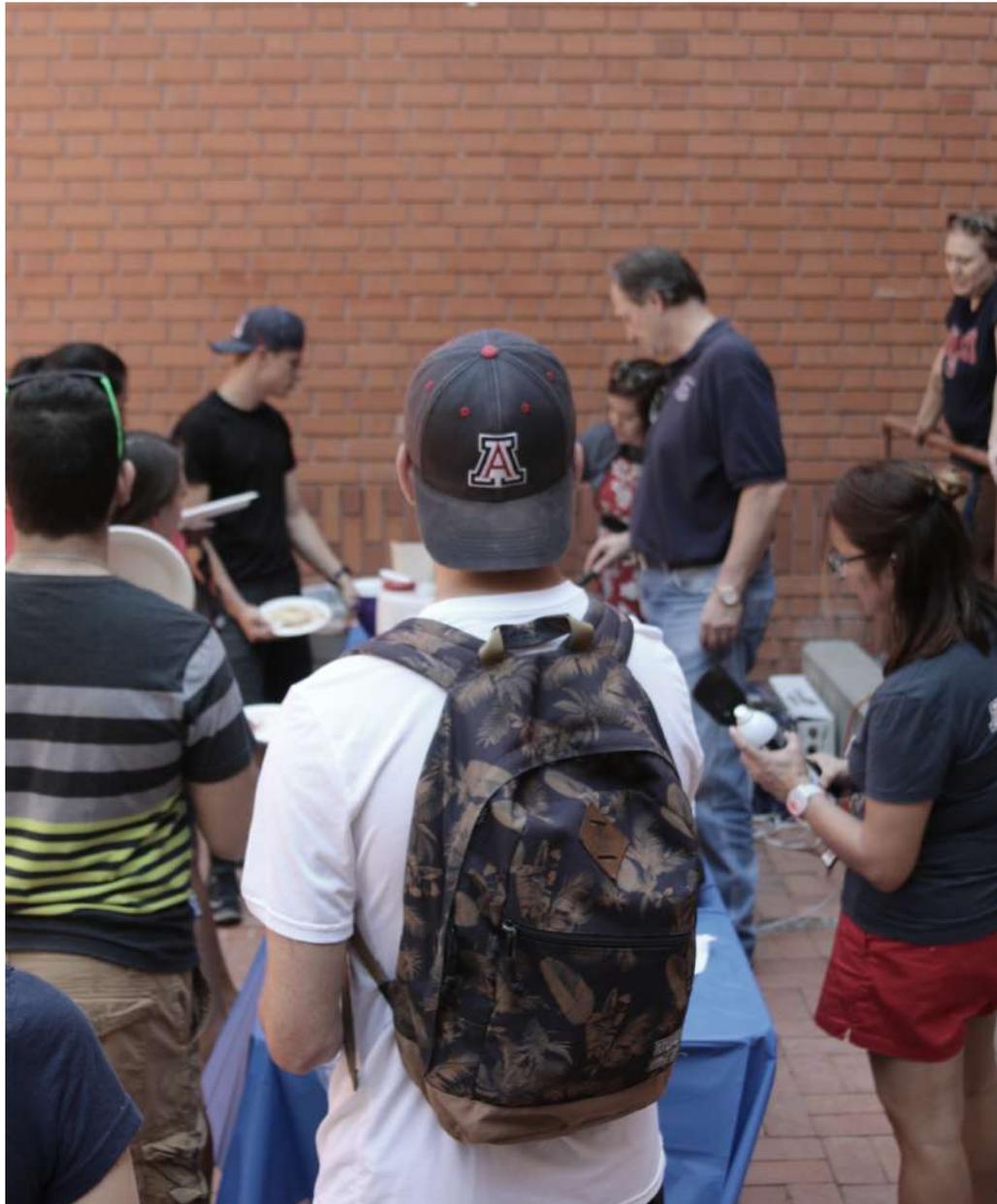


ENGINEERING STUDENT COUNCIL



FALL 2017



THE UNIVERSITY OF ARIZONA
College of Engineering



WELCOME

Hi there! Welcome to the Fall 2017 edition of the ESC Newsletter! This newsletter serves as a way of keeping in touch with not only College of Engineering Alumni, but also the College of Engineering clubs as well!

