



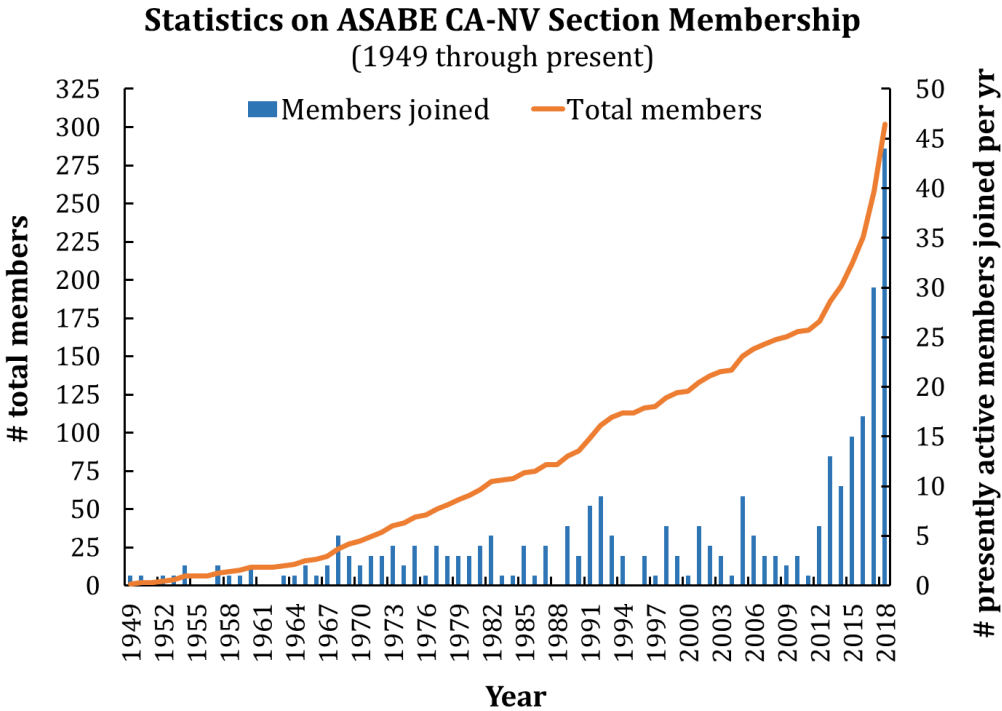
California/Nevada Section
Bimonthly Update
October 2018
Seventy-Seventh Edition

- ❖ Section Membership Update
- ❖ 2018 ASABE AIM Detroit, MI Recap
- ❖ Section Student Rally Planning Committee
- ❖ Cal Poly San Luis Obispo Update
- ❖ California State University Fresno Update
- ❖ University of California, Davis Update
- ❖ University of California, Merced Update
- ❖ Remembering Claude Brown
- ❖ Do You Feel A Calling?

❖ Section Membership Update

The chart to the right summarizes CA/NV Section membership data since 1949 when Section membership records were established. ASABE was founded in 1907 by members across the country.

Total membership is reflected by the gold line and number of presently active members joined in each year is represented by blue bars.



As of mid-September 2018, the section has 302 registered members. Section membership has grown by 43 new members through mid-September 2018, compared to 30 currently-active new members in 2017, and 17 currently-active new members in 2016. Note, this data reflects active members, members who have joined and have continued their membership through the present.

❖ 2018 ASABE Annual International Meeting in Detroit, MI Recap

The annual ASABE Annual International Meeting took place this year in Detroit, Michigan at the COBO Center from July 29th through August 1st, 2018.

In order to create opportunities for CA/NV section members attending AIM to get together and network, a pre-meeting survey was sent by email to the membership. As a result, a joint UC Davis-ASABE CA/NV luncheon took place on Tuesday, July 31st at The District Bar and Grill restaurant. Hosted by UC Davis, past and present CA/NV Section members joined the UC Davis Biological and Agricultural Engineering (BAE) department to meet and mingled amongst peers.



