

BuckISE

News from The Department of Integrated Systems Engineering at The Ohio State University

Fall 2018

ise.osu.edu

Quality of ISE always a ‘Constant’ Integrated Systems Engineering Jumps to 13th in the Rankings

Those familiar with The Ohio State University Department of Integrated Systems Engineering have long known that it's one of the best in the country – a designation that was recently reaffirmed by *U.S. News & World Report's* list of the 2019 Best Graduate Schools.

The ISE Department again this year climbed in the rankings, placing 13th overall – and jumping from No. 15 on the 2018 list and No. 17 on the 2017 list.

“Our Department of Integrated Systems Engineering is among the best in the nation, and we are excited that its reputation continues to rise,” said President Michael V. Drake. “This recognition reflects the success of faculty, students and alumni from the Department and College of Engineering broadly, as well as Ohio State’s deep commitment to academic excellence and high-impact scholarship.”

In the 2019 issue, The Ohio State University College of Engineering’s graduate program ranked first in Ohio and 16th among all public universities. The Department of Food, Agricultural and Biological Engineering was listed as 11th overall.

To determine the current rankings for engineering schools, *U.S. News* surveyed 214 colleges and universities offering doctoral degrees. The information was compiled in fall 2017 and early 2018.

Engineering school deans and deans of graduate studies at engineering schools, as well as corporate recruiters who hire from previously ranked engineering programs, were asked to rate programs on a scale from marginal to outstanding. Other factors influencing the rankings included student selectivity, acceptance rate, student-faculty ratio, percentage of faculty in the National Academy of Engineering, doctoral degrees awarded and research activity.

Engineering specialty rankings are based solely on peer assessments by department heads in each

area. Ninety-two schools were rated for Industrial/Manufacturing/Systems Engineering.

The Ohio State University College of Engineering landed a number of other programs in the Top 25, including: Nuclear Engineering (14), Materials Engineering (14), Aerospace Engineering (17), Computer Engineering (17), Mechanical Engineering (22) and Electrical Engineering (25). Computer Engineering climbed 12 spaces in the latest rankings.



Message from the Chair

Farhang Pourboghra
Professor and Department Chair

It has been just over a year since I became chair of the ISE Department, and I must confess that I continue to be amazed and humbled by the people I serve. Our undergraduates are some of the most enthusiastic, involved, and impressive students that I have met in my 20 years in academia. I am certain this has something to do with the conducive environment that the faculty and staff provide for all of our students every day while they are under our care. The undergraduate ISE program continues to thrive, and students are being challenged with advanced topics in their chosen technical tracks. As mentioned in previous newsletters, the technical tracks that the undergraduate students choose, are like those offered in the ISE graduate program, and are intended to better prepare our students for their careers in industry. The courses being offered in various technical tracks will be updated as new elective courses will be offered by our newly hired faculty in their fields of expertise. Also, the capstone projects continue to challenge our students to use all their skillsets to tackle real-life problems faced by industry. You can read about two of our ISE students who worked on an ingenious “Coffee To-Go Solution” project (page 3) that received the honorable mention in the 2018 SME Digital Manufacturing Challenge.

One goal I set for myself as chair was to create more opportunities for our graduate students to more frequently meet with faculty and staff. With the help of our Graduate Program Coordinator, Amy Shaw, we organized several social mixers in which graduate students come to lunch with faculty and staff to socialize, share ideas, discuss problems, and to get to know each other better. To better serve and understand the issues that our graduate students face, as well as to more effectively disseminate critical information to them, Amy has created a council comprised of graduate students representing various research areas. The council plans to meet regularly to discuss issues important to graduate students, as well as to find pertinent solutions. More about the council’s progress and activities will be reported in future newsletters.

The ISE Department is continuing to grow in the number of tenure-track faculty. This is very important for the health and national ranking of the program, as new faculties bring fresh new research areas to the



Department and can teach new elective courses in their areas of expertise. The fact that the ISE Department is able to continuously grow is no coincidence. This is happening due to the overall strength and quality of the educational program in the ISE Department, and the perfect alignment of our faculty members’ research within the four areas (Materials, Manufacturing, Mobility and Medicine) identified as critical to the state of Ohio and the nation and which the College of Engineering and the University are willing to invest in. To that end, I am delighted to report that the Department’s graduate program ranking by the *U.S. News & World Report* just improved to number 13 (from 15 last year) among all industrial programs in the nation! You can read more about the ranking on the cover of this newsletter. Again, I attribute this rise in the ranking to the leadership and foresights of the previous chair, Professor Phil Smith, that resulted in a fantastic program.

