

ASCE BRUIN

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Letter from the President

Dear Students, Alumni, and Faculty,

It is my pleasure to introduce to you the Spring 2014 edition of The ASCE Bruin. This newsletter highlights the hard work all of our officers have been putting in this quarter, from projects to programming, and the extensive work accomplished. As conference quickly approaches, it's needless to say that everyone has been working in high gear to finish strong and we are so proud of the work they have done.

This recent winter quarter has been filled with great professional growth and increased member involvement. We were fortunate enough to bring together alumni, industry, LA YMF, and students for a joint Resume and Mock-Interview workshop, where students received complete professional help to guide them through each step of the employment process. Throughout the quarter, students bonded on the slopes at our annual Big Bear Ski Trip, hustled in intramural sports, and competed at the Associated Schools of Construction Region 6,7 competition in Reno. This coming quarter, we will be competing at The Pacific Southwest Conference at San Diego State from April 3rd through 5th, and we would love to see alumni and students alike come out and support our bruins competing. Post-conference, we'll continue our professional and social programming as we finish out the year and bid our seniors goodbye.

ASCE-UCLA would like to thank our advisor, Professor Jian Zhang, the CEE Department Chair, Professor Jonathan Stewart, and our Practitioner Advisor, Mr. Bill Goodin, for their continuous support and dedication. Additionally, I would like to thank all of our sponsors for providing the funding necessary to sustain the competitiveness of our projects and volume of programming to continuously develop engineering students on both a professional and social level.

If you have any questions, comments, or if you would like to get involved, feel free to contact me at brooke.m.crowe@gmail.com.

Thank you again for your continued support.

Sincerely,
Brooke Crowe
President, ASCE-UCLA



Casting Day

By: Vatsal Gupta

The casting day for Imperia began with a lot of excitement and zeal from about 25 ASCE members and was carried on throughout the day by the directors and PMs to finish the day strong with a well-casted mold.

This day began with the construction of extensions for the steel bridge to accommodate the entire length of the canoe, and was followed by preparing the foam mold for casting by cutting and pasting contact paper on it. 61 batches of the concrete mixes were prepared to be used in the casting of the canoe. After about 12 hours of arduous, intense and pizza-fueled work, the beauty took the shape and the name, Imperia.



The crew at the end of Casting Day



LEFT:
Ryan Dudley and
Abigail Gunning
patting on another
layer to the canoe
during Casting Day

Winter Career Fair

By: Daniel LaFranchi

UCLA's ASCE organization is a non-profit, student-run club that gives students the opportunity to learn and grow outside of the classroom. Students can participate in a variety of projects, volunteer in philanthropic events, meet professors and industry, and grow as individuals. Our career fairs and info-sessions give industry an opportunity to meet both graduate and undergraduate students in a more intimate environment. The career fair is beneficial to companies seeking motivated students as potential interns and full-time employees, and also gives the students a chance to interact with representatives and gain experience talking with companies – while hopefully also getting a chance to find employment! In addition, the revenue from the career fair is one of the primary ways in which we fund our projects throughout the year. This year, the fall career fair was very successful. ASCE Officers took volunteer shifts throughout the setup, career fair, and cleanup phases of the event to ensure it ran smoothly. This fair featured 17 companies who were all seeking interns and/or full time employees. We had a large volume of student traffic. The feedback from industry representatives was exceptional and all reservation details were taken care of efficiently and effectively. The companies that attended are:

BNBuilders

County Sanitation Districts of Los Angeles

ENGEO

Englekirk

Environmental Science Associates

John A. Martin & Associates

Kiewit

KPFF

Magnusson Klemencic Associates

RMC Water and Environment

Shannon & Wilson

Shimmick

Structural Focus

US Army Corps

W.E. O'Neil

W.L. Butler Construction

Walsh Group

Professional Development

By: Dennis Cha



ASCE-UCLA on the Morley Builders site visit

Winter Quarter was an engaging quarter with professional development events, such as the YMF Resume Workshop & Mock Interview event. The resume workshop and the mock interviews simultaneously took place on Tuesday, January 21st, in the Civil & Environmental Engineering Department conference room. We hosted 15 professional engineers who generously volunteered to interview students and share knowledge about building a strong resume and how to have a successful interview. More than 30 students participated to learn from these professionals and everyone agreed that they learned a lot from the event.

