



## STATE EQUILIBRIUM

Newsletter of the  
Structural Engineers Association of Washington

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## February Seattle Board and Dinner Meeting

***"Washington's  
Disaster Preparedness and  
Infrastructure Resilience"***

Join us to learn about  
Washington's current state of  
disaster preparedness and the  
resilience of Washington's infrastructure.

#### Date:

Tuesday, February 25, 2020

#### Time:

3:00 - 5:00 PM: Board Meeting  
5:00 - 8:15 PM: Dinner Meeting

#### Location:

**Hotel Monaco**  
**1101 Fourth Avenue**  
**Seattle, WA 98101**

#### Registration:

Members - \$45  
Non-Members, & Guests - \$55  
YMG - \$35  
Students - \$15

**Register Now!**

#### Agenda:

5:00 - 6:00 PM: Registration/Networking  
6:00 - 6:30 PM: Dinner  
6:50 - 7:00 PM: Welcome/Announcements  
7:00 - 8:15PM: Program

11. Membership Postings
12. Employment Opportunities
13. Upcoming Events
14. From the Editor



**Speaker:**  
Maximilian Dixon, MUP, MIPM, CEM



**Biography:** Maximilian Dixon, the Hazards and Outreach Programs Supervisor for the Washington State Military Department's Emergency Management Division, will speak about Washington's current state of disaster preparedness and the resilience of Washington's infrastructure.

## Resolve to Connect with Future Engineers in 2020

By Emily Sackmann, PE – Coffman Engineers

Do you remember the first time you heard the term “engineer?” Maybe it was in a science class in school, or from one of your family members who is an engineer. For me, it was 1<sup>st</sup> grade in Portland, Oregon, where my classmate’s dad, an Intel employee, showed us how to make batteries out of potatoes.

In the “Code of Ethics,” the National Society of Professional Engineers states that “Engineers shall at all times strive to serve the public interest.” This can suggest being thorough in our analysis or trying to reduce construction costs, but, in a broader sense, the code also calls us to serve our communities by educating others about our profession. After all, in the wake of an aging workforce, isn’t it our obligation to help recruit a talented and diverse group of engineers to serve the public for generations to come?

In my time at Coffman Engineers, we have participated regularly in a variety of educational activities, such as Greater Spokane Incorporated’s (GSI) Business After School and Teaching the Teachers. Some of our engineers and designers volunteered to present and judge science competitions at Spokane Public Schools, Central Valley School District, Mead School District, and a handful of private schools around the region. A couple of colleagues have even served as adjuncts at local universities.

One of the structural engineers in our office went as far as to make a shake table (photo 2) which has demolished dozens of spaghetti and marshmallow structures, to the delight of students and structural engineers alike.

I am also proud of the women in our office, who banded together to send copies of Ada Twist, Scientist, Iggv Peck, Architect, and Rosie Revere, Engineer by Andrea Beaty to local school libraries with hopes of inspiring interest in the AEC industry from a diverse group of students early in their education.

Each of these acts feels small on their own, but added together, have touched many people in our region. In 2020, I challenge you to take one small action, whether listed here or otherwise, to be the “potato battery person” for a future engineer in your community.



Students build structures from spaghetti and marshmallows.



Spaghetti and marshmallow structures await an earthquake on the shake table.  
Photos by Bryson O'Neill, Coffman Engineers

## Civita Institute Tour

By Nancy Josephson

Historic Preservation and Sustainable Design in the Etruscan Hill Towns of Central Italy—this program includes 36 AIA-approved HSW Learning Units. Stephen Day and Nancy Josephson are leading a new edition of their exciting 10-day program based in Civita, Perugia and Siena for May 6-16, 2020 that will focus on architectural preservation, sustainability, and modern design interventions in several extraordinary Etruscan hill towns, including extraordinary connections with Italian designers, engineers, cultural leaders and other compatriots. This program is not only for architects but also others interested in a deep dive into architectural preservation and local culture in several ancient but vital Etruscan hill towns. Using Civita as the base camp, with overnight trips to key locations, participants will explore important preservation work and the protection of cultural treasures in phenomenal towns such as Assisi, Perugia, Tarquinia, Tuscania, Orvieto, Pienza, Cortona and Siena, in addition to Civita. For more information, please download the [Program Summary book here](#).

