



**CALIFORNIA STATE UNIVERSITY, LONG BEACH  
EARTHQUAKE ENGINEERING RESEARCH INSTITUTE**



# **BI-ANNUAL REPORT 2014**

**PROCEED BY:  
EERI CSULB STUDENT CHAPTER**

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# EARTHQUAKE ENGINEERING RESEARCH INSTITUTE CALIFORNIA STATE UNIVERSITY, LONG BEACH STUDENT CHAPTER 2013



Earthquake Engineering Research Institute (EERI) Student Chapter began on February 14<sup>th</sup> of 2013 at California State University, Long Beach (CSULB). The formal president of EERI, Francisca Mucientes, started the club with, who is now our current faculty adviser, Dr. Lisa Star in 2013. It was not an official club until after attending the annual Undergraduate Seismic Design Competition held at the Grand Hyatt in Seattle, Washington, from February 12<sup>th</sup> to February 15<sup>th</sup> in which we placed 24<sup>th</sup> out of 36 teams, including international teams. Alongside the president, we have the executive officers and the building team, Sia Nazaryfar, Kiko Antunovich, Richard Ngan, Selwin Leonor, Dylan Manalang, Monic Sary, Matthew Burris, Billy Basuni, and our 2013 General Members, who contributed their time to make this club happen.

In the following year of 2014, new Executive Board Members were elected and began a new tradition by adding new positions on to the executive board. We have involved ourselves in many events and attending social activities with other engineering clubs on campus. Even though, we consider ourselves as a small club, our club is slowly increasing in memberships and there are more members who are now involved with the club than before. Aside from the events on campus, we have registered our school to attend the Undergraduate Seismic Design Competition held in Anchorage, Alaska in July of 2014. Our chapter's design proposal has made it on to the top 10 schools who will be receiving funding for the trip. Our main focus for our club is to assist our members in gaining leadership experience, networking opportunity, and professional direction.

*Report By: Monic Sary*

# MAES Science Extravaganza

REPORT BY: MARY CENDANA

*Date: March 21, 2014*

*Location: California State  
University Long Beach*

*Attendance:*

*Students: 300+*

*Faculty: 10+*

*Faculty Advisor:*

*Practitioner Advisor:*

*Other: 3*

*Total Attendees: 313+*



## Activity Summary:

The Mexican American Engineering Society (MAES) Organization hosted their 5<sup>th</sup> Annual Science Extravaganza which was held at California State University, Long Beach. The science extravaganza was an all-day event that aimed to improve middle and high school students the opportunity to participate in a series of exciting, hands-on science, technology, engineering, and mathematics (STEM) based workshops and laboratory experiments. MAES insisted Engineering Earthquake Research Institute (EERI) host a seismic workshop. We decided that the best activity for our workshop was to conduct a Popsicle stick structure building workshop. We split the students into five groups each with 4 people. They were given 30 minutes to build a one story structure. After the building phase was over, we went on to the testing phase. We tested their structure by adding weights.

## Activity Assessment:

Overall the activity went well. There were groups where one student was doing all the work and others were not sure how to design the Popsicle structure. The students found that the testing phase was the most exciting because they watched their structure withstand the weight or get squished by the weights.

## Suggestions for the Future:

There are three suggestions I believe could help for the future. To ensure involvement from all of the group members, maybe we could make the building phase a relay race. There should be three phases: design phase, build phase and loading phase. The design and building phase should be 15 and then 20 minutes. Lastly, when loading the structures with the weights it would be best to have the college students add the weights and have a fence around the loading area for safety purposes.

# SWE ENGINEERING GIRLS AT THE BEACH

REPORT BY: MONIC SARY

*Date: March 7<sup>th</sup>, 2014*

*Location: California State  
University, Long Beach*

*Attendance:*

*Students: 200+*

*Faculty: 15*

*Faculty Advisor:*

*Practitioner Advisor:*

*Other:*

*Total Attendees: 215+*



## Activity Summary:

Society of Women Engineers hosted their annual Engineering Girls at the Beach event at California State University, Long Beach. Over 200 middle school girls around the local area attended the event to learn about science and engineering. Each individual engineering club were given an opportunity to display their work and taught the girls what their club is all about.

## Activity Assessment:

EERI presented their building structure and demonstrated the seismic activity on their homemade shake table. We also gave a short presentation on the process of liquefaction and what would happen if residents build their house on a saturated area. We had volunteers from American Society of Civil Engineers (ASCE) to assist us in teaching the students about the benefits they will receive if they major in engineering. This event gave our volunteers the opportunity to gain public speaking skills and leadership experience by presenting and getting involve with a large group of students.

## Suggestions for the Future:

For the future SWE Engineering Girls at the Beach event, EERI will create an activity to provide students with a more interactive experience with our volunteers. Furthermore, in terms of presentation, we will give the students the opportunity to put their hands dirty with demonstrating the process of liquefaction and shaking the table on our homemade shake table.

# FEDDE MIDDLE SCHOOL

REPORT BY: MONIC SARY

*Date: January 30<sup>th</sup>, 2014*

*Location: Fedde Middle School*

*Attendance:*

*Students: 54*

*Faculty: 1*

*Faculty Advisor:*

*Practitioner Advisor:*

*Other: 2*

*Total Attendees: 56*



## Activity Summary:

Mexican American Engineers and Scientists (MAES) hosted a Science Expo at Fedde Middle School to teach students about math and science. EERI was invited to attend this event and were given an opportunity to present a short presentation on what our club is about and what kind of involvement we do as a whole.

