



EQUILIBRIUM

December 2018

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

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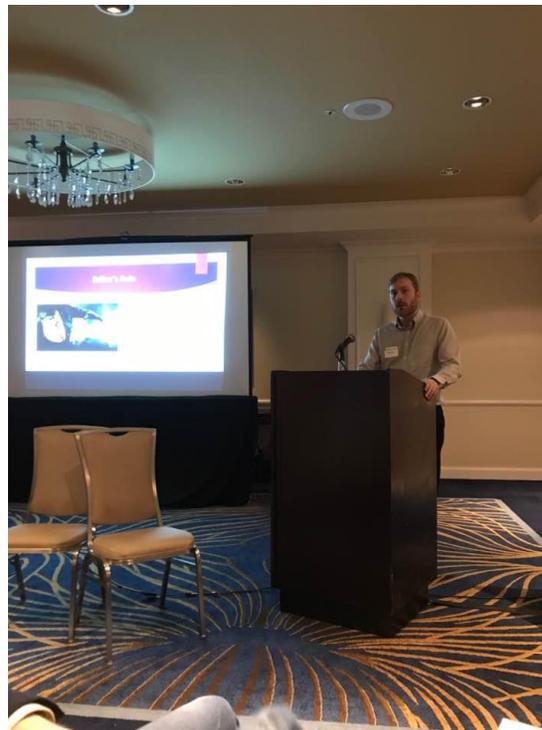
Sean Augustino

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November Dinner Meeting Recap

By Linda Ji



John Gunn talking about the Equilibrium Committee

November's SEAW Dinner Meeting started with a new feature: the

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“tech-talk”, a one-hour technical presentation. The inaugural tech-talk was presented by Taylor Devices on fluid dampers. The presentation covered a variety of topics, including finite element modeling of fluid dampers, their benefits to a project, various installation configurations including wider open bays, and examples of projects throughout the world. An interesting solution presented was the use of fluid dampers in conjunction with base isolation--both after installation of base isolation in a building to control displacement, and as part of a new design to reduce the size of the base isolation system.

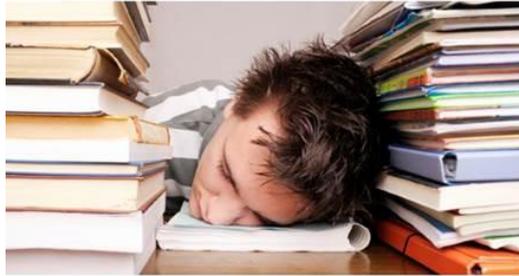
The main presentation of the night was given by Steve Savage and Matt Snook from Coughlin Porter Lundeen on the renovation of ‘The Sanctuary’, a historic church adjacent to the new F5 Tower. They briefly covered the history of the building, from its inception in the early 1900s to the building being yellow-tagged after the Nisqually Earthquake, before proceeding to describe the technical aspects of the building. The major challenges included the requirement to preserve both the exterior and interior due to its landmark status and the adjacent deep excavation required for the F5 building.

Working on a historic building of this vintage almost always includes dealing with unreinforced masonry and the unique challenges it presents. In the Sanctuary’s case, there was load-bearing hollow clay tile along the base of the exterior walls. The design team also had to be creative to carve out space for the MEP system required by code for a modern assembly space. On the contractor’s side, the landmark status of the interior required the careful documentation, removal, and reinstallation of interior finishes. The seismic retrofit included shotcrete shear walls reinforcing the existing walls and additional steel bracing to the existing dome roof.

This was a fascinating presentation about the conversion of a historic structure and the problem-solving and collaboration demonstrated by the design team. The next Seattle chapter dinner meeting will be on January 22nd, at the UW Waterfront Activities Center, featuring the Firms Showcase and Student Project Showcase. Hope to see everyone there!