This small group program has only 2-3 spots left, so contact us soon at [programs@civitainstitute.org](mailto:programs@civitainstitute.org) with any questions if you are interested in experiencing this exciting and unique program. Learn more here: <https://www.civitainstitute.org/1754/current-programs.html>

**NCSEA Sustainable Design Committee Representative**

#### ANNOUNCEMENT:

From: the SEAW State Board of Trustees.

To: All SEAW PE and SE Class members.

The NCSEA Board has voted and approved the formation of an ad hoc Sustainable Design Committee. The committee's main mission will be to promote sustainable design practices within the profession of structural engineering through leadership, advocacy, outreach and education. Initial deliverables of the committee will include creating a web page on the NCSEA website dedicated to education on sustainable design – the best-in-class resources – as well as articles and direct outreach to the SEAs to introduce the committee and the topic at the local level. The SEAW State Board is looking for an individual member to serve as SEAW's representative on the committee. The primary responsibility of the SEAW representative would be to serve as a conduit between the SEAW Sustainability Committee and the NCSEA ad hoc committee. Note that this is not intended to be a technical committee, so the time investment should be minimal and mainly consist of monthly phone calls and a meeting at the NCSEA annual summit.

Please submit your name to Darrell Staaleson, SEAW State President, for consideration.

## January Showcase Recap

By Linda Ji

The YMG again hosted the annual Firm and Student Showcase at UW's Waterfront Aquatics Center. We are thankful for the support of all the local firms that showed up and help make events like this possible. After some networking and regular SEAW board business, the attendees sat down to enjoy presentations from students at Seattle University and the University of Washington. This year included a presentation by Seattle U students on their capstone project, in conjunction with Seattle City Light, on the seismic assessment of a century-old power house, and a presentation by the UW Steel Bridge Team on their past builds and current design so far for the 2020 competition. Also presenting were UW PhD candidate Andrew Yang, who talked about his research into base isolated structure performance under the M9 simulations and his recommended modifications to the design code for such structures, and visiting scholar Eleonora Bruschi from the Polytechnic University of Milan on her research into dampers for retrofit of existing historic Italian buildings.

Thanks to everyone who attended and supported the event, and the students that came to present. We look forward to seeing everyone next year!



Eleonora Bruschi from the Polytechnic University of Milan





Andrew Yang from the University of Washington

## 2018 IBC Seminar

By the Education Committee

Are you ready for the 2018 IBC? The SEAW Education Committee is hosting an all-day seminar covering the changes to the structural provisions of the 2018 IBC which is scheduled for adoption by the State of Washington on July 1<sup>st</sup>, 2020. This seminar is a continuation of the September 2019 seminar that presented the changes to ASCE 7-16 and ASCE 41-17 and will focus on the materials standards. It will take place on Saturday May 16<sup>th</sup>, 2020. Save the date!

The May seminar will cover:

- Chapter 17: Special Inspections
- Chapter 21: Masonry (TMS 402/602-2016)
- Chapter 22: Steel
  - AISC 360-16
  - AISC 341-16
  - AISI S240-15 & S400-15/S1-16
- Chapter 23: Wood (NDS 2018)
- Tall Wood Building provisions
- City of Seattle amendments
- City of Seattle URM ordinance

### Presenters:

Ed Huston, PE, SE, Smith & Huston Inc.  
 Jon Siu, PE, SE, Department of Construction & Inspections, City of Seattle  
 Nancy Devine, PE, SE, Department of Construction & Inspections, City of Seattle  
 Erik Loftus, PE, SE, KPFF  
 Hans-Erik Blomgren, PE, SE, P.Eng. Struct.Eng., Katerra  
 Others (TBD)

This seminar will qualify for 5 to 6.5 PDHs (total duration is still being determined). Morning coffee/tea and lunch will be provided. Printed notes will also be provided. A PDF of the notes will be emailed out the day before the seminar.

A webinar format will be available on the same day for the same cost. Please specify when registering. A PDF of the notes will be included but no lunch will be provided for this option.

Please register early! Registrations less than two weeks prior to the seminar will incur a \$25.00 late fee. Cancellation of registration will be subject to a \$25.00 administrative fee.

