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## Annual Report, 2014-2015

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College of Engineering

2014-2015

Annual Report



UNIVERSITY OF  
ARKANSAS

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COLLEGE OF  
ENGINEERING

August 10, 2015

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# COLLEGE OF ENGINEERING

## Dean's Executive Summary

With a large, diverse and talented population of students and a renewed focus on leadership and strategy, the College of Engineering made progress in many areas over the past year. Our freshman class included record-breaking numbers of female and minority students, as well as an all-time high in average ACT score.

In 2014, Heather Nachtmann was appointed associate dean for research, and in this position, she is working to promote and advance the research strengths that were identified by the Research Task Force. In the spring of 2015, Norman Dennis was appointed senior associate dean. Dennis, who previously served as interim senior associate dean, leads the dean's senior staff in activities relating to academics and facilities. The college also hired a new director of development, Kelly Sartorius, in the spring to lead the college as we prepare for the next phase of Campaign Arkansas.

In addition, several of our faculty and staff members have been selected to serve the university in prestigious administrative roles. Ashok Saxena is currently serving as provost of the university; Kim Needy was selected as dean of the Graduate School and International Education; and Colleen Briney has been named the new associate vice chancellor for business affairs.

A major focus of the past year was the implementation of an updated strategic plan, which was introduced in the fall of 2014. The college also rolled out a new tagline: "Preparing you for your tomorrow," which conveys our commitment not only to innovation, but also to the students, faculty, staff, alumni and Arkansans who are directly affected by our efforts.

The following list includes some of the achievements of the College of Engineering over the past year.

- In the 2015 edition of "Best Colleges 2015," the annual report from *U.S. News and World Report*, the University of Arkansas College of Engineering was ranked at 64 among all undergraduate engineering programs at national public institutions. This is a gain of 12 spots, from 76 in last year's rankings. Among all national universities, the college is ranked at 100, an improvement of 15 places.
- The College's online programs continue to receive national recognition, ranked 29 of 75 ranked online graduate engineering programs and 23 for engineering programs at public universities by *U.S. News and World Report*. These programs were also ranked 25th nationally among 48 ranked programs and 18th among public institutions in the "Best Online Graduate Engineering Programs for Veterans" report.
- In the fall, the College of Engineering hosted legislative staff members from the offices of Sens. John Boozman and Mark Pryor and the offices of Representatives Tom Cotton, Rick Crawford and Steve Womack. The staff members toured campus to learn more about engineering research at the U of A.

- The College of Engineering and all eight engineering departments introduced updated and redesigned websites in June as part of the campus-wide transition to OmniUpdate. The new websites put an emphasis on attracting prospective students, and feature improvements in design and user experience.
- Bryan Hill, assistant dean for student recruitment, honors and international programs in the College of Engineering, was one of the three finalists selected for the 2014 GEDC Airbus Diversity Award. He was recognized for his work with the Engineering Career Awareness Program.

# ACADEMIC UNITS

## I. EXECUTIVE SUMMARY

### BIOMEDICAL ENGINEERING

The Calendar Year 2014 marked the second full year of operation for the Biomedical Engineering Department in the College of Engineering. The number of undergraduates has stabilized around 180 students while graduate enrollment reached 17 and continues to grow. The program continues to attract high achieving students. The average high school GPA and ACT score were 3.97 and 30, respectively. The department continues to develop a research-intensive focus as 100% of tenure-track faculty with more than 1 year of experience in biomedical engineering were supported by competitive federal research awards. New research awards exceeded \$2 million while research expenditures rose to \$1 million on behalf of 7 tenure-track faculty. The department continues to grow steadily with the addition of three tenured/tenure-track faculty. Furthermore, two high impact tenure-track faculty, including the College of Engineering's second Arkansas Research Alliance Scholar and a NIH Pathway to Independence (K99/R00) award winner, were successfully recruited into the department and will begin this fall. In spring 2014 one of the BMEG senior design teams partnered with the business school to form a Governor's Cup team. The team took second place overall and won the Innovation Award recognizing technical achievement. Nasya Sturdivant, BMEG PhD candidate received a NSF Graduate Research Fellowship. Ben Kasukonis, a BMEG PhD candidate, placed second in the U of A graduate student research competition. Two graduate students Ben Kasukonis and Addison Walker received University of Arkansas Doctoral Academy Fellowships.

### BIOLOGICAL & AGRICULTURAL ENGINEERING

Our mission is "to develop and disseminate engineering knowledge to address problems dealing with sustainable food, water and energy systems." Our faculty is delivering the Biological Engineering curriculum of sustainable food, water and energy systems. BAE Department is truly unique as it resides in both the UA System Division of Agriculture, and the UA College of Engineering. BAE research and teaching faculty on the U of A campus, extension colleagues in the state office of the UA System Division of Agriculture's Cooperative Extension Service, and our colleagues at the Rice Research and Education Center in Stuttgart are engaged in addressing problems important and relevant to our state and nation, dealing with challenges in sustainable water, food and energy systems in support of the Arkansas agriculture enterprise. These are very much in line with the grand challenges being faced by society in general and our profession.

The addition of an academic year Instructor and M&O support for academics from the College of Engineering have been critically helpful. There were 75 undergraduates (sophomores to seniors) and 33 graduate students in 2014. Our departmental academic programs are now in the College of Engineering, with research and extension functions continuing in the UA Division of Agriculture's Agricultural Experiment Station and Cooperative Extension Service, respectively. Mr. John Westerman was inducted in the Arkansas Academy of Biological and Agricultural

Engineering. The Senior Design Expo, under Dr. Tom Costello's leadership, was again very successful.

Dr. Julie Carrier won the John L. Imhoff Faculty Research Award in the College of Engineering. Ms. Shelby Paschal was selected as the Engineering Outstanding Senior and delivered a speech on behalf of all Engineering graduates at the College's commencement ceremony. Drs. Scott Osborn, Julie Carrier, and Yi Liang were recognized with the departmental faculty awards for teaching, research, and service to students, respectively at the College of Engineering Spring Faculty meeting. One of our senior design teams, mentored by Dr. Tom Costello, was awarded second place in the G.B. Gunlogson Student Design Competition at the 2014 Annual International Meeting of the American Society of Agricultural and Biological Engineers (ASABE) in Montreal, Canada. We were visited for ABET accreditation of our undergraduate program in Biological Engineering in October. The Arkansas Section of ASABE held its 51st Annual meeting in Fayetteville on October 3 with technical presentations and a field tour. Ms. Shelby Paschal and Katie Smith were recognized as our Outstanding Seniors at this event.

Dr. Benjamin Runkle joined us as an Assistant Professor and is engaged in Climate Change research with emphasis on wetland ecohydrology, and land-atmosphere exchange of carbon dioxide, methane, and water vapor. Dr. Verma had the honor of representing ASABE at the 2014 EuroAgEng Conference in Zurich, followed by concluding his term as President at the 2014 ASABE Annual International Meeting in Montreal in July. He also participated in September in the 2014 CIGR Congress in Beijing, China. These forums provided invaluable global exposure and relationships with individuals related to our profession. Dr. Verma was awarded the James R. and Karen A. Gilley Academic Leadership Award at the ASABE Conference in July 2014. Dr. Verma was also inducted in the University of Nebraska Biological Systems Engineering Hall of Fame 2014.

The faculty submitted twenty three grant proposals. There were thirty eight grants received in the amount of \$9,796,211. The faculty share of these grants was \$3,115,836.

The faculty produced the following publications:

• Books, book chapters or conference proceedings	2
• Peer reviewed publications or juried professional events	37
• Oral conference presentations	35
• Non-refereed publications	32
• Abstracts presented at national, international or regional meetings	5
• Invited lectures and/or professional presentations	43

BAE extension faculty, in collaboration with peers delivered information and skill-development to assist Arkansans in maintaining and improving their access to sustainable water, food and energy systems through programs in nutrient management, design and practices for bioenergy, water quality monitoring, animal manure management; GIS-coupled sensing, web and mobile-device information delivery, modeling of watersheds, climate-change variables, and biomass resources; grain drying and storage, irrigation engineering, water management and quality; air-emission quantification for control and mitigation of air-pollution, poultry-house indoor air-

quality; poultry farm energy efficiency, thermal energy-conversion, and residential energy conservation and efficiency. Our programs provided a biological and systems perspective to the state-wide extension team.

## **Statement of Progress toward Strategic Goals and University Priorities**

### Summary Statement

Our vision is to be one of the nations leading Biological and Agricultural Engineering Departments, providing valuable biological engineering expertise to the public. Our teaching, research and service activities will significantly contribute to the quality of life, security, economic development, and environmental stewardship for Arkansas and the World.

## **Strategic Goals for Biological and Agricultural Engineering**

### Research Program

The objective of the Department of Biological and Agricultural Engineering Research Program is to conduct basic and applied biological and agricultural engineering research that addresses the needs of Arkansas and the World, consistent with the mission of the Division of Agriculture, and the College of Engineering, with a focus on environmentally sustainable water, food and energy systems.

### Undergraduate Education Program

The educational objective of the undergraduate Biological Engineering program at the University of Arkansas is to produce graduates to:

1. Successfully practice engineering involving the design and management of sustainable food, water, energy and related biological systems,
2. Make valuable and sustained contributions that benefit employers, communities, Arkansas and the world, and
3. Succeed in continuing professional development or graduate studies, as needed for professional growth.

### Graduate Education Program

The objectives of the Master's and PhD biological engineering graduate program are for students to:

1. Develop the ability to comprehend and apply engineering principles in order to solve problems in research, development and design.
2. Obtain sufficient understanding of the mathematical, physical and biological sciences for comprehension of literature in these and related fields.
3. Acquire the skills required to use appropriate equipment, including instruments and computers, in solving problems in their areas of interest.
4. Achieve the technical competence necessary to teach college-level courses and conduct an adult education program (such as in the Cooperative Extension Service).

### Technical Transfer/ Extension Program

The objective of the Department of Biological and Agricultural Engineering Technical Transfer/Extension Program is to provide technical knowledge, technology, and development of



intellectual properties, support and education to the citizens of Arkansas while addressing the needs of Arkansas and the World. The mission of outreach is shared by the entire faculty community, not just the faculty with predominant Cooperative Extension Service appointments.

#### Faculty/Staff Development Program

The objective of the Department of Biological and Agricultural Engineering Faculty Citizenship Program is to support the institutional needs of the Division of Agriculture, the College of Engineering, and the University of Arkansas, and to encourage the professional growth of the faculty and staff.

#### **Actions & Initiatives taken to address goals and needs**

Faculty initiated:

1. The revamped undergraduate program in biological engineering (to prepare graduates to solve problems dealing with sustainable water, food and energy systems) was implemented and maintained with a continuous quality improvement process.
2. Effective engineering research and extension programs (involving sustainable water, food and energy systems to serve agriculture) were developed, conducted and delivered.

#### **Milestones achieved**

1. The revised BSBE program underwent a successful ABET review.
2. Academic programs were moved totally into the College of Engineering.
3. An Instructor position was added.
4. A comprehensive review of the BAE strategic plan was initiated and a plan for the assessment of graduate programs in Biological Engineering was developed.

#### **Projected milestones for the coming year**

1. Hire academic year instructor.
2. Secure additional research-extension faculty positions from the Division of Agriculture.
3. Complete the revision of the BAE Strategic Plan.
4. Implement the Graduate Program Assessment process.
5. Strengthen the graduate program, increase graduate student enrolment and offer more graduate level courses.
6. Continue effective research and extension programs to address the engineering needs of agriculture, focusing on environmental sustainability of water, food, and energy systems.

## **CHEMICAL ENGINEERING**

Dr. Ed Clausen became the Interim Department Head effective July 1, 2014 for a period of two years. Dr. Tom Spicer will be serving as Interim Associate Department Head. Two faculty members, Drs. Rick Ulrich and Roy Penney, have retired effective December 31, 2014 and June 30, 2015, respectively. In addition, Dr. Xianghong Qian moved from Chemical Engineering to Biomedical Engineering in Fall 2014. A departmental search for a new assistant professor resulted in the hiring of Dr. Lauren Greenlee, with an official beginning date of January 25, 2016. Dr. Greenlee is currently a staff scientist and project leader at the National Institute of Standards and Technology (NIST), with research interests centering on the development of novel

materials for sustainable energy and water applications, and a specific focus on reactive bimetallic nanoparticles and polymer-particle composite membranes. She received her Ph.D. in chemical engineering from The University of Texas at Austin in 2009.

The Chemical Engineering Department received full ABET accreditation for six years in Fall 2014. The department granted 65 BSChE degrees, two MSChE degrees, and four PhD degrees with a 96% placement. Chemical Engineering graduation rates remain significantly higher than the university average—graduation from Chemical Engineering is 80-85%, while the University graduation rate is 60-65%. Faculty external contracts and grants for FY 2015 totaled \$3.25M and refereed publications totaled 19. Research expenditures for CY 2014 totaled \$2.18M.

Faculty development activities and special assignments include Dr. Keith Roper's acceptance of a third year prestigious appointment as Program Director at the National Science Foundation Engineering Education and Centers in the Engineering Directorate. In addition, Dr. Roper has been appointed leader of the Engineering Research Centers Program and the Network for Computational Nanotechnology in the Engineering Division of Engineering Education and Centers at the National Science Foundation.

Dr. Greg Thoma continues to serve as the lead scientist for the United Nations Food and Agriculture Organization's Technical Advisory Group for Poultry, as well as The Sustainability Consortium (TSC) representative on the Board of the United Nations Environmental Program/Society for Environmental Toxicology and Chemistry Lifecycle Initiative.

Dr. Ranil Wickramasinghe received the Dean's Award of Excellence Senior Faculty Award for 2015. Wickramasinghe was successful in establishing the Center for Membrane Science, Engineering, and Technology (MAST) on campus, which is a NSF/Industry/University Cooperative Research Center, with the addition of Walmart and Bristol Myers Squibb as potential sponsors. In addition, Drs. Wickramasinghe and Xianghong Qian, Associate Professor of Biomedical Engineering, received a grant of \$280,000 for a period of three years from the Binational Agricultural Research and Development Fund. They are collaborating with researchers at Technion in Israel on a project to study the use of self-cleaning membranes in agricultural water treatment.

Dr. Jeremy Herman received the Outstanding Chemical Engineering Faculty Award for Teaching for the 2014-2015 academic year, Dr. Greg Thoma received the Outstanding Award for Research, and Dr. Roy Penney received the Outstanding Award for Service to Students.

A U.S. Patent titled "Separatome-based Protein Expression and Purification Platform" was assigned to the Board of Trustees of the University of Arkansas and the University of Pittsburgh. Dr. Ellen Brune is a 2013 chemical engineering graduate whose start-up company, Boston Mountain Biotech, is marketing the method. In addition to Brune, other inventors named on the patent are Dr. Bob Beitle, Professor of Chemical Engineering and Associate Vice Provost for Research and Economic Development; Dr. Ralph Henry, Distinguished Professor of Biological Sciences; Dr. Mohammad Ataai, Professor of Chemical Engineering at the University of Pittsburgh; and Patrick Bartlow, a scientist at Janssen Research and Development, a subsidiary of Johnson & Johnson.

Student achievements include the following: four recent graduates (Jeremy Dunklin, Megan Dunn, William Erwin, and Justin Norman) received prestigious National Science Foundation Graduate Research Fellowships for the 2014-2015 academic year; Hailey Dunsworth was selected as a 2014 Goldwater Scholar, with Michael West receiving an Honorable Mention; and Lauren Reed received an Honorable Mention for 2015. John Dominick was selected as the 2014-2015 Outstanding Senior in the College of Engineering. Senior Manfred Jeske received the Porter Stone Co-op Award. John Dominick also placed first in the DOW Drive-to-Zero Competition, with Shannon Murphy placing second and Jason Heiss receiving an Honorable Mention. Kaylee Smith was awarded a Statewide Undergraduate Research Fellowship grant. She also won third place in her division at the poster session at the American Institute of Chemical Engineers meeting in November 2014.

Jeremy Dunklin, graduate student in chemical engineering, and Gregory Forcherio, a graduate student in microelectronics-photonics, received 2014 travel scholarships from SPIE, the international society for optics and photonics. Mr. Forcherio also received an NSF Research Fellowship for 2014-2015.

Philip Turner, graduate student in chemical engineering, received first place in the graduate student poster competition at the 2014 Midwest Section Conference of the American Society for Engineering Education. German Perez, graduate student in civil engineering, received second place.

Three chemical engineering senior design teams received awards in the 25th annual International Environmental Design Contest hosted by WERC, the Institute for Energy and the Environment and New Mexico State University. The "Separation of Oil from Water" and "Electrocoagulation for Sulfate Removal" teams won first place in their tasks, and each team was awarded \$2,500. The "Radiative Cooling to Night Sky" team won a Judge's Choice Award and \$1,000. All three teams were advised by Dr. Roy Penney, Chemical Engineering Professor.

## **CIVIL ENGINEERING**

### **Metrics**

Graduate Program Ranking (U.S. News and World Report)	105
New Grants / Awards (number):	18
New Grants / Awards (dollars):	\$2,121,250
Publications:	
Books	0
Book Chapters	0
Refereed Articles	31
Refereed Conference Proceedings	15
Unrefereed Publications and Proceedings	5
Invited Lectures	18
Other Lectures, Papers, and Oral Presentations	42
Other Creative Endeavors	0
Patents	0

## COMPUTER SCIENCE AND COMPUTER ENGINEERING

	<b>FY 2014</b>	<b>FY 2015</b>	<b>Growth</b>
<b>Undergrads</b>	544	561	17
<b>In CSCE Dept.</b>	422	437	15
<b>- In Freshman Engineering</b>	122	124	2
<b>Grads (Fall 2014)</b>	54	64	10
<b>M.S.</b>	26	26	0
<b>Ph.D.</b>	28	38	10
<b>T/TT Faculty</b>	15	15	0
<b>Instructors</b>	1	1	0
<b>Student/Instruct Fac (Fall 2014)</b>	37.4	38.5	1.1
<b>Research Expenditures</b>	\$317,411	\$1,004,299	+\$686,888
<b>Number of New Research Awards</b>	7	6	-1
<b>Value of New Research Awards</b>	\$841,562	709,874	-131,688
<b>Refereed Publications</b>	50	42	-8

The number of graduate students grew substantially last year. This growth was primarily in the Ph.D. program that grew by 10, from 28 to 38, an increase of 36%.

The CSCE department undergraduate student population remained essentially steady last year. When comparing to other departments on campus or peers elsewhere, we include freshmen in FEP who declared CSCE, resulting in a student/instructional faculty ratio of 38.5. The average student/faculty ratio for US public universities is 20.0:1 for Computer Science and 8.2:1 for Computer Engineering. We are carrying much heavier undergraduate teaching loads than our peers.

Despite the increasingly heavy undergraduate teaching load, the number of funded proposals remained essentially steady with 6 new awards totaling \$709,874.

The US World and News Report ranking for Computer Engineering moved up 2 spots from 97/143 to 95/156. This is particularly notable since 13 more programs were review. It is a dramatic improvement from 129/142 just 5 years ago (Fall 2010).

Research expenditures more than tripled from \$317,411 to \$1,004,299.

Fourteen different faculty members submitted a total 44 proposals as PI. The total value of the proposals was \$14,509,687. All of these numbers are the highest ever for the department. (FY14 vs FY13; numbers are available after Annual Reports are due).

The inaugural University of Arkansas Chapter of the Arkansas Academy of Computing was formed.

Dr. Xintao Wu joined the department from UNC-Charlotte as the Charles D. Morgan/Axiom Graduate Research Chair in Database.

## **ELECTRICAL ENGINEERING**

The graduate programs of the Department of Electrical Engineering were ranked 52 and 83 (from 85 and 102 in the previous year) among all surveyed public institutions and all institutions. The U of A's online engineering programs, including a Master of Science in Engineering degree and a Master of Science in Electrical Engineering degree, were ranked No. 29 of 75 ranked online graduate engineering programs and No. 23 for engineering programs at public universities by U.S. News & World Report.

The Department of Electrical Engineering had a very productive year with faculty members submitting over 100 research proposals from January 1 to December 31 2014, and receiving over 40 awards totaling \$4,210,077. They attended over 75 professional meetings, serving as conference organizers, board members, session chairs, invited speakers, and technical committee members. Faculty and students authored over 110 papers during that same time period.

The Dean's office and the Department collaborated to offer three summer camps in summer 2015 for middle, junior high and high school students to stimulate new student's interest in electrical engineering, and thus, enhance retention. The camps were for 6<sup>th</sup>-7<sup>th</sup>, 8<sup>th</sup>-9<sup>th</sup> and 10<sup>th</sup>-12<sup>th</sup> graders, respectively.

Dr. Jing Yang won the prestigious NSF CAREER award in January 2015 worth \$500,000 over a period of 5 years.

The team formed by Arkansas Power Electronics International (Fayetteville, AR), ELEG faculty members associated with the UA NCREPT, Toyota Motor Engineering and Manufacturing North America Inc., Oak Ridge National Laboratory and CREE Inc. (Raleigh, NC) won a prestigious 2014 R&D 100 Award for the development of a battery charger for the Toyota Prius.

Dr. Alan Mantooth was one of the five inaugural Arkansas Research Alliance (ARA) fellows to be recognized as a proven research leader highly respected at UA.

Drs. Magda El-Shenawee and Alan Mantooth were honored as part of the "Top 15 in 2014" class of research award recipients for being part of the university's most highly funded individuals in fiscal year 2014.

Dr. Juan Carlos Balda was the general chair of the 6<sup>th</sup> IEEE International Symposium on Power Electronics for Distributed Generation Systems, Aachen, Germany, June 22-25, 2015.

Our undergraduate student population has not changed much in numbers, but the diversity ratios have changed. At the start of fall 2013, 19.07% of our student population were from minority/underrepresented groups and at the start of fall 2014, 20.85% of our students were from those minority/underrepresented groups. While not a significant increase, it does show that we are reaching a diverse group of students.

## **INDUSTRIAL ENGINEERING**

In FY15 the department saw impressive growth in the program, maintained a steady research focus, welcomed a new faculty member and named a new department head. After serving for several months as interim, Dr. Ed Pohl was named department head and holder of the 21st Professorship in the Department of Industrial Engineering at the University of Arkansas. Prior to his appointment as department head, he served as the Director of the Operations Management Program. He currently serves as Director of the Center for Innovation in Healthcare Logistics (CIHL) and the Director of Distance Education in the College of Engineering.

We welcomed Dr. Harry A. Pierson as an assistant professor in fall 2014. He received a BS in mechanical engineering and an MS in engineering management from the University of Missouri-Rolla. His doctorate is in industrial and systems engineering from The Ohio State University. During FY15, the department launched a search to fill two faculty positions, an assistant professor and an endowed professorship. The candidate selected for assistant professor joining in fall 2015 is Dr. Sarah Nurre. She received a doctorate in decision sciences and engineering systems, an MS in industrial and management engineering and a BS in mathematics, all from Rensselaer Polytechnic Institute. The second position for the endowed professorship named the James M. and Marie G. Hefley Professor of Logistics and Entrepreneurship will be filled by Dr. Haitao Liao. Dr. Liao received an MS and PhD in industrial and systems engineering, as well as MS in statistics from Rutgers University. He earned a BS in electrical engineering at the Beijing Institute of technology.

Dr. Greg Parnell who was serving as a visiting professor has transitioned to the position of research professor and has been named director for the graduate program for the Master of Science in Operations Management. He will continue to perform research and also continue to teach. He consistently receives top scores for course evaluations and student exit interviews.

The program experienced an overall increase of 18% in student population from FY14 with 355 full-time students (BSIE 292, MSIE 30, PhD 33). The largest growth was realized among our BSIE students at 23% above the previous year. The MSOM program had 862 unique students enrolled in the program for the 2014-2105 academic year and a total of 3375 course enrollments for the year. The MSOM program continues to be the University's largest graduate program with 184 students completing their degree in the past year.

Research activity in FY15 was steady. Our faculty members had active research grants exceeding \$7.4M, including 15 new awards (\$756,921). The department is home to The Center for Innovation in Healthcare Logistics (CIHL), which is currently led by Dr. Ed Pohl. CIHL continues to conduct applied research projects that focus on reducing cost and increasing the efficiency in the delivery of healthcare. During the last year CIHL completed two locally sponsored projects. Dr. Heather Nachtmann led an effort that explored the use of Activity based Costing in the healthcare supply chain. This project was sponsored by AHRMM and completed with the support of Mercy Hospital in Rogers, AR. Dr. Shengfan Zhang led an effort sponsored by UAMS that explored new scheduling paradigms to assist in reducing the number of “no-shows” at the clinic at the UAMS Psychiatric Research Institute. In 2012, CIHL launched the Health Systems Engineering Alliance which currently has 27 active member organizations. Dr.

Ashley Milburn has been selected to serve as the treasurer for the Alliance for the coming year. A second research center within the department is the Center for Excellence in Logistics and Distribution (CELDi). CELDi is a multi-university center with 5 academic partners. It is in its 13th year of support from member organizations (15) and the National Science Foundation (NSF). During FY15, Dr. Heather Nachtmann led a successful proposal to add \$1.4M in research funding to the Maritime Transportation Research and Education Center (MarTREC), a USDOT Tier 1 University Transportation Center.

## **MECHANICAL ENGINEERING**

Mechanical Engineering (MEEG) remains to be the largest and still one of the most popular majors in the College of Engineering (COE). During the 2014-2015 academic year, MEEG attracted 120 students from our Freshman Engineering Program. It is projected that we will now have 622 undergraduate students (sophomore through senior) in MEEG!

MEEG faculty continued to demonstrate higher teaching effectiveness, as evidenced by actual numerical results obtained in course evaluations & senior exit surveys, and student comments during senior exit interviews. Our innovative new initiative, CDIO (Conceive, Design, Implement, Operate), has expanded into more MEEG courses. The Undergraduate Curriculum Committee developed an impressive plan to have a complete horizontal integration of CDIO starting in sophomore through the senior level courses. The Virtual Machine Shop (VMS) with 3D printers and desktop milling machines dedicated to CDIO now runs on a 24/7 basis.

It is a fact that MEEG has one of the highest teaching loads in the COE – our student-to-faculty ratio is now over 40! In light of this fact, we are especially proud of our scholarly activities. During the most recent 12-month period (Jan.1 – Dec. 31, 2014) for which we have complete data, MEEG faculty generated \$1,755,346 worth of new research grants. There is a significant increase especially in team based research. One such effort resulted in an advanced notice from the NSF regarding a five-year EPSCoR grant worth \$24,000,000! MEEG faculty published 26 refereed articles in archival journals, presented 35 invited lectures, wrote 1 book chapter, and engaged in 29 creative endeavors involving national/international exhibitions and competitions. Finally, MEEG faculty and staff continued to compile quite an impressive list of both internal and external honors & awards.

The Department of Mechanical Engineering has expanded its economic development partnerships, which now involves about two dozen companies. In addition to aviation and aerospace defense industries, our new corporate partners operate in the chemical, automotive, oil & gas, energy and steel industries. Economic development activities are continuing and expanding into many industries. For the first time in decades, MEEG now has expanded into industry funded CDIO and senior capstone design projects.

## **II. SIGIFICANT ACHIEVEMENTS**

### **BIOMEDICAL ENGINEERING**

Distinguished Professor and Dean Emeritus, Dr. Ashok Saxena, returned from a Vice Chancellorship at Galgotias University, to lead Biomedical Engineering as the permanent Department Head.

Dr. Saxena spearheaded the successful recruitment of the College's second Arkansas Research Alliance, Dr. Morten Jensen. Dr. Jensen is an expert in medical device design and development and cardiovascular fluid and tissue mechanics. Following six years of industry experience with National Instruments Consulting Services and Business Development, Dr. Jensen was appointed as an assistant and associate professor at the Departments of Biomedical Engineering and Cardiothoracic & Vascular Surgery at the University Hospital of Aarhus, Denmark. He was visiting faculty at the London Heart Hospital and Georgia Tech before joining the University of Arkansas. Dr. Jensen is member of the Danish Academy of Engineers and has authored and co-authored 154 research publications (hereof 46 journal articles), 7 book chapters, 17 magazine articles, and three patents.

A 2014 faculty search resulted in the hire of Dr. Kyle Quinn. Dr. Quinn earned his Ph.D. from the University of Pennsylvania and received the Solomon R. Pollack Award for Excellence in Graduate Bioengineering Dissertation Research. He will join the Department of Biomedical Engineering at the University of Arkansas in fall, 2015. His research focuses on developing non-invasive, label-free imaging techniques utilizing multiphoton microscopy and quantitative image analysis to monitor dynamic metabolic and microstructural changes during tissue development. In 2014, he received an NIH Pathway to Independence Award (K99/R00) to fund research focused on the diagnosis and characterization of chronic wounds through multi-photon microscopy. This will signify the University's first ever K99/R00 award.

Dr. Narasimhan Rajaram joined the department as the newest Assistant Professor of Biomedical Engineering. Dr. Rajaram taught the Introduction to Biomedical Engineering to BMEG Sophomores in fall 2014. In addition, he served as an undergraduate advisor and is a member of the department's Undergraduate Curriculum Committee.

Dr. Xianghong Qian began teaching courses in the 2014 academic year. In the fall of 2014, Dr. Qian created and taught new BMEG Senior/Graduate elective, BMEG 470/570 Biomolecular Simulations. Dr. Qian's service also consisted of being the chair of the department's Personnel Committee and serving on the COE P&T Committee.

The Biomedical Engineering program continues to attract high quality students. In the fall of 2014, the number of students enrolled in the Biomedical Engineering undergraduate and graduate degree program totaled 195. Of those enrolled, 18 Bachelor's degrees, 4 Master's degrees, and 1 Doctorate degree were awarded. The placement rate for Biomedical Engineering students who earned their bachelor's degrees in 2014 was 83%.



The department successfully completed its first ABET review in 2014. The review was adopted by the Department of Biomedical Engineering as the process for continuous improvement of the degree program. The process consists of assessing and evaluating the extent to which the student outcomes are being attained with the results subsequently used as the primary inputs for making improvements to the program. Overall, the assessment results indicate that the curriculum is in good shape going into 2015.

The average High School GPA among the cohorts who joined the freshman program from 2011 to 2014 and chose Biomedical Engineering after their freshman year was 3.97 and their average ACT score for the various cohorts was 30. The graduation rate among the 2011 cohort is expected to be 63.04% of those who chose Biomedical Engineering after their freshman year. Several factors that were linked to student attrition in the prior year have been stabilized in 2014. Those circumstances include renovations of lab and office spaces, continued improvements to the curriculum, and the advisement process being fully implemented. We expect the success rates in the future to be even higher than 75% with an ultimate goal of an 85% graduation rate. The BMEG advisement system will ensure that those that leave the Biomedical Engineering program are able to be successful elsewhere within the College of Engineering or in the University of Arkansas.

In May 2015, BMEG graduated its first class of 41 students most of whom, besides transfer students, followed the complete BMEG curriculum beginning with their sophomore year. 41 students received Bachelor's degrees in Biomedical Engineering, 20 of which graduated with distinction. From a preliminary placement survey, 10 students went to pursue a higher degree at a graduate school in top schools such as University of Florida, Emory University, and University of Virginia. Another 10 went to pursue a professional degree in medical schools, dental schools, etc. at institutions such as Washington University, University of Missouri and UAMS. 7 students were hired by employers such as Edwards Biosciences, Arkansas Department of Health, Stryker, etc. As of May, 2 others were preparing for further studies, and 6 failed to respond to the survey.

## **BIOLOGICAL & AGRICULTURAL ENGINEERING**

1. Ms. Shelby Paschal was selected as the Engineering Outstanding Senior and delivered a speech on behalf of all Engineering graduates at the College's commencement ceremony
2. Dr. Julie Carrier won the John L. Imhoff Faculty Research Award in the College of Engineering
3. The academic year Instructor and M&O support for academics from the College of Engineering were initiated.
4. Mr. John Westerman was inducted in the Arkansas Academy of Biological and Agricultural Engineering.
5. The Senior Design Expo, under Dr. Tom Costello's leadership, was very successful.
6. Dr. Benjamin Runkle joined Biological & Agricultural Engineering Department as an Assistant Professor and is engaged in Climate Change research with emphasis on wetland ecohydrology, and land-atmosphere exchange of carbon dioxide, methane, and water vapor.

7. Dr. Verma represented ASABE at the 2014 EuroAgEng Conference in Zurich, followed by concluding his term as President at the 2014 ASABE Annual International Meeting in Montreal in July. He also participated in September in the 2014 CIGR Congress in Beijing, China. Dr. Verma was awarded the James R. and Karen A. Gilley Academic Leadership Award at the ASABE Conference in July 2014 and was inducted in the University of Nebraska Biological Systems Engineering Hall of Fame in 2014.

## **CHEMICAL ENGINEERING**

The endowment of the department remains strong thanks to strong support from alumnus and corporate sponsors. The department has four endowed chairs and seven endowed professorships. The department's total endowment is over \$19.2M with total foundation End Net Assets of \$20.7M. Current names of the holders of the endowed chairs and professorships are identified later in this report.

In an effort to support highly active research faculty as well as the increase in undergraduate enrollment, Dr. Jeremy Herman, a recent graduate of the department and previously an Instructor in Mathematics and the Freshman Engineering Program, became a Clinical Assistant Professor in January 2014. Effective August 18, 2014, Dr. Heather Walker's 25% appointment was converted from a Research Assistant Professor position to a part-time Clinical Research Professor position. In addition, postdoctoral fellow Dr. Alice Jernigan, who works under Dr. Christa Hestekin, was given a 50% appointment for 2014-2015 to teach undergraduate courses.

The department faculty has been looking at approaches to improve graduate student recruitment, and it is anticipated that several of the current research programs will thrive, which will provide additional opportunities for graduate students and post-doctorate hiring. Efforts have been made to enhance the intellectual environment of the graduate program by inviting external speakers to the department, and this plan will continue.

### ABET Undergraduate Program Review

As was noted, above, the Chemical Engineering Department was one of three College of Engineering departments that had no ABET shortfalls during the fall 2014 visit. The review team was very complimentary of the department's safety program, stating that it was one of the best they had seen. The department's next review will be in 2020.

### Curriculum Changes

In Fall 2013, the department responded to the mandate to reduce the required coursework in the undergraduate curriculum to 128 hours by removing CHEG 2221, Professional Practice Seminar, and ELEG 3903, Electric Circuits and Machines; reducing the required hours of technical electives from six to three; and reducing the number of hours of advanced science electives from eight to six. CHEM 3813, Introduction to Biochemistry, replaced MEEG 2003, Statics, and CHEG 3713, Chemical Engineering Materials, replaced MEEG 3013, Mechanics of Materials. However, the work on the curriculum was not finished.

In summer 2014, additional curriculum changes were made to allow students to take elective courses in chemical engineering. As a result, CHEG 2212, Chemical Engineering Laboratory I, was removed from the curriculum while adding an hour to the junior level laboratory. As a result, there are now two labs (CHEG 3233 and 4332) in the curriculum. CHEG 2123, Introduction to Chemical Engineering II was removed from the curriculum because of its overlap with CHEG 2313, Thermodynamics of Single Component Systems. CHEG 3143, Heat Transport, and CHEG 3153, Non-equilibrium Mass Transfer, were combined into a single, four-hour class, CHEG 3144. With these changes, room was made for a three hour chemical engineering elective course, and six hours of technical electives instead of three.

### IPAC

The department's Industrial and Professional Advisory Council met on February 28, 2015 to discuss curriculum changes and objectives for both the graduate and undergraduate programs; formulating a plan for future hires, especially with regard to needs in research and teaching; solutions for maintaining relationships with young alumni; strategies for improving the quality of our graduate students; the problems associated with larger and larger classes; and other items, as needed. In addition, the Council requested a meeting with students, and three undergraduate students and one graduate student attended a portion of the meeting and joined the group for lunch.

The IPAC report was submitted to the Department Head on April 9, 2015. Recommendations included: improve the website for better visibility to our customers; consider introducing computer methods earlier in the curriculum; encourage regional seminars and collaboration with research centers to foster graduate student recruiting; consider the use of summer internships and the use of graduate seminar to boost graduate student placement; and encourage culture of staying connected to the department in reaching out to young alumni. The IPAC will meet annually in February.

### Safety Awareness

Dr. Tammy Lutz-Rechtin took over the role of Safety Officer effective May 1, 2015, following Mr. Leldon King's retirement, effective April 30, 2015. The departmental safety committee is comprised of Dr. Lutz-Rechtin, Dr. R. E. Babcock and graduate student Mr. Phillip Turner. The committee standardized the use of the National Fire Protection Association NFPA Hazard diamond identification for all chemicals and developed a set of standard training practices to include the use of internal presentations and tests combined with the University's Environmental Health and Safety on-line tests, as well as separate autoclave and bio-safety training. A rigid shipping policy for biologics and hazardous chemicals is in place, requiring Dr. Lutz-Rechtin to first approve package contents, as she is DOT, IATA, and IMO certified. The committee also emphasizes an open communication, open door policy for all students and faculty to create a "Culture of Safety" within the department, with Dr. Lutz-Rechtin available to work with students, post-docs and faculty to design and implement safe procedures and equipment for use in the laboratory. Chemical inventories for each laboratory have been standardized, and laboratory door postings for emergency contact personnel are updated regularly.

During 2014, the department initiated a process for safety review when there are doubts or disagreements among staff, faculty and students on how to proceed with a project. Dr. Tom

Spicer, Dr. Roy Penney and the Department Head served on this review committee, which was called upon three times in 2014-2015 to review procedures and equipment specifications for specific laboratory work. This process not only settles disagreements, but also instills confidence in the resulting safety procedures for equipment and protects individuals, whether they are equipment designers, fabricators or users.

Specific training activities for the year included: OSHA-GHS, DOT, IATA, and IMO training and recertification for Dr. Lutz-Rechtin; updating and standardizing safety training presentations for all personnel to reflect changes to EPA guidelines and OSHA's move toward international standards; one hour of lab training and testing for all undergraduates in lab courses at the beginning of the semester; and insuring all graduate and undergraduate students working in labs have received training from safety personnel or faculty and taken online hazard communication. In addition, students and staff receive specific training sessions on the use of hazardous equipment or procures that are research lab specific. A specialized fire hazard lecture and demonstration was conducted by Mr. Wayne Brashear, Fire Marshall, for all department faculty, students, and staff. Additionally, graduate students and office personnel have reviewed safety committee recommendations addressing specific issues and clarifications pertinent to their job descriptions. Graduate students also participated in a training Q&A session pertaining to these issues.

#### Benchmarking data

As part of the procedure to assess the effectiveness and productivity in comparison with other chemical engineering departments, our department is an active participant in the Southeast Region Chemical Engineering Department Alliance. Representatives from chemical engineering departments from universities across the southeastern United States meet annually to compare vital department statistics and discuss common problems and approaches to solutions.

To facilitate the comparison of the department with other departments, two groups of departments were identified: Peer Group and Stretch Group. The Peer Group consists of southeast regional chemical engineering departments in the top 50 to 100 of the *U.S. News and World Report* list of the "Best Undergraduate Engineering Programs", including University of South Alabama, Clemson University, University of Kentucky, Louisiana State University, University of Tennessee and Texas Tech University. The Stretch Group consists of southeast regional chemical engineering departments in the top 20 to 50 of the *U.S. News and World Report* list of the "Best Graduate Chemical Engineering Programs", including Auburn University, University of Florida, University of Maryland, North Carolina State University, Vanderbilt University, and University of Virginia. The following observations can be made based on data from calendar years 2012, 2013, and 2014.

Number of tenured/tenure-track faculty: At present, the faculty is roughly the same size as the Peer Group, though still slightly less than the Stretch Groups due to recent hires.

Externally funded research: The amount of externally funded research is significantly lower than that of the Stretch Group, though it has steadily increased over the last few years to roughly equal that of the Peer Group. The current yearly research expenditure per faculty member is approximately \$132,000, which is well below the goal and expectation of \$250,000.

Undergraduate enrollment: The undergraduate enrollment sans freshmen is at 247, the highest in the history of the department, putting the undergraduate sophomore thru senior student-to-tenured/tenure-track faculty ratio at approximately 15, which is significantly smaller than that of both the Peer and Stretch Groups.

Undergraduate placement rate: The undergraduate placement rate continues to excel. The department actively seeks to place students, even after graduation, and in recent years, each of the BS graduates who have sought a professional position have been placed. Placement performance for this year remained competitive (nearly 100% placement), compared to the Peer and Stretch Groups percentages which are 74% and 72%, respectively.

