

Newsletter of the Structural Engineers Association of Oregon

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SEAO

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SEAO has a twitter account and can be followed at @SEAOregon.



CONNECTIONS

October 2018 Volume 18 Issue 7

Upcoming SEAO Meetings and Events:

Wednesday, October 31, 2018: October Breakfast Meeting

Topic: Durability and Performance Specifications Speaker: Dr. Jason Weiss, Oregon State University Location: Portland City Grill, 30th Floor, 111 SW 5th Ave. Portland, OR Time: Check-in 7:00am, Program 7:30am See page 3 for additional information.

Thursday, November 8, 2018: SEAO YMF Happy Hour

Location: TBD Time: 5:30pm See page 5 for additional information. Location will be sent out via email

Thursday, November 15, 2018: SEAO Fall Seminar

Topic: Ever Changing Structural Provision of Our Building Codes Location: Embassy Suites Washington Square Time: 8:30am -4:30pm See page 13 for additional information.

Wednesday, November 28, 2018: ASCE's Meet a Civil Engineer Day Location: U of P Campus Time: 6:00pm—8:00pm See website for more information: https://www.asceor.org/

Thursday July 18, to Saturday July 20, 2019: URM & Seismic Upgrade Symposium

Location: Portland State University's Lincoln Hall, Portland, OR See page 9 for additional information. Volunteers needed!

Wednesday August 7, to Saturday August 10, 2019: SEA Northwest Conference

Location: Salishan Resort, Gleneden Beach, OR Additional information in future newsletter. CONNECTIONS is a monthly publication of the Structural Engineers Association of Oregon, published to disseminate current news to our membership and others involved in the profession of structural engineering. The opinions expressed reflect those of the author and, except where noted, do not represent a position of SEAO.

Send membership inquiries to:

9220 SW Barbur Blvd. No. 119 PMB #336 Portland, OR 97219

BOARD OF DIRECTORS

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Past President Seth Thomas KPFF Consulting Engineers Ph: 503.764.0554 Seth.thomas@kpff.com

Executive Secretary Jane Ellsworth SEAO Staff Ph: 503.753.3075 jane@seao.org

PRESIDENT'S MESSAGE:

SEAO Members:

First, I want to say that it is an honor to serve as President. I was first introduced to SEAO approximately 20 years ago as a scholarship awardee and have been in touch ever since. The dedication and efforts by all those involved is truly inspiring. As a native Oregonian, passionate about the state we live in and the folks I work with, I am proud to be among a wonderful group of Structural Engineers. Since childhood, I have been fascinated



with the built environment and growing to know more about the individuals involved, has been ever more exciting and enjoyable. I look forward to working together with the all in the organization and to take the opportunity to continue to share and support what we do as Structural Engineers.

SEAO thrives because of all the people that provide countless hours and passion to help support what we do in Oregon. I'd like to thank those who have done and continue to do so much.

Seth, Kevin, JoMarie, Phil, Dusty and Chad; your dedication has helped continue to shape and direct this organization, the time served outside of your professional and personal lives is truly appreciated. I had a wonderful time working with you and look forward in continuing the support of SEAO. Additionally, are gracious for all those that serve our committees, their ongoing tireless efforts are apparent in our codes, legislation, technicalities, young members and nearly every aspect that guides our profession.

Steve, Mike, and CJ; We welcome you to the board, looking forward to working together and thank you for stepping up and filling these roles.

Dusty, Chad and Seth; Welcome back, your time and efforts in SEAO have gone a long way. The dedication in the positions you serve are so important to keep us going.

I plan use this regular platform to update you with ongoing efforts related to what we do, but primarily to hear from others. So please look forward to interviews with our clients, academia, younger members, and 'pioneers'.

All the best.