SEAW Refresher Course

STUDY FOR THE SE EXAM ON YOUR OWN



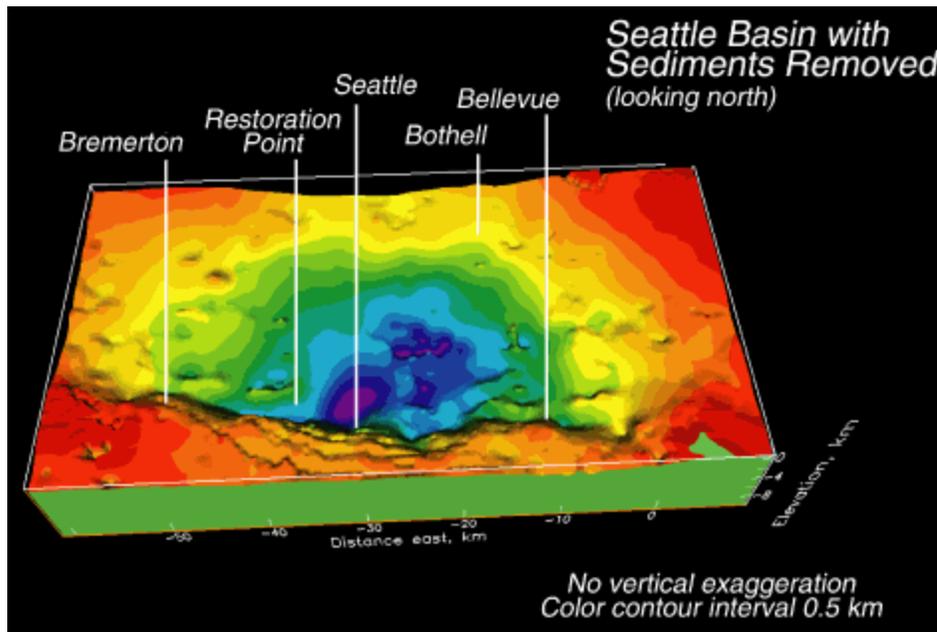
STUDY WITH THE SEAW REFRESHER



SEAW Seattle Chapter, in cooperation with the University of Washington, will hold its annual Refresher Course on Tuesday and Thursday evenings from February 5th through March 28th. The course instruction and PDF notes are designed to assist engineers in 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.

[Learn More](#)

Seattle Basin Amplification Webinar Recap



Seattle Basin with Sediments Removed (looking north)

On Tuesday, November 6, the SEAW Education Committee hosted a webinar on the topic of Seattle basin amplification to discuss how recent research affects the seismic design of buildings in the central Puget Sound region. This topic originated from the Seattle Department of Construction and Inspection's (SDCI) recent adoption of its Director's Rule 20-2018, which states that, as of December 1, 2018, all building designs utilizing site-specific ground motion procedures shall incorporate basin effects (SDCI Director's Rule 20-2018). The new Director's Rule is a direct result of the M9 project and other recent research into estimating basin effects. SEAW invited Art Frankel, Susan Chang, Doug Lindquist, and Kevin Aswegan to present at the webinar to explain the new research, the latest discussions and workshops, and the implications for future building design.

Dr. Art Frankel, a senior scientist with the USGS stationed in Seattle, talked about the observations and recent research on basin amplification. The focus was primarily on the M9 project and the large set of broadband synthetic seismograms of Cascadia M9 earthquakes developed to evaluate building response and ground failure. [Read More](#)

8th SEFW Fall Forum on Jeddah Tower a Success!

By Angela Gottula Twining



The Structural Engineers Foundation of Washington hosted another excellent Fall Forum this past month! The 8th Annual Fall Forum, “Higher & Higher: Jeddah Tower & Building Megatall,” was attended by 350+ people at Benaroya Hall on November 14.

The pre-function networking reception featured a record number of attendees, including representatives from the 40 donor organizations, individual donors (“Friends of the Foundation”), SEAW/SEFW leadership and volunteers, and many members of the building industry.

[Read More](#)

YMG Corner

By Lindsey Judge

In November, the SEAW Young Members Group hosted several events geared to provide young engineers with resources and connections for collaboration within the engineering community. Samiah and Peter, our YMG college liaisons, led two campus luncheons at Seattle University and the University of Washington. These luncheons featured a panel discussion on resumes and applying to jobs or graduate school. The panel was made up of SEAW volunteers excited to share their experiences reviewing resumes and writing their own. Afterward, the students had time to interact with the professionals and ask questions directly. [Read More](#)



"YMG November Happy Hour at Coffman Engineers."

