

Oregon State University

ANNUAL REPORT 2020
AMERICAN SOCIETY OF CIVIL ENGINEERS
STUDENT CHAPTER

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Executive Officers

April 2019 – March 2020



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Secretary: Mila Gaston
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Executive Officers

April 2020 – March 2021



President: Mila Gaston
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Treasurer: Quaid Ebanks
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Mission Statement

“The objectives of the OSU ASCE Student Chapter are the advancement of the art and science of engineering, the professional improvement of its members, the encouragement of civil responsibility of its members and the encouragement of professional and social interaction between students of civil engineering and between such students and practicing engineers.”

Goals and Objectives

1. Have 75% of Student Members be National ASCE Members
2. Complete 8 Service Projects
3. Qualify Concrete Canoe Team for Nationals
4. Hold at least 12 Speaker Meetings
5. Achieve National Recognition for Annual Report
6. Hold 7 Joint Events with other Clubs on Campus

Have 75% of Student Members be National Members

Detailed Description of Goal:

Have 75% of the total number of student chapter members during the year be national members of ASCE.

Action Plan:

In 2020, we continued to focus on reaching out to the underclass students and informing them about the opportunities of ASCE after graduation. The Engineering+ recruiting event and communications with the local YMG chapter contributed to this effort.

Have 75% of Student Members be National Members

Assessment: Not Achieved

Total student chapter membership in 2020 was 266 and national student membership was 125, 47% of the chapter membership.

Follow-up:

There are 3 aspects of registration: joining a student club on campus, paying chapter dues to join the chapter, and joining ASCE national. We will continue to integrate these steps in 2021 while emphasizing the benefits of joining ASCE national for free. The membership portion of the student chapter's website was modified in 2020. Extra effort will be made to recruit graduate students through our SEI activities. Many of these come to OSU as national student members.

Complete 8 Service Projects

Detailed Description of Goal:

Perform 8 community service projects and outreach efforts.

Action Plan:

Increase the total number of design and construction projects. Officers will reach out to new sources of volunteers in the chapter, especially underclassmen. Continue the successful Habitat for Humanity projects and outreach to local schools.

Complete 8 Service Projects

Assessment: Not Achieved

3 projects were completed by ASCE in 2020: the Restore project for Habitat for Humanity, Jacobs/OSU High School Bridge Contest, and Advocates for Women in Science and Engineering(AWSEM) Math Outreach.

Follow-up:

Due to COVID-19, the chapter was unable to meet our goal. The student chapter is still actively working to plan service projects in the future with the ITE and AGC student chapters on campus. We have also communicated with Engineers Without Borders. Efforts with all of these groups have been completed in the past.

Qualify Concrete Canoe Team for Nationals



Detailed Description of Goal:

Concrete Canoe team to place 1st at PNW Student Conference and qualify for the national competition.

Action Plan:

The captains focused on weaknesses in previous contests: refining the construction process, improvements in mix design and improving racing/paddling for the canoe.

Qualify Concrete Canoe Team for Nationals



Assessment: Not Achieved

The team was unable to compete at the Pacific Northwest Student Conference in 2020 due to COVID-19 concerns.

Follow-up:

In 2020-21, the concrete canoe team is focused on maintaining student involvement while refining their concrete mix and hull design. The team is competing remotely in 2021 and is excited to hopefully compete in person again in 2022.

Host at least 12 Speaker Meetings



Detailed Description of Goal:

12 professional speaker meetings, including industry practitioners and researchers/professors to discuss projects and the CE profession.

Action Plan:

The plan for the year was to keep a successful speaker program going in spite of COVID. In 2019, 15 speaker meetings were held, including jointly-sponsored ones. We will invite these speakers to return while seeking new ones in more varied disciplines. A new tracking system is now maintained by the VP to better manage speaker meetings.

Host at least 12 Speaker Meetings



Assessment: Achieved

13 speaker meetings/joint speaker meetings were held during 2020 (including ethics topics and jointly-sponsored meetings with other clubs). Despite the pandemic, companies were very willing to hold speaker meetings virtually through Zoom.

Follow-up:

The plan for 2021 is to maintain the quality of meetings and continue to increase the variety of disciplines involved. We will invite firms and agencies to speak virtually to our chapter about current projects or internship and permanent position opportunities they have available. We will continue to record meetings and attendance immediately into the ASCE online system.