In this edition, you will be able to find information on what ESC has been up to this past semester, who to look for at the spring 2018 iExpo, and some general content regarding student life here at the University of Arizona. We are all really excited about this newsletter and we hope that you enjoy it too!

Happy reading!

Katie Cheetham
Director of Alumni Relations

READY FOR IEXPO? THIS IS WHO'S COMING:

CONTACT KEARA BURKE FOR MORE



Cognizant Technology Solutions – Internet and Software

Electrical Consultants, Inc. – Management Consulting

Fast Enterprises, LLC – Internet and Software

General Dynamics Mission Systems – Defense

HealthTrio LLC – Internet and Software

L3 Aviation Products - ACSS – Aerospace

Lehigh Hanson – Construction

Modular Mining Systems – Internet and Software

NXP Semiconductors – Electrical and Computer
Hardware

Orbital ATK – Aerospace

PepsiCo – Food and Beverage

Raytheon Company – Defense

Rehrig Pacific Company (LA) – Manufacturing

RFA Engineering – Design

Sandia National Laboratories – Research

Sargent Aerospace and Defense – Defense

Seeing Machines Inc. – Internet and Software

Thorlabs – Manufacturing and Optics

U.S. Army Test & Evaluation Command / U.S. Army

Electronic Proving Ground (USAEPG) – Defense

W.L. Gore & Associates, Inc. – Scientific and Technical
Consulting



Each year, companies can apply to be a sponsor for ESC's Industry Exposition (IExpo). See page 10 for a description of the 2018 sponsors!



WHAT IS ENGINEER'S WEEK?

WRITTEN BY NANCY PHAM

Since 1951, the annual Engineer's Week unites the community to celebrate and commend engineers for all that they contribute to society. Every year, during the week of George Washington's birthday on February 22, eWeek events emphasize the importance of learning math, science, technical skills. Events throughout the week are targeted to increase students' understanding of and interest in engineering and technological careers. By reaching schools, businesses, and communities, eWeek intends to increase the diversity and education of the future engineering workforce.



