California/Nevada Section Bimonthly Update May 2018 Seventy-Fourth Edition

❖Cal Poly San Luis Obispo Update

The Agricultural Engineering Society at Cal Poly San Luis Obispo closed out the previous school year with a bang, and kept busy over summer! Below are some of the club's recent highlights.

FFA State Finals

On May 5th, the Cal Poly BRAE Department hosted the FFA State Finals Competition for Ag Mechanics. Dr. Gregory Schwartz is the head professor in charge of orchestrating the different events. To pull off the largest high school FFA event, it takes a lot of help to run it and that is where our club comes in. Members will be on campus from start until finish helping the contestants and judging the competitions. This is just another example of the commitment of the club and Department to provide an interactive experience to its current and prospective students.

Poly Royal Cal Poly Tractor Pull

Saturday April 14th was the Poly Royal Tractor Pull. An event hosted by Tractor Pull Club members to kick off the pulling season for the Pull Team. Students in the club put in time throughout the whole year planning and getting the field ready for the pull. 1700 tickets sold later, and the club threw a very successful pull that brought the whole campus together.

End of the Year Banquet

May 19th marks the end of the year for the club. The end of the year banquet acts as the metaphorical passing of the torch for the officer team. We celebrate all the work the club has done within the department and celebrate the year by awarding scholarships to those who put in the extra work

throughout the year. It is really cool to see professors, students, and families all gather and celebrate a successful year for the club and department.

Cal Poly Quarter Scale Team Activities

With competition just around the corner, Cal Poly's PolyBuilt Quarter Scale Design Team is putting together the final pieces to assemble "Mustang Marvin", the competition tractor for 2018. Current efforts include final assembly of the new double a-arm front suspension, cutting gear blanks for the custom gearbox, and assembly of the custom clutch. The new tractor is a complete chassis redesign, with a brand-new frame and drivetrain layout. The design focus emphasizes the durability and maneuverability competitions over the pulls, in an effort to create a more well-rounded tractor. New additions include a digital display with wheel speed and clutch temperature readouts, and an electronic throttle, as well as independent braking to implement skid-steer. Final machining operations are underway, which means we are approximately two weeks from assembling our drivetrain and moving the tractor under its own power with the new gearbox.

PAAC update:

The club has focused its resources on supporting the agBOT competition and has elected new officers for an officer transition period. New officers are: President Flor Espino, Fletcher Easton, Megan Caird, and Perry Walker

agBOT update:

What is the agBOT Challenge?

The agBOT Challenge is an autonomous machine competition hosted by Gerrish Farms in Rockville, Indiana. This year, the Cal Poly agBOT team will be competing in the Harvesting competition.

The Harvesting Competition challenges teams to produce an unmanned, robotic device (aka "agBOT") that will:

1. Autonomously maneuver through the field in a single row
2. Autonomously identify a watermelon and arrange for watermelon to be tested for ripeness quality
3. Identify characteristics of the watermelon via size, weight, color and vibration et al. and autonomously determine harvestability
4. Arrange for ripe watermelons to be harvested for processing

5. Provide real time observation methods of autonomous movement, location, plant observation and fruit identities

What is the plan to compete?

Our team is designing a custom watermelon harvesting machine adapted for autonomous navigation. The machine will be modified with custom built, bolt on components to enable it to follow a user defined GPS path to find watermelons. A custom-built elevator will then pick up the melons and place them onto our shaded slide where we will perform our ripeness analysis using computer vision, density analysis. Melons determined to be ripe will be transferred to a bin, while under ripe or poor-quality melons will be returned to the field.

Future Career Fair and Resume Workshops

As a club in the BRAE Department at Cal Poly we try our best to give our students the best chance to end up with internships and eventually careers once they finish school. Every year we host 20-40 companies who come just to hire BRAE Department students. Prior to our career fair our club hosts resume workshops to help students tailor their resumes and give them the best chance to gain experience in industry. A lot of planning goes in to coordinating the career fair so it takes many of the officers to bring it all together and create a inviting atmosphere for the companies.

❖California State University, Bakersfield Update

In continuing its second year as an established organization on campus, the ASABE Student Branch at CSUB is building the foundation and strengthening community connections to allow for a stable future.

Weekly Meetings

To support our growing membership, we held weekly meetings to aid in the planning of our annual event. These meetings were also used to promote the Society and encourage student involvement. At each meeting, we made it a point to provide internship and networking opportunities to our members. These meetings helped bring a group together and provide a support system for engineering students. Not only were the executive officers a part of a club, but they also became good friends who helped each other study for exams and provided learning opportunities to all members.