(Left) Students from UC Merced robotics team present their poster, and (right) UC Davis' Robotics Team with their prototype

Several student teams participated in the annual ASABE International Student Robotics Challenge. Teams from Cal Poly San Luis Obispo (Precision Agriculture and Automation Club or PAAC), UC Davis (Robotics Club), and UC Merced (Bobcats) competed against teams from around the world to build a robot capable of navigating a simulated apple orchard, identifying 'ripe fruit,' and picking them as needed. Cal Poly's PAAC team placed 6th, UC Davis' Robotics Club finished 4th, and UC Merced placed 7th in the competition. More information follows in each chapter's respective update.

During the meeting, [Dr. Alireza Pourreza](#), [Assistant Cooperative Extension Specialist](#) of agricultural mechanization in the BAE Department at UC Davis, was recipient of the [Sunkist Young Designer Award](#) (also see last Update). During his PhD at the University of Florida, Dr. Pourreza developed a [low cost sensor for early detection of citrus black spot disease](#), also commonly known as "citrus greening." [Citrus greening](#) is caused when the Asian Citrus Psyllid, a tiny insect no larger than a grain of rice, feeds on the stems and leaves of citrus plants. The insect serves as a carrier for the Huanglongbing (HLB) bacteria, infecting the tree with citrus greening disease. Citrus greening has devastated Florida's citrus industry

in recent years and it is a very difficult disease to diagnose as it resembles many common plant nutrient deficiencies. Dr. Pourreza's sensor allows for rapid, early detection of the disease.



Dr. Alireza Pourreza taking the stage to accept Sunkist Young Designer Award

Dr. Pourreza is continuing his track record of innovation at UC Davis, developing the [Virtual Orchard](#), a digital representation of orchards, which can aid in remote monitoring of orchard health and guiding of autonomous vehicles. He is also continuing development of the Citrus Greening sensor into an easy-to-use mobile app.

The table below identifies CA/NV members who presented in technical sessions. Note, this is not a comprehensive list. It includes those responding to the pre-meeting survey and others identified in the ASABE technical program. Yike Chen, PhD candidate at UC Davis, was the winner of the AIM Student Oral/Poster Competition for his oral presentation and Kelley Drechsler, graduate student at UC Davis won ASABE Poster Award. More details about the awards are in the UCD BAE Update.

Presenter	Affiliation	Session	Abstract Title
Akbari, Elnaz	UC Merced	147	Low-Cost NDVI Camera for Application of Robotic Disease Detection
		Poster 313	
Arikapudi, Rajkishan	UC Davis	118	Estimating the fruit picking throughput of a telescopic arm in high density trellised pear orchards
Barzee, Tyler	UC Davis	106	Microalgae cultivation, harvest, and water recycling using processed anaerobic digestates as feedstock
Blunk, Sherry	UC Davis	Poster 159	Nitrogen pretreatment and conditioning of wheat straw bale growth substrates for plant production
		234	
		Poster 236	
			Food preservation education/outreach to promote community growth/stability in areas impacted by large post-harvest losses: The design of a collaborative program for pineapples in Rwanda.

Presenter	Affiliation	Session	Abstract Title
Boyce, Adina	UC Davis	318	Designing biochar for enhanced nutrient bioavailability within soils
Chen, Yike	UC Davis	349	(Winner AIM Student Oral/Poster Competition) Particle size distribution and effect of solid removal on biomethane potential reduction in dairy manure
Drechsler, Kelley	UC Davis	Poster 159	(Winner AIM Poster Award) Comprehensive stress index for evaluat. plant water status in almonds
Edalati, Abdolhossein	UC Davis	349	Effect of solid manure separation on the mitigation of methane emissions from dairy lagoons
Fink, Caleb	CalPoly San Louis Obispo	134	Dev & eval. of using mobile app as a demo tool for outreach to inform and educate farmers, academia, and the community of ag stewardship using the SmartFarm Decision Support System
		242	Design, dev., and evaluation of an open source gateway for SmartFarm Decision Support System
Gholami, Akram	UC Merced	115	Application of fractional order proportional-integral controllers for autonomous platforms in agriculture
Homayouni, Taymaz	UC Merced	217	A Test Platform for Modeling and Optimization of Fruit Removal System used in Mechanical Harvesting of Table Olive Trees
Kennedy, HannahJoy	UC Davis	Poster 313	Weed vesus crop differentiation using a crop marking system with an intelligent cultivator
Khair, Ragab	UC Davis	130	Consistency of rice milling quality and grade: results from USDA-FGIS laboratory mill and commercial mills
Khorsandi, Farzaneh	UC Davis	109	Evaluating the effect of friction and speed on foldable roll-over protective structure actuation forces
		Poster 159	Evaluating the effect of Zayandeh river drying up on the underground water quality (Case study: Najafabad/Isfahan plain)
		Poster 159	Measuring the rice fields area in Lenjanak County to determine the required irrigation water, using RS and GIS techniques
Lu, Yongzong	UC Davis	Poster 246	Responses of tea leaf's microstructure and ultra-structure to low temperature stress in indicating critical cold temperature
		316	Design and experiment of tea leaf classifier
		Poster 352	Design and experiment on artificial radiation-frost chamber based on temperature difference between leaves and air dew
Meyers, Julie	UC Davis	337	Development of an artificial neural network approach for predicting plant water status in almonds
Momin, Md Abdul	Bangladesh Agric. Univ. & UC Davis	210	Lodged sugarcane assessment using digital image processing
		215	Harvesting front analysis for sugarcane yield mapping using GPS