Norm

SEAO COMMITTEES

CODE ADVISORY COMMITTEE

Seismic *Reid Zimmerma* reid.zimmerman@kpff.com

Wind *OPEN CHAIR*

Snow Load Andy Stember andy@jasenginc.com

Code Eric Watson eric@miller-se.com

Vintage Building *Wade Younie* wyounie@dci-engineers.com

Special Inspections *Eric Watson* eric@miller-se.com

Mass Timber *Eric McDonnell* Eric.McDonnell@kpff.com

STRUCTURAL ENGINEERS EMERGENCY RESPONSE (SEER) Dave Tarries David.Tarries@portlandoregon.gov

PROGRAM COMMITTEE Monthly Meetings OPEN CHAIR

Awards *Brynn Adkins* brynn@wdyi.com

Golf Tournament *Stephen Stenberg* steez07@yahoo.com

Conferences *Kevin McCormick* kevin@miller-se.com

ADVOCACY COMMITTEE Website Seth Thomas seth.thomas@kpff.com

Engineers Week *Michelle Juarez* michelle@miller-se.com

Young Member Forum *Deanna Kuhlman* dkuhlman@mcknze.com

CONTINUING EDUCATION <u>COMMITTEE</u> Seminars Andy Stembor

Andy Stember andy@jasenginc.com

MEMBERSHIP COMMITTEE

Newsletter *Deanna Kuhlman*

Roster *Jane Ellsworth* jane@seao.org

DELEGATES

NCSEA & WCSEA/NWC Seth Thomas seth.thomas@kpff.com

Amit Kumar (Alternate) amit.kumar@portlandoregon.com

OCTOBER MEETING WEDNESDAY, OCTOBER 31, 2018

TOPIC:

Concrete at Early Ages: Relating Science and Construction Operations

DETAILS:

This talk will discuss the behavior of concrete at early ages. The talk will relate the physical and chemical changes with construction operations. Aspects of maturity measurements, saw-cutting, curling and stress development will be discussed and needed areas of research will be discussed.

SPEAKER:

Jason Weiss, Head of the School of Civil and Construction Engineering, Professor and Edwards Distinguished Chair in Engineering, Director of the Kiewit Center for Infrastructure and Transportation Research.



Location: Portland City Grill, 30th Floor, 111 SW 5th Ave, Portland, OR

Time: 7:00 am — Registration 7:30 am — Breakfast & Program Cost: \$39 — Prepaid Members \$49 — Prepaid Nonmembers \$25 — Prepaid YMF Students- Free

Reservations: Pre-registration is required for all.

You can register and pay online at <u>www.seao.org</u> before noon, Friday, October 26. You can also register with Jane Ellsworth via phone at (503)753-3075 or via Email: jane@seao.org. Note: No-shows will be billed.

PDH Credit: One PDH has been recommended for this program.

SEPTEMBER MEETING RECAP

BY: DEANNA KUHLMAN

TOPIC: The Momentum of Tall Wood

SPEAKER: Ethan Martin

SUMMARY:

Tall wood buildings have gained considerable momentum in the last decade. Europe has been the market leader starting around 2008. Germany, Norway, the UK and Canada have moved away from this prescriptive limitations by using performance based design. However, in the United States, the current height limitations for wood framed buildings are based off the Heights and Areas Act of 1910. During that time they set the 6/1 requirements that is still widely used today. The following are some examples of tall wood buildings built in the last decade:

- Stadthaus, London, 8/1 built in 2009
- Treet Apartments, Norway, built in 2015
- Brock Commons, British Columbia, built in 2016
- Framework Building, Oregon, designed in 2017 (will not be built)

Motivations for tall wood buildings include:

- Market leadership
- Carbon reduction
- Energy performance
- Speed of construction (up to 64% faster)

Recently, tall wood buildings have gained popularity in the United States with support from organizations like the USDA. The USDA tall wood competition lead to testing on the high rise mass timber buildings like Framework building. Other mass timber buildings have gotten press lately including the Peavy Hall building at the Oregon State University Campus in Corvallis. Ethan was able to give insight on the issues that occurred. He stated that the lamination issue affected 6 projects including the Peavy Hall Building. The issue that lead to a collapse of a CLT panel arose years ago at the DR Johnson plant outside or Roseburg OR. During the winter, the heat was turned up in the manufacturing space and exceeded the recommended value for curing the glue. The increased temperature caused an excess of adhesive on only one end the panel. Since only one end of the panel is tested during APA inspection, the defect was not found and the panel was accepted. Since the incident, DR Johnson and stakeholders have investigated the defective panels and have replaced them. They have also implemented numerous other quality control measures and strict temperature regulations.

