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# Oregon State University

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ANNUAL REPORT 2022  
AMERICAN SOCIETY OF CIVIL ENGINEERS  
STUDENT CHAPTER

# Contact Information

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*Oregon State University ASCE Student Chapter*  
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(only accessible to OSU enrolled students)

# Executive Officers

April 2021 – March 2022



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# Executive Officers

April 2022 – March 2023



**President:** Daisy Mulligan  
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# Advisors

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# Chapter Recognition

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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:

Distinguished Chapter Award for Region 8 (AK, AZ, HI, ID, MT, OR, UT, WA) (2014, 2021 and 2022)

Certificates of Commendation (1972, 1978, 1979, 1987, 1992, 1993, 1994, 1995, 1996, 1998, 2002, 2003, 2004, 2005, 2006, 2008, 2011, 2013, 2015, 2018, 2020, 2021, 2022) 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)

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

# Mission Statement

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“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

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1. Have 75% of Student Members Registered as 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 Registered as National ASCE Members

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## **Detailed Description of Goal:**

Have 75% of our student chapter members hold and maintain national ASCE membership.

## **Action Plan:**

In 2022 we will continue focusing on reaching out to underclassmen and informing them of the benefits and opportunities of an ASCE membership. Attending OSU's Cookies and Clubs Event and Beaver Community Fair will contribute to this effort.

# Have 75% of Student Members Registered as National ASCE Members

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## **Assessment: Did not achieve**

Total student chapter membership in 2022 was 165 and national student membership was 92, for 56% of the chapter membership.

## **Follow-up:**

Encourage faculty members to promote student clubs more in their classes. Hold a freshmen introductory meeting or social event early in Fall term. Extra efforts will be made to recruit graduate students through ASCE-Structural Engineering Institute (SEI) activities.  
Members.

# Complete 8 Service Projects

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## **Detailed Description of Goal:**

Perform 8 community service projects and outreach efforts.

## **Action Plan:**

Increase the total number of both 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

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## **Assessment: Did not achieve, 63% of goal**

5 projects were completed by ASCE in 2022: Jacobs Bridge Contest (with local high schoolers); establishment of Engineers in Action (EIA) chapter within ASCE, Highway Cleanup with ITE (twice); and Restore (Habitat for Humanity).

## **Follow-up:**

The chapter was unable to meet our 8-service project goal due to low engagement of our members post-pandemic. We will continue actively working to plan and perform service projects with other student groups on campus. Further development of our Engineers in Action chapter and send 3 students to Eswatini (southern Africa) this summer to construct a suspended bridge there. Increase the number of local schools that we engage with.

# Qualify Concrete Canoe Team for Nationals

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## **Detailed Description of Goal:**

Concrete Canoe team to place 1<sup>st</sup> at PNW Student Conference and qualify for national competition.

## **Action Plan:**

The captains will focus on weaknesses observed in previous contests: refining the construction process, improvements in mix design and improving racing/paddling for the canoe. Work towards making two prototypes of the canoe to test new mix design modifications and hull shapes.

# Qualify Concrete Canoe Team for Nationals



## **Assessment: Did not achieve**

The team competed at the Pacific Northwest Symposium held virtually in 2022, but unfortunately did not place. Competed in the Intermountain South-West Symposium as a guest competitor and placed 1st, 2nd, and 3rd in some races, but were not allowed to receive a final ranking. Participation was a great motivator for the team in 2023!

## **Follow-up:**

Focus on making improvements in the 2022 canoe design, maintaining involvement while refining the mix and hull design. We strive to have a competitive canoe again this year. Selected captains prior to the start of the academic year to give more time for planning and team organization. Two canoe prototypes to improve design/construction and finished product of our final canoe. Return steel bridge team to this goal as in the past, as the team is jointly sponsored by the ASCE and AISC chapters.

# 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 continue a successful speaker program after the pandemic and to return to attendance numbers similar to pre-pandemic meetings. In 2021, 17 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 was maintained by the VP to better manage speaker meetings.



# Host at least 12 Speaker Meetings



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## **Assessment: Achieved, Exceeded by 108%**

25 speaker meetings/joint speaker meetings were held during 2022 (including ethics topics and jointly-sponsored meetings). We still occasionally used online participation through Zoom to make our events more accessible, but most meetings were in-person and firms/agencies were more than happy to present at our university.

## **Follow-up:**

Maintain the quality of meetings and increase the variety of disciplines involved even more. We will invite speakers to speak both in-person and hybrid about current projects and opportunities with their firms. Continue refreshments and gift cards to encourage attendance. Encourage faculty to promote meetings by sharing our schedule at the start of the term.

