



EQUILIBRIUM

November 2017

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

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Seattle Chapter Leadership

President
Chun Lau

Seattle Chapter November Dinner Meeting

Ocosta Elementary School & Tsunami Safe Refuge

November 30, 2017

Hotel Monaco

1101 Fourth Avenue, Seattle, WA 98101

When it opened in 2016, the Ocosta Elementary School in Westport became the first tsunami vertical evacuation structure in the country. The safe refuge is located on the gymnasium roof and designed to hold the entire school population in the event of a Cascadia Subduction Zone earthquake and tsunami. The structure was designed using the ASCE 7-16 Chapter 6 provisions which will be officially adopted as part of the 2018 IBC.

5:00 - 6:00 pm Registration/Networking
6:00 - 6:40 pm Dinner
6:45 - 7:00 pm Welcome/Announcements
7:00 - 8:15 pm Program

[Register Now!](#)

Speaker

Cale Ash, P.E., S.E.
Office Director and Principal
Degenkolb Engineers

Cale Ash is Principal and Office Director with Degenkolb Engineers in Seattle. He is a Past-President of SEAW Seattle Chapter and the State Association. Over his career he has worked on a variety of earthquake- and tsunami-safety projects for education and healthcare clients. In 2012 Cale was named to the inaugural class of Housner Fellows by the Earthquake Engineering Research Institute.



YMG Corner

By Sean Augustino

Vice President
Darrell Staaleson

Treasurer
Theodore E. Smith
Co-Treasurer
Ignasius Seilie
Secretary
Michael Bramhall

Past President
Cary Kopczynski

Directors 2015-2018
Joyce Lem

Directors 2016-2019
Douglas Beck
Shalini Prochazka
Directors 2017-2020
Mike Visser
Mark Whiteley

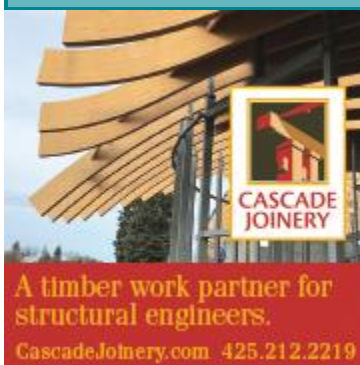
YMF Liaison
Marcus Freeman



This year's NCSEA Structural Engineering Summit was not geared toward any single theme, and the presentations covered a diverse array of topics. I was at the Washington [DC] Hilton for two days representing SEAW's YMG, and as a result spent one of the days going through a designated Young Member track.

The keynote on Thursday was given by two engineers at Wiss, Janney, Elstner about their role designing repairs for seismic damage to the Washington Monument and National Cathedral. The most significant finding I took from that talk was that the 2011 earthquake was at near maximum credible for most buildings in the DC area, and that the city performed well, including a lack of any significant damage to code-designed structures.

The following session was a chance for the profession at large to give input for how the next edition of ASCE 7 (7-22) will be developed. There was a short talk on the committee process, then breakout sessions for brainstorming in smaller groups. There were many concepts mentioned of how the future code may be laid out, such as: basic/specialized design volumes, volumes by load type, or maintaining the 7-16 format. Despite the many ideas, some suggestions were widely supported, such as the need for: a more advanced pdf version, better user notes, and more flow charts (particularly for seismic). The subcommittees are currently being assembled, and early work on the new code should begin soon. [Read more](#)



Awards

Coming in November/December



Ted Smith receives Robert C.

Cornforth Award from NCSEA

Ted Smith receives Robert C. Cornforth Award from NCSEA. This award is presented to an individual for exceptional dedication and exemplary service to a Member Organization and to the profession.

Ted served as 2015 Seattle Chapter President and has served as Treasurer for the SEAW State Board and SEAW Seattle Chapter for 16+ years. In 2004 Ted was recognized as Engineer of the Year. In 2015 Ted received the President's Award which recognized his service as 2014-15 Program Chair and his longstanding service to SEAW as Treasurer.

Check out the [SEAW Hall of Fame](#).

Well deserved! And congratulations Ted Smith!