Ethan briefly summarized the process of how building codes have changed to allow tall wood buildings. The process includes the following:

- 1. Timber Innovation Act of 2017: S.538: <u>https://www.congress.gov/bill/115th-congress/senate-bill/538</u>
- 2. ICC Tall wood ad hoc committee <u>https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/</u>
- 3. Oregon Executive Order 12-16 <u>https://www.oregon.gov/gov/Documents/executive_orders/eo_12</u> -16.pdf
- 4. Portland adopted tall wood language from ICC committee.
- 5. Oregon adopted the Statewide Alternate Method No. 18-01









SEAO AWARDS WINNERS BY: BRYNN ADKINS

Fourth Annual SEAO Excellence in Structural Engineering Awards

Congratulations to the 2018 Excellence in Structural Engineering Awards Winners!

Renovation / Retrofit

New Buildings Over \$10M

Lloyd Center Remodel

DCI Engineers



This 1.4 million sf mall space received upgrades to the entrances, interior concourse, and ice rink. The ice rink was relocated to the central corridor and the second and third floors were reconfigured. The interior was also reshaped from square to oval. Design was made difficult due to the quality of existing drawings and various renovations. Construction was performed mostly at night to keep the mall open during regular hours.

Owner/Developer: Cypress Equities Architect: Waterleaf Architecture General Contractor: Deacon Corp.

SW 12th and Morrison Building

Nishkian Dean



This 6-story, 60,000-sf mixed-use office building contains an open floor plan, requiring the shear walls to be located away from the building face. The building sits on property lines which complicated the foundation design. The building also contains large 9-foot cantilevers in both directions, creating a striking pointed corner over the sidewalk. This building has provided a modern addition to downtown Portland.

Owner/Developer: Menashe Properties, LLC Architect: LRS Architects General Contractor: Turner Construction Co.

SEAO Awards Winners (Cont'd)

BY: BRYNN ADKINS

New Buildings Under \$10M

Special Use Structures

Sunset Porsche

WDY, Inc.



This 34,000-sf building is located on a 100-year flood plain, so the foundation had to be built 30" off the ground to allow water to flow below the floor in the case of a flood. This also meant the footings had to be built 10' below grade. The dealership presents a notable 292' radiused curve along the front, created from a 10' tall glass fin wall. There is also an 85' long skylight running along the center of the building, creating abundant natural light.

Owner/Developer: Sunset Imports Architect: LRS Architects General Contractor: Perlo Construction

Luuwit View Park

Peterson Structural Engineers



The new 16-acre park was named after the views of Mt. Saint Helens. The park includes a playground, youth sports field, basketball court, climbing wall, soccer arena, picnic shelter, and outdoor amphitheater. The complex and unique shelter required intricate design and connections that didn't detract from the architectural intent. Other structures include restrooms/storage and the "bird sculpture".

Owner/Developer: Bureau of Parks and Recreation

Architect: 2.ink Studio Landscape Architecture & Skylab Architecture

General Contractor: Stacy and Witbeck

SEAO Awards Winners (Cont'd)

BY: BRYNN ADKINS

Jurors' Favorite

Commercial Crew Access Tower

Nishkian Dean



The tower in Cape Canaveral, Florida provides a means for astronauts to access Boeing's CST-100 Starliner spacecraft which sits 200 feet above the launch pad atop the Atlas V launch vehicle. In an emergency, the astronauts can rapidly egress a safe distance away. The CCtCap is located next to the Atlantic Ocean and is in a launch environment where 1,200,000 pounds of rocket thrust is unleashed monthly. The position of the tower was constrained which required the foundation to be partly supported on the existing concrete launch duct and a portion on new concrete caissons. On top of that, the 200-foot-tall structure was built with a 10:1 height-to-width aspect ratio. The tower had to sustain hurricane loading for a Category III structure and is exposed to a severe coastal environment. An automated washdown system was incorporated into the system to protect the structure from the corrosion it would sustain. One of the largest challenges was that construction occurred on an active launch pad over a period where 17 launches look place. In the end, the project successfully provides astronauts with state-of-the-art means to reliably and safely begin their journey to the International Space Station.

Owner/Developer: United Launch Alliance, LLC

Architect: RS&H

General Contractor: Hensel Phelps Construction, LLC

2018 SEANW CONFERENCE RECAP

BY: AMIT KUMAR

By Amit Kumar, amit.kumar@portlandoregon.gov

This year the Structural Engineers Associations Northwest (SEANW) conference was held at Washington State University's, Tri-Cities campus in Richland, Washington, from August 1 to August 4th, 2018. Structural Engineers Association of Washington-South Central chapter were the hosts.