# Earn National Recognition for Annual Report



## **Detailed Description of Goal:**

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

## **Action Plan:**

The Secretary will maintain the membership roster, collection of activity and project reports throughout the year. Organize regular executive officer meetings to keep everyone informed and working together as a group. Historians will attend events to help collect pictures for the report.

# Earn National Recognition for Annual Report



## **Assessment: Exceeded**

We earned the 2022 Region 8 Distinguished Chapter Award for Region 8 and Certificate of Commendation for the 2021 annual report.

## **Follow-up:**

We will continue to improve the recording of activities during the year by using the ASCE Annual Report Portal. Remind officers and chairs of our goals at the beginning of each term and encourage them to exceed rather than meet those goals. Keep a thorough track of attendance at events with a centralized digital sign-in. Strive to include freshmen and sophomores more in meetings, social events, and teams.

# Hold 7 Joint Events with other Clubs on Campus

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## **Detailed Description of Goal:**

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

## **Action Plan:**

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

# Hold 7 Joint Events with other Clubs on Campus

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## **Assessment: Achieved, exceeded by 214%**

22 joint activities with AGC, ITE, AISC, EERI, DBIA, GIGSO, and Hydrophiles - speaker meetings and community service projects. Began a new tradition of inviting all CCE clubs for a club interest meeting, hosted by ASCE, with over 100 students in attendance.

## **Follow-up:**

Continue to initiate and lead meetings each term with all OSU CCE student clubs to discuss joint events and planning. Work with many student groups on campus and expand the joint speaker meetings and activities to new clubs, especially those involving minority and women students. Collaborate with those groups in some of their social activities that are especially successful for freshmen and sophomores.

# Popular Meetings and Activities

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- Speaker Meetings
- Concrete Canoe
- Structural Engineering Institute
- Cookies and Clubs
- Tour of 3-Story Building Test
- SteelFab Tour
- OSU ASCE 100-Year Anniversary
- ASCE General Body Meetings

# Speaker Meetings

OSU ASCE organizes numerous speaker meetings with civil engineering firms and government agencies for students to attend! These speaker meetings allow companies to showcase their latest projects and technologies, while also allowing for student networking opportunities. Some companies that participated in 2022 included Consor Engineering, Keller Associates, National Corrugated Steel Pipe Association, Kittelson & Associates, Holmes, and Portland Bureau of Transportation.





# Concrete Canoe

This year's team is led by captains Lauren Ellett and Ryan Moritz. After traveling to Nevada as guest competitors for the Intermountain South-West Symposium, the team is excited to compete in-person at the 2023 PNW event. Fall quarter was busy with hull design and a new mold for a second canoe, pouring of a primary canoe on a mold from last year, mix design using many of the same aggregates/materials as in 2019 and 2022, and preparing a second canoe as a backup. We remain observant of COVID-19 protocol, have renewed emphasis on safety in the build space, and hope for a return to success at Montana State University.



# Structural Engineering Institute (SEI)



## Goals:

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

## 2022 Events

- Speaker Meetings:
  - Presentation at Kittelson on Expansion of Providence Park
  - Holmes Speaker Meeting (with EERI)
  - KPFF Speaker Meeting (with EERI)
  - SEI and EERI Earthquake and Non-earthquake Failures and Standard-of-Care Lectures
- Rawan Al-Naabi-Scholarship to ASCE Structures Congress
- High Ropes Course
- SEI Bridge the Gap – Timbers Soccer Game



**STRUCTURAL  
ENGINEERING  
INSTITUTE**

**Graduate Student Chapter**

# Cookies and Clubs

The OSU Cookies and Clubs fair takes place during the beginning of Fall term. The OSU College of Engineering organizes an annual club fair during September to help new students learn about the various engineering student organizations on campus. At the ASCE table, there was information about the Concrete Canoe team and various ASCE projects.

At least 58 students visited our booth.

Additionally, 4 student members worked the booth.