Presenter	Affiliation	Session	Abstract Title
Montazar, Ali	University California	154	Viability of subsurface drip irrigation for alfalfa production in the low desert of California
Niu, Haoyu	UC Merced	212	Tree canopy differentiation using instance-aware semantic segmentation
Pan, Zhongli	USDA ARS UC Davis	233	Introduction of the Sino-US Food/Agriculture Innovation Center
Peng, Chen	UC Davis	115	Optimized predictive dispatching of robotic harvest aids using Multiple Scenario Approach
Pertiwi, Cininta	UC Merced	118	Dev. of an acoustic sensor to detect harvest-readiness of cacao pods
		249	Perspectives of smallholder farmers in relation to advancing cacao farming technology in East Luwu, Indonesia
Putri, Ferisca	UC Davis	Poster 159	Biological wastewater treatment strategies for citrus nursery production in recirculating soilless culture
		Poster 352	Sustainable strategies for container citrus nursery production using soilless culture methods
Seyyedhasani, Hasan	UC Davis	115	Efficient dispatching of a team of harvest-aid robots to reduce waiting time for human pickers
Toudeshki, Arash	UC Merced	116	Dev. of a low-cost spectrometer sensor for a disease detection robot
		Poster 246	
Vuong, Vivian	UC Davis	113	High-throughput phenotyping methods for green fruit
Wang, Ke	UC Davis	228	Theoretical modeling and experimental study on VFA production from almond hull through anaerobic fermentation
Yothers, Cody	UC Davis	108	Production of valuable bioactive lipid co-product from algae
Zhang, Zhonglong	LimnoTech, USACE Lab	345	An Integrated HEC-RAS and Riparian Vegetation Simulation Module System and its Application to the Sacramento River
Zhao, Tiebiao	UC Merced	114	Drip irrigation leak detection using faster region-based convolutional neural network (R-CNN)
		144	Fast quantification of nematode population in walnut using a hyperspectral scanner
		245	Inference of irrigation treatments in an almond orchard using small unmanned aerial vehicles

❖ Section Student Rally Planning Committee

The section has formed a Student Rally Planning Committee with the objective of developing and hosting a new annual student rally event in the California/Nevada Section. The date for such an event has still not been determined; however, committee members have had preliminary meetings to plan an agenda and determine funding sources. Current committee members include: Tyler Barzee (UC Davis), Ferisca Putri (UC Davis), Hossein Edalati (UC Davis), and Carolyn M. Jones (USDA NRCS). Please contact Hossein Edalati (ahedalati@gmail.com) if you are interested in joining the committee.

❖ Cal Poly San Luis Obispo BioResource and Agricultural Engineering (BRAE) Department Update

Cal Poly Quarter Scale Competition

The Quarter Scale team has been working hard at designing the new tractor that will compete in the 2019 competition. With much of the team working in different places throughout the summer, designing the tractor as a team is difficult, but the overall design of the tractor has started to take shape. Parts and materials will be ordered soon that will be ready to go for machining when the school year starts.