### **Time:**

Registration - 8:30 am  
 Seminar - 9:00 am - 4:30 pm (may end sooner)

**Location:**  
Seattle City Hall, Bertha Knight Landes room (8<sup>th</sup> Ave entrance)

**Cost per person (seminar or webinar):**

Members - \$240  
Non-Members - \$340  
Students - \$50  
Notes only - \$100

**Sponsor options:**

Sponsor Table (includes 2 entries) - \$500  
Sponsor Name in notes - \$150

## YMG Corner

By Linda Ji

The YMG started 2020 with a flurry of events: the first monthly happy hour of the year at Lund Opsahl, our bi-yearly PE exam information session hosted by KPFF, the annual January Firm and Student showcase, and hosting a joint table with the SEAW Outreach Committee at the PSEC Engineering fair. We will host our first technical presentation of the year by Seismic Bracing Company on buckling restrained braces. And do not forget to join us for February's happy hour hosted by WJE on the 27<sup>th</sup>. Please join our mailing list to keep abreast of our various events [here](#) and visit our Instagram page here: <https://www.instagram.com/seawymg/>

## Discover E Day

By Mary Rogers

*Saturday, February 22, 2020. Drop in, 10:00 AM-2:00 PM.*

The U.S. Naval Undersea Museum will hold its 22nd annual Discover E Day on February 22, from 10:00 AM until 2:00 PM. Discover E Day features fun applications of science, technology, engineering, and mathematics (STEM) for aspiring learners at every level, and is great for all ages! Local engineers and community members will teach STEM concepts by using hands-on activities, including engineering challenges, science experiments, creative exploration, and more!

Click [here](#) if you are interested in volunteering at this event to encourage participant creativity, answer questions, and boost engagement. Lunch is provided to all volunteers! Learn more about the Naval Undersea Museum here: <http://www.navalunderseamuseum.org/>

## SEFW Supports Popsicle Stick Bridge Competitions

By Angela Gottula Twining

The year 2020 is off to a great start! The Structural Engineers Foundation of Washington was excited to support the Puget Sound-area popsicle stick bridge competition and the Spokane-area popsicle stick bridge competition, both taking place on Saturday, Feb. 8. The Puget Sound competition was organized by the ASCE YMF, included teams from high schools all around Puget Sound, and took place at the Museum of Flight in Tukwila. The Spokane-area event was at Mead High School and is for *all grades, K-12*, in the Mead School District. Check Facebook for some pictures from the events.

Did you know that SEFW, after a request from the Mead School District, first funded the initial Spokane-area popsicle stick bridge competition back in 2015? The event was such a huge success that the school district continued the event every year until 2018, when it decided to host it every other year. The faculty at the school district, with help from volunteers from the local SEAW chapter, have run with the program and it continues to be an incredible success, introducing students of all ages to the principles of structural engineering. The school district made a very inspiring video several years ago, which can be seen on Vimeo here: <https://vimeo.com/163860787>

SEFW is interested in expanding the popsicle stick bridge program to other areas of the state, and is open to both building relationships with partner firms and school districts and helping the SEAW Outreach Committee facilitate additional events.

Thank you for your support of SEFW, which goes to fund events like this!



2018 Mead High School popsicle stick bridge competition

## Request for Abstracts

To Potential Presenters:

The 2020 SEA Northwest Conference will be hosted by the SEAW Seattle Chapter September 17-18, 2020 at The Westin Hotel in the heart of downtown Seattle.

The NWC - Seattle Committee is seeking submissions from practicing engineers, academia, and vendors consistent with the NWC theme, **Innovation in Structural Engineering**. Presentations will be 60 to 75 minutes total, including time for Q & A, and may be focused on advanced analysis techniques, case studies, evaluation and retrofit of existing structures, best design practices, and other topics that focus on unique, forward-thinking, innovative approaches that symbolize the unprecedented growth of both our SEA and our region.

### Abstract Requirements:

- [Click here](#) to complete Abstract Submittal Form below must be completed and returned by **March 1, 2020**.
- Abstract should be emailed separately to [Katie Bohocky](#), SEAW Executive Director

**Speakers will be notified of abstract acceptance by March 30, 2020.**

Speakers will be provided with required presentation guidelines after acceptance of abstract. Standard AV equipment will be in the room: podium, laptop, wireless microphone, projector and screen. All speakers receive free full registration and a \$500 travel/expense allowance.