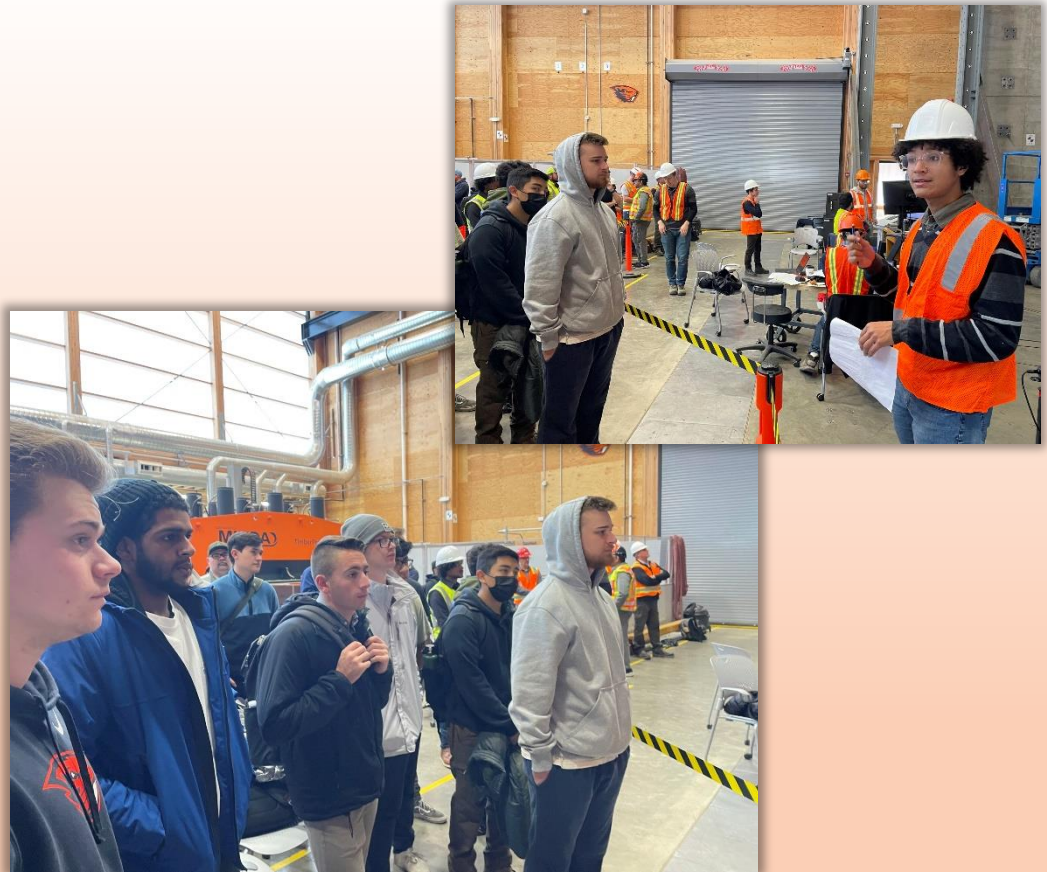




# Tour of 3-Story Building Test

On November 15<sup>th</sup>, students were able to tour the Emerson Lab in the Department of Wood Science and Engineering. A 3-story seismic test was conducted using a structure comprised of mass timber in its major structural components.

**40** students attended the tour.



# Field Trip to SteelFab

On December 2nd, 9 students attended a tour of Steelfab, one of the largest and most experienced steel fabricators in the United States. This event was hosted jointly with the OSU AISC student chapter and AGC. Attendees had the opportunity to learn about steel fabrication and recent Steelfab projects.





# ASCE 100-Year Anniversary



On May 21st, we hosted the 100-year anniversary of OSU ASCE! The history of the chapter was presented, and current student members mixed with OSU ASCE alumni going back more than 50 years and other professionals as well. ASCE National President, Dennis D. Truax made a presentation and approximately **100** people were in attendance.



# ASCE General Body Meetings

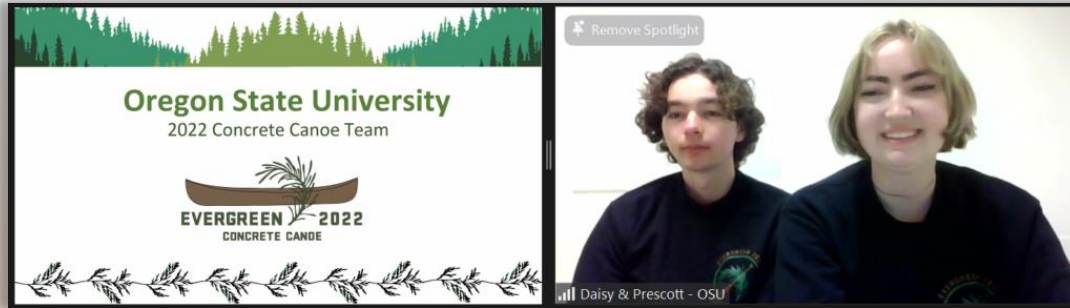


OSU ASCE hosted two general body meetings this year. The officers also met regularly when needed to plan for the general meetings, and they included fun with games and incentives like small prizes for participants.

Members expressed that they were happy to meet again in-person especially with the coffee machine that was donated to help keep us going.




