59
Mrs. Peggy Pennington
Mr. Joseph S. Pitts ’70
Mrs. Sharon L. Pitts

Mr. David I. Rach ’69
Mrs. Patricia Byrd Rach
Mr. John H. Reaves ’69
Mr. Frederick J. Reynolds ’88
Mr. Roy A. Richardson ’57
Mrs. Patricia Richardson
Mr. Thomas D. Senkbeil ’71
Mr. Stuart Chris Shirley ’87
Dr. Charles Herbert Shivers ’75
Mrs. Alisa Walker Shivers ’75
Dr. Jeffrey Scott Smith ’86
Dr. Alice E. Smith
Ms. Jane Kathleen Spinks ’08
Ms. Drusilla Baker Stinson
Mr. Donald M. Taff Sr. ’56
Mrs. Peggy Yaofang Teng ’88
Dr. Sheng-Hsien Teng ’89
Mr. John Bryant Taylor Ill ’00
Mrs. Laura Crowe Turley ’87
Dr. Andrew Donald Veren ’72
Mr. Nathan Thomas Vogt ’02
Mrs. Zeneida Vogt
Mr. Clyde E. Wills Jr. ’68
Mr. Douglas Jeffrey Wood ’84