

2016-2017 ANNUAL REPORT

California State University of Sacramento Student Chapter

of the Earthquake Engineering Research Institute

Report Date: June 05, 2017



This report summarizes the membership and activities conducted by the California State University, Sacramento Student Chapter of the Earthquake Engineering Research Institute during the 2016-2017 academic year.

MISSION & GOALS

The primary purposes of EERI at California State University, Sacramento are the following:

- to educate students about earthquake hazards through guest speakers and access to resources maintained by the student chapter.
- to provide an opportunity for students interested in earthquake hazard reduction to meet and exchange ideas.
- to participate in the undergraduate seismic design competition.

MEMBERSHIP

The California State University, Sacramento Student Chapter had a total of 26 members in 2016-2017.

OFFICERS

The Board consisted of the following members:

| Role | Name | EERI Member Number | Email | Student Status |
|----------------|---------------------|--------------------|-------------------------------|-----------------------|
| President | Tashly Covington | 18885 | tashly_23@yahoo.com | Undergraduate student |
| Vice President | Angelica Zarate | | zarate.angelica1201@gmail.com | Undergraduate student |
| Treasurer | Yanjinkham Batbayar | 18889 | batbayar@csus.edu | Undergraduate student |
| Secretary | Jasraj Singh | | jasrahsing20@gmail.com | Undergraduate student |
| Historian | Kylie Ahlstrand | 18183 | kylie.ahlstrand@gmail.com | Undergraduate student |

Board meetings were held twice a semester as needed. Board meetings were used to plan events such as general meetings, special events, and the EERI SDC 2017 trip.



President
Tashly Covington



Vice President
Angelica Zarate



Treasurer
Yanjin Batbayar



Historian
Kylie Ahlstrand



Secretary
Jasraj Singh

FACULTY & INDUSTRY ADVISORS

Faculty Advisor: Julie Fogarty
Email: fogarty@csus.edu

Industry Advisor: Fred Turner
Email: turner@stateseseismic.com

MEMBERS

A complete list of members is shown below.

| Name | EERI Member Number | Email | Student Status |
|-----------------|---------------------------|---------------------------|-----------------------|
| Kylie Ahlstrand | 18183 | Kylie.ahlstrand@gmail.com | Undergraduate student |
| Ashley Arreola | | ashleyarreola@csus.edu | Undergraduate student |
| Sobia Arshad | | sobiaarshad@csus.edu | Undergraduate student |
| William Avalos | | williamavalos@csus.edu | Undergraduate student |

| | | | |
|---------------------|-------|-------------------------------|-----------------------|
| Yanjinkham Batbayar | 18889 | batbayar@csus.edu | Undergraduate student |
| Tashly Covington | 18885 | tashlycovington@csus.edu | Undergraduate student |
| Alvaro Herrera | | alvaro17correa@gmail.com | Undergraduate student |
| Dennis Hon | | dennishon@csus.edu | Undergraduate student |
| Adriana Iniguez | | adrianainiguez@csus.edu | Undergraduate student |
| Zeshan Iqbal | | zi37@csus.edu | Undergraduate student |
| Kyle Lundblom | | kylelundblom@csus.edu | Undergraduate student |
| Richard Ly-Lee | | richardly-lee@csus.edu | Undergraduate student |
| Roberto Macias | | robertomacias@csus.edu | Undergraduate student |
| Martin Martinez | | rmartinez@csus.edu | Undergraduate student |
| Daniel Melnik | | danielmelnik@csus.edu | Undergraduate student |
| Martin Mercado | | mam567@csus.edu | Undergraduate student |
| Lue Moua | | luesuemoua@csus.edu | Undergraduate student |
| Kenny Nguyen | | kennynguyen@saclink.csus.edu | Undergraduate student |
| Lan Nguyen | | nttlan266@gmail.com | Undergraduate student |
| Jeremy Nottnagel | | jeremynottnagel@csus.edu | Undergraduate student |
| Nancy Ortigoza | 18950 | nancyortigoza04@gmail.com | Undergraduate student |
| Amara Otgonbayar | | amara.otgonbayar@gmail.com | Undergraduate student |
| Jasraj Singh | | jasrahsing20@gmail.com | Undergraduate student |
| Francisco Rodriguez | | frodr06@gmail.com | Undergraduate student |
| Phillips Tuyen | | phillipstuyen@csus.edu | Undergraduate student |
| Angelica Zarate | | zarate.angelica1201@gmail.com | Undergraduate student |
| David Zermeno | 18813 | dz277@csus.edu | Undergraduate student |