## Activity Assessment:

EERI presented a seismic activity on their homemade shake table and demonstrated the process of liquefaction. We also joined MAES in their dried noodle and marshmallow mini competition with the students and see who can build their structure taller that can stand for approximately 10 second. This was an exciting event due to the interaction we had with the middle school students and how much leadership experiences we have gained.

## Suggestions for the Future:

Because of a short notice, we were not able to prepare a suitable poster to show the students what we have done in the past and what our plans for the future will be. For the next science event, we will prepare more in display and host our own mini competition with the students. By giving the students more hands on interaction, it will challenge the students to think and solve problems of their own versus to presenting a speech about math and science with no interaction.

# POPSICLE STICK CHALLENGE

REPORT BY: GARY MAO

*Date: February 19, 2014*

*Location: CSULB Vivian  
Engineering Center*

*Attendance:*

*Students:30*

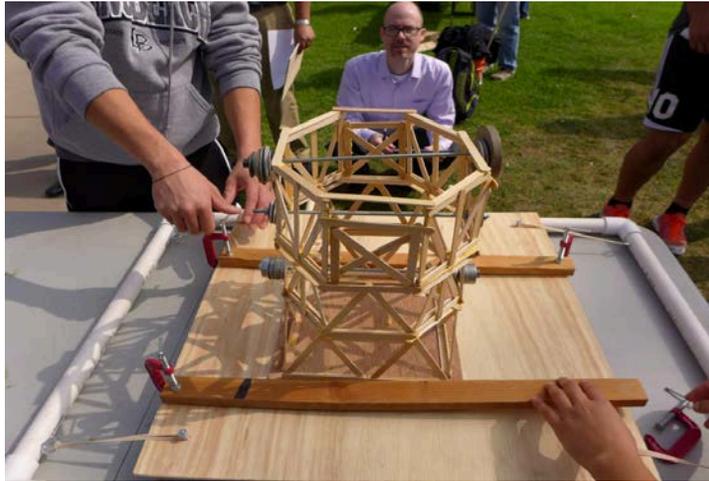
*Faculty:4*

*Faculty Advisor:1*

*Practitioner Adv.: 0*

*Other:0*

*Total Attendees: 34*



## Activity Summary:

During the Engineering Week of 2014, each engineering club on campus was in charge with hosting an activity for the members of other clubs to compete in. Our involvement with earthquake engineering only made it natural for EERI to host the “Popsicle Stick Challenge.” With an unlimited amount of Popsicle sticks and Elmer’s Glue, clubs were required to construct a structure days prior to the activity. On the day of competition, members were able to display their finishing product while the judges, manned by faculty members, took into account the amount of glue and sticks each structure contained. Using a homemade shake table and added weights, structures were tested for not only their strength and longevity, but also their stability.

## Activity Assessment:

For an activity held during a school week, the “Popsicle Stick Challenge” was very successful with a great turn out. However, even though the activity went by smoothly, there is always room for improvement. Due to conflicting class schedules, volunteers were hard to come by to host the event. Moreover, parameters for the competition can be improved and specified to make it a more understanding and enjoyable experience for the participants.

## Suggestions for the Future:

As previously mentioned, the parameters for the competition can be more specific in terms of limited amount of materials. With a lack of limitation on materials, some clubs were able to purchase more materials and spend more time in designing and constructing their structures. As for testing the structure, it was difficult to apply the loads on to the building, because of how it was structured. Due to the following reasons, we will give more detail rules and specify everything in terms of what kind of materials and how the structure should look.

*Date: May 25<sup>th</sup>, 2014*

*Location: California State  
University, Long Beach*

*Attendance:*

*Students: 16*

*Faculty: 2*

*Faculty Advisor: 1*

*Practitioner Advisor:*

*Other:*

*Total Attendees: 20*



# TWINING INC PRESENTATION

REPORT BY: MICHAEL BECERRA



## Activity Summary:

On Tuesday May 25<sup>th</sup>, 2014 we held the 2<sup>nd</sup> general body meeting, where we had 20 students who attended. The main event was the attendance of Roger and Nadim who represented Twining Inc, who specialize in Geotechnical services. Jim, the main speaker, gave student members insight on what kind skill is needed in this field and what kind of working atmosphere Twining employees can expect. Jim also talked about how foundation design is important when considering seismic forces and how they go about designing different foundations for those applications. Apart from networking with JIM and his colleagues, information on the seismic competition was distributed to the members. In addition, delegation on the construction of the seismic competition structure was presented and roles were assigned to student members in preparation for the next phase.

## Activity Assessment:

The meeting was very successful and many students receive valuable information. Many students who favor the geotechnical field asked many questions and were very curious about the company and how they ran their office. Students were interested to hear about the type of foundations they do. Also, the president delivered the information clearly, with an enthusiastic attitude that reflected on the attendees' participation during the presentation.

## Suggestions for the Future:

In the future, it's recommended that time is set aside to accommodate more Q&A, seeing as students are very interested to hear from professionals. In addition, it's suggested that there be a better location for the meetings, since the presentation space is limited and the guest speakers may feel cramped, although there has not been any complaints thus far.