On Friday, January 31st, we visited Simpson Strong Tie manufacturing/testing facility in Riverside. It was an interesting experience to learn about the fabrication aspect of civil engineering and how testing construction materials involve lots of sophisticated knowledge stemming from what students learn during school. The facility managers generously provided technical presentation followed by a delicious lunch. Later in the quarter we visited a Morley Builders job site in Hollywood. The tour took us from the bottom parking garage floor all the way to the roof level of the complex. The mixed use project had various stages of construction being completed making it a comprehensive and very educational site visit. Overall, it was a successful quarter that allowed students an exposure to different aspects of civil engineering as well as an opportunity to grow professionally.

Athletics

By: Winston Boyce

So winter quarter turned out to be another fantastic quarter as far as IM sports are concerned. Our ASCE men and women competed and fought valiantly in Men's Independent B basketball and Co-Ed soccer. Basketball got off to a hot start, playing well all season and earning their way to a playoff spot. The first playoff game showed a tremendous effort on all fronts as the team came away victorious, but unfortunately couldn't pull out a victory in their second match. #Roadtotheshirt Volume 2 was then dependent on soccer. Soccer had an amazing season and the team really came together in the end, building the chemistry necessary to not only win, but DOMINATE their first two playoff games. The semi-final game was against the number 2 overall seed in the playoffs and was a hotly contested match-up that went back and forth all the way down to the final whistle. Ultimately, the game ended on a goal with 10 seconds left in a heartbreaking shot grazing the top of the crossbar, but the loss takes nothing away from the tremendous season our soccer team had. We also had an IM sports kick-off at the beginning of the quarter to jump start our IM season and also get some valuable practice in preparation for conference. The turn-out was a success and the positive results may have optimistic minds looking forward to making this a yearly thing.



LEFT: Sungwoo "Chip" Jo driving to the hoop.



RIGHT: Kamal Sheokand playing a tight defense on the opposing team.

Mentorship

By: Abigail Gunning

ASCE kicked off winter quarter mentorship with a bowling event. After fueling up on a champion's feast at Roscoe's Chicken and Waffles, the crew headed down to AMF Mar Vista Lanes. At the bowling alley, the ASCE members showcased their talents the under the neon lights. The best bowlers faced off at the end of the night, where the loser had to make dinner for the winners.

A few weeks later ASCE had our Spring Class Planning Event. We had a good turnout from every class. The older students helped out the freshman and even a couple grad students dropped in to help out.



Mentorship event at Roscoe's Chicken and Waffles before going bowling at AMF.



Class Planning Event for Spring Classes



Michael Bauer, Lauren Yocke, and Maxwell Armenta take a quick scenic photo at the top of the slopes during an all-day boarding/skiing adventure.



Group photo before leaving the 2014 Annual Ski Trip

Social

By: Vatsal Gupta

ASCE took advantage of the vicinity of beautiful mountains to Los Angeles by going to Big Bear Lake for its Annual Ski Trip. The ski trip received an overwhelming response and 34 members made the three-night trip. New friendships were made and the old ones rekindled at this very fun and adventurous weekend.

This quarter also saw one of the most-loved social gatherings, the "Dance of the Decades". The freshmen dressed as the 60s, the sophomores as the 70s, the juniors as the 80s and the seniors as the 90s. Our awesome social chair made a tailored playlist to cater to the event. This event also saw our society get exposed to non-engineering major students and garner their interest to join us sometime in the near future. Everyone did learn how to "Twist and Shout".

Seismic Outreach

By: Zachary McFann



Picture above is the Home page link on www.asceucla.com to the Seismic Outreach page. The picture above was taken from the UCSD seismic outreach program.