Precision Agriculture & Automation Club (PAAC) Update

PAAC competed in one of the robotics challenges at the ASABE conference this summer in Detroit. The team designed a miniature robotic harvester that detects when 'fruit' is ready to be picked and picks it when ripe. The team placed 6th at the competition. They will now begin to switch their focus towards helping the AgBot team to get ready for their autonomous harvester competition next May.



Cal Poly's PAAC Club

Cal Poly Tractor Pull

The Cal Poly Tractor Pull Team has been busy competing in many different tractor pulls throughout the summer. The two tractors that usually compete are Mustang Legacy and Poly Thunder. One of the two engines for Poly Thunder backfired at the beginning of the season and has yet to run thus far this summer. The engine will hopefully be repaired soon so we can end the season. Mustang Legacy has been

running well lately and getting much better placings at events. With summer coming to an end, the tractor pull season is slowing down with tractor pulls fewer and far between. The team will focus on repairs and maintenance during the offseason.



(Left) Members of the Cal Poly Tractor Pull Team, and (right) Cal Poly's Mustang Legacy competition tractor on the Golden Gate Bridge

❖ California State University Fresno Update

Robotics Club at Fresno State Update

The Robotics Club @ Fresno State is excited to finish of their first project as an official club. Over the summer the team met up and worked on the Association of Technology, Management, and Applied Engineering (ATMAE) Robotics project. The robot was going according to schedule, but they ran into some issues with the design. Part of the problem was that the motors they had originally planned on using for the drivetrain were not getting enough current. Since they couldn't increase the current going into the motors they had to switch out the motors and find new ones. The plan now is to find new motor controls and go back to the original motors instead of having to redesign the drivetrain. Although the team will not be competing in this year's ATMAE Robotics competition, they are planning on finishing this project for experience.

❖ University of California, Davis Biological & Agricultural Engineering (BAE) Department Update

Yike Chen winner of the AIM Student Oral/Poster Competition

Congratulations to PhD candidate Yike Chen for winning the ASABE International Meeting Student Oral/Poster competition!

Yike is a 5th year graduate student working in Dr. Ruihong Zhang's lab.

The AIM Student Oral/Poster Presentation awards are granted to participants that have displayed outstanding presentations in each of the ASABE technical communities. This competition is open to all undergraduate and graduate students who have registered for the conference, submitted an abstract, and presented at the ASABE Annual International Meeting.



PhD Candidate Yike Chen

fraction of the flush manure. Not only is the sizing of the screen crucial to the farms, but also the measurements allow us to calculate theoretical lab solids removal and methane emission reduction efficiencies.

Yike's oral presentation focused on the study of particle size distributions and the biomethane potential of flushed dairy manure in California. Dairy products are the largest agricultural commodity in California; however, the dairy industry is one of the major contributors to methane emissions. Within the dairy sector, more than half of the methane is emitted from manure storage lagoons. Mechanical solid-liquid separators have been used for the purpose of separating organic contents out of flushed manure before entering the anaerobic storage lagoons in order to reduce methane emissions. After measuring the particle size distributions of flushed dairy manure from farms, our study determines the biomethane potential of each solid and liquid

The other project team members are Abdolhossein Edalati, Tyler Barzee, Hamed E. Elmashad, and the principal investigator is Professor Ruihong Zhang.

Congratulations to Yike and the project team!

Kelley Drechsler receives ASABE Poster Award

Graduate student Kelley Drechsler was awarded a \$250 prize for her poster and presentation at the ASABE's Annual International Meeting. Kelley took 7th place with her poster, "A Comprehensive Stress Indicator for Evaluating Plant Water Status in Almond Trees to Aid in Irrigation Scheduling," in the National Resources & Environmental Systems (NRES) community.

Kelley describes here project as "a comprehensive stress indicator that factors in the leaf temperature and environmental conditions that could be used to provide feedback about a farmer's irrigation management. The Comprehensive Stress Indicator (CSI) is based on the reformulation of the leaf energy balance equation. Specifically, the CSI is the ratio of the temperature difference between a dry leaf (i.e. a leaf with a broken stem) and a live leaf (on the same tree) and the difference between the vapor pressure inside the stomatal cavity at saturation and the vapor pressure of the air at ambient temperature.

