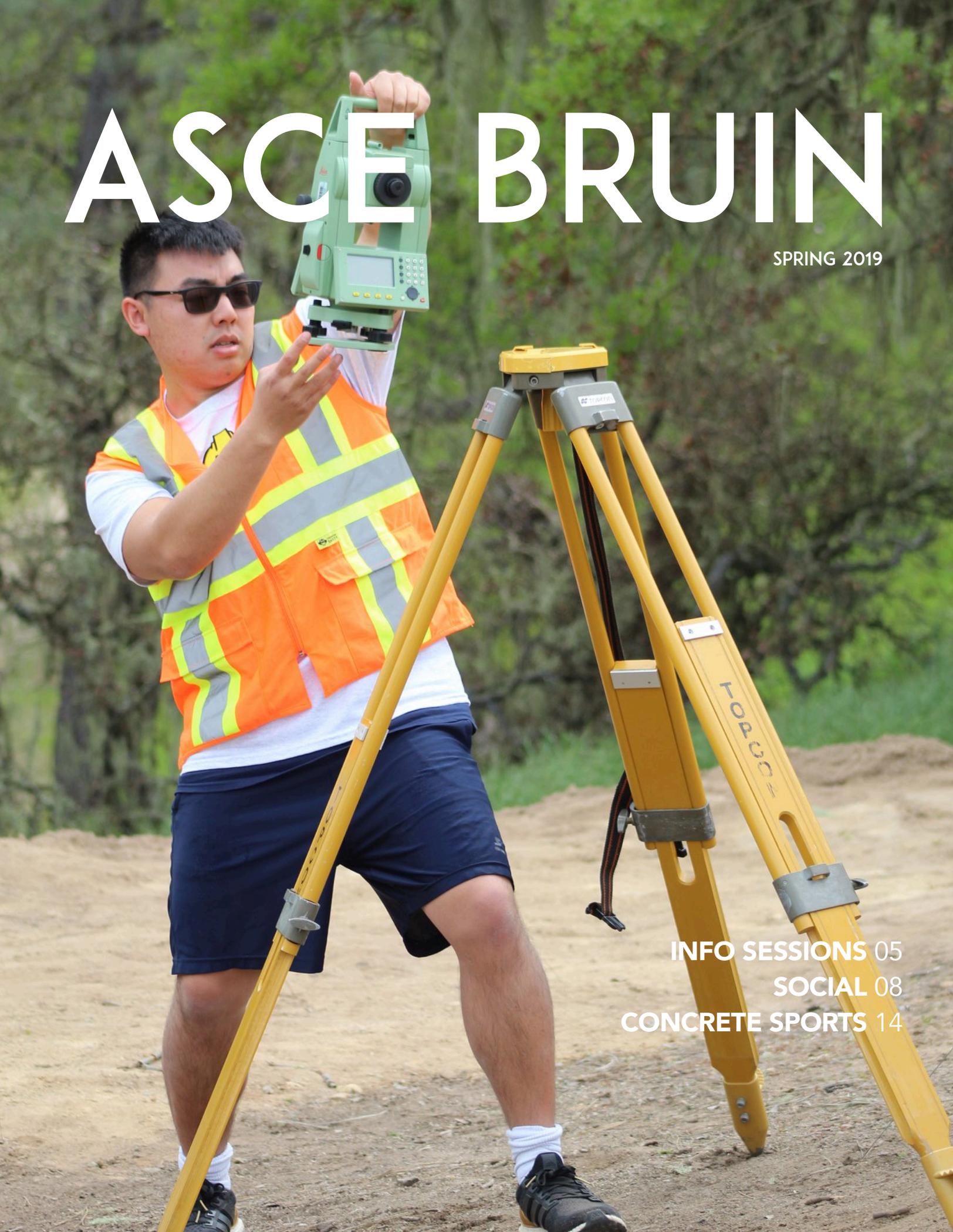


ASCE BRUIN

A man wearing a white t-shirt, a high-visibility orange and yellow safety vest, and dark sunglasses is standing outdoors on a dirt path. He is holding a green surveying instrument (a total station) mounted on a yellow tripod. The tripod has the word 'FORCO' printed on its legs. The background consists of green trees and foliage.

SPRING 2019

INFO SESSIONS 05
SOCIAL 08
CONCRETE SPORTS 14

CONTACT US

ASCE BRUIN NEWSLETTER

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A LETTER FROM THE PRESIDENT Mahsa Sheykholtan	03
MEMBERSHIP Yuen Lenh	05
INFO SESSIONS Soham Gupta	05
PROFESSIONAL OUTREACH Keri Scholte	06
COMMUNITY SERVICE Doug Chambliss	06
ATHLETICS Gianna Furumoto	07
SOCIAL Anna Philipp	08
MENTORSHIP Vivian Chong	10
CAREER FAIR Claire Killian	11
PSWC 2019 Johnny Schmidt & Eliot Yang	12
CONCRETE CANOE Colin Burrowes	13
CONCRETE SPORTS Jason Headington	14
CONSTRUCTION MANAGEMENT Alex Lee	14
ENVIRONMENTAL DESIGN Pauline Nguyen	16
GEOWALL Caileen Yu & Rachel Lien	17
EWB-ASCE NAVAJO PROJECT Trevor Huffaker & Keely Watland	18
SEISMIC DESIGN Honor Fisher	19
SEISMIC OUTREACH Brandon Duong & Tyler Penn	20
STEEL BRIDGE Jacob Stanley & Joceline Suhaimi	20
SURVEYING Joshua Widjaja	22
TRANSPORTATION Scott Kawakami	22