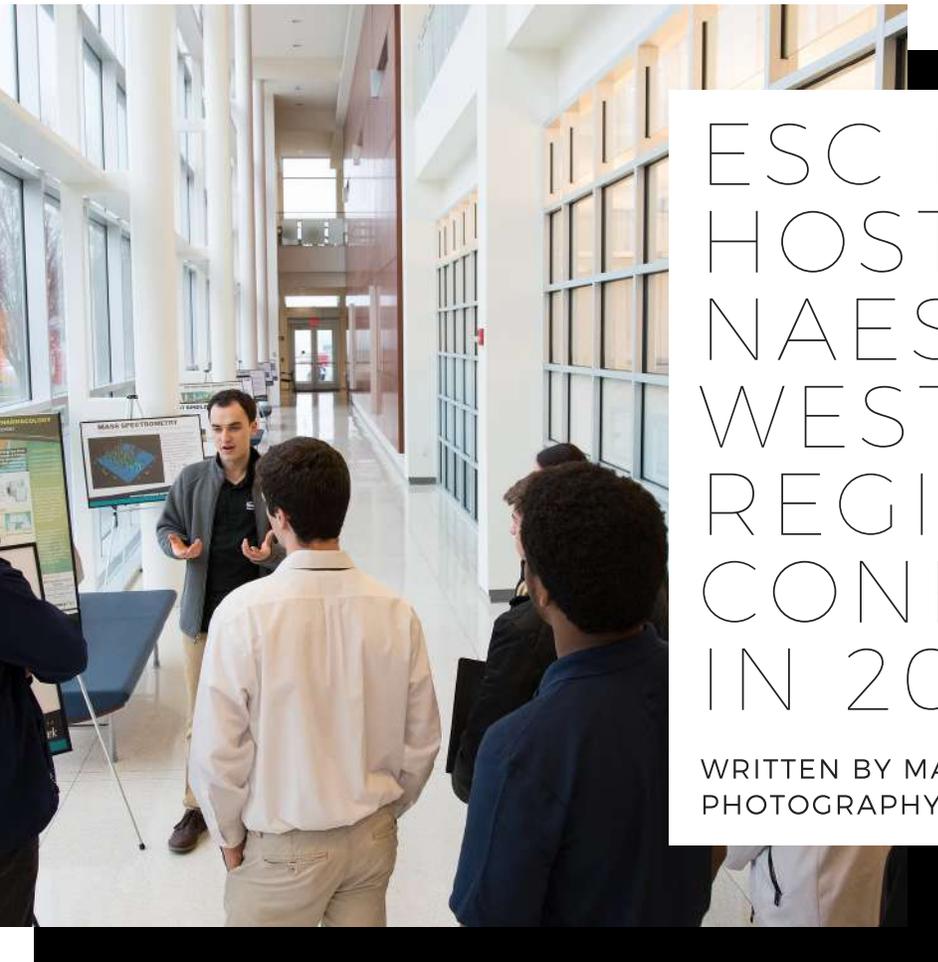
EWEEK PREPARATION

WRITTEN BY RILEY WAGNER

This year's eWeek will take place from February 9th to 17th!

Engineer's Week is dedicated to ensuring a diverse and well-educated workforce by increasing awareness about engineering and technological careers among all students at the UofA.

eWeek will commence with a Rube Goldberg machine design competition hosted by the Rube Goldberg Club. Closing ceremonies will be held by Theta Tau on the 17th. Each student led club, society, and organization within the College of Engineering are encouraged to host an event. Women in Engineering's Programming Board is already signed up for eWeek, are you? [Click here to register your organization's eWeek event.](#)



ESC IS HOSTING THE NAESC WESTERN REGIONAL CONFERENCE IN 2018!

WRITTEN BY MARC GEFRIDES & KATIE CHEETHAM
PHOTOGRAPHY BY NAESC

Next fall, U of A ESC has the opportunity to host the National Association of Engineering Student Council's 2018 Western Regional Conference. As one of the founding members of NAESC, Engineering Student Council here at the U of A is very excited to have the opportunity to show off our beautiful campus and the city of Tucson to our neighboring colleges' councils. Here is a recount of this semester's past WRC from one of our conference coordinators, Marc Geffrides: I try to go to every conference I can. I went to the National Association of Engineering Student Council's 2017 national conference at Purdue University last year. This fall I got to visit CU Boulder for NAESC's 2017 Western Regional Conference.

Each of these conferences has taught me a tremendous amount about networking and leadership, but the Western Regional Conference was special. We had 3 guest speakers come and talk and each were inspiring in different ways. I have never wanted to be an entrepreneur, but after the conference I debated it. Another speaker outlined how incredible life is and even the boring things can be interesting. Not only were the guest speaker amazing, but Boulder itself is a whole new world. The leaves had just started to change color and coming from Arizona, that was something special. The campus and culture of Boulder is awesome to witness and it amazes me how different it is from Tucson.

Overall, the conference was an awesome experience and I plan on attending the Engineering Leadership Summit at ASU in the spring, since these conferences are some of the most fun I have had in my college experience.





ALLI GILBREATH

Alli Gilbreath

Director of Freshman Engineering Council

"I can't wait to interview the cute, little freshmen!" was one of the first things I said when I took up the position of Director of Freshman Engineering Council (FEC). Even though I was a freshman just a month before, I already had thought of freshmen as much younger and less mature than me. This semester as Director of FEC has introduced me to the mature, intelligent, and dedicated freshmen on UofA's campus. Through recruiting events and interviews, I got a glimpse into many freshmen minds

that were promising for the future. At the events, they would ask engaging questions like "What made you pick engineering?", "Why do you enjoy Engineering Student Council?", and many more. Some of the questions they asked about ESC I had never even considered. It was refreshing to see that freshmen were thoughtful about their choices, whether it was applying for FEC or pursuing engineering. During the interview process, I saw the same intelligence and intrigue. Their answers promoted their strengths,

introduced who they are as a person, and what values they share with ESC and its goals. It was hard to believe that the interview was their first interview ever for some freshmen because they handled it with such poise. So many candidates impressed me that it was hard to narrow it down. Eventually, I did manage to narrow it down. I believe that this year's FEC has some of the most impressive UofA freshmen on campus. Their consistent attendance shows their dedication. Their creative and organizational skills shine whenever they are assigned with a task like designing signage for iExpo. Time after time the members of FEC have continued to impress both myself and so many others with their friendliness, maturity, and ambition. It's hard to call them "cute, little freshmen" like I did before when all I see are hard-working, impressive students.