Graduate enrollment: Graduate enrollment remains low compared with that of the Peer and Stretch Groups. The department has graduated and placed six graduate degree recipients this year. Next year's graduate enrollment is projected to be approximately 40, showing a substantial increase from previous years. A plan has been implemented in which departmental foundation funds from the Ralph E. Martin Leadership Chair will be used to provide initial funding of quality graduate students for up to one year in an effort to boost graduate enrollments. In addition, faculty are being encouraged to look at a few of our own BS graduates as potential graduate recruits. Put simply, University of Arkansas chemical engineering undergraduates are well respected and sought after, both in industry and as graduate students at nationally recognized institutions. Previous graduate recruiting was rather conservative because faculty were a bit reluctant to recruit students that they may or may not have money to support. In 2015-2016, the department will have two Distinguished Doctoral Fellows and two Doctoral Academy Fellows among the entering students.

Graduate student placement continues to be a problem, with our graduate students often taking employment opportunities which pay far less than our BS graduates. The Department Head has vowed to address this problem in 2015-2016 through our graduate seminar program and the services of our alumni.

## **CIVIL ENGINEERING**

CVEG enjoyed a highly successful ABET accreditation visit; no shortcomings (deficiencies, weaknesses, concerns, observations) were noted; the assessment/evaluation (continuous improvement) process was noted as 'outstanding' and a 'program strength' in the draft exit statement.

CVEG completed the programming and schematic design of CEREC (Civil Engineering Research and Education Center); CVEG received \$100k from Grady Harvell, \$50k from the Ark. Academy of Civil Engineering, and \$50k from the COE Dean to fund this phase of the project.

CVEG was able to award financial support – primarily scholarships – to over 100 students. The Arkansas Academy of Civil Engineers provided over \$100,000 in scholarship support. Graduate

student financial support remained strong in 2014, with approximately 75 percent of graduate students receiving some form of financial assistance.

CVEG's graduate program accomplished a major milestone in 2014, regarding the 'makeup' of the graduate student population. For the first time in program history, CVEG had more Ph.D. students enrolled (27) than MS-level students (17). This reflects the Department's goal of evolving the graduate program into a primarily-Ph.D. program. Since 2008, the number of Ph.D. students enrolled has grown by 350 percent.

CVEG graduates remain in high demand; in 2014 approximately 70 percent of graduates moved to industry and 30 percent to graduate school. The average starting salary for BSCE students topped \$57,000, comparing favorably to the national average. Approximately 60 percent of BSCE graduates accepting employment remained in Arkansas.

## **COMPUTER SCIENCE AND COMPUTER ENGINEERING**

### Significant Changes

*Graduate enrollment* in CSCE jumped 22% last year, from 54 in fall 2013 to 64 in fall 2014. Most of this growth occurred in the Ph.D. program that increased by 10; there were 5 new CS Ph.D. students and 5 additional Computer Engineering Ph.D. students. This reflects our departments increasing emphasis on our Ph.D. program.

The *student/faculty* ratio increased again, to 30.8 from 29.8 last year. When the FEP students who declared CSCE are added for consistency across campus, the student/faculty ratio is 38.5 vs 37.4 last year.

The *US World and News Report ranking* for Computer Engineering moved up 2 spots from 97/143 to 95/156. This is particularly notable since 13 more programs were review. It is a dramatic improvement from 129/142 just 5 years ago (Fall 2010). Computer Science did not have its rankings published; it is therefore 113+/176.

Dr. Xintao Wu joined the department from UNC-Charlotte as the Charles D. Morgan/Axiom Graduate Research Chair in Database. He brings expertise in the areas of big data and cybersecurity, adding to the department's existing strengths in these areas and the College of Engineering's emerging areas of research focus.

### Significant Achievements

The inaugural University of Arkansas Chapter of the Arkansas Academy of Computing was formed. The first banquet and business meeting was held on April 24, 2015 to honor the initial inductees. The chapter began with 7 CSCE alumni members, 2 academic members, and 2 honorary members.

Proposal activity is at an all-time high. Fourteen faculty submitted a total 44 proposals as PI versus 12 faculty submitting 28 proposals last year. The total value of the proposals was \$14,509,687 versus \$8,624,096 in FY 13. The number of faculty, number of proposals, and the

total value of the proposals are each the highest ever for the department. These numbers are one fiscal year behind due to receiving them after the annual reports are written each summer.

The number of *refereed publications* produced by CSCE faculty remained steady at 42 refereed publications (vs 50 last year and just 28 two years ago). This is a high rate of scholarship to maintain while handling increasing heavy teaching loads.

On April 10 and 11, 2015, ACM hosted their Second Annual Hackathon. Over 30 students attended the event. A hackathon is an event in which computer programmers collaborate intensively on software projects. J.B. Hunt presented the theme for this year's hackathon. Students had 22 hours to work on a web application or phone application that can help J.B. Hunt drivers, recruits, office and customers.

Dr. John Gauch helped create an introductory programming class for high school students in Arkansas. The creation of this course was in response to the Computer Science House Bill 1183, which ensures that computer coding classes are offered in all Arkansas high schools. The plan is for the course to be offered as an elective in all high schools for the 2015-2016 school year. <http://news.uark.edu/articles/26742/engineering-professor-contributes-to-new-high-school-computer-programming-class>

Dr. Matt Patitz and the CSCE ACM student group participated in an outreach activity to engage young students in computing. Throughout the week of Dec. 8, 2014, 66 CSCE students volunteered at elementary schools, teaching kids the basics of writing computer code. Happy Hollow Elementary School, Butterfield Trail Elementary School, and Vandergriff Elementary School participated in the Hour of Code program as part of Computer Science Education Week. Code.org, a national organization that promotes computer science, sponsors this program. <http://news.uark.edu/articles/26384/engineering-students-help-kids-learn-to-code>

### Benchmarks

All benchmarking is done using data reported to the Computing Research Association. The CRA Taulbee Survey is available at: <http://cra.org/uploads/documents/resources/crndocs/2014-Taulbee-Survey>. The Taulbee Survey collects data from 268 Computer Science, Computer Engineering, and Information Systems PhD granting institutions in the US and Canada. The most recent data is for the 2013-2014 academic year.

### *Peer Group:*

US Public Universities that offer a Ph.D. in Computer Science and/or Computer Engineering

### *Faculty Size*

US Public Average CS Tenured/Tenure Track Faculty Size: 26.3

University of Arkansas Tenured/Tenure Track Faculty Size: 9

The University of Arkansas is roughly a third of the size of its average peer.

US Public Average CENG Tenure Track Faculty Size: 22.4

University of Arkansas Tenure Track Faculty Size: 6

The University of Arkansas is less than a third of the size of its average peer.

### *Undergraduate Enrollments*

US Public Average CS Undergraduate Enrollment: 525

University of Arkansas CS Undergraduate Enrollment: 366 (*includes FEP students who declared CS in March 2015*)

US Public Average CENG Undergraduate Enrollment: 244

University of Arkansas CENG Undergraduate Enrollment: 184 (*includes FEP students who declared CE in March 2015*)

University of Arkansas CSCE Undergraduate Enrollment (CS + CENG): 550 (*includes FEP students who declared CSCE in March 2015*)

### *Undergraduate Student/Faculty Ratio*

US Public Average CS undergraduate student/tenure-track faculty ratio:  $525/26.3 = 20.0$

University of Arkansas CS undergraduate student/tenure-track faculty ratio:  $366/9 = 40.7$

US Public Average CENG undergraduate student/tenure-track faculty ratio:  $244/22.4 = 10.9$

University of Arkansas CENG undergraduate student/tenure-track faculty ratio:  $184/6 = 30.1$

The Computer Science tenured/tenure-track faculty teaches more than twice as many undergraduates as the average US Public CS department. This is unsustainable.

The Computer Engineering tenured/tenure-track faculty teaches almost three times as many undergraduates as the average US Public CENG department. This is unsustainable.

### *Graduate Enrollments*

US Public Average CSCE PhD Enrollment: 160

University of Arkansas CSCE PhD Enrollment: 38

US Public Average CSCE MS Enrollment: 135

University of Arkansas CSCE MS Enrollment: 28

Normalizing by size:

US Public Average CSCE PhD Enrollment per T/TT Faculty: 3.2

University of Arkansas CSCE PhD Enrollment per T/TT Faculty: 2.5

US Public Average CSCE MS Enrollment per T/TT Faculty: 2.8

University of Arkansas CSCE MS Enrollment per T/TT Faculty: 1.9

The Computer Science tenured/tenure-track faculty advises roughly one third fewer graduate students than their peers. This is not far behind, especially given the much heavier undergraduate teaching loads.

### *Research Expenditures*

US Public CS Average Research Expenditures (total): \$3,951,097

University of Arkansas CSCE Research Expenditures (total): \$1,004,299

The CSCE faculty generated roughly 25% of the research expenditures of the average public CS department.



Normalizing by size:

US Public Average Research Expenditures (per faculty): \$150,232

University of Arkansas CSCE Research Expenditures (per faculty): \$66,953

The CSCE faculty generated only 42% of the expenditures of the average CS department per faculty member. With the undergraduate enrollment increases, senior faculty are carrying varying teaching loads, affecting their ability to seek external funding, and many junior faculty were recent hires just now establishing their research programs. Between these two factors, research funding is likely to grow slowly without additional faculty resources.

## **ELECTRICAL ENGINEERING**

The UA Department of Electrical Engineering Graduate Program rankings went up from 102 to 83 among all institutions, from 85 to 52 among all public institutions. This significant increase in ranking was the result of the continuing hard work of our faculty and the concentrated effort on the part of the faculty and staff to make the public aware of everything that is going on in our department, through attendance at conferences, collaborative research, and publication of the Department Annual Highlights in the fall semester and the Sparks newsletter in the spring semester. The U of A's online engineering programs, including a Master of Science in Engineering degree and a Master of Science in Electrical Engineering degree, were ranked No. 29 of 75 ranked online graduate engineering programs and No. 23 for engineering programs at public universities by U.S. News & World Report.

Dr. Alan Mantooth was one of the five inaugural Arkansas Research Alliance (ARA) fellows to recognize him as a proven research leader highly respected at UA.

Drs. Magda El-Shenawee and Alan Mantooth were honored as part of the "Top 15 in 2014" class of research award recipients for being part of the university's most highly funded individuals in fiscal year 2014.

A team formed by Arkansas Power Electronics International (Fayetteville, AR), ELEG faculty members associated with the UA NCREPT, Toyota Motor Engineering and Manufacturing North America Inc., Oak Ridge National Laboratory and CREE Inc. won a prestigious 2014 R&D 100 Award for the development of a battery charger for the Toyota Prius.

Dr. Jing Yang won the prestigious NSF CAREER award in January 2015 worth \$500,000 over a period of 5 years.

Our student societies under the leadership of Mr. Robert Saunders are very active and getting more students involved in extracurricular activities. They sponsored some educational field trips and some social activities which included not only the Electrical Engineering students, but were open to all College of Engineering students, faculty and staff.

Robert Saunders was awarded the "Margaret and Bill Brown" Outstanding Electrical Engineering Faculty award for academic year 2014-2015. This award is given to a faculty

member who excels in collegiality while interacting with others besides excellent performance in the teaching, research and/or service missions of the Department.

Daniel Klein was awarded the “Margaret and Bill Brown” Outstanding Electrical Engineering Staff award for academic year 2014-2015. This award is given to a staff member who not only excels in the task of supporting the Department operations but also shows collegiality when interacting with others.

Kathy Kirk was promoted to the position of Project/Program Specialist and Sharon Brasko was promoted to the position of Fiscal Support Analyst.

The Department currently houses five centers, High Density Electronics Center (HiDEC), NSF I/UCRC GRid-Connected Advanced Power Electronic Systems (GRAPES), National Center for Reliable Electric Power Transmission (NCREPT), NSF/EPSCoR GREEN Research Center for Nanoplasmonic Solar Cells, and NSF/EPSCoR Vertically-Integrated Center for Transformative Energy Research (VICTER). HiDEC, GRAPES and NCREPT are ADHE approved centers. The faculty members in these centers were responsible for over 63% of the submitted proposals and 66% of the funded proposals.

Dr. Juan Balda has presented seminars at two other Universities this year. In February 2015, he presented a three day series of seminars at the Centro Nacional de Investigación y Desarrollo Tecnológico (CENIDET) in Cuernavaca, Mexico. CENIDET is a graduate school with about 40 students pursuing the Master of Science in power electronics and about 30 students pursuing a Doctoral degree in the same field. In March, he presented the “Solid-State Transformers” seminar at Florida International University (FIU) as part of the FIU ECE Graduate Seminar Series.

Dr. Juan Carlos Balda was the general chair of the 6<sup>th</sup> IEEE International Symposium on Power Electronics for Distributed Generation Systems, Aachen, Germany, June 22-25, 2015.

## **INDUSTRIAL ENGINEERING**

The department successfully completed our ABET review this past year. ABET is a not-for profit, non-governmental accrediting agency for programs in applied science, computing, engineering, and engineering technology and recognized as an accreditor by the Council for Higher Education. The department received compliments on the number of undergraduate students who participate in research, internships, and co-op programs.

Our Liaison Committee serves as our advisory board and meets annually to evaluate the department. It is the opinion of this year’s Liaison Committee that overall, the Industrial Engineering Department continues to be extremely successful in delivering its mission. Across the board, student, faculty and staff successes over the past year are testament to this. Departmental leadership remains strong and committed to continuous improvement.

The College of Engineering has recently completed its strategic planning process and has released a new strategic plan for the college. As a result, the IE department will kick-off a departmental strategic planning process this coming fall.

## **MECHANICAL ENGINEERING**

The unique CDIO initiative in MEEG continues to expand into our curriculum. More of our courses are taught using design-based teaching of the fundamentals. The Virtual Machine Shop (VMS), created to support CDIO, has been running on a 24/7 basis. This year, the Undergraduate Curriculum Committee created an impressive plan to horizontally integrate CDIO in each stem (thermal/fluids, mechanics, materials, etc.) within MEEG. All the details are worked out for students coming out of the Freshman Engineering Program to experience CDIO in their first MEEG course, Statics, at the onset of the next fall semester! Assessment data gathered during this period indicate clearly that teaching effectiveness scores of MEEG faculty increased substantially!

MEEG faculty, working as individual contributors and team players, engaged in much expanded proposal development activities. Consequently, the ME Department received new research funds totaling \$1,775,346. For the first time in the history of MEEG, a very large-scale research plan involving multiple faculty from many disciplines, departments, colleges and universities in the State of Arkansas, received advanced notice from the NSF indicating that we won a nationally competitive grant for \$24,000,000 for five years!!!

Major gains were recorded in our economic development activity. In addition to our BIG-5 creative project teams (Mini-Baja, Design-Build-Fly, Robotics, Solar Boat, and Rocket), MEEG students now have opportunities to work on many industry funded projects to satisfy their senior capstone design requirements. About two dozen companies now regularly seek MEEG students in order to fill their internship, COOP, and full-time career position openings. The new economic development partner companies operate in oil & gas, chemical, energy, automotive and steel industries. MEEG is well on its way toward becoming an economic engine to help contribute on the workforce and technical fronts.

### **III. ACHIEVMENTS IN TEACHING, RESEARCH AND PUBLIC SERVICE**

#### **BIOMEDICAL ENGINEERING**

##### Teaching

Biomedical Engineering faculty placed a strong emphasis on providing undergraduate research opportunities to students. Faculty mentored more than twenty-five individual research projects with undergraduate students in the Biomedical Engineering laboratories at ENRC. Those numbers included numerous Honors College and Surf funding awards. We had a total of 20 seniors presenting in the Research Symposium this year and 10 of those graduated with honors.

Dr. Kartik Balachandran developed a new course: BMEG 460V Special Topics for Kelly Holmes-Smith. In addition, he taught both BMEG 4243/5313 Advanced Biomaterials and BMEG 4213/5213 Cell and Tissue Mechanics. Advanced Biomaterials and Cell and Tissue Mechanics are dual undergraduate/graduate sections.

Dr. Jeff Wolchok implemented a four week statistics module into the Senior Design Course (BMEG 4823) to better address ABET requirements for the BMEG program. BMEG 4813/4823: Senior Design I and II, both instructed by Dr. Jeff Wolchok, partnered with UAMS and other local clinicians to serve as project mentors to various student projects. They include low cost hearing tester, inexpensive surgical lights designed for use in developing countries, 3-D printed microscope for use as an elementary school teaching aid, and a wearable ankle bracelet designed to monitor limb swelling in patients with cardiac disease.

Dr. Michelle Kim developed a new course and laboratory module: BMEG 570V Advanced Special Topics course which was developed and taught as a merged course with the undergraduate BMEG 3653 course, with a separate project assignment for the graduate students. A new laboratory module was developed for BMEG 3634 Biomaterials which required students to submit a lab report in the format of a research journal article. Dr. Kim won the department's Outstanding Teaching Award.

Dr. Timothy Muldoon's Biomedical Instrumentation (BMEG 2904) class enhanced student skills in instrumentation and imaging through open-ended problems related to modern measurement system design. The Biomedical Microscopy (BMEG 5504) class is designed to teach students key concepts behind advanced microscopy methods used in the biomedical sciences. At the end of this course, students are knowledgeable about theory and practice of a broad range of commonly used modern microscopy methods; critical tools for biomedical engineering industry and research.

Dr. Kartik Balachandran was awarded the Faculty Gold Medal by the Office of Nationally Competitive Awards

##### Research

The department made great strides into research and several of the faculty engaged in pursuing extra-mural funding. The faculty places strong emphasis on integrating their research into the

class rooms via elective undergraduate courses, graduate courses and research experience for students.

BMEG faculty have taken an interdisciplinary approach to establishing research connections, collaborating with UAMS and faculty from various other disciplines across campus that include Kinesiology, Chemistry and Biochemistry, Cell and Molecular Biology, as well as other College of Engineering departments including Chemical Engineering, Mechanical Engineering, Biological and Agricultural Engineering, Electrical Engineering and Computer Science.

The Department of Biomedical Engineering faculty were collectively awarded over two million research dollars in 2014, with the bulk of funding awarded by federal sources.

Of the 54 proposals submitted in 2014 on behalf of Biomedical Engineering faculty, the department reported 20 successfully funded awards while 21 remain pending into 2015. The department overall recorded near \$1 million dollars in research expenditures and over \$2 million dollars in new awards.

Dr. David Zaharoff led the department in research expenditures in 2014 with more than \$325k reported.

#### Service

Biomedical Engineering faculty attended several national conferences including the annual meeting for Biomedical Engineering Society, the American Society for Mechanical Engineers, International, and the Annual Conference of the Society for Biomaterials. Biomedical Engineering faculty both chaired and served on numerous committees at all department, college and university levels including multiple department faculty & staff search committees, the College Co-op committee, COE Curriculum committee, COE Safety committee, COE Technology committee, COE Associate Dean for Research & Development Search committee, COE Research Task Force, COE Dean Search committee, Institutional Animal Care & Use committee, participation in the STEM Education Working Group and University-wide STEM Education planning meetings.

Dr. Kartik Balachandran served as faculty advisor to the Biomedical Engineering Society (BMES) University of Arkansas student chapter. Under his leadership, the student chapter hosted the following external speakers: Dr. Kartik Sundareswaran (Thoratec Inc.) and Dr. Erin Spinner (Edward Lifesciences). He also provided college service by serving on the Strategic Planning Committee as the BMEG representative for the COE Strategic Planning Committee.

Dr. Tim Muldoon served on the University of Arkansas Premedical Advisory Committee as a College of Engineering Representative, as an Academic Integrity Board alternate member and on the University of Arkansas STEM Education Working Group. He also served the college specifically by appearing on a University of Arkansas Global Campus Biomedical Engineering promotion video and the Microelectronics Program as a Ph.D. candidacy faculty reviewer. Dr. Muldoon won the departments Outstanding Service award

Dr. Jeff Wolchok served as the BMEG undergraduate coordinator and on several committees including: COE Curriculum Committee; COE Safety Committee; BMEG Undergraduate Curriculum Committee. He also served the Freshmen Engineering Program: Freshman of The Year Selection and as the Faculty Advisor for the Engineering World Health Student Group. In addition, he participated in ABET advising visit activities including facility tours. All of these accolades resulted in a COE Outstanding Service Award recognition for Dr. Wolchok.

Dr. David Zaharoff provided numerous services to the BMEG department. He served as the Graduate Coordinator in Biomedical Engineering, the COE Associate Dean for Research Search Committee and Institutional Animal Care and Use Committee (IACUC).

Dr. Michelle Kim participated in the Freshman Engineering Program information session for Biomedical Engineering with various presentations about courses in Biomedical Engineering. In addition, she provided career advice to many undergraduate students and wrote more than 20 recommendation letters for summer internships, graduate school, and medical school applications.

Drs. Kartik Balachandran, David Zaharoff and Jeff Wolchok were recognized as Outstanding Mentors by the Office of Nationally Competitive Awards Dr. Jeff Wolchok received 2014 University of Arkansas Outstanding Mentor Award.

## **BIOLOGICAL AND AGRICULTURAL ENGINEERING**

### Faculty achievements, Honors & Awards

Dr. Julie Carrier presented at the 48th Annual Convention of Indian Society of Agricultural Engineers (ISAE), served as scientific panel manager for the Quebec Government and Dr. Carrier received College of Engineering Outstanding Researcher Award.

Dr. Jin-Woo Kim received the John W. White Outstanding Research Award. Dr. Kim presented Building Blocks of Bio/Nano Technology for Advanced Materials and Devices 2014 i-bio Seminar at the School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology (POSTECH).

Dr. Yanbin Li patented his project “a Capillary–Column–Based Bioseparator/Bioreactor with an Optical/Electrochemical Detector for Detection of Microbial Pathogens.” He also presented at Shenyang Agricultural University and at the 2nd International Summit on Precision Agriculture.

Dr. Yi Liang received College of Engineering Outstanding Service to Students Award.

Dr. Scott Osborn received the Dale Bumpers College Alumni Society Advising Award.

Drs. Scott Osborn and Marty Matlock patented their project “System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases”.

Dr. Scott Osborn received College of Engineering Outstanding Teacher Award.

Dr. Benjamin Runkle presented Multi-annual evapotranspiration in the Lena River Delta at the 3rd General Assembly of the PAGE21 EU FP7 project in the Netherlands. Sammy Sadaka received the 2014 Outstanding Researcher Award from the University Of Arkansas Division Of Agriculture Cooperative Extension Service.

Dharmendra Saraswat received the John W. White Outstanding Extension State Faculty Award and was named 2014 Fellow of Indian Society of Agricultural Engineers.

Dr. Lalit Verma was inducted into the University of Nebraska's Biological Systems Engineering Hall of Fame at the University of Nebraska. Dr. Verma received the James R. and Karen A. Gilley Academic Leadership Award and was named a 2014 Fellow of the Indian Society of Agricultural Engineers.

## **CHEMICAL ENGINEERING**

As Associate Department Head, Dr. Ed Clausen was involved with teaching, advising, job placement, education research, K-12 workshops, ABET reporting, committee work, and a host of miscellaneous activities over the last ten years. As the Interim Department Head, he was charged with moving the department in a positive direction in preparation for the hiring of a new Department Head. His continued work with Mr. Bryan Hill, Dr. Carol Gattis and others in training junior high and middle school science and mathematics teachers is truly significant. These projects, sponsored by the Arkansas Department of Education, engage teachers in hands-on projects to increase student interest in STEM education. In 2014, two projects were in force: the University of Arkansas Engineering and Math Partnership Program (aimed at helping math teachers with the adoption of Common Core) and the Arkansas Engineering, Science and math partnership (aimed at helping math and science teachers get comfortable with the Next Generation Science Standards). The K-12 programs were expanded in 2013 to include workshops for 80-85 middle school math teachers from Northwest Arkansas, Eastern Arkansas, and Southwest Arkansas. In addition, he and other chemical engineering faculty continued to help organize and facilitate the Chemical Engineering Summer Academy, College of Engineering Explore Engineering program, and the Math, Science and Engineering Academy (MSEA), the latter sponsored by Fort Valley State University and the University of Arkansas College of Engineering and departments of Mathematical Sciences and Geology. Dr. Clausen also received the Honors College Distinguished Leadership Award for 2014. He mentored one MS student in chemical engineering.

A U.S. Patent titled "Separatome-based Protein Expression and Purification Platform" was assigned to the Board of Trustees of the University of Arkansas and the University of Pittsburgh. Dr. Ellen Brune is a 2013 chemical engineering graduate whose start-up company, Boston Mountain Biotech, is marketing the method. In addition to Brune, other inventors named on the patent are Dr. Bob Beitle, Professor of Chemical Engineering and Associate Vice Provost for Research and Economic Development; Dr. Ralph Henry, Distinguished Professor of Biological Sciences; Dr. Mohammad Ataai, Professor of Chemical Engineering at the University of Pittsburgh; and Patrick Bartlow, a scientist at Janssen Research and Development, a subsidiary of Johnson & Johnson.

Dr. Beitle continued his involvement in two campus-wide projects through the Office of Research and Economic Development to assist in the renewed interest in economic development and was appointed as Associate Vice Provost for Research and Economic Development. He is currently designing a program with J. Amerine to educate faculty members on the importance of securing intellectual property without compromising the process of tenure and promotion and is co-chairing an initiative with Nan Smith-Blair to foster research and education in the area of healthcare. Beitle mentored two doctoral and two MS students in chemical engineering, including one co-advised by Dr. Michael Ackerson, and one doctoral student each in the cell and molecular biology (CEMB) and microelectronics and photonics (MEPH) programs. One of these doctoral candidates graduated this academic year.

Dr. Ackerson began collaborating with faculty members in the department of crop, soil and environmental science and the City of Fayetteville for ethanol production from sweet sorghum, with plans in development for a 50-acre test plot for sorghum production and soil remediation/amendment using bio-char.

Dr. Tom Spicer assumed the directorship of the Chemical Hazards Research Center (CHRC) in 2014. The CHRC is an active participant in research pertaining to the regulation of liquefied natural gas (LNG) transportation and storage, as well as hazard assessment of toxic industrial contaminants. Funded primarily by the Gas Technology Institute (GTI) and the Department of Energy (DOE), past research at the CHRC developed methods for determining exclusion zones around LNG land-based storage facilities. Spicer continued his collaboration with representatives of the Departments of Transportation Safety and Administration and Homeland Security on the assessment of hazards connected with chlorine rail transport in the United States. This program is planned for a multi-year initiative, including the development of modeling support (sponsored by the Department of Defense) for field testing at Dugway Proving Grounds in Utah.

Dr. Jerry Havens continued his service on the Society of International Gas Tankers and Terminal Operators (SIGTO) Working Group on Fire Performance of LNG Ship Containment Systems, which has garnered effective improvements in the national and international regulatory framework for LNG/chemical safety and major Fire and Explosion Research Programs by fostering consideration of changes and clarifications (by DOT, NFPA, and FERC) in U.S. regulations governing LNG terminal siting, international regulations governing LNG shipping safety, and most recently international regulation directed to prevention and mitigation of major flammable fuel releases such as the Buncefield Explosion. Havens also mentored one doctoral student in chemical engineering.

Dr. Christa Hestekin took on the role of Graduate Coordinator for the department beginning in fall 2014 and continued her research on amyloid protein aggregation for improved diabetes treatment and on similar aggregation for use in treatment of Alzheimer's disease. In addition, Hestekin graduated one doctoral student in chemical engineering and one MS student in biomedical engineering, as well as mentors one MS student each in chemical engineering and CEMB and one doctoral student each in CEMB and biomedical engineering. She, Dr. Bob Beitle and Dr. Shannon Servoss also serve as affiliate faculty in biomedical engineering.



Dr. Shannon Servoss was successfully promoted to the rank of Associate Professor for the 2014-2015 academic year. She continued research on an NIH subcontract from Detroit R&D to develop a multiplex device for early cancer detection, as well as PI-research on an NSF/CBET project to expand research to include the detection of glycan-binding immunoglobulin molecules (IgG) from patient samples for disease detection, in addition to continuing her research and collaboration with Dr. Melissa Moss of the University of South Carolina on the development of synthetic, peptoid-based affinity reagents for early diagnosis and treatment of Alzheimer's disease. Servoss continued her collaboration with Dr. Jeff Wolchok in biomedical engineering to investigate the use of peptoids to prevent the degradation of material injected into the vocal cords. Servoss also continued her involvement with Dr. Clausen in organizing the chemical engineering portions of four College of Engineering summer workshops for high school and middle school students, including the Chemical Engineering Summer Academy. Servoss mentors three doctoral students and graduated one MS and one doctoral student in chemical engineering.

Dr. Jamie Hestekin continued to serve as appointed editor of the North American Membrane Society's *Membrane Quarterly* and as secretary and office manager of NAMS. Dr. Hestekin mentors three doctoral students including two in CEMB and three MS students in chemical engineering; he graduated one doctoral student in chemical engineering.

Dr. Keith Roper continued his appointment as Program Director in Engineering Education and Centers in the Engineering Directorate at the National Science Foundation. In this capacity, Roper manages a \$75M annual budget and is responsible for three Engineering Research Centers in Biotechnology, Biomedical, and Advanced Manufacturing Sectors; two Nanotechnology Science and Engineering Centers; and one Nano/Bio node for the Network for Computational Nanotechnology. Dr. Roper continues to serve as Assistant Director for the MicroEP graduate program and served in five separate NSF Working Groups. Roper mentors one MS student in the chemical engineering program and three doctoral students each in chemical engineering and MicroEP and graduated one doctoral student in MicroEP. Dr. Roper also became a Fellow of the American Institute for Medical and Biological Engineering (AIMBE).

Dr. Greg Thoma remains active in Life Cycle Assessment (LCA) and The Sustainability Consortium (TSC) related projects with global presence. In addition to his work with TSC, Thoma has been a leader in developing expertise at the University in the area of sustainability and particularly LCAs of consumer goods, primarily in the food and agricultural sectors. In collaboration with Drs. Richard Ulrich, Darin Nutter (mechanical engineering), and Marty Matlock (biological and agricultural engineering), Thoma has led the group in collaborative research in actively funded projects by the National Pork Board and the Innovation Center for U.S. Dairy focused on developing new tools to enable the U. S. Agriculture and Livestock sectors to aid in managing their resources from a systems perspective to enable continual improvement both in terms of productivity and enhanced sustainability. In his efforts, Thoma has helped establish the University as a well-known and respected institution in agricultural LCA, as evidenced by a \$5 M USDA NIFA grant for which he serves as PI. This project is approximately 45 months into a five year project life.

Thoma is also the primary contact for AgMIP, an agricultural model integration project funded through the U. S. Department of Agriculture (USDA). The goal here is to provide a harmonized

suite of models for use by the agriculture sector to continue the trajectory of sustainable food production in the face of our growing global population. Thoma continues to serve as an expert in agricultural LCA on the steering committee for the Swiss National Research Program (NRP69), “Sustainable Nutrition” and serves as the scientific lead for the UN Food and Agriculture Organization’s Technical Advisory Group for Poultry in an effort to coordinate an international group of experts to prepare a detailed guidance document that will define the metrics and methodology for evaluation of poultry supply chains globally. Thoma also supervises two postdoctoral researchers, one for LCA work in the dairy and cheese industries, and one for LCA research on cheese, milk processing, and General Mills (sweet corn). Thoma mentors two doctoral students, one each in chemical and biological and agricultural engineering, and graduated one doctoral student in chemical engineering.

Dr. Rick Ulrich continued his National Pork Board funded research entitled “Integration of GHG Emissions and Tradeoff Cost Models for Swine Barn Operations” and collaboration on a water LCA for which a similar model has been developed. Ulrich graduated one doctoral student in the space and planetary sciences program.

Dr. Heather Walker served as faculty advisor for Tau Beta Pi, the engineering honor society.

Dr. Ranil Wickramasinghe was successful in establishing the Center for Membrane Science, Engineering, and Technology (MAST) on campus, which is a NSF/Industry/University Cooperative Research Center, with the addition of Walmart and Bristol Myers Squibb as potential sponsors. In addition, Drs. Wickramasinghe and Xianghong Qian, Associate Professor of Biomedical Engineering, received a grant of \$280,000 for a period of three years from the Binational Agricultural Research and Development Fund. They are collaborating with researchers at Technion in Israel on a project to study the use of self-cleaning membranes in agricultural water treatment. Further, he has eight active NREL, MAST and ABI awards for research projects in the areas of membrane filtration and bioseparations, including an STTR award with Symbios Technologies LLC for commercialization of research related to development of catalytic membranes for biomass hydrolysis. Dr. Wickramasinghe mentors one MS and seven doctoral students in his program, including two co-advised with Dr. Xianghong Qian in biomedical engineering; he graduated two MS and two doctoral students, including one co-advised through Colorado State University.

In addition to department and college service activities, our faculty members are also involved in other service activities. In addition to his service as Interim Department Head, Dr. Clausen served on the University’s ISIS Use Committee and the Honors College Dean search committee and served as the University’s ASEE faculty representative. Dr. Ackerson served as a presenter at the department of crop, soil and environmental science’s Sustainability Field Day for high school students. Dr. Beitle served on the University’s Biosafety Committee.

Dr. Havens continued to serve on the Society of International Gas Tankers & Terminal Operators (SIGTTO) Working Group on Fire Performance of LNG Ship Containment Systems as well as with the United Kingdom Explosion Liaison Group (IUKELG), an international subject interest group which aims to stimulate the informal exchange of information on all aspects of explosions, including the analysis and prevention of accidental explosions. Dr. Christa Hestekin served on

the University's ISIS committee and the Institutional Repository/Open Access Task Force and continues to serve as faculty co-advisor for the University's Alpha Chi Sigma (ACS) chapter and as vice president of the American Electrophoresis Society. Dr. Jamie Hestekin served as chair on the University Wide Honors College Committee and as the College of Engineering representative to the Honors College and advisor for the University's American Institute of Chemical Engineers (AIChE) student chapter. Dr. Roy Penney continued to chair the University's Institutional Biosafety Committee and served on the University's Calendar Committee. Dr. Roper served as conference organizer, chair, and session co-chair at the NSF ERC Biennial Meeting, as well as a session co-chair at the Process in Nanotechnology Conference. Dr. Servoss served as an advisor for the Omega Chi Epsilon student chapter and continues to serve as advisor for the Arkansas Chemical Engineering Graduate Student Organization (ACHEGS), as well as session chair at the AIChE and ACS Annual Meetings. Dr. Spicer continued to serve as a member of the Safety and Chemical Engineering (SACHE) Committee of the American Institute of Chemical Engineering, and maintains the SACHE website, which is used to distribute safety training materials to participating academic units and corporations throughout the world. Spicer also continued his service as co-chair of the University's Health and Occupational Safety Committee and service on the AIChE Education and Accreditation Committee, which oversees accreditation activities with ABET. In addition, Spicer served as the Arkansas Academy of Chemical Engineers (AAChE) secretary.

Dr. Thoma continued to serve as a member of the University's Toxic Substances Committee and served as a member of the Applied Sustainability Center Faculty Advisory Council. He also served a second year as a steering committee member for the Indian Lifecycle Management Conference in Delhi, India, as a steering committee member for the New Zealand Lifecycle Management Conference, and was selected as a permanent member of the Scientific Advisory Committee for the International Food LCA Conference. Thoma also served as an adjunct professor in biological and agricultural engineering. Dr. Ulrich served on the MicroEP Program Director Search Committee. Dr. Wickramasinghe continued to serve on the North American Membrane Society's Board of Directors, AIChE Career and Education Operating Council, and as the AIChE representative to the National Council of Examiners for Engineering and Surveying (NCEES) Examinations for Professional Engineers Committee. Dr. Wickramasinghe also served as a member of an AIChE task force to create a Body of Knowledge (BOK) for Chemical Engineering, chair for the Symposium on Advanced Membrane Separations at Pacificchem, and co-chair for both the International Congress on Membranes and Membrane Processes and the Symposium on Membrane Technology for Water Purification at the 8<sup>th</sup> Sino-US Joint Conference of Chemical Engineering.

The department faculty actively participates in review activities for other organizations. Dr. Babcock served as a reviewer for *Industrial & Engineering Chemistry Research Journal*. Dr. Beitle served as a reviewer for *Biotechnology and Bioengineering*. Dr. Clausen served as a reviewer for *American Society for Engineering Education*, *Energies*, *Journal of Chromatography*, *Biochemical Engineering Journal*, and the *International Journal of Chemical Engineering*. Dr. Havens served as a reviewer for the U.S. Department of Transportation for LNG facility siting. Dr. Christa Hestekin served as a reviewer for *Electrophoresis* and as a grant reviewer for the Alzheimer's Association. Dr. Jamie Hestekin served as board member and reviewer for *Environmental Progress & Sustainable Energy* and as a reviewer for *Fuel* and

*Journal of Membrane Science*. Dr. Roper served as a reviewer for the *Journal of Applied Sciences*, *Crystals*, *Journal of Basic and Applied Physics*, *Journal of the Electrochemical Society*, *Journal of Materials Chemistry C*, *Journal of Physical Chemistry C*, *Langmuir*, *Nano Research*, and *Nature Communications*. Dr. Servoss served as a reviewer for the Honors College Study Abroad Grant and SEC Travel Grant proposals, NSF GRFP, *ACS Chemical Neuroscience*, and *Biopolymers: Peptide Science*. Dr. Spicer served as a reviewer for the *Journal of the Air and Waste Management Association* and the DOE Independent Review of Lawrence Livermore National Laboratory National Atmospheric Release Advisory Center (NARAC). Dr. Thoma served as a reviewer for *International Journal of Life Cycle Assessment*, *Environment, Development and Sustainability*, *Agricultural Systems*, *Journal of Agricultural Science*, *Journal of Cleaner Production*, *Journal of Industrial Ecology*, *Environmental Science and Technology*, and served as a reviewer for the Swiss National Science Foundation. Dr. Ulrich served as a reviewer for the *Journal of the Electrochemical Society*, *Journal of Environmental Progress*, *ASME Journal of Electronic Packaging*, and served on Outer Planets Research, NASA's proposal review panel. Dr. Wickramasinghe was appointed Executive Editor of *Separation Science & Technology* and served as a reviewer for *Biotechnology & Bioengineering*, *Biotechnology Progress*, *Industrial & Engineering Chemistry Research*, *Journal of Chromatography A and B*, *Journal of Colloid & Interface Science*, and *Journal of Membrane Science*.

## **CIVIL ENGINEERING**

### Achievements in Teaching

Micah Hale was named the Outstanding Teacher in the department for 2014. Dr. Norm Dennis serves as the Chair of the American Society of Civil Engineers (ASCE) Committee on Education (COE). Dr. Kevin Hall serves as the Program Director in the Civil Engineering Division of the American Society for Engineering Education (ASEE). Dr. Michelle Bernhardt was named an ExCEED Fellow by completing ASCE's ExCEED (Excellence in Civil Engineering Education) program.

### Achievements in Research

Wen Zhang was named the department's Outstanding Researcher for 2014.

### Achievements in Service

Dr. Rod Williams was recognized for Outstanding Service to Students. Dr. Kevin Hall serves as the Chair of ASCE's National Department Heads Coordinating Council (DHCC).

## **COMPUTER SCIENCE AND COMPUTER ENGINEERING**

### Teaching

The Capstone II students presented their projects at a poster session on Thursday, April 23. This was the first open poster session in several years. Staff, students, and faculty attended and voted for their favorite projects.

We offered a wide variety of technical electives. The department offered undergraduate special topic electives on System on Chip (Bobda), Mobile Computing (Yan), Information Retrieval (S. Gauch), and Big Data (Wu).

We offered several new graduate classes that enriched our graduate program. The graduate special topics classes were: Advanced Mobile Computing (Yan), Hardware-Oriented Security (Yan), Models of Computation (Patitz), Wireless Security (Thompson), and Adaptive Systems (Bobda).

We offered the first online section of CSCE 2004 Programming Foundations I to remote students through Global Campus to 2 students in spring 2015.

### Research

Dr. Jia Di was honored by the University of Arkansas as one of five faculty inventors at the third annual Inventor Appreciation Banquet.

Christophe Bobda was co-editor of a new book, *Distributed Embedded Smart Cameras*. The newly released textbook covers the architecture, design and applications of a new wave of cameras, known as smart cameras, which analyze video data internally and thus limit the amount of data that needs to be sent to remote servers.

The CSCE faculty was very active in research, publishing 42 refereed publications, serving on multiple program committees and NSF panels, and mentoring graduate students.

*New Research funding (6 awards totaling \$709,872)*

Di, Jia - DOD: *Circuit Design Side-Channel-Proof Circuit Design for Hardware Security*, \$49,981

Di, Jia - University of Connecticut: *Security Rule Check: A Comprehensive Framework for Evaluating Security of Integrated Circuits*, \$25,000

Gashler, Michael – ADHE: SURF: *Unspoken Speech Recognition with Artificial Networks and Electroencephalography*: Sarah Stolze, \$2,750

Parkerson, Pat - NSF: Inv with Paralysis Coll Res: *Hierarchical Capacitive Sensing for Environmental Control & Physical Therapy for Individuals with Paralysis*, \$145,417

Patitz, Matthew – NSF: *Self Assembly Using Notions of Simulation to Explore the Power of Self-Assembling Systems*, \$455,474

Patitz, Matthew - NSF: *Graduate Research Fellowship*: Trent Rogers, \$46,000

### Public Service

The Computer Science and Computer Engineering (CSCE) department at the University of Arkansas was one of the hosts for the ACM/ICPC Collegiate Programming Contest Mid-Central Region on Saturday, November 1st. Seventeen teams from the surrounding area participated.