A Letter

FROM THE PRESIDENT

Dear Alumni, Faculty, Students, and Sponsors,

As another quarter comes to an end for ASCE at UCLA, we reflect on all that we have accomplished during the winter quarter and continue to prepare for the spring. We began 2019 with our quarterly general meeting where we presented our upcoming events and projects to both new and returning members. Former president Suraj Patel attended as a guest speaker and gave an inspiring speech about how ASCE impacted him and how he continues to stay involved after graduating. We elected our new secretary, Emily Story, and presented awards for our various members of the quarter.

Shortly after, we held our annual Ski Trip in Big Bear where three dozen of our members spent the weekend skiing, snowboarding, and playing in the snow. This tradition provided members of all years with the opportunity to bond with new and old friends. We also held many other socials this quarter, including a mentorship inter-family event in Koreatown and a self-care Saturday complete with face masks and chocolate.

“This tradition provided members of all years with the opportunity to bond with new and old friends.”

On the professional side, we hosted our winter career fair with 45 companies in attendance across a broad range of civil, structural, geotechnical, water, environmental, and transportation engineering firms in addition to construction management companies. We continued to hold numerous info sessions and organize many industry shadow sessions to provide students with opportunities to create connections with industry professionals.

During winter quarter, our 11 projects also gained momentum as eight of them prepared for competition. Concrete Canoe cast their canoe during the first week of the quarter at their annual casting day. The Construction Management team competed at the ASC 67 competition in Sparks, Nevada, receiving numerous top finishes. Our Seismic Design team competed at the EERI competition in Vancouver, Canada in early March and placed second internationally. The rest of our projects are looking forward to competing at the Pacific Southwest Conference (PSWC) in San Luis Obispo this upcoming April. We are extremely proud of all of our projects and wish those competing at PSWC the best of luck.

Six of our officers attended the annual Workshop for Student Chapter Leaders (WSCL) in Honolulu, Hawaii this year. We had the unique opportunity to meet students from schools across ten states, in addition to members from various ASCE sections and branches and the ASCE younger member council. The workshops and presentations provided us with insight and new ideas for our chapter, and we were able to collaborate with a diverse group of members. We were also able to hike and enjoy the natural beauty of Hawaii while enjoying some great food.

One significant achievement this quarter was receiving the YMF Student Chapter of the Year award. This award was presented to us in February based on a video highlighting our chapter and the events that we have put on within the past year. We are very humbled by this recognition and know that awards such as these are made possible by our hard-working officers and members who continue to make ASCE at UCLA the best it can be.

As always, thank you to all of our alumni, advisors, and sponsors who generously continue to support us. We greatly appreciate all of your support throughout the years. Thank you to the UCLA Civil and Environmental Engineering Department for their continued guidance and assistance. If you have any questions or comments, please do not hesitate to reach out to myself or any other officer. We are always ready to welcome new faces to our ASCE community.

Please do not hesitate to reach out if you have any questions or comments about our chapter or how to get further involved. We would love to hear any suggestions or new ideas you have for our chapter, so feel free to reach out to myself or any other officer.

Thank you,

A handwritten signature in black ink that reads "Mahsa Sheykhsoltan". The signature is written in a cursive, flowing style.

Mahsa Sheykhsoltan, President
ASCE at UCLA 2018-2019

"We are always ready to welcome new faces to our ASCE community."

MEMBERSHIP

YUEN LENH



ASCE MERCHANDISE The new ASCE hats for our members comes in both grey and black!

Ending our winter quarter with 325 paid members, ASCE at UCLA continues to grow with the addition of 30 new members! About 60% of our members also have national membership. With so many active members, we decided to recognize our most involved members by continuing our “Member of the Quarter” tradition. For the fall quarter, we recognized six members based on the number of events and project workdays they attended.

This quarter, we have continued to see a lot of member involvement in our projects and general events. For our professional development events, we have had an average of 23 members in attendance at info sessions, 22 members at field trips, and 21 members at our various workshops. For our general service events and 22 members at social events. On the projects side, we have had about 5 to 15 members involved in each of our 11 projects. Additionally, in the fall, we began the process of obtaining ASCE hats for our members. This quarter, we have finally finished this process and now have ASCE hats available for purchase to all of our members!

INFO SESSIONS

SOHAM GUPTA

Last quarter proved to be a very successful quarter in terms of info sessions here at ASCE at UCLA. We had a total of six info sessions ranging from week two to week nine with an average attendance of 21 students per event. Most of the info sessions were more on the design side, featuring many environmental and water engineering firms.