I would like to report that the ISE Department has successfully recruited two new outstanding manufacturing faculty members last academic year. Mike Groeber, formerly with the Air Force Lab in Dayton, officially joined the ISE Department Sept. 1, and Yannis Korkolis (currently a professor at the University of New Hampshire) will join the Department Jan. 1. You can learn more about Professor Groeber’s metal additive manufacturing research on page 7. More information about Professor Korkolis and his research about experimental mechanics of lightweight materials will be shared in the future. Finally, I am delighted to report that the ISE Department was given the permission by the College to start a new search to hire three new faculty members! Two of the faculty positions will be in Human Factors, and the third will be in Operations Research.

My update would not be complete without me sincerely thanking you all for your generosity to the Department. Without alumni support, we would not be able to provide the best and the most well-rounded education to our undergraduate and graduate students. I look forward to seeing lots of alumni during Homecoming Weekend.

Department and can teach new elective courses in their areas of expertise. The fact that the ISE Department is able to continuously grow is no coincidence. This is happening due to the overall strength and quality of the educational program in the ISE Department, and the perfect alignment of our faculty members’ research

If you’d like to connect with Farhang, he’d love to hear from you at ENG-ISEChair@osu.edu.

Students Develop New Coffee To-Go Solution

For most of us, we can’t get our first dose of caffeine quickly enough before rushing out the door to begin our morning commute. So, what if you could combine the two daily rituals, saving time and trouble? That was the premise proposed by a team of Ohio State engineering students: A Customized Hot Beverage Maker for Automobiles.

Their ingenuity earned Integrated Systems Engineering students Morgan Bernard and Jerry Huang, and Mechanical and Aerospace Engineering students Mark Varner and Isaac Flemming an honorable mention in the 2018 SME Digital Manufacturing Challenge.

It was the 10th year for the annual student competition seeking “innovative automotive aftermarket parts, chemicals, equipment and accessories designs that integrate and implement the best of digital design, additive and subtractive tools/technologies.”

Bernard (’18, ISE), who served as president of the SME Ohio State Student Chapter this year, says the project arose from a product design class. Each team member suggested items that they wished they had in their car. She says the idea was to take the concepts they were learning in class and put them to practical use.

The beverage maker is designed to work similar to the process used by Keurig-style coffee-makers using a car’s engine to heat the water for the beverage. “It doesn’t need much power,” Bernard says, adding that it plugs in to the car’s engine with a USB cord.

Once they had determined their product, they approached ISE Professor Allen Yi, who served as the team’s advisor. “We went to him with ideas,” Bernard says. “He motivated us on how to improve the design further using additive manufacturing.”

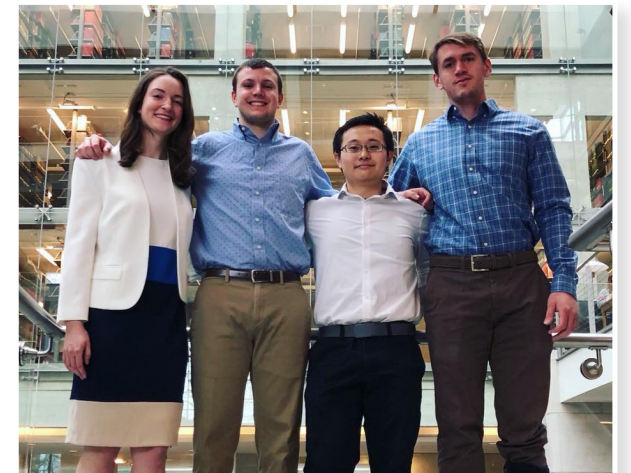
Yi said the product is a great example of utilizing ISE expertise. “It’s a good engineering problem that does require engineering solutions,” he says. “It also has a lot of human machine interaction.”

Bernard said, not only did the group need to make determinations about the feasibility of the product, but also how it would work, and how the team would work together. “I think it was really a great experience,” she says. “None of the team members knew each other. We each brought a different skillset; a different perspective. I’m grateful for the experience.”

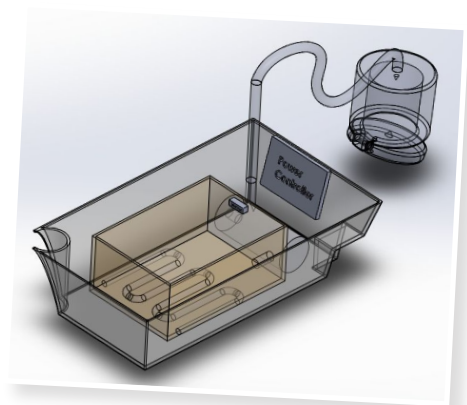
Yi says he wouldn’t be too surprised to see a product similar to this on the market. “As long as it’s technically functioning,” he says. “There are a lot of gadgets like this.”