As the name suggests the SEANW conference comprises of the Structural Engineers Associations of North west. These include Structural Engineer's Associations (SEA's) from British Columbia, Washington (Washington is represented by 5 chapters), Idaho, Montana and Oregon.

The conference started with the meeting of the delegates from the SEA's. Structural Engineers Association of Oregon (SEAO) was represented by Seth Thomas (President and SEAO President) and Amit Kumar (Alternate Delegate). Delegates from each of the SEA's presented highlights of activities undertaken by their respective SEA's over the past year.

British Columbia Chapter has about 800 members. It successfully hosted the IBASE (International Association for Bridge and Structural Engineering) Conference in 2017 that was attended by over 800 delegates from around the world. Their education committee has been providing e-learning classes for over 20 years with a focus on turning theory into practice.



Among the various chapters of the Structural Engineers Association of Washington, the Seattle and Spokane chapters appeared to be the most active and successful. Other chapters are having difficulty attracting membership and recruiting members to serve on the board.

Your association, SEAO has had a relatively active year. We are 541 strong and hosted five lunch/dinner meetings, 3 full day seminars , golf tournament, a trade show, and an awards banquet. Our Young members group has also been active organizing meetings and field trips.

A common theme among many SEA's, not only in the Northwest but across the country is the challenge each is facing keeping members engaged and involved. It has been a challenge recruiting members to serve on the board and various committees so that their professional organization can serve them in the most proficient manner and provide a value to not only the individual but to the profession as a whole. These are some of the things being discussed at these conferences at both the local, regional and national levels. If you have ideas and would like to help with this conundrum please contact your board members. They are always open to ideas and can use your help in whatever capacity you can.

One positive seems to be that the Young member groups. They seem to be more enthusiastic and active than their more experience counterparts. They have being organizing some unique forums. As an example SEA, BC's Young Member Group organized a competition with a top prize of \$1,000.The goal of the competition was to develop speaking skills and young members participated by presenting their projects. The competition was a success and very much appreciated by the young members.

A couple of ideas for SEAO to consider is offering help to our young members in preparing for the PE and SE exams. Our YMG group does provide some mentorship in this regard but expanding this, maybe in partnership with other SEA's like Washington to provide this help would be a benefit to our members especially our young members. Another idea that struck me that could be of value to members is to provide classes similar to what SEA, BC does that guides members to turn what they learnt in school into practice. Maybe collaboration with BC which already offers such courses online would be another benefit to offer SEAO members. A third idea to consider is to work with organization such as SEAOC to get SEAO members involved in development of codes, research activities similar to what SEAOC's various committees do. We hear a lot of complaints about codes and their growing complexity. This could provide an insight and also a say in code development.

The delegates meeting ended with a discussion on future NWSEA conferences and schedule for hosting the conference. Oregon is scheduled to host the NWSEA conference next year, August 7- August 10th at the Salishan Resort. This will be a family friendly event and hope all of you will help make the conference a resounding success.

2018 SEANW CONFERENCE RECAP (CONT'D.) BY: AMIT KUMAR

The conference included many mini seminars over two days where technical topics were presented. Topics were wide ranging and included topics such as "Perforated Plywood Shear wall w/new criteria", "Masonry Design with Vertical and Lateral Loadings". "Structural Fire Protection with Prescriptive/Performance Based", "Post installed Concrete Anchors with Structural & Components, " Cold Formed Steel members with Vertical & lateral Loadings".

One of the technical sessions was a masonry demonstration by the Northwest Concrete Masonry Association. Masons provided a live demonstration by building clay masonry mockup wall with various configurations and brick tie options. Some attendees were even able to try their hand at building a CMU wall!

Slides from all the seminars are available to anyone interested. Let me or Jane at <u>jane@ seao.org</u> know and we will try and get you the slides.

The conference ended with an opportunity for those interested in touring the Hanford B reactor.

