



"Engineering Makes A World of Difference" Vol. 1 No. 1



From the Dean's Desk

Spring 2018 News – ABET, Globalization, and more.

It is hard for me to believe, but it has been six years since our last accreditation review by ABET.

Accordingly, we requested a reaccreditation visit and submitted our Self Study last July. We hosted an ABET visiting team in October. Each of our undergraduate programs received many positive comments and we also were provided with some recommendations for improvement. The improvement areas were primarily associated with our

laboratories, to include upgrading equipment and an emphasis on lab safety. There were also recommendations to improve the methods being used to assess student outcomes. All of those recommendations are being quickly and effectively addressed so that we will have detailed information available when we prepare our responses to the visiting team in January. My sincere thanks to the industry representatives who met with the ABET team and to the faculty who put in many hours preparing the documentation needed for the visit, particularly the department chairs. Our reaccreditation will be provided to us late next summer.

One of USA's five strategic priorities is "Global Engagement: To strengthen the connections and collaborations between the University and the larger world by enhancing faculty, staff, and students' international experiences and their understanding of other societies and cultures among faculty, staff, and students." The college of engineering has taken a leadership position in this priority, signing student exchange agreements with several German universities. More details are provided elsewhere in this newsletter. Several USA engineering students studied at Karlsruhe last spring and we have five Karlsruhe engineering students on our campus this fall. We will continue to expand participation in these and other international agreements, enriching the educational opportunities for South engineering students.

After more than five years of very fast growth, our engineering enrollment declined this fall as a result of a decrease in the number of international students in our undergraduate programs. We will renew efforts to recruit very talented students to our engineering degree programs with a focus on managed, high quality, growth. You will find many exciting developments in the other articles in this newsletter, including our Tau Beta Pi awards, research collaborations with the college of medicine and NASA, the growing doctoral program in systems engineering, new faculty members, and more.

The Departments

The Department of Chemical & Biomolecular Engineering:

The Chemical and Biomolecular Department recently published their first newsletter, highlighting students, faculty, and classes. In their newsletter you'll find more details on Chemical Engineering student, Benjamin Siu who won the 2017 Goldwater Scholarship.



Ben was the only student of 240 for the 2016-2017 academic year to be awarded this prestigious scholarship. Additionally, Phiwat Klomkaew, also a Chemical Engineering major, was awarded Goldwater Honorable Mention. Recently, Dr. Brooks Rabideau joined the Chemical Engineering Department as an Assistant Professor. His research focuses on molecular dynamic simulations of complex systems with an emphasis on ionic liquids.

The Department of Civil, Coastal, & Environmental Engineering:

As of 2016, the Civil Engineering Department has a new name: The Department of Civil, Coastal, and Environmental Engineering (CCEE). The department will provide our graduates and local community with engineering capabilities that enable more sustainable, resilient, and cost-effective infrastructure. The departments' expertise in coastal, environmental, geotechnical, and transportation engineering. -Kevin White, Ph.D., P.E. Professor and Chair

Drs. Stephanie Smallegan (coastal) and John Cleary (structural) were selected to participate on NSF-sponsored, forensic-engineering teams to evaluate damage to infrastructure and buildings in coastal Texas, just after Hurricane Harvey. Both were part of Geotechnical Extreme Events Reconnaissance (GEER) Association teams assessing coastal/geotechnical (Smallegan) and structural (Cleary) damage. Dr. Cleary represented the Metal Building Manufacturers Association (MBMA). Coastal erosion, bridge pile scour, roadway undercutting, and structural damage were documented from Corpus Christi to Galveston. The results of Drs. Smallegan and Cleary's research will be used to improve resiliency to future storm events by improving building codes and design practices for many types of coastal infrastructure. The research has already lead to multiple presentations and publications. Data evaluation is ongoing.

The Department of Electrical & Computer Engineering:

Exciting things are occurring in the Electrical and Computer Engineering Department. They have hired new faculty and would like to introduce you to them. Select "[New ECE & CpE Faculty](#)" to meet the new faculty members joining the USA Family.