2nd Annual Kinetic Sculpture Competition

The ASABE Student Branch at CSUB is proud to have hosted its second annual Kinetic Sculpture Competition. The event consisted of lower division engineering students who were placed in groups. They had to build and design a sculpture that would traverse different obstacles. Three teams received awards for their outstanding performance in the competition. First place included: Jose Aguilar Leobardo, Alfred Lanier Dangerfield 3rd, Maranda Faith Maliska, Jonathan Eric Mullen, Ricardo Pelayo, Kishan Bhajan Sandhu. Second place consisted of: Ashley Nielson, Sergio Olivarez, Juan Macario, Arvin Shertukd, Charles Bonoan. Third place was: Alexa Olmos, Jan Mateo Tugab, Jose Osorio, Jose Santana, Viv Villar, Melanie Corral, Dilan Sandoval, Danny Valtierra. These competitors had to successfully complete 3 activities and overcome 4 obstacles.

❖**Fresno State Update**

FFA State Finals

On April 21st, the Fresno State Jordan College of Agricultural Sciences and Technology hosted the FFA State Finals Competition and Field Day for 30 different contests. There were several thousand FFA high school students on Fresno State campus participating in the events. Fresno State faculty, staff and students were on campus from start until finish helping the contestants and judging the competitions. This is an annual commitment of the Jordan College and department of Industrial Technology to provide an interactive experience to its current and prospective students.

Robotics Club at Fresno State

The new Robotics Club at Fresno State was created so students with any sort of interest in robotics can join. The club in specific was created in The Jordan College of Agricultural Sciences and Technology department. The department is known for their advances in agriculture, technology, and Industrial management. A couple of students with experience of working with robots felt that the

department was missing a Robotics program so they took it amongst themselves to start the robotics club. The future of agriculture is starting to be dominated by robots, with the club available to the students it will give them a clear image of what to expect in the future. The club advisors are Dr. Seth and Dr. Nambiar who are both experienced in the agricultural industry.

Our mission as the Robotics club @ Fresno State is to help and learn alongside any student interested in robotic projects and competitions. As of now we are hoping to participate in the ATMAE competition in November of 2018. Aside from that we are open to almost any ideas on projects or other competitions that any member or professor might have. The competitions and projects are going to need funding, and our club is looking for any possible sponsors or donors that would like to support our club. Our club will also be fundraising in the upcoming months to meet their budget for the competition in November. The Robotics club @Fresno State is hoping to bring in more members so they can play an important role in The Jordan College of Agricultural Sciences and Technology department.

❖**University of California, Merced Update**

The Agricultural and Biological Engineers student club at the University of California, Merced is the first agricultural engineering-based student club on the campus. UC Merced is located at the heart of the San Joaquin Valley in the Central Valley of California, one of the most agriculturally diverse areas of the country, yet this is the first agricultural engineering-based programs for UC students in the San Joaquin Valley. Brendan Daddino and a couple of students, each with an agricultural background, felt the need to create an agricultural engineering club on campus, learned about ASABE, and thought it would be a great idea to be part of ASABE. They formed an ASABE student branch at UC Merced. The club is looking to be the stepping stone for agriculture at UC Merced and lay the groundwork for future agricultural organizations on campus. The student club's advisor is Dr. Reza Ehsani who has been an ASABE member for 27 years.

Our mission, as the UC Merced Student Branch, is to provide students interested in agricultural and biological engineering with hands on projects and the opportunity to participate in local and national events. Our first goal for this year is to attend the 2018 ASABE International Meeting in Detroit, Michigan and participate in the Robotics Competition. Our second goal is to reach out into the San Joaquin Valley community and work with the farmers to develop a relationship within the community and initiate agricultural engineering projects. To achieve these goals, we have been doing fundraisers and taking donations. In the month of March our organization raised a little over one thousand dollars to assist with the expenses of traveling to Detroit for the competition and beginning funding for our potential community projects. The UC Merced ASABE Branch hopes to continue to grow and become an active part of the Merced Community.

❖ **Do You Feel A Calling?**

Do you have a desire to get more involved with ASABE? Do you have ideas for Agricultural Engineering Activities? Do you like sharing about the ASABE? If you answered yes to any of the questions, E-mail Balaji Seth or Call (559) 321-6826.

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- For previous editions of the Update, please visit www.asabecanv.org.
- If you have questions or comments, feel free to contact Balaji (559 321 6826 or balajis@csufresno.edu)
- If you have ideas for Update items or would like to get involved in the leadership team, please let us know!