The students competed in teams of three, attempting to solve nine complex, real-world problems in a grueling five hours. The contest is touted as the "oldest, largest, and most prestigious programming contest in the world" according to ACM.

This was the third year that the CSCE department offered an Engineering Summer Academy in computer science and computer engineering. High school students entering grades 10 through 12 were introduced to computing while focusing on writing programs and designing hardware. This was in addition to also participating in Explore Engineering I for rising 6th and 7th grader students and Explore Engineering II for rising 8th and 9th grade students. All three of the computing camps were developed by, and delivered by, current CSCE students under the direction of Dr. Susan Gauch with help from Eric Specking and the College of Engineering recruiting team.

The Computer Science and Computer Engineering Department, along with Acxiom Corp. and the Arkansas chapter of the Association for Computing Machinery (ACM), hosted the annual High School Programming contest on Saturday, March 7, 2015. Dr. Wing Ning Li organized the event with the assistance of the CSCE office and technical staff. Members of the ACM student organization and current CSCE students as well as CSCE alumni contributed their time and talent by serving as tour guides, photographers, contest monitors, and contest judges. This was the largest ever group of participants; thirty teams, averaging three students per team, from Arkansas and Louisiana registered to compete.

## **ELECTRICAL ENGINEERING**

### Teaching

For the academic year 2014-2015, Dr. Roy McCann received the Department Outstanding Award for Teaching because of his dedications to the teaching mission of the Department.

Dr. Alan Mantooth received the 2015 SEC Faculty Achievement Award. This award honors professors from SEC universities with outstanding records in teaching, research and scholarship.

### Research

For the academic year 2014-2015, Dr. Fisher Yu received the Department Outstanding Award for Research

The University honored its "Top 15 in 2014" research award recipients in April 2015. Dr. Magda El-Shenawee and Dr. Alan Mantooth were 2 of the 15 individuals recognized at that event.

On Monday, April 27, 2015, the College of Engineering held its inaugural faculty awards reception. The Most Engaging Research Faculty Award, which celebrates a faculty member who excels in collaborative and interdisciplinary research, went to Dr. Alan Mantooth.

### Public Service

For the academic year 2014-2015, Dr. Magda El-Shenawee received the Department Outstanding Award for Service.

Dr. Simon Ang served as faculty advisor for the IEEE Component and Packaging Manufacturing Technology (CPMT) Society, UAF Chapter.

Dr. Juan Carlos Balda served as advisor for the local chapter of the IEEE Power Electronics (PELS) Society.

Dr. Alan Mantooth served as the chief advisor to the engineering student society Tau Beta Pi, vice-president for operations of the IEEE Power Electronics Society (PELS) Advisory Committee Liaison.

Dr. Roy McCann served as the chair of the Ozarks Section of the Institute of Electrical and Electronic Engineers.

Dr. Hameed Naseem served as faculty advisor to the Al-Islam Students Association, the Friends of India Student Association, and the Kerala Students Association.

Robert Saunders served as the treasurer of the Ozarks Section of the Institute of Electrical and Electronic Engineers. In addition, Robert Saunders served as chief advisor to the IEEE Student Chapter.

T.A. Walton conducted several tours of the NCREPT facility for different constituencies ranging from elementary to high schools as well as some corporate visitors. In coordination with the Dean's office, he has also taken several recruiting visits to several schools in the Arkansas delta region.

## **INDUSTRIAL ENGINEERING**

In support of the Department's goal to create a student-centered educational experience, we strive to create and maintain professional, engaging, and effective classroom and laboratory experiences for undergraduate and graduate students. During the 2014-2015 academic year the average undergraduate course evaluation was 4.49/5.00. Exit interview scores from undergraduate students during AY14-15 provided the average rate of 4.20/5.00 for faculty members. Exit interview scores for faculty from graduate students averaged 4.44/5.00.

Relative to scholarly activities, a separate submission details the numerous publications. In summary, the faculty of the Department of Industrial Engineering at the University of Arkansas contributed 1 book, 1 book chapter, published 40 refereed articles, recorded 6 unrefereed publications, and offered 47 invited lectures, along with more than 50 contributed papers and presentations. There are 3 notable creative endeavors included in the report.

Two faculty members co-authored the 2015 IE Joint Publishers Book-of-the-Year which was awarded at this event. The award recognizes an outstanding published book that focuses on a facet of industrial engineering, improves education or furthers the profession. Those awarded included: John White, Kellie Grasman, Ken Case, Kim LaScola Needy, and David Pratt, for their textbook: Fundamentals of Engineering Economics Analysis.

In May 2015 the College of Engineering recognized industrial engineering faculty members with the following awards: *Outstanding Teacher* – Dr. Chase Rainwater; *Outstanding Researcher* – Dr. Ashlea Milburn; and *Outstanding Service to Students* – Dr. Heather Nachtmann.

Dr. Manuel Rossetti was elected as a Fellow of the University of Arkansas Teaching Academy. In addition, he was chosen as the Arkansas Academy of Industrial Engineering (AAIE) *Faculty Member of the Year Award*. AAIE also presented two staff awards in April 2015 to support staff member Jerra Hill and administrative support staff member Garn LeBaron.

As mentioned in the executive summary, Dr. Heather Nachtmann led efforts to add \$1.4M and \$923,700 in two separate grants from the U.S. Department of Transportation to support the Maritime Transportation Research and Education Center (MarTREC) to increase economic competitiveness through efficient, resilient and sustainable transportation systems on U.S. navigable waterways.

Dr. Cassady is the founder of the FIRST Lego League team at Bernice Young Elementary School in Springdale involving 3<sup>rd</sup>-5<sup>th</sup> grade students. He was the program chair for the First Lego League Razorback Invitational held in May 2015 at the University of Arkansas. Seventy-two teams from around the world participated in the competition. Dr. Cassady continues to serve as the mentor for the group. FIRST Lego League is an international program that aims to get students excited about science and technology. FIRST, an acronym of “For Inspiration and Recognition of Science and Technology,” teamed up with the Lego company to create the league program. Participants work alongside adult mentors to design, build and program robots to perform tasks and exercises.

Dr. Chase Rainwater was selected to attend the National Education Symposium (NAE) Symposium for educators developing and implementing innovative educational approaches. He also serves as a mentor for Springdale High School’s award-winning FIRST robotics team called the GearHogs. He is the current holder of the John L. Imhoff Chair in Industrial Engineering. This is a two-year appointment that began in January 2015. The chair was established in 1983 honoring the memory of John L. Imhoff, founding head for the Department.

The Arkansas Alumni Association and the University of Arkansas named Dr. Ed Pohl as the recipient of the *Faculty Distinguished Achievement Award*. Dr. Pohl was honored during the 2014 homecoming ceremonies.

Dr. Ed Pohl continues to serve as director of the online Master of Science in Engineering (MSE) degree which was ranked as the #29 Online Engineering program in the nation. The program has been found to offer one of the best values in online graduate engineering education as noted by



Get Educated.com. The program was also recognized by *U.S. News & World Report* as the #25 Best Online Graduate Engineering program for Veterans in 2015.

Dr. Ed Pohl continues to mentor two middle school teachers funded by the National Science Foundation in the program Research Experiences for Teachers (RET). In April 2015 he and the two RET representatives hosted the ninth annual IE Challenge, a competition for grades 6-12 that encourages students to explore industrial engineering concepts through hands-on activities. The project supplied a downloadable interactive amusement park simulation game called Roller Coaster Tycoon 3. The students explored engineering concepts by working through scenarios to construct an amusement park that focused on park layout, queuing structures, personnel, and customer satisfaction. This event supports the college and campus initiative for K-12.

Dr. Kelly Sullivan has been selected for the Glover-Klingman Prize for his paper “Exact algorithms for solving a Euclidean maximum flow network interdiction problem,” published in the journal *Networks*. The award pays tribute to the high quality of work at the interface of operations research and computer science.

Dr. Greg Parnell received an award for Best Paper at the International Symposium of the Council on Systems Engineering (INCOSE). He was also selected as the recipient of the Frank P. Ramsey Medal which is the highest award of the Decision Analysis Society (DAS).

Ms. Emily Nichols was selected by the University Staff Senate as Employee of the Quarter in 2014. Fellow staff member, Jeremy Youmans received the 2014 Staff Appreciation Award from the UA Sponsored Student Programs for his service with online programs and coordinating distance education within the Master of Science in Operations Management program.

Our faculty and staff continue to be leaders in our professional community. In addition, our faculty members serve as reviewers for NSF, reviewers and editors of leading journals (such as *IIE Transactions*, *The Engineering Economist*, *IEEE Journal of Reliability*, and the *Journal of Military Operations Research*), hold national level positions in professional societies and continue to provide leadership for notable conferences around the world

## **MECHANICAL ENGINEERING**

Laura Cochran served as elected members of the University of Arkansas Staff Senate.

James Davis was recognized as Mechanical Engineering’s Outstanding Service to Students in May 2015.

Melynda Hart served on the University of Arkansas Chancellor’s Commission on Women and served on the University of Arkansas Catastrophic Leave selection committee.

Dr. David Jensen was named Mechanical Engineering’s Outstanding Teacher in May 2015.

Dr. Paul Millett was named Mechanical Engineering's Outstanding Researcher in May 2015. Dr. Millett is the principal investigator for a \$786,407 grant from the U.S. Department of Energy to investigate strategies to minimize volumetric swelling in metallic nuclear fuels. The research has the potential to increase the safety and efficiency of nuclear reactors for power generation.

Dr. Arun Nair received a New Faculty Commendation for Teaching Commitment awarded by the Wally Cordes Teaching and Faculty Support Center in September 2014.

Dr. Darin Nutter was awarded the Outstanding Teaching Award by American Society for Engineering Education Midwest Section in September 2014. Dr. Nutter received the Industrial Assessment Center Distinguished Alumni Award from the U.S. Department of Energy.

Dr. Ashok Saxena was named Provost and Vice Chancellor for Academic Affairs in April 2015.

Morgan Smith served on the College of Engineering Staff Council.

Dr. Doug Spearot received the Faculty Distinguished Rising Teacher Achievement award from the Arkansas Alumni Association in October 2014.

Dr. Wenchao Zhou received the Emerald Engineering Outstanding Doctoral Research Award in Additive Manufacturing in September 2014.

Dr. Min Zou received a \$438,317 grant from the National Science Foundation to identify and characterize the fundamental mechanisms of a novel, core-shell nano-scale structure.

Doug Spearot and Arun Nair are collaborators on this project.

Seven faculty members served on eleven University of Arkansas committees.

Ten faculty members served on twenty-eight professional committees.

Nine faculty members served on sixteen College of Engineering committees.

Ten faculty members served as reviewers for thirty-seven publishing entities.

Ten faculty members were members of twenty-eight professional organizations.

## **IV. ACHIEVEMENTS OF STUDENTS AND ALUMNI**

### **BIOMEDICAL ENGINEERING**

During the spring 2014 semester one of the BMEG senior design teams partnered with business school students to form a Governor's Cup team. The team took second place overall (undergraduate division) and won the Innovation Award recognizing technical achievement.

Ben Kasukonis (PhD student) placed second in the U of A Abstract to Contract graduate student research competition under the direction of Assistant Professor, Dr. Jeff Wolchok.

Nasya Sturdivant (PhD candidate) received a prestigious NSF Graduate Research Fellowship under the direction of Assistant Professor, Dr. Kartik Balachandran.

Two graduate students (Kasukonis and Walker) received University of Arkansas Doctoral Academy Fellowships.

### **BIOLOGICAL AND AGRICULTURAL ENGINEERING**

#### Student achievements, Honors & Awards

Russell Bair was recognized as a First Ranked Senior Scholar from College of Engineering.

Zach Callaway won 1st Place in PhD posters in Gamma Sigma Delta 2014 Students Competition. His advisor was Dr. Yanbin Li

Kalavathy Rajan won first place in the A2C Graduate Student Research Competition. Her advisor was Dr. Danielle Julie Carrier.

Grace Richardson named New Face of Engineering for DiscoverE (Engineers Week).

Gurdeep Singh won second place in the A2C Graduate Student Research Competition. His advisor was Dr. Dharmendra Saraswat.

R. Bair, T. M. McVey, C. Reavis, D. Smith. 2014. "Design an Anaerobic Digester to Produce Fuel from Food Wastes to Power Campus Transit Buses". Second place, G.B. Gunlogson National Student Design Competition, held at the 2014 annual international conference of the American Society of Agricultural and Biological Engineers (ASABE), Montreal, Canada, July 13-17, 2014. Faculty mentor: T. A. Costello.

The freshman engineering program honors symposium award best paper, presentation and poster in various categories at the annual event – Dr. Haggard's team won best presentation in the environment and energy category in 2014.

Rossetti, M.S. and N.K. Ownby The potential release of phosphorus in floodplains. Best Presentation, Environment and Energy Section, FEP Honors Symposium, Spring 2014. This research was also published in the journal, Discovery – The Undergraduate Research Journal of

the Dale Bumpers College of Agricultural, Food and Life Sciences. The advisor was Dr. Brian Haggard.

Sardar Abdullah, Ph.D. Student in Cell and Molecular Biology won the 3rd place of the 2014 Ph.D. Student Oral Presentation Competition sponsored by the Arkansas Chapter of Gamma Sigma Delta (*GSD*), March 12, 2014, Fayetteville, AR. His presentation title was “Aptamer and microelectrode based impedance assay for detection of H5N1 influenza virus”. His advisor was Dr. Yanbin Li.

Lizhou Xu, Ph.D. Student in Biosystems Engineering won the 2nd place of AOCABFE 2014 Graduate Research Papers Competition, July 13-16, 2014, Montreal, Canada. His paper title was “A fluorescent aptasensor coupled with nanobeads-based immunomagnetic separation for simultaneous detection of four foodborne pathogens”. Hi advisor was Dr. Yanbin Li.

Zach Callaway, Ph.D. student in Biological Engineering won the SFC Intervention Honorable Mention Poster Award in AAFP 2014 Research Poster Competition, September 11-13, 2014, Fayetteville, AR. His paper title was “Modeling the electromagnetic properties of bacterial cells with different materials immobilized on microelectrodes in impedance biosensors”. His advisor was Dr. Yanbin Li.

Lizhou Xu, Ph.D. student in Biosystems Engineering won the Vivione Biosciences Rapid Detection Methods Poster Award in AAFP 2014 Research Poster Competition, September 11-13, 2014, Fayetteville, AR. His paper title was “A fluorescent aptasensor coupled with nanobeads-based immunomagnetic separation for simultaneous detection of four foodborne pathogens”. His advisor was Dr. Li.

Sardar Abdullah, Ph.D. student in Cell and Molecular Biology won the J.B. Hunt Honorable Mention Poster Award in AAFP 2014 Research Poster Competition, September 11-13, 2014, Fayetteville, AR. His presentation title was “Aptamer and microelectrode based impedance assay for detection of H5N1 influenza virus”. His advisor was Dr. Yanbin Li

Meng Xu, Ph.D. student in Biological Engineering, won the 2nd Place of Graduate Research in Food Science in University of Arkansas 2014 Graduate Student Research Poster Competition, November 14, 2014, Fayetteville, AR. His paper title was “Screen-printed electrode based aptasensor for rapid detection of E. coli O157:H7 in foods”. His advisor was Dr. Yanbin Li.

Freshman Honors Research team, Indran Kamalanathan and Isabelle Pumford won best paper award for College of Engineering Freshman Honors Colloquium Environment Section. Their advisor was Dr. Scott Osborn.

## **CHEMICAL ENGINEERING**

The department has developed a tradition of devoting one section of our senior level design class to participating in nationally competitive design competitions. This year, three chemical engineering senior design teams received awards in the 25th annual International Environmental

Design Contest hosted by WERC, the Institute for Energy and the Environment and New Mexico State University. WERC is a consortium of universities and national laboratories in New Mexico that holds an annual design competition aimed at the development of human resources and technologies to address environmental issues. The "Separation of Oil from Water" and "Electrocoagulation for Sulfate Removal" teams won first place in their tasks, and each team was awarded \$2,500. The "Radiative Cooling to Night Sky" team won a Judge's Choice Award and \$1,000. All three teams were advised by Dr. Roy Penney. Teams from the department have competed very successfully in 17 of the past 19 years.

Each year the department presents the Distinguished High School Mentor Award at its annual Spring Banquet. This unique honor was developed in 2002 to allow current chemical engineering students to recognize the outstanding high school mentors who have consistently motivated them to strive for excellence and higher achievement including high school teachers, counselors principals, or ministers, for example. This April, the department honored three High School Mentors: Jennifer Lachowsky of Russellville High School in Russellville, Ark., nominated by Caitlin Chambers, Joe Griffin, Carter Bodinger, and David Jacobson; Sheryl Waggoner of Southside High School in Fort Smith, Ark., nominated by Sam Shade and Sam Horn; and Scott Horne of Nashville High School in Nashville, Ark., nominated by Alfonso Puente. The department also invites a guest speaker each year for the awards banquet. Marji McNeill, Vice President of Compliance and Ethics at Koch Industries, Flint Hills Resources, served as this year's speaker. McNeill is also a current member of the Arkansas Academy of Chemical Engineers. In her current role, she is responsible for the development and oversight of the company's programs to ensure sustained compliance with all legal requirements and the identification and management of compliance and ethics-related risks.

Additionally, the department teamed with the Dow Chemical Company to organize the Drive-to-Zero competition in April, in which chemical engineering students compete in oral presentations on process safety. This year, John Andrew Dominick III placed first, Shannon Murphy placed second, and Jason Heiss was awarded an Honorable Mention.

Chemical Engineering students received a total of \$2.1 M in scholarships and awards during 2014-2015. Four chemical engineering graduates—Jeremy Dunklin, Megan Dunn, William Erwin, and Justin Norman—received prestigious NSF Graduate Research Fellowships for the 2014-2015 academic year. Hailey Dunsworth was selected as a 2014 Goldwater Scholar, and fellow student Michael West received Honorable Mention for the award; Lauren Reed received an Honorable Mention for the 2015 award. Hailey Dunsworth and Kaylee Smith were awarded SURF Research Fellowships. Alex Moix received a Bodenhamer Fellowship. Senior John Andrew Dominick III was selected as the 2014-2015 Outstanding Senior in the College of Engineering, and both he and Alex Enderlin were selected as First Ranked Senior Scholars, with Tyler Winkel receiving honors as a Senior Scholar. Manfred Jeske was awarded the College of Engineering's Porter Stone Co-Op Award. Kaylee Smith won third place at the AIChE National Conference and second place at the AIChE Mid-America Regional Conference paper competitions, and Karla Morrissey placed first in the Institute of Biological Engineering poster competition. Jeremy Dunklin, a graduate student in chemical engineering, and Gregory Forcherio, a graduate student in MicroEP, received 2014 travel scholarships from SPIE, the international society for optics and photonics. Mr. Forcherio also received an NSF Research

Fellowship for 2014-2015. Philip Turner, graduate student in chemical engineering, placed first in the graduate student poster competition at the 2014 Midwest Section Conference of the American Society for Engineering Education. German Perez, graduate student in civil engineering, placed second.

The Arkansas Academy of Chemical Engineers (AAChE) inducted five alumni as new members this past year including: Eugene Davis (BSChE 1980), Gary Griffith (BSChE 1993), G. Brent Hankins (BSChE 1991), Chris Knight (BSChE 1994, MSChE 1995), and Kent McAllister (BSChE 1987). The academy also continued its campaign to fund the Thomas O. Spicer III Endowed Scholarship in Chemical Engineering in honor of his service as department head and his work in establishing the academy.

Fellow AAChE member Adam Monroe (BSChE 1988), President of Novozymes North America in Franklinton, N.C., received a College of Engineering Distinguished Alumnus award. Timothy Doolittle (BSChE 1997), Global Process Technology Associate for Dow Chemical Company in Hahnville, LA, received a College of Engineering Early Career Award

## **CIVIL ENGINEERING**

In 2014, a total of 25 students were inducted into Chi Epsilon, the national Civil Engineering honor society. The department named Courtney Hill as the E. Walter LeFevre Outstanding Senior; Sydney Dickson as the Outstanding Junior; and Ryan DuChanois as the Outstanding Sophomore in the Department. Courtney Hill was also awarded the National Science Foundation (NSF) Graduate Research Fellowship (GRF), and was named a Fulbright Fellow; she is the first and only student from the University of Arkansas to earn both these prestigious awards. Ryan DuChanois received the U.S. Environmental Protection Agency's Greater Research Opportunities (EPA-GRO) Fellowship. Richard Deschenes received a Dwight D. Eisenhower Graduate Fellowship from the U.S. Department of Transportation. Sydney Dickson was awarded the American Concrete Institute (ACI) Baker Student Fellowship.

Mr. Richard Welcher received the College of Engineering Early Career Alumni Award in 2014.

Eleven alumni were elected and inducted into the Arkansas Academy of Civil Engineering. A listing of the 2014 inductees follows.

- Kenneth M. Bailey  
*TTL, Tuscaloosa, Alabama*
- David L. Foster  
*APAC Central, Fayetteville, Arkansas*
- Steven R. Garrett  
*Materials Testing of Arkansas, Little Rock, Arkansas*
- David A. Gilbert  
*Plymouth Engineering, Lowell, Arkansas*

- Steven M. Jones  
*Garver Engineers, Fayetteville, Arkansas*
- John P. Knowles  
*Federal Highway Administration, Topeka, Kansas*
- W. Charles “Chuck” Mitchell  
*Crafton, Tull, and Associates, Tulsa, Oklahoma*
- Charles “Casey” Shell  
*Oklahoma Department of Transportation, Oklahoma City, Oklahoma*
- Guy Washburn  
*Arkansas Asphalt Pavement Association, Little Rock, Arkansas*
- Mark Allen Bolte and Ronota Ann Newberry-Woodbridge *Honorary-In Memoriam*  
*Federal Highway Administration, Oklahoma City, Oklahoma*

Four alumni served on the College of Engineering’s Dean’s Advisory Council in 2013: Grady Harvell (AFCO Steel) - Chairman; James McClelland (McClelland Engineers); and Charles Zimmerman (Wal-Mart). Jim McClelland also serves as the Chairman of the College of Engineering’s “Campaign Arkansas” Committee.

## **COMPUTER SCIENCE AND COMPUTER ENGINEERING**

### Students

Michael Metzner, Jesus A. Lizarraga, and associate professor Dr. Christophe Bobda for a best paper award at the 11th International Symposium on Applied Reconfigurable Computing to be held in Bohum, Germany from April 15 to 17, 2015. The paper, *Architecture Virtualization for Run-Time Hardware Multithreading on Field Programmable Gate Arrays*, presents novel virtualization architecture for FPGAs which allows for unrestricted communication among hardware tasks running on the device.

Taylor Martin is the Outstanding Senior in computer engineering. Taylor has maintained high grades with a major in computer engineering and a minor in math. In addition to that, she is active on campus and in her community. Taylor has worked as a peer mentor for the Freshman Engineering program and as a note taker for the Center for Educational Access. She volunteers with events for the computer science and computer engineering department, and she is a member of several campus organizations, including the Association of Computing Machinery, the American Indian Science and Engineering Society and the Society of Women Engineers.

Austin Brown is the Computer Science Outstanding Senior. Austin is a member of the U of A chapters of the Association for Computer Machinery, the National Society of Professional Engineers and the National Society of Collegiate Scholars. He participates in community service through his church, volunteering his time to help people in Arkansas and Texas through missions and church leadership. Austin has interned with Cerner Corporation in Kansas City and he will join Cerner as a full time employee after graduation.

## Alumni

Lang Zimmerman (BS Computer Science Engineering 1985) has been named chairman of the Arkansas Economic Development Commission. Zimmerman is vice president of Yelcot, a family-owned communications company based in Mountain Home, and co-founder and managing partner of Big Creek Golf & Country Club. He was appointed to the Commission by Gov. Mike Beebe in 2011 and has served on the Technology Growth Committee (now Technology and Innovation) and was the vice chair of the Bond Guaranty Committee before becoming chairman.

Rebecca Wilson (BS CSEG 1992; MBA 1994) was honored as a College of Engineering Distinguished Alumna in April 2015. She has combined her strong technical background and business acumen to benefit local industry. After graduation, she went to work for Tyson foods. During her 19 year tenure there, she rose through the corporation's Information Technology ranks, managing three different groups, a testament to her broad expertise. After investing 2 decades in various IT roles at Tyson Foods, in 2012 she shifted gears to an entrepreneurial mode as a small business owner and Microsoft registered partner. In March 2013, her role as a Microsoft partner led to join Microsoft as an account team member aligned with the world's largest retailer. She now focuses on partnering with and supporting the largest companies in Arkansas. In addition to her success, Rebecca promotes STEM education for youth and also is a strong advocate for technology careers for women.

Jeremy Stobaugh (BS CSEG 2000; MBA 2010) was honored as a College of Engineering Early Career Award in April, 2015. Jeremy has had a very successful career that has rapidly increased in responsibilities. He is applying his technical expertise to the benefit of companies within Arkansas. He began his career with Acxiom in 2000 as a Software Engineer. He joined J.B. Hunt in 2007 as an Information Services Manager and he was promoted to Director of Information Services in 2009. Jeremy actively helps the CSCE department by providing input on recruiting, curriculum, and special projects, participating as an alumni in ABET visits, and speaking to student groups. He is also active in community service through his church, youth basketball, and Habitat for Humanity.

The University of Arkansas Chapter of the Arkansas Academy of Computing inducted inaugural alumni members Tracy Black, Charles Blackstock, Steve Brothers, Kim Clower, Gary Dowdy, Rex Eads, and Lang Zimmerman. They also inducted Bob Crisp and Craig Thompson as academic members and invited Rodger Kline and Charles Morgan as honorary members.

Two CSCE alumni, Ben Onukwube (BS Computer Engineering 2011) and Arpita Barua (BS Computer Engineering 2010) joined the College of Engineering's Young Alumni Advisory Council.

## **ELECTRIAL ENGINEERING**

The department inducted 12 former students into the Arkansas Academy of Electrical Engineering during a banquet on April 24, 2015, making this one of the largest inductee classes in history. Those induced were Farrish Betton (BSEE 1969), William H. Browning, Jr. (BSEE



1983), David G. Daniels (BSEE 1992, MSEE 1995), Joe W. Hill (BSEE 1980), John F. Hug, (BSEE 1982, MSEE 1988), Muhammad A. Khaliq (PhD EE 1987), Brian Matthew King (BSEE 1994, MSEE 1996), Tammy White Turnipseed (BSEE 1983), Michael Willems (BSEE 1980, MSEE 1986), Richard Dale Williams (BSEE 1991), Janet Wise (BSEE 1994), James A. Woody (BSEE 1995).

Mr. Hugh Brewer Jr. (BSEE'59) received the Community Service Award from the Arkansas Alumni Association in October 2014. The award is given to recognize unselfish and extensive service by alumni to their community and to humankind.

The College of Engineering honored several of our alumni at the CoE Annual Banquet on April 25, 2015. Mr. Hugh Brewer Jr. (BSEE'59) was inducted into the College of Engineering Hall of Fame, and Mr. Edgar S. Cilio (BSEE'05, MSEE'10) received the Early Career Award. Mr. William "Bill" A. McVey Jr. was appointed to a third term on the Oklahoma State Board of Licensure for Professional Engineers and Land Surveyors by Governor Mary Fallin.

Rody Hedrick received the Electrical Engineering Outstanding Senior Award and was recognized at the College of Engineering Awards and Honors Reception on April 21 2015. Four students were recognized as U of A Senior Scholars. They also achieved a 4.0 on all course work, including some transfer work. Those students were Rocky Hedrick, Max Megee, Casey O'Grady and Ethan Williams.

The College of Engineering recently organized the Engineering Early Career Alumni Council (ECAC), a group of early career College of Engineering alumni who are committed to the vitality of the College of Engineering at the University of Arkansas. ECAC helps the College of Engineering enrich engagement of its early career alumni, strengthen its recruitment, retention, placement, and advancement efforts. Three of the 14 founding members are Electrical Engineering alumni, Lauren Megee Moore, Tavis Clemmer, and Jordan Greenlee.

The following student were recognized at the Electrical Engineering Spring Banquet:

**Outstanding Sophomores**

David Carballo Rojas  
Christopher Matthews

**Outstanding Juniors**

Brett Schauwecker  
Alec Walter

**Outstanding Seniors**

Rocky Hedrick  
Casey O'Grady  
Alec Walter  
Ethan Williams

Each year for the past five years, faculty, staff and students working at the University of Arkansas and our partner schools attend IEEE's APEC (Advanced Power Electronics

Conference). This year, eight students from the University of Arkansas attended the conference. In addition, the NSF Center of Excellence on GRid-connected Advanced Power Electronic Systems (GRAPES) hosted a booth in the conference's exhibition, displaying working prototypes and devices developed by students in their research efforts. Our students performed outstandingly this year, with three of the six presentations and posters receiving awards. Sayan Seal's poster, titled "Nanosilver Preform Assisted Die Attach for High Temperature Applications", received the Best Poster award for his poster session. Yuzhi Zhang also won Best Poster during his poster session, for his poster "Realizing an Integrated System for Residential energy Harvesting and Management". Finally, Roderick Garcia's presentation, "An Evaluation of Selected Solid-State Transformer Topologies for Electric Distribution Systems" was awarded Best Presentation in his section.

## **INDUSTRIAL ENGINEERING**

The College of Engineering recognized several students and faculty and staff members at a college-wide reception in May 2015. Kaitlin Denny was among the nine students in the COE that received Outstanding Senior Awards. At the University level, the Arkansas Alumni Association announced its first class of the Seniors of Significance. Hannah Smith was selected from industrial engineering.

Our INFORMS Student Chapter is for graduate students. They are advised by Dr. Shengfan Zhang. At the INFORMS annual conference our department was well represented and won recognition in the poster competition. PhD Candidate Emre Kirac took 2nd Place for his presentation of "Social Media Usage in Static Disaster Relief Routing Plans." He is advised by Dr. Ashlea Milburn. PhD Candidate Mahboubeh Madadi also received 2nd Place for her poster "Evaluation of Breast Cancer Mammography Screening Policies Considering Heterogeneity in Women's Adherence Behavior," and she is advised by Dr. Shengfan Zhang. Mahboubeh was also a finalist for INFORMS Minority Issues Forum (MIF) poster competition on breast cancer over-diagnosis. PhD student Mina Hadianniasar was a finalist in the Case and Teaching Material Competition for "Growing Pains." She is also advised by Dr. Milburn.

In a University-sponsored research poster competition, industrial engineering graduate students received awards. Furkan Oztanriseven, advised by Dr. Heather Nachtmann received first place as did Payam Parsa who is advised by Dr. Manuel Rossetti. Second place winner Fan Wang is advised by Dr. Shengfan Zhang.

The Institute of Industrial Engineers Honors and Awards banquet was held in June during the Industrial and Systems Engineering Research Conference (ISERC) in Nashville, TN. Twelve faculty members, one staff member and twenty-seven students attended the conference. The department co-hosted a reception for 150 attendees.

In addition, receiving an award for 2015 ISERC Best Track Paper Award for Facility Logistics were Graduate Student, Mahmut Tutam and Dr. John White for their paper: A Conventional Warehouse Design with Multiple Docks.

Graduate Student, Kunlei Lian, advised by Dr. Ashlea Milburn, received the \$2,500 Gilbreth Memorial Fellowship, and undergraduate student, Ashleigh Hegwood received the \$2,000 CISE Scholarship for the 2015-2016 academic year.

MSIE student, John Miller received the Electrification and Controls Manufacturers Association Honors Scholarship from the Materials Handling Education Foundation to support his work with logistics and supply chain issues in India.

The UA chapter of the Society of Women Engineers (SWE) was selected to host the 2016 SWE Region C Conference. Undergraduate Tyler Beneke will serve as the chapter president and will lead the event planning. This type leadership and service to the profession brings very positive visibility to the department and college.

Annually, the Department honors industrial engineering students at the Awards Banquet. In March 2015, 45 IE students received various departmental and named scholarships. The total dollar value of these scholarships exceeded \$92,000, including \$53,000 provided by our distinguished alumni group, the Arkansas Academy of Industrial Engineering (AAIE) or by members of AAIE.

The Department benefits from continued support and interaction with the AAIE whose leadership sponsors endeavors that aid in student academic success and enhance student preparedness such as the A4U program (Academy Focused on Recruitment/Retention/Readiness of Undergraduates), the Global Studies Endowment program, and Mock Interview initiative. The Academy inducted ten members this year bringing the active membership to 184. Inductees are distinguished graduates and are selected for sustained and outstanding contributions to the industrial engineering profession.

The College of Engineering recognized outstanding alumni at their annual event in April. From the Department of Industrial Engineering the following awards were presented.

- 2015 College of Engineering Hall of Fame – James Hefley
- 2015 College of Engineering Distinguished Alumni Award – Melinda Faubel
- 2015 College of Engineering Early Career Alumni Award – Ami Spivey

Alumnus and AAIE founding president, Mr. Larry Stephens was awarded the 2014 Andrew J. Lucas Alumni Service Award from the Arkansas Alumni Association.

Bryan Hill (BSIE 2003), assistant dean for student recruitment, honors and international programs in the College of Engineering, was one of the three finalists selected for the 2014 GEDC Airbus Diversity Award.

Kevin Oden (BSIE 2007), co-founder of cycleWood Solutions launched a product line for compostable consumer trash bags as a sustainable alternative to high-density plastic bags. The product is now sold commercially. Also, cycleWood has developed ‘green’ bags for pet waste for a Dallas-based company called Bags on Board. His company has obtained funding support

from the National Science Foundation through the Small Business Innovation Research Program. They have also been selected for an Edison Award, one of the highest honors a company can receive in the name of innovation and business.

We are extremely proud to have the opportunity to list the many achievements of our faculty, staff, students, and alumni.

## **MECHANICAL ENGINEERING**

The Arkansas Academy of Mechanical Engineering (AAME) inducted six new members into the academy: Robert D. Gross (BMSE 1991), H. Franklin Woolard (BSME 1965), Mark R. Wolthuis (BSME 1982), Ted R. Taylor (BSME 1991), Cyrus R. Underwood, Jr. (BSME 1982), and John D. Williams (BSME 1982, MSME 1984).

The College of Engineering awarded mechanical engineering alumni, Jesse A. Buffington (BSME 2007) Early Career Alumni awards.

The College of Engineering awarded mechanical engineering alumni, George E. Mann (BSME 1963, BSCE 1965) the Distinguished Alumni Award.

Charles Morgan (BSME 1966) released his first book, “Matters of Life and Data.”

William Carlisle, undergraduate student, was selected as the Mechanical Engineering Outstanding Senior in May 2015.

Russell Locetta, a junior honors undergraduate student, was selected to be a member of the American Society of Mechanical Engineers Petroleum Division Collegiate Council. Locetta was one of 26 students selected from universities in North America.

Clint Paul, an honors undergraduate student, received the ASME/NIH award to attend workshops at the fourth World Congress of Nano Engineering in Medicine and Biology.

Thirty-seven scholarships were awarded to outstanding students: Clayton Briggler, Michael Rosario Cervellere, Ahmed El-Abbad, Cade Harding, Allante Harrison, Avery Hill, Andrew Hinckley, Ange Iradukunda, Samuel Jenkins, Austin Jones, Philip McMeans, Timothy Merten, Victoria Morse, Casey Mullikin, Keaton Nelson, Tinh Nguyen, Parker Pribble, Steven Sonntag, Ryan Spooner, Tyler Starr, Ryan Watson, Colby Weishaar, Sang Balk, Zackary Freeman, Thearders Hall, Jason Lantz, John Miers, Charles Osburn, Johnathan Stewart, Patrick Ward, Alexander Halloran, Aaron Hamilton, Kenneth Semon, Adam Stewart, Daniel Torres, Ethan Campbell, and Alec Burgess.

A team of twelve students received first place in the NASA Student Launch project, a research-based, competitive and experiential exploration project that provides relevant and cost-effective research development to support the Space Launch System.

Twelve students participated in the American Institute of Aeronautics and Astronautics, Design Build Fly competition. Eighty-four teams competed during the two-day event in Tucson, Arizona, and the University of Arkansas ranked as follows: thirty-third on presentation/report and fifty-eighth overall.

Twenty students participated in the Society of Automotive Engineers' Mini-Baja competitions. The team successfully competed in three competitions; Auburn, Alabama; Baltimore, Maryland; and Portland, Oregon. In the final race, the team received second place in acceleration and third place in the hill climb competition.

Seven students participated in IEEE's Solar Boat and Solar Splash competition. Seventeen teams competed in the four-day event held in Dayton, Ohio and the University of Arkansas placed sixth overall, third in sprint event, and second in solar slalom event.

Ten mechanical engineering students participated in the NASA Robotic Mining competition at the Kennedy Space Center in Cape Canaveral, Florida. The interdisciplinary team also included electrical and computer-science engineering students.