This winter quarter, we started planning our first Seismic Outreach Program. It is a student-led competition where 6th grade students work together in groups of four to build a high-rise structure out of K'nex pieces. They will create an architectural rendering of their structure and bring the structures to campus to be tested on our shake tables. Along with the shake table testing, they will be judged on their structures' aesthetics, engineering principles, and construction plans.

This quarter, we started by reaching out to local middle schools in the area to partner with. We teamed up with Paul Revere Charter Middle School, and will be working with about 140 students from this school. Another school with approximately 300 6th grade students has already shown interest for this fall, when we are planning to have our second program. We also started to reach out to different engineering companies and organizations for both funding and volunteers. With all the money we have raised so far, this spring's event will be completely funded and we will have extra money that will be used for future programs. Next quarter, we will be going out to the middle school to get them started on the project, and then they will come to UCLA five weeks later to have their structures judged and tested, as well as take a tour of our beautiful campus. We are very excited to be starting this program and cannot wait until next quarter to start working with the middle school students!

Community Service

By: Allison Light



ASCE-UCLA helping LA YMF with teaching earthquake lessons at Eagle Rock Elementary School. Through using a home-made shake table, straws, and marshmallows, we got to teach the kids a little bit about structures and how they behave in earthquakes.

This quarter, ASCE Bruins spread their compassion and enthusiasm across the greater Los Angeles area from Azusa to downtown LA. In preparation for the launch of our Engineering with K'NEX program, we assisted YMF's K-12 Shake Table Outreach Event, in which our ASCE volunteers briefly introduced the principles behind earthquake engineering then let the young students build their own structures. Our volunteers shared their passion for engineering and encouraged creative problem solving skills in the students. To further inspire young students, five ASCE volunteers hosted an interactive marshmallow tower booth at YMF's Egg Drop Design & Building outreach day, in late February. We then got right back out there and worked to spruce up a home in Azusa, CA, as part of Habitat for Humanity's new Restore program. We put our engineering classroom knowledge to work to support an overhang so that the main beam could be replaced. In preparation for the finishing touches of paint, we caulked, pressure washed, and sanded the entire exterior of the house. Although our work was humble, we left knowing that we helped lay the base that is fundamental to the longevity of the house. In conclusion, it's been a good quarter for community service and we've had a lot of quality help from our ASCE-UCLA members!

Student-Professor Barbeque

By: Davis Thomas



Everyone socializing over a good burger or two before finals

Building off the successes of this quarter, ASCE sought to put on a Winter Student-Professor Barbeque for the first time in a while. The barbeque was held at Professor Margulis's house in Culver City, with his wife and daughter accompanying us. Due to scheduling conflicts, we had to choose the Saturday before Finals Week, but we were able to get 43 people to attend, including Professor Brandenburg and Professor Margulis's doctoral students. In addition, we had 8 graduate students and 25 undergrads attend despite the upcoming project presentations and finals. Brooke Crowe and Davis Thomas were the chefs of the meal, cooking hamburgers, veggie patties, and hotdogs while also providing fresh fruit and beverages.



LEFT:
Tiffany Huang
enjoying a
wonderful burger
cooked up by our
very own ASCE-
UCLA President
and her helpers.

Pacific Southwest Conference 2014

By: Gabriel Concepcion



Every year, the American Society of Civil Engineers (ASCE) invites top class engineering students from around the region to compete against one another in an array of engineering projects at the Pacific South West Conference (PSWC).

Conference is UCLA ASCE's most anticipated event of the year. There is the eagerness and enthusiasm to forge friendships that last lifetimes and the hunger and desire to overcome the challenges of project competition and come out victorious.

Continuing this Bruin tradition of comradery and success, 65 of the world's most talented and driven civil and environmental engineering (C&EE) students will travel and compete at PSWC to showcase the strengths of University of California Los Angeles' (UCLA) C&EE program in the following projects: Concrete Bowling, Concrete Canoe, Environmental Design, Geotechnical Wall, Steel Bridge and Surveying.