ESC'S FIRST SALSA NIGHT

WRITTEN BY TIFFANI HAMILTON

The overwhelming smell of tomatoes and lime filled the courtyard, and as the time limit approached, pressure rose. Competitors eagerly placed the final ingredients in the bowl and the judges began the taste testing process to determine the winner.

The first annual Salsa Night, hosted by Engineering Student Council (ESC) on Thursday, November 16, in the Engineering courtyard, featured seven teams of approximately four students each, who competed for a \$50 cash prize. Ingredients such as tomatoes, jalapenos, green onions, lime, cilantro, hot sauce, peppers, and salt and pepper, were provided to participants. Despite the provided ingredients, individual teams were permitted to bring their own ingredients. With the intent of gaining a competitive advantage over others, one team brought a blender and another added a mango to add to the salsa.

Provided with 30 minutes to combine the given ingredients, teams worked together using only a knife, spoon and bowl. Without access to a recipe, teams anticipated the best ratio of the ingredients to make the finest salsa. Following the 30 minute time limit, attendees and judges taste tested each salsa. While each individual judge received one vote, each team also placed one vote. Following the collection of the votes, Amy White's team was determined to be the winner.

Due to the success of the salsa night, in the future, in order to maintain student involvement and help decrease stress levels, ESC anticipates hosting another event similar to the salsa night.



eBoard Highlight: iExpo Intern

JACLYN WYCOFF

My name is Jaclyn Wycoff and I am the intern for Corporate Relations, which means I will be planning iExpo next year. Planning this event is a two-year commitment, and I have had so much fun prepping for this upcoming iExpo. iExpo is the largest student run career fair in Arizona, and it is our largest fundraising event for Engineering Student Council. Those aspects are two of the main reasons why this position interested me in the first place. I felt that this position gave me a sense of pride because it allowed me to use my skills to serve my club in the best possible way. I have always enjoyed planning events, and have practiced this throughout my high school career, and now college career. I also believe that college is supposed to equip you with the skills that allow you to be successful in your life after college. Being the lead on this event will allow me to connect companies with students, so that students can get excited for their future jobs.

The main aspect of this job requires me to connect with companies and to tell them why they should join this career fair. I love networking with companies, from welcoming new companies to our event to seeing loyal companies that have continued to join us for another year. Some of our most loyal companies include Raytheon and Honeywell. Raytheon is a company that leads technological advances in defense, and cybersecurity. Honeywell innovates new technology that addresses problems we see in our everyday life. It is companies like these two which make iExpo successful.

Every year, UA students are looking for the companies that are number one in innovation and looking to make a difference in this world. I think companies benefit the most when they come back year after year, because companies are able to see the growth of students and are able to have their pick of the most ambitious students. We encourage all students to come from freshmen year to graduate students, this way they are able to get comfortable with the companies they will be seeing throughout their college and professional career, as well as to show off their progression of skills. Every year we work on getting more and more companies so that each year we are better serving our students.



2018 iExpo Sponsors

The College of Engineering's student run career fair, iExpo, is host to numerous remarkable companies which provide our students with incredible work experiences and opportunities. While we appreciate all of our industry partners, we would like to especially thank the companies sponsoring our event this year. For more information on our sponsors and the other companies attending iExpo, please check out our event page on Handshake and remember to register for the fair!

Fast Enterprises

Ranked in the "Top 10 Best Places to Work" by Glassdoor for the past four years, Fast Enterprises holds a competitive edge for recent grads interested in the software industry.

As one of the primary providers of software and consulting services for government agencies, employees have the opportunity to travel while helping clients implement

their products. FAST is looking for people with skills in mathematics, programming, information management, and computer engineering to fill either full-time or internship positions. US work authorization is required.