The B Reactor is the world's first full-scale plutonium production reactor. Created as part of the top secret Manhattan Project during World War II. B Reactor produced the plutonium used in the (the world's first nuclear detonation in July 1945, and the atomic bomb dropped on Nagasaki, Japan in August 1945 that contributed to the Japanese surrender and end of World War II. The reactor was designed and built by the DuPont company based on experimental designs tested by Dr. Enrico Fermi at the University of Chicago and tests from the pilot-scale X-10 Graphite Reactor at Oak Ridge, TN. Construction of B Reactor began in October 1943, and fuel was loaded into B Reactor on Sept. 13, 1944 - just 11 months later. It was just jaw dropping amazing to walk and view the reactor and view the place where scientists like Enrico Fermi worked. It was simply beyond comprehension that it took less than 24 months to go from an experiment at University of Chicago to building an atomic bomb. Not only was a nuclear facility built and produced but an entire city of Hanford was created from wilderness to a top secret nuclear facility in this short time period.

As part of the Manhattan Project National Historical Park, and in partnership with the National Park Service, the Department of Energy offers free public tours of the B Reactor. If you get a chance to visit the reactor I would encourage you to take up this opportunity. You will be amazed.

The conference was great success with over 55 attendees, 20 vendors and 10 speakers. Thanks to our hosts SEAW (South central chapter).



SEAO FALL SEMINAR:

Ever-Changing Structural Provisions of Our Building Codes

Save the date: Thursday, November 15, 2018

Presenter: SK Gosh Location: Embassy Suites Washington Square. Time: 8:30am -4:30pm

This seminar will discuss major, far-reaching changes in our wind and seismic provisions in the last 15 to 20 years. This includes the substantive changes in wind and seismic design provisions from ASCE 7-10 to ASCE 7-16, which will be reflected in the next code cycle.

NEW MEMBERS

The new SEAO members for the October are:

Cliff Jones - Jensen Hughes Scott Howard - Waypoint Engineering Inc Scott Ratterman - Eclipse Engineering Ben Steer - Miller Consulting Engineers Mariola Sullivan - Domina Ipsum Engineering

Welcome to SEAO!

Our goal is to provide benefit to our members and the best way to do that is get involved! Watch the emails, newsletters, and website for more information!

YOUNG MEMBER FORUM ACTIVITIES

Upcoming YMF Events:

Thursday November 8th—Happy hour Location: TBD Time: 5:30pm –7:00pm

VENDOR ADVERTISING

SEAO is now accepting vendor advertising!

Cost of a full page ad running for one month:

- \$250 Members
- \$350 Non Members

For more information, contact Jane Ellsworth at jane@seao.org.

INTERNATIONAL MASONRY INSTITUTE SYMPOSIUM

URM & Seismic Upgrade Symposium (three-day event) Dates: July 18-20, 2019.

Location: Portland State University's Lincoln Hall, Portland, OR

Organizing partnerships: International Masonry Institute (IMI), AIA Portland, SEAO, ASCE, PSU, and others

- This Symposium will focus on topics and concerns with URM buildings, including:
- Background on Earthquakes
- URM Construction and Seismic Engineering Technology and Options
- Seismic Upgrade Project Considerations and Costs
- Public Policy, Finance, and Resiliency

The Symposium will also include:

- Seismic Upgrade Project Competition with case studies
- Brewery pub crawl
- Exhibitor booths with sponsorship opportunities and reception
- Cocktail Reception
- One-day walking tour of URM buildings in Portland

We are looking for SEAO volunteers for the following:

- Be on the Seismic Upgrade Design Project Competition organizing group (1-2 engineers needed)
- Help organize the Walking Tour (2-4 engineers needed)
- Please let us know if you are a local engineer that has worked on URM buildings and feels they can contribute to the symposium in other ways as well.
- SEAO would also help us market the event to their members.

Please contact Amy Woods at <u>awoods@imiweb.org</u> or 503-329-3339 if you are interested.

NCSEA MEMBERSHIP UPDATES

Please note that Jane is now able to update your status on the NCSEA database! If you update your address please send an email to <u>jane@seao.org</u> so you can get your Structures Magazine!

DUES REMINDER

Annual dues for SEAO membership are due on **October 31, 2018**. You can make checks payable to SEAO and mail to:

9220 SW Barbur Blvd, No. 119 PMB #336 Portland, OR 97219

Or renew online using a credit card by going to: <u>www.seao.org</u>

Renewals: Member (licensed PE in Oregon): \$115 Affiliate Member: \$105 Student Member: \$18 Retired Members: \$25

Membership must be current (dues paid) to have your name included in our annual roster.