As ASCE at UCLA continues to grow and prosper, so does our outreach with companies. W.E. O’Neil, a longtime department sponsor, continued to support ASCE at UCLA with both significant financial commitments and technical support. Their info session resulted in the highest number of students receiving offers for an internship. Kennedy/Jenks, an engineering consulting firm, resulted in the highest attendance of the year. Because of such a long list of companies who wanted to host an info session here at ASCE at UCLA, we were facing a backlog at the beginning of the quarter! Fortunately, we were able to fit everyone in and only have one more info session for the upcoming quarter!

ASCE at UCLA has had a solid year of sessions, and we hope to help both companies recruit and help students find jobs while creating a long-lasting relationship between the school and the professional world.

PROFESSIONAL OUTREACH

KERI SCHOLTE

In January, twenty-four of us headed down to Hawthorne, California, to tour The Boring Company's test tunnel site and to learn more about the technology and plans for the company's "loop" public transportation system. In February, a small group of students had the exclusive privilege of touring the in-progress Los Angeles Stadium at Hollywood Park in Inglewood by a Turner engineer and UCLA Alumnus, Kyle Ichikawa.

About eight students participated in the Industry Shadow Program (ISP) this quarter. Many thanks to KPFF Civil, Wood, and Turner for hosting our students and letting them in on what the workday looks like. One student summed up their experience as follows: "I was able to participate in one of their meetings and the senior engineers taught me some terms and some problem-solving skills that I will need. Some other engineers also called me to their desk to show me some plans, blueprints, and 3D designs of the project they partake in."



HARD HATS IN HAWTHORNE Outside The Boring Company's test tunnel site, members pose with their hard hats after the tour.

COMMUNITY SERVICE

DOUG CHAMBLISS

ASCE at UCLA had a busy winter quarter, but we still found time to lend a hand to volunteer organizations. We returned to Kindred Spirits Care Farm, an animal sanctuary we began working with starting fall quarter this year. During this quarter's session at the farm, we planted peas, pulled weeds, and sifted soil-- much to the delight of our geotechnical engineers! We hope to return for another visit this spring quarter.

Later in the quarter, a group of ASCE at UCLA members helped out at the LA Arbor Day celebration in which the community came out to Van Nuys and helped plant trees. There were also various community-run booths to visit during this annual event. In addition to general club community service events, the Seismic Outreach team was kind enough to represent ASCE at UCLA during WOW! That's Engineering, a Girl Scout-focused event ran by UCLA's SWE chapter. Make sure to keep an eye on the ASCE calendar and Facebook page for more community service opportunities spring quarter!



TREE HUGGERS Volunteers from ASCE at UCLA meet the Arbor Day event mascots.

ATHLETICS

GIANNA FURUMOTO

There were many Athletics events this quarter including intramural sports, Mentorship Olympics at PSWC Pump Up Day, the ESUC Ultimate Frisbee tournament, and the March Madness bracket challenge.

ASCE organized five intramural teams: men's soccer, men's basketball, co-rec basketball, and two cornhole teams. The men's soccer team, and one cornhole team made it to playoffs, each with a 2 to 2 record, but were unfortunately eliminated after the first round of playoffs. The co-rec basketball team went into playoffs with a 3 to 1 record as the #10 seed. They upset the #2 seed in the quarter finals and made it all the way to championships, where another team ended their 5-game winning streak.

Along with the Conference Coordinator and Mentorship Chair, Athletics co-hosted the PSWC Pump Up Day where members played volleyball, kan jam, frisbee, and soccer. Members also participated in relay races for Mentorship Olympics to earn points for their Mentorship families.

ASCE at UCLA also participated in the annual ESUC Ultimate Frisbee tournament and placed second. Our members put up a good fight in the end, but ultimately were defeated by the opposing team.

This quarter, Athletics brought back the March Madness bracket challenge where members filled out their brackets to compete for prizes. Currently, in first place is Bryan Hong. The ASCE fantasy basketball league is still ongoing, and as of now Dario Qiu holds first place.



BASKETBALL BOND After their final playoff game, the ASCE at UCLA IM Basketball team gather together for one final team photo.

Next quarter, Athletics will be coordinating multiple sports and miscellaneous events teams for PSWC. The captains for these events are as follows: Rodger Lee for basketball; Cade Luongo and Kristida Chhour for Kan Jam; Hamilton Tran for soccer; Abhimanyu Singh for Tug of War; Bryan Hong for Ultimate Frisbee; Carlo Dela Rosa for volleyball; Alyssa Yim for Scavenger Hunt; Ameya Patel and Sarah Ciudad for Mystery Event; Youngbo Shim for Impromptu event; and Yuen Lenh for Family Feud.

We look forward to competing in these sporting events at PSWC this coming April! Thank you to all those who will be playing and to all those who will be cheering us on!