The Pacific Northwest is one of the most tectonically complex regions in North America. The M7.1 Central Mexico Earthquake is a potent reminder about the importance of disaster preparedness of our communities. Earthquakes around the globe provide a real-world opportunity for structural engineers and earth scientists to learn more about the devastating effects of earthquakes and how to design and retrofit buildings and infrastructure to provide improved public safety and increased resilience for our communities.

The M7.1 earthquake that severely impacted Central Mexico on September 19, 2017 occurred on the 32nd anniversary of the 1985 M8.5 earthquake and shortly after many residents participated in practice earthquake drills. Within a week of the earthquake, Reid Middleton fielded two teams to perform post-earthquake recovery and reconnaissance work. Much of our work was performing earthquake safety assessments for the local government, assisting with engineering evaluations of collapsed buildings, and investigating earthquake performance of buildings and critical facilities and lifelines infrastructure with a focus on community disaster resilience.

This presentation will provide an overview of the devastating event. We will discuss lessons-learned from our reconnaissance and implications for improving our region's earthquake safety.

Refresher Course



es Sue M. Frey Award from NCSEA

SEAW Seattle Chapter, in cooperation with the UW Department of Civil Engineering, will hold its annual Refresher Course on Tuesday and Thursday evenings from February 6th through March 27th.

The course instruction and PDF notes are designed to assist engineers preparing for the NCEES Structural Exam and for practicing engineers who want to review principles of structural engineering. Fifteen two-hour lectures will present information regarding Structural Analysis, Wind Design, Foundations & Earth Retaining Structures, Seismic Design I & II, Structural Steel Design I & II, Concrete Design I & II, Pre-stressed/Post-tensioned Concrete Design, Bridge Design I & II, Wood Design, Masonry Design and Cold-Formed Steel Design.

A half Refresher Course of eight sessions is also available at a reduced rate.

For those who live outside the Greater Seattle area, course presentations are offered online through GoToMeeting. Please note that you must register individually to receive access to the online course. Multiple viewers who access a single registration are not permitted.

We would like to welcome Oregon SEAO members this year. SEAO members may register at the member rate.

For those unable to attend the course in person, complete course notes of the most recent course are available via a download link for easy access at a price of \$150 for SEAW members, and \$200 for all others. [Read more](#)

Euclid Chemical Seminar

It's All About "The Concrete"

Tuesday, November 14

Ivar's Acres of Clams

Pier 54, 1001 Alaskan Way, Seattle, WA

RSVP by Friday, November 10

For over 100 years, The Euclid Chemical Company has served the global building market as a leading supplier of specialty products and support services for the concrete and masonry industries. [Learn more](#)

The Susan M. Frey NCSEA Educator Award is presented to an individual who has a genuine interest in, and extraordinary talent for, effective instruction for practicing structural engineers. The award was established to honor the memory of Sue Frey, one of NCSEA's finest educators. Ed Houston was also recognized as having received all 4 NCSEA Awards. Ed served as 1987 Seattle Chapter President. In 2004 Ed was awarded honorary membership which recognizes an individual of acknowledged eminence in engineering.

Ed is former President of the Board of Directors of NCSEA and chair of the Code Advisory Committee – General Engineering Subcommittee. He has served as President of the Board of Directors of the Applied Technology Council (ATC). He was the Lead Technical Consultant for the development of ATC 45, A Field Manual for Safety Evaluations of Buildings after Windstorms and Floods. Ed is frequently asked to speak on wind, seismic, masonry, wood, code development, and liability issues. He is a sought-after speaker for his ability to draw on his career as a practicing engineer and as a contributor to the code-development process to illustrate the ways that our professional codes and standards affect the practicing engineer.

Check out the [SEAW Hall of Fame](#).
Well deserved! And congratulations Ed Houston!

October Dinner Meeting Recap

By Marcus Freeman



This month's SEAW dinner meeting kicked off with a number of announcements from the SEAW board. Several exciting events are planned for November that include the SEFW Fall Forum, the joint SEAW/PEER seminar, and the YMG hosted November Dinner Meeting. Following the announcements, Professor Todd

Southwest Chapter News

Look for Southwest Chapter News in the future

Spokane Chapter News

Look for Spokane Chapter News in the future

South Central Chapter News

Look for South Central Chapter News in the future.