The sensor suite known as the "leaf monitor," developed by Dr. Shrini Upadhyaya, was used to collect the dry leaf temperature, live leaf temperature, relative humidity and air temperature measurements required to compute the CSI. The leaf monitor provided enough data to compute the CSI every 15

minutes. The CSI was averaged between the 1 PM to 3 PM to produce the Average Comprehensive Stress Indicator (ACSI) and integrated during the daylight hours to produce the Integrated Comprehensive Stress Indicator (ICSI).

The ACSI and ICSI were satisfactorily correlated with midday stem water potential, which is a direct measurement of the plant's physiological water status. The advantage of these new stress indicators is that they require measurements only at the tree being monitored, unlike several other existing stress indices in the research literature.”

UC Davis Student Robotics Team competes at ASABE Annual International Meeting in Detroit



Members of UC Davis Robotics Club at ASABE International Meeting in Detroit, MI

Competing among the Advanced Teams in the ASABE International Student Robotics Challenge in Detroit this last July, the UC Davis student team placed 4th with their development of two companion robots to navigate a simulated apple orchard and select ripe fruit (colored ping pong balls) for picking. The team was advised by BAE Prof. David Slaughter. Serving as chair of the Challenge was UC Davis Assistant Cooperative Extension Specialist Alireza Pourreza who designed the problem for this year's event, supervised the development of the competition rules, and helped coordinate the event at the meeting. Dr. Pourreza was also presented with the Sunkist Young Designer Award at the meeting (see previous Update).

To learn more about the UC Davis Robotics Club, check out their websites and Facebook group:

<https://bae.engineering.ucdavis.edu/robotics/>
<https://orgsync.com/51989/chapter>
<https://www.facebook.com/groups/737105986314905/about/>

UC Davis BAE Dept. attends IFT and the Innovative Infrared R&D Team wins IFT Award

Every year, the UC Davis BAE department sends a contingent of graduate students and researchers to attend the IFT Annual Meeting and to present their work.



BAE graduate students at the IFT Annual Meeting in Chicago, IL this past July

Founded in 1939, IFT is the Institute of Food Technologists. This year, the IFT Annual Meeting took place on July 15-18th in Chicago, Illinois. It is a forum where academics and industry members convene to discuss the latest innovations and challenges in the realm of food science and technology.



Innovative Infrared R&D Team

The 2018 IFT Research and Development Award was given to the Innovative Infrared Research and Development Team for its contributions and accomplishments in innovative research and development and commercial implementation of sustainable infrared heating technologies for improved food healthfulness, quality, and safety while saving energy and water during food processing. The research team comprises Zhongli Pan, Tara H. McHugh, Chandrasekar Venkitasamy, Ragab Gebreil, and Hamed M. El-Mashad. Congratulations to all on their achievement!

Emily Iskin '15, BSE Alumna featured in ASABE's Resource Magazine



Emily Iskin

Emily Iskin '15 is featured as one of the successful graduates of a BAE program in the latest issue of *Resource*. The magazine's theme is "Discover Careers in Agricultural and Biological Engineering", and the special issue showcases opportunities in the field.

Emily graduated with a Biosystems Engineering (BSE) degree, and thanks to her connections through UC Davis, became employed by Water Systems Consulting, Inc. in San Luis Obispo.

Her next adventure will be pursuing her master's degree in fluvial geomorphology at Colorado State University.

Read all about her path (and her advice to other students) on [page 14 of the online issue of *Resource*](#)!

BAE-GSA tours Pacific Coast Producers Tomato Processing Plant



UC Davis BAE GSA group at Pacific Coast Producers tomato processing plant

The BAE-Graduate Student Association (GSA) at UC Davis was recently welcomed on a tour of Pacific Coast Producers' Woodland tomato processing plant. The tour covered all aspects of the process from delivery to grading, quality control to canning. The students learned about the inner workings of a large, seasonal processing plant as well as sustainability efforts such as reducing water use, recycling byproducts, treating wastewater, and upgrading old boilers to combined heat and power units.