BUDGET & FINANCIALS

The following is a list of the budget for 2016- 2017:

| Expense | Amount |
|----------------|---------------|
| Travel | \$1000 |
| T-Shirts | \$200 |
| Registration | \$500 |
| Food | \$400 |
| Supplies | \$1000 |
| Misc. | \$100 |
| Total | \$3200 |

FRIEDMAN FAMILY VISITING PROFESSIONAL

April 12th, 2017

| TIME: | ACTIVITY: |
|-------------------|--|
| 5:30 PM – 6:00 PM | Student Chapter President meets & welcomes Visiting Professional to campus |
| 6:00 PM – 7:00 PM | Richard Eisner lectures on Managing the Risk of Compound Disasters |
| 7:00 PM – 7:30 PM | Elections for next year's board takes place |
| 7:30 PM – 8:00 PM | Debrief of competition by attendees and board. Competition results and improvements for next year are discussed. |

Richard Eisner, an architect, urban planner, and urban designer, spoke to the students about managing the risk of compound disasters. He showed multiple videos of earthquake occurrences that caused tsunamis, and methods that have worked in other areas to mitigate risk of loss of life. It was shown how some preparations for managing risk is inefficient, and sometimes worsens a situation. Structures are not the only thing to take into consideration in preparation for an earthquake.

Managing Risk of Compound Disasters

- Introduction to Compound disasters
- Effects on the community due to compounding disasters
- Catastrophic events require holistic approach
- Using resources for benefit of all
 - governments
 - private sector
 - non-government organizations (NGO)
 - community organization

College of Engineering and Computer Science Fall Rally

September 15th, 2016

The main purpose of this event was to recruit new members to the club. All engineering or computer science clubs participated in this event, and students who attended were matched with the top five clubs that matched their personal interests. Three EERI members helped run a booth to answer questions for prospective members, and about four new members joined during this event.

Future Engineers Day

December 9th, 2016

EERI and PCI co-hosted an event that hosted over 80 elementary students. With the help of 10 EERI and PCI student members, a competition was created for the children. The children created structures out of K'Nex,

and then tested on the shake table. The children were excited to have a hands on project and were able to come up with very creative solutions.

Engineering Expo

March 11th, 2017

Five members help run a booth at the Engineering Expo at Sacramento State University. The booth showed off our structure and poster from the Seismic Design Competition 2017. The booth also had K'Nex for the children to play with. The purpose of the event was to showcase the major engineering projects at Sacramento State University. The event also consisted of outreach to encourage children to study STEM majors.

SEISMIC DESIGN COMPETITION TEAM

Our SDC team spent numerous hours toward our efforts in the competition. We started with preparing a proposal diligently to secure our spot in the competition. We also sought out sponsors for the competition by presenting at EERI Chapter Meetings. Every week we broke up into groups and would work towards bringing the project together to create a structure that could withstand a simulated earthquake. We performed material testing, simulated testing, and shake table testing. Project management enabled a team dynamic that brought the project together for the 2017 SDC.