What's Up with WAsafe - An Update from the Disaster Prep and Response Committee

By Joyce Lem

I believe that all SEAW members will want to help following The Big One or any other catastrophe or disaster. This belief is what drew me to join the Disaster Preparation and Response Committee (DPRC) in the first place. Now, after several years working and collaborating with longtime and new Committee members, as well as WABO, and AIA, I'm still fascinated by what we're working towards: a statewide Safety Assessment Program (SAP) we're calling WAsafe. WAsafe is program that trains qualified volunteers to help assess buildings and other structures after a major earthquake (or storm, or flood) wreaks damage across our State. There are many aspects to the WAsafe program: training architects, engineers and inspectors in ATC-20 and ATC-45; developing the curriculum for this training that's specific to Washington; creating an electronic database for our trained volunteers; getting would-be volunteers enrolled in the database; and figuring out the process on how to use the database to notify and dispatch volunteers. On top of that, there's integrating our program for post-disaster volunteers into the Washington State Comprehensive Emergency Management Plan (CEMP), and that can only happen **after** convincing the authorities that WAsafe should be integrated into the CEMP! [Read more](#)

Helwig from the University of Texas began his presentation on effective bracing for flexural members. [Read more](#)

SEFW Fall Forum is November 15



ORIGAMI
Inspiration in Science, Design, and Structures

WEDNESDAY, NOVEMBER 15, 2017
Benaroya Hall, 200 University St., Seattle, WA

4:30 p.m. – Networking Reception*
6:00 – 7:15 p.m. – Lecture (free)
Registration encouraged as capacity is limited.
www.sefw.org
*Individual admission by \$25 donation or become a "Friend of the Foundation" for \$100. Corporate sponsorships also available.

The Structural Engineers Foundation of Washington
2017 FALL FORUM

With the aid of modern mathematics and computers, origami has evolved from an ancient art into a scientific and engineering application for fields such as robotics, space exploration, medicine, and even architecture. Inspired by the PBS Nova Special, *Origami Revolution*, SEFW is pleased to bring three internationally recognized experts together to discuss origami in the building industry. This event will fascinate engineers, architects, students, scientists, "techies," and the public.

The pre-function networking reception will feature origami creations, a full-size folding cardboard emergency shelter, demonstrations by the Puget Area Paperfolding Enthusiasts Roundtable ("PAPER"), and hands-on folding opportunities.

Tina Hovsepian
President, Cardboardorigami

Robert J. Lang
Artist/Consultant

Mark Morden
Associate Principal, WJE

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Lane Powell
Magnusson Klemencic Associates
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Graphix Design Group
Hill
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Lease Crutcher Lewis
Mark & Linda D'Amato
Mayes Testing Engineers
McKinstry
MiTek Builder Products
Quantum Consulting Engineers
Shannon & Wilson
Simpson Strong-Tie
TigerTech
Verco Decking

Have you registered for the 2017 Fall Forum on November 15? "Origami: Inspiration in Science, Design, and Structures" is just around the corner!

Visit www.sefw.org today!
Thank you to our generous sponsors (list as of 10/31/17).
Funds received support educational events, like this Forum, as well as scholarships, outreach, and overall promotion of the structural engineering profession. [Read more](#)

State and Chapter Committee Reports

Contact the committee chair if you are interested in working and learning on a committee.

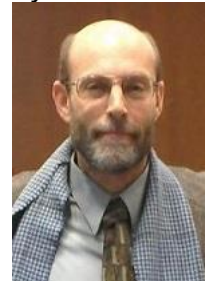
- NCSEA Delegate - Chun Lau

Wind Engineering Committee

Next Meetings: Thursday, November 9 and Thursday, December 14 from 12:00 noon to 1:00 pm at MKA in Downtown Seattle (1301 5th Avenue, Suite #3200). The November meeting will focus on feedback on a CFSEI Tech note regarding C&C wind loads on wall studs combined with axial loads. At the December meeting attendees will discuss any comments by the SEAOC Structural Standards Committee on the five design examples SEAW WEC members are authoring in cooperation with the SEAOC Wind Committee for the proposed SEAOC Wind Design Manual that is scheduled for publication March of 2018 by ICC. Also, at both meetings, the Kzt map for the City of Bellevue will be discussed. All members are encouraged to participate either in person or via Go-to-Meeting. Please contact the WEC chair, Scott Douglas sdouglasscott@gmail.com, to join the WEC and to receive information and announcements on Committee activities and actions.