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# APPENDIX A

## FACULTY HONORS 2013-2014 COLLEGE OF ENGINEERING

### COLLEGE OF ENGINEERING OUTSTANDING TEACHER

Tom Costello, Biological & Agricultural Engineering  
Michelle Kim, Biomedical Engineering  
Jeremy Herman, Chemical Engineering  
Micah Hale, Civil Engineering  
Michael Gashler, Computer Science and Computer Engineering  
Roy McCann, Electrical Engineering  
Chase Rainwater, Industrial Engineering  
David Jensen, Mechanical Engineering

### COLLEGE OF ENGINEERING OUTSTANDING RESEARCHER

Yanbin Li, Biological & Agricultural Engineering  
Kartik Balachandran, Biomedical Engineering  
Greg Thoma, Chemical Engineering  
Wen Zhang, Civil Engineering  
Matthew Patitz, Computer Science and Computer Engineering  
Fisher Yu, Electrical Engineering  
Ashlea Milburn, Industrial Engineering  
Paul Millett, Mechanical Engineering

### COLLEGE OF ENGINEERING OUTSTANDING SERVICE TO STUDENTS

G. Scott Osborn, Biological & Agricultural Engineering  
Timothy Muldoon, Biomedical Engineering  
Roy Penny, Chemical Engineering  
Rod Williams, Civil Engineering  
Wingning Li, Computer Science and Computer Engineering  
Magda El-Shenawee, Electrical Engineering  
Heather Nachtmann, Industrial Engineering  
James Davis, Mechanical Engineering

### UNIVERSITY & COLLEGE AWARDS

John Gauch	2014 John Imhoff Outstanding Teaching Award
Julie Carrier	2014 John Imhoff Outstanding Research Award
Alan Mantooth	2014 Most Engaging Research Faculty Award
David Zaharoff	2014 Rising Star Award
Ranil Wickramansinge	2014 Senior Faculty Award

## **APPENDIX B**

### **2014-2015 COLLEGE OF ENGINEERING STUDENT HONORS**

#### **COLLEGE OF ENGINEERING SENIOR SCHOLARS**

Rocky Hedrick	Electrical Engineering
Timothy Megee	Electrical Engineering
Casey O'Grady	Electrical Engineering
Ethan Williams	Electrical Engineering
Tyler Winkel	Chemical Engineering

#### **COLLEGE OF ENGINEERING OUTSTANDING SENIOR**

Shelby Paschal	Chemical Engineering
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#### **DEPARTMENTAL OUTSTANDING SENIORS**

Shelby Paschal	Biological and Agricultural Engineering
Michaela Mertz	Biomedical Engineering
John Dominick III	Chemical Engineering
Taylor Martin	Computer Science Computer Engineering (CE)
Austin Brown	Computer Science Computer Engineering (CS)
Matthew Watters	Civil Engineering
Rocky Hedrick	Electrical Engineering
Keitlin Denny	Industrial Engineering
William Carlisle	Mechanical Engineering

#### **PORTER STONE CO-OP AWARDS**

Manfred Jeske	Chemical Engineering
Seth Arnold	Mechanical Engineering
Taylor Johnson	Mechanical Engineering
Ken Rutabana	Civil Engineering

#### **PRESIDENTIAL SCHOLAR**

Ryan DuChanois	Civil Engineering
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#### **GEORGE & MARION BRANIGAN SENIOR ENGINEERING SCHOLAR**

Allison McElhenney	Industrial Engineering
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**I. Books (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Book Title</b>	<b>Publisher</b>	<b>Place of Publication</b>	<b>Publication Date</b>
<b>Bobda, C.</b> and Velipasalar, S.	Distributed Embedded Smart Cameras: Architectures, Design and Applications	<i>Springer</i>	New York	2014
<b>Jenkins, S.V.</b> , Muldoon, T., Chen, J.	Plasmonic Nanostructures for Biomedical and Sensing Applications. <i>Metallic Nanostructures</i>	Springer International Publishing	Switzerland	2015
Sundsbo AO, <b>Runkle BRK</b> , McMonagle S, Jantke J, Lottermoser F, Gottschick M, Haeseler S, Rodriguez-Lopez JM, Scheele M	One metaphor – several meanings: An interdisciplinary approach to sustainable development, in: Integrating Sustainability Thinking in Science and Engineering Curricula, World Sustainability Series, Ed. W Leal Filho, U Azeiteiro, F Alves, S Caeiro,	Springer Publishing	Germany. doi:10.1007/978-3-319-09474-8_15	2014
Pai, N., and <b>D. Saraswat</b>	Integrating Land Use Change Influences in Watershed Models.	CRC Press	In GIS Applications in Agriculture, Volume 4: Conservation Planning, xxx-xxx. T. Muller and G.F. Sassenrath, ed.	2014
<b>White, J. A.</b> , K. S. Grasman, K. E. Case, K. L. Needy, & D. B. Pratt	<i>Fundamentals of Engineering Economic Analysis, First Edition</i>	John Wiley & Sons		February 2014

**II. Book Chapters (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Chapter Title</b>	<b>Book Title</b>	<b>Publisher</b>	<b>Place of Publication</b>	<b>Publication Date</b>
<b>Bobda, C.</b> , Mefenza, M., Yonga, F., and Zarezadeh, A.	Reconfigurable Architectures for Distributed Smart Cameras	Distributed Embedded Smart Cameras: Architectures, Design and Applications	Springer	New York	2014
Mefenza, M., Yonga, F. and <b>Bobda, C.</b>	Design and Verification Environment for High-Performance Video-Based Embedded Systems	Distributed Embedded Smart Cameras: Architectures, Design and Applications	Springer	New York	2014
Tankam, N.T., Dipanda, A., <b>Bobda, C.</b> , Fotsing, J., and Tonye, E.	A Parallel Approach for Statistical Texture Parameter Calculation	Distributed Embedded Smart Cameras: Architectures, Design and Applications	Springer	New York	2014
Deshpande, A., Rahman, M., Banerjee, N., <b>Bobda, C.</b> , and Robucci, R.	Multi-modal Sensing for Distracted Driving Mitigation Using Cameras and Crowdsourcing	Distributed Embedded Smart Cameras: Architectures, Design and Applications	Springer	New York	2014
<b>Nair, Arun</b>	Mechanical and interface properties of biominerals: atomistic to coarse-grained modeling	Biomaterialization Sourcebook: Characterization of Biominerals and Biomimetic Materials	CRC Press	Boca Raton, FL	February 25, 2014
<b>Roper, D.K.</b>	Self-assembly of nanodroplets in nanocomposite materials.	Nanodroplets	Springer	New York	2014
<b>Runkle BRK</b> , Kutzbach L	Peatland Characterization, In: Guidebook: Towards climate responsible peatland management, ed. Biancalani R. & Avagyan A., pp 6-11.	Mitigation of Climate Change in Agriculture	MICCA) Series 9, FAO, ( <a href="http://www.fao.org/documents/card/en/c/ed3a3b92-de47-4825-a417-f0daad81efb5/">http://www.fao.org/documents/card/en/c/ed3a3b92-de47-4825-a417-f0daad81efb5/</a> )	Rome	2014

<b>Authors (Bold first UA author)</b>	<b>Chapter Title</b>	<b>Book Title</b>	<b>Publisher</b>	<b>Place of Publication</b>	<b>Publication Date</b>
Torres, S.A.V., <b>S. Zhang</b> , and R. Akhavan-Tabatabaei	Optimal Decision Making for Breast Cancer Treatment in the Presence of Cancer Regression and Type II Error in Mammography Results	<i>Analysis, Modelling, Optimization, and Numerical Techniques, Springer Proceedings in Mathematics &amp; Statistics</i>	Springer International Publishing		2014
Yao, W., <b>J. Zhu</b> , B. Sun.	One-step purification of glutamate decarboxylase from E. coli using aqueous two phase system. In Series: Methods in Molecular Biology, Editor: John M. Walker. Pp: 539-546.	“Protein Downstream Processing” edited by Nikolaos E. Labrou.  ISBN: 978-1-62703-976-5.	Springer Humana Press	New York, NY	2014

**IIIa. Refereed Journal Articles (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
<b>Ahluwalia, D.</b> , M. Borrellib, K. Smithson, K. Rajurkarc, A. Malshe	Ultrasonic machining of biomass using biodegradable slurry	CIRP Annals-Manufacturing Technology	05/14	63	1	217-220
<b>Andrews, D.</b>	Operating Systems Research for Reconfigurable Computing	<i>IEEE Micro</i>	Jan-Feb. 2014	34	1	54-58
Escobar Mejía, Andres, C. Stewart, J. Hayes, <b>S.S. Ang</b> , J.C. Balda, S. Talakokkula	Realization of a Modular Indirect Matrix Converter using Normally-Off SiC JFETs	IEEE Transactions on Power Electronics	May 2014	29	5	2574-2583
Lu, J., <b>S. S. Ang</b>	A curvature compensated high PSRR CMOS Bandgap reference	Analog Integrated Circuits and Signal Processing	2014			
Vasudevan, Arun, S. Jung, T. Ji, <b>S.S. Ang</b>	Quasi-symmetric Wheatstone Bridge Zinc Oxide Nanorod UV Detectors	IEEE Sensors Journal,	September 2014	14	9	3010-3318
<b>Badrossamay MR</b> , Balachandran K, Capulli AK, Golecki HM, Agarwal A, Goss JA, Kim H, Shin K, Parker KK.	Engineering Hybrid Polymer-Protein Super-Aligned Nanofibers via Rotary Jet Spinning	Biomaterials	2014	35	(10)	3188-97
<b>Beckford, S.</b> , Cai, J., Chen, J., and Zou, M.	Use of Au nanoparticle filled PTFE films to produce low friction and low wear surface coatings	Tribology Letters	11/14	56	2	223-230
<b>Beckford, S.</b> , M. Zou	Wear Resistant PTFE Thin Film Enabled by a Polydopamine Adhesive Layer	Applied Surface Science	02/14	292		350-356
Zhang, Y., <b>Bernhardt, M.L.</b> , Biscontin, G., Luo, R., and Lytton, R. L.	A Generalized Drucker-Prager Viscoplastic Yield Surface Model for Asphalt Concrete	Materials and Structures				
<b>Blake, P.</b> ; Kuhne, S.; Forcherio, G.; D.K. Roper	Diffraction in nanoparticle lattices increases sensitivity of localized surface plasmon resonance to refractive index changes.	<i>J. Nanophotonics</i>	2014	8	1	
<b>Braham, A.</b> , Howard, I., Barham, J., and Cox, B.	Characterizing emulsion effects on aged asphalt concrete surfaces using Bending Beam Rheometer mixture beams	International Journal of Pavement Engineering	August 2014			Online

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
<b>Braham, A.</b> , Steger, R., Lynn, T., and Pyle, R.	Characterizing Compact ability of High RAP and Warm Mix Asphalt Mixtures in the Superpave Gyrotory Compactor	Journal of Testing and Evaluation	2014			Online
<b>Cantrall MA</b> , KR Brye, DM Miller, E Mason, and JL Fairey	Extraction characteristics of selenium as affected by coal fly ash type, water extractant, and extraction time	Journal of Environmental Protection		5		1126-1144
Adams J, Martin E, Almeida G, Rieke S, Gibson K, Frederick N and <b>Carrier DJ</b> .	Characterization and variation of essential oil from Pinus taeda L. and antimicrobial effects against antibiotic resistant and susceptible Staphylococcus aureus.	Forest Products Research	2014		64	161-165
Djiroleu A, Martin E, Pelkki M and <b>Carrier DJ</b> . (2014).	Mixtures of sweetgum wood with sweetgum bark, oak wood and oak bark: Effects on xylose and glucose yields from dilute acid pretreatment and enzymatic hydrolysis.	Transactions of ASABE	2014		57	1175-1185
Xiang, Y., <b>C. R. Cassidy</b> , T. Jin, and C. Zhang	Joint Production and Maintenance Planning with Machine Deterioration and Random Yield	<i>International Journal of Production Research</i>	2014	Vol. 52		1644-1657
<b>Chimka, J. R.</b> and Heng Du	Control charts with runs rules for Poisson process data	<i>International Journal of Performability Engineering</i>	2014	Vol. 10	No. 6	659-661
<b>Chimka, J. R.</b> and Leiying Jiang	A note on interaction and preimplantation development stages	<i>Journal of Cell and Animal Biology</i>	2014	Vol. 8	No. 6	110-113
<b>Chimka, J. R.</b> and Ege Ozdemir	A proportional odds model of particle pollution	<i>Environments</i>	2014	Vol. 1	No. 1	54-59
<b>Chimka, J. R.</b> and Raj Anand Rajagopalan	Product of triangular distributions with range [0,1]	<i>International Journal of Quality Engineering and Technology</i>	2014	Vol. 4	No. 3	261-268
Black, Ryan and <b>J. R. Chimka</b>	An economic alternative to the c chart	<i>International Journal of Quality Engineering and Technology</i>	2014	Vol. 4	No. 4	107-111

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Smith, Brian K., <b>J. R. Chimka</b> , and H. Nachtmann	Multivariate Analysis and Quality Control > A 0-1 Quadratic Program for the Case of Missing Data in Regression	<i>International Journal of Data Analysis Techniques and Strategies</i>	2014	Vol. 6		94-104
Lau C, <b>Clausen E</b> , Thomas G and Carrier DJ (2014).	Kinetic modeling of xylose oligomer degradation during pretreatment in dilute acid or in water.”	Industrial Research Engineering Chemistry	2014		53	2219-2228
<b>Coffman, R.A.</b> , Garner, C.D., Salazar, S.E.	The Development and Implementation of a Tunnel Characterization Method	Geomechanics and Tunneling		7	2	178-184
<b>Coleman, S. P.</b> , D. E. Spearot	Atomistic simulation and virtual diffraction characterization of stable and metastable Al <sub>2</sub> O <sub>3</sub> surfaces	Acta Materialia	10/14	78		354-368
<b>Coleman, S. P.</b> , Foiles, S., D. E. Spearot	The effect of synthetic driving force on the atomic mechanisms associated with grain boundary motion below the interface roughening temperature	Computational Materials Science	04/14	86		38-42
<b>Coleman, S. P.</b> , <b>Sichani, M.M.</b> , D.E. Spearot	A computational algorithm to produce virtual x-ray and electron diffraction patterns from atomistic simulations	Journal of the Minerals, Metals & Materials Society	03/14	66	3	408-416
Sandefur, H. N. , R. Z. Johnston, , M. D. Matlock, T. A. <b>Costello</b> , W. H. Adey, and H. D. Laughinghouse IV.	Hydrodynamic regime considerations for the cultivation of periphytic biofilms in two tertiary wastewater treatment systems	Ecol. Engr	2014		71	527-532
Liang, Y., G. T. Tabler, <b>T. A. Costello</b> , I. L. Berry, S. E. Watkins and Y. V. Thaxton.	Cooling broiler chickens by surface wetting: indoor thermal environment, water usage and bird performance	Applied Engr. in Agric.	2014	30	2	249-258
<b>Dang, K.Q.</b> , D.E. Spearot	Effect of point and grain boundary defects on the mechanical behavior of monolayer MoS <sub>2</sub> under tension via atomistic simulations	Journal of Applied Physics	07/14	116		116
<b>Dang, K.Q.</b> , J.P. Simpson, D.E. Spearot	Phase transformation in monolayer molybdenum disulphide MoS <sub>2</sub> under tension predicted by molecular dynamics simulations	Scripta Materials	04/14	76		41-44

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
<b>Dang, C.</b> , Murray, C., Floyd, R., Hale, W., and Marti-Vargas, J.	A Correlation of Strand Surface Quality to Transfer Length	ACI Structural Journal		111	5	1245-1252
<b>Dang, C.</b> , Murray, C., Floyd, F., and Hale, W	Analysis of Bond Stress Distribution in Prestressing Strands Using the Standard Test for Strand Bond	Engineering Structures		72		152-159
<b>Dejarnette, D.</b> , Blake, P., Forcherio, G., Roper, D.K.	Far-field Fano resonance in nanoring lattices modeled from extracted dipole polarizability.	<i>J. Appl. Physics</i>	2014	115		
<b>DeJarnette, D.</b> , Jang, G.-G., Blake, P., Roper, D.K.	Polarization angle affects energy of plasmonic features in Fano resonant regular lattices.	<i>J. Optics</i>	2014	16	10	
<b>Dejarnette, D.</b> , Norman, J., Roper, D.K.	Attribution of Fano resonant features to plasmonic particle size, lattice constant, and dielectric wavenumber in square NP arrays.	<i>Photonics Res.</i>	2014	2	1	15-23
<b>DeJarnette, D.</b> , Roper, D.K.	Electron energy loss spectroscopy of gold nanoparticles on graphene.	<i>J. Appl. Phys.</i>	2014	116		
Men, L. and <b>Di, J.</b>	Asynchronous Parallel Platforms with Balanced Performance and Energy	<i>Low Power Electronics</i>	Dec. 2014	10	4	566-579
<b>Djioleu A.</b> , Sverzut C, Martin E, Childres E, Johnson C, West C and Carrier DJ. (2014).	Effect of harvest and storage of switchgrass on the recovery of carbohydrates during dilute acid pretreatment and enzymatic hydrolysis.”	Forage and Grazinglands	2014			12:1. doi:10.2134/FG-2013-0016-RS
<b>Du, J.</b> , R.R. Beitle, E.C. Clausen, and J.A. Hestekin	Butyric Acid Fermentation with <i>Clostridium tyrobutyricum</i> : Experiments and Simulation	<i>Energies</i>	2014	7		2421-2435
<b>Dunklin, J.</b> ; Forcherio, G.; Berry <sup>U</sup> , K.; D.K. Roper.	Gold nanoparticle polydimethylsiloxane thin films enhance thermoplasmonic dissipation by internal reflection.	<i>J. Phys. Chem. C</i>	2014	118	14	7523-7531
<b>Dunklin, J.</b> ; Forcherio, G.; D.K. Roper.	Geometric optics of gold nanoparticle-polydimethylsiloxane thin film systems.	<i>Optical Materials Express</i>	2014	4	2	375-383
Khorrani, Mohammadali, <b>S. El-Ghazaly</b> , H. Naseem, S.-Q. Yu	Global Modeling of Active Terahertz Plasmonic Devices	IEEE Transaction of THz Science and Technology	2014	4	1	101-109



<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Burford, Nathan and <b>M. El-Shenawee</b>	Optimization of Silver Nanotoroid Arrays for the Absorption Enhancement of Silicon Thin-Film Solar Cells	<i>Plasmonics</i>	October 2014			1-8
Burford, Nathan M., <b>M. El-Shenawee</b> , C. B. O'Neal and K. J. Olejniczak	Terahertz Imaging for Nondestructive Evaluation of Packaged Power Electronic Devices	<i>International J. Emerging Technology and Advanced Engineering</i>	January 2014	4	1	395-401
Hutchings, Douglas A. and <b>M. El-Shenawee</b>	Microwave MEMS Antenna Sensor Characterization and Target Detection Using Artificial Neural Network	IEEE Sensors Journal	August 2014	14	8	2461-2468
<b>Fleming, R.</b> , M. Zou	Fabrication of Stable Superhydrophilic Surfaces on Titanium Substrates	Superhydrophilic Surfaces: Special Issue of the Journal of Adhesion Science and Technology (JAST)	2014	28	8-9	823-832
<b>Forcherio, G.T.</b> , Blake, P., DeJarnette, D., Roper, D.K.	Nanoring structure, spacing, and local dielectric sensitivity for plasmonic resonances in Fano resonant square lattices.	<i>J. Optics</i>	2014	22	15	17791-17804
<b>Frees AE</b> , N Rajaram, SS McCachren III, AN Fontanella, MW Dewhirst, N Ramanujam	Delivery-corrected imaging of fluorescently-labeled glucose reveals distinct metabolic phenotypes in murine breast cancer	<i>PLoS ONE</i>	2014	9	(12)	E115529
<b>Fruchtl, McKinzie</b> , Joshua Sakon, and Robert Beitle.	Expression of a Collagen-Binding Domain Fusion Protein: Effect of Amino Acid Supplementation, Inducer Type, and Culture Conditions.	<i>Biotech Progress</i>	2015	31	2	503-9
<b>Gao, L.</b> , Ni, F., Braham, A., Luo, H.	Mixed-Mode cracking behavior of cold recycled mixes with emulsion using Arcan configuration	Construction and Building Materials	March 2014	55		415-422
<b>Garner, C.D.</b> , Coffman, R.A.	Discussion of Transparent Soil as a Substitute for Natural Soils in Geotechnical Modeling	The Electronic Journal of Geotechnical Engineering		19	E	1101-1108

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Gogineni, P., Yan, J., Paden, J., Leuschen, C., Li, J., Morales, F., Braaten, D., Purdon, K., Wang, Z., Liu, W. and <b>Gauch, J.</b>	Bed Topology of Jakobshavn Isbrae, Greenland and Byrd Glasier, Antarctica	<i>Journal of Glaciology</i>	Nov 2014	60	223	813-833
<b>Glover, Michael</b> , E. Decrossas, K. Porter, H. A. Mantooth, M. C. Hamilton, A. H. Pfeiffenberger, and E. J. Myers	Low loss power distribution in hybrid thin film on LTCC	Advancing Microelectronics	March/ April 2014	41	2	10-15
<b>Glover, Michael</b> , P. Shepherd, M. Francis, M. Mudholkar, H. A. Mantooth, M. Ericson, S. Frank, C. Britton, L. Marlino, T. McNutt, A. Barkley, B. Whitaker, and A. Lostetter	A UVLO circuit in SiC compatible with power MOSFET integration	IEEE Journal of Emerging and Selected Topics in Power Electronics	Sept. 2014	2	3	425-433
<b>Gorecki, P. M., &amp; Selvam, R. P.</b>	Visualization of tornado-like vortex interacting with wide tornado-break wall	Journal of Visualization				1-14
<b>Greening GJ</b> , Istfan R, Higgins LM, Balachandran K, Roblyer D, Pierce MC, Muldoon TJ.	Characterization of thin poly(dimethylsiloxane)-based tissue-simulating phantoms with tunable reduced scattering and absorption coefficients at visible and near-infrared wavelengths	Journal of Biomedical Optics	2014	19	(11)	115002
Grantz, E.M., <b>B.E. Haggard</b> , and J.T. Scott. 2014	Stoichiometric imbalance in rates of nitrogen and phosphorus retention, storage, and recycling can perpetuate nitrogen deficiency in highly productive reservoirs.	Limnology and Oceanography	2014	59	6	2203-2216
Jarvie, H.P., A.N. Sharpley, J.V. Brahana, T. Simmons, A. Price, C. Neal, A. Lawlor, D. Sleep, S. Thacker, and <b>B.E. Haggard</b> .	Phosphorus retention and remobilization along hydrological pathways in karst terrain.	Environmental Science and Technology	2014	48	9	480-4868

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Rossetti, M.S., N.K. Ownby, E. Scott, and <b>B.E. Haggard</b>	The potential release of phosphorus in floodplains.	Discovery – The Undergraduate Research Journal of the Dale Bumpers College of Agricultural, Food and Life Sciences	2014	15		68-75
Simpson, Z.P. B. Smith, D.A. Zaharoff, and <b>B.E. Haggard</b>	Reducing water extractable phosphorus in poultry litter using chitosan treatment.	Discovery – The Undergraduate Research Journal of the Dale Bumpers College of Agricultural, Food and Life Sciences	2014	15		84-92
Marti-Vargas, J., <b>Hale, W.</b> , Garcia-Taengua, E., and Serna, P.	Slip Distribution Model Along the Anchorage Length of Prestressing Strands	Engineering Structures		59		674-685
<b>Haley, Ryan</b> , McKinzie Fruchtl, Ellen Brune, Mohammad Ataa, Ralph Henry, and Robert Beitle.	A redesigned Escherichia coli triosephosphate isomerase restores growth properties in a bacterial strain useful for Immobilized Metal Affinity Chromatography (IMAC)	J Biotechnology	2014	188		48-52
<b>Heller Z</b> , Wyatt J, Arnaud A, Wolchok JC,	An In-Vitro Impact Model for the Study of Central Nervous System Cell Mechanobiology	Journal of Cellular and Molecular Bioengineering	2014	7	4	521-31
Galvin, G., <b>C. G. Henry</b> , D. B. Parker, R. Omerod, P. D’Abreton, M. Rhoades.	Efficacy of a Lagrangian and a Gaussian Model for Back Calculating Emission Rates from Feedyard Area Sources.	Air Quality and Climate Change Journal	2014	48	3	39-45
<b>Heymfield, Ernest</b> , Osweiler, Adam, Selvam, R. Panneer, & Kuss, Mark	Developing Anti-Icing Airfield Runways Using Conductive Concrete with Renewable Energy	ASCE Journal of Cold Regions	June 2014	28	2	
<b>Heymfield Ernie &amp; Kuss, Mark</b>	Implementing Gigapixel Technology to Highway Bridge Inspections.” ASCE Journal of Performance of Constructed Facilities	ASCE				online
Shi, X., Lai, C., <b>Huang, M.</b> and You, H.	Geocomputation over the Emerging Heterogeneous Computing Infrastructure	<i>Transactions in GIS</i>	Nov. 2014	18	S1	3-24

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Shi, X., <b>Huang, M.</b> , You, H., Lai, C. and Chen, Z.	Unsupervised Image Classification Over Supercomputers	<i>GIScience &amp; Remote Sensing</i>	May 2014	51	3	321-338
<b>Jayanthi, S.</b> , Koppolu, B., Smith, S.G., Jalah, R., Bear, J., Rosati, M., Pavlakis, G.N., Felber, B.K., Zaharoff, D.A., Kumar, T.K.S.	Efficient production and purification of recombinant human interleukin-12 (IL-12) overexpressed in mammalian cells without affinity tag.	Protein Expression and Purification	2014.	102	none	76-84
<b>Jensen, D.</b> , O. Bello, C. Hoyle, I.Y. Turner	Reasoning about system-level failure behavior from large sets of function-based simulations	Artificial Intelligence for Engineering Design, Analysis and Manufacturing	11/14	28		385-398
<b>Jernigan, Alice</b> and Christa Hestekin	Capillary Electrophoresis-Single Strand Conformational Polymorphisms (CE-SSCP) as a Method to Differentiate Algal Species.	Journal of Analytical Methods in Chemistry	2015			
<b>Killian, S.A.</b> , D.E. Beck, C.A. O'Bryan, N. Jarvis, E.C. Clausen and P.G. Crandall.	Student-Centered and Dynamic Interfaces that Enrich Technical Learning for Online Science Learners: A Review of the Literature	Journal of Food Science Education	2014	13		47-56
<b>Killian, S.A.</b> , D.E. Beck, C.A. O'Bryan, N. Jarvis, E.C. Clausen and P.G. Crandall.	Development of an Augmented Reality Game to Teach Abstract Concepts in Food Chemistry	Journal of Food Science Education	2014	14	1	18-23
<b>Killian, S.A.</b> , D.E. Beck, C.A. O'Bryan, N. Jarvis, E.C. Clausen and P.G. Crandall.	A Comparison of the Degree of Student Satisfaction Using a Simulation or a Traditional Wet Lab to Teach Physical Properties of Ice	Journal of Food Science Education	2014	14	1	24-29
Kotagiri, K. & <b>Kim, J.-W</b>	Stealth theranostic agents: strategies of shielding carbon nanotubes and their hybrids to evade opsonization and improve biodistribution	International Journal of Nanomedicine	2014		9	85-105
<b>Kim, J.-W.</b> & Tung, S	Bio-hybrid micro/nanodevices powered by flagellar motor: challenges and strategies.	Medical & Biological Engineering & Computing				
Lee, J.S., Chen, J., Deaton, R. & <b>Kim, J.-W</b>	A DNA-based pattern classifier with in vitro learning and associative recall for genomic characterization and biosensing without explicit sequence knowledge.	Journal of Biological Engineering	2014		8	25

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Lim, K.-T., Baik, S.J., Kim, S.W., Kim, J.H., Seonwoo, H., <b>Kim, J.-W.</b> , Choung, P.-H., Choung, Y.-H. & Chung, J.H.	Development and characterization of fast-hardening composite cements composed of natural ceramics originated from horse bones and chitosan solution	Tissue Eng. Regen. Med.	2014	11	5	1-10
Lim, K.-T., <b>Kim, J.-W.</b> , Kim, J. & Chung, J.H.	Development and evaluation of natural hydroxyapatite ceramics produced by the heat treatment of pig bones.	Biosystems Eng	2014		39	227-234
<b>Koppolu, B.</b> , Smith, S.G., Ravindranathan, S., Jayanthi, S., Kumar, T.K.S., Zaharoff, D.A.	Controlling chitosan-based encapsulation for protein and vaccine delivery	Biomaterials	2014	35	(14)	4382-9
<b>Kurtz, S.L.</b> , Ravindranathan, S., Zaharoff, D.A.	Current Status of Autologous Breast Tumor Cell-based Vaccines	Expert Review of Vaccines	2014	13	(12)	1439-1445
<b>Lau, C.S.</b> , G.J. Thoma, E.C. Clausen and D.J. Carrier	Kinetic Modeling of Xylose Oligomer Degradation during Pretreatment in Dilute Acid or in Water	Industrial & Engineering Chemistry Research	2014	53		2219-2228
Callaway, Z., R. Wang, and <b>Y. Li</b>	Modeling the electromagnetic properties of E. coli cells with different components of biological immobilization components on a screen-printed interdigitated microelectrode using Comsol.	ASABE Paper	2014		1897698	
Lin, J.H., R. Wang, R.R. Jiao, Y.T. Li, <b>Y. Li</b> , M. Liao, Y.D. Yu, M.H. Wang.	An impedance immunosensor based on low-cost microelectrodes and specific monoclonal antibodies for rapid detection of avian influenza virus H5N1 in chicken swabs.	Biosensors & Bioelectronics	2014			<a href="https://doi.org/10.1016/j.bios.2014.09.037">doi:10.1016/j.bios.2014.09.037</a>
Wang, R., L.Z. Xu, and <b>Y. Li</b> *	Bio-nanogate controlled enzymatic reaction for virus sensing. Biosensors & Bioelectronics.		2014			<a href="https://doi.org/10.1016/j.bios.2014.08.071">doi:10.1016/j.bios.2014.08.071</a>
Wang, Y.X., R. Wang, and <b>Y. Li</b>	A portable impedance biosensing system based on a laptop with LabVIEW for detection of avian influenza virus.	ASABE Paper	2014		1897866	
Wang, W., M. Li, W. Fang, and <b>Y. Li</b>	Intervention technologies for reducing <i>Vibrio parahaemolyticus</i> in sea foods: A review.	Journal of Food Science	2014			doi:10.1111/1750-3841.12727

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Fu, Y.C., Z. Callaway, J. Lum, R. Wang, J.H. Lin, and <b>Y. Li*</b> .	Exploring enzymatic catalysis in ultra-low ion strength media for ion strength increase-based impedance biosensing of virus using a bare interdigitated electrode.	Analytical Chemistry	2014	86	4	1965-1971
Han, F.F., X. Qi, L.Y. Li, L.J. Bu, Y.C. Fu, Q.J. Xie, M.L. Guo, <b>Y. Li</b> , Y.B. Ying, and S.Z. Yao.	Bio-inspired preparation of fibrin-boned bionanocomposites of biomacromolecules and nanomaterials for biosensing.	Advanced Functional Materials	2014	24	31	5011-5018
Hu, Q.Q., X.H. Xu, Z.M. Li, L.Z. Xu, Y. Zhang, J.P. Wang, Y.C. Fu, and <b>Y. Li*</b>	Detection of acrylamide in potato chips using a fluorescent sensing method based on acrylamide polymerization-induced distance increase between quantum dots.	Biosensors & Bioelectronics	2014	54	15	64-71
Hu, Y.H., C.C. Wang, B. Bai, M.T. Li, R. Wang, and <b>Y. Li</b>	Rapid detection of Staphylococcus aureus using quantum dots as fluorescent labels.	International Journal of Agricultural and Biological Engineering	2014	7	1	77-83
Wang, H., <b>Y. Li</b> and M. Slavik.	Rapid detection of Campylobacter jejuni in poultry products using quantum dots and nanobeads based fluorescent immunoassay	International Journal of Poultry Science	2014	13	5	253-259
Wang, H., <b>Y. Li</b> and M. Slavik.	Rapid and simultaneous detection of Salmonella and Campylobacter in poultry samples using quantum dots based fluorescent immunoassay coupled with magnetic immunoseparation.	International Journal of Poultry Science	2014			
Xu, L.Z., Z. Callaway, R. Wang, and <b>Y. Li*</b> .	A fluorescent aptasensor coupled with nanobeads-based immunomagnetic separation for simultaneous detection of four foodborne pathogens.	ASABE Paper	2014		1895935	
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<b>Liang, Y.</b> , J.B. Payne, C. Penn, G.T. Tabler, S.E. Watkins, K.W. VanDevender, J.L. Purswell	Systematic evaluation of in-house broiler litter windrowing effects on production benefits and environmental impact	J. Appl. Poult. Res.	2014			doi: 10.3382/japr.2014-00960
Sarkisov, S. S., M. Czarick III, B.D. Fairchild, <b>Y. Liang</b> , T. Kukhtareva, M.J. Curley.	Colorimetric polymer-metal nanocomposite sensor of ammonia for the agricultural industry of confined animal feeding operations.	Optical Engineering	2014	53	2	021-107
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<b>Lisunova, M.</b> , Norman, J., Wei, X., Jenkins, S., Chen, J., Roper, D.K.	Aqueous dispersion of plasmonic hollow metal nanoparticles.	<i>Materials Letters</i>	2014	117	15	241-243
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Khan, M. Alam, <b>M. O. Manasreh</b> , and Y.-M. Kang	Synthesis, characterization and optoelectronic properties of iron pyrite nanohusks	Materials Letters	2014	126		181-184

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Nusir, Ahmad I., J. Aguilar, Z. Bever, and <b>M. O. Manasreh</b>	Uncooled photodetector based on CdSe nanocrystals with an interdigital metallization	Appl. Phys. Lett	2014	104		051124
Sarker, Jony C., R. Vasan, Y. F. Makableh, S. Lee, A. I. Nusir, and <b>M. O. Manasreh</b>	Enhanced performance of surface modified InAs quantum dots solar cell by sol-gel grown tantalum pentoxide antireflection coating	J. Solar Energy Materials and Solar Cells	2014	127	58-62	
Ericson, M. Nance., S. S. Frank, C. L. Britton, L. Marlino, S. H. Ryu, D. Grider, <b>H. A. Mantooth</b> , M. Francis, R. Lamichhane, M. Mudholkar, P. Shepherd, M. Glover, J. Valle-Mayorga, T. R. McNutt, A. Barkley, B. Whitaker, Z. Cole, B. Passmore, A. Lostetter,	A 4H silicon carbide gate buffer for integrated power systems	IEEE Trans. on Power Electronics	Feb. 2014	29	2	539-542
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Valle-Mayorga, Javier A., A. Rahman, <b>H. A. Mantooth</b>	An all-NMOS SiC linear voltage regulator for high temperature applications	IEEE Transactions on Power Electronics	May 2014	29	5	2321-2328
Frederick N, Zhang N, Ge X, Xu J, Pelkki M, <b>Martin E</b> and Carrier DJ. (2014).	Poplar (Populus deltoides L.): The effect of washing pretreated biomass on enzymatic hydrolysis and fermentation to ethanol.	Sustainable Chemistry and Engineering	2014		2	1835-1842
<b>Mash CA</b> , BA Winston, AD Pifer, JT Scott, W Zhang, and JL Faurey	Assessing trichloromethane formation and control in algal--stimulated waters amended with nitrogen and phosphorus	Environmental Science: Processes & Impacts		16	6	1290-1299



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Sandefur, H. N., Johnston, R. Z., <b>Matlock, M. D.</b> , Costello, T. A., Adey, W. H., & Laughinghouse IV, H. D	Hydrodynamic regime considerations for the cultivation of periphytic biofilms in two tertiary wastewater treatment systems.	Ecological Engineering	2014	71		527-532
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<b>Milburn A. B.</b> , M. Hewitt, P. Griffin, P., and M.W.P. Savelsbergh	The value of remote monitoring systems for treatment of chronic disease	<i>IIE Transactions on Healthcare Systems Engineering</i>	2014	Vol. 4.	No. 2	65-79
<b>Milburn, A. B.</b> , A. Braham, and J. McClinton	Integrating qualitative components in quantitative courses using Facebook	<i>Interdisciplinary Journal of E-Learning and Learning Objects</i>	2014	Vol. 10		229-246
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Tonks, M.R., Y. Zhang, X. Bai, <b>P. Millett</b>	Demonstrating the temperature gradient impact on grain growth in UO <sub>2</sub> using the phase field method	Materials Research Letters	2014	2	1	23-28
Xu, W.Z, Zhang Y.F., Cheng G.M., Jian W.W., <b>Millett P.C.</b> , Koch C.C., Mathaudhu S.N., Zhu Y.T.	Dynamic void growth and shrinkage in Mg under electron irradiation	Materials Research Letters	04/14	2	3	176-183
Zhang, Y., <b>Millett P.C.</b> , Tonks M.R., Bai X.M., Biner S.B.	Molecular dynamics simulations of intergranular fracture in UO <sub>2</sub> with nine empirical interatomic potentials	Journal of Nuclear Materials	09/14	452	1-3	296-303
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<b>Nair, A.K.</b> , Gautieri, A., Buehler, M.J.	Role of intrafibrillar collagen mineralization in defining the compressive properties of nascent bone	Biomacromolecules	06/14	15	7	2494-2500
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Conley, Benjamin R., A. Mosleh, S. A. Ghetmiri, W. Du, R. A. Soref, G. Sun, J. Margetis, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Temperature dependent spectral response and detectivity of GeSn photoconductors on silicon for short wave infrared detection	Opt. Express	2014	22		15639-15652
Conley, Benjamin R., J. Margetis, W. Du, H. Tran, A. Mosleh, S. A. Ghetmiri, J. Tolle, G. Sun, R. Soref, B. Li, <b>H. A. Naseem</b> , and S.-Q. Yu	Temperature dependent spectral detectivity to 2.4 $\mu$ m and peak responsivity of 1.63 A/W for a Ge <sub>0.9</sub> Sn <sub>0.1</sub> photoconductor	Applied Physics Letters	2014	105		221117
Du, Wei, S. A. Ghetmiri, B. R. Conley, A. Mosleh, A. Nazzal, R. A. Soref, G. Sun, J. Tolle, J. Margetis, <b>H. A. Naseem</b> , and S.-Q. Yu	Competition of optical transitions between direct and indirect bandgaps in Ge <sub>1-x</sub> Sn <sub>x</sub>	Applied Physics Letters	2014	105		051104
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Ghetmiri, S.A., W. Du, J. Margetis, A. Mosleh, L. Couser, B.R. Conley, L. Domulevicz, A. Nazzal, G. Sun, R.A. Soref, J. Tolle, B. Li, <b>H. A. Naseem</b> , S. Yu	Direct-bandgap GeSn grown on Silicon with 2230 nm photoluminescence,	Applied Physics Letters	2014	105		151109

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Margetis, Joe., S.A. Ghetmiri, W. Du, B. R. Conley, A. Mosleh, R. A. Soref, G. Sun, L. Domulevicz, <b>H. A. Naseem</b> , S.-Q. Yu, and J. Tolle	Growth and Characterization of Epitaxial Ge1-xSnx Alloys and Heterostructures Using a Commercial CVD System	ECS Transactions	2014	64	6	
Thiel, C. L., <b>K. L. Needy</b> , R. Ries, D. Hupp, and M. Bilec	Building design and performance: A comparative longitudinal assessment of a Children's hospital	<i>Building and Environment</i>	2014	Vol. 78		130-136
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<b>Norman, J.</b> , DeJarnette, D., Roper, D.K.	Polylogarithm-based computation of Fano resonance in arrayed dipole scatterers	<i>J. Phys. Chem. C.</i>	2014	118		627-634
Tomasula, P.M., Datta, N., Yee, W.C.F., McAloon, A.J., <b>Nutter, D.W.</b> , Sampedro, F. and Bonnaillie, L.M.	Computer simulation of energy use, greenhouse gas emissions and costs for alternative methods of processing fluid milk	Journal of Dairy Science	07/14	97	7	4594-4611
Johnston, W., Banerjee, N., Cothren, J., and <b>Parkerson, J.P.</b>	Information-rich GIS dissemination in Disconnected Environments	<i>Transactions in GIS</i>	Aug. 2014	18	4	555-573
Fochtman, T., Hendricks, J., Padilla, J.E., <b>Patitz, M.J.</b> , and Rogers, T.A.	Signal Transmission Across Tile Assemblies: 3D Static Tiles Simulate Active Self-Assembly by 2D Signal-Passing Tiles					
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<b>Patitz, M.J.</b>	An Introduction to Tile-Based Self-Assembly and a Survey of Recent Results	<i>Natural Computing</i>	June 2014	13	2	195-224
<b>Pifer AD</b> and JL Fairey	Suitability of organic matter surrogates to predict trihalomethane formation in drinking water sources	Environmental Engineering Science		33	1	117-126
<b>Pifer AD</b> , SL Cousins, and JL Fairey	Assessing UV--- and fluorescence---based metrics as disinfection byproduct precursor surrogate parameters in a water body influenced by a heavy rainfall event	Journal of Water Supply: Research and Technology – AQUA		63	3	200-211
Medal, H., <b>E. A. Pohl</b> , M. D. Rossetti	A Multi-objective Integrated Facility Location-Hardening Model: Analyzing the Pre- and Post-Disruption Tradeoff	<i>European Journal of Operational Research</i>	2014	Vol. 237	No. 1	257–270
<b>Potts, T.</b> , Durant, K., Hestekin, J., Beitle, R. and M. Ackerson	Catalytic Production of 1-Octadecanol from Octadenoic Acid by Hydrotreating in a Plug Flow Reactor	Journal of the American Oil Chemists Society	2014	91		1643-1650
<b>Prinz, G.S.</b> , Nussbaumer, A., Borges, L., and Khadka, S.	Experimental testing and simulation of bolted beam-column connections having thick extended end-plates and multiple bolts per row	Engineering Structures		59		434-447
<b>Prinz, G.S.</b> , Coy, B., and Richards, P.W.	Experimental and numerical investigation of ductile top-flange beam splices for improved buckling-restrained braced frame behavior	J. of Structural Engineering	ASCE	140	9	1-9
Ghafoori, E., <b>Prinz, G.S.</b> , Nussbaumer, A., Motavali, M., Herwig, A., and Fontana, M.	Finite element analysis for fatigue damage reduction in metallic riveted bridges using pre-stressed CFRP plates	Polymers		6	4	1096-1118
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<b>X. Qian</b> , D. Liu	Free energy landscape for glucose condensation and dehydration reactions in dimethyl sulfoxide and the effects of solvent	Carbohydrate Research	2014	388	none	50-60
Medal, H., <b>C. Rainwater</b> , E. A. Pohl, and M. D. Rossetti	A Bi-Objective Analysis of the R-All-Neighbor P-Center Problem	<i>Computers &amp; Industrial Engineering,</i>	2014	Vol. 72		114-128
Nguyen, H. N., <b>C. Rainwater</b> , E. A. Pohl and S. J. Mason	Quantity Discount with Freight Consolidation	<i>Transportation Research Part E</i>	2014	Vol. 66		66-82
Medal, H., <b>C. Rainwater</b> , E. A. Pohl and M. D. Rossetti	A Bi-objective Analysis of the R-All-Neighbor P-Center Problem	<i>Computers and Operations Research</i>	2014	Vol. 72		114-128
Gedik, R., H. Medal, <b>C. Rainwater</b> , E. A. Pohl and S. J. Mason	Vulnerability Assessment and Re-Routing of Freight Trains under Disruptions: A Coal Supply Chain Network Application	<i>Transportation Research Part E</i>	2014	Vol. 71		45-57
Ramirez-Marquez, J., I. Hernandez, H. Medal, <b>C. Rainwater</b> and E. A. Pohl	Robust Facility Location	<i>Reliability Engineering &amp; System Safety</i>	2014	Vol. 123		73-80
<b>Rechtin, T.</b> , Hurst, M., Potts, T., Hestekin, J., Beitle, R., McLaughlin, J., and P. May	Production in Recombinant Protein in E. Coli Cultured in Extract from Waste Product Alga, Ulva Lactuca	Biotechnology Progress	2014	30		784-789
Xiang, Y. and <b>M. D. Rossetti</b>	The Effect of Backlog Queue and Load-building Processing in a Multi-echelon Inventory Network	<i>Simulation Modeling Practice and Theory</i>	2014	Vol. 43		54-66
Avagyan A, <b>Runkle BRK</b> , Hartmann J, Kutzbach L,	Spatial variations in pore-water biogeochemistry greatly exceed temporal changes during baseflow conditions in a boreal river valley mire complex, Northwest Russia.	Wetlands	2014	34	6	1171-1182 <a href="http://link.springer.com/article/10.1007/s13157-014-0576-4">http://link.springer.com/article/10.1007/s13157-014-0576-4</a>