SOCIAL

ANNA PHILIPP

The first event of the quarter was our annual Ski Trip to Big Bear. Thirty-six current ASCE members and four ASCE alumni carpoled from UCLA to our cabin right on Big Bear Lake. The long weekend was spent bonding, creating new memories, skiing and snowboarding, and having fun! The weather was perfect and it even snowed on the last night so a lot of our members were able to see snow falling for the first time!

Our next event was Self-Care Saturday, which was hosted during midterm season as a way for members to de-stress and take their minds off of school work for a couple of hours. Members did eye-masks and face-masks while watching movies together and snacking on an assortment of fun foods.

The final event of the quarter was ASCE's quarterly Finals Study marathon. Twenty-four ASCE members gathered in Boelter 4275 from 9 AM to 9 PM to study in a quiet atmosphere before the hectic finals week began. Snacks, coffee, and tea were provided to sustain our members throughout the day.

Next quarter you can look forward to a Spring Roll Food Making Social and many fun end of the year activities so come on out and spend some time with our amazing ASCE members!



1...2...3...CHEESE ASCE members gather around a table full of cheese and other snacks while watching Lilo & Stitch.



FRIGHTENING FACE MASKS
At the Self-Care Saturday social, ASCE members don frightening yet moisturizing face masks while they relax.



TOP LEFT After finding an empty area full of snow, ASCE members decide to hang out and make a snowman. **TOP RIGHT** As the ski trip comes to an end, members take home some bread and pose with their friends for one last photo before leaving Big Bear with their cars. **MIDDLE LEFT** Trini Inouye prepares to throw a snowball. **MIDDLE RIGHT** A few members stand on a pile of rocks in the Big Bear Lake. **BOTTOM** Group photo of everyone at ski trip.

MENTORSHIP

VIVIAN CHONG

The mentorship program has been calm and collected this quarter. Each family had the opportunity to bond with each other with events like dorm dinners, breakfast for dinner, and resume workshops! For the inter-family event, we planned to have a roller skating social at World on Wheels. Unfortunately, due to a busy Saturday night there were not enough roller-skates for everybody. So instead of roller-skating, we all decided to get dessert at Sul and Beans in Koreatown and explore Daiso.

On a final note, Mentorship Olympics are coming to ASCE at UCLA in the spring, so get excited! Also, a big shout out to the most active groups so far, which are Alyssa Yim with her mentees Sophia Tan and Sarah Ciudad, and Vivian Chong with her mentees Lucas Tang and Tori Mok. Both groups have posted 25 photos of their group together!



SPOONFUL OF FUN Sophia Tan, Alyssa Yim, and Sarah Ciudad, get ready for a card game of "Spoons."

BREAKING THE ICE Members of the salt family take a break from ice blocking, which is where you slide down a hill on a block of ice.

MENTORSHIP LINEAGE After meeting Zohair Zulfiqar, an ASCE at UCLA alum and Vivian Chong's old mentor, the two mentees, Tori Mok and Lucas Tang, pose for a photo with their mentor and her past mentor.

CAREER FAIR

CLAIRE KILLIAN

Winter quarter proved to be just as busy and productive as fall quarter on the professional development side of ASCE. We hosted another Career Fair Bootcamp prior to the Winter Career Fair; instead of resume help like we offered in the fall, we partnered with LA YMF to provide an interactive workshop on how to write a killer cover letter. We also hosted Mock Interviews again this year: nine LA YMF volunteers came to UCLA and conducted real-life interviews with our students in preparation for the Career Fair. We successfully matched the industry professionals with students interested in their specific field of civil engineering to give students the best practice for potential interview questions.

As a change from previous years, we held only one Networking Night this year. Over 50 students and 40 industry recruiters mingled and networked at The Den on Sunset over drinks and appetizers the evening prior to the Winter Career Fair. The food and venue were well-received, and I was pleased to hear multiple students ended up securing internships from this event.

Winter Career Fair was held once again in Ackerman Grand Ballroom from 10 AM to 2 PM on January 31st, 2019. Over 175 ASCE chapter members networked with over 100 industry recruiters from 45 different companies over the course of the day. We improved and smoothed out some small technical details from the Fall Career Fair, and we are proud to say this was the first year we offered the recruiters coffee in the morning—this was a very big hit with all recruiters! In terms of improving our diversity of companies, 35 of our 45 companies were design firms, and we had a wide range of design firms that specialized in all fields of civil engineering.

Overall, this quarter was another highly successful demonstration of the strong relationships our chapter maintains with many companies in the civil engineering and construction industries. Many students who had not already secured internships or full-time positions in the fall left winter quarter with offer letters. Looking ahead to the next cycle of Career Fairs, we will be working hard to develop even more industry relationships, as well as creating even more resources for our chapter members to be successful at the Career Fairs!

MAKE IT HAPPEN ASCE at UCLA members work to make their dreams happen by networking with company representatives at the Winter Career Fair in the hopes of finding job and internship opportunities.