Earn National Recognition for Annual Report

Detailed Description of Goal:

Prepare an annual report that highlights the chapter's accomplishments effectively and in a clear and concise format and receive recognition with a Certificate of Commendation.

Action Plan:

The Secretary will work on the membership roster and collection of activity and project reports throughout the year. We will also organize regular executive officer meetings to keep everyone informed and working together as a group.

Earn National Recognition for Annual Report

Assessment: Achieved

Earned 2020 Letter of Commendation for the 2019 annual report.

Follow-up:

We will continue to improve the recording of activities during the year by using the ASCE Annual Report Portal. We will also work to expand community service efforts by including students who are not involved in ASCE in other ways. Improve the membership recruiting process at general meetings (remote and in-person hopefully in fall term) to have all OSU student chapter members become national members.

Chapter Recognition

The OSU ASCE Student Chapter was first established in 1921, and only six other student chapters are older. They were established in 1920. We have been recognized consistently as one of the top chapters in the country:

Certificates of Commendation (1972, 1978, 1979, 1987, 1992, 1993, 1994, 1995, 1996, 1998, 2002, 2003, 2004, 2005, 2006, 2008, 2011, 2013, 2015, 2018, 2020) for the annual report of the prior year.

Letters of Honorable Mention (1999, 2000, 2001, 2007, 2009, 2010, 2012, 2016, 2017, 2019) for the annual report of the prior year.

Outstanding Community Service Award (1996)

Service Certificate of Commendation (2004 and 2008)

Service Award (2010)

Distinguished Chapter Award for Region 8 (AK, AZ, HI, ID, MT, OR, UT, WA) (2014)

Richard J. Scranton Outstanding Community Service Award (2014) & Finalist (2016)

Hold 7 Joint Events with other Clubs on Campus



Detailed Description of Goal:

Hold at least 7 social, professional or service events with a number of other student groups on campus.

Action Plan:

Expand our set of collaborative activities with groups outside ITE and the AGC student chapter, such as: Women in Science and Engineering, Society of Hispanic Professional Engineers, EERI, COPRI, and the SEI Student Chapter. These activities will broaden perspectives for our current and future members.

Hold 7 Joint Events with other Clubs on Campus



Assessment: Not Achieved

The chapter had 4 joint activities with AGC, ITE, EERI, and AWSEM. These events were speaker meetings. It was more difficult to plan joint events with the virtual nature of this school year.

Follow-up:

The continuing goal is to work with more groups on campus and expand the number of joint speaker meetings (Zoom and hopefully in-person in the fall) and other activities. These would include community service and be especially directed at minority and women students.

Popular Meetings and Activities

- Speaker Meetings
- ASCE Ski Trip
- ASCE General Meetings
- Engineering + Expo
- District Offices Field Trip
- SEI Equilibrium Engineers Field Trip
- Concrete Canoe
- Structural Engineering Institute

Speaker Meetings

OSU ASCE organizes numerous speaker meetings with local civil engineering firms and agencies for students to attend! These speaker meetings allow companies to showcase their latest projects and technologies, while also providing student networking opportunities. The speakers included TriMet, Stacy & Witbeck, Kiewit, and ODOT.



ASCE Ski Trip

7 ASCE members enjoyed a ski trip to the Cascades. Some were seasoned skiers, and some had never tried it before.



This trip was an exciting new team building expedition and is one we hope to repeat in future years.



District Offices Field Trip

16 students attended a trip led by KPFF and Hacker Architects on February 8th, 2020 to see this local project. The newly constructed district office is a 6-story cross laminated timber (CLT) building.

Using sustainable materials and built with a smaller carbon footprint than traditional steel or reinforced concrete framing, this was a building of high interest to OSU students. OSU has an outstanding Wood Science and Engineering program!