Pacific Coast Producers tomato processing plant

Jean VanderGheynst takes the helm of the College of Engineering at UMass Dartmouth



Jean VanderGheynst

UC Davis BAE Professor Jean VanderGheynst was appointed Dean of the College of Engineering at the University of Massachusetts, Dartmouth after a national search. Dr. VanderGheynst leaves UC Davis after 22 years of exceptional teaching, research, and University and public service. She taught numerous courses during her career at UC Davis, including critical introductory courses on engineering design and engineering practice along with courses in biotechnology, heat and mass transfer, and molecular and cellular biology, among others. She oversaw the development of a new course on engineering design and communication with the objective of giving all students entering engineering an inspiring and illuminating introduction to the profession. She also led the National Science Foundation funded RESOURCE program that supported and trained engineering graduate students on STEM education for a broad audience of teachers, students, and the public with PhD students directly engaged with primary grade teachers and students in developing renewable energy teaching modules now used across the nation. Her research largely addresses the transformation and conversion of biomass to high-value products, focusing on next-generation biofuels and bioproducts, and agricultural biotechnology. She has published extensively and received substantial support from federal and state sources and industry partners on new approaches to improve sustainability, with numerous projects examining the management of microbial communities in applications including water treatment, food and energy production, and soil treatment for the control of pests and pathogens. She is also leading efforts to develop alternative protein sources that utilize low value organic and agricultural residues to provide high value feeds and foods. She is an extraordinary

mentor, with her students successfully nominating her for Congressional Woman of the Year, and her postdocs successfully nominating her for the UC Davis Distinguished Postdoctoral Scholar Mentoring award. Jean served with distinction in numerous college leadership positions at UC Davis including Associate Dean for Undergraduate Studies, Executive Associate Dean for Research and Graduate Studies, and Interim Dean of the College of Engineering. She goes well prepared for her new role as Dean of Engineering at UMass Dartmouth and will be very much missed at UC Davis.

Postdoctoral Research Position opening in Agricultural Mechanization and Precision Agriculture

POSITION DESCRIPTION:

The Digital Agriculture Lab in the Department of Biological & Agricultural Engineering (BAE) at the University of California (UC), Davis seeks applications for a Postdoctoral Scholar in the areas of Agricultural Mechanization and Precision Agriculture. The position is initially for 12-months at 100%FTE with potential of an extension based on performance and availability of financial support.

The successful candidate will work on interdisciplinary projects in the BAE Department under the supervision of Dr. Alireza Pourreza. The responsibilities of the candidate will be to develop mechanical systems, and analyze data as well as mentor students in the development of experimental models and analyses of these systems. The candidate is expected to write manuscripts and present research findings in scientific meetings/conferences and extension events. The candidate will report to Dr. Pourreza and will collaborate closely with other scholars, graduate, and undergraduate students in the Digital Agriculture Lab and UC Agricultural and Natural Resources.

BASIC QUALIFICATIONS:

Design and fabrication of agricultural and mechanical systems.
Experience with computer programming, image processing, spectral analysis, machine learning.
Experience with operating unmanned aerial systems.
Interest in conducting applied research and extension projects.
Excellent communication and problem-solving skills.

APPLICATIONS: Application materials must be submitted to apourreza@ucdavis.edu. The posting will remain open until a suitable candidate has been identified.

Initial review of applications will occur on October 1, 2018 with a start date as early as October 15, 2018.

For more information, please see posting on BAE Department website:

<https://bae.engineering.ucdavis.edu/blog/postdoctoral-research-position-opening-in-agricultural-mechanization-and-precision-agriculture/>

❖ University of California, Merced Update

Introducing the Intelligent Agriculture (iAg) Lab at UC Merced

Dr. Reza Ehsani runs the now one-year-old Intelligent Agriculture (iAg) Lab at UC Merced. Before joining UC Merced in Fall 2017 as Professor of Mechanical Engineering, Dr. Ehsani was a faculty

member at University of Florida's Agricultural and Biological Engineering department. Projects in the iAg Lab are on topics such as mechanical harvesting of fruit and nut trees, robotics for disease detection and harvesting, and sensor development for biotic and abiotic stress detection. The lab is developing systems for a variety of crops found in the Central Valley including olives, pistachios, almonds, and walnuts. The lab is also involved in an international scale project exploring mechanization and appropriate technology for harvesting of cacao trees. Currently the lab hosts three postdoctoral researchers, two international visiting scholars, five graduate students, and two undergraduate students.