PACIFIC SOUTHWEST CONFERENCE 2019

JOHNNY SCHMIDT AND ELIOT YANG

This year, many of our projects have been working towards the Pacific Southwest Conference (PSWC), which will be held at Cal Poly San Luis Obispo during week one of spring quarter. In order to prepare for these competitions against 17 other schools and over 1,000 civil engineering students, projects have been working tirelessly to finalize their designs and competition teams. Shirts were also made and distributed by the project managers to represent their teams during the conference. ASCE at UCLA has also made a strong effort to encourage new members to attend through events such as the PSWC Pump-Up Day, where members played PSWC sports such as volleyball and Kan-Jam. At Pump-Up Day, there were also opportunities to compete for points in ASCE at UCLA's Mentorship program in the form of competitive games.

To help lighten the load for Johnny, a Conference Coordinator Intern was chosen, Eliot Yang. Eliot helped plan the group dinner for all 108 members going to PSWC, sent email and text message reminders, and assisted Johnny in other logistical areas, such as sending important information for the drivers to PSWC and ensuring all non-technical events had teams to compete.



SNACKING IN THE SHADE While some members played volleyball or Kan Jam, some ASCE at UCLA members enjoy the shade and some snacks at PSWC Pump-Up Day.



PUMP IT UP ASCE at UCLA members gather for a group photo after an energetic PSWC Pump-Up Day in preparation for the upcoming conference.

CONCRETE CANOE

COLIN BURROWES

The Concrete Canoe project at UCLA has been making strides towards building a final product for the competition in San Luis Obispo. The general hull was constructed during casting day, which took place on the first Saturday of the quarter. Forty-three project engineers spent over eight hours to cast three layers of structural mix concrete. The leadership team has been busy working on finishing techniques and final deliverables ever since.

This year's canoe, Sugar Rush, follows a desserts and sweets theme. The interior is decorated with candy shapes and peppermint inlays, and a donut inlay centerpiece. The sprinkle design on the donut is matched by the lettering on the sides. Our most intricate aesthetic elements, however, are the ice cream cone and pie lattice casted directly on the the bow and stern tips respectively. Finally, an iterative process of sanding and patching has been employed to create a smooth concrete surface.

We are looking forward to competing at regional conference this spring quarter. The selected paddling team includes past and present project managers, seniors and freshman alike. Andrew Wong and Yash Kansal will be competing in the men's sprints, Mahsa Sheykholtan and Ada Chang in women's sprints, Josh Widjaja and Colin Burrowes in men's slalom, Heather Wong and



DONUT EAT Since the theme for this year's canoe is desserts and sweets, project members decorate the canoe with images of sweets like this donut shown above.



CANOE BELIEVE IT? Project members and other ASCE members volunteer on Casting Day for eight hours to help lay the concrete onto the canoe mold.

Ada Chang in women's slalom; finally, Heather Wong, Anne Mast, Johnny Schmidt and Colin Burrowes will be competing in the co-ed sprints. In addition, the project managers Colin Burrowes and Lizzy Robinet will be giving an oral presentation of the technical overview of the project.

It has been an exciting and busy quarter, and the team is excited to see how their hard work will be rewarded at PSWC.

CONCRETE SPORTS

JASON HEADINGTON



SWEET SPORTS Pictured above is the Concrete Sports' frisbee, which was designed to look like a cookie.

Last quarter was a productive time for Concrete Sports. We continued our experimentation with the mix that began in the fall, and after many iterations, we found a mix that removed unnecessary chemical admixtures. We used this mix in the final casting in order to create our dessert themed final product. Thank you to everyone who attended our workdays. Making the frisbee would not have been possible without your hard work and dedication. Also, special thanks to Doug Chambliss, who did an amazing job transforming the Frisbee into a giant cookie.

In addition to finishing the mix, Concrete Sports also hosted multiple events, including throwing practices and our first ever Concrete E-sports social. This quarter, we will continue to run fun and engaging events. We are hosting our first annual Concrete Sports Finale Tournament, which will take place on May 5th, from 2 PM to 4 PM at the UCLA IM Field. We will also be holding another Concrete E-sports social sometime later this quarter. Information about these

events and anything Concrete Sports related can be found on our Facebook group or on the weekly emails. We look forward to seeing everyone throughout the spring quarter!

CONSTRUCTION MANAGEMENT

ALEX LEE

UCLA has had a history of improvement over the years of participating in ASC 67's annual student competition, and this year was the best year yet! Twenty-two students made the trip to Sparks, Nevada, by plane and car in the beginning of February in order to compete in three categories: Design-Build, Mixed Use, and Sustainability. Each team took 16+ hours to work through their problem statements and presented on them in front of a panel of industry professionals the following day with extremely impressive results.

Sustainability, led by Alyssa Yim, took 1st place beating out schools that competed in this category for much longer (this was UCLA's second year of competing in this category!). Mixed Use, led by Claire Killian, placed 4th with a fresh and motivated team, which speaks to the preparatory efforts made by the team and indicates high promise for the years to come.