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<b>Sammy Sadaka</b>	Selection, Performance and Maintenance of Grain Bin Fans.					<a href="http://uax.edu/publications/pdf/FS/A-1075.pdf">http://uax.edu/publications/pdf/FS/A-1075.pdf</a>
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Ashworth, A. <b>Sadaka, S.</b> , Allen, F., Sharara, M., Keyser. P.	Influence of Pyrolysis Temperature and Production Conditions on Switchgrass Biochar for Use as a Soil Amendment.	Bioresource	2014	9	4	7622-7635
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Sharara, M. and <b>S. Sadaka.</b>	Thermogravimetric Analysis of Swine Manure Solids Obtained From Farrowing, and Growing-Finishing Farms.	Journal for Sustainable Bioenergy Systems.	2014	4		75-86
<b>Sadaka, S.</b> , M. Sharara and G. Ubhi	Performance Assessment of an Allothermal Auger Gasification System for On-Farm Grain Drying.	Journal for Sustainable Bioenergy Systems.	2014	4		19-32
<b>Sadaka, S.</b> , M. Sharara, A. Ashworth, P. Keysser, F. Allen and A Wright.	Characterization of Biochar from Switchgrass Carbonization..	Energies	2014	7	2	548-567

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<b>Salazar, S.E.</b> , Coffman, R.A.	Consideration of Internal Board Camera Optics for Triaxial Testing Applications	Geotechnical Testing Journal		38	1	1-11
<b>Saraswat, D</b>	Cotton Advisor: An Android Application for Cotton Stakeholders. Summaries of Arkansas Cotton Research 2013, Fayetteville, AR: Arkansas Agricultural Experiment Station.					<a href="http://arkansasagnews.uark.edu/618-33.pdf">http://arkansasagnews.uark.edu/618-33.pdf</a>
<b>Saraswat, D.</b> , J.R. Frankenberger, N. Pai, S. Ale, P. Daggupati, K.R. Douglas-Mankin, and M.A. Youseff	Hydrology and Water Quality Models: Documentation and Reporting Procedures for Calibration, Validation, and Use.	Trans. ASABE	2014			
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<b>Spearot, D.E.</b> , M.D. Sangid	Insights on slip transmission at grain boundaries from atomistic simulations	Current Opinion in Solid State and Materials Science	08/14	18	4	188-195
Zimmerman, J.A., Sabau, A.S., Zaeem, M.A., Tschopp, M.A., <b>Spearot, D.E.</b>	Algorithm development in computational materials science	Journal of the Minerals, Metals & Materials Society	01/14	66	3	397-398
<b>Strasser, M.N.</b> and R.P. Selvam	A cost and performance comparison of backed bed and structured thermocline thermal energy storage system	Solar Energy		108		390-402



<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
<b>Sullivan, K. M.</b> , J. C. Smith, and D. P. Morton	Convex Hull Representation of the Deterministic Bipartite Network Interdiction Problem	<i>Mathematical Programming</i>	2014	Vol. 145		349-376
<b>Sullivan, K. M.</b> , D.P. Morton, F. Pan, and J.C. Smith	Securing a Border Under Asymmetric Information	<i>Naval Research Logistics</i>	2014	Vol. 61		91-100
<b>Sullivan, K. M.</b> and J. C. Smith	Exact Algorithms for Solving a Euclidean Maximum Flow Network Interdiction Problem	<i>Networks</i>	2014	Vol. 64		109-124
Rothmeyer, M., <b>Thompson, D.R.</b> , and Moccara, M.	The SMS Chaum Mix	<i>Journal of Computer and Communications</i>	March 2014	2	4	66-76
<b>Thompson, D.</b> , Di, J. and Daugherty, M.	Teaching RFID Information Systems Security	<i>IEEE Transaction of Education</i>	Jan. 2014	57	1	42-47
<b>Tung, Steve</b> , Yong Liu, Uche Wejinya	Special Issue on Control and Automation in Cyber-Physical Systems	Transactions of the Institute of Measurement and Control	10/14	36	7	867
<b>Turner, J.P.</b> , T. Lutz-Rechtin, K.A. Moore, L. Rogers, O. Bhave, M.A. Moss, S.L. Servoss	Rationally designed peptoids modulate aggregation of amyloid-beta 40	ACS Chemical Neuroscience	2014	5	7	552-558
Zhang Yu, Liu Lianqing, Xi Ning, Wang Yuechao, Dong Zaili, and <b>Wejinya Uchechukwu C</b>	Friction Anisotropy Dependence on Lattice Orientation of Graphene	Science China, Physics, Mechanics & Astronomy	02/14	57	4	663-667
<b>Ullal, V.</b> , D.E. Spearot	Molecular dynamics simulations of diffusion of O <sub>2</sub> through polydimethylsiloxane (PDMS) and end-linked PDMS networks	Molecular Simulation	2014	63	1	517-520
Marroquin, M., <b>Vu, A.</b> , Bruce, T., Powell, R., Wickramasinghe, S. R., Husson, S. M.	Location and quantification of biological foulants in a wet membrane structure by cross-sectional confocal laser scanning microscopy	Journal of Membrane Science	2014	453		282-291

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Marroquin, M., <b>Vu, A.</b> , Bruce, T., Wickramasinghe, S. R., Zhao, L., Husson, S. M.	Evaluation of fouling mechanisms in asymmetric microfiltration membranes using advanced imaging	Journal of Membrane Science	2014	465		1-13
<b>Vu, A. T.</b> , Wang, X., Wickramasinghe, S. R., Yuan, H., Yu, B., Cong, H., Tang, J.	Inverse colloidal crystal, membranes for hydrophobic interaction chromatography	Journal of Separation Science	2014			
<b>Wei, X.</b> , Jang, G.-G., D.K. Roper.	Spectrophotometric method for the determination of tin(II) by redox reaction using 3, 3',5,5'-tetramethylbenzidine dihydrochloride and N-bromosuccinimide.	<i>J. Anal. Chem.</i>	2014	70	5	566-572
<b>Wei, X.</b> ; D.K. Roper.	Tin sensitization for electroless plating review.	<i>J. Electrochem. Soc.</i>	2014	161	5	D235-D242
Sirkar, K. K., Fane, A. G., Wang, <b>Wickramasinghe, S. R.</b>	Process intensification with selected membrane processes	Chemical Engineering and Processing	2015	87		16-25
Yu, B., Cong, H., Li, Z., Yuan, H., Peng, Q., Chi, M., Yang, S., Yang, R., <b>Wickramasinghe, S. R.</b> , Tang, J.	Fabrication of highly ordered porous membranes of cellulose triacetate on ice substrates using breath figure method	Journal of Polymer Science, Part B: Polymer Physics	2015	53	8	
Wotherspoon L., Orense, R., Jacka, M., Green, R., Cox, B., <b>Wood, C.</b>	Seismic Performance of Improved Ground Sites during the Canterbury Earthquake Sequence	Earthquake Spectra		30	1	131-153
Green R., Cubrinovski, M. Cox, B., <b>Wood, C.</b> , Wotherspoon, L., Bradley, B., and Maurer, B.	Select Liquefaction Case Histories from the 2010-2011 Canterbury Earthquake Sequence	Earthquake Spectra		30	1	111-129
Qian, Chen, <b>J. Wu</b> , Y. R. Zheng, and Z. Wang	Simplified parallel interference cancelation for under-determined MIMO systems	IEEE Trans. Veh. Technol	2014			
Sun, Ning and <b>J. Wu</b>	Maximizing spectral efficiency for high mobility systems with imperfect channel state information,"	IEEE Trans. Wireless Commun	March 2014	13		1462-1470
Wang, Gang, <b>J. Wu</b> , and Y. R. Zheng	Optimum energy and spectral efficient transmissions for delay-constrained hybrid ARQ systems	IEEE Trans. Veh. Technol	2014			

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<b>Wu, Jingxian</b> , L. Wang, and C. Xiao	Low complexity soft-interference cancelation turbo equalization for MIMO systems with multilevel modulations	IET Commun	2014			
<b>Wu Jingxian</b> , G. Wang, and Y. R. Zheng	Energy efficiency and spectral efficiency tradeoff in type-I ARQ systems	IEEE J. Selected Areas Commun	Feb. 2014	32		356-366
Pan, K., <b>Wu, X.</b> , and Xie, T.	Guided Test Generation for Database Applications via Synthesized Database Interactions	<i>ACM Transactions on Software Engineering and Methodology</i>	March 2014	23	2	1-27
<b>Yang, Jing</b> , X. Wu, and J. Wu	Optimal Scheduling of Collaborative Sensing in Energy Harvesting Sensor Networks	IEEE Jour. on Selected Areas in Communications	2014			
Grant, Perry C., D. Fan, A. Mosleh, V. G. Dorogan, M. E. Hawkrigde, Y. I. Mazur, M. Benamara, <b>S.-Q. Yu</b> , G. J. Salamo	Rapid thermal annealing effect on GaAsBi/GaAs single quantum wells grown by molecular beam epitaxy	J.Vac. Sci. Technol. B	2014	32		02C119
Mazur, Yu. I., M. D. Teodoro, L. Dias de Souza, M. E. Ware, D. Fan, <b>S.-Q. Yu</b> , G. G. Tarasov, G. E. Marques and G. J. Salamo	Low temperature magneto-photoluminescence of GaAsBi /GaAs quantum well heterostructures	Journal of Applied Physics	2014	115		123518
Mosleh, Aboozar, S. A. Ghetmiri, B. R. Conley, H. Abu-Safe, M. Benamara, Z. Waqar, <b>S.-Q. Yu</b> , and H. A. Naseem	Investigation of Growth Mechanism and Role of H <sub>2</sub> in Very Low Temperature Si Epitaxy	ECS Transactions	2014	64	6	967-975
Mosleh, Aboozar, M. B., S. A. Ghetmiri, B. R. Conley, M. A. Alher, W. Du, G. Sun, R. A. Soref, J. Margetis, J. Tolle, <b>S.-Q. Yu</b> , and H. A. Naseem	Investigation on Formation and Propagation of Defects in Ge <sub>1-x</sub> Sn <sub>x</sub> Thin Films	ECS Transactions	2014	64	6	895-901

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Mosleh, Aboozar, S. A. Ghetmiri, B. R. Conley, M. Hawkridge, M. Benamara, J. Tolle, <b>S.-Q. Yu</b> , H. A. Naseem	Strain Engineering of High Quality CVD Grown GeSn Films for Optoelectronic Devices	Journal of Electronic Materials	2014	DOI: 10.1007/s11664-014-3089-2		
Mosleh, Aboozar, S. A. Ghetmiri, B. R. Conley, M. Hawkridge, M. Benamara, A. Nazzal, J. Tolle, <b>S.-Q. Yu</b> , H. A. Naseem	Material characterization of Ge <sub>1-x</sub> Sn <sub>x</sub> alloys using a commercial CVD system for Optoelectronic Device Applications	J. Electronic Materials	2014	43	4	938-946
Steele, J. A., R. A. Lewis, M. Henini, O. M. Lemine, A. Alkaoud, D. Fan, Yu. I. Mazur, V. G. Dorogan, P. C. Grant, <b>S.-Q. Yu</b> , and G. J. Salamo	Raman reveals strong LO-phonon-hole-plasmon coupling in undoped GaAsBi	Optics Express	2014	22	10	11680-11689
<b>Zhang, S.</b> , J. S. Ivy, J. R. Wilson, and B. C. Yankaskas	Competing Risks Analysis in Mortality Estimation for Breast Cancer Patients from Independent Risk Groups	<i>Health Care</i>	2014	Vol. 17	No. 3	259-269
Madadi, M., <b>S. Zhang</b> , K. H. Yeary, and L. Henderson	Analyzing the Factors Associated with Women's Attitudes and Behaviors toward Screening Mammography Using Design-based Logistic Regression	<i>Breast Cancer Research and Treatment</i>	2014	Vol. 144	No. 1	193-204
Nagarajan, R., <b>S. Zhang</b> , F. C. Payton, and S. Massarweh	Inferring Breast Cancer Concomitant Diagnosis and Comorbidities from the Nationwide Inpatient Sample using Social Network Analysis	<i>Health Systems</i>	2014	Vol. 3	No. 2	136-142
<b>Zhang, W.</b> , McLamore, E. S., Wu, R., Stensberg, M., Porterfield, M. D., Banks, M. K.	Glutathione Gated Potassium Efflux as a Mechanism of Active Biofilm Detachment	Water Environment Research		86	5	462-469
<b>Zhou, Wenchao</b> , Drew Loney, Andrei G. Fedorov, F. Levent Degertekin, David W. Rosen	Lattice Boltzmann Simulations of Multiple Droplet Interaction Dynamics	Physical Review E	03/14	89	3	033311

<b>Authors (Bold first UA author)</b>	<b>Article Title</b>	<b>Journal Title</b>	<b>Publication Date</b>	<b>Volume</b>	<b>Number</b>	<b>Pages</b>
Lin, H., X. Wu, B. Hu and <b>J. Zhu</b>	Microbial electrochemical systems for agro-industrial wastewater remediation and renewable products generation	Arc. Micro. Biotech.	2014	1	1	1-20
Lin, H., X. Wu, C. Miller, <b>J. Zhu</b> , L. J. Hadlocon, R. Manuzon, and L. Zhao	Pilot-scale field study for ammonia removal from lagoon biogas using an acid wet scrubber	J. of Environ Sci. Health Part B	2014	49	6	439-448

**IIIb. Refereed Conference Proceedings (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Cartwright, E., Sadeghian, A., Ma, S. and <b>Andrews, D.</b>	Achieving Portability and Efficiency over Chip Heterogeneous Multiprocessor Systems	<i>Proceedings of the 24<sup>th</sup> International Conference on Field Programmable Logic and Applications</i>	Sept	2014	Germany
<b>Ang, S. S.</b> , T. Cannon, R. Tian, J. Chen	Ceramic Fuel Cell Modules in Li-145 Form Factor	46th Power Sources Conference	June	2014	Orlando, FL
Manoharan, Anish Kumar, <b>S. S. Ang</b>	Zinc Oxide Nanorod Biosensor for Detection of Alpha Feto Protein in Blood Serum	International Conference on Medicine <b>Sciences and</b> Bioengineering	August	2014	Kunming, Yunnan, China
<b>Babcock, R.E.</b> , and J. Greg Thoma.	Modeling Dynamic Fluid Systems Under the Influence of Gravity.	2014 American Society for Engineering Education Midwest Section Annual Conference	9	2014	Fort Smith, AR
Escobar Mejia, Andres, <b>J.C. Balda</b> , K. George	New Power Electronic Interface to Integrate Deep-Sea Facilities with the ac Grid	2014 IEEE Energy Conversion Congress and Exposition	September	2104	Pittsburgh, PA
García Rodriguez, Luciano, E. Lindstrom, J. Gonzalez-Llorente, V. Jones, A. Oliva, <b>J.C. Balda</b>	Design of a GaN Microinverter for Photovoltaic Systems	IEEE 5th Symposium on Power Electronics for Distributed Generation Systems (IEEE PEDG 2014)	June	2014	Galway, Ireland
Garcia, Rodriguez, A. Escobar Mejia, K. George, <b>J.C. Balda</b>	Loss Comparison of Selected Core Magnetic Materials Operating at Medium and High Frequencies and Different Excitation Voltages	IEEE 5th Symposium on Power Electronics for Distributed Generation Systems (IEEE PEDG 2014)	June	2014	Galway, Ireland
Hayes, J. K., A. Escobar-Mejia, <b>J. C. Balda</b> , A. Dutta, S. S. Ang	Realization of a SiC Module-Based Indirect Matrix Converter with Minimum Parasitic Inductances	Applied Power Electronics Conference	March	2014	Fort Worth, TX
Liu, Yusi, C. Farnell, <b>J.C. Balda</b> , A. Mantooh	Topology, Cost and Efficiency Comparisons of a 2 MW DC Supply Using Interleaved DC-DC Converter	IEEE 5th Symposium on Power Electronics for Distributed Generation Systems (IEEE PEDG 2014)	June	2014	Galway, Ireland

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Liu, Yusi, A. Escobar Mejia, C. Farnell, Y. Zhang, <b>J.C. Balda</b> , A. Mantooth	Modular Multilevel Converter with High-Frequency Transformers for Interfacing Hybrid DC and AC Microgrid Systems	IEEE 5th Symposium on Power Electronics for Distributed Generation Systems (IEEE PEDG 2014)	June	2014	Galway, Ireland
Yusi, Liu, C. Farnell, <b>J.C. Balda</b> , A. Mantooth	Design of a 2 MW DC Supply using a 4-stage Interleaved DC-DC Converter	2014 IEEE Energy Conversion Congress and Exposition	September	2014	Pittsburgh, PA
<b>Bernhardt, M.L.</b> , O'Sullivan, C., Biscontin, G.	Effects of Sample Preparation in DEM	IS-Cambridge Micro- to Macro		2014	Cambridge, UK
<b>Bernhardt, M.L.</b> , Biscontin, G., O'Sullivan, C.	3D Discrete Element Method Simulations of a Laminar Simple Shear Device	GeoCongress 2014: Geo-Characterization and Modeling for Sustainability	February	2014	Atlanta, GA
Yonga, F., Junior, A., Mefenza, M., Saldanha, L., <b>Bobda, C.</b> and Velipassalar, S.	Self-coordinated Target Assignment and Camera Handoff in Distributed Network of Embedded Smart cameras	<i>Proceedings Of the International Conference on Distributed Smart cameras</i>	Nov.	2014	Italy
Mefenza, M., Yonga, F.U., Saldanha, L.B. and <b>Bobda, C.</b>	A Framework for Rapid Prototyping of Embedded Vision Applications	<i>Proceedings of the Conference on Design &amp; Architectures for Signal and Image Processing</i>	Oct	2014	Spain
pSaeed, A., Ahmadinia, A., Just, M., and <b>Bobda, C.</b>	An ID and Address Protection Unit for NoC based Communication Architectures	<i>Proceedings of the 7th International Conference on Security of Information and Networks</i>	Sept.	2014	Scotland
<b>Boice, J.</b> , Muldoon, T.	Classification and quantification of phenotypic characteristics of normal and dysplastic cells derived from oral tissue	University of Arkansas Biomedical Engineering Undergraduate Research Symposium	April	2014	Fayetteville, AR
<b>Carradini J</b> , Sturdivant NM, Balachandran K.	Development of a Valve-on-Chip to Study Cardiac Valve Endothelial-Mesenchymal Transformation	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX.
Schneider, K. and <b>C.R. Cassidy</b>	An Introduction to Probabilistic Methods in Reliability and Maintainability	<i>Annual Reliability and Maintainability Conference</i>	January	2014	Colorado Springs, Colorado

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Gaines, A.L., H.A. Schluterman, and <b>C.R. Cassady</b>	Assessment of Peer Mentoring Program at the University of Arkansas	<i>First Year Engineering Experience Conference</i>	August	2014	College Station, Texas
<b>Cleous, H.D.</b> , M.A. Christie, A. Moix, K.J. Smith, W.R. Penney and E.C. Clausen	Transient Heating of Fins	2014 American Society for Engineering Education Midwest Section Annual Conference	9	2014	Fort Smith, AR
<b>Dang, C.</b> and Hale, W.	A Correlation of Transfer Length and Strand End Slip	10th International PhD Symposium in Civil Engineering	July	2014	Quebec City, Canada
<b>Deschenes, R.</b> , Jr. and Hale, W.	Mitigation of ASR in an Interstate Median Barrier and Pavement through Surface Treatment	10th International PhD Symposium in Civil Engineering	July	2014	Quebec City, Canada
<b>Deschenes, Jr., R.</b> , Murray, C., and Hale, W.	Prevention and Mitigation of ASR in Median Barriers with Varying Degrees of Damage	ASCE's Transportation and Development Institute Conference	June	2014	Orlando, FL
Caley, Landon, N. Kuhns, W. S. Bowden, P. Shepherd, A. Rahman, <b>J. Di</b> , H. A. Mantooth, A. M. Francis and J. Homes	Delay-Insensitive Asynchronous Silicon Carbide Integrated Circuit Design for High-Temperature Applications	GOMACTech Conference,	March	2104	Charleston, SC
Men, L., Hollosi, B. and <b>Di, J.</b>	Framework of an Adaptive Delay-Insensitive Asynchronous Platform for Energy Efficiency	<i>IEEE International Symposium on VLSI</i>	July	2014	Florida
Caley, L., Lo, C., Sabado, F. and <b>Di, J.</b>	A Comparative Analysis of 3D-IC Partitioning Schemes for Asynchronous Circuits	<i>International Conference on IC Design and Technology</i>	May	2014	Texas
Brady, J. and <b>Di, J.</b>	Radiation-Hardened Delay-Insensitive Asynchronous Circuits	<i>23<sup>rd</sup> Annual Single Event Effects Symposium</i>	May	2014	California



<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Francis, A.M., Rahman, A., Holmes, J., Shepherd, P., Ahmed, S., Barlow, M., Bhuyan, S., Caley, L., Moudy, T., Mantooth, H.A. and <b>Di, J.</b>	Design of Analog and Mixed-Signal Integrated SiC CMOS Circuits with a High Fidelity Process Design Kit	<i>Government Microcircuit Applications &amp; Critical Technology Conference</i>	March	2014	South Carolina
Caley, L., Kuhns, N., Bowen, W.S., Shepherd, P., Rahman, A., <b>Di, J.</b> , Mantooth, H.A., Francis, A.M. and Holmes, J.	Delay-Insensitive Asynchronous Silicon Carbide Integrated Circuit Design for High-Temperature Applications	<i>Government Microcircuit Applications &amp; Critical Technology Conference</i>	March	2014	South Carolina
Men, L. and <b>Di, J.</b>	An Asynchronous Finite Impulse Response Filter Design for Digital Signal Processing Unit	<i>IEEE Midwest Symposium on Circuits and Systems</i>	Aug	2014	Texas
Men, L. and <b>Di, J.</b>	Framework of Scalable Delay-Insensitive Asynchronous Platform Enabling Heterogeneous Concurrency	<i>IEEE Midwest Symposium on Circuits and Systems</i>	Aug.	2014	Texas
<b>Dunklin, J.</b> , G.T. Forcherio, D.K. Roper.	Geometric optics of gold nanoparticle-polydimethylsiloxane thin film systems.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Dunklin, J.</b> , G.T. Forcherio, K. Berry, D.K. Roper	Asymmetric reduction of gold nanoparticles into thermoplasmonic polydimethylsiloxane thin films.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
Mosleh, Aboozar, S. A. Ghetmiri, B. R. Conley, H. Abu-Safe, Z. Waqar, M. B., <b>S. El-Ghazaly</b> , S.-Q. Yu, H. A. Naseem	Investigation of growth mechanism and role of H <sub>2</sub> in very low temperature Si epitaxy	226th ECS Fall Meeting	October	2014	Cancun, Mexico
Bowman, Tyler, <b>M. El-Shenawee</b> , and S. G. Sharma	Terahertz Spectroscopy for the Characterization of Excised Human Breast Tissue	Proc. of 2014 IEEE MTT-S International Microwave Symposium (IMS)	June	2014	Tampa Bay, FL
Bowman, Tyler, <b>M. El-Shenawee</b>	Imaging and Analysis of Heterogeneous Breast Cancer Tissue Using Pulsed Terahertz System	Proc. of 2014 National Radio Science Meeting	January	2104	Boulder, CO

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Burford, Nathan, M. <b>El-Shenawee</b>	Time-Domain Terahertz Imaging and Spectroscopy of X-Ray Blocking and Scattering Coatings,	<i>Proc. of 2014 National Radio Science Meeting</i>	January	2014	Boulder, CO
Burford, Nathan, B. Freiburger and <b>M. El-Shenawee</b>	Terahertz Investigation of X-Ray Anti-Imaging Coatings: Spectroscopic Characterization and Imaging	Proc. of 39th Int. Conf. IRMMW-THz,	September	2014	Tucson, AZ
Burford, Nathan and <b>M. El-Shenawee</b>	Multiphysics Modeling of THz Photoconductive Antennas	Proc. of 39th Int. Conf. IRMMW-THz,	September	2014	Tucson, AZ
<b>Forcherio, G.T.</b> , D. DeJarnette, P. Blake, D.K. Roper	Polarizability extraction for rapid computation of Fano resonance in nanoring lattices.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Forcherio, G.T.</b> , D.K. Roper	Optical attenuation of plasmonic Au-PDMS nanocomposite thin-film devices.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Garner, C.D.</b> , Coffman, R.A.	Remote Sensing Methods for Monitoring Ground Surface Deformation of Compacted Clay Test Sections	GeoCongress 2014: Geo-Characterization and Modeling for Sustainability	February	2014	Atlanta, GA
<b>Gashler, M.S.</b> and Ashmore, S.C.	Training Deep Fourier Neural Networks to Fit Time-Series Data	<i>Proceedings of the International Conference on Intelligence Computing</i>	August	2014	China
Billah, S. and <b>Gauch, S.</b>	Identifying Emerging Researchers using social Network Analysis	<i>INFORMS Annual Meeting</i>	Nov.	2014	California
Ericson, M. Nance., S. S. Frank, C. L. Britton, L. D. Marlino, D. D. Janke, D. B. Ezell, R. R. Lamichane, A. M. Francis, P. D. Shepherd, <b>M. D. Glover</b> , H. A. Mantooth, S.-H. Ryu, B. Whitaker, Z. Cole, B. Passmore, T. R. McNutt	An integrated gate driver in 4H-SiC for power converter applications	2nd IEEE Workshop on Wide Bandgap Power Devices and Applications	October	2014	Knoxville, TN

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<b>Greening G</b> , Balachandran K, Muldoon T.	Thin-film Polydimethylsiloxane based  Optical Phantoms for Epithelial Tissue Simulation	Optical Society of America Biomedical Optics Conference	April	2014	Miami, FL
<b>Greening, G.</b> , Hutcheson, J., Muldoon, T.	Development of a diffuse reflectance microendoscope device for deep tissue imaging	University of Arkansas Biomedical Engineering Undergraduate Research Symposium	April	2014	Fayetteville, AR
<b>Heller Z</b> , Arnaud A, Wolchok J.	Investigating the Effect of TBI-like Loading on Astrocytes	Proceedings of the 2014 Cell and Molecular Bioengineering Conference	January	2014	San Diego, CA
<b>Henry, C. G.</b> , W. M. McDougall, C.D. Allen, M. L. Reba, E. D. Vories, J. C. Henggeler and D. K. Carman	Can Variable Frequency Drives Reduce Irrigation Costs for Rice Producers?	the 2014 Rice Technical Working Group	Feb	2014	New Orleans, LA
Chiu, Y.J., M. L. Reba, D. Carman, <b>C. Henry</b>	Development of a wireless sensor network for monitoring and managing water depth in production rice fields.	the 2014 Rice Technical Working Group	Feb	2014	New Orleans, LA
Reba, M. L., P. Counce, <b>C. Henry</b> , E. Vories, and Y. J. Chiu	Sensitivity of Measure Evapotranspiration and Growth Stage of Rice in the Mid-south	the 2014 Rice Technical Working Group	Feb	2014	New Orleans, LA
Teaser, N., <b>C. Henry</b> , M. Anders, and A. McClung	A genetic Approach to Producing Rice using less Irrigation Water	the 2014 Rice Technical Working Group	Feb	2014	New Orleans, LA
McDougall, W. M., <b>C. G. Henry</b> , M. L. Reba, and D. K. Carman	A Pump Monitoring Approach to Irrigation Pumping Plant Testing.	the 2014 Arkansas Crop Protection Association Research Conference	Dec	2014	Fayetteville, AR
Gaspar, J. P., <b>C. G. Henry</b> , P. B. Francis, L. Espinoza, M. Ismanov, S. Hirsh, A. P. Horton, and H. James.	The Effects of Soil Treatments, Deep Tillage and Application of Gypsum, across various target irrigation deficit on soil moisture tension and crop yields for furrow irrigated soybeans.	the 2014 Arkansas Crop Protection Association Research Conference.	Dec	2014	Fayetteville, AR

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Ding, H. and <b>Huang, M.</b>	Improve Memory Access for Achieving Both Performance and Energy Efficiencies on Heterogeneous Systems	<i>2014 International Conference on Field-Programmable Technology</i>	Dec.	2014	China
Ding, H. and <b>Huang, M.</b>	A Unified OpenCL-flavor Programming Model with Scalable Hybrid Hardware Platform on FPGAs	<i>2014 International Conference on Reconfigurable Computing and FPGAs</i>	Dec	2014	Mexico
<b>Huang, M.</b> and Lai, C.	Parallelizing Computer Vision Algorithms on Acceleration Technologies: A SIFT Case Study	<i>2<sup>nd</sup> IEEE China Summit and International Conference on Signal and Information Processing</i>	July	2014	China
Lai, C., Hao, Z., <b>Huang, M.</b> , Shi, X. and You, H.	Comparison of Parallel Programming Models on Intel MIC Computer Cluster	<i>Fourth International Workshop on Accelerators and Hybrid Exascale Systems</i>	May	2014	Arizona
Li, S., <b>Huang, M.</b> , Ding, H. and Ma, S	A Hierarchical Memory Architecture with NoC Support for MPSoC on FPGAs	<i>22<sup>nd</sup> IEEE International Symposium on Field-Programmable Custom Computing Machines</i>	May	2014	Massachusetts
<b>Hutcheson, J.</b> , Greening, G., Muldoon, T.	Fiber positioning system to investigate diffuse reflectance imaging on optical phantoms	University of Arkansas Biomedical Engineering Undergraduate Research Symposium	April	2014	Fayetteville, AR
<b>Hutcheson, J.</b> , Powless, A., Majid, A., Muldoon, T	A mobile health device for high-throughput disease screening	Arkansas Biosciences Institute Fall 2014 Research Symposium	Fall	2014	Jonesboro, AR
<b>Kim, J.-W.</b>	Building Blocks of Bio/Nano Technology	The 9th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS)		2014	Honolulu, Hawaii
<b>Krisanarungson P.</b> , Wolchok J.	A Novel Cell Based Assay for MMP Inhibitor Screening	Proceedings of the 2014 Annual Meeting of Biomedical Engineering Society	October	2014	San Antonio, TX
<b>Lam NT</b> , Carradini J, Sharma SG, Balachandran K.	Valve Interstitial Cell Remodeling under Abnormal Mechanical Stress is Mediated by 5HT and FGF Signaling	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Lam NT</b> , Carradini J, Razavi A, Sharma SG, Balachandran K.	Valve Interstitial Cell Remodeling under Abnormal Mechanical Stress is Mediated by 5HT and FGF Signaling	Society of Heart Valve Disease Biennial Meeting	Sep	2014	London, United Kingdom
<b>Lam NT</b> , Balachandran K.	Healthy and Pathological Remodeling in a Single Cell Model for Cardiac Valve Disease	International Society of Applied Cardiovascular Biology Biennial Meeting	April	2014	Cleveland, OH
<b>Li, Q.</b> and Cao, G.	Providing Efficient Privacy-Aware Incentives for Mobile Sensing	<i>IEEE International Conference on Distributed Computing Systems</i>	July	2014	Spain
Niu, B., <b>Li, Q.</b> , Zhu, X. and Li, H.	A Fine-Grained Spatial Cloaking Scheme for Privacy-Aware Users in Location-Based Services	<i>23rd International Conference on Computer Communications and Networks</i>	August	2014	China
<b>Lowry, E.</b> , Wallace, C., Koppolu, B., Smith, S.G., Zaharoff, D.A.	Novel Chitosan-Based Hydrogel for Controlled Release of Anti-Tumor Cytokines.	Biomedical Engineering Society (BMES) Annual Meeting	October 22-25	2014	San Antonio, TX.
Hill, Avery M., A. I. Nusir, P. V. Nguyen, <b>O. M. Manasreh</b> , J. B. Herzog	Plasmonics: Metallic Nanostructures and Their Optical Properties XII	SPIE Meeting	August	2014	San Diego, CA
Smith, N., R. McCann, Y. Makableh, R. Vasan, <b>M.O. Manasreh</b>	Performance analysis of a boost inverter with a silicon carbide device for commercial applications	2014 IEEE Industry Applications Society Annual Meeting,	October	2014	Vancouver, BC, Canada
Francis, A. Matthew, A. Rahman, J. Holmes, P. Shepherd, S. Ahmed, M. Barlow, S. Bhuyan, L. Caley, T. Moudy, <b>H. A. Mantooth</b> , J. Di	Design of Analog and Mixed-Signal Integrated SiC CMOS Circuits with a High Fidelity Process Design Kit	Proceedings of the 2014 Government Microcircuit Applications and Critical Technology Conference (GOMAC-Tech	March	2014	Charleston, SC
Lamichhane, Ranjan R., N. Ericsson, S. Frank, C. Britton, L. Marlino, <b>H. A. Mantooth</b> , A. M. Francis, P. Shepherd, M. Glover, S. Perez, T. McNutt, B. Whitaker, Z. Cole	A wide bandgap silicon carbide (SiC) gate driver for high-temperature and high-voltage applications	IEEE International Symposium on Power Semiconductor Devices & IC's (ISPSD)	June	2014	Waikoloa, Hawaii

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Liu, Yusi., C. Farnell., H. Zhang, <b>H. A. Mantooth</b> , J. Balda, S. S. Ang	A Silicon Carbide Fault Current Limiter for Distribution Systems	2014 IEEE Energy Conversion Congress and Exposition	September	2014	Pittsburgh, PA
Liu, Yusi, C. Farnell, <b>H. A. Mantooth</b> , J. C. Balda	Topology, cost, and efficiency of a 2 MW DC supply using an interleaved DC-DC Converter	IEEE Power Electronics for Distributed Generation Systems (PEDG)	June	2014	Galway, Ireland
Shepherd, Paul, D. Kaiser, M. Glover, S. Perez , A. M. Francis, <b>H. A. Mantooth</b>	Integrated Protection Circuits for an NMOS Silicon Carbide Gate Driver Integrated Circuit	2014 Seventh International High Temperature Electronics Conference (HITEC)	May	2014	Albuquerque, NM
Shepherd, Paul, A. Rahman, S. Ahmed, A. M. Francis, J. Holmes, <b>H. A. Mantooth</b>	500 kHz – 5 MHz Phase-Locked Loops in High-Temperature Silicon Carbide CMOS	2014 Seventh International High Temperature Electronics Conference (HITEC)	May	2014	Albuquerque, NM
Zhang, Yuzhi, J. Umuhzoza, Y. Liu, C. Farnell, <b>H. A. Mantooth</b> , R. Dougal	Optimized control of isolated residential power router for photovoltaic applications	IEEE Energy Conversion Congress and Exposition (ECCE)	September	2014	Pittsburgh, PA
Listenbee, Ryan, K. Jeong, <b>R. McCann</b>	Integrated Computational and Experimental Framework on Advanced Flow Battery for Renewable Power Plant Applications	ASME 2014 12th International Conference on Fuel Cell Science, Engineering and Technology	June-July	2014	Boston, MA
Smith, N., <b>R. McCann</b>	Analysis of distributed generation sources and load shedding schemes on isolated grids case study: The Bahamas	2014 International Conference on Renewable Energy Research and Applications	October	2014	Milwaukee, WI
Smith, N., <b>R. McCann</b>	Analysis and simulation of a multiple input interleaved boost converter for renewable energy applications	2014 IEEE 36th International Telecommunications Energy Conference (INTELEC)	Sept-Oct	2104	Austin, TX
<b>Mertz, M.</b> , Koppolu, B., Zaharoff, D.A.	Characterization of Novel Chitosan/Polyelectrolyte Nanoparticles.	Biomedical Engineering Society (BMES) Annual Meeting	October 22-25	2014	San Antonio, TX.
<b>Mishler, J.</b> , P. Blake, A.J. Alverson, D.K. Roper, J. B. Herzog.	Diatom frustule photonic crystal geometric and optical characterization.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA

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Oztanriseven, Furkan, Lizzette Perez-Lespier, Suzanna Long, and <b>H. Nachtmann</b>	A Review of System Dynamics in Maritime Transportation	<i>Proceedings of the 2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Al-Shurman, Khaled. M., H. Abu-Safe, M. Alher, O. Alzoubi, <b>H. Naseem</b>	Large-Area synthesis of Uniform Graphene on Nickel Films at Low Temperature Using Hot-Wire Chemical Vapor Deposition	MRS/New Diamond and Nano Carbons Conference	May	2014	Chicago, IL
Al-Shurman, Khaled M., and <b>H. Naseem</b>	CVD Graphene Growth Mechanism on Nickel Thin Films	COMSOL Conference 2014	October	2014	Boston, MA
Alzoubi, Omar. H., M. A. Khorrami, and <b>H. Naseem</b>	A fast semi-analytical simulation of nanowire arrays based on transmission lines theory	2014 IEEE Antennas and Propagation Society International Symposium (APSURSI)	July	2014	Memphis, TN
Alzoubi, Omar. H. and <b>H. A. Naseem</b>	Broad band absorption silicon nanowire array using diverse radii for photovoltaic applications	40th IEEE Photovoltaic Specialist Conference (PVSC)	June	2014	Denver, CO
Alzoubi, Omar. H., H. Abu-Safe, K. Al-Shurman, and <b>H. A. Naseem</b>	Broadband Absorptance High Efficiency Silicon Nanowire Fractal Arrays for Photovoltaic Applications	MRS Spring Meeting, Symposium UU – Semiconductor Nanowires— Synthesis, Properties and Applications	April	2014	San Francisco, CA
Conley, Benjamin R., A. Mosleh, S. A. Ghetmiri, W. Du, G. Sun, R. Soref, J. Tolle, J. Margetis, <b>H. A. Naseem</b> , and S.-Q. Yu	Stability of pseudomorphic and compressively strained GeSn thin films under rapid thermal annealing	226th ECS Fall Meeting	October	2014	Cancun, Mexico
Conley, Benjamin R., Y. Zhou, A. Mosleh, S. A. Ghetmiri, W. Du, R. A. Soref, G. Sun, J. Margetis, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Infrared spectral response of a GeSn p-i-n photodiode on Si	11th International Conference on Group IV Photonics	August	2014	Paris, France
Conley, Benjamin R., A. Mosleh, S. A. Ghetmiri, W. Du, J. Tolle, J. Margetis, R. A. Soref, G. Sun, <b>H. Naseem</b> , and S.-Q. Yu	Temperature Dependent Spectral Response and Responsivity of GeSn Photoconductor on Si	IEEE Summer Topical Meeting Series	July	2014	Montreal, Quebec, Canada

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Conley, Benjamin R., L. Huang, S. A. Ghetmiri, A. Mosleh, W. Du, G. Sun, R. Soref, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Extended Infrared Absorption to 2.2 $\mu\text{m}$ with Ge <sub>1-x</sub> Sn <sub>x</sub> Photodetectors Grown on Silicon	Conference On Lasers and Electro-Optics (CLEO)	June	2014	San Jose, CA
Du, Wei, S. A. Ghetmiri, A. Mosleh, B. R. Conley, L. Huang, A. N., R. A. Soref, G. Sun, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Investigation of Photoluminescence from Ge <sub>1-x</sub> Sn <sub>x</sub> : A CMOS Compatible Material Grown on Si via CVD	Conference On Lasers and Electro-Optics (CLEO),	June	2014	San Jose, CA
Du, Wei, S. A. Ghetmiri, A. Mosleh, B. R. Conley, L. Huang, A. Nazzal, R. A. Soref, G. Sun, J. Tolle, J. Margetis, <b>H. A. Naseem</b> , and S.-Q. Yu	Direct transition Ge <sub>0.94</sub> Sn <sub>0.06</sub> PIN-diode double heterostructure light emitter at high injection	11th International Conference on Group IV Photonics	August	2014	Paris, France
Ghetmiri, Sayed A., B. R. Conley, A. Mosleh, L. Huang, W. Du, A. Nazzal, G. Sun, R. Soref, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Photoluminescence from GeSn/Ge Heterostructure Microdisks with 6% Sn Grown on Si via CVD	Conference On Lasers and Electro-Optics (CLEO)	June	2014	San Jose, CA
Margetis, Joe, S. A. Ghetmiri, W. Du, B. R. Conley, A. Mosleh, R. A. Soref, G. Sun, L. Domulevich, <b>H. A. Naseem</b> , S.-Q. Yu, and J. Tolle	Growth and Characterization of Epitaxial Ge <sub>1-x</sub> Sn <sub>x</sub> Alloys and Heterostructures Using a Commercial CVD System	226th ECS Fall Meeting	October	2014	Cancun, Mexico
Pham, Tran, B. R. Conley, L. Huang, Wei Du, R. A. Soref, G. Sun, J. Margetis, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Enhanced responsivity by integration of interdigitated electrodes on Ge <sub>0.93</sub> Sn <sub>0.07</sub> infrared photodetectors	IEEE Photonics Conference	August	2014	San Diego, CA
Zhou, Yiyin, Wei Du, S. A. Ghetmiri, A. Mosleh, A. Nazzal, R. A. Soref, G. Sun, J. Margetis, J. Tolle, <b>H. A. Naseem</b> , and S.-Q. Yu	Room-temperature electroluminescence from Ge/Ge <sub>0.92</sub> Sn <sub>0.08</sub> /Ge double heterostructure LED on Si	IEEE Photonics Conference	October	2014	San Diego, CA