### Upon acceptance of your abstract, the NWC will require:

- Your photo - business head shot, jpeg format, high resolution by **April 13, 2020**.
- Your slides (on the official template provided) - submitted to NWC by **August 1, 2020**.

**Questions?** - Please contact Scott Douglas, SEA NW Conference Session Coordinator, [sdouglasscott@gmail.com](mailto:sdouglasscott@gmail.com), 206-920-2715.

Thank you,

SEAW Northwest Conference Committee

Chun Lau, Chair | Darrell Staaleson | Jessica Lim | Shalini Prochazka | John Gunn  
Jim Mattison | Scott Douglas | Sean Augustino | Katie Bohocky

## 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 - Gino Mazzotti
- To receive emails about volunteer opportunities please sign up on the [SEAW Outreach page](#)
- Sustainability Committee – Chris Jeseritz
- Refresher Committee – Mark Whiteley
- Public Information Committee – Darrell Staaleson
- Disaster Preparation/Response Committee – Joyce Lem
- WABO Liaison Committee – Matt Snook
- 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 [matts@cplinc.com](mailto:matts@cplinc.com).
- Technology Taskforce – Morgan Wiese
- Membership Task Group – Jill Shuttleworth
- Continuing Education Committee – Nathalie Boeholt
- Scholarship Committee – Kevin Solberg

## 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](#)

### New Members:

- Mike Armstrong
- Andrew Ayling
- Carson Baker
- David Baska
- Chris Bernards
- Erik Bishop
- August Braun
- Lori Brown
- Leah Cate
- C.Chevy Chase
- Eric Chin
- Jay Collins
- James Coughlin
- Alex Davis
- Austin Dennis
- Andy Derrick
- Joshua Dreher
- Chris Duvall
- Ben Fisher
- Jonathan Gibson
- Romina Guibao
- Cory Hitzemann
- Jordan Jarrett
- Dimple Ji
- Brad Johnson
- Johnson Jones
- Koppi Kolyvek
- Jared Koot
- Brian Krieger
- Juhun Lee
- Cindy Liauw
- Laura Lindeman
- Terry Lundeen
- Eric Maunder
- Thomas McAdams
- Daniel Milde
- Garo Pehlivanian
- Garrett Peterson
- Amy Poehlitz
- Luke Pronker
- Shreyans Rathod
- Hanna Saed
- Dustin Saldivar
- Andrea Sauter



- Steve Savage
- Sathvik Sripad
- Andrew Stanton
- Georgi Stefanov
- Zachary Sweeting
- Brad Taylor
- Randall Thompson
- Jaideep Thota
- Joanne White
- Caitlin Wilhelm
- Suzanne Wong
- Bryan Zagers
- Michael Ziemann

## 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](#)

## Entry-Level and Mid-Level Structural Engineer

**Company:** Brien Structural Engineers

**Location:** Kent, WA

### Description and Details:

Are you excited by structural design and achieving an architectural vision? Want a shorter commute from the South Sound? We look forward to talking with you!

**Brien Structural Engineers** is a structural consulting firm in Kent, WA looking for engineers to grow with our team. Our work varies from 20-story hotels to mid-rise mixed-use, large-venue entertainment to boutique retail, high-end residential to small remodels, and more. Our engineers see their work through from start-to-finish, staying with each project from initial feasibility, through all phases of design, and into construction administration and the grand openings, while developing positive and effective client (and coworker) relationships in the process.

We offer competitive benefits packages, flexible scheduling, free parking, and a culture of mutual interest, diversity, growth, and success.

Minimum of 2 years relevant experience, 5 years preferred, for Mid-Level positions. Wood and/or cold-form steel experience required. MS Structural Engineering preferred, BS with Structural emphasis and demonstrated industry experience welcome. Revit experience preferred.

Please email cover letter and resume to [info@bse-ps.com](mailto:info@bse-ps.com). Visit [www.bse-ps.com](http://www.bse-ps.com).

## Lund Opsahl

Located across the street from T-Mobile Park, 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 with minimum of three (3) years experience.

### 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 T-Mobile Park?!)

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](mailto:careers@lundopsahl.com).