Equilibrium Engineers Field Trip

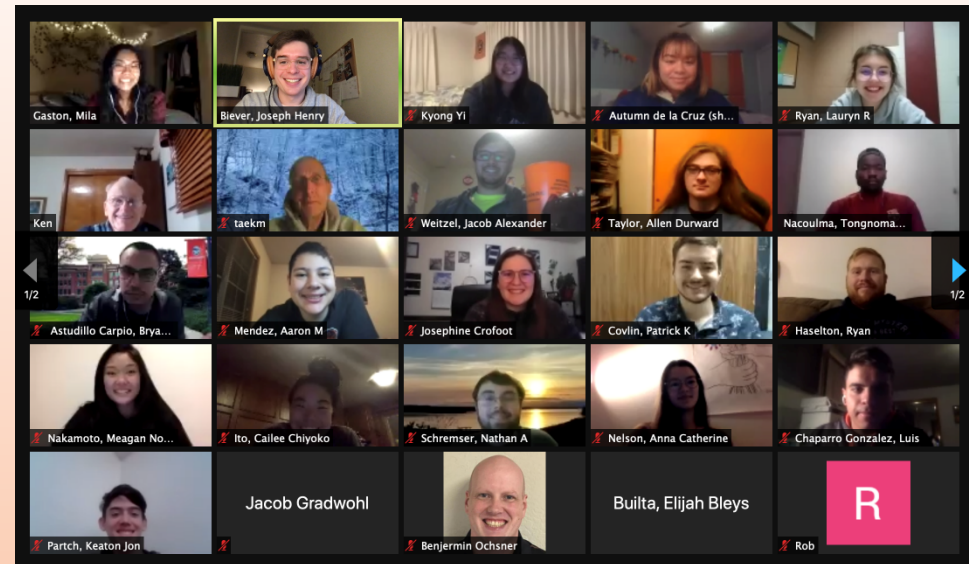
On February 1st, 2020, 14 students visited Equilibrium Engineers near Portland. Equilibrium Engineers is a small structural engineering firm with many diverse projects ranging from the Oregon Zoo buildings to transportation projects with complex structural demands.



ASCE General Meetings

While ASCE general meetings are usually in person, our chapter had to adapt to the online world.

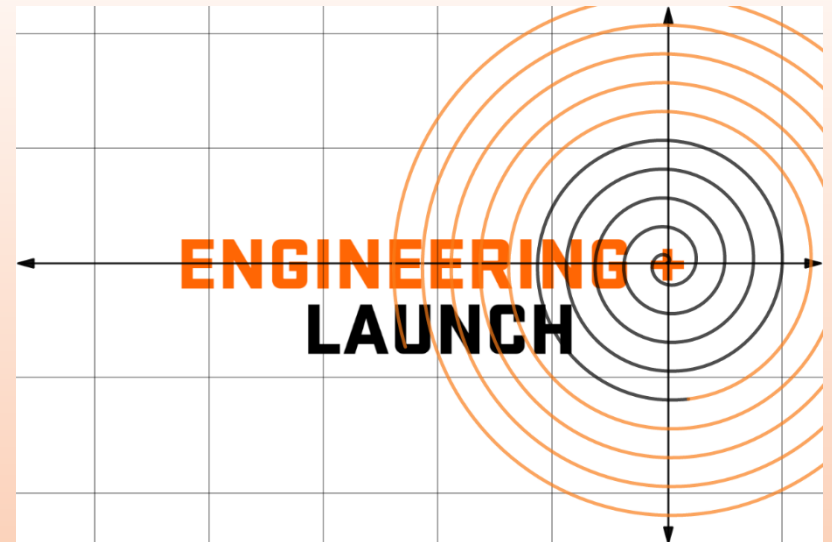
The President and officers ran Zoom general meetings, with games and incentives/small prizes for participants. OSU ASCE officers created Kahoot! Quizzes on our chapter's history as well as general ASCE facts which were very popular.



OSU Engineering+ Club Event

The OSU Engineering + club fair takes place during the beginning of fall term. Here, all Oregon State engineering clubs present their projects and recruit students. During normal years, this is known as cookies and clubs, but due to COVID-19, this club fair was virtual.

Both our Concrete Canoe Team and our ASCE chapter had meeting rooms where new students could ask questions about our organization.



Concrete Canoe

This past year OSU's concrete canoe team built *Vinifera* – an 18 ft long and 230 lb canoe. In order to incorporate more sustainable practices, the team used cork as an aggregate and used organic additives. The team decided to create two full sized canoes to have a better final product for conference.

Due to COVID-19, the final canoe was never finished. However, the team was careful to document and record everything we learned from *Vinifera*, which was a productive year for OSU concrete canoe.