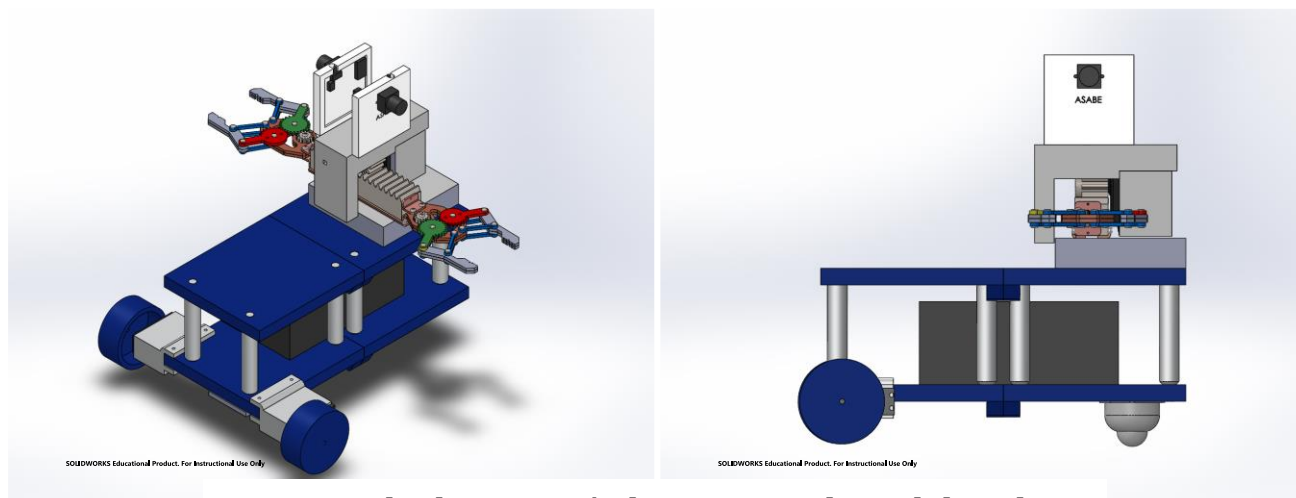
Members of Intelligent Agriculture (iAg) Lab at UC Merced

E&J Gallo Winery Tour

On October 12th, 2018 ASABE Members from UC Merced had the privilege to go on a company tour at E&J Gallo Winery in Livingston, CA. This provided students with insight about the different engineering applications for the wine industry at a company that is very involved with the school and recruits many students from UC Merced. They were able to see the facility and how it operates during harvest season, the busiest season for the facility. Students were also able to meet with former UC Merced alumni that currently work at the facility and were able to gain insight about how they would be able to continue their journey from college into the workforce.

2018 Robotics Team – Bobcats

The UC Merced ASABE branch went to its first event in July at the 2018 Annual International Meeting and participated in the robotics competition. The team placed 7th in the Beginner division of the competition. The competition was a great experience for all the members and helped develop both essential team skills and hard skills that can transfer over to the workforce such as learning how to use SolidWorks™, a popular 3D modeling software, and learning how to 3D print these computer aided designs. UC Merced also plans to participate in the 2019 competition and apply the knowledge learned 2018 to rank even higher.



UC Merced robotic team's design created in SolidWorks™

UC Merced Quarter Scale Tractor Team

This year ASABE of UC Merced is putting together their first team for the Quarter Scale Tractor Competition. The team is in the design process and has been sponsored by SolidWorks™. The team is looking to be the stepping stone for future UC Merced students to getting involved in this competition by laying the groundwork for future teams.

2018 PMA Food Service Conference and Expo



On July 25th – 29th UC Merced ASABE members had the opportunity to be a part of the Career Pathways program designed to attract the best and brightest students for a career in the fresh produce and floral industry. Students received one-on-one mentoring, customized education sessions, tours of companies in the area, and a chance to network at workshops, social events, and conference floor.

❖ Remembering Claude Brown



Claude Brown

On a somber note, the memorial service for Claude Brown took place on August 26th, 2018 and was attended by a few hundred people. Claude was instrumental in helping to develop the [Joe A. Heidrick Western Center for Agricultural Equipment \(WCAE\)](#), which is a teaching, research, and outreach facility of the Department of Biological and Agricultural Engineering at UC Davis. Claude did about a year of study at UC Davis before moving to Lodi, and, along with Paul and Charles Burkner, established Ag Industrial Manufacturing (AIM) Inc.