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Lamb, K., <b>K. L. Needy</b> , R. Ries, and V. Mahjan	Project quality metrics inside and outside the capital facilities delivery industry	<i>Proceedings of the Annual Conference for the American Society for Engineering Management (ASEE),</i>	October	2014	Virginia Beach, Virginia
Neuman, Y., T. Alves, K. D. Walsh, <b>K. L. Needy</b> , and R. AlMaian	Analysis of supplier quality surveillance in EPC projects	<i>22nd Conference of the International Group for Lean Construction</i>	June	2014	Oslo, Norway
Ahmad, S., K. D. Walsh, T. C. L. Alves, and <b>K. L. Needy</b>	An analysis of process v. inspection capabilities in fabricated, engineered-to-order construction supply chains	<i>American Society of Civil Engineers (ASCE) Construction Research Congress</i>	May	2014	Atlanta, Georgia
Scala, N. M., J. Rajgopal, L. Vargas, and <b>K. L. Needy</b>	Using principal components analysis for aggregating judgments in the analytic hierarchy process	<i>International Symposium of the Analytic Hierarchy Process 2014</i>	June-July	2014	Washington, D.C.
Omran, O.B. and <b>Panda, B.</b>	A New Technique to Partition and Manage Data Security in Cloud Databases	<i>Proceedings of the 9th International Conference for Internet Technology and Secured Transactions</i>	Dec.	2014	London
<b>Parnell, G. S.</b> , M. V. Cilli, D. Buede	Systems Engineering Tradeoff Study Process	<i>Proceedings of the International Symposium of the International Council on Systems Engineering (INCOSE)</i>	Jun 30 - July 3	2014	Las Vegas, Nevada
Hendricks, J., <b>Patitz, M.J.</b> and Rogers, T.R.	Doubles and Negatives are Positive (in Self-Assembly)	<i>Proceeding of Unconventional Computation and Natural Computation</i>	July	2014	Canada
Demaine, E.D., Demaine, M.L., Fekete, S.P., <b>Patitz, M.J.</b> , Schweller, R.T., Winslow, A. and Woods, D.	One Tile to Rule Them All: Simulating Any Tile Assembly System with a Single Universal Tile	<i>Proceedings of the 41st International Colloquium on Automata, Languages, and Programming</i>	July	2014	Denmark
Hendricks, J., <b>Patitz, M.J.</b> , Rogers, T.A. and Summers, S.M.	The Power of Duples (in Self-Assembly): It's Not So Hip To Be Square	<i>Proceedings of the 20th International Computing and Combinatorics Conference</i>	August	2014	Georgia
Meunier, P., <b>Patitz, M.J.</b> , Summers, S.M., Theyssier, G., Winslow, A., Woods, D.	Intrinsic Universality in Tile Self-Assembly Requires Cooperation	<i>Proceedings of the ACM-SIAM Symposium on Discrete Algorithms</i>	January	2014	Oregon

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<b>Perlow, H.</b> , Yang, L., Zaharoff, D.A.	Pancreatic cancer immunotherapy with chitosan/IL-12	AACR Annual Meeting	April 5-9	2014	San Diego, CA.
<b>Phillips, W.</b> , Deschenes, Jr., R., and Hale, W.	Mitigating Alkali Silica Reaction Using Class C Fly Ash	Structural Faults & Repairs	July	2014	London, UK
<b>Pohl, L.</b> and E. A. Pohl	From Classroom to Online to Hybrid: The Evolution of an Operations Management Course	<i>Proceedings of the 121st American Society for Engineering Education (ASEE) Annual Conference &amp; Exposition</i>	June	2014	Indianapolis, Indiana
<b>Powless A.</b> , Prieto S, Balachandran K, Muldoon T.	An optofluidics-based, line-scanning imaging system for point-of-care cytology	Gordon Research Conference: Lasers in Medicine and Biology	June	2014	Holderness, NH
<b>Powless A.</b> , Majid A, Boice J, Prieto S, Pierce M, Balachandran K, Sharma S, Muldoon T.	A Fluorescence Imaging Optofluidics Device for Cytologic Morphology Assessment	Optical Society of America Biomedical Optics Conference	April	2014	Miami, FL
<b>Prieto, S.</b> , Powless, A, Majid, A, Laryea, J, Mizell, J, Sharma, S, Muldoon, T.	Fiber Bundle Microendoscopy for Characterization of Dysplastic Lesions in Colonic Epithelium.	Optical Society of America Biomedical Optics Conference	April	2014	Miami, FL
Ghafoori, E., Motavalli, M., Nussbaumer, A., Herwig, A., <b>Prinz, G.S.</b> , Fontana, M., and Zhao, X.-L.	Constant life diagrams to prevent fatigue crack initiation in metallic beams using CFRP plates	7th International Conference on FRP Composites in Civil Engineering (CICE)		2014	Vancouver, Canada
<b>Prinz, G.S.</b> , and de Castro-e-Sousa, A.	Effect of slab stiffness on EBF link rotation demands and implications for link ultra low-cycle fatigue susceptibility	ASCE Structures Congress		2014	Boston, MA
<b>Razavi A.</b> , Carradini J, Balachandran K.	The Role of Valve Interstitial Cell Structure on Initiation and Progression of Aortic Valve Disease.	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX.

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<b>Reynolds R</b> , Razavi A, Martindale C, Morales J, Balachandran K.	Investigating the Effect of 5-hydroxytryptamine on the Functional Properties of the Cardiac Valve.	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX
<b>Roper, D.K.</b> , D. DeJarnette, G.T. Forcherio, J. Dunklin, K. Berry Jr., G.-G Jang, M. Lisunova, P.T. Blake, W. Ahn.	Electron optics of nanoplasmonic metamaterials in bio/opto theranostics.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Rossetti, M.D.</b> , E.C. Clausen, C.S. Gattis, W.M. Hale and K.L. Needy	Enrichment Activities in Support of a Student Integrated Intern Research Experience	<i>121st American Society for Engineering Education (ASEE) Annual Conference &amp; Exposition</i>	6	2014	Indianapolis, IN
<b>Rossetti, M. D.</b> , K. Needy, C. Gattis, E. Clausen, and M. Hale	Enrichment Activities in Support of a Student Integrated Intern Research Experience	<i>Proceedings of the 2014 American Society for Engineering Education (ASEE) Annual Conference and Exposition</i>	June	2014	Indianapolis, Indiana
<b>Selvam, R.P.</b>	Multiphase flow modeling and fluid structure interaction	2nd International Conference on Applications of Fluid Dynamics (ICAFD2014)	July	2014	Tirupati, India
<b>Smith, S.G.</b> , Koppolu, B., Ravindranathan, S., Kurtz, S., Yang, L., Katz, M., Zaharoff, D.A.	Intravesical Chitosan/IL-12 Immunotherapy of Orthotopic Bladder Cancer Induces Tumor Specific Systemic Immunity.	South Central Section of the American Urological Society Annual Meeting	October 8-11,	2014,	Rancho Mirage, CA
<b>Smith, S.G.</b> , Zaharoff, D.A.	Intravesical Chitosan/IL-12 Immunotherapy of Orthotopic Bladder Cancer Induces Tumor Specific Systemic Immunity. A	Arkansas Academy of Sciences Annual Meeting	April	2014	Searcy, AR
<b>Specking, E.</b> , and E.C. Clausen	Engineering Summer Academy: How It's Done— Chemical Engineering Style	<i>2014 American Society for Engineering Education Midwest Section Annual Conference</i>	9	2014	Fort Smith, AR
<b>Strasser, M.N.</b> and R.P. Selvam	Influence of the phase of vortex shedding at vortex impact on peak loading	2nd International Conference on Applications of Fluid Dynamics (ICAFD2014)	July	2014	Tirupati, India

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<b>Sturdivant NM</b> , Stone J, Haileyesus A, Wolchok JC, Balachandran K.	Semiinterpenetrating alginate/laminin hydrogels to study mechanism for neural remodeling following traumatic brain injury	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX
<b>Sturdivant NM</b> , Carradini J, Wolchok JC, Kartik Balachandran	Traumatic Brain Injury Resulted in Increased Aquaporin-4 Expression – Relevance to Post Injury Edema	Biomedical Engineering Society 2014 Annual Meeting	October	2014	San Antonio, TX.
Heydari, M., <b>K. M. Sullivan</b> , and E. A. Pohl	Optimal Allocation of Testing Resources in Reliability Growth	<i>Proceedings of the 2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Alsaify, B.A., <b>Thompson, D.R.</b> , and Di, J.	Exploiting Hidden Markov Models in Identifying Passive UHF RFID Tags	<i>IEEE Radio and Wireless Symposium</i>	Jan.	2014	California
Manoharan, Anish Kumar, H. Zhou, <b>R. Tian</b> , S. S. Ang	The Process Condition Effects of Zinc Oxide Nanorods for Biosensor Application	International conference on MEMS and Sensors (ICMEMSS 2014)	December	2014	Chennai, India
<b>Walker, C.</b> , Smith, S.G., Zaharoff, D.A.	Exploring Biomarkers for Point of Care Bladder Cancer Detection	Biomedical Engineering Society (BMES) Annual Meeting	October 22-25	2014	San Antonio, TX.
<b>Wallace, C.W.</b> , Koppolu, B., Smith, S.G., Zaharoff, D.A.	Novel Chitosan-Based Hydrogel for Localized Cytokine Immunotherapy	AACR Annual Meeting	April 5-9	2014	San Diego, CA.
Sonnentag, J. J., <b>J. A. White</b> , R. C. Imhoff, and J. O. Matson	A Consideration of the Block Stacking Multi-Product Storage Problem	<i>Proceedings of the 2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Matson, J. O., J. J. Sonnentag, <b>J. A. White</b> , and R. C. Imhoff	An Analysis of Block Stacking with Lot Splitting	<i>Proceedings of the 2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Wilson K</b> , Wolchok J.	Development of an Injectable Matrix Gel for the Treatment of Muscle Degeneration	Proceedings of the 2014 Annual Meeting of Biomedical Engineering Society	October	2014	San Antonio, TX

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Wotherspoon LM, Orense RP, Bradley BA, Cox BR, Green RA. <b>Wood CM</b>	Soil profile characterization of Christchurch strong motion stations	10th U.S. National Conference on Earthquake Engineering	July	2014	
<b>Wood, C.</b> , Ellis, T., Teague, D., Cox, B.	Analyst I: Comprehensive Analysis of the UTexas1 Surface Wave Dataset	GeoCongress 2014: Geo-Characterization and Modeling for Sustainability	February	2014	Atlanta, GA
Cox, B., <b>Wood, C.</b> , Ellis, T., Teague, D.	Synthesis of the UTexas1 Surface Wave Dataset Blind-Analysis Study: Inter-Analyst Dispersion and Shear Wave Velocity Uncertainty	GeoCongress 2014: Geo-Characterization and Modeling for Sustainability	February	2014	Atlanta, GA
Guo, Qing, <b>J. Wu</b> , and B. Li	EEG-based golf putt outcome prediction using support vector machine	Proc. IEEE Symp. Series Comput. Intelligence SSCT'14	December	2014	Orlando, FL
Hu, Dali, <b>J. Wu</b> , and P. Fan	Optimum number of hops of linear multi-hop networks with equidistant relays	Proc. Intern. Workshop High Mobility Wireless Commun. HMWC'2014	November	2014	Beijing, China
Liu, Ziyue, <b>J. Wu</b> , and P. Fan	Performance analysis and antenna selection of high speed railway communications systems with distributed antennas	Proc. Intern. Workshop High Mobility Wireless Commun. HMWC'2014	November	2014	Beijing, China
Liu, Ziyue, <b>J. Wu</b> , and Pingzhi Fan	On the uplink capacity of high speed railway communications with massive MIMO systems	IEEE Vehicular Technology Conference VTC'14 Spring	May	2014	Seoul, Korea
Qian Chen, <b>J. Wu</b> , Y. R. Zheng, and Z. Wang	Low complexity detection algorithm for under-determined MIMO systems	IEEE International Conference on Communications ICC'14	June	2014	Sydney, Australia
Sun, Ning and <b>J. Wu</b>	On the performance of doubly-selective fading estimations in high mobility systems	IEEE Vehicular Technology Conference VTC'14 Spring	May	2014	Seoul, Korea
Sun, Ning and <b>J. Wu</b>	Optimum designs for high mobility systems with channel estimation errors	IEEE International Conference on Communications ICC'14	June	2014	Sydney, Australia

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Wang, Gang, <b>J. Wu</b> , and Y. R. Zheng	An accurate frame error rate approximation of coded diversity systems with non-identical diversity branches	IEEE International Conference on Communications ICC'14	June	2014	Sydney, Australia
<b>Wu, Jingxian</b> , A. Alqatawneh, and H. Lin	Multi-carrier circular-shift division multiple access for multi-user wireless systems	IEEE Global Telecommun. Conf (Globecom'14)	December	2014	Austin, TX
<b>Wu, Jingxian</b> and J. Yang	The asymptotic equivalence between sensing systems with energy harvesting and conventional energy sources	IEEE Global Telecommun. Conf (Globecom'14)	December	2014	Austin, TX
Zhou, Weixi, <b>J. Wu</b> , and P. Fan	Maximum Doppler diversity transmissions for high mobility systems with imperfect channel state information	IEEE International Conference on Communications ICC'14	June	2014	Sydney, Australia
Wu, L., <b>Wu, X.</b> , Lu, A. and Li, Y.	On Spectral Analysis of Signed and Dispute Graphs	<i>Proceedings of the IEEE International Conference on Data Mining</i>	Dec.	2014	China
Wu, L., <b>Wu, X.</b> , Lu, A. and Li, Y.	On Spectral Analysis of Signed and Dispute Graphs	<i>Proceedings of the IEEE International Conference on Data Mining</i>	Dec.	2014	China
Hammer, J.C. and <b>Yan, T.</b>	Exploiting Usage Statistics for Energy-efficient Logical Status Inference on Mobile Phones	<i>Proceedings of the 18th International Symposium on Wearable Computers</i>	Sept.	2014	Seattle
Hammer, J.C. and <b>Yan, T.</b>	A Virtual Sensing Framework for Mobile Phones	<i>Proceedings of the 12<sup>th</sup> International Conference on Mobile Systems, Applications, and Services</i>	June	2014	New Hampshire
Wang, F., S. Zhang, and <b>J. Yang</b>	Prediction of Depressive Mood of College Students: An Elastic-Net Regularized Model	INFORMS Workshop on Data Mining and Analytics	November	2014	San Francisco, CA
<b>Yang, J.</b> , and J. Wu	Optimal Sampling of Random Processes under Stochastic Energy Constraints	IEEE Global Telecommun. Conf (Globecom'14)	December	2014	Austin, TX

<b>Authors (Bold first UA author)</b>	<b>Paper Title</b>	<b>Conference Name</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Yang, J.</b> , Z. Wang, and J. Wu	Level Set Estimation with Dynamic Sparse Sensing	IEEE Global Conference on Signal and Information Processing (GlobalSIP)	December	2014	Austin, TX
<b>Yang, J</b>	Achievable Rate for Energy Harvesting Channel with Finite Blocklength	IEEE International Symposium on Information Theory (ISIT)	July	2014	Honolulu, HI
<b>Yang, J,</b>	Optimal Sensing Scheduling in Energy Harvesting Sensor Networks	IEEE International Conference on Communications (ICC)	June	2014	Sydney, Australia
<b>Yang, S.</b> , Braham, A.	The Investigation of R-Curves of Asphalt Concrete	Airfield and Highway Pavement 2013: Sustainable and Efficient Pavements	June	2013	Los Angeles, CA
Grant, Perry C., W. Dou, D. Fan, Y. I. Mazur, V. Dorogan, <b>S.-Q. Yu</b> , G. J. Salamo	Band offsets in GaAs <sub>1-x</sub> Bix (0<x<3.6%) Grown by Molecular Beam Epitaxy	18 <sup>th</sup> International MBE conference		2104	Flagstaff, AZ
Mosleh, Aboozar, M. Benamara, S.A. Ghetmiri, B. Conley, W. Du, J. Tolle, <b>S.-Q. Yu</b> , H. Naseem	Investigation of defect formation and propagation in GeSn thin films	226th ECS Fall Meeting	October	2014	Cancun, Mexico
Mosleh, Aboozar, S. A. Ghetmiri, B. R. Conley, Wei Du, J. Tolle, <b>S.-Q. Yu</b> , and H. A. Naseem	Strain Relaxation and Material Quality Improvement of Compressively Strained GeSn Epitaxial Films Through Cyclic Rapid Thermal Annealing Process	IEEE Summer Topical Meeting Series	July	2014	Montreal, Quebec, Canada
Lamb, K., <b>S. Zhang</b> , and N. Jackson	Association between Comorbidities and Hospital Resource Usage for Diabetes Inpatients	<i>Proceedings of the 2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Wang, F., <b>S. Zhang</b> , and J. Yang	Prediction of Depressive Mood of College Students: an Elastic-Net Regularized Model	Institute for Operations Research and the Management Sciences (INFORMS) Workshop on Data Mining	November	2014	San Francisco, California

**IV. Unrefereed Publications and Proceedings (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Publication Title</b>	<b>Month</b>	<b>Year</b>
<b>Bandekar, Prathamesh</b> , Mansoor Leh, Rusty Bautista, Marty D Matlock, Greg Thoma, Rick Ulrich.	Life cycle analysis of swine management practices	10	2014
<b>Burek J.</b> , G. Thoma, J. Popp, C. Maxwell and R. Ulrich.	Developing environmental footprint, cost, and nutrient database of the US animal feed ingredients.	10	2014
<b>Cone SG</b> , Anderson P, Balachandran K.	Poly(glycerol sebacate) Nanofibers for Tissue Engineering Applications	April	2014
<b>Kim, Daesoo</b> , Greg Thoma, Rick Ulrich, Darin Nutter, Franco Milani	Life Cycle Assessment of Cheese Manufacturing in the United States	10	2014
Entrekin, S., others, and <b>B. Haggard</b> .	Final Report to Arkansas Game and Fish Commission – Gulf Mountain: Freshwater Effects from Natural Gas Development, State Wildlife Grant T37-02		2014
Scott, E., J. Gile, and <b>B. Haggard</b>	Final Report to Beaver Water District – Relation of chlorine demand to the water quality of Beaver Lake, Arkansas, Water Resources Center Technical Publication MSC XXX		2014
<b>Henry, C.G.</b> , E.D. Vories, M.M. Anders, S.L. Hirsh, M.L. Reba, K.B. Watkins and J.T. Hardke	Irrigation Water Requirements for Rice Irrigation Systems in Arkansas. Submitted to the B.R. Wells Rice Research Series.		2014
<b>Henry, C. G.</b> and Jason Kelly	ET gage (Atmometer) Chart for Irrigated Corn. University of Arkansas Extension. Available at <a href="http://www.uaex.edu/environment-nature/water/docs/irrig-ET-Gage-Sheet-Corn.pdf">http://www.uaex.edu/environment-nature/water/docs/irrig-ET-Gage-Sheet-Corn.pdf</a> . 2pp.		
<b>Henry, C. G.</b> L. Espinoza, M. Ismanov, P. Francis and J. Ross	ET gage (Atmometer) Chart for Irrigated Soybeans. University of Arkansas Extension. Available at <a href="http://www.uaex.edu/environment-nature/water/docs/irrig-ET-Gage-Sheet-Soybean.pdf">http://www.uaex.edu/environment-nature/water/docs/irrig-ET-Gage-Sheet-Soybean.pdf</a> . 2pp.		
McDougall, W.M., <b>C.G. Henry</b> , M.L. Rea and D.K. Carman	A Pump Monitoring Approach of Irrigation Pumping Plant Testing. Presented at the 2014 ASABE and CSBE/SCGAB Annual International Meeting.	July	2014



<b>Authors (Bold first UA author)</b>	<b>Publication Title</b>	<b>Month</b>	<b>Year</b>
<b>Henry, C. G.</b> , W. M. McDougall, C.D. Allen, M. L. Reba and D. K. Carman.Lim, T. A. Glen, E. Erb, T. Bay, R. Meinen, <b>G. Henry</b> , D. Hamilton, A. Douridas	Can Variable Frequency Drives Reduce Irrigation Costs for Rice Producers? Presented at the 2014 ASABE and CSBE/SCGAB Annual International Meeting. North American Manure Expo: Creating a Permanent Sustainable Base for Hands-on Manure Applicator Education. Presented at the 2014 ASABE and CSBE/SCGAB Annual International Meeting.	July	2014
<b>Henry, C. G.</b> and M. L. Reba	Arkansas Irrigation Update. Written for annual WERA-1022 report.		2014
<b>Henry, C. G.</b> and K. B. Watkins	An Evaluation of the Water Demand Forecast Report for the Arkansas Water Plan. Special report developed and provided at the request of the Arkansas Natural Resource Commission. The report investigated concerns and provided recommendations for the Arkansas Water Plan Demand Report.		
<b>Holmes-Smith K</b> , Balachandran K.	Volume Swell Testing of Polyethylene Glycol Hydrogels.	April	2014
Czarick, M., <b>Y. Liang</b> and B. Fairchild.	Increasing evaporative cooling pad set temperatures. The University of Georgia College of Agricultural & Environmental Sciences Cooperative Extension Newsletter. 26(5):	June	2014
<b>Liang, Y.</b> , Daniels, M., Roberts, T.L., Watkins, K.B. and McCullough, S	Particulate matter and air quality standards. University of Arkansas Division of Agriculture. Factsheet. In print.		2014
<b>Liang, Y.</b> , A.C. Harding and D.W. Nutter.	Energy assessment of a poultry processing plant. ASABE Annual Meeting paper No. 141893613. St. Joseph, MI.		
Tabler, T., F. D. Clark, J. R. Moyle, <b>Y. Liang</b> , J. Wells, and M. Farnell	Windrow composting broiler litter between flocks. Publication No. 2818. Mississippi State University Extension Service.	October	2014
Li, B., <b>A. B. Milburn</b>	Scheduling workers in a warehouse based on productivity performance <i>Medline project final report Prepared for the Center for Excellence in Logistics and Distribution at the University of Arkansas</i>		2014
<b>Needy, K. L.</b>	Achieving Zero Rework through Effective Supplier Quality Practices, Research Summary 308-1 <i>Construction Industry Institute</i>	September	2014
Walsh, K., <b>K. L. Needy</b> , and T. Alves, T.	Achieving Zero Rework through Effective Supplier Quality Practices – Research Report 308-11, <i>Construction Industry Institute</i>		2014

<b>Authors (Bold first UA author)</b>	<b>Publication Title</b>	<b>Month</b>	<b>Year</b>
Richardson, G. A., <b>G. S. Osborn</b>	Effects of Sediment Resuspension and Oxygenation on Oxygen Uptake Rate. Paper No. 14-1896896. Annual Meeting ASABE	July	2014
<b>Pohl, E. A.</b> , C. Rainwater, S. J. Mason, A. B. Milburn, O. Baycik, J. Bright, J. Spicer, D. St.John, M. Ulesich, T. Kitchens	Models for Mitigating Dynamic Risk in Multi-Modal Perishable Commodity Supply Chain Networks, Mack-Blackwell Transportation Center (MBTC) DHS 1109	May	2014
<b>Rossetti, M. D.</b> and J. Bright	Mitigating the Impact of Lead Time Variability. <i>Final CELDi Report, Project #: UA13-DLA</i>		2014
<b>Rossetti, M. D.</b> , T. King, H. Gould, and M. Center	Red River Army Depot – Center for Excellence in Logistics and Distribution (CELDi) Final Report for 2013-14 Year Project		2014
<b>Sadaka, S. G.</b> Atungulu, G. S. Osborn	On-Farm Wheat Drying and Storage. UA CES Publication.		2014
McCarty, J., <b>Sandefur, H.</b> , Matlock, M., Thoma, G., Kim, D.	Life Cycle Assessment of Greenhouse Gas Emissions Associated with Production and Consumption of Peanut Butter in the U.S. Transactions of the ASABE.		2014
<b>Dharmendra Saraswat</b>	Reducing risk for new herbicide technologies	December	2014
Robbins, H. Stoven, C. Landgren, R. Ehsani, Y. She, J. Maja, <b>D. Saraswat</b> , J. N. Leiva, J. Puffer, and S. Doane	Counting on Us	August	2014
<b>Dharmendra Saraswat</b>	Cotton Advisor	August	2014
<b>Dharmendra Saraswat</b>	iOS App helps farmers computer possible changes on budget decisions	August	2014
Dharmendra Saraswat	iOS, Android apps to guide you through 2014 Arkansas Rice Expo	August	2014
Janet Carson, <b>Dharmendra Saraswat</b> )	Rice Expo	July	2014
Dharmendra Saraswat, Archie Flanders	App simplifies farmers' finances	July	2014
Dharmendra Saraswat, Archie Flanders	New iPhone app simplifies farmers' finances	July	2014
<b>Dharmendra Saraswat</b>	Cotton Advisor'	March	2014
Jason Norsworthy, <b>Dharmendra Saraswat</b> , Bob Scott	Progressive Farmer	February	2014
Scott, B., <b>D. Saraswat</b> , P. Spradley, and R. Baker	Flag the Technology. (University of Arkansas Cooperative Extension Service Fact Sheet FSA 2162). Available at: <a href="http://www.uaex.edu/publications/PDF/FSA-2162.pdf">http://www.uaex.edu/publications/PDF/FSA-2162.pdf</a>		2014

<b>Authors (Bold first UA author)</b>	<b>Publication Title</b>	<b>Month</b>	<b>Year</b>
<b>Dharmendra Saraswat</b> , Karl VanDevender	Manure Valuator app calculates manure value	December	2014
Hanna, S., J. Chang, <b>T. Spicer</b> , M. Sohn, M. Brown, and A. Wiborg	Outdoor Dispersion of Chlorine in the Jack Rabbit II Mock Urban Area	12	2014
Huq, P., and <b>T. Spicer</b>	Propagation of Dense Gas Clouds at Jack Rabbit	6	2014
<b>Spicer, T.</b>	Jack Rabbit II Dissemination and Near Source Working Group Update – The Best Laid Plans of Mice and Men...	6	2014
<b>Spicer, T.</b>	Jack Rabbit II Program Dissemination and Near Source Working Group Status Report	12	2014
<b>Spicer, T.</b>	Using the SAcHE Website to Enhance Undergraduate Safety Education	11	2014
<b>Spicer, T.</b>	Wind Tunnel Experimental Support Program for the Jack Rabbit II Tests	12	2014
<b>Spicer, T.</b> , and C. Swaffar	A Visual Demonstration of Process Control Principles	11	2014
Boles, E., <b>Thoma, G.</b> , Matlock, M., Bandekar, P., Ulrich, R.	Comparative Life Cycle Assessment of Alternate Swine Management Practices: US and EU		2014
<b>Thoma, G.</b> , M. Matlock, C. Maxwell, T. Costello, M. Hanigan, M. Ponder; C. Li, W. Salas; J.S. Radcliffe, B. Richert, R. Stowell, J. Heemstra, K. vanDevender, S. Sadaka, J. Popp	Integrated Resource Management Tool to Mitigate the Carbon Footprint of Swine Produced in the U.S.	4	2014
<b>Thoma, Greg</b> , Ben Putman, Marty D. Matlock, Rick Ulrich.	National Scan-level Land footprint Life Cycle Study for Production of US Swine		2014
<b>Zhu, J</b>	The U.S. experience in dealing with non-point source pollution to rivers and lakes. In: the Proceedings of “The 5th International Conference on Environmental Technology and Knowledge Transfer (5th ICET)”, Hefei, China, May 15-16.	May	2014

**V. Invited Lectures and Conference Presentations (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>S. Bapat</b> , W. Zhang, A. Malshe	Understanding dynamic nature of surface texture during nanolubrication	2014 STLE Conference	05	2014	Lake Buena Vista, FL
Underwood, S., <b>Braham, A.</b>	Research Needs Statements: The Foundation of Successful Proposals	Transportation Research Board, Doctoral Workshop	January	2014	Washington, DC
<b>Braham, A.</b> , Steger, R., Lynn, T., and Pyle, R.	Characterizing Compactability of High RAP and Warm Mix Asphalt Mixtures in the Superpave Gyrotory Compactor	Transportation Research Board	January	2014	Washington, DC
<b>Braham, A.</b>	Pavement Research at the University of Arkansas and Exploring Full Depth Reclamation (FDR)	Universidad de los Andes	February	2014	Bogota, Columbia
<b>Braham, A.</b>	Pavement Research at the University of Arkansas and Exploring Full Depth Reclamation (FDR)	Universidad Distrital Francisco José de Caldas	February	2014	Bogota, Columbia
<b>Braham, A.</b>	Sustainability and Pavements	INGETEC, Ingenieros Consultores	February	2014	Bogota, Columbia
<b>Braham, A.</b>	Sustainability and Pavements	Universidad de los Andes	February	2014	Bogota, Columbia
<b>Braham, A.</b>	Sustainability and Pavements	Universidad Distrital Francisco José de Caldas	February	2014	Bogota, Columbia
<b>Braham, A.</b>	The Importance of Pavement Maintenance and Rehabilitation of Pavements	Universidad de los Andes	February	2014	Bogota, Columbia
<b>Braham, A.</b>	Research of Evotherm Warm Mix Technology and RAP Usage for Hebei Province	Hebei	March	2014	Shijiazhuang, China
<b>Chamberlin J.</b> , Zhang W.	The Impact of Nitrogen to Phosphorus Ratio in Nutrient Removal from Wastewater Using Algae	Institute of Biological Engineering Conference	March	2014	Lexington, KY

<b>Clausen, E.C.</b>	Engagement between Research and Teaching	University of Arkansas, New Faculty Orientation	8	2014	Fayetteville, AR
<b>Clausen, E.C.</b>	Maintaining Enthusiasm for Teaching	University of Arkansas, Baum Teaching Workshop	8	2014	Fayetteville, AR
<b>Coleman, S.P.,</b> Pamidighantam, S., Van Moer, M., Wang, Y., Koesterke, L., Spearot, D.E.	Performance Improvement and Workflow Development of Virtual Diffraction Calculations	XSEDE2014	7	2014	Atlanta, GA
<b>Coleman, S.P.,</b> Sichani, M.M., Spearot, D.E	A Computational Algorithm to Produce Virtual X-Ray and Electron Diffraction Patterns of Interfaces from Atomistic Simulations	TMS Annual Meeting	2	2014	San Diego, CA
<b>Coleman, S.P.,</b> Sichani, M.M., Spearot, D.E.	Virtual Diffraction Analysis of Grain Boundaries in FCC Metallic (and other) Materials	International Symposium on Plasticity and Current Applications	1	2014	Freeport, Bahamas
<b>Coleman, S.P.,</b> Spearot, D.E	Virtual Diffraction Characterization of Alumina Atomistic Simulations	MRS Spring Meeting	4	2014	San Francisco, CA
<b>Coleman, S.P.,</b> Spearot, D.E	Atomic Scale Structure and Properties of Interfaces Analyzed via Virtual Diffraction Methods	17th U.S. Nat'l Congress on Theoretical and Applied Mechanics	6	2014	East Lansing, MI
<b>Coleman, S.P.,</b> Spearot, D.E	Assessing the Transferability of ReaxFF for Alumina Polymorphs	Society for Engineering Science	10	2014	West Lafayette, IN
<b>Coleman, S.P.,</b> Spearot, D.E	Virtual X-Ray and Electron Diffraction Characterization of Surfaces and Interfaces in Alumina	Multiscale Materials Modeling	10	2014	Berkeley, CA
<b>Coleman, S.P.,</b> Wang, Y., Cueva-Parra, L., Spearot, D.E	Virtual X-Ray and Electron Diffraction Patterns from Atomistic Simulations on Heterogeneous Computing Platforms	APS Annual Meeting	3	2014	Denver, CO

<b>Coleman, S.P.</b> , Weinberger, C., Spearot, D.E.	Characterizing complex metal-oxide interfaces via virtual diffraction	TMS Annual Meeting	2	2014	San Diego, CA
Floyd, R., <b>Dang, C.</b> , and Hale, W.	A Review of Strand Bond in Lightweight Concrete	Korea Advanced Institute of Science and Technology (KAIST)	January	2014	Daejeon, South Korea
Floyd, R., <b>Dang, C.</b> , and Hale, W.	A Review of Strand Bond in Lightweight Concrete	Seoul National University	January	2014	Seoul, South Korea
<b>Dang, K.Q.</b> , Simpson, J.P., Spearot, D.E.	Phase Transformation in Monolayer Molybdenum Disulphide (MoS <sub>2</sub> ) Under Tension via Molecular Dynamics Simulation	TMS Annual Meeting	2	2014	San Diego, CA
<b>Dang, K.Q.</b> , Spearot, D.E	Mechanical Behavior of Monolayer Molybdenum Disulphide (MoS <sub>2</sub> ) with Point Defects and Grain Boundaries	Society for Engineering Science	10	2014	West Lafayette, IN
<b>Deschenes, R.</b> , Murray, C., Jones, C., Phillips, W., and Hale, W.	Arkansas' Experience with ASR and a Review of CO <sub>2</sub> Reduction	Department of Structural Material Technology for CO <sub>2</sub> Reduction International Seminar	January	2014	Seoul, South Korea
<b>Do TD</b> and JL Fairey	New strategies for assessing and optimizing DBP precursor removal	American Chemical Society (ACS) National Meeting		2014	San Francisco, CA
<b>English, John R.</b>	2014 New Faculty Colloquium	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>English, John R.</b>	Reliability Engineering Curriculum in US Universities: Challenges and Future Direction Panel	<i>2014 Reliability and Maintainability Symposium (RAMS)</i>	January	2014	Colorado Springs, Colorado
<b>English, John R.</b>	Advanced Development for Deans	<i>2014 Council for Advancement and Support of Education (CASE) Conference</i>	January	2014	Newport Beach, California
<b>Haggard, B.</b>	West Fork Water Quality Monitoring – Update	Beaver Lake Watershed Symposium, Beaver Watershed Alliance	Sept	2014	Huntsville, AR

<b>Haggard, B</b>	Trends in the Illinois River Watershed	Illinois River Watershed Partnership, Watershed Sanctuary	Dec	2014	Cave Springs, AR
<b>Haggard, B</b>	New Directors Presentation	National Institutes for Water Resources	Feb	2014	Washington DC
<b>Haggard, B</b>	Trends in the Illinois River Watershed	Arkansas Environmental Law Conference	May	2014	Eureka Springs, AR
Fox, G. and <b>B. Haggard</b>	Update on Research and Extension Priorities from the Illinois River Watershed Symposium	Illinois River Watershed Partnership, Watershed Sanctuary	Dec	2014	Cave Springs, AR
<b>Harding, A.C.</b> , Nutter, D.W.	Leaks in compressed air and steam systems: costs, paybacks, and persistence	OG&E and AOG Lunch and Learn	11	2014	Fort Smith, AR
<b>Harding, A.C.</b> , Nutter, D.W.	Compressed air system analysis and retrofit for energy savings - an industrial case study	IETC	05	2014	New Orleans, LA
<b>Hestekin, Jamie</b>	Water Use in Hydraulic Fracturing	<i>Seminar, Harvey Mudd College</i>	11	2014	
<b>Hestekin, Jamie</b>	Water Use in Hydraulic Fracturing	<i>Seminar, University of Minnesota-Duluth</i>	9	2014	Duluth, MN
<b>Hill C.</b> , Zhang W	Examination of Nitrogen to Phosphorus Ratio in Nutrient Removal from Wastewater through <i>Chlorella vulgaris</i>	Institute of Biological Engineering Conference	March	2014	Lexington, KY
<b>Huang, Adam</b>	Nano/micro-particle polymer composite MEMS corrosion sensor: polymer swelling and oxide removal	9th IEEE-Nano/Micro Engineered and Molecular Systems Conference	04	2014	Waikiki Beach, HI
<b>Huang, Adam</b>	Development of micro propulsion systems for nano-satellite mobility at Arkansas	NASA Headquarters	4	2014	Washington, DC
<b>Huang, Adam</b> , E. Wilson, and Y. Chan	Development of critical technologies for formation and proximity flight with nano-satellites	2nd Arkansas CubeSAT Meeting	10	2014	Fayetteville, AR

<b>Kim, J.-W</b>	Building Blocks of Bio/Nano Technology	The 9th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS)		2014	Honolulu, Hawaii
<b>Kim, J.-W</b>	Nanoparticle-Based Disease Diagnostics and Therapeutics	The 1st Seminar of Bioindustrial Applications: "Bioinstrumentation"		2014	El bosque University, Bogota D.C., Columbia.
<b>Kim, J.-W</b>	Nanobiotechnology for Hybrid Device Development	The 1st Seminar of Bioindustrial Applications: "Bioinstrumentation"		2014	El bosque University, Bogota D.C., Columbia.
<b>Kim, J.-W</b>	Building Blocks of Bio/Nano Technology for Advanced Materials and Devices.	2014 i-bio Seminar, School of Interdisciplinary Bioscience & Bioengineering		2014	Pohang University of Science and Technology (POSTECH), Pohang, Korea.
<b>Li, Y</b>	Nanobiosensor for biodetection in agriculture and food	CIGR2014 International Meeting	Sept	2014	Beijing, China
<b>Li, Y</b>	A nanopore-based aptasensor for rapid detection of pathogens.	ISTPA 2014	Sept	2014	Beijing, China
<b>Li, Y</b>	Nanotechnology-based biosensors for rapid detection of pathogenic bacteria and virus in agriculture and food.	Shenyang Agricultural University	Sept	2014	Shenyang, Liaoning Province, China.
<b>Li, Y</b>	Biosensing technology and their applications in agricultural production.	Jiamushi Institute of Rice Research	Sept	2014	Shenyang, Helongjiang Province, China.
<b>Liang, Y., A.C. Harding and D.W. Nutter</b>	Energy assessment of a poultry processing plant.	ASABE Annual Meeting paper No. 141893613.			St. Joseph, MI
<b>Malshe, Ajay</b>	Practicing nanomanufacturing for commercialization and competitiveness	ASME Workshop on scalable nanomanufacturing: benchmarks, standards, and metrics	08	2014	Buffalo, NY
<b>Malshe, Ajay</b>	Nanoscale surface engineering	2014 Whirlpool annual technology meeting	6	2014	St. Louis, MO



<b>Malshe, Ajay</b>	Bio-inspired engineering for STEM education	Fall school opening	8	2014	Springdale, AR
<b>Malshe, Ajay</b>	Future Directions of advanced manufacturing	US-S. Korean Collaborative Workshop	8	2014	Reno, NV
<b>Mash CA, W Zhang, and JL Fairey</b>	Assessing trichloromethane formation and control in nutrient enriched waters	Institute of Biological Engineering Conference	March	2014	Lexington, KY
<b>Marty Matlock</b>	Frameworks for Sustainability in US Animal Agriculture – Keynote	National Pork Board	January	2014	Des Moines, IA
<b>Marty Matlock</b>	Key Performance Indicators for Sustainable Agriculture	Monsanto Corp	January	2014	St. Louis, MO
<b>Marty Matlock</b>	A Framework for Sustainable Soybean Production - Keynote	National Soybean Board Annual Meeting,	Feb	2014	Little Rock, AR
<b>Marty Matlock</b>	Key Performance Indicators for US Pork: Benchmark Results	National Pork Board Environmental Committee Meeting,	Feb	2014	Phoenix, AZ
<b>Marty Matlock</b>	Metrics for Water Sustainability in US Soybean Production - Keynote	Soybean Export Council Meeting,	Mar	2014	Washington, DC
<b>Marty Matlock</b>	Metrics for Sustainable Agriculture: Measuring what Matters - Keynote	National Institute for Animal Agriculture Annual Meeting	April	2014	Omaha, NE
<b>Marty Matlock</b>	The Business of Sustainability: Continuous Improvement and Risk Management	Smart Water Leadership Conference,	May	2014	Washington, DC
<b>Marty Matlock</b>	Key Performance Indicators, Metrics and Benchmarks for Sustainable Agriculture - Keynote	ASABE Annual Meeting	July	2014	Montreal, Quebec, Canada
<b>Marty Matlock</b>	Key Performance Indicators for Sustainable Rice Production - Keynote and Facilitator	Riceland Industries Annual Board Meeting,	July	2014	Stuttgart, AR