NICE NETWORKING Ameya Patel poses for a picture with new acquaintances at the ASC 67 competition hosted at The Nugget hotel in Sparks, Nevada.

Design Build, led by Yash Kansal, placed in the middle third of the competing teams, solidifying UCLA's position as a strong contender even in the face of more specialized programs that other schools provide.

The PSWC Construction Management projects have not been idle in the meantime. Sustainable Dam, headed by Doug Chambliss and Anna Philipp, have made the project a fun social opportunity in addition to reducing UCLA's waste by collecting hard plastics from ASCE events and projects. Timber Strong Design-Build, headed by Bailey Uy, finalized the design report, plan sheets, and build plans over the course of winter quarter, and the build team is poised to perform well at conference.

Support from our sponsors are what allowed Construction Management to not only expand our scope from years' past, but also to excel in each endeavor. We ask for many forms of support throughout the year, from office supplies to coaching and consultation, and we are extremely thankful for each sponsor that helps us achieve our goals.

CONSTRUCTION CREW All members of each ASC 67 team gather for a final photo on the last day of the competition.



SUSTAINABLE SUCCESS With their FSC approved trophies in hand, the Sustainability team take a celebratory photo after just being announced the 1st place winners of the Sustainability competition created by Skanska.



ENVIRONMENTAL DESIGN

PAULINE NGUYEN



PAINTING PARTY Environmental Design project members paint the filtration apparatus to look like an Airheads candy wrapper.

This year, we also wanted to decorate our treatment system. Our design “Waterheads” - inspired by the candy brand “Airheads” - was designed by project member Yuen Lenh. With over 20 invested members in the project, we wanted to show our appreciation to members for coming out to our work days by having them leave their mark on this year’s system. Members had the opportunity to sign their names on their own personalized balloons as part of the design.

With PSWC coming up in spring quarter, we are looking forward to doing our best at the competition and learning from the different approaches employed by others schools for this year’s water quality challenge!

This year, the Environmental Design team was tasked with creating a system that can remove top soil, olive oil, iodized salt, vinegar, and ferrous sulfate granules from 10 gallons of water for indirect potable reuse for an artisan olive oil and winery client in San Luis Obispo. The system had to be low-cost, sustainable, with a fast treatment rate, and the potential to be scaled up for full operation at the winery.

To bring the wastewater up to reclaimed water quality standards, our team has been trying out various water treatment techniques such as coagulation, micro-filtration, deep bed multimedia filtration, ion exchange, UV radiation, electrolysis, and aeration. We were fortunate enough to have access to Dr. Sanjay Mohanty’s, Dr. Jennifer Jay’s, and Dr. David Jassby’s laboratories to test our effluent water quality every week to see the effectiveness of different water treatment techniques. In addition, the team worked on designing a simple structure that could be quickly assembled to incorporate all the treatment methods desired. In the end, our team collaboratively came up with a gravity-driven design consisting of a trash bin and reclaimed wooden support structure. Once the influent is loaded into the system, it goes through the following treatment train: coarse straining, pH neutralization, micro-filtration, multimedia filtration (polystyrene beads, peanut shells, GAC, and gravel), ion exchange, and oxygenation/natural aeration.



TEST RUN To test the current filtration system, project members gather outside the ASCE lounge with buckets of contaminated water ready to pour the water through their filter.

GEOWALL

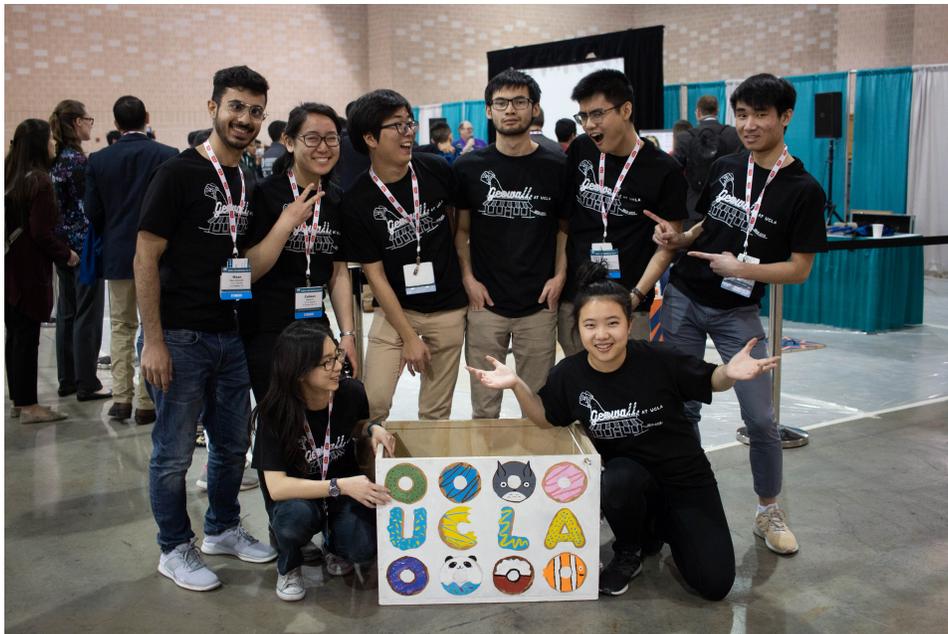
CAILEEN YU & RACHEL LIEN

GeoWall is a competitive project in which students design and build a mechanically stabilized earth retaining wall out of kraft paper, and it is the only undergraduate level project at UCLA that focuses on geotechnical engineering. During the timed competition, the wall is built and tested to resist several different loading cases. The team that uses the least amount of kraft paper and allows for the least deflection wins.