This year, PSWC is hosted at San Diego State University, beginning on the 2nd of April and concluding on the 6th of April. During this time, UCLA ASCE will be staying at the Holiday Inn San Diego La Mesa hotel. As for transportation, UCLA ASCE members will carpool to and from PSWC. Finally, all conference attendees will be given PSWC 2014 t-shirts with an artistic front print design and a back print of all corporate sponsors that made the funding for conference possible.

And as Bruins, we aim to win first place in every project. UCLA fight, fight, fight! Go American Society of Civil Engineers' Bruins!

Concrete Canoe

By: Christian Tran



Abigail Gunning and Vatsal Gupta paddle a “bridge and back” as a warm up for another intense paddling practice.

This winter quarter involved a lot of work in concrete canoe from paddling every weekend, working on turns and techniques, to sanding the foam cutout and casting the canoe. After coming back from winter break, the main objective was to start forming the general shape of the canoe with the foam which was freshly cut from last quarter. With a consistent team of students coming every workday of the week to sand and put together the mold, the foam slowly took shape into a recognizable canoe. Along with putting the actual canoe together, members brainstormed to come up with an appealing design for the final product, with the theme of Art Deco. After completing the cutout of the canoe, several of the hollow outer pieces were saved in order to make the cutout, a necessary part of the concrete canoe display segment; the actual mold is then moved off to be casted, which has been highlighted in earlier in the newsletter (see pg. 2).

In addition to weekly workdays in the ASCE lounge, members were also taken to the marina every Sunday morning at 7 a.m. to work on paddling, using the canoes from previous years. With time trials already done the previous quarter, teams were decided for the slalom, sprint, endurance, and co-ed races. Turns, endurance, and speed improved greatly every week, and race simulations were soon undergone.

Currently, with less than a week to go to conference, the stands, cutaway and final product are being worked on all day every day during spring break to polish off the canoe and the presentation.

Concrete Bowling

By: Clint Bannout

We kicked off this quarter with some rather sad news: concrete horseshoes was cancelled at PSWC 2014. This shifted our focus to concrete bowling. This year, the competition will include a skit that complements the bowling ball's theme. After successfully casting the ball at the beginning of the quarter, we started to write up a skit as we fine-tuned our bowling skills. Hopefully the originality of our skit, the bowling ball's mix, and our bowling skills will lead us to first place at competition.



LEFT: Karan Patel, Tom Wissel, and Ariel Siegel painting the black triangles onto the ball after the orange basecoat has dried from the previous week.

RIGHT: Alicia Pednault sands the ball after the finger holes have been drilled by Concrete Bowling PM, Clint Bannout.



LEFT: Karan Patel watching from a distance as he hits yet another pin during some precision accuracy bowling practice.

Environmental Design

By: Daniel Brehm

The Environmental Design team began working this quarter as soon as we got our competition rules. These rules described a water treatment scenario where there is water contaminated by both nitrates and phosphates and the rules gave us guidelines on how we could treat this water. In the rules the biggest obstacles we faced were a 2 hour time limit for our design to successfully treat the water and a rule stating that we could not interact with our device while it was treating the water.

We spent the first workdays of the quarter brainstorming and getting the proper safety training because we realized we were going to need a lab to do our testing properly. Once we had some experiments to perform, we used Professor Lau's lab which she generously let us use under her supervision. Our first test was to determine the effectiveness of coagulation and flocculation on the removal of phosphate and nitrate in our water. We found that phosphate formed flocs which could be removed from the water easily but we also determined that the nitrates remained dissolved in the water and couldn't be removed this way. The next major development for the project this quarter came from the help of Dr. Kendall who advised us on some alternative methods and even helped us get the devices we'd need for these ideas.