Dr. Kirkici, Chair and Professor of Electrical and Computer Engineering, has been appointed to serve on the IEEE Publication Services and Products Board (PSPB), as Chair of the Publishing Conduct Committee (PCC) effective January 1, 2018. Dr. Kirkici, in her role as the Chair of PCC will be assisting PSPB in handling editorial misconduct cases. Dr. Kirkici has been with the University of South Alabama since July 2016, is a

Fellow of IEEE, and served on a variety of volunteer positions within and outside IEEE for over two decades.

Based on a proposal submitted by Drs. Edmund Spencer, Saeed Latif, Carlos Montalvo and Samuel Russ, USA was selected to be a participant in the NASA CubeSat Launch Initiative. CubeSats are small satellites measured in units of 10 cm cubes that are cheaper and quicker to design and build than the traditional larger satellites. The satellite being designed is two units in size, and uses a new measuring tool designed by Dr. Spencer called the Time Domain Impedance Probe (TDIP) to measure properties of ionospheric plasma as the satellite passes through a low Earth orbit.

The entire project is managed by undergraduates as they design and build the CubeSat to be launched from the International Space Station in 2019. Students from Electrical Engineering, Computer Engineering, Mechanical Engineering, and Computer Science fields, are getting hands on experience tackling a large scale project to completion. The professors involved act only as technical advisors and guide the students as they work to complete the mission. Other USA Professors involved are Drs. Joe Richardson (ME) and Robert Cloutier (SE).

Riley Mayes, a graduate student, pursuing an MSEE degree in the Electrical and Computer Engineering Department, received a Graduate Research Assistantship (GRA) through the Central Education, Recruitment, and Impact Fund (CERIF), which is a part of Connecting the Plasma Universe to Plasma Technology in Alabama (CPU2AL) sponsored by NSF EPSCoR. Dr. Spencer has received funding from NSF as a Sub-Award recipient and Institutional Lead on the CPU2AL project.

The Department of Mechanical Engineering:

Mechanical Engineering has had quite a few spotlights on their faculty in recent months. Two of the most recent are on Drs. Carlos Montalvo, Assistant Professor and Saami Yazdani, Assistant Professor.

Dr. Carlos Montalvo was selected as a Faculty Fellow in the NASA Marshall Space Flight Center Faculty Fellowship Program. This program began June 5th and went through August 11th in Huntsville, AL. He spent 10 weeks working on tethered CubeSats with his Marshall Collaborator, John Rakoczy. The goal of the Faculty Fellowship Program is to provide research experience in current NASA projects to learn about Marshall's role in space exploration and to understand the partnership between NASA, the private sector and academia. For more on Dr. Montalvo's research select [Research Reaches New Heights](#) by Bob Lowry.

Dr. Saami Yazdani, who specializes in Mechanical and Biomedical Engineering, "has been testing new ways of treating cardiovascular disease trying to find alternative ways of opening up clogged human arteries" by using pig arteries as quoted by Rose Ann Haven of News 5 when interviewed. For the full story on Dr. Yazdani's research, see the full news article at [Pig Artery Study at South Alabama](#).

D.Sc. in Systems Engineering:

Did you know that The College of Engineering has a doctoral degree? The Doctor of Science (D.Sc.) in Systems Engineering was established in 2014, and has been growing since then. The main objectives of the D.Sc. Program are: 1) to provide a unique interdisciplinary program that meets the needs of industry and the community in the area of systems engineering, 2) to prepare graduates for leadership positions in applied research that require the use of systems engineering tools to solve complex engineering problems, and 3) to capitalize on the opportunities that result from the interactions of a research university with industry. - Robert Cloutier, Ph.D. Click on D.Sc. of Systems Engineering for more information.



International Agreement between German and Alabama Universities

The memorandum, signed by the schools' provosts, establishes an exchange program among the universities in the

electrical and mechanical engineering departments. Representatives from all the schools worked together to set the parameters for the courses and the course content that will be taught to the undergraduate students participating in the program.

For more information, please click [International Agreement](#).