From the Editor

By Darrell Staaleson



Equilibrium publication Team:

Darrell Staaleson, Editor

Katie Olleman

Zohrah Ali

Allison Tran - Grammar, spelling, and watching out for you'll-never-believe-how-they-spelt-that!

All members are welcome to submit articles to Equilibrium. To help you with your writer's block, here are a few topics: Write Engineer's Notes from Afield, summarize an interesting technical design you worked on, write about how you have been successful and increased productivity with an accounting procedure or marketing technique, write about your experiences in community services, or share some construction site photos and talk about lessons learned.

- Earthquake Engineering Committee - Kai Ki Mow
 - Outreach Committee - Pete Opsahl
- To sign up to volunteer for mentoring use the following link: www.sefw/volunteer
- Sustainability Committee - Kyle Steuck
 - Refresher Committee - Mark Whiteley
 - Public Information Committee - Darrell Staaleson
 - Disaster Preparation/Response Committee - Joyce Lem
 - WABO Liaison Committee - Charlie Griffes
- The SEAW/WABO Liaison committee is now available for questions from SEAW or WABO Members. These questions can be about subjects addressed in the White Papers already issued or general questions in the realm of structural engineering practice as it relates to interaction with the various building departments. Comments or questions can be emailed to: charlie@ctengineering.com.
[White Paper 6b - 2017 on Deferred Submittals](#)
- Wind Engineering Committee - Scott Douglas
 - Technology Taskforce - Morgan Wiese
 - Membership Task Group - Jill Shuttleworth
 - Continuing Education Committee - Adam Ailvers
 - Scholarship Committee - Kevin Solberg

What do Contractors, Architects, and Building Officials Want Structural Engineers to Know?

By Pete Barlow, VP of CONTECH Services, Inc.

1. Being sure that tolerances can actually be met by code and the way things are detailed.
2. Sufficient details to accurately portray the intent.

Employment Opportunities

Structural Engineer - Nagamine Okawa Engineers, Inc.

Structural Engineer - Lund Opsahl

Structural Engineer - Complete Design, LLC

Structural Engineer - MLA Engineering, PLLC

"A Picture and a Paragraph." And please use the Article submittal form provided. Please note that when I say, "picture" I mean an actual "picture" and not a blank space where the "picture" should be. And the picture needs a caption along with the names of the people in the photo.

Please submit your articles in Word format using the Article Template.

November Puzzle:

What Sci-Fi novel features a machine that can give you "the desire to watch television, no matter what's on?" Name the author, the machine, and the number you enter?

Clue: Arnold ("I'll be back") Schwarzenegger stars in a movie which tells the story of a construction worker who is having troubling dreams about Mars and a mysterious woman there.

The first SEAW member to respond on our SEAW Facebook Page or at the next Dinner Meeting – **with a correct and full answer** - will get coffee and a Danish pastry.

October Puzzle Answer:

What Sci-Fi mini-series has this quote? And who said it?

"It's like I've always said. You get more with a kind word and a two by four than you do with just a kind word."

Clue: Our new YMG President.

The correct answer is: "Babylon 5" and "Marcus Cole."

The winner is John Gunn. John will receive a coffee and a Danish pastry. And I note that John knew who "Valen" was, which is really cool in my book, but probably isn't all that remarkable since he has a photo of the Starship Enterprise on his Facebook cover page.

BIM Manager/Revit Modeler - MLA Engineering, PLLC

Structural Engineer - Katerra

Structural BIM Manager - Katerra

[Learn more](#)

Membership Postings

In accordance with SEAW bylaws, membership applications are vetted by the Executive Director, granted probationary status by the chapter board, and posted for membership comment. Membership is considered accepted 30 days after posting if current year dues are paid and no member objections have been received. [Read more](#)

Upcoming Events

November 14 - [Euclid Chemical Seminar](#)

November 15 - [SEFW Fall Forum](#)

November 16 - [Significant Changes from ASCE 7-10 to ASCE 7-16](#)

November 16 - [South Central Chapter November Meeting](#)

November 29 - [ASHRAE Social Event](#)

November 30 - [November Seattle Chapter Meeting](#)