We combined his ideas with what we had and once again did some lab testing to see if we could remove both chemicals from the water with our improved design. This design ended up being our final design with just a few additional tweaks. It involved a two phase system to treat the water where the first phase removes phosphate and the second removes nitrates. In the first phase water is cycled through a device filled with ferric oxide and activated carbon for about an hour to ensure that all of the water goes through treatment. The second phase uses the remaining time of our 2 hours to pump the water through an ion exchange resin that specifically targets nitrates in water for removal. Hopefully everything goes according to plan at conference and we can come home with a win!

GeoWall

By: Sean Munter

The UCLA GeoWall team spent winter quarter getting their hands dirty in preparation for the GeoWall national competition that took place on February 24 at the ASCE Geo-Institute Geo-Congress in Atlanta, GA. Team members this year included civil engineering students Clint Bannout, Michael Daciolas, Rhonda El-Hachache, and Sean Munter. The first day of the quarter was the deadline for GeoWall design report submission. The team waited in suspense to hear the results of the design report review, as invitation to the national competition was based purely on the design report. After weeks of waiting, the team was thrilled to hear that their report had been ranked in the top 8. This meant that not only did they get to attend the national competition, but they also received a \$1,000 travel grant and waived conference registration fees.

Throughout the quarter, the team had workdays which consisted of constructing and testing various paper retaining walls. Progress was made by making slight modifications to the original design which were based on the performance of each wall test. The goal of these tests were to improve design and construction methods in order to minimize the wall's reinforcement weight while still being able to withstand the loads specified in the competition guidelines. A GoPro® video camera was utilized during this process to record the loading stages of each test wall so that the wall's performance could be watched later on in slow motion.

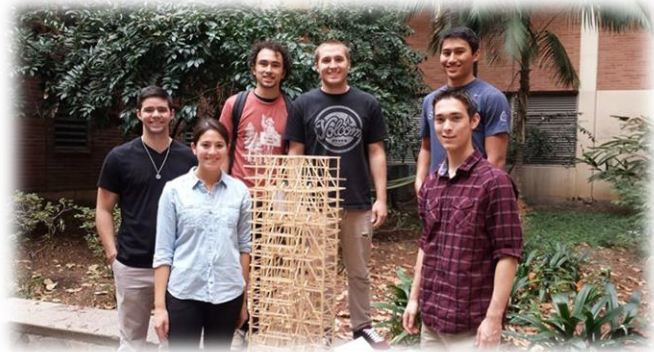
At the national competition, the UCLA GeoWall team placed 11th overall. Their overall score was damaged because their wall unexpectedly failed during one of the loading stages during the competition. The team is currently revising their design and construction methods and plans to improve performance significantly for their ASCE regional conference competition in spring quarter.

Seismic Design

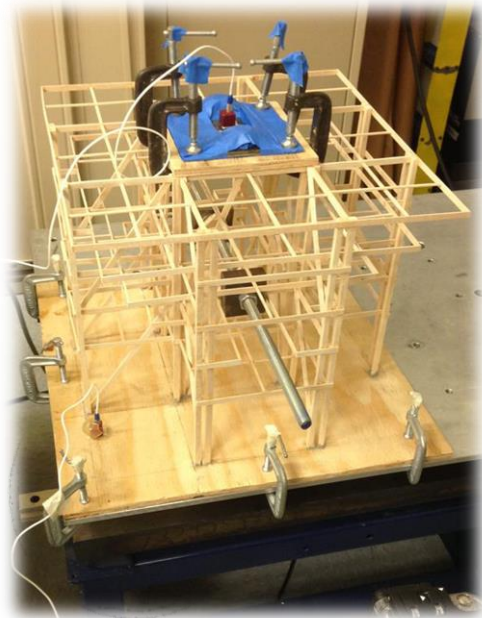
By: Norman Chak

Seismic Design had a very hectic quarter, finalizing the design of the final structure. Our hard work paid off, and our design proposal won a top 10 ranking! We also successfully designed, built, and analyzed several small prototype structures. We split our project into three teams with each one tasked with creating their own structure.