# 2022 Pacific Northwest Student Conference



### Hull Design

**Major considerations**



- Stability
  - Flattened bottom
  - Increased wall slope
- Drag
  - Tightened beam
  - Sharpened entry angle
- Tracking
  - Added keel
  - Lowered rise

### Construction

**Formwork - male**

- CNC machine-cut ribs
- "Paint Stick Method"
  - Sustainability


OSU ASCE placed 4<sup>th</sup> in the PNW conference. Attended by Daisy Mulligan, Anna Nelson, Autumn de la Cruz, Prescott Benner, Lauren Ellett and Dr. Tom Miller, the 2022 PNW Student Conference was hosted virtually by the University of British Columbia. Lauren competed in the Mead paper competition. The concrete canoe team presented an oral report about canoe design and responded to the competition's request for proposal. **4** students participated.

# 2022 Intermountain SW Student Symposium



Held April 13th-16th, the Concrete Canoe team traveled to Las Vegas, Nevada to compete as a guest school in the 2022 UNLV Intermountain SW Student Symposium. This was a great opportunity for our team to see other designs and compete outside of the PNW contest. **20** students attended this event

# Community Service Projects

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- Jacobs/OSU High School Bridge Contest
- Adopt-a-Highway Cleanup with ITE (twice)
- Creation of Engineers in Action Student Chapter
- ReStore Project for Habitat for Humanity

# Jacobs/OSU High School Bridge Contest

## DESCRIPTION

The 52nd annual contest was held on February 22nd in Kearney Hall. High school students competed to design the most efficient bridge based on the ratio of the load carried to the bridge weight. Unfortunately, due to COVID, the students were not present, but sent their bridges to be tested and live-streamed.

## ENGINEERING COMPONENT

Participants observed structural behavior concepts such as tension and compression and the importance of good connections and how they affect design. Design to a specification is also essential.





# Jacobs/OSU High School Bridge Contest

## PROJECT IMPACT:

The competitive atmosphere inspires students to improve from the following year. 24 bridges were tested, and the most efficient bridge carried 4,352 times its own weight.

## PARTICIPATION:

15 high school students participated. 2 Jacobs volunteers, 1 OSU student volunteer, 1 OSU faculty member and the ASCE faculty advisor contributed 25 person-hours of work.



# Adopt-a-Highway (ASCE/ITE)

DESCRIPTION: OSU ASCE students and the ITE student chapter cleaned up 2 miles of Hwy 34 east of Corvallis on Feb 26. They had the opportunity to observe transportation features along the road, such as culverts, signage and a pedestrian bridge, and helped in maintaining a clean transportation link between Corvallis and I-5.

PROJECT IMPACT: Students served the community and provided a clean roadway along Hwy 34. ASCE/ITE worked and had lunch together.

PARTICIPATION: **10** students for **30** person-hours.



# Engineers in Action (EIA) Student Chapter



## DESCRIPTION

The EIA chapter was created at OSU in 2022 as a part of ASCE. Planning, fundraising and organization took place in the spring. 3 students and our practitioner advisor/OSU alum travelled in Sept. to Boulder Colorado for the 2022 Bridge Conference. This summer, 3 members of the team will be traveling to Eswatini in southern Africa to construct a suspended bridge, together with students from McGill University and the University of Southern Indiana. Design is taking place in the winter and spring of 2023.





# EIA Chapter



ENGINEERS <sup>IN</sup> ACTION

## PROJECT IMPACT

Design and build a pedestrian suspension bridge to connect the Eswatini community to resources like farms, health care, school. Training in established courses for all aspects of the project.

## PARTICIPATION

**18** students participated for more than **150** person-hours in 2022.

# ReStore Habitat for Humanity

## DESCRIPTION

A volunteer activity was carried out by OSU ASCE members to help the local ReStore for Habitat for Humanity. Students helped to unload a box truck and organize inventory for the store.





# ReStore Habitat for Humanity



## PROJECT IMPACT:

OSU ASCE was able to make an impact and serve the community. We helped the Habitat for Humanity Restore that sells donated items to raise funds to build homes for lower income families that assist with the construction.

## PARTICIPATION:

8 OSU student volunteers contributed 32 person-hours of work.

# Summary and Questions

## Significant Events:

- Large Number of Guest Speakers
- Adopt-a-Highway
- Habitat for Humanity
- Initiation of EIA Student Chapter within ASCE

## Significant Challenges:

- Recruitment of freshmen and sophomores
- Bounce back from COVID for steel bridge and concrete canoe teams.
- Active participation of members with COVID considerations still present