As part of the recognition, the students each received a one-year SME membership, certificates and acknowledgement at the annual conference in April and on the SME website. Entries were judged by a panel of industry experts on “functionality and durability; cost-benefit/value analysis/utilization of direct digital manufacturing material and processes; design integration and innovation; marketing; and social and environmental impact.”

For Bernard, the experience may be useful as she takes on a full-time job at GE Aviation where she will be part of the operations management leadership program.



Pictured, from left, Morgan Bernard, Isaac Flemming, Jerry Huang and Mark Varner, whose in-car beverage maker won honorable mention in the 2018 SME Digital Manufacturing Challenge.



Stories are Meant to be Shared Because They Often Inspire

They say, choose a job you love and you'll never work a day in your life. Those of us who work in careers we love know that's not always the case – but it certainly has been a fantastic first year for me! When I joined the team in May '17, I could never have imagined how welcoming the alumni, ISE Advisory Board, faculty and staff would make me feel. I have spent many days on the road preaching the good word about the Department and meeting with ISE alumni who are both grateful for their education and incredibly generous with their time and philanthropy. The best part of this role (other than being surrounded by 60,000 students every day) are the alumni I meet and the stories I hear about the impact ISE has made on their lives.



So often I hear stories of the late, great Dr. Tom Rockwell and his interesting research in the field of human factors. Or, how past Academic Advisor Sally Horn was like a second mom to so many. Many alumni recall Department Chair David Baker and how sad and tragic his passing was. And you would not believe the number of alumni who still have their drill press that you had to make in the machine shop! The list of faculty and staff that many of us recall so fondly is long and impressive – but each story is different. Whether it was meeting their significant other in class, being encouraged by a faculty member to pursue graduate school, making lifelong friends, or being recruited to their first job – this Department of Integrated Systems Engineering has made a difference in the lives of so many!

We would not be the department we are today if not for alumni like you, who recognize the impact the ISE Department has played in your life and have given back your time, talents and treasures. So many alumni have stepped up over the years to assist the Department in such meaningful ways, including creating endowed scholarships, supporting faculty research, investing in our graduate students, including the Department in your estate plans, making annual fund contributions that provide vital unrestricted support, providing capstone projects and hiring our students. We also appreciate those of you who come back to campus to join us for Homecoming. I cannot thank all of you enough for your efforts.

If you have a story you'd like to share – perhaps a faculty or staff member who impacted your life – or if you'd like to learn more about the ways that you could support your ISE Department, I would welcome your email, phone call, or a chance to treat you to coffee if I'm ever in your neighborhood. I look forward to another productive and fun year and I hope we get a chance to meet, if we haven't already.

David Chambliss is the Senior Director of Development for the Department of Integrated Systems Engineering. He'd love to hear from you: chambliss.12@osu.edu or 614.292.0096.

Time and Change Will Surely Show, How Firm Thy Friendship O-H-I-O

It is hard for me to imagine that it has been 40 years since I graduated from THE Ohio State University with my bachelor's of science degree in Industrial and Systems Engineering.

What are some of my fondest memories while on campus as a student? First, and foremost, was meeting my future wife Sharon, who is also an ISE graduate. Both Sharon and I grew up in Columbus and commuted to Ohio State to attend classes. We used to have lunch in the Rathskeller restaurant, which was in the basement of a campus building off Neil Avenue. Another favorite memory was watching Woody Hayes patrol the sidelines at OSU football games.



As Woody Hayes once said, "You Win with People!" This is never truer than in a consulting organization whose primary asset (product, if you will) is the collective talent and expertise of their people. Upon graduation, I accepted a job in the consulting division of a "Big 8" accounting firm called Arthur Andersen & Co. (The firm is now called Accenture.)

Back then, Andersen was a major employer of ISE grads from the Department and as past president of the student chapter of ISE, I was asked to join the Alumni Advisory Board of the ISE Department. The ISE Alumni Advisory Board meets in the fall and spring each year. Our role is to provide input and guidance to the Department chair on current challenges, tactics and

long-term strategies to address departmental needs. In essence: "Who do we want to be and how do we sell that?"

As a member of the Alumni Advisory Board, I have had the honor to serve with some impressive individuals from all walks of life and with expertise in countless industries and specialty areas. All of these individuals have the same basic toolset schooled into us by the ISE faculty. That is, how to identify root causes to problems, identify alternative solutions, evaluate and select the optimal solution, and most importantly, see the solution through to successful implementation.