These structures were about a foot tall and took several weeks to build. Afterwards, they were subjected to ground motions from a shake table. The lab testing gave us data to compare the real structures with our computer models we created in SAP2000. Our computer models were decently accurate, and will be further refined for the final structure.



ABOVE: One of the three seismic groups standing with the tower they had to model in google sketchup and then create a four story prototype.



LEFT: The prototype created from the group shown above. The prototype was loaded with weight and accelerometers for shake table testing as shown.



Pictured above is the Steel Bridge Team posing with the work-in-progress bridge during a long workday.

Steel Bridge

By: Lauren Yocke

Winter quarter was a busy one for us so far; we have been working away at fabricating all of the pieces necessary to build our bridge. There will be a total of about 120 pieces which include around 150 connections, 360 bolts/nuts and countless welds. We finally finished fabrication on Monday of spring break and have been working tirelessly to get our construction time down and the bridge looking its finest (with some help of some blue and yellow paint) for competition the first weekend of April. We will be competing in San Diego on the first Saturday of April where we hope to not only win aesthetics, but have a low construction time, lightweight bridge and efficient design to withstand the competition loading.

Surveying

By: Kyle Tomita



Kyle Tomita, Surveying PM, teaches the surveying team some basic surveying techniques on UCLA's beautiful Jan Steps.

In winter quarter, the surveying team officially began teaching the curriculum of a wide variety of basic land surveying topics. Members learned how to use a level to measure elevation changes and a theodolite for measuring angle changes. The team was also introduced to topics such as completing a traverse, triangulations, and trilaterations. New for this year, the surveying team had the chance to work modern technology used in practice as well as upgraded equipment. With the help of our professional advisor, we obtained a total station, and the team learned how to use it to measure precise angles and distances.

In preparation for PSWC 2014, the surveying team has been meeting four days a week, and we are eager to represent UCLA in the ASCE Surveying competition. Along with conference, Spring Quarter will be a very eventful quarter for the surveying team. We will be holding surveying workshops for those who could not make it out to meetings in the winter where we will be re-teaching basic land surveying topics with both classroom style instruction and hands-on experience. Whether it is at conference or at one of the workshops, we hope to see some new members during Spring Quarter!

ASC 67 Construction

By: Allison Light & Lauren Yocke

We took on a big challenge this past February: sending two teams to Sparks, Nevada for ASC67, a regional construction management competition that gives schools 16 hours to complete a bid proposal. Both our mixed use and heavy civil teams charmed the industry judges, and despite our inexperience, impressed them with our natural problem solving skills. We're excited to send three teams next year and to start to learn more about the construction industry. We plan to have industry representatives host workshops during spring quarter to teach us important skills such as scheduling, plan reading and quantity take-offs. Then, during the fall, we will hopefully select an industry coach for each team and begin actual practice for the event! It will be a great way for students to get exposed to the construction management side of our degrees while pushing themselves and making bonds with their teammates!



ABOVE: Mixed Use Team poses for quick hotel hallway picture before presentation.

BELOW: Heavy Civil Team with Granite Construction (Judges/Hosts of Heavy Civil Competition).



SPRING LOOKAHEAD



- PSWC 2014 @ SDSU - 4/3 - 4/5
- ASCE General Meeting - 4/8
- Seismic Outreach, School Outreach Day - 4/10
- ASCE Blood Drive - 4/15
- W.L. Butler Office & Site Tour - 4/18
- ASCE Core Elections - 4/23
- ASCE SWE Engineering Mocktail Soiree - 4/24
- ASCE General Elections - 4/30
- Seismic Outreach Kid's Day - 5/16
- ASCE Banquet - 5/22

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Interested in joining ASCE?

...to join, simply fill out a [membership form](#) (find online on the membership page at www.asceucla.com) and turn it in with \$20 into the ASCE mail box in the Civil and Environmental Dept. Office (BH 5731). Registration comes with a free ASCE - UCLA shirt.

Regarding questions, concerns, or suggestions please feel free to contact any of the project managers or officers listed to the right.

Thank you.



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