To update our records, please be sure that we have your correct address, name of your company, current phone numbers, and your email address. This will guarantee that you are receiving all correspondence and information from SEAO. You can update your information online, or if you have any questions contact jane@seao.org.



EMPLOYMENT OPPORTUNITIES

<u>Jacobs Engineering</u> Structural Engineer Portland, OR

Jacobs Engineering (formerly CH2M) continues to win significant work, and we are seeking to add to our Portland Office with highly-qualified Structural Engineers and Designers of all levels. Our Advanced Facilities-Electronics team is recognized globally as the top AE design firm for semiconductor manufacturing, data centers, and other advanced technology industrial projects. We are at the leading edge of Lean Design and Integrated Project Delivery, and our projects are highly collaborative with the client, general contractor, and trade partners. If you are up to the challenge and interested in growing your career, come be a part of our vibrant, dynamic team.

Visit <u>www.jacobs.com/join-us</u>, or contact <u>Steve.Trautwein@jacobs.com</u>.

<u>JUB</u> Structural Engineer Boise, ID

JUB is seeking a Structural Engineer to work in our Boise, ID office. Our team has long-term core clients who are developing interesting and challenging projects. The Structural Engineer will perform structural analysis and complete design calculations using the latest codes (IBC, ACI, ASCE 7); prepare and oversee production of construction drawings, specifications and estimates for construction costs. Client interaction and communication on projects will be expected. The main responsibilities of the Structural Engineer include, but are not limited to:

- Structural design using concrete, steel, wood and masonry
- Design of buildings, structures for various infrastructure including hydraulic structures, water tanks, water treatment plants, wastewater treatment plants.

Qualifications: Bachelors of Science in Civil Engineering – Structural focus—is required, P.E. Licensure, S.E. designation preferred (or ability to obtain within 12 months), 5-15+ years of structural engineering experience is required

To apply for this position, please visit www.jub.com

Cary Kopczynski & Company Senior Structural Engineer Bellevue, WA

Cary Kopczynski & Company a Bellevue-based company is seeking Senior Structural Engineers to join our award-winning team. Candidates should have experience working with the structural design of buildings and/or parking structures. Good communication skills and a strong work ethic are necessary. The qualified applicants will be committed to schedules and deadlines, able to work independently and as team members, and be self-starters.

Minimum of two years of related experience;

- EIT mandatory; PE preferred;
- Proven technical ability;
- For Project Managers, demonstrated project management skills and direction of staff;

Please visit our website to learn more about our projects. <u>http://www.ckcps.com</u>.

CKC offers an excellent salary and benefits package plus the opportunity to work on large projects incorporating innovative engineering solutions. Please email your resume and cover letter as a Word or PDF file to jobs@ckcps.com. No telephone calls please. CKC is an equal opportunity employer.

Faulkin Associates Part-time Construction Monitor Portland, OR

Falkin Associates is looking for a part-time construction monitor needed for commercial projects in Portland and surrounding areas. We are looking for new staff to provide the following: monthly construction monitoring site visit reports for evaluating contractor application for payment, schedule conformance, change order review and construction quality; upfront plan and cost project reviews; property condition assessments; capital needs assessments.

Must be a licensed engineer. Strong communications skills needed. MS Office and Adobe skills require (Word/Excel/PDF). Flexible schedule – perfect for retired/semi-retired. Compensation: hourly, plus mileage reimbursement.

Please contact Bryce Falkin at go@falkinassociates.com

EMPLOYMENT OPPORTUNITIES (CONT'D)

PCS Structural Solutions Structural Engineer-Project Manager Portland, OR

PCS Structural Solutions is a single-discipline structural engineering firm with a national reach. Our firm utilizes a corporate structure unlike any other in the Northwest single discipline with one passion, process, server, and culture. Come join us in our Portland office! PCS Structural Solutions is seeking a Project Manager.

Qualifications include:

- Master's degree in Civil Engineering from an accredit- Salem, OR ed college or university
- 6-10 years of experience with all building materials and project types preferred
- skills
- Working knowledge of concrete, steel, wood, and masonry design preferred
- PE, SE preferred
- Excellent knowledge of Microsoft Office suite •
- Preferred knowledge of Revit

Please send your resume to resumes@pcsstructural.com

Lund Opsahl Structural Engineer Seattle, WA

Lund Opsahl is 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.