I would like to thank all the Alumni Advisory Board members I have served with over the years, especially Herb Robinson who joined the ISE Alumni Advisory Board about the same time I did as well as past chair of the Department and long-serving board member Dr. George Smith.

I would also like to welcome our newest additions to the ISE Alumni Advisory Board, including Alan Blake '84, Chief Supply Officer of Blue Apron, and Chris Rockwell (son of former ISE faculty member Dr. Tom Rockwell) who is Founder, President and CEO of Lextant.

If you have a favorite memory you would like to share or would like more information regarding the ISE Alumni Advisory Board, please drop me a note at chuck@charlottebuckeyes.com. You can also check out the ISE Alumni Advisory Board members under the Directory tab on the ISE Department website <https://ise.osu.edu>.

Chuck Elgin, BS, ISE '78
Chair, ISE Alumni Advisory Board

What does Ohio State mean to you?

I would like to give \$_____ to the Department of Integrated Systems Engineering

☐ Use my gift where it is needed most. ☐ I would like to designate my gift to be used for: _____

☐ My employer will match my gift. I have enclosed my employer's matching gift form.

Name: _____ Degree/Year: _____

Address: _____ City: _____ State: _____ Zip: _____

Daytime phone: _____ Evening phone: _____ E-mail address: _____


Employer: _____ Title: _____

I have enclosed a check made payable to ISE-OSU. ☐ Please charge my gift to my credit card.

☐ Visa ☐ MasterCard Card #: _____ Expiration Date: _____

Signature: _____

Mail to ISE, 224 Baker Systems, 1971 Neil Ave., Columbus, OH, 43210-1273, Attn.: David Chambliss

 If you would like more information on ISE, or would like to discuss other opportunities to assist the Department, please contact Senior Director of Development David Chambliss, at Chambliss.12@osu.edu or (614) 292-0096.

They’ve Got an App for That

Doctors often advise patients to bring along another set of eyes and ears during medical consultations. But for some patients, that’s not always an option. So, when Dr. Clara Lee, a surgeon at the Wexner Medical Center, noticed certain medical procedures were on the rise, she approached ISE Assistant Professor Michael Rayo for help in uncovering the reason behind the increase.

Through a collaboration with the Cognitive Systems Engineering Laboratory (CSEL), ISE grad student Marisa Grayson worked with Dr. Rayo to develop an application for mobile devices to record and annotate doctor-patient conversations. The app, RecorDr: Facilitating Patient Self-Advocacy and Enabling Large-Scale Human Factors Research, won Grayson first place in the 2018 Human Factors and Ergonomics Society “Mobile Health Applications for Consumers” Student Design Competition.

Even better for patients, doctors and researchers, the app now is available in the Apple App and Google Play stores and can be used by anyone visiting a healthcare professional, Grayson said. “Breast cancer patients were the original target population given that we had direct access to observe interactions at the Ohio State Wexner



Medical Center and that they face complex decisions, which are not well-understood in the research community,” she said. “The individuals who participated in usability testing saw the potential of the app for aiding recollections for patients.”

Grayson said the app was designed “from a user-centered approach to cater to the user both as a patient and as a field researcher.”

“The researchers, industry professionals and academics at the [HFES] conference were very excited considering the scalability and access the app affords for data collection,” she said.

“Several members of the Cognitive Systems Engineering Laboratory, including myself and Dr. Rayo, worked alongside Dr. Clara Lee and her team, having relevant healthcare domain expertise. Dr. Rayo and I designed the interface concept and conducted usability testing. Our developers implemented the design on both Android and iOS platforms.”

Grayson also credits CSEL Research Engineer and Laboratory Manager Asher Balkin with providing help with the project development and data architecture for the app.

The award was announced at the March 26 HFES International Symposium on Health Care in Boston, where Grayson presented her app in the finals with students from San Jose State and Johns Hopkins universities.

BuckISE in the News

Hamed Rahimian, an ISE PhD candidate, was a runner-up in the 2017 INFORMS Computing Society Student Paper Award competition. His paper, “Identifying Effective Scenarios in Distributionally Robust Stochastic Programs with Variation Distance,” also was published in *Mathematical Programming*. The ICS Student Paper Award is given annually to the best paper at the interface of computing and operations research. His advisor is Associate Professor Guzin Bayraksan. Others recognized attend Massachusetts Institute of Technology, Georgia Institute of Technology and Carnegie Mellon University.