## Seattle Structural

### Opportunities for Mid-level Design Engineer and Senior Project Manager

Seattle Structural is looking for qualified professionals to join our talented group practicing across a number of different industries. Seattle Structural offers an excellent opportunity to work on a variety of public and private institutional, healthcare, educational, and commercial projects both domestically and internationally. We offer a competitive salary and a relaxed, collaborative work environment. Benefits include medical insurance, transit reimbursement, and retirement matching. Seattle Structural is a firm that makes it easy to become personally invested in the achievements of your company.

Seattle Structural is an Equal Opportunity Employer.

We are filling two positions. Candidates must meet the following requirements:

- **Mid-level Designer:** 5+ years' experience.
- **Senior Project Manager:** 10+ years' experience.
- BS or MS in Structural, Civil/Structural, or Architectural Engineering.
- Experience in steel and concrete buildings, lateral analysis, deep foundations, and marine projects are desired.
- Working knowledge of CAD and Revit preferred.
- Strong emphasis on client service.
- Excellent communication skills.
- Strong technical skills.

Please address inquiries to:

Howard Burton, President  
Seattle Structural PS Inc.  
3131 Elliott Ave STE 600A  
Seattle, WA 98121

[HBurton@SeattleStructural.com](mailto:HBurton@SeattleStructural.com)

## LSB Consulting Engineers

LSB Consulting Engineers is a well-established, Spokane-based Structural Consulting firm with a history of delivering innovative project solutions throughout the Pacific Northwest. Our team members are empowered and inspired to produce high-quality work with an unwavering dedication to our clients.

We currently have an opportunity for a **Senior Structural Engineer** to join our team. Minimum requirements include the following:

- 7 years of progressive engineering experience, preferably in a consulting office
- Professional Engineering license, Civil or Structural
- Demonstrated capabilities designing steel, concrete, timber, and masonry systems
- Intimate working knowledge of IBC and ASCE7 code requirements for Structural Design
- Familiarity with analysis software such as Enercalc, RISA-3D, & RISAFloor, and production software such as AutoCAD and Revit
- Strong verbal and written communication skills
- Commitment to design excellence and efficiency
- Demonstrated ability to manage project staff
- Ability to work collaboratively and individually
- Professional attitude and commitment to success

LSB enjoys strong, ongoing relationships with architectural, industrial, and municipal clients, providing diverse and challenging design opportunities for our staff. We offer a positive and collaborative work environment with significant growth opportunities, a competitive salary, and a robust benefits package.

All applicants are requested to submit a cover letter and current resume to [contact@lsbengineers.com](mailto:contact@lsbengineers.com).

## Upcoming Events

February 25: [Seattle Chapter Board and Dinner Meeting](#)

May 16: 2018 IBC Seminar by Education Committee

September 17: [SEA NW Conference](#)

[For more details and registration on events visit website.](#)

## From the Editor.



**FEB 2020**

### **Equilibrium Publication Team:**

John Gunn, Editor

Darrell Staaleson, Past Editor

Zohrah Ali

Allison Tran

Blaine Sanchez

Lisette Terry

Shivang Gupta

Chase Young

### **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 doing community service, or share some construction site photos and talk about lessons learned.
2. "A Picture and a Paragraph." Please use the article submittal form provided 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 send your articles to [jmg485@cornell.edu](mailto:jmg485@cornell.edu)

### **CORRECTIONS:**

The Refresher Course schedule was incorrect in the January edition. It has been corrected.

### **February Puzzle:**

What is the origin of ♥ as the symbol for a heart?

Clue: It is based on a type of plant.

Bonus: Cupid is the son of which two Roman gods?

Look on the SEAW Facebook Page for a picture clue!

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 a prize.

### **January Puzzle:**

What is the largest cat species which purrs?

Clue: It has two common names.

Bonus: What is the smallest cat species which roars?

Bonus Picture Clue:



Answer:

The largest purring cat is a mountain lion/cougar/puma/panther. The smallest roaring cat is a leopard.

<https://www.quora.com/What-is-the-smallest-feline-that-can-roar-and-the-largest-that-can-meow>

**Structural Engineers Association of Washington**

[info@seaw.org](mailto:info@seaw.org) | 206.338.7376 | [www.seaw.org](http://www.seaw.org)