Structural Engineering Institute (SEI)



Goals:

- Expose students to a variety of structural engineering companies and career opportunities to inspire passion about the field of structural engineering.
- Connect students (especially graduate students) with professionals within the structural engineering community to build a professional network.

2020 Events

- Speaker Meetings
 - Equilibrium Engineers
 - Catena Consulting Engineers
 - SEI Lecture – Don Dusenberry on the future of performance-based design
 - Broadcasted to engineering firms throughout Oregon
- Field Trips
 - KPFF – District Offices
 - Equilibrium Engineers Headquarters



**STRUCTURAL
ENGINEERING
INSTITUTE**

Graduate Student Chapter

Cancelled Meetings

COVID-19 prevented OSUASCE from executing many of our plans for the 2020 year. Some additional activities we would have in a normal year would be:

- Toy Drive
- Adopt-a-Highway
- Bowling night
- End of Year Picnic
- ASCE buddies
- Movie Viewing
- PNW Student Conference
- Meet-A-CE Day
- Officer Retreat

Despite the Pandemic, however, ASCE has many activities within the first few months of 2020, and continued to stay connected through platforms such as Canvas and Zoom.

The photograph shows a classroom setting during a presentation. Two women are standing at the front of the room, facing an audience. A large screen displays a presentation titled "Hull Design" with two slides. The left slide shows a diagram of a hull cross-section and a list of bullet points. The right slide shows a diagram of a hull cross-section and a list of bullet points. The audience is seated in rows of chairs, facing the front of the room.

Slide 1 (Left):

- 22 Series Machine 2000s
 - 1" topcoat, 1/2" base coat
 - 100% organic (epoxy, unsaturated polyester)

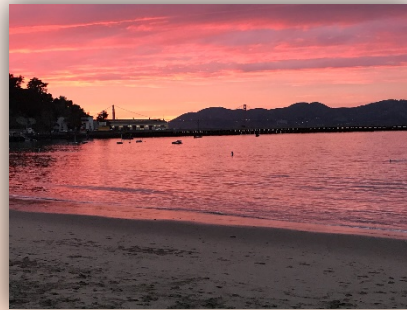
Slide 2 (Right):

- 22 Series Machine 2000s
 - 1" topcoat, 1/2" base coat
 - 100% organic (epoxy, unsaturated polyester)



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Workshop for Student Chapter Leaders (WSCL) 2020



- Six of our ASCE student leaders attended the Workshop for Student Chapter Leaders, which for Region 8 was in San Francisco, January 24-25th, 2020.
- Members in attendance were Kyong Yi, Maura Patterson, Mila Gaston, Erick Moreno-Rangel, Ryan Boyd, Joey Biever and Dr Miller.
- During break time, Our ASCE members took a tour of the city to see the architectural history!

Community Service Projects

- Habitat for Humanity – ReStore
- Jacobs/OSU Model Bridge Contest
- Advocates for Women in Science, Engineering, and Math (AWSEM) Outreach

Habitat for Humanity – ReStore



DESCRIPTION

ASCE student members helped with a Habitat for Humanity ReStore project. The ReStore facility is located on Philomath Blvd in Corvallis. We processed donations, organized, cleaned and created displays on 02/15/20. Student members were exposed to different kinds of building materials like steel, wood, CMU blocks, and also water and electrical equipment.

Habitat for Humanity - Restore

PROJECT IMPACT

ASCE student members gave back to the community and processed donations that can be used for building homes for hard working families in the community and also helped make the ReStore a great place for shopping.

PARTICIPATION

26 OSU students and the ASCE faculty advisor participated for the **90 person-hour project.**



Jacobs/OSU High School Bridge Contest

DESCRIPTION:

The 51st annual contest occurred on February 22nd from 7:00 AM to 3:00 PM in Owen Hall on OSU's campus. High school students competed to design the most efficient bridge based on the ratio of the load carried to the weight of the bridge. Participants learned and observed structural behavior concepts such as tension and compression and the importance of good connections and how they affect design.



Jacobs/OSU High School Bridge Contest

PROJECT IMPACT:

The competitive atmosphere inspires students to improve from the following year. 154 bridges were tested, and the most efficient bridge carried 3,026 times its own weight of 9.7g. ASCE and Jacobs planned to expand its outreach to new high schools in 2021, but COVID cancelled the contest.