Bloomberg Environment referenced the work of ISE Associate Professor **Ramteen Sioshansi** for the Center for Automotive Research in an article on battery storage, “Fluence, Battery Makers to Gain as Arizona Considers Storage Goal.”

Environment & Energy News quoted Sioshansi, who chairs the Department of Energy Storage Subcommittee for the DOE’s Electricity Advisory Committee, regarding the release of the panel’s biennial assessment.

ISE Associate Professor **Guzin Bayraksan** was awarded a MACSER research grant for Multifaceted Mathematics for Rare, High-impact Events in Complex Energy and Environment Systems. In addition to Bayraksan, the \$15 million grant involves 22 principal investigators from three national laboratories – Argonne, Pacific Northwest and Sandia – and the University of Chicago and the University of Wisconsin-Madison. She also was honored with an INFORMS Volunteer Service Award at Distinguished Level, in recognition of her time and expertise in service to the INFORMS community.

Groeber Joins Faculty

Michael Groeber joins the faculty this fall, specializing in merging new developments in the areas of data analytics and machine learning with advanced manufacturing. His focus will be on improving and optimizing, data-driven manufacturing processes.

“I am from Ohio originally,” Dr. Groeber said, “and got my undergraduate and graduate degrees from the Ohio State Materials Science and Engineering Department, so there is a special place in my heart for The Ohio State University. I believe there are very good opportunities for Ohio State given its geographic location, with interesting potential research partners in the Air Force Research Laboratory, NASA Glenn, GE Aviation and Honda all close by. This is a true strength for the University in being a leader in manufacturing excellence.”

After earning his bachelor’s, master’s and PhD from Ohio State, Dr. Groeber worked as a research advisor at University of Dayton, Carnegie Mellon, Wright State, University of California – Santa Barbara, Johns Hopkins



and Purdue University, and has teaching experience at Ohio State, Carnegie Mellon, Université de Lorraine and Johns Hopkins. He has co-authored 37 papers and wrote or co-wrote four book chapters. He also continues to conduct research for the Air Force Research Laboratory.

He is the recipient of an Early Career Achievement Award and Director’s Award for Excellence in Research from the Air Force Research Laboratory and received multiple Best Poster/Paper Awards. While a student at Ohio State, he was honored with the Hayes Graduate Research Forum Award for Best Engineering Thesis.

“My family and I are excited to be back in Columbus, and I look forward to bringing my three kids to campus to see where their parents met and started our lives,” Dr. Groeber said. “I am excited to start a research group of my own that I believe can make a true contribution to the manufacturing community in the U.S. I am excited to spend time with young engineers and try to foster in them a passion and vision that will broaden and, hopefully, strengthen their careers. There is an energy that is palpable when you walk around Ohio State, and I am excited to spend time in that environment and give what I can to keep it going and grow it.”

LeanSigma Capstone

With testimonials like, “Challenging, but worth it; the best course I’ve taken at Ohio State,” and “[This course] helped me make better presentations and lead effective meetings – so much that it has helped me stand out compared to people with years of experience,” it’s not hard to see why seats are limited for Dr. Scott Sink’s Lean Six Sigma Black Belt class.

The Integrated LeanSigma Certification Program was launched at Ohio State in the autumn of 2007. Former Department Chair Julie Higle hired Dr. Sink to create the three-course sequence as a way to respond to students who were requesting this type of program within the Department, he said.

The sequence begins with a Black Belt Foundation Course before moving on to a two-semester Capstone Senior Design Project. The foundation course material “spans much of the ISE core curriculum, and hence, this course is a nice integration course for the students

– helps them see how all the other core courses fit together,” Dr. Sink said.

So far, 550 students have completed the Black Belt Foundation Course. To earn certification, students must score 80 percent or higher on a five-hour final exam. More than 250 candidates have gone on to finish the Capstone Certification courses, which requires students to complete a poster and article summarizing their project and defend their work to a review board.

In addition to the student experience offering a measure of the program’s success, Dr. Sink says the program’s sponsors also have received benefits. “To date, we’ve created \$12 million in audited direct and indirect benefits for sponsors,” Dr. Sink said, “but also, we’ve created great and important value for non-profits: Goodwill, United Way, the Wexner Medical Center, Mount Carmel, and even, Pelotonia.”

Cookie Project Provides Recipe for Real-world Production Planning



A few years ago, a couple of students, who had taken Associate Professor Aimee Ulstad's Production Planning and Facility Layout class, determined during their Capstone project that they needed a refresher on their understanding of material requirements planning. So, they turned to their former professor for advice on improving the throughput for a local business. At issue was the process for the cookies used in making a new product: ice cream sandwiches.