Stockton's *The Record* online publication published Claude's [obituary](#) and a second [piece in honor](#) of Claude.

The following is a brief biography published in the [August 2018 issue of Inside ASABE](#):

ASABE Fellow Claude Edward Brown was born December 27, 1948, in Petaluma, Calif., to Joseph Isles Brown and Frances Yost Brown. He grew up in Rio Vista, Calif., and was a 1967 honors graduate of Rio Vista Joint Union High School, where he lettered in football, baseball, basketball, and track. He also served as a member of the NROTC. After high school, Claude served as a volunteer fireman in the Rio Vista and greater River Delta area. He continued his studies at San Joaquin Delta College and the University of California at Davis, before enlisting in the United States Navy, where he served first as an electrician's mate before undergoing special training.

After his service in the Navy, Brown worked for King Electrical Company and for McPherson/Norberg as a Registered Consulting Electrical Engineer, then received a degree in Rubber & Plastics from the University of Ohio. In 1969, he married Marilyn Howen and they moved to Lodi in 1972. Claude was employed by Holz Rubber, first as an engineer, then as VP of Manufacturing.

In 1979, Brown, together with Paul and Charles Burkner, formed Ag Industrial Manufacturing Inc. Starting out with custom mechanical grape harvesting and just a handful of employees, they quickly grew to employ 40 to 50 people depending on the season. Early on, harvest season saw Claude often sleeping in his truck in the vineyards, ready at a moment's notice to repair or service a harvesting machine. In 1990, AIM introduced the GH9000 mechanical grape harvester. The machine sold well throughout California and the West Coast, and AIM was taken into the machine design, manufacturing and repair business. Brown holds several patents for his inventions which have applications in the agricultural industry and beyond.

Brown was a life-long community volunteer, donating his time and organizational skills for the Western Center for Agricultural Equipment at UC Davis, the Alice Hunter Building at Micke Grove Zoo, the Ag Equipment Center Complex at the San Joaquin County Historical Museum at Micke Grove, and Micke Grove Zoo East End Renovation. He served as president of the Micke Grove Zoological Society, Vice President of the San Joaquin County Historical Society, president of Lodi Adopt-A-Child, and President of the Board of Directors of Mokelumne Fire Department. He loved to cook for crowds and was extremely talented at organizing his friends to help provide meals for charitable events. In 2002, Brown was named the Agribusiness Person of the Year by the Lodi District Chamber of Commerce and has been inducted into the Lodi Community Hall of Fame as well as the San Joaquin County Ag Hall of Fame. Most recently, he was honored at the Notably San Joaquin Dinner and Wine Auction by the San

Joaquin County Historical Society. As a member of ASABE, he held positions on several boards at the national level.

Brown was preceded in death by his parents and wife Marilyn, and is survived by his daughter Mia Brown, son-in-law Bob Ford, beloved grandson Clayton, and a vast family of friends. In lieu of flowers, donations in his memory may be sent to ASABE Foundation KEYS Fund, 2950 Niles Road, St. Joseph MI 49085; San Joaquin County Historical Society, P.O. Box 30, Lodi CA 95241-0030; or Lodi Adopt-A-Child, P.O. 2479, Lodi CA 95241.

He was a 35 year member of ASABE.

❖ Do You Feel A Calling?

Would you like to get more involved with ASABE and our Section? Do you have ideas for Agricultural and Biological Engineering activities?

We have several opportunities to work on various committees: planning for the new annual section student rally, working with the Vice Chair and Treasurer to contact sponsors for February's annual business meeting, and organizing the annual business meeting. If you would like to get more involved, want some exposure to people in industry, or have some interesting new ideas or ways to improve our section please contact Hossein Edalati: ahedalati@ucdavis.edu or (530) 220-2489.

- For previous editions of the Update, please visit www.asabecanv.org.
- If you have questions or comments, feel free to contact Hossein Edalati (contact info above)
- If you have ideas for update items or would like to get involved in the leadership team, please let us know!