L3 Aviation Products - ACSS



Focused on the safety and efficiency of commercial and military flight operations, Aviation Communication & Surveillance Systems (ACSS) is a joint venture between L3 Aviation Products and Thales Avionics. ACSS produces aviation parts for both aircraft and helicopters and provides support in order to monitor safety of the avionic system. Specialties include NextGen Avionics and Traffic Alert and Collision Avoidance

Systems as well as a few others. L3 Aviation is looking for people with skills in computer, electrical, aerospace, and/or mechanical engineering to fill either full-time or internship positions. US work authorization is required.



NXP Semiconductors

"Creating Secure Connections for a Smarter World" is no easy task with ever changing technology, but NXP Semiconductors is dedicated to identifying solutions across four major societal concerns: Energy Efficiency, Connected Devices, Security, and Health. With expertise in High Performance Mixed Signal electronics, NXP is an enviable place to work for those interested in the electronics industry and the ever-growing need for security. Check out one of their projects, the ePassport, to get a sense of what this company is all about. NXP is looking to fill full-time and internship positions for those interested in the electronics industry. US work authorization is required, but NXP is willing to sponsor candidates.



Sandia National Laboratories



**Sandia
National
Laboratories**

Research focused students interested in national security and technology innovation should check out Sandia National Laboratories, which was recently named one of America's top employers for the aerospace and defense industry by Forbes. Current employees cite the challenging, but important work, amazing

research facilities and tools, and flexible schedules as competitive reasons to work here. One unique research tool that Sandia operates, the Z Machine, is the world's largest X-ray generator which is designed to test products under extreme conditions. Sandia is looking for people with skills in the sciences (chemistry, physics, etc.), programming, data analysis and statistics, and various types of engineering amongst others to fill full-time and internship positions. US work authorization is required.



Sargent Aerospace and Defense

A global supplier of customized aircraft components and flight-critical aviation services for over 90 years, Sargent Aerospace and Defense offers a unique opportunity for those interested in the aerospace and defense industries. Sargent has contributed to the safe operation of aircraft, submarines, and land-based vehicles and is a leader in the design and development of hydraulic locking actuators, as well as a specialized bearings and fasteners, amongst others. Sargent is looking for people with skills in various engineering disciplines such as materials science, aerospace, mechanical, agriculture and biosystems. US work authorization is required.



USAEPG



As the U.S. Army's Command, Control, Communications, Computers and Intelligence Developmental Tester, USAEPG employees have the responsibility of conducting and analyzing military technical tests to support various national security efforts. Located in Fort Huachuca, Arizona, USAEPG is a great place to work for those interested in testing and evaluation in the defense industry. USAEPG is looking for people with computer skills, programming, information management, data mining and analysis, and all types of engineering to fill full-time positions. US work authorization is required.

W.L. Gore & Associates

Past attendees of U of A career fairs have most likely seen or played with the Gore-Tex expanded PTFE, a major product of W.L. Gore & Associates. This innovative polymer has widespread applications in fabrics, cables, electronic components, fibers, and filters to name a few. There was even a fun, recent application in shoe design. The company has also appeared on Fortune's annual 100 Best Companies list 20 consecutive times. Gore is currently looking for people to fill full-time and internship positions for those interested in scientific and technical consulting and materials science. US authorization is required.



Raytheon Company

A leader in technology and innovation in the defense industry, Raytheon provides state-of-the-art electronics, mission systems integration, capabilities in C5I, sensing, effects and mission support services. The company produces systems and components in areas including, but not limited to, air traffic control, radars and sensors, satellites, radioactive materials detection, semiconductors, and missile defense. Check out this video to find out why Raytheon is a great place to work. Raytheon is looking for people with skills in computer science and electrical engineering, as well as a few others, to fill full-time and internship positions for those interested in the defense industry. US work authorization is required.



GETTING LOST AND HAVING FUN: A LOOK-BACK AT STUDYING ABROAD

WRITTEN BY BRANDON NGUYEN

This past summer I had the privilege of studying abroad in the eternal city of Rome. I spent a month exploring the ancient streets and breathing in the history. This was my first time without my parents or siblings in a foreign country, and I only had the help of my classmates to help me survive. We were given an assignment every day and no directions, only our own abilities and problem solving to navigate the complex cobblestone streets and steps of the city.