This project, as well as Ulstad's experience canning and baking, spurred her to create a similar class project involving baking chocolate chip cookies.

Spring semester, her class took a field trip to The Ohio State University Instructional Kitchen in the lower level of the Ohio Union, where they set up shop as their own cookie production pilot facility. The student groups were tasked with conducting a small-scale trial run by baking a single batch of cookies following the Nestle Tollhouse recipe in preparation for a full-scale operation. The exercise was designed for students to see the important factors in the process, which would allow them to figure out how to scale the operation in order to produce 40 dozen cookies a day. While three members of the group baked, the other three team members collected data on throughput and efficiency; quality (including minimum size of 2 ½-inch cookies); and cognitive and human systems engineering (safety

and team work). This data would help them determine how much material and labor they would need for their full-scale operation, as well as what changes they would need to make to achieve their quality and safety objectives.

To add competition and a little "pressure," the event was styled after The Food Network's popular "Chopped" series. The students had 35 minutes to impress judges (chefs from the Ohio Union) with their cookies, which were evaluated based on quality, size, appearance and taste.

One of the ISE Department's business partners, Whirlpool, donated pots and pans to assist the project,



and offered an industry presentation to the students on how they use ISE skills at Whirlpool and particularly in scaling operations from prototype runs in their business.

Ulstad said the hands-on exercise was a success, allowing the students to transfer their classroom knowledge to a production facility setting. "You can learn so much better by doing things yourself," she said. "The main thing about the exercise is it doesn't matter how confident you are, things can still go wrong and this is where real learning happens."

That was the case for one group, which included an ISE student with chef school experience, but whose cookies flattened during baking. The group later realized they incorrectly measured the flour and only used half of the required quantity.

The experiment provided such valuable and practical experience that Ulstad plans to do it again, incorporating it earlier in the class schedule. Looking ahead, the students can take their pilot project and build an entire company operational plan, incorporating inventory management, materials requirements planning, facility layout, staffing and production scheduling. By working on this the whole semester, Ulstad believes they will walk away with concrete ideas of the class concepts and their use.



John and Mary Lib White

Illustrate Leadership by Example



John A. White, Jr. (PhD '69, ISE) cites a quote by Teddy Roosevelt as having great influence on his philosophy of giving.

"Every person owes a part of his or her time and money to the business or industry in which he or she is engaged," quotes Dr. White, a University of Arkansas distinguished professor of Industrial Engineering and chancellor emeritus. "No person has a moral right to withhold support from an organization that is striving to improve conditions within his or her sphere."

During a campus visit last fall, he heard College of Engineering Dean David B. Williams talk about Dr. Bill Marras' research and his role with The Ohio State University Spine Research Institute. When Dr. White returned to Arkansas, he talked to his wife, Mary Lib White, about the work taking place at the Institute and the couple decided to pledge \$300,000 in honor of Dr. Marras, who serves as the SRI executive director.

"We have been very fortunate to have been in a position to help organizations 'striving to improve conditions within' our spheres," Dr. White explains. "Obviously, our spheres have included our alma maters. So, we have endeavored to help where help is needed."

Adds Mary Lib, "Supporting the Spine Research Institute was a perfect match, given my spine-related physical challenges. OSU's ISE department was very supportive of me, especially during the weeks surrounding the birth of our son. It will always hold a special place in my heart."

Professor Marras, who holds the Honda Chair in the Department of Integrated Systems Engineering, says, "This generous gift from John and Mary Lib White makes it possible to complete a world-class spine data acquisition and processing infrastructure at the Spine

Research Institute. This gift enables the completion of a system that we would not be able to acquire in any other way. We are extremely grateful for their kind contribution."

The Whites' relationship with The Ohio State University dates back to the 1960s when John was attracted by the reputation of The Ohio State University Industrial Engineering program and decided to pursue his PhD in Columbus.

The couple moved to a twin-single home off Cooke Road with their two-year-old daughter. Their son was born at The Ohio State University Hospital, which is now known as the Wexner Medical Center.

"Even though OSU had one of the largest enrollments in the nation – approximately 60,000 students – it didn't seem large because of the closeness of the faculty and graduate students in the ISE Department," Dr. White recalls. "Most of my memories are connected to people in the ISE Department, friends at Maize Manor United Methodist Church and things I did with my family."

He was particularly close to Dr. David Baker – for whom Baker Systems is named – and the two often discussed the possibility of Dr. White returning to Ohio State as a member of the faculty after establishing his professional reputation.