<b>Marty Matlock</b>	Life Cycle Assessment Methods for Animal Agriculture Sustainability Benchmarking	American Chemical Society Annual Meeting,	Aug	2014	San Francisco, CA
<b>Marty Matlock</b>	Simulating climate change for US agricultural production – Keynote and Facilitator	Dairy CAP Modeling Meeting	Aug	2014	Chicago, IL
<b>Marty Matlock</b>	Key Performance Indicators, Metrics and Benchmarks for Sustainable Pork Production - Keynote and Facilitator	Pork Sustainability Summit,	Sept	2014	Chicago, IL
<b>Marty Matlock</b>	A Common Framework for Sustainability in US Agriculture –Keynote	Cargill Animal Nutrition Sustainability Summit	Sept	2014	Minneapolis, MN
<b>Marty Matlock</b>	Key Performance Indicators, Metrics and Benchmarks for Sustainable Poultry Production - Keynote	US Poultry and Egg Federation Annual Meeting	Sept	2014	Destin, FL
<b>Marty Matlock</b>	Key Performance Indicators, Metrics and Benchmarks for Sustainable Aquaculture Production - Keynote and Facilitator	National Roundtable for Sustainable Aquaculture	Oct	2014	Denver, CO
<b>Marty Matlock</b>	A Framework for Sustainable Soybean Production	USSEC-FEFAC Meeting	Oct	2014	Des Moines, IA
<b>Marty Matlock</b>	The Role of Animal Agriculture in Feeding 10 Billion People by 2050 –Keynote	World Nutrition Forum	Oct	2014	Munich, Germany
<b>Marty Matlock</b>	Sustainability is Not Monometric –Keynote	The Global Roundtable on Sustainable Beef	Nov	2014	Sao Paulo, Brazil
<b>Marty Matlock</b>	Benchmarking Poultry Key Performance Indicators for the US - Facilitator	US Poultry and Egg Federation Annual Meeting	Nov	2014	Atlanta, Georgia
<b>Marty Matlock</b>	Metrics for Beef Sustainability –Keynote	Canadian Sustainable Beef Summit	Dec	2014	Toronto, Canada

<b>Marty Matlock</b>	The role of regulation in reducing water quality impacts from agriculture – why voluntary reductions work	Testimony before the US Senate Committee on Forestry and Agriculture	Dec	2014	
<b>Meints II DA</b> , W Zhang, and JL Fairey	Assessing sources of total N--- nitrosamines in drinking water systems	American Chemical Society (ACS) National Meeting		2014	San Francisco, CA
<b>Meints D. II</b> , Zhang W., Fairey J.	Assessing Sources of Total N-Nitrosamine Precursors in Drinking Water Systems	American Chemical Society (ACS) National Meeting		2014	San Francisco, CA
<b>Milburn, A.B.</b> , and B. Li	Scheduling workers in a warehouse based on productivity performance: Phase II	<i>Center for Excellence in Logistics and Distribution (CELDi) Industrial Advisory Board Meeting and Research Symposium</i>	October	2014	Dallas, Texas
Kirac, E., <b>A. B. Milburn</b> , and C. L. Wardell	Humanitarian relief routing using social data	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Kilinc, M., and <b>A. B. Milburn</b> .	Does home care accessibility depend on place or related variables?	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Lian, K., <b>A. B. Milburn</b> , and R. Rardin	Study on home health care nurse routing problem	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Lian, K., <b>A. B. Milburn</b> , and R. Rardin	Patient-focused considerations in home health nurse routing problems	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Kilinc, M., and <b>A. B. Milburn</b>	Measuring the efficiency of home health agencies	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Hadiannassar, M., and <b>A. B. Milburn</b>	Growing Pains (a teaching case study)	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Li, B., I. Hernandez, <b>A. B. Milburn</b> , and J. Ramirez-Marquez	Integrating uncertain data in disaster relief facility location	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada

<b>Millett, Paul</b>	Multi-scale computer simulation of fission gas release in oxide fuels	The Minerals, Metals, and Materials Society Meeting		2014	San Diego, CA
<b>Moloney C., Zhang W.</b>	Microbial Community under the Changing Pre-Oxidation Regime at Drinking Water Treatment Plant	Institute of Biological Engineering Conference	March	2014	Lexington, KY
<b>Moloney, C., Carbonero, F., and Zhang, W.,</b>	The Use Of DGGE To Reveal Microbial Responses To A Pre-Oxidation Change At Beaver Water District	WQTC14 Conference	November	2014	New Orleans, LA
<b>Muldoon, T.</b>	Fluorescence imaging for clinical and point-of-care diagnostics	Pat Walker Health Center Faculty / Staff invited talk	November	2014	Fayetteville, AR
<b>Muldoon, T.</b>	Principles of fluorescence imaging and fundamentals of biomedical optic	Chemistry Department Seminar invited talk	February	2014	Fayetteville, AR
<b>Nachtmann, H.</b>	The Inland Waterway System and Waterborne Freight	<i>United States Department of Transportation Spotlight Conference</i>	December	2014	Washington, D.C.
<b>Nachtmann, H.</b>	Regional Economic Impact Study of the MKARNS	<i>MS River Commission MKARNS Downstream Inspection Tour</i>	August	2014	Arkansas River
Oztanriseven, F., R. Gedik, <b>H. Nachtmann</b> , and E. A. Pohl	Heuristic Approach to Navigation Dredge Scheduling	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Doolen, Toni, Eillen Van Aken, Geert Letens, and <b>H. Nachtmann</b>	Tips for Publishing in EMJ	<i>American Society for Engineering Management Annual Conference</i>	October	2014	Norfolk, Virginia
<b>Needy, K. L.</b>	IE for Life! Leading the IE Profession by Serving	<i>Institute of Industrial Engineers, All Ohio Meeting</i>	October	2014	Columbus, Ohio
<b>Needy, K. L.</b>	How IIE Helps You Now and In the Future	<i>Institute of Industrial Engineers Region 5 Conference</i>	January	2014	Fayetteville, Arkansas

Al Maian, R. Y., <b>K. L. Needy</b> , K. D. Walsh, T. Alves, and Y. Neuman	A Qualitative Data Analysis of Supplier Quality Management in Construction	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Nutter, D.W.</b>	Appreciating industrial energy efficiency opportunities	4th annual renewable energy conference	9	2014	Jonesboro, AR
<b>Nutter, D.W.</b>	Basics of energy efficiency economics	AAEE Energy Efficiency Conference	4	2014	Little Rock, AR
<b>Nutter, D.W.</b>	Success in Engineering	k-12 Education webinar	1	2014	San Antonio, TX
<b>Osborn, G. Scott:</b>	Economically Removing Nutrients from Surface Water”	Freshman Engineering Honors Colloquium			
<b>Parnell, G. S.</b>	Integrated Value and Risk Analysis for Systems Decisions	<i>Sandia National Laboratory</i>	August	2014	Livermore, CA
<b>Parnell, G. S.</b>	Integrated Value and Risk Analysis for Systems Decisions	<i>Northwest Laboratory</i>	September 11	2014	Richland, Washington
<b>Parnell, G. S.</b>	Improving Decision Making by Avoiding Decision Traps and Cognitive Biases	<i>IIE South Central Regional Conference</i>	January 31	2014	Stillwater, OK
<b>Parnell, G. S.,</b> and E. A. Pohl	Physician Preference Items Selection using Multiobjective Decision Analysis	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Parnell, G. S.,</b> and E. A. Pohl	When to Use and Not Use 1 to N Lists	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Pohl, E. A.,</b> and M. D. Rossetti	A Case Study Analysis of Inventory Costs and Practices for Operating Room Medical/Surgical Items	<i>Stevens Institute of Technology</i>	October	2014	Hoboken, New Jersey
<b>Pohl, E. A.,</b> and M. D. Rossetti	A Case Study Analysis of Inventory Costs and Practices for Operating Room Medical/Surgical Items	<i>52nd Annual Conference and Exhibition of the Association of Healthcare Resource &amp; Materials Management (AHRMM)</i>	August	2014	Orlando, Florida

<b>Pohl, E. A.</b> , H. Guo, and A. Gerokostopoulos	Determining the Right Sample Size for Your Test: Theory and Application	<i>Tutorial, 2014 European Applied Reliability Conference</i>	April	2014	Paris, France
<b>Pohl, E. A.</b> , H. Guo, and A. Gerokostopoulos	Determining the Right Sample Size for Your Test: Theory and Application	<i>Tutorial, 2014 IEEE Reliability and Maintainability Symposium (RAMS)</i>	January	2014	Colorado Springs, Colorado
Dadashi, M., <b>E. A. Pohl</b> , and C. Rainwater	Optimizing Information Flow in an Adaptive Network	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Talafuse, T., and <b>E. A. Pohl</b>	A Comparison of Heuristic Approaches to the Reliability Redundancy Allocation Problem	<i>20th Conference of the International Federation of Operational Research Societies</i>	July	2014	Barcelona, Spain
<b>Prinz, G.</b>	Cost Savings Associated with the Reduction of Shear Studs in Bridges	Short-Span Steel Bridge Alliance	August	2014	Denver, CO
<b>Prinz, G.</b>	A proposal for revisiting the shear fatigue capacity of stud connectors in composite bridge girders.	Bridge Task Force Design Advisory Group (DAG)	August	2014	Denver, CO
<b>Prinz, G</b>	Earthquake Induced Fatigue and Fracture of Liquid Storage Tank Connections	University of California, Davis, Department of Civil Engineering, Structural Engineering Structural Mechanics Seminar	May	2014	Davis, CA
<b>Qian, X.</b>	The effects of salt on protein folding/unfolding from molecular dynamics and metadynamics simulations	<i>RMIT University</i>	January	2014	Melbourne, Australia
<b>Qian, X.</b>	Pathways and free energy landscapes for glucose reactions from ab initio molecular dynamics simulations	<i>Department of Chemistry, University of Louisville</i>	March	2014	Louisville, KY

<b>Qian, X.</b>	Mechanisms and free energy landscapes for acid-catalyzed glucose reactions during biomass conversion	<i>Institute of Biofuels and Renewable, Chinese Academy of Science</i>	November	2014	Qingdao, China
<b>Qian, X.</b>	The effects of salt ions on protein folding/unfolding from molecular dynamics simulations	College of Chemistry and Chemical Engineering, Qingdao University	November	2014	Qingdao, China
<b>Rainwater, C.</b>	Optimization's Role in the Physical Internet	<i>International Physical Internet Conference</i>	June	2014	Quebec, Canada
<b>Rainwater, C.</b>	Addressing a Nation's Ailing Infrastructure: Security, Enhancement and Design	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Enayaty, F., <b>C. Rainwater</b> , and T. Sharkey	Hybrid Optimization Approaches for Dynamic Network Interdiction Models	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Enayaty, F., <b>C. Rainwater</b> , and T. Sharkey	A Constraint Programming Approach to Bilevel Network Interdiction Problem	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Singh, S., V.F. Chevrier, A. Wagner, M. Leitner, M. Gainor, <b>L. Roe</b> , T. Cornet, and J.P. Combe	Solubility of acetylene in liquid hydrocarbons under titan surface conditions	45th Lunar and Planetary Sciences Conference	03	2014	The Woodlands, TX
Singh, S., V.F. Chevrier, M. Leitner, M. Gainor, <b>L. Roe</b>	Solubility of organics in liquid hydrocarbons under titan surface conditions	Workshop on the habitability of icy worlds	02	2014	Pasadena, CA
Singh, S., V.F. Chevrier, M. Leitner, M. Gainor, <b>L. Roe</b>	Solubility of acetylene in liquid hydrocarbons under titan surface conditions	Workshop on the habitability of icy worlds	2	2014	Pasadena, CA
<b>Roper, D.K.</b>	Integrating education and research	KAUST Center Education Retreat	12	2014	Riyadh, Saudi Arabia
<b>Roper, D.K.</b>	State of the ERC Program at NSF	2014 ERC Biennial Meeting	10	2014	Arlington, VA
<b>Roper, D.K.</b>	Biomanufacturing supported by NSF	2014 NSF ENG Advisory Committee Meeting	10	2014	Arlington, VA

<b>Roper, D.K.</b>	Biosensing and Nanomedicine IV: Electron optics of nanoplasmonic metamaterials in bio/opto theranostics	2014 SPIE Optics and Photonics	8	2014	San Diego, CA
<b>Rossetti, M. D.</b>	Center for Excellence for Logistics and Distribution: Operating Model	<i>Mexican National Laboratory for Advanced Computer Science (LANIA)</i>	February	2014	Mexico City, Mexico
<b>Rossetti, M. D.</b>	Industry/University Collaborative Research Centers: Principles and Examples	CONECYT - Consejo Nacional de Ciencia y Tecnologia	November	2014	Mexico City, Mexico
<b>Rossetti, M. D.</b>	Healthcare vs. Retail Supply Chain Gap Analysis	<i>Connecting the Healthcare Value Chain West</i>	November	2014	Oakland, California
<b>Rossetti, M. D.</b>	Overview of the Center for Excellence for Logistics and Distribution	<i>Supply Chain Management Research Center Fall 2014 Meeting</i>	September	2014	Walton College of Business, University of Arkansas
Parsa, P., <b>M. D. Rossetti</b> , E. A. Pohl, and S. Zhang	Partner Evaluation in Continuous Replenishment	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
<b>Ben Runkle</b>	Field research above the Arctic Circle: Carbon flows in the Siberian permafrost	ASABE Sectional Meeting	Oct	2014	Fayetteville, AR
<b>Sammy Sadaka</b>	Thermal Conversion of Animal Manure to Biofuel.	Extension Invited Webinar	Feb	2014	
<b>Sammy Sadaka</b>	Grain Drying and Storage presentation.		Nov	2014	Wynne, AR
<b>Saraswat, D</b>	Flag the Technology Cloud (FTTCloud)-updates and Newer apps.	2014 Row-Crop In-Service Training	Dec	2014	Forrest City, AR
<b>Saraswat, D</b>	GeoInformatics for Environmental Sustainability.	Arkansas Society of Professional Engineers Central Chapter Meeting	Oct	2014	Little Rock, AR
<b>Saraswat, D</b>	8-digit HUC Watershed Prioritization in Arkansas-Risk Assessment Matrix Approach	ANRC NPS Annual Stakeholder Meeting	Sept	2014	Little Rock, AR



<b>Saraswat, D.</b> , J.R. Frankenberger, N. Pai, S. Ale, P. Daggupati, K.R. Douglas-Mankin, and M.A. Youseff	Documentation and Reporting Procedures for Water Quality Models	2014ASABE/CSBE Annual International Meeting	July	2014	Montreal, CA
<b>Saraswat, D.</b> and J. Robbins	UAV's: What, Why, and Beyond.	Arkansas Farm Bureau's Soybean Wheat, and Feed Grains Commodity Board Meeting	July	2014	Mariana, AR
<b>Saraswat, D.</b> and J. Robbins	Emerging Technologies in Precision Agriculture: Arkansas Based Efforts	The Spring Meeting of Agricultural Council of Arkansas	May	2014	West Memphis, AR
<b>Saraswat, D.</b>	Flag the Technology Cloud (FTTCloud)- Features for Commercial Applicator Account.	Arkansas Agricultural Aviation Association (Fly-Ins)	Mar	2014	Carlisle, AR
<b>Saraswat, D.</b> and J. Robbins	UAS in Precision Agriculture	Unmanned Systems Alliance of Oklahoma (USA-OK)	Mar	2014	Broken Arrow, OK
<b>Saraswat, D.</b>	Geospatial Technologies: Opportunities for Agricultural Engineers.	Special Seminar for students, staff, and faculty of Allahabad Agricultural Institute Deemed University	Feb	2014	Allahabad, India
<b>Saraswat, D.</b>	Herbicide Drift Prevention Using Crowd Based Approach.	Herbicide Drift Prevention Using Crowd Based Approach.	Jan	2014	Little Rock, AR
<b>Saraswat, D.</b>	Flag the Technology Cloud (FTTCloud).	In 17 <sup>th</sup> Annual National Conservation Systems Cotton & Rice Conference.	Jan	2014	Tunica, MS
<b>Saraswat, D.</b>	Cotton Education App	Beltwide Cotton Conferences	Jan	2014	New Orleans, LA
<b>Selvam, R.P.</b>	Multiphase flow modeling for heat transfer	International conference on Mathematical Sciences (ICMS 2014)	June	2014	Chennai, India
<b>Selvam, R.P.</b>	Computer modelling for bridge and building aerodynamics	Structures Group, Vellore Institute of Technology	July	2014	India
<b>Selvam, R.P.</b>	Multiphase flow modeling for spray cooling	Mathematics Group-CFD, Vellore Institute of Technology	July	2014	India

<b>Servoss, S.</b> , J.P. Turner, G. Perez, D. Shah, H. Najafi, N. Mahmoudi, T. Lutz-Rechtin.	Peptoids designed for disease detection and treatment.	Seminar, Macro Molecular Science and Engineering, University of Michigan, Ann Arbor	12	2014	Ann Arbor, MI
<b>Servoss, S.</b> , J.P. Turner, T. Lutz-Rechtin, D. Park.	Peptoids that bind to beta sheets.	Seminar, Organic Chemistry, University of Arkansas	9	2014	Fayetteville, AR
<b>Servoss, S.</b> , J.P. Turner, T. Lutz-Rechtin.	Peptoids that modulate amyloid beta aggregation.	Seminar, Chemical Engineering, Oklahoma State University	10	2014	Stillwater, OK
<b>Smith, S.</b> , Braham, A.	Full Depth Reclamation: A Pavement Maintenance & Rehabilitation Technique	County Judges Association of Arkansas 2014 Annual Winter Meeting	February	2014	Little Rock, AR
<b>Smith, S.</b> , Braham, A.	The Effect of Lab Compaction Method on the Strength of FDR Mixtures	AEMA-ARRA-ISSA Annual Meeting	February	2014	Aventura, FL
<b>Smith, S.</b> , Henrichs, C., Braham, A.	Comparison of Lab Compaction Methods on Full Depth Reclamation	Association of Asphalt Paving Technologists	March	2014	Atlanta, GA
<b>Spearot, D.E.</b>	Effective Use of Classroom Response Systems in Large Introductory Level Engineering Courses	National Academies for Engineering Frontiers in Engineering Education Symposium	10	2014	Irvine, CA
<b>Spicer, T.</b>	Jack Rabbit II Dissemination Working Group Progress Report	Department of Homeland Security Science & Technology Chemical Security Analysis Center, Jack Rabbit II Program Stakeholder Kickoff Meeting, American Chemistry Council Headquarters	3	2014	Washington, D.C.
<b>Stewart, J.A.</b> , Spearot, D.E	Development of a Multi-Phase Phase-Field Model for Simulating the Vapor Deposition of $\alpha$ -Alumina Thin-Films	MRS Spring Meeting	4	2014	San Francisco, CA
<b>Sullivan, K. M.</b> , M. Heydari, and E. A. Pohl	Mixed-Integer Linear Programming Models for Reliable System Design	<i>Invited Seminar at Clemson University</i>	October	2014	Clemson, South Carolina

<b>Sullivan, K. M.</b> , M. Heydari, and E. A. Pohl	Mixed-Integer Linear Programming Models for Reliable System Design	<i>Invited Seminar at Oklahoma State University</i>	June	2014	Stillwater, Oklahoma
<b>Sullivan, K. M.</b>	Network-Based Models for Optimization in Reliability	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Heydari, M., <b>K. M. Sullivan</b> , and E. A. Pohl	Optimal Allocation of Resources in Reliability Growth Testing	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Magagnotti, M., S. J. Mason, and <b>K. M. Sullivan</b>	Supply Chain Network Design for the Acquisition Environment: A Multi-Criteria Approach	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Thoma, G.</b>	Sustainability Activities in the United States	Keynote Presentation, Sustainable Consumption and Production Workshop: Policy Tools for Circular Economy	6	2014	Jerusalem, Israel
<b>Thoma, G.</b>	Sustainability Activities in the United States	Keynote Presentation, Sustainable Consumption and Production Workshop: Policy Tools for Circular Economy	6	2014	Jerusalem, Israel
<b>Thoma, G.</b>	Life cycle assessment for evaluating the sustainability of feed and livestock production	248th ACS National Meeting	8	2014	San Francisco, CA
<b>Thoma, G.</b>	An Introduction to LCA in Agriculture	2014 Annual Meeting of the Sustainable Livestock and Poultry Production Working Group		2014	Fayetteville, AR
<b>Tung, S.</b>	Nanofluidic Devices for DNA Sequencing	8 <sup>th</sup> IEEE International Conference on Nano/Molecular Medicine and Engineering	11	2014	Kaohsiung, Taiwan
<b>Wejinya, Uche</b>	The Reliability and Manufacturing of SiNWs for Nanoscale sensing	Peking University Wuxi Campus	12	2014	Wuxi, China

<b>Wejinya, Uche</b>	Doping of Hydrogen in Palladium for Nanosensors	Shenyang Institute of Automation, Chinese Academy of Sciences	3	2014	Shenyang, China
<b>Wejinya, Uche</b>	The Reliability of SiNWs in Acid for Sensing Application	Peking University Wuxi Campus	3	2014	Wuxi, China
<b>White, J. A.</b>	Industrial Engineering: A Journey Worth Taking	<i>IIE Student Regional Conference Banquet Address</i>	February	2014	Bentonville, Arkansas
<b>White, J. A.</b>	Leadership Matters: An Engineer's Perspective	<i>Distinguished Lecture, University of Central Florida</i>	February	2014	Orlando, Florida
<b>Wickramasinghe, S. R.</b>	Multifunctional Membranes for Advanced Separations	Seminar, Monash University	12	2014	Melbourne, AUS
<b>Wickramasinghe, S. R.</b>	Multifunctional Membranes for Advanced Separations	Seminar, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences	11	2014	Qingdao, China
<b>Wickramasinghe, S. R.</b>	Multifunctional Membranes for Advanced Separations	Seminar, Qingdao University	11	2014	Qingdao, China
<b>Wickramasinghe, S. R.</b>	Continuous Enzymatic Hydrolysis of Biomass in a Membrane Reactor	Seminar, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences	11	2014	Qingdao, China
<b>Wickramasinghe, S. R.</b>	Responsive Membranes for Advanced Separations	Seminar, Qingdao University	9	2014	Qingdao, China
<b>Wickramasinghe, S. R.</b>	Responsive Membranes for Advanced Separations	Seminar, The Ohio State University	8	2014	Columbus, OH
<b>Wickramasinghe, S. R.</b>	Multifunctional Membranes for Advanced Separations	Gordon Conference: Membranes Materials and Processes	7	2014	New London, NH
<b>Wickramasinghe, S. R.</b>	Advanced Membrane Separations	Seminar, University of Louisville	8	2014	Louisville, KY
<b>Wolchok, J.C.</b>	Cellular Beekeeping: Building Tissue Mimetic Materials Using the Molecules Collected from Cells	Invited Presentation at Northeastern State University	February	2014	Tahlequah, OK

<b>Wolchok, J.C.</b> and Sharma, S.,	Cross-campus and cross-university initiatives – past, present, and future	Invited Presentation at University of Arkansas Commercialization Retreat	June	2014	Fayetteville, AR
<b>Yeung, E.,</b> Braham, A.	Road Science Project Proposal	Road Science, LLC	March	2014	Tulsa, OK
<b>Yeung, E.,</b> Braham, A.	Road Science Project Summary	Road Science, LLC	October	2014	Tulsa, OK
<b>Zaharoff, D.A.</b>	Engineering Immunotherapies	Invited presentation at the Department of Microbiology and Immunology, University of Arkansas for Medical Sciences	December	2014	Little Rock, AR
Madadi, M., <b>S. Zhang,</b> and E. A. Pohl	A Stochastic Nonlinear Programming Model to Optimize Mammography Screening Policies Considering Women’s Imperfect Adherence	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Wang, F., <b>S. Zhang,</b> and K. Jozkowski	Optimal Design of Personalized HPV Vaccination Program	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
<b>Zhu, Jun</b>	Fermentative hydrogen production from liquid swine manure supplemented with glucose using an anaerobic sequencing batch reactor	Yangling International Agri-Science Forum	Nov	2014	Yangling, China
<b>Zou, M.</b>	Nano Engineered Surfaces for Tribological Applications	UA Department of Chemistry and Biochemistry Invited Seminar	12	2014	Fayetteville, AR

**VI. Other Lectures, Papers, and Conference Presentations (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Ahmed, N.</b> and Selvam, R.P.	Tornado-terrain interaction effects on Tornado damage using Google Earth	98th Arkansas Academy of Science	April	2014	Searcy, AR
<b>Asgharpour, M.</b> , N. Mahmoudi, L. Reed, S. Servoss, J.A. Hestekin.	Evaluation of Gas Exchange in Hollow-Fiber Membranes for Artificial Lung	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Asgharpour, Maryam</b> and Jamie Hestekin	Optimization of Nitrogen Amounts for EPA by the Red Algae <i>P. Cruentum</i>	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Avram, A.</b> , Wickramasinghe, S. R., Qian, X.	Membrane Surface Modification with Polyelectrolyte Multilayers for Ionic Liquid Recovery for Biomass Processing	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Bandekar, Prathamesh</b> , Mansoor Leh, Rusty Bautista, Marty D Matlock, Greg Thoma, Rick Ulrich.	Life cycle analysis of swine management practices.	LCA of Food Conference	10	2014	San Francisco, CA
<b>Beitle, Bob</b> , Ellen M. Brune, McKinzie Fruchtl, Ralph Henry, Mohammad M. Ataii.	Strategic Genome Design to Improve Bioseparation	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Braham, A.</b> Jackson, A.	Reducing Sample Size for Cold In-place Recycling Design and Testing	University of Arkansas Civil Engineering Graduate Seminar	August	2014	Fayetteville, AR
<b>Brune, Ellen</b> , Bob Beitle, McKinzie Fruchtl, Mohammad Ataii, Ralph Henry.	Reducing Host Cell Burden By Strategic Genome Design	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Burek J.</b> , G. Thoma, J. Popp, C. Maxwell and R. Ulrich.	Developing environmental footprint, cost, and nutrient database of the US animal feed ingredients.	LCA of Food Conference	10	2014	San Francisco, CA
<b>Burek J.</b> , Thoma G., Popp J., Maxwell C., Ulrich R.	Formulating low-cost and low-environmental footprint swine diets.	LCA of Food Conference.	10	2014	San Francisco, CA
<b>Carrier DJ.</b>	Transition between India and the US in terms of graduate studies.	Indian Society of Agricultural Engineering	Feb	2014	Udaipur, India

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Djioleu A and <b>Carrier DJ.</b>	Extraction of natural products prior to saccharification could prove beneficial for a biochemical refinery platform”	AR EPSCoR annual meeting,	July	2014	Petit Jean, AR
Djioleu A and <b>Carrier DJ.</b>	Inhibition of cellulase and $\beta$ -glucosidase activity by compounds from dilute acid prehydrolysate of switchgrass”.	American Society of Agricultural and Biological Engineers (ASABE) annual meeting	July	2014	Montreal, Quebec
Rajan, K and <b>Carrier, DJ</b>	A step towards understanding the inhibition of cellulases by rice straw hydrolyzates.	Annual Research Symposium, Arkansas Center for Plant Powered Production		2014	Morrilton, AR
Rajan, K and <b>Carrier, DJ.</b>	Effect of rice straw hydrolyzates on commercial cellulase, endo-cellulase and $\beta$ -glucosidase model enzyme substrate systems.	Gamma Sigma Delta, Student Oral competition		2014	Fayetteville, AR
Djioleu A and <b>Carrier DJ.</b>	Identification of inhibitory compounds to $\beta$ -glucosidase by switchgrass dilute acid prehydrolysates.”	36 <sup>th</sup> Symposium of Biotechnology for Fuels and Chemicals	May	2014	Clearwater Beach, FL
Frederick, N., Zhang, N., Djioleu, A., Ge, X., Xu, J., Martin, E. and <b>Carrier, DJ.</b>	Biomass pretreatment: Methods in recovering and fermenting sugars with reduced water usage	36th Symposium on Biotechnology for Fuels and Chemicals	May	2014	Clearwater Beach, FL
Rajan, K and <b>Carrier, DJ.</b>	Saccharification of rice straw	36 <sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals	May	2014	Clearwater Beach, FL
Sakul R, <b>Carrier DJ</b> and Martin E	Determination of partition coefficient for terpineol from Pinus taeda l. extracts using centrifugal partition chromatography.”	36 <sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals,	May	2014	Clearwater Beach, FL
Rajan, K and <b>Carrier, DJ.</b>	Cellulosic biofuels: Characterizing the inhibitors in chemically treated rice straw and increasing the saccharification efficiency of commercial cellulases	2014 Annual International meeting, American Society of Agricultural and Biological Engineers,	Jul	2014	Montreal, Canada
Rajan, K and <b>Carrier, DJ</b>	Cellulosic ethanol: Enhancing enzymatic hydrolysis through optimizing the production of inhibitors during preprocessing of rice straw.”	Graduate student research competitions, University of Arkansas,	Nov	2014	Fayetteville, AR

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Djiroleu A and <b>Carrier DJ.</b>	Separation of antimicrobial and antioxidant compounds from sweetgum bark water extract.”	From Abstract to Contract Graduate Research Competition	Nov	2014	Fayetteville, AR
Frederick, N., Buser, M., Li, M., Wilkins, M. and <b>Carrier, DJ.</b>	Switchgrass: Storage and its effect on saccharification.	Arkansas P3 Annual Research Symposium	July	2014	Petit Jean, AR
Sakul, R., <b>Carrier, DJ</b> and Martin, E.	Producing pine essential oils from forestry residue.”	Arkansas P3 Annual Research Symposium	July	2014	Petit Jean, AR
Kyle Lawrence, Elizabeth Martin and <b>Danielle Julie Carrier.</b>	Effects of concentrated buffer on enzymatic saccharification of Loblolly pine.”	Arkansas P3 Annual Research Symposium	July	2014	Petit Jean, AR
Nelson Herringer and <b>Danielle Julie Carrier.</b>	Pine saccharification using fungi.”	Arkansas P3 Annual Research Symposium	July	2014	Petit Jean, AR
Sakul R, Gibson KE, Adams J, Almeida G, Martin EM, <b>Carrier DJ.</b>	Determination of partition coefficients for components of essential oil from Pinus taeda l. extracts using centrifugal	24th World Congress on Biosensors	May	2014	Melbourne, AU
Schneider, K. with <b>C. R. Cassidy</b>	An Introduction to Probabilistic Methods in Reliability and Maintainability	<i>Research and Maintainability Symposium (RAMS)</i>	January	2014	Colorado Springs, Colorado
Gaines, A. L. with <b>C. R. Cassidy</b>	Assessment of Peer Mentoring Program at the University of Arkansas	<i>First Year Engineering Experience Conference</i>	August	2014	College Station, Texas
<b>Chamberlin, J.</b> , Zhang W.	The Role of Microalgae in Wastewater Treatment	83rd Annual AWW&WEA Conference	April	2014	Hot Springs, AR
<b>Cleous, H.D.</b> , M.A. Christie, A. Moix, K.J. Smith, W.R. Penney and E.C. Clausen.	Transient Heating of Fins	2014 American Society for Engineering Education Midwest Section Annual Conference	9	2014	Fort Smith, AR
<b>Coffman, R.A.</b> ,	TRC 1204: Load Resistance Factor Design (LRFD) of Drilled Shafts in the State of Arkansas	Arkansas Highway and Transportation Department Transportation Research Committee 98th Meeting	May	2014	Little Rock, AR
<b>Costello, T.</b> , M. Matlock, C. Maxwell, W. Zhang, G. Thoma.	Algal Nutrient Uptake and Bioenergy Feedstock Production System to Reduce Carbon Footprint of U.S.	NIFA Climate Change Project Directors Meeting	1	2014	Gainesville, FL



<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Crandall, P.G.</b> , C.A. O'Bryan, S.A. Killian, N. Jarvis, D.E. Beck and E.C. Clausen.	A Comparison of the Degree of Student Satisfaction Using a Simulation or a Traditional Wet Lab to Teach Physical Properties of Ice	Institute of Food Technologists Annual Meeting & Food Expo	6	2014	New Orleans, LA
<b>Crandall, P.G.</b> , R.E. Engler III, C.A. O'Bryan, S.A. Killian, N. Jarvis, D.E. Beck and E.C. Clausen	Development of a Virtual Laboratory Platform to Teach the Concepts of Enzyme Kinetics in Food Chemistry	Institute of Food Technologists Annual Meeting & Food Expo	6	2014	New Orleans, LA
<b>Kim, Daesoo</b> , Greg Thoma, Rick Ulrich, Darin Nutter, Franco Milani	Life Cycle Assessment of Cheese Manufacturing in the United States	LCA of Food Conference	10	2014	San Francisco, CA
<b>Deschenes, Jr., R.</b> , Murray, C., Phillips, W., and Hale, W.	ASR Mitigation Research	Alkali Silica Reaction – Trouble Shooting Concrete Seminars, Arkansas Ready Mixed Concrete Association and the Arkansas ACI Chapter	July	2014	Ft. Smith, AR
<b>Deschenes, Jr., R.</b> , Murray, C., Phillips, W., and Hale, W.	ASR Mitigation Research	Alkali Silica Reaction – Trouble Shooting Concrete Seminars, Arkansas Ready Mixed Concrete Association and the Arkansas ACI Chapter	November	2014	Texarkana, AR
<b>Deschenes, Jr., R.</b> , Murray, C., Phillips, W., and Hale, W.	ASR Mitigation Research	Alkali Silica Reaction – Trouble Shooting Concrete Seminars, Arkansas Ready Mixed Concrete Association and the Arkansas ACI Chapter	July	2014	Springdale, AR
<b>Deschenes, Jr., R.</b> , Murray, C., Phillips, W., and Hale, W.	ASR Mitigation Research	Northwest Arkansas Chapter of the American Society of Civil Engineers	June	2014	Springdale, AR
<b>Deschenes, Jr., R.</b> , Murray, C., and Hale, W.	ASR Mitigation and Prevention	Arkansas Highway and Transportation Department Transportation Research Committee 98th Meeting	May	2014	Little Rock, AR
<b>Deschenes, Jr., R.</b> , Murray, C., and Hale, W.	Investigating the Causes of ASR in an Interstate Barrier Wall	2014 ACI Spring Convention, Open Paper Session	March	2014	Reno, NV
<b>Dunklin, J.</b> , D.K. Roper	Plasmonic pervaporation for waste-water recycling	<i>22<sup>nd</sup> ASGC Annual Symposium</i>	4	2014	Hot Springs, AR

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Dunklin, J.</b> , G.T. Forcherio, D.K. Roper.	Geometric optics of gold nanoparticle-polydimethylsiloxane thin film systems	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Dunklin, J.</b> , G.T. Forcherio, K. Berry, D.K. Roper	Asymmetric reduction of gold nanoparticles into thermoplasmonic polydimethylsiloxane thin films	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>El Mashiete, Ahmed</b> and Bob Beitle	The Ion Exchange Proteoms of <i>Pseudomonas fluorescens</i>	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Forcherio, G.T.</b> , D. DeJarnette, P. Blake, D.K. Roper	Polarizability extraction for rapid computation of Fano resonance in nanoring lattices	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Forcherio, G.T.</b> , D.K. Roper.	Optical attenuation of plasmonic Au-PDMS nanocomposite thin-film devices.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Gattis, J.L.</b> , and J. Chimka	Arkansas 2014 Seat Belt Use	Highway Safety Office, Arkansas State Police	September	2014	Little Rock, AR
<b>Gattis, J.L</b>	The Next Generation of Access Management Guidance	Joint Western/Midwestern ITE District Annual Meeting	July	2014	Rapid City, SD
<b>Hestekin, C.N.</b> , M.A. Moss, E. Pryor, J. Kurtz, and S. Paracha	Microchannel Electrophoresis for the Analysis of Amyloid Protein Oligomers	Annual Meeting of AIChE / AES Electrophoresis Society Meeting	11	2014	Atlanta, GA
<b>Hestekin, Jamie</b>	Water Reuse in Fracking	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Heymfield Ernie &amp; Kuss, Mark</b>	Using Gigapixel Technology as a Quality Control Tool in Bridge Inspections	Northwest Arkansas ASCE Branch	August	2014	Springdale, AR
<b>Holmes-Smith J.</b> , Zhang W	Ammonia Removal in Massard Wastewater Treatment Plant	Arkansas Water Resource Center Annual Conference	July	2014	Fayetteville, AR
Li, Z.M., Y. Fu, and <b>Y. Li*</b>	Self-assembled monolayers-based impedance immunosensor for rapid detection of <i>Escherichia coli</i> O157:H7 using screen-printed interdigitated microelectrodes.	CIGR2014 International Meeting, September 15-19, 2014	Sept	2014	Beijing, China

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Lin, J.H., R. Wang, P.X. Jiao, Y.T. Li, X.H. Wen, <b>Y. Li</b> , M. Liao, and M.H. Wang.	An improved impedance biosensor based on interdigitated array microelectrode for rapid detection of avian influenza virus.	24th World Congress on Biosensors	May	2014	Melbourne, AU
Wang, H., <b>Y. Li</b> , and M.F. Slavik	Rapid and simultaneous detection of Campylobacter and Salmonella in poultry samples using magnetic nanobeads and quantum dots based fluorescent immunosensor.	IAFP 2014 Annual Meeting	Aug	2014	Indianapolis, IN
Wang, R., and <b>Y. Li</b>	Bio-nanogate controlled enzymatic reaction for virus sensing.	24th World Congress on Biosensors	May	2014	Melbourne, AU
Wang, R., L. Wang, X.F. Yu, B.W. Kong, and <b>Y. Li</b>	Fluorescent Ca <sup>2+</sup> indicator based B Cells biosensor for rapid detection of E. coli O157:H7 in foods.	IAFP 2014 Annual Meeting	Aug	2014	Indianapolis, IN
Wang, Y.X., B.H. Zhang, R. Wang, S.S. Abdullah, and <b>Y. Li*</b> .	A portable impedance biosensing system based on a laptop with LabVIEW for detection of avian influenza virus	ASABE 2014 Annual International Meeting	July	2014	Montreal, Canada
Xu, M., R. Wang, and <b>Y. Li</b>	Screen-printed electrode based aptasensor for rapid detection of E. coli O157:H7 in foods	IAFP 2014 Annual Meeting	Aug	2014	Indianapolis, IN
Xu, L.Z., Z. Callaway, R. Wang, and <b>Y. Li</b>	A fluorescent aptasensor coupled with nanobeads-based immunomagnetic separation for simultaneous detection of four foodborne pathogens.	ASABE 2014 Annual International Meeting,	July	2014	Montreal, Canada
<b>Lisunova, M.</b> , J. Norman, X. Wei, S. Jenkins, J. Chen, D.K. Roper	Hollow nanocages dispersion and its photothermal properties.	248th American Chemical Society Annual Meeting and Exposition	8	2014	San Francisco, CA
<b>Liu, Z.</b> , Du, H., Wickramasinghe, S. R., Qian, X.	Polymeric ligand Affinity Membranes for Protein Separations: Experiments and Simulations	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Liu, Z.</b> , Wickramasinghe, S. R., Qian, X.	The Effect of Salt Ions on Responsive Membrane Based Hydrophobic Interaction Chromatography	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Lopez, Alex</b> and Jamie Hestekin	Effect of Ionic Structure on Performance of Ionic Liquids	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Mahmoudi, N., M.</b> Asgharpour, J.A. Hestekin, S. Servoss	A New Method of Decreasing Fouling of Polysulfone Hollow-Fiber Membranes Using Peptoids	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Mahmoudi, N., M.</b> Asgharpour, J.A. Hestekin, S. Servoss.	A New Method of Decreasing Fouling of Polysulfone Hollow-Fiber Membranes Using Peptoids	University of Arkansas Abstract to Contract Research Poster Competition	11	2014	Fayetteville, AR
<b>Mahmoudi, Neda,</b> Maryam Asgharpour, Jamie Hestekin, and Shannon Servoss	A New Method of Decreasing Fouling of Polyetersulphone Membranes Using Peptoids	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Mahmoudi, Neda,</b> Maryam Asgharpour, Jamie Hestekin, and Shannon Servoss	Evaluation of Gas Exchange of Hollow Fiber Membranes for Artificial Lungs	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Malmali, M.,</b> Stickel, J., Wickramasinghe, S. R.	Continuous Enzymatic Hydrolysis of Biomass in a Membrane Reactor	North American Membrane Society Meeting	6	2014	Houston, TX
<b>Malmali, M.,</b> Wickramasinghe, S. R.	Modified Ultrafiltration Membranes for Fractionation of Sugars	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Mash C.,</b> Zhang W., Fairey J.	Assessing Trichloromethane Formation and Control in Nutrient Enriched Waters	Arkansas Water Resource Center Annual Conference	July	2014	Fayetteville, AR
<b>Meints D. II,</b> Zhang W., Fairey J.,	Method Development for a Total N-Nitrosamine Assay	83rd Annual AWW&WEA Conference	April	2014	Hot Springs, AR
<b>Meints D. II,</b> Zhang W., Fairey J.	Assessing Sources of Total N-Nitrosamine Precursors in the Distribution System	Arkansas Water Resource Center Annual Conference	July	2014	Fayetteville, AR
Kirac, E., and <b>A. B. Milburn</b>	Social media usage in disaster relief routing	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Kirac, E., and <b>A. B. Milburn,</b> and C. L. Wardell	Social media usage in static disaster relief routing plans (poster)	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California

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Li, B., and <b>A. B. Milburn</b>	Scheduling workers in a warehouse based on productivity performance (poster)	<i>Center for Excellence in Logistics and Distribution Industrial (CELDi), Advisory Board Meeting and Research Symposium</i>		2014	Chicago, Illinois
Li, B., and <b>A. B. Milburn</b>	Scheduling workers in a warehouse based on productivity performance: phase II (poster)	<i>Center for Excellence in Logistics and Distribution, Industrial Advisory Board Meeting</i>		2014	Dallas, Texas
Hadiannassar, M., and <b>A. B. Milburn</b>	Dillard's store delivery project (poster)	<i>Abstract to Contract Graduate Research Competition, University of Arkansas</i>		2014	Fayetteville, Arkansas
Kilinc, M., and <b>A. B. Milburn</b>	Measuring Spatial Access to Home Healthcare Services (poster)	<i>Abstract to Contract Graduate Research Competition, University of Arkansas</i>		2014	Fayetteville, Arkansas
Li, B., I. Hernandez, <b>A. B. Milburn</b> , and J. Ramirez-Marquez	Integrating uncertain data in disaster relief facility location	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
<b>Mishler, J.</b> , P. Blake, A.J. Alverson, D.K. Roper, J. B. Herzog	Diatom frustule photonic crystal geometric and optical characterization.	<i>SPIE Optics + Photonics</i>	8	2014	San Diego, CA
<b>Moloney C.</b> , Zhang W	Microbial Activity at Beaver Water District under the change of pre-oxidation regime	83rd Annual AWW&WEA Conference	April	2014	Hot Springs, AR
<b>Moloney C.</b> , Zhang W.	Microbial Community Shifts Produced by a Change in the Primary Oxidant at a Drinking Water Treatment Plant	Arkansas Water Resource Center Annual Conference	July	2014	Fayetteville, AR
<b>Mukherjee, Rudra</b> , Srinivas Jayanthi, David McNabb, T.K.S. Kumar, and Bob Beitle	Novel Antifungal Fusion Proteins	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Nachtmann, H.</b> , Kenneth N. Mitchell, C. Rainwater, R. Gedik and E. A. Pohl	Optimal Dredge Fleet Scheduling within Environmental Work Windows	<i>Transportation Research Board 93rd Annual Meeting</i>	January	2014	Washington, D.C.
<b>Nachtmann, H.</b> Matthew Campo, and Jingjing Tong	Development of Multimodal Transportation Resilience Planning Tool for Inland Waterway Transportation	<i>Transportation Research Board 93rd Annual Meeting</i>	January	2014	Washington, D.C.