Seeking Industry Partners for WSU Senior Design Course

By Cara Morton

I am looking for industry partners for the WSU civil engineering capstone class for the Spring 2019 semester. Classes begin on **January 7** and the mentoring requires a one-page project description with constraints and relevant data (e.g. surveying data for civil jobs, architectural drawings for structural projects).

We ask that you plan on spending at least one half-hour every other week on a conference call with a group of 3-5 students to guide them, question them, and help them develop engineering judgment to start the transition from school to work. At the end of the semester, you'll grade the deliverables that you requested at the beginning of the semester, and this evaluation based on industry standards will count for 15 percent of their course grade.

We have a large graduating class this spring: 85 students (compared to our typical 50), so if you can provide either a project or a referral to an engineer who may have the time, it would be greatly appreciated. Please contact me at cara.morton@wsu.edu.

State and Chapter Committee Reports

Contact the committee chair if you are interested in learning more or getting involved:

- NCSEA Delegate – Chun Lau
- Earthquake Engineering Committee – Kai Ki Mow
One of the current main focus and an important topic that the committee hopes to address in the upcoming year is the Increased Seismic Load in the newly published ASCE 7-16. Members interested in EEC can find additional information regarding the meeting on the [SEAW website calendar](#) or can contact the committee chair.
- Outreach Committee - Pete Opsahl
To sign up to volunteer or to mentor, [visit the SEFW page](#).
- Sustainability Committee – Rachel Vranizan
- 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

Employment Opportunities

Are you currently seeking employment as a structural engineer, senior manager, or a senior engineer technician? Check out our job board for current employment opportunities. [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](#)

Help Wanted - Lund Opsahl

Located across the street from Safeco Field, Lund Opsahl is a growing structural engineering firm that provides a wide spectrum of services, including planning, design, seismic and damage assessments, upgrades, additions, tenant improvements, and construction support for a variety of new and existing building types in the Pacific Northwest. Our reputation as creative innovators and technical experts is built on responsive service, collaborative teamwork, and lasting relationships. Our firm's size offers early opportunities to work on challenging projects and encourages exciting career growth uncommon at larger firms, especially for the ambitious.

Currently, we are looking for:

- Structural Engineers of all skill levels

- Full-time Administrator/Receptionist to be our first point of contact for visitors and telephone calls
- Experienced CAD/BIM Technician

BENEFITS:

- Competitive benefits and salaries
- Health, Dental, and Vision Insurance/Health Savings Account
- Performance-based bonuses
- Flexible working hours
- 401(k) with matching contribution
- Profit Sharing Plan
- PTO, and holidays
- Group activities and team events
- In-House education programs
- Free parking
- (Did we say we're next to Safeco Field?!)

Please visit our [website](#), for additional information and job descriptions for each of these positions. Inquires and resumes may be sent to careers@lundopsahl.com.

From the Editor

By John Gunn



Equilibrium publication Team:
John Gunn, Editor
Darrell Staaleson, Past Editor
Zohrah Ali, Blaine Sanchez, and Allison Tran - Grammar, spelling, and watching out for you'll-never-believe-how-they-spelled-that!

ACTION ITEMS:

1. 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.

2. "A Picture and a Paragraph." And please use the article submittal form provided. Please note that when I say, "picture" I mean an actual image 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.
3. Please submit your articles in Word format using the Article Template. [[Article Template](#)]
4. Please email your articles to John Gunn (john.gunn@kpff.com)

December Puzzle:

What is the name of the last-ditch tiebreaker game designed to decide drawn international chess matches?

Bonus: Who is the current World Chess Champion?

Clue: The method is quite controversial, and has never been used before.

Look on the SEAW Facebook Page for a picture clue!

The first SEAW member to respond on our SEAW Facebook Page or by email by December 25th – **with a correct and full answer** - will get coffee and a Danish pastry.

November Puzzle:

In this episode of the Simpsons, Homer is banished to an island and convinces the locals to use animals as construction equipment.

Clue: "Cou-ch"

Picture clue:



Answer:

The episode of The Simpsons is called "Missionary: Impossible".

https://en.wikipedia.org/wiki/Missionary:_Impossible

Upcoming Events

February 5: [SEAW Refresher Course](#)

Structural Engineers Association of Washington

www.seaw.org | 206-209-5283 | info@seaw.org

[View this message in your browser](#)