After graduating with his doctorate in December 1969, Dr. White returned to the Department of Industrial Engineering at Virginia Tech, where he earned his master's degree in 1966. In February 1970, he heard the tragic news that Dr. Baker had died in a plane crash while on an ABET site visit. "I knew then I would not join the OSU faculty because things would never be the same," he says.

In 1977, he founded a logistics consulting firm, SysteCon Inc., which merged with Coopers & Lybrand in 1984. He has served as a consultant to AT&T, Briggs & Stratton, Burlington, Coca-Cola, Corning, DuPont, Federal Reserve Bank, Ford, IBM and the U.S. Navy, to name just a few. He also served as dean of Georgia Institute of Technology's College of Engineering. He was awarded honorary doctorates from George Washington University and Katholieke Universiteit in Leuven, Belgium.

Mary Lib White earned her bachelor's degree in home economics and sociology from East Tennessee State University, and taught school in Tennessee. Her volunteer affiliations include American Cancer Society, Meals on Wheels, Kappa Delta, the Arkansas Chapter of the National Museum of Women in the Arts and Junior League of Northwest Arkansas. She was the recipient of an Honorary Alumni Award in 2004 from the Arkansas Alumni Association.

The Whites are members of the Towers of Old Main, a University of Arkansas donor society which recognizes a lifetime of giving. They established the John and Mary Lib White Systems Integration Chair in Industrial Engineering at UA, where John served as chancellor from 1997 to 2008. In 2012, the UA Engineering Hall was renamed John A. White Jr. Engineering Hall in his honor.

A member of the National Academy of Engineering, Dr. White has returned to The Ohio State University campus several times during his career, including a 1984 visit to receive a distinguished alumnus award from the ISE Department and again this past November when he was recognized by the College of Engineering for outstanding professional achievement.

"Throughout our marriage, Mary Lib and I have supported our church and numerous organizations," he says. "As chancellor of the University of Arkansas, I felt it was important to lead by example. I did not believe I should be asking others to provide financial support for their alma mater if I were not doing so."

Dr. White says Ohio State is one of many universities forced to rely heavily on private support in order to provide an educational experience of the highest quality for its students.

"Being an OSU graduate opened many doors for me," he says. "My doctorate not only equipped me to excel academically, it placed me in the company of a number of highly respected individuals within industrial engineering. I was most fortunate to have been in the ISE Department during the 1960s – to be mentored by David Baker, Al Bishop, Dick Francis, Walt Giffin, 'Doc' Lehosky, Bill Morris, Tom Rockwell and George Smith, among others. The foundation they provided has served me well throughout my career."

BuckISE on the Move

Ohio State ISE students participate in a variety of student chapters of professional organizations that add to their education and help prepare them for the workforce. Here's a roundup of some of the activities sponsored by Big Data and Analytics Association (BDAA), Institute of Industrial and Systems Engineers (IISE), National Society of Black Engineers (NSBE), Society of Hispanic Engineers (SHPE) and Society of Women Engineers (SWE).



IISE

The Ohio State Student Chapter of IISE hosted this year's Regional Conference, which brought more than 300 students, speakers and sponsors to Columbus to discuss the theme of digital transportation.

In addition, IISE students traveled to Louisville, Kentucky for a tour of UPS Worldport, which was arranged by ISE Alumnus Charlie Covert, vice president of customer solutions at UPS.

Other activities, according to President Georgia Lindner, included a project management event, which brought together representatives from Pepsi, Rockwell Automation, UPS and Honda on a panel to discuss their careers and offer advice to students.

IISE continues to volunteer at the Columbus Early Learning Center to help with student project tracking, supply organization/ordering and student database process.

Ten IISE attended the Annual Conference in Orlando, Florida over the summer.



BDAA

The Big Data and Analytics Association had another successful term, according to President J.T. Bassett.

In an effort to work more with other student groups on campus, BDAA:

- Supported the first ever Hack.AI event with AI Club, a hackathon with a focus on implementing machine-learning algorithms.
- Co-hosted Deloitte Consulting with IISE, as well as a joint happy hour.
- Engaged in an agile workshop with Caterpillar and ACM-W on campus.