This year, we were tasked with designing a wrapped wall that can retain 500 pounds of backfill, and withstand both a 50 pound surcharge applied at the surface of the backfill and a 20 pound surcharge applied laterally on piles. To apply for nationals, the team spent the end of fall quarter and winter break writing and editing our design report before submitting it in January.

In February, we received our design report scores, placing in the top 4 reports, and qualifying to attend the national competition taking place at the Geo-Congress 2019 Conference in Philadelphia, Pennsylvania. Co-Project Managers Caileen Yu and Rachel Lien, Project Directors Justin Qiu, Michala Li, and Peter Lee, as well as GeoWall members Alan Truong, Kyle Hu, and Maan Alhamdan attended the conference. At the conference, UCLA competed against the top 16 schools in the nation, placing 3rd overall with a wall design that held all load cases with minimal deflection.

Following the national competition, we will continue to improve our design for the Pacific Southwest Conference in early April. The team will be traveling again to compete—this time, to Cal Poly San Luis Obispo where we hope to gain valuable experience competing alongside other teams in the region.



GEO-CONGRESS GeoWall project members show off their 3rd place winning GeoWall box, which is sweets themed.

NAVAJO PROJECT

TREVOR HUFFAKER

The EWB-ASCE Navajo Water Project is one of the community service components of ASCE, involving a group of UCLA students designing an off-the-grid water system for a family living on the Navajo Reservation. During the first week of summer, this group of students will drive to Arizona, bringing with them all of their supplies to complete the build. Here, over a span of four to seven days, these students will construct this system consisting of piping and a pump, as well as a solar panel and grey water system.

Over the past seven months, our team members have been working on and have now completed a design for this system. To do this, a few members traveled to Arizona on an assessment trip to aid in the planning of the layout and design of the system. After recording some data (gradients, sizing, soil qualities), the team used this information to create a plan proposal for the system, and parts are currently being ordered.

In this upcoming quarter, we hope to be able to acquire all of the parts needed for the system, and do necessary testing. Then two of the teams, Distribution System and Design and Solar Team, will work on developing a packet instructing how to use and set up all of the components of the system. This is so that when the group goes to install the actual system, they will have a set of guidelines to follow.



FLASHLIGHT FINDINGS On the assessment trip to the Navajo Reservation, two project members record data in the light of a flashlight at night.



FORMING FRIENDSHIPS Navajo project members snap a photo with the Navajo Nation member whose home the project will be servicing.

SEISMIC DESIGN

HONOR FISHER

Seismic Design is a structural engineering project focused on designing, constructing, and analyzing a 5-foot tall balsa wood structure for the annual Earthquake Engineering Research Institute's Seismic Design Competition (EERI SDC). This year's prompt tasked us with building a structure with a 'T' shaped base which presented the challenge of torsional demand due to the non-concentric floor plan. Ultimately, we decided to make a rectangular base and finish off the 'T' with small cantilevered balconies on specific floors.

At the beginning of winter quarter, we finished our prototype and tested it on a shake table with the ground motions provided by the competition. For our prototype, we decided to use a strong inner core, mega-columns at each of the corners, and one layer of bracing along the outer perimeter. Our prototype did not perform as well as we had hoped, with several connection failures at about a third of the building height. We re-designed our structure accordingly by removing the inner core and adding a second layer of bracing to the perimeter. We found this method would solve some of the problems our prototype encountered while also reducing the weight of our structure.

For the final structure, we also changed our construction technique to a pre-fabrication method for the first time. We constructed each of the four sides separately by laying the columns on a flat surface and gluing the braces to them all at once. After all the sides were completed, we placed three of them into the baseplate, added the floors, and then placed the final side. We found that this method greatly increased our accuracy and significantly reduced our construction time.

This year the competition was held in Vancouver, British Columbia, during the first week of March and included 38 teams from around the world. We were able to take ten of our team members, and we all had a great time meeting the other teams, watching the shake testing, and exploring the beautiful city. All of our hard work over the year paid off at the awards ceremony where we won second place for the second year in a row. This quarter, we will be researching and testing new ideas for next year when the competition will be held in San Diego, California. Thank you to everyone who helped our team including the members, supporters, and sponsors; we could not have done it without you! We look forward to continuing to grow our structural engineering knowledge while also having a little fun!

DESIGN, BUILD, BOND At the EERI competition in Vancouver, the Seismic Design team surrounds their second place winning structure for a final group photo.