THE

STUDENT



On the first day, I formed a group with a few of my equally clueless friends and classmates and we set out to find ancient fountains throughout Rome. We quickly found ourselves devoured by the bustle of the city, and with no cell phone service, we were lost. We wandered for hours in the heat and beginning to run out of water and energy, our group grew weary and concerned. After wandering for what seemed like hours and only finding a handful of fountains we had hoped to find, we sat on a curb and looked around in defeat. Out of the corner of my eye, I spotted a fountain spewing water into the street, and with that, we found our salvation. In the middle of the interlocking streets, we had found our last fountain. It gave us a renewed drive and a feeling of accomplishment that we took back with us to share with the rest of our classmates.

In the middle of Rome—in the dead heat of summer, I discovered that sometimes all it takes is to stop and look around to find success in defeat.

STUDENT LIFE



TEXAS INSTRUMENTS AND THE ECE DEPARTMENT

WRITTEN BY MICHAEL INOUYE

Brown Corporation near Wilmot and Broadway. Burr-Brown had been a substantial tech player in the Tucson area since the 1950s until their acquisition by Texas Instruments in the summer of 2000.

As a major donor to the College of Electrical & Computer Engineering, Burr-Brown greatly facilitated the growth of the electrical program at the university, which led to the designation of a "Burr-Brown" classroom in the ECE building for their contributions. As one of the first major semiconductor companies in the area, Burr-Brown is often attributed to the growth of Tucson and the University of Arizona.

Despite Burr-Brown's absence today, Texas Instruments has remained active in its support for the University of Arizona in their place. Several principal engineers and managerial staff from TI often visit the ECE building to offer technical info sessions relating to cutting edge technology in the field of analog IC design. Last Spring, several Design Engineers detailed the process behind optimizing operational amplifier operation to promote ideal behavior in complex ICs. They additionally discussed the procedure behind measuring error that does occur in these practical applications when using op-amps, an area that many ECE students study in higher level course work.

More recently, Texas Instruments conducted a technical presentation at the College of Engineering discussing a product's life from design to reticule. This process is exceptionally important for the production of all silicon chips, which is a topic not often discussed at the University. Texas Instruments's real-life applications of concepts studied by ECE students provide a great way for them to contextualize their studies and appreciate the purpose of their work. Texas Instruments is a great company for Tucson to host as it provides the College of Engineering and its students with great resources and educational opportunities.

3D4E: 3D PRINTING FOR EVERYONE!

WRITTEN BY TIFFANY MA

3D4E is an organization founded to bring students together to explore and contribute to the rapidly developing 3D printing industry. 3D4E at the University of Arizona is a branch of a national group based out of San Diego State University. Our club engages in the fruition of our ideas to reality by utilizing 3D printing for its prototyping advantages that unlock our members' potential in the form of projects.

Each year, our club travels to southern California to attend the West Coast National Showcase. Last year, our two main projects were the E-Nable hand and campus map. We are involved in an organization called Enable Tucson, who prints and assembles enable hands to send all over the world. A Tucson native reached out to us and we were able to customize an enable hand for him to use for gaming purposes. We also created an LED campus map of the entire U of A campus. We designed the buildings using SolidWorks and printed them with red filament. As a team, we soldered, wired, and programmed each building to light up when its specific building number was entered.

This year, all the national 3D4E clubs are planning a drone competition, where we will be building the entire drone, including the electronics, from scratch. The competition will be judged off aesthetics, creativity, mechanical athleticism, versatility, weight and thrust ratio, and battery life.

We are always looking for more members and no experience in 3D printing is necessary! If you are interested, please check out our webpage (<http://3d4euofa.com>), Twitter (@UofA_3D4E), Instagram (3D4E_UofA), or send us an email at 3d4e.uofa@gmail.com for more information.

STUDENT LIFE





THANKS FOR READING!

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The next issue will be Spring 2018
escuofa.com

ART & DESIGN DIRECTOR AND PHOTOGRAPHY BY CAITLIN MOFFETT

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