In order to increase educational opportunities and grow students' skillsets, BDAA:

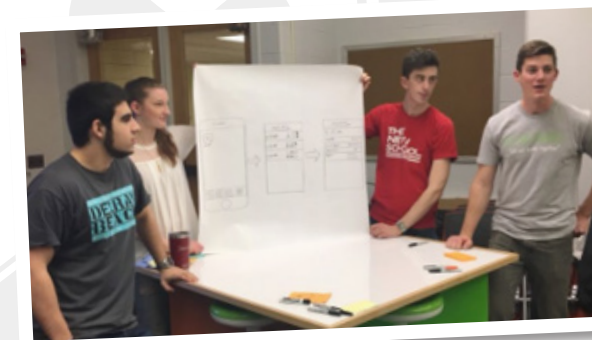
- Implemented bi-weekly competitions; chances for students to work on data sets for a short period of time, create visualizations, as well as read up on the latest literature to answer analytics-related quiz questions.

- Engaged in its first full-semester with Big Data & Analytics Investments, BDAA's cross-functional analytics investments team.

BDAA successfully worked with companies from a variety of industries, and was able to:

- Acquire 10 company sponsors, an organizational record, and also welcomed Accenture and the Wexner Medical Center, who have already signed on for next year.
- Win the Spirit of Ohio Award from the Ohio Union.
- Win the Partnership with Industry Award from the Engineering Department.

In addition to all of these accomplishments, BDAA is gearing up for even more in the coming year. "We are just finishing up the creation of our alumni resource base, a tool for students to connect with BDAA alumni who have worked at some amazing companies," Bassett said. "We are also developing the structure for our new Big Data and Analytics Cohorts to push consistent learning among our members. Finally, we are building connections in order to collaborate with more student groups and non-profits, giving students even more opportunities for hands-on learning. BDAA is extremely excited for this coming semester."



SHPE

This past holiday season, SHPE collaborated with the Ohio Hispanic Coalition and Hispanic Business Student Association with the goal of raising money and collecting toys for underprivileged children, said Alejandro Nunez, SHPE treasurer and sponsorship chair. “The event also served as a way to raise awareness about the struggles that families in the Columbus community experience, especially during holidays,” he said. “With an attendance of over 70 people, we were able to raise \$397 and donate 52 toys for Three Kings Day.”

For SHPE’s largest outreach event of the year – the STEM Challenge – SHPE partnered with NSBE to provide minority middle school students the opportunity to learn more about various engineering fields. Students participated in hands-on engineering projects and spoke with Ohio State students and company volunteers about what college and professional work is like.

For the 2018-2019 academic year, Nunez said SHPE plans on improving upon its recruitment and retention efforts to bring even more future engineers and professionals together.

“We will be attending the national and regional conferences once again and hosting even more professional workshops with our industry sponsors including: Accenture, Eaton, Marathon, Harris, and more,” he said. “We will also be hosting our fall community outreach event, Noche de Ciencias (Night of the Sciences), as well as our spring event, STEM Challenge.”

“We plan on organizing more socials, such as this past year’s Networking Brunch where we created a space for students and industry professionals to network, and we will be growing our on-campus presence by partnering with our departments and other student organizations such as NSBE, SWE and SASE. We hope to be able to make new connections both on and off-campus and are very excited for next year’s successes.”



SWE

The Society of Women Engineers has planned several events for its members this fall and winter, according to Catherine Wang, SWE special events coordinator.

A Fall Networking Night will take place from 6:30 to 8:30 p.m., Sept. 24. The event will allow students a chance to get to know company representatives and build connections for future career development in an informal setting.

New this year will be an “Iron Chef” event on Nov. 9. Wang says it will be designed to be similar to the Food Network’s version. SWE will host the cooking competition with six to eight teams comprised of four SWE members on a team.

SWE also is looking to field a team for next February’s BuckeyeThon. “We are beginning to recruit members for our BuckeyeThon team, so we can support Ohio State’s campus program whose mission is to end childhood cancer,” Wang said.



NSBE

The mission of the National Society of Black Engineers is to increase the number of culturally responsible black engineers who excel academically, succeed professionally and positively impact the community.

In accordance with that mission, NSBE held its STEM Challenge competition Feb. 24, 2018. The collaboration with the Society of Hispanic Engineers is designed to introduce engineering careers to about 100 middle school students.

NSBE hosted another outreach effort Oct. 5, 2017, by hosting high school sophomores, juniors and seniors, who had the opportunity to attend first-year engineering classes, tour the campus and interact with student volunteers.





THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING

NON-PROFIT ORG
U.S. POSTAGE

PAID

COLUMBUS, OHIO
Permit No. 711

210 Baker Systems
1971 Neil Ave.
Columbus, OH 43210
www.ise.osu.edu

Keep in Touch!

The Ohio State University
Department of Integrated
Systems Engineering would
love to hear from you.

Please drop us a line to
tell us about stories or
information you would like
to see in future issues of
BuckISE.

Contact Jen Morris at
morris.1392@osu.edu.