Alumni News & Notes

2017 Engineering Alumni Society Officers



President	Vice President	Treasurer	Secretary
Erik Herrboldt	Joe Asarisi	Claudia Bjork	Sarah Naylor

Spring 2018 Events

March 30th: Engineering Alumni Society has booked deck 2 behind the outfields to watch Jags Baseball - Sponsored by Asarisi & Associates, LLC
April 5th: Engineering Research Seminar - Dr. Grant Glover
April 19th: Engineering Research Seminar - Dr. David Nelson
April 20th: 12th Annual Engineering Alumni Society Golf Tournament

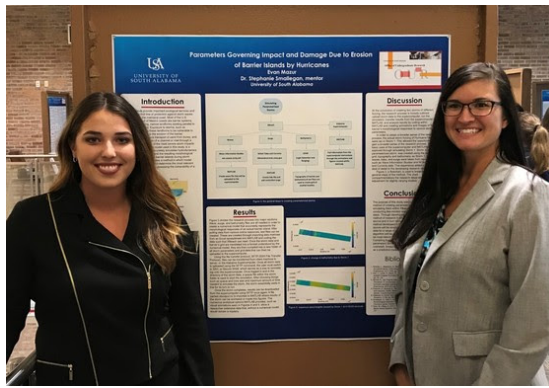
Tau Beta Pi in the Headlines!

Three engineering students and Dr. Sally Steadman attended the Tau Beta Pi National Convention in Dearborn, Michigan. The students learned about other Tau Beta Pi chapters and made meaningful connections with members and alumni. They were also met with some great news.



University of South Alabama, College of Engineering Tau Beta Pi chapter won a total of three awards: 1) Chapter Excellence Award, 2) Chapter Project Award, and 3) R.C. Matthews Outstanding Chapter Award. This is the second time in three years that our chapter has won the R.C. Matthews award. Winning this award is a big deal. It means that among all the 253 existing collegiate chapters, our chapter is the most exemplary in completing service projects for our college and community.

USA again has had several students who received nationally competitive Tau Beta Pi Scholarships. They include Yousef Omar, Chemical Engineering; Phiwat Klomkaew, Chemical Engineering; Benjamin Siu, Chemical Engineering; Chad Austin, Electrical Engineering; and Olivier Gingras, Mechanical Engineering.



Evan Mazur, Junior in Civil Engineering with
mentor and Assistant Professor, Dr. Stephanie Smallegan
Best Paper Award at the 2017 Summer Undergraduate Research Program

Civil Engineering major, Evan Mazur (Junior) won best paper award at the 2017 Summer Undergraduate Research Program. She is pictured with her mentor, Dr. Stephanie Smallegan who is an Assistant Professor in the Department of Civil, Coastal, & Environmental Engineering at USA. Through her research, Evan created a method for simulating additional, parameterized storms. This allows us to create data for an infinite number of storms. (Of course, we will only simulate the storms most likely to impact this region of the U.S. so that we are not wasting valuable resources like time, money, and data storage). Evan's method is usable by any knowledgeable researcher. Evan is continuing this work herself and will simulate additional storms. She will then compare the results from those different storms to determine the most important factors controlling barrier island morphology during storms. This will also tell us when to expect impacts from bay hydrodynamics to be severe. By performing this analysis, our research will allow coastal planners to make better informed decisions regarding protection of coastal infrastructure.



This football season, the College of Engineering worked hard to bring awareness to the importance of recycling and instill thinking-green habits. Each home game four recycling cans were stationed around the CoE tailgating spot labeled "Plastic" and "Aluminum Cans." Chemical Engineering major, Phiwat Klomkaew (pictured 6th from the left) initiated the project. It's been a successful season for recycling at the College of Engineering tailgates, which will be continued in future years.

Class of 2017

Graduation was a rewarding and memorable event as the University of South Alabama, College of Engineering graduated 209 students with their Bachelors of Science degree in one of the five engineering degrees we offer. We look forward to hearing great things from our students as they join the world of engineering and cannot wait to see what they will do.