SEISMIC OUTREACH

TYLER PENN & BRANDON DUONG

During this past winter quarter, Seismic Outreach partnered with Emerson Middle School, a UCLA TIE-INS school, to implement our structural engineering program for their sixth grade classes. In total, we visited the middle school three times. These three visits included our earthquake and structural engineering presentation, design workdays, and calculation help. In addition to our regular school visits, our team hosted a Finale Day Pump-Up Day where we gave our volunteers an overview of the Finale Day and got them excited to inspire the visiting middle school students.

On March 6th, the Seismic Outreach team hosted over 200 middle school students, six teachers, two corporate volunteers from the U.S. Army Corps of Engineers, one UCLA faculty volunteer, 30 UCLA student volunteers, and approximately 15 parent chaperones at our Finale Day competition at Collins Court in the John Wooden Center. This event would not be possible without the crucial help from all our volunteers, so from the Seismic Outreach team: thank you! We hope to see everyone at our next Finale Day soon!

For the upcoming quarter, we plan to continue the current program of visiting one school per quarter. We plan to be working with Lincoln Middle School next.

STEEL BRIDGE

JACOB STANLEY & JOCELINE SUHAIMI

Steel Bridge's goal this year is to design, fabricate, and construct a 20-foot long bridge that can withstand a vertical load of 2,500 pounds and a lateral load of 50 pounds. This year we are building a long-span deck bridge that must cross a six-foot-wide river. Our major design and fabrication challenge is to overcome the asymmetry of our bridge in regards to its legs and truss patterns. We will compete in the annual Student Steel Bridge competition where we are scored on construction speed, deflection, and weight. This year the competition will be held in San Luis Obispo, CA, from April 4th through April 6th. If we perform well at this regional competition, our team will qualify for the national competition at UIUC happening in the end of May.

If you have not seen us around much this quarter, it is because we have spent most of our time in the machine shop cutting pieces to length, drilling holes, and milling connections on various saws, mills, and computer-controlled machines. To fully form each member, we created jigs to hold the individual steel pieces together during the welding process. After some deliberation, we chose our build team for competition; they practiced building our bridge throughout the second half of spring break to ensure we have the best opportunity to build the bridge in the shortest time possible during competition.

Looking ahead to the rest of this quarter (a.k.a after competition when we can finally breathe a little), we will be finalizing next year's leadership team and transitioning them to ensure next year's bridge will be stronger and lighter than ever before. Thanks to everyone who showed up to workdays and helped out—this bridge would not have been completed without you!



BRIDGE BUILD Steel Bridge project members practice building their bridge and record their build time.

ENGAGING EDUCATION Keri Scholte, a Seismic Outreach project member, interacts with a middle school student to talk about her K'NEX structure.



PRACTICE MAKES PERFECT Two Steel Bridge build team members practice putting together a section of their bridge.



SURVEYING

JOSHUA WIDJAJA

This past winter quarter, Surveying prepared for PSWC with conference practices focused on proficiency and speed in various surveying events. This year's PSWC will feature new events and calculations, where we will complete a course of four events in one hour. We practiced for the competition using a total station to find distances, elevations, and angles across various terrains, taping across long distances, and pacing with a map to find a hidden object.

Joining myself on the competition team will be our project director, Catherine Nguyen, in addition to members Katherine Acero and Ulysses Acero and our alternate Rachel Tam. Training with us during the winter quarter was Milton Mak and Diandra Pukarta.

This spring quarter you can anticipate open workdays where everyone can learn how to survey and practice using the equipment, including the total station! We will also be holding a workshop that will replicate the competition at PSWC, so you too can experience surveying events. ASCE at UCLA Surveying also has a Youtube Channel where we have several tutorial videos, and we will continue to create more tutorials this spring.

If you are interested in being a part of Surveying or just learning an important skill for any engineer, come out to our workdays. It is never too late to join and try out our project!

ITE-ASCE TRANSPORTATION

SCOTT KAWAKAMI

The Transportation Project aims to propose improvements to the transportation systems for a given project site. This year, the team was tasked with redesigning a highway interchange in San Luis Obispo to provide more safety for drivers and promote active transportation. Given San Luis Obispo's aging infrastructure, the on- and off-ramps for US 101 need to be updated to match current standards.

Throughout the past quarter, our team diligently worked to design a new interchange plan to improve traffic conditions. In our workdays, we calculated Level of Service, cut and fill estimates, and cost estimates for the proposed design. Through these calculations, project members were introduced to basics of transportation engineering and how to format and write a transportation impact analysis. In addition, we took a site visit early in winter quarter to gather data and see first hand the issues with the current interchange.

As we look forward to our competition at PSWC in spring quarter, we continue to prepare our presentation and finish our poster board. We hope to build on last year's 3rd place finish and place again! No matter the final result, we are satisfied in our final design and are proud of the two quarters of hard work that led to our finished product. The future looks bright for the Transportation Project with enthusiastic underclassmen that we believe are ready to be trained for leadership and success.

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