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Oztanriseven, Furkan, <b>(H. Nachtmann)</b>	Disruption Cost Analysis of Inland Waterway Transportation	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Oztanriseven, Furkan, <b>(H. Nachtmann)</b>	A Review of System Dynamics in Maritime Transportation	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Najafi, H.</b> , D. DeJarnette, D.K. Roper, S. Servoss.	Peptoid-Modified Bicelles as Surrogate Cell Membranes for Membrane Protein Sensors and Analytics	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Najafi, H.</b> , D. DeJarnette, D.K. Roper, S. Servoss.	Peptoid-Modified Bicelles as Surrogate Cell Membranes for Membrane Protein Sensors and Analytics	University of Arkansas Abstract to Contract Research Poster Competition	11	2014	Fayetteville, AR
<b>Najafi, H.</b> , D. DeJarnette, D.K. Roper, S.L. Servoss	Peptoid-modified bicelles as surrogate cell membranes for membrane protein sensors and analytics.	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
Lamb, K., <b>(K. Needy)</b>	Association between Comorbidities and Hospital Resource Usage for Diabetes Inpatients	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Richardson, G., <b>G. S. Osborn.</b>	Effects of Sediment Resuspension and Oxygenation on Oxygen Uptake Rate	2014 Annual Meeting ASABE,	July	2014	Montreal, Canada
<b>Osborn, G. S.</b>	Dissolved Air Flotation for Removal of Algae and Nutrients from Surface Water	2014 Annual Meeting ASABE	July	2014	Montreal, Canada
Harned, K., A. Cozier, B. Raabe, M. Riley, A. Sommers, <b>H. Pierson</b> , and M. Benedict	AFRL Engine Air Particle Separator	<i>10th Annual Dayton Engineering Sciences Symposium</i>	October	2014	Dayton, Ohio
<b>Perez, G.</b> , S. Servoss	Uniform Peptoid Microsphere Deposition and Coatings	American Society for Engineering Education Midwest Conference	9	2014	Fort Smith, AR
<b>Perez, G.</b> , S. Servoss	Uniform Peptoid Microsphere Deposition and Coatings	University of Arkansas Abstract to Contract Research Poster Competition	11	2014	Fayetteville, AR

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<b>Perez, G.</b> , V. Reyes, S. Servoss.	Use of Peptoid Microsphere-Coated Glass Slides to Increase the Binding Efficiency in Sandwich ELISA Microarrays	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Pohl, Letitia</b>	Throughput of a Dual Crane AS/RS	Industrial and Systems Engineering Research Conference	May	2014	Montreal, Canada
<b>Pohl, Letitia</b>	Optimizing the Shape of Rectangular Parking Lots Based on Lot Capacity and Door Location	20th Conference of the International Federation of Operational Research Societies	July	2014	Barcelona, Spain
<b>Prinz, G.</b>	Steel Ductile Braced Frame Systems with Architectural Flexibility	University of Arkansas Civil Engineering Graduate Seminar	April	2014	Fayetteville, AR
<b>Prinz, G</b>	Earthquake resistant design strategies: life safety during the 'big one'	ATC-20 Workshop	November	2014	Fayetteville, AR
<b>Qian, X.</b> , Liu, Z., Wickramasinghe, S. R.	High Affinity Membrane Adsorbers for Protein Purification	North American Membrane Society Meeting	6	2014	Houston, TX
<b>Qian, X.</b> , Song, G., Du H., Wickramasinghe, S. R.	Developing Advanced Antifouling Membranes Using Complementary Experimental and Theoretical Methods	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
Gedik, R., <b>C. Rainwater</b> and H.E. Romeijn	Analytically Solving a Customer Scheduling Problem with Customer Mix Restrictions	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
St. John, D., <b>C. Rainwater</b> , and J. C. Smith	Efficient Parallel Algorithms for Network Interdiction Problems	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Gedik, R., <b>C. Rainwater</b> and H.E. Romeijn	Analytically Solving a Customer Scheduling Problem with Customer Mix Restrictions	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Lombardi, B. and <b>C. Rainwater</b>	Efficiencies of Modular Containers in the 3-D Container Packing Problem	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
St. John, D. and <b>C. Rainwater</b>	Intelligent Arc Selection Rules for a Parallel Network Interdiction Methodology	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Reyes, V.</b> , G. Perez, S. Servoss	Use of Peptoid Microspheres to Improve Enzyme Linked Immunosorbent Assay (ELISA) Microarrays for Early Cancer Detection	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Reyes, V.</b> , G. Perez, S. Servoss	Use of Peptoid Microspheres to improve Enzyme Linked Immunosorbent Assay (ELISA) Microarray	American Institute of Chemical Engineers Regional Meeting	4	2014	Iowa City, IA
<b>Rodriguez, H. G.</b> , J. Popp, R. Ulrich, G. Thoma, C. Maxwell and T.C. Tsai.	Integrating a life cycle costing model into a GHG emissions model for swine production.	Southern Sustainable Agriculture Working Group Annual Meeting	1	2014	Mobile, AL
<b>Rogers, L.</b> , J.P. Turner, T. Rechten, S. Servoss	Modulating Aggregations of Amyloid Beta 40 via Rationally Designed Peptoids	American Institute of Chemical Engineers Regional Meeting	4	2014	Iowa City, IA
<b>Roper, D.K.</b>	Electron optics of composite metamaterials	<i>Near Field Optics-13</i>	8	2014	Snowbird, UT
<b>Rossetti, M.D.</b> , E.C. Clausen, C.S. Gattis, W.M. Hale and K.L. Needy	Enrichment Activities in Support of a Student Integrated Intern Research Experience	121st American Society for Engineering Education (ASEE) Annual Conference & Exposition	6	2014	Indianapolis, IN
<b>Rossetti, M. D.</b>	CDP: Variation Identification System for Operational Risks in Inventory Systems	<i>Center for Excellence in Logistics and Distribution (CELDi) Fall 2014 Research Symposium</i>	October	2014	Dallas, TX
<b>Rossetti, M. D.</b>	Impact of Lead Time Variability	<i>Center for Excellence in Logistics and Distribution (CELDi) Fall 2014 Research Symposium</i>	October	2014	Dallas, TX
<b>Rossetti, M. D.</b> and Bright, J.	Sensitivity Analysis of Lead Time Variability in Inventory Systems	<i>2014 Industrial Engineering Research Conference</i>	May	2014	Montreal, Canada
<b>Rossetti, M. D.</b> , Pohl, E. A.	A Case Study Analysis of Inventory Costs and Practices for Operating Room Medical/Surgical Items	<i>52nd Annual Conference and Exhibition of the Association of Healthcare Resource &amp; Materials Management (AHRMM)</i>	August	2014	Orlando, Florida
Webb, K. and <b>M. D. Rossetti</b>	Monte-Carlo Sensitivity Analysis of Inventory Models	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada



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Sheikhzadeh, A. and <b>M. D. Rossetti</b>	Segmentation Methods for Large-Scale Multi-Echelon Service Parts Logistics Systems	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014 (Conference Presentation)</i>	November	2014	San Francisco, California
Parsa, P., <b>M. D. Rossetti</b> , S. Zhang, and E. A. Pohl	Partner Selection in Continuous Replenishment Program (CRP)	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
<b>Runkle B.R.K.</b> , Wille C., Langer M., Boike J., Sachs T., Pfeiffer E.-M., Kutzbach L.	Multi-annual evapotranspiration in the Lena River Delta.	3 <sup>rd</sup> General Assembly of the PAGE21 Project	Nov	2014	Twente, The Netherlands
Wille C., <b>Runkle B.R.K.</b> , Schreiber P., Sachs T., Langer M., Boike J., Pfeiffer E.-M., Kutzbach L.	Inter-annual variability of growing season CO <sub>2</sub> and CH <sub>4</sub> fluxes of Siberian lowland tundra.	3 <sup>rd</sup> General Assembly of the PAGE21 Project	Nov	2014	Twente, The Netherlands
Cresto Aleina F., <b>Runkle B.R.K.</b> , Kleinen T., Kutzbach L., Boike J., Brovkin V.	Upscaling micro-topography in high-latitude peatlands.	3 <sup>rd</sup> General Assembly of the PAGE21 Project	Nov	2014	Twente, The Netherlands
Gagandeep Ubhi and <b>Sammy Sadaka</b>	Novel Technique to Quantify Grain Respiration Rates for Early Detection of Spoilage and Pests Infestation.	ASABE Section Meeting		2014	
Gagandeep Ubhi and <b>Sammy Sadaka</b>	Utilization of Heated Rice Hulls as a Solid Heat Transfer Medium for Faster Grain Drying and Spoilage Prevention.	Poster Presented during the Abstract to Contract Student Competition.		2014	Fayetteville, AR
<b>Saraswat, D.</b> and B. Scott	Cloud based, Open Source Software Application for Mitigating Herbicide Drift	2014 AGU Fall Meeting	Dec	2014	San Francisco, CA
Singh, G. and <b>D. Saraswat</b>	Water Quality Impacts of Best Management Practices in L'Anguille River Watershed, Arkansas.	From Abstract to Contract: Graduate Student Research Poster Competition	Nov	2014	Fayetteville, AR
<b>Selvam, R.P.</b> and K. Pough	Nanotechnology for Infrastructure	49th Annual meeting, Arkansas Association for Healthcare Engineering (AAHE)	May	2014	Little Rock, AR

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Selvam, R.P.</b>	Dynamic Effect of Tornado Forces On Cylindrical Structures	98th Arkansas Academy of Science	April	2014	Searcy, AR
<b>Smith, K.</b> , G. Perez, D. Shah, S. Servoss	Targeted Drug Delivery with Peptoid Based Nanospheres	American Institute of Chemical Engineers Regional Meeting	4	2014	Iowa City, IA
<b>Smith, K.</b> , G. Perez, D. Shah, S. Servoss.	Targeted Drug Delivery with Peptoid-Based Nanospheres	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Song, G.</b> , Wickramasinghe, S. R., Qian, X.	Magnetically Responsive Self-Cleaning Micro-Mixing Nanofiltration Membranes	North American Membrane Society Meeting	6	2014	Houston, TX
<b>Specking, E.</b> , and E.C. Clausen.	Engineering Summer Academy: How It's Done—Chemical Engineering Style.	2014 American Society for Engineering Education Midwest Section Annual Conference	9	2014	Fort Smith, AR
Hanna, S., J. Chang, <b>T. Spicer</b> , M. Sohn, M. Brown, and A. Wiborg	Outdoor Dispersion of Chlorine in the Jack Rabbit II Mock Urban Area	2014 Chemical and Biological Warfare Weaponization & Consequence Assessment Modeling Symposium	12	2014	Charlottesville, VA
Huq, P., and <b>T. Spicer</b>	Propagation of Dense Gas Clouds at Jack Rabbit	18 <sup>th</sup> Annual George Mason University Conference on Atmospheric Transport and Dispersion Modeling	6	2014	Fairfax, VA
<b>Spicer, T.</b>	Jack Rabbit II Dissemination and Near Source Working Group Update – The Best Laid Plans of Mice and Men...	18 <sup>th</sup> Annual George Mason University Conference on Atmospheric Transport and Dispersion Modeling	6	2014	Fairfax, VA
<b>Spicer, T.</b>	Jack Rabbit II Program Dissemination and Near Source Working Group Status Report	2014 Chemical and Biological Warfare Weaponization & Consequence Assessment Modeling Symposium	12	2014	Charlottesville, VA
<b>Spicer, T.</b>	Wind Tunnel Experimental Support Program for the Jack Rabbit II Tests	2014 Chemical and Biological Warfare Weaponization & Consequence Assessment Modeling Symposium	12	2014	Charlottesville, VA
<b>Spicer, T.</b>	Using the SAcHE Website to Enhance Undergraduate Safety Education	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Spicer, T.</b> , and C. Swaffar	A Visual Demonstration of Process Control Principles	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Strasser, M.N.</b> , & Selvam, R.P.	The Influence of Vortex Size and Path on Structural Loading	University of Arkansas Abstract to Contract Research Competition	November	2014	Fayetteville, AR
<b>Strasser, M.N.</b> , & Selvam, R.P.	Influence of the Phasing of Vortex Shedding and Vortex Impact on Structural Loading	98th Arkansas Academy of Science	April	2014	Searcy, AR
<b>Sullivan, K. M.</b> and C. Rainwater	Interdicting Cloud Infrastructure with Targeted Denial of Service Attacks	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Baycik, N. Orkun and <b>K. M. Sullivan</b>	Robust Network Interdiction with Invisible Interdiction Assets	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Ahadi, K. and <b>K. M. Sullivan</b>	Age-Based Preventive Maintenance in Multi-Component Systems: An Integer Programming Approach	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
<b>Thoma, G.</b> , M. Matlock, C. Maxwell, J. Popp, T. Costello –K. VanDevender, S. Sadaka, M. Hanigan, M. Ponder, C. Li, W. Salas, J.S. Radcliffe, B. Richert, R. Stowell and J. Heemstra.	Integrated resource management tool to mitigate the carbon footprint of swine produced in the U.S.	NIFA Climate Change Project Directors Meeting	1	2014	Gainesville, FL
<b>Thoma, G.</b> , R. Ulrich, C. Maxwell, J. Popp, P. Bandekar, H. Rodriguez, J. Burek, D. Kim, T. Tsai, H. Kim, M. Hanigan, C. Li and W. Salas.	Compiling a database of carbon and water footprint and nutrient content of animal feed.	NIFA Climate Change Project Directors Meeting	1	2014	Gainesville, FL
<b>Thoma, Greg</b> , Eric Cummings, Steve Ricke, Phil Crandall.	On the Potential Application of Life Cycle Assessment in Food Safety Assessment	Arkansas Association for Food Protection and American Society for Microbiology Annual Educational Conference	9	2014	Fayetteville, AR
Wiedemann, Stephen, Mingjia Yan, Caoilinn Murphy, Beverley Henry, Stewart Ledgard, and <b>Greg Thoma</b> .	Environmental impacts of Australian beef and lamb exported from Australia to the USA evaluated using life cycle assessment.	LCA of Food Conference	10	2014	San Francisco, CA
Moccaro, M., <b>Thompson, D.R.</b> , and Rothmeyer, M.	Mobile Banking Security Using GPS Location Authentication	<i>Fifth Central Area Networking and Security Workshop</i>	April	2014	Arkansas

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Tsai, T.C.</b> , J. Popp, G. Thoma, R. Ulrich, C. V. Maxwell, M. Hanigan, B. Richert, and S. Radcliffe.	Effects of amino acid supplementation with reduced dietary crude protein.	NIFA Climate Change Project Directors Meeting	1	2014	Gainesville, FL
<b>Turner, J.P.</b> , D. Park, M.A. Moss, S. Servoss	Peptoids Modulate A $\beta$ Aggregation and Alter Morphology of Fibril Species	University of Arkansas Abstract to Contract Research Poster Competition	11	2014	Fayetteville, AR
<b>Turner, J.P.</b> , D. Park, M.A. Moss, S. Servoss.	Peptoids Modulate A $\beta$ Aggregation and Alter Morphology of Fibril Species	American Society for Engineering Education Midwest Conference	9	2014	Fort Smith, AR
<b>Turner, J.P.</b> , L. Wolf, T. Lutz-Rechtin, M.A. Moss, S. Servoss	Effects of Rationally Designed Peptoids on A $\beta$ 1-40	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Turner, J.P.</b> , T. Rectin, K. Moore, M. Moss, S. Servoss	Peptoids that mimic the peptide KLVFF prevent aggregation of A $\beta$ 1-40	American Chemical Society National Meeting	3	2014	Dallas, TX
<b>Ulrich, R.</b> , J. Popp, G. Thoma and H.G. Rodriguez	Integrating a Life Cycle Costing Model into a GHG Emissions Model for Swine Production.	NIFA Climate Change Project Directors Meeting	1	2014	Gainesville, FL
<b>Vu, A. T.</b> , Wickramasinghe, S. R., Qian, X.	Novel Polymeric Solid Acid Catalysts for Cellulose Hydrolysis	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Wickramasinghe, S. R.</b>	Magnetically Responsive Membranes for Advanced Separations	248th American Chemical Society Annual Meeting and Exposition	8	2014	San Francisco, CA
<b>Wickramasinghe, S. R.</b>	Responsive Membranes for Advanced Separations	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Wickramasinghe, S. R.</b>	Advanced Membranes for Future Separations Requirements	American Institute of Chemical Engineers Annual Meeting	11	2014	Atlanta, GA
<b>Wickramasinghe, S. R.</b> , Avram, A., Vu, A. T., Qian, X.	Catalytic Membranes for Simultaneous Biomass Hydrolysis and Sugar Separation	North American Membrane Society Meeting	6	2014	Houston, TX
<b>Wickramasinghe, S. R.</b> , Mamalil, M., Stickel, J. J.	Continuous Enzymatic Hydrolysis of Biomass in a Membrane Reactor	International Congress on Membranes and Membranes Processes	7	2014	Suzhou, China
<b>Wickramasinghe, S. R.</b> , Song, G., R. W. Dong, X. Qian	Magnetically Responsive Membranes for Advanced Separations	International Congress on Membranes and Membranes Processes	7	2014	Suzhou, China

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Wickramasinghe, S. R.</b> , Vu, A. T., Liu Z., Qian, X.	Responsive Membranes for High Efficiency Hydrophobic Interaction Chromatography	International Congress on Membranes and Membranes Processes	7	2014	Suzhou, China
Wang, Y. and <b>Wu, X.</b>	Preserving Differential Privacy in Analyzing Complex Data	<i>SMASH Summit at PeaceHealth National Lab</i>	June	2014	Washington
Wang, Y. and <b>Wu, X.</b> , and Shi, X.	Infringement of Individual Privacy in Mining GWAS Statistics	<i>Biology of Genomes Meeting</i>	May	2014	
Wang, F. ( <b>S. Zhang</b> )	Prediction of Depressive Mood of College Students: An Elastic-Net Regularized Model	<i>Institute for Operations Research and the Management Sciences (INFORMS), Workshop on Data Mining and Health Informatics</i>	November	2014	San Francisco, California
Madadi, M. ( <b>S. Zhang</b> )	Evaluation of Breast Cancer Mammography Screening Policies Considering Adherence Behavior	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Madadi, M., ( <b>S. Zhang</b> )	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Madadi M., <b>S. Zhang</b> , and E. A. Pohl	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Healthcare Systems Optimization Workshop</i>	September	2014	Chicago, Illinois
Madadi M., <b>S. Zhang</b> , and E. A. Pohl	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Society for Medical Decision Making Annual Meeting</i>	October	2014	Miami, Florida
Wang, F., and <b>S. Zhang</b>	Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Society for Medical Decision Making Annual Meeting</i>	October	2014	Miami, Florida
Wang, F., and <b>S. Zhang</b>	Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Graduate Student Research Competition, University of Arkansas</i>	November	2014	Fayetteville, Arkansas
Wang, F., and <b>S. Zhang</b>	Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Madadi M., <b>S. Zhang</b> , and L. Henderson	Evaluation of Breast Cancer Mammography Screening Policies Considering Heterogeneity in Women's Adherence Behavior	<i>Interactive Session, Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Madadi M., <b>S. Zhang</b> , and E. A. Pohl	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Minority Issues Forum (MIF) Poster Competition, Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Wang, F., ( <b>S. Zhang</b> )	Optimizing Breast Cancer Mammography Screening Schedules Using a Regression-based Model	<i>2014 Industrial and Systems Engineering Research Conference</i>	May	2014	Montreal, Canada
Madadi M., ( <b>S. Zhang</b> )	Evaluation of Breast Cancer Mammography Screening Policies Considering Adherence Behavior	<i>Healthcare Systems Optimization Workshop</i>	September	2014	Chicago, Illinois
Wang, F., ( <b>S. Zhang</b> )	Prediction of Depressive Mood of College Students: An Elastic-Net Regularized Model	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Wang, F., ( <b>S. Zhang</b> )	"Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Wang, F., ( <b>S. Zhang</b> )	Optimal Design of Personalized HPV Vaccination Program	<i>Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2014</i>	November	2014	San Francisco, California
Madadi M., ( <b>S. Zhang</b> )	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Healthcare Systems Optimization Workshop</i>	September	2014	Chicago, Illinois
Madadi M., ( <b>S. Zhang</b> )	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Society for Medical Decision Making Annual Meeting</i>	October	2014	Miami, Florida

<b>Authors (Bold first UA author)</b>	<b>Presentation Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
Wang, F., ( <b>S. Zhang</b> )	Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Society for Medical Decision Making Annual Meeting</i>	October	2014	Miami, Florida
Wang, F., ( <b>S. Zhang</b> )	Adaptive Decision-Making of Breast Cancer Mammography Screening: A Heuristic Regression-Based Model	<i>Graduate Student Research Competition, University of Arkansas</i>	November	2014	Fayetteville, Arkansas
Madadi M., ( <b>S. Zhang</b> )	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Minority Issues Forum (MIF) Poster Competition, INFORMS Annual Meeting</i>	November	2014	San Francisco, California
Madadi M., ( <b>S. Zhang</b> )	Minimizing Overdiagnosis in Cancer Screening while Considering Variation in Patients' Adherence Behaviors	<i>Minority Issues Forum (MIF) Poster Competition, INFORMS Annual Meeting</i>	November	2014	San Francisco, California
<b>Zhang W.</b> , Eswaranandam E., Wickramasinghe R., and Qian X.,	Removal of Endocrine Disrupters from Wastewater Streams	MAST Center Meeting	October	2014	Fayetteville, AR

**VII. Other Creative Endeavors such as recitals, concerts, shows, performances, and comparable activities (alphabetized by the first UA author, add rows as necessary)**

<b>Authors (Bold first UA author)</b>	<b>Title</b>	<b>Event</b>	<b>Month</b>	<b>Year</b>	<b>Location</b>
<b>Beckford, S.</b> Mathurin, L., Chen, J., and Zou, M.	Cu Nanoparticle Filled PTFE Thin Film Modified with a Polydopamine Adhesive Layer	STLE Annual Meeting and Exhibition	05	2014	Lake Buena Vista, FL
<b>Cai, J.,</b> Beckford, S. and Zou, M.	Enhancement of wear resistance of PTFE thin films with graphite filler	STLE Annual Meeting and Exhibition	05	2014	Lake Buena Vista, FL
<b>Z.L. Callahan, C.</b> Wattlelet, H. Daugherty, M. Jeffers, M. Barker, N. Stuckwisch, and A. Huang	Design and test of a one-time use inhibit valve for CubeSAT propulsion	2014 AIAA Region IV Student Conference	04	2014	Albuquerque, NM
<b>B. Carlton, J.</b> Waits, and <b>A. Huang</b>	Design of Aircraft landing gear for rough taxi conditions	2014 AIAA Region IV Student Conference	04	2014	Albuquerque, NM
<b>Cassady, C.R.</b> and C. E. Rainwater	YoungLings, a <i>FIRST®</i> LEGO League (FLL)	<i>Team Coach and Director for FLL qualifying tournament.</i>	Jan.-Dec.	2014	Springdale, AR
R. Bair, T. M. McVey , C. Reavis, D. Smith. Faculty mentor: <b>T. A. Costello</b>	Design an Anaerobic Digester to Produce Fuel from Food Wastes to Power Campus Transit Buses".	G.B. Gunlogson National Student Design Competition, held at the 2014 annual international conference of the American Society of Agricultural and Biological Engineers (ASABE),	July	2014	Montreal, Canada
<b>Fleming, R.,</b> Zou, M.	Deformation Resistance and Indentation Behavior of Al/a-Si Layered Thin-films	STLE Annual Meeting and Exhibition	05	2014	Lake Buena Vista, FL



<b>Fleming, R.</b> , Zou, M.	Load- and Displacement-controlled Nanoindentation of Al/a-Si Core-shell Nanostructures	TMS 2014 143rd Annual Meeting & Exhibition	02	2014	San Diego, CA
W. M. Drake, J.T. Scott, M. Evans-White, <b>B. Haggard</b> , A. Sharpley, C.W. Rogers, and E.M. Grantz.	The effect of periphyton stoichiometry and light on biological phosphorus immobilization and release in streams	EXCELLENT PAPER 2014 Japanese Society of Limnology		2014	
<b>Harding, A. C.</b> , Nutter, D.W.	Compressed air system analysis and retrofit for energy savings - an industrial case study	IETC	05	2014	New Orleans, LA
F. Pan, A.K. Maiga, and <b>A. Huang</b>	Solvent-based polymer swelling characterization for the development of the nano/micro-particle polymer composite MEMS corrosion sensor	2014 ASME International Mechanical Engineering Congress and Exposition	11	2014	Montreal, Canada
<b>B. Carlton</b> , J. Waits, and <b>A. Huang</b>	Design of Aircraft landing gear for rough taxi conditions	2014 AIAA Region IV Student Conference	04	2014	Albuquerque, NM
D. Sanders, <b>A. Huang</b> , E. Anzalone, C. Becker, J. Cecil, D. Heater, S. Peebles, K. Sykes	CubeSAT proximity operations: A Ground Demonstration	Small Satellite Conference	08	2014	Logan, UT
<b>A. Huang</b>	Manufacturing...the second coming of the industrial age	AR Center for Space and Planetary Sciences REU Seminar	06	2014	Fayetteville, AR
<b>A. Huang</b> , E. Wilson, and Y. Chan	Development of critical technologies for formation and proximity flight with nano-satellites	2014 AR Academy of Sciences	04	2014	Searcy, AR
<b>A. Huang</b> , E. Wilson, and Y. Chan	Development of critical technologies for formation and proximity flight with nano-satellites	2014 AR Space Grant Consortium	04	2014	Hot Springs, AR

<b>J.B. Lee, A. Huang</b>	Design and implementation of a MEMS-based 08ambient pressure mi06cro propulsion system	2014 ASME International Mechanical Engineering Congress and Exposition	11	2014	Montreal, Canada
<b>P. C. Millett</b>	Mesoscale computational study of nanoparticle assembly in immiscible binary polymer blends	Materials Research Society Fall meeting	11	2014	Boston, MA
<b>P. C. Millett</b>	Time-dependent ginzburg-lindau simulations of directed self-assembly of abc triblock terpolymers	Materials Research Society Fall meeting	11	2014	Boston, MA
<b>P. C. Millett</b>	Computer modeling of self-assembled material nanostructures	Sigma Xi Chapter meeting		2014	Fayetteville, AR
<b>P. C. Millett</b>	Computational study of the directed self-assembly of porous thin-film membranes with colloidal particle coated channels	The Minerals, Metals, and Materials Society meeting	02	2014	San Diego, CA
<b>A. K. Nair</b>	Oral presentation	ASME NEMB	02	2014	San Francisco, CA
<b>A. K. Nair</b>	Poster presentation	Materials Research Society Fall meeting	11	2014	Boston, MA
Kim, D., Thoma, G., Ulrich, R., <b>Nutter, D.</b> and Milani, F.	Life cycle assessment of cheese manufacturing in the U.S.	9th International Conference LCA of Food	10	2014	San Francisco, CA
Yi, L., Harding, A.C. and <b>Nutter, D.W.</b>	Energy assessment of a poultry processing plan	ASABE and CSBE/SCGAB International Meeting	07	2014	Quebec
<b>Osborn, G. Scott</b>	Founder and Board Member of BlueInGreen, LLC, a company formed to commercialize UA owned inventions from my research and products that I designed.				
<b>Rainwater , C. E.</b> and C. R. Cassidy	GearHogs, a <i>FIRST</i> Robotics Competition (FRC) team	<i>Team Mentor and Co-Director of FRC Tournament</i>	Jan.-Dec.	2014	Fayetteville, AR

<b>Rainwater, C. E.</b>	Invited Participant	<i>National Academy of Engineering Frontiers of Engineering Education Symposium</i>	October	2014	Irvine, CA
<b>Ben Runkle</b>	Hosted the following talk: Reba, M. Preserving Water Resources for Agriculture in the Arkansas Delta	BAEG Seminar	Nov	2014	Fayetteville, AR
<b>Sammy Sadaka</b>	Arkansas Grain Drying and Storage.	Website			<a href="http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/">http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/</a>
<b>Sammy Sadaka</b>	On-Farm Rice Drying and Storage.	Website			<a href="http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/ice_drying_and_storage.aspx">http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/ice_drying_and_storage.aspx</a>
<b>Sammy Sadaka</b>	On-Farm Corn Drying and Storage.	Website			<a href="http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/corn_drying_and_storage.aspx">http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/corn_drying_and_storage.aspx</a>
<b>Sammy Sadaka</b>	On-Farm Wheat Drying and Storage.	Website			<a href="http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/wheat_drying_and_storage.aspx">http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/wheat_drying_and_storage.aspx</a>
<b>Sammy Sadaka</b>	On-Farm Soybean Drying and Storage.	Website			<a href="http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/soybean_drying_and_storage.aspx">http://uaex.edu/farm-ranch/crops-commercial-horticulture/Grain_drying_and_storage/soybean_drying_and_storage.aspx</a>
<b>T. Scogin, A. Huang, R. Moger IV, A. Arndt, R.D. Dorch, B. Wagner, T. Rup, F. Lewallen, A. Guerra</b>	Obtaining over mach speed flight with a high-powered rocket by the University of Arkansas Rocket team	2014 AIAA Region IV Student Conference	04	2014	Albuquerque, NM

<b>Spearot, D. E.</b>	Motion and Stability: Forces and Interactions	UA Summer Teachers Workshop	07	2014	Fayetteville, AR
<b>Spearot, D. E.</b>	Research in Computational Nanomaterials Science and Engineering	COE Federal Day	08	2014	Fayetteville, AR
<b>Spearot, D. E.</b>	What is computational materials science and why should I care?	FEP Honors Colloquium	11	2014	Fayetteville, AR
<b>Thompson, C., Zou, M.</b>	Investigation of Moth-Eye Antireflection Coatings for PV Cover Glass Using FDTD Modeling Method	40th IEEE Photovoltaic Specialists Conference	06	2014	Denver, CO
Srinivasan, B., Yao, P., <b>Tung, S.</b>	A MULTILAYERED PDMS BASED MicroTAS for INSULIN DETECTION	18th International Conference on Miniaturized Systems for Chemistry and Life Sciences	10	2014	San Antonio, TX
Hibbert, O., Busch, T. and <b>Tung, S.</b>	A Pyrex Nanochannel Device Fabricated by AFM Nanolithography	9th Annual IEEE Annual International Conference on Nano/Mico Engineered and Molecular Systems	04	2014	Honolulu, HI

**VIII. Patent Issued (alphabetized by the first UA inventor, add rows as necessary)**

<b>Inventors (Bold first UA inventor)</b>	<b>Patent Title</b>	<b>Patent Office</b>	<b>Patent Number</b>	<b>Issue Date</b>
Proctor, A., L. Devareddy, and <b>R. Beitle.</b>	Trans, trans conjugated linoleic acid composition and use thereof	US	8809560	8/19/14
<b>Di, J.</b> and Smith, S.C.	Ultra-Low Power Multi-Threshold Asynchronous Circuit Design	US	8,664,977 B2	March 4, 2014
<b>Gaddy, J.L.</b> , D.K. Arora, C.W. Ko, E.C. Clausen, J.R. Phillips, R. Basu and C.V. Wikstrom.	Methods for increasing the production of ethanol from microbial fermentation.	US	8642302	2/4/14
<b>Kim, J.-W.</b> , Deaton, R. & Kim, J.-H	DNA-linked nanoparticle building blocks for nanostructure assembly and methods of producing the same	US patent	13/690,305.	
Tung, S. & <b>Kim, J.-W</b>	Method of fabricating a nanochannel system for DNA sequencing and characterization	US patent	13/768,960	
<b>Kumar, T.K.S.</b> , Zaharoff, D.A., Jayanthi, S., Koppolu, B., Smith, S.G.	Methods for Production and Isolation of Interleukin-12	U.S. Patent	62/035,263	2014
<b>Osborn, G.S.</b> , M.D. Matlock, S. Teltchik	8,919,743 System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases.			Dec 30, 2014
<b>Servoss, S.L.</b> , and M.E. Moss	Peptoids and methods for treating Alzheimer's disease	US	8,809,275	8/19/14
<b>SR Wickramasinghe</b> , X Qian, M Ulbricht, Q Yang	<a href="#">Catalytic Membranes And Applications Thereof</a>	US Patent	20,140,371,340	2014
<b>Wickramasinghe, S. R.</b> , Qian, X., Ulbricht, M., Yang, Q.	Catalytic Membranes And Applications Thereof	World	20140371340	12/18/14
<b>Zaharoff, D.A.</b> , Kumar, T.K.S., Koppolu, B., Jayanthi, S., Smith, S.G.	Cytokine-Chitosan Bioconjugates and Methods of Using the Same	U.S. Patent	62/006,114	2014

## **APPENDIX D**

### **COLLEGE OF ENGINEERING CHAIRS, PROFESSORSHIPS, DISTINGUISHED PROFESSORSHIPS AND LECTURESHIPS**

Charles D. Morgan/Axiom Endowed Graduate Research Chair in Data Base, Xintao Wu, Professor, Computer Science and Computer Engineering

Irma F. and Raymond F. Giffels Endowed Chair in Engineering, John R. English, Professor, Industrial Engineering & Dean of Engineering

John L. Imhoff Endowed Chair in Industrial Engineering, Chase Rainwater, Professor, Industrial Engineering

Maurice E. Barker Endowed Chair in Chemical Process Safety and the Environmental Fate of Chemicals, Tom Spicer, Distinguished Professor, Chemical Engineering

Rodger S. Kline Endowed Chair in Computer Science and Computer Engineering, Susan Gauch, Professor, Computer Science and Computer Engineering

The Twenty-First Century Endowed Chair in Materials, Manufacturing and Integrated Systems, Ajay Malshe, Distinguished Professor, Mechanical Engineering

The Twenty-First Century Endowed Chair in Mixed-Signal IC Design and CAD, Alan Mantoath, Professor, Electrical Engineering

The Twenty-First Century Endowed Graduate Research Chair in Nano, Bio and Medical Technology, Vijay Varadan, Distinguished Professor, Electrical Engineering

The Twenty-First Century Leadership Chair in Mechanical Engineering, James Leyeck, Professor, Mechanical Engineering

The Twenty-First Century Leadership Endowed Leadership Chair, Professor, Kevin Hall, Civil Engineering

Bates Teaching Endowed Professorship in Chemical Engineering, Greg Thoma, Professor, Chemical Engineering

Charles W. Oxford Endowed Professorship in Emerging Technologies, D. Keith Roper, Associate Professor, Chemical Engineering

James T. Womble Endowed Professorship in Computational Mechanics and Nanotechnology Modeling, R. Panner Selvam, Professor, Civil Engineering

Jim L. Turpin Endowed Professorship in Chemical and Biochemical Separations, Jamie Hestekin, Assistant Professor, Chemical Engineering

The Twenty-First Century Professorship in Engineering, Ed Pohl, Professor, Industrial Engineering

Thomas Clinton Mullins Endowed Chair in Engineering, David Andrews, Professor, Computer Science and Computer Engineering

The Twenty-First Century Endowed Professorship in Biomedical Engineering, David Zaharoff, Assistant Professor, Biomedical Engineering

The Twenty First Century Professorship in Mechanical Engineering, Douglas Spearot, Associate Professor, Mechanical Engineering

The Twenty First Century Professorship in Mechanical Engineering, Min Zou, Professor, Mechanical Engineering

The Twenty First Century Professorship in Mechanical Engineering, Larry Roe, Associate Professor, Mechanical Engineering

Ralph E. Martin Endowed Professorship in Chemical Process Engineering, Shannon Seuryneck-Servoss, Assistant Professor, Chemical Engineering

Ross E. Martin Endowed Chair in Emerging Technologies, Ranil Wickramasinghe, Professor, Chemical Engineering

John A. White Term Chair, John A. White, Distinguished Professor, Industrial Engineering

Ansel and Virginia Condray Endowed Professorship in Biochemical and Chemical Separations, Christa Hestekin, Associate Professor, Chemical Engineering

The Twenty-First Century Leadership Chair in Electrical Engineering, Juan Balda, University Professor, Electrical Engineering

George M. and Boyce W. Billingsley Endowed Chair in Engineering, Ashok Saxena, Distinguished Professor

Ralph E. Martin Endowed Leadership Chair in Chemical Engineering, Ed Clausen, Professor, Chemical Engineering

## **Vacant Chairs**

John and Mary Lib White Endowed Systems Integration Chair in Industrial Engineering

Louis Owen Endowed Professorship in Green Chemical Process Design and Development,  
Chemical Engineering

James M. Hefley and Marie G. Hefley Endowed Professorship in Logistics and Entrepreneurship

Ray C. Adam Endowed Chair in Chemical Engineering

Robert E. Babcock, Sr. Endowed Professorship in Chemical Process Safety and the  
Environmental Fate of Chemicals