PARTICIPATION:

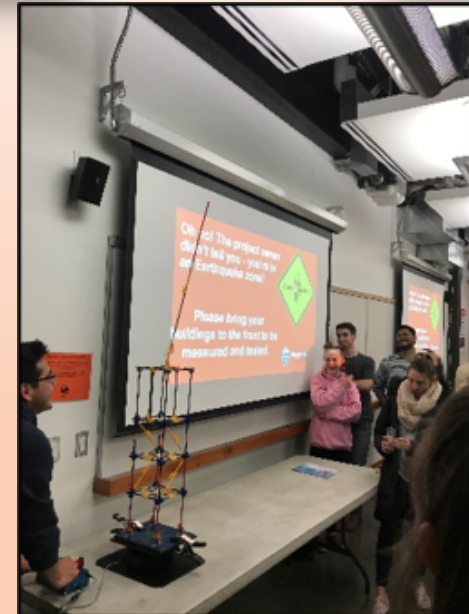
68 high school students and 25 teachers and parents attended. 5 Jacobs volunteers, **44** OSU student volunteers and three ASCE advisors and engineering faculty contributed **100 person-hours**. The students in Oregon State's wood design class participated as well. Students from 6 local high schools attended the event.



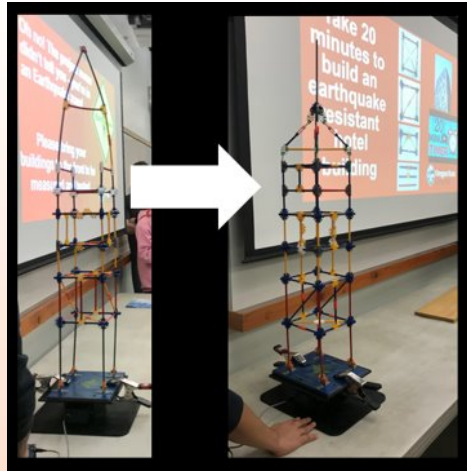
Advocates for Women in Science, Engineering, and Math (AWSEM) Outreach

DESCRIPTION

OSU civil and construction engineering students, volunteering from multiple professional organizations (ASCE, SEI, EERI, AGC), taught middle school- and high school-aged girls (part of the AWSEM club) about (2/11 & 2/12/2020). The students were given K'nex building toys to design and build the tallest structure within given parameters. Then, the structure was tested on the shake table. A lecture on seismic engineering concepts was given, followed by a redesign of the structure and another round of testing the designs on the shake table.



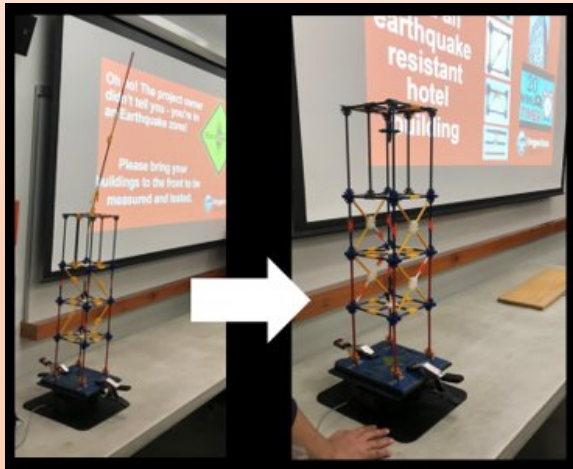
Advocates for Women in Science, Engineering, and Math (AWSEM) Outreach



PROJECT IMPACT

Students were taught about the responsibilities of a civil engineer and some earthquake engineering concepts, while providing them with a fun activity.

Student volunteers gained experience in public speaking, learning to communicate engineering ideas in easily understood language, and gave them an opportunity to give back to the community.



PARTICIPATION

5 OSU ASCE and SEI student members participated for a total of **10 person-hours** in the execution of the two events.

Summary and Questions

Significant Events:

- Equilibrium Engineers Field Trip
- District Offices Field Trip
- Catena Consulting Speaker Meeting
- Practice Concrete Canoe Conference



Significant Challenges:

- Recruitment of freshmen and sophomores
- Attracting students to Zoom meetings
- Outreach to new members
- Concrete Canoe remote participation