We value the professional relationships within our firm and we believe those values are fundamental to the development of professional relationships outside of our firm. Collaboration within our office as well as with our clients requires commitment and responsibility.

Structural Engineers of all skill levels are encouraged to apply. Please visit our website, www.lundopsahl.com for additional information and job descriptions. Inquires and resumes may be sent to careers@lundopsahl.com.

ODFW Fish Passage Engineer

Share your expert knowledge as the ODFW's Fish Passage Engineer by providing technical engineering support Excellent technical, communication and management to the Fish Screening and Passage Program. This position is responsible for consultation, review and approval of facility designs and evaluation of facilities for compliance with State and Federal standards after construction.

> Qualifications: A Bachelor's degree in Civil, Mechanical, or Electrical Engineering; and four years of engineering experience; and you must be a licensed Professional Engineer (PE) in Oregon or have the ability to obtain an Oregon license within six months.

> We may consider under-filling this position at a lower level for the successful applicant. Salary: \$5,604 - \$8,199/mo. Generous benefits package.

Closing Date: October 22, 2018

Apply at: https://www.governmentjobs.com/careers/ oregon/jobs/2212363/facilities-engineer-3-fish-passageengineer? keywords=odfw&pagetype=jobOpportunitiesJobs

SEAO – Ever-Changing Structural Provisions of Our Building Codes

Hosted by the Structural Engineers Association of Oregon (SEAO)

Date:	Thursday, November 15, 2018 – 8:30 AM to 4:30 PM Registration Opens at 8:00 AM (Lunch Included)			
Cost:	 \$200 SEAO Member (Includes Class Notes) \$250 Non-member \$25 Late Fee (if registration received after Nov. 8, 2018) Students \$85 (Includes Notes) – Must show current student ID No refunds after 12:00 noon Thursday, Nov. 8, 2018 			
	Register ear	ly; Maximum 100 people	Program to be Taped by Limelight Video	
Location:	Location:	Embassy Suites 9000 SW Hotel and Conference Cen (503) 644-4000	Washington Square Rd ter Portland, Oregon	
Continuing Education:		SEAO has recommended this seminar for 6 PDHs (5 PDHs for Viewing Video)		
Speakers:	S. K. Ghosh, Ph.D., President, S. K. Ghosh Associates Inc.			
	S. K. Ghosh Ph.D., is a highly acclaimed speaker and author on seismic related issues and concrete design, and has been involved with the development of national codes and standards.			

Ever-Changing Provisions of Our Building Codes

This Seminar is largely about major, far-reaching changes in our wind and seismic provisions in the last 15 to 20 years. This will include the very substantive changes in wind as well as seismic design provisions from ASCE 7-10 to ASCE 7-16, which will be reflected in our next code. It will also include the substantive changes that are seriously being considered for inclusion in ASCE 7 beyond its 2016 edition. These changes will alter seismic design practice materially and Dr. Ghosh has concerns about them, which he would like to share with us. This is a chance to review where we have been and gives us a look to the future with the insight of someone who has been intimately involved in the structural code development process.

- 1. An Overview of the History and Development of Wind and Seismic Provisions
- 2. ASCE 7-10 to ASCE 7-16 Substantive Changes to Wind as Well as Seismic Design Provisions
- 3. Seismic Design Practice beyond ASCE 7-16: Substantive Changes Being Considered

Questions: Andy Stember (503) 657-9800

SEAO - Eve Our Buildin Registration Form Register Online at w Send to: SEAO PO Bo	r-Changing Structu g Codes ww.seao.org or x 2958	Iral Provisions of Make Checks Payable to: SEAO	
(503)	753-3075		
Firm Name:			
Firm Address:			
Phone			
Name of Attendee(s)			
# of Attendee(s)	@ \$200.00 / each =	\$	
# of Late Fees	(Nonmember \$250.00) @ \$25.00 / each =	\$	
# of Students	@ \$85.00 / each =	\$	
# of Videos	@ \$175.00 / each =	\$	
	Total Enclosed =	\$	

Visa Or Mastercard (go to <u>www.seao.org</u> to register online)