SDC Team Members

A complete list of members is shown below.

| Name | EERI Member Number | Email | Role |
|---------------------|---------------------------|------------------------------|--|
| Kylie Ahlstrand | 18183 | Kylie.ahlstrand@gmail.com | Presentation Lead |
| Ashley Arreola | | ashleyarreola@csus.edu | Structural Design Lead, Proposal Lead |
| Sobia Arshad | | sobiaarshad@csus.edu | Sketch Up Artist |
| Yanjinkham Batbayar | 18889 | batbayar@csus.edu | Calculation Lead |
| Tashly Covington | 18885 | tashlycovington@csus.edu | Presenter, Member |
| Dennis Hon | | dennishon@csus.edu | Laser Cutting Assistant |
| Alvaro Herrera | | alvaro17correa@gmail.com | Member |
| Adriana Iniguez | | adrianainiguez@csus.edu | Member |
| Zeshan Iqbal | | zi37@csus.edu | Poster and T-Shirt Lead |
| Roberto Macias | | robertomacias@csus.edu | Member |
| Martin Martinez | | rmartinez@csus.edu | Member |
| Daniel Melnik | | danielmelnik@csus.edu | Member |
| Martin Mercado | | mam567@csus.edu | Member |
| Kenny Nguyen | | kennynguyen@saclink.csus.edu | Member |
| Nancy Ortigoza | 18950 | nancyortigoza04@gmail.com | Presenter, Member |
| Francisco Rodriguez | | frofr@gmail.com | Member |
| Jasraj Singh | | jasrahsing20@gmail.com | Structural Analysis Lead |

| | | | |
|-----------------|-------|-------------------------------|--|
| Angelica Zarate | | zarate.angelica1201@gmail.com | Presenter, Member |
| David Zermeno | 18813 | dz277@csus.edu | Project Manager, Construction Lead, Presenter |

SDC Team Financial Sponsors

A list of financial sponsors for the SDC team.

The following is a list of financial sponsors for California State University, Sacramento Student Chapter:

| Sponsor Name/Organization | Contact Person | Amount |
|---|--|---------------|
| Fred Turner | -- | \$500 |
| Jennifer Thornburg | -- | \$500 |
| Northern California EERI Chapter | Zahraa Saiyed, Campus Liaison | \$300 |
| IRA Funding (Associated Student, Inc.) | Lisa Dalton, Executive & Board Associate | \$1,337.15 |
| DOC Funding (California State University, Sacramento) | Dr. Kevan Shafizadeh, Associate Dean of Engineering and Computer Science | \$500 |
| National Championship Fund | Lisa Dalton, Executive & Board Associate | \$800 |

| Name | Email | Amount |
|----------------------------------|-------------------------|---------------|
| Fred Turner | turner@stateseismic.com | \$500 |
| Jennifer Thornburg | | \$500 |
| Northern California EERI Chapter | chapterinfo@eerinc.org | \$300 |

Team results and lessons learned

Our SDC team ranked 25 out of 33. We survived all three ground motions. We received a communication score of 72.4%, architecture score of 56.3%, total error in analysis predicted score of 100%, final annual seismic cost of \$361,093, and a final annual building income of \$332,155. This was our second year competing in the SDC competition, and we have learned a lot about how we should improve for the next competition. Future improvement will consist of a more thorough analysis of the competition rules in building restraints, due to calculations being incorrect this year.

As a team, we learned how to organize project management through time management skills and how to construct more efficiently. We hope to use this knowledge to improve of structure for next year's competition.



ELECTION & ELECTION RESULTS

An election for officers for the 2017-2018 academic year was held in April 2017. The table below shows the new officers appointed to the Chapter board who will take office on August 2017.

| Role | Name | EERI Member Number | Email | Student Status |
|----------------|---------------------|--------------------|---------------------------|-----------------------|
| President | Kylie Ahlstrand | 18183 | kylie.ahlstrand@gmail.com | Undergraduate student |
| Vice President | Adriana Iniguez | | notadriana@gmail.com | Undergraduate student |
| Treasurer | Lan Nguyen | | nttlan266@gmail.com | Undergraduate student |
| Secretary | Francisco Rodriguez | | frodr06@gmail.com | Undergraduate student |
| Historian | Alvaro Herrera | | alvaro17correa@gmail.com | Undergraduate student |

LIST OF ATTACHMENTS

Included at the end of this report are various attachments to supplement the information included above. A list of the attachments is included below:

- Item 1, Flier for Fall Rally

