



# CONNECTIONS

September 2014 Volume 15 Issue 1

Newsletter of the  
Structural Engineers  
Association of Oregon

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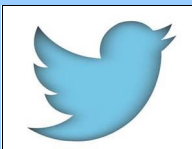
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## IN THIS ISSUE: PAGE #

- September Meeting Info 2
- SEAO Scholarship Foundation 2014-2015 Winners 3
- Wind Committee Info, Sep-tember Meeting Sponsor Info, YMF Events & Seismic Events 4
- Life Member Award & PEO Meeting Announcement 5
- Employment Opportunities 6 & 7

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



## Upcoming SEAO Meetings and Events:

### Wednesday, September 24, 2014: SEAO Dinner Meeting

Topic: Inelastic Structural Response to Subduction Zone Earthquakes  
 Speakers: Sarah Knoles, WRK Engineers  
 Location: Sentinel Hotel, Card Room, 614 SW 11th Avenue, Portland, OR  
 Time: 5:30 pm check-in & social, 6:15 pm dinner, 6:30 pm program  
 PDH Credit: 1 hour  
 Additional Agenda Items: Installation of new Board  
 SEAO Scholarship Foundation Awards  
 Meeting Sponsor: Simpson Strong-Tie. See Page 4 for Sponsor Info.  
 See Page 2 for additional meeting information.



### Thursday, September 25, 2014: YMF Happy Hour

Location: Green Dragon, 928 SE 9th Avenue, Portland, OR  
 Time: 5:30 pm to 7:30 pm  
 See Page 4 for additional YMF information.

### Wednesday, October 29, 2014: SEAO Lunch Meeting

Topic: Resilience: An Engineering Challenge  
 Speaker: Mary Comerio, Professor, Dept. of Architecture at UC Berkeley  
 Location: Portland City Grill, 30th Floor, 111 SW Fifth Avenue, Portland, OR  
 Time: 11:30 am check-in and lunch buffet, 11:45 am announcements, noon program  
 PDH Credit: 1 hour  
 Additional Agenda Items: Life Member Presentation—James (Jed) Sampson, PE, SE  
 Meeting Sponsor: Open to Sponsorship.

### Thursday, November 6, 2014: YMF Lunch Meeting

Location: KPFF Consulting Engineers, 111 SW Fifth Avenue, 26th Floor Conf. Room, Portland, OR  
 Time: noon to 1:00 pm  
 See Page 4 for additional YMF information.

## 2014-2015 SEAO BOARD

The following members have been elected to this year's Board and will be installed at this month's meeting:

- President:** Jennifer Eggers
- Vice President:** Gary Lewis
- Secretary:** Jim Riemenschneider
- Treasurer:** Mark Butler
- Directors:** Michelle Chavez  
Mike Bair (2nd year of 2-year term)

Congratulations and many thanks to the incoming Board for the time and efforts they will provide over the course of the next year.

# SEPTEMBER DINNER MEETING ANNOUNCEMENT

WEDNESDAY, SEPTEMBER 24, 2014

MEETING SPONSOR: SIMPSON STRONG-TIE

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:  
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## BOARD OF DIRECTORS

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## Topic: Inelastic Structural Response to Subduction Zone Earthquakes

Earthquake engineering has been developed in large part through the use of recorded ground motion data from past seismic events. The majority of analytical studies have been performed using crustal earthquake data, as the frequent occurrence of such earthquakes has resulted in large amounts of available ground motions. Subduction zone earthquakes, however, have been observed to display distinct differences in magnitude, duration, and frequency content to those of crustal earthquakes. Due to the impending Cascadia megathrust event, determining the effect such differences have on structural response is desirable, particularly for engineers in the Pacific Northwest. Recent subduction zone events have expanded the availability of subduction zone ground motions to the extent that such a study was possible. This study used a constant ductility approach to determine the structural demand of SDOF systems using recorded ground motions from the 2010 Maule and 2011 Tohoku earthquakes. Emphasis was placed on the development of a metric for quantifying the duration effect of subduction zone earthquakes. The metric will be discussed in detail and compared to other earthquake intensity measures such as peak ground acceleration and magnitude.



### Speaker: Sarah Knoles, WRK Engineers

Sarah joined WRK in 2014 bringing structural engineering experience focusing mainly in the power and public/civic/government sectors. While in graduate school at Portland State University, she performed extensive analysis focused on the structural response of subduction zone earthquakes. She has taken that experience with her into her most recent work which has centered around modeling and seismic analysis of electrical substations and seismic qualification of electrical equipment.

**Location:** Sentinel Hotel (formerly the Governor Hotel), 614 SW 11th Avenue, Portland, OR

**Check-in & Social:** 5:30 pm; **Dinner:** 6:00 pm; **Program:** 6:15 pm

**Cost: Dinner and Program:** \$32 — Prepaid Members  
\$20 — Prepaid YMF Members  
\$40 — Prepaid Non-Members  
Free — Students

**Reservations:** Pre-registration is required for all. **You can register and pay online at [www.seao.org](http://www.seao.org) before noon, Friday, September 19.** You can also register with Jane Ellsworth via phone at (503)753-3075 or via Email: [jane@seao.org](mailto:jane@seao.org). Note: No-shows will be billed.

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

**Videotaping:** This month's presentation will be videotaped and will be available for purchase to view for those who are not able to attend. The cost for obtaining access to the video is \$16 for members and \$22 for non-members. Please contact Jane Ellsworth at (503)753-3075 or via Email: [jane@seao.org](mailto:jane@seao.org) to obtain a web link to view the video.

*This month's meeting is proudly sponsored by Simpson Strong-Tie. Reference page 4 for additional information.*



## SEAO COMMITTEES

### CODE ADVISORY COMMITTEE

#### Seismic

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#### Wind

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#### Snow Load

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### STRUCTURAL ENGINEERS

#### EMERGENCY RESPONSE (SEER)

Shawn Stevenson—  
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### PROGRAM COMMITTEE

#### Monthly Meetings

David Gilroy—dgilroy@strongtie.com  
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#### Golf Tournament

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#### Conferences

Kevin McCormick—kevin@millers-se.com

### ADVOCACY COMMITTEE

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#### Legislative

Paul Kluvers—pkluvers@gmail.com

#### Engineers Week

Michelle Chavez—  
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#### Young Member Forum

Seth Thomas—setht@wrkengrs.com  
Phillip Davis—phillip.davis@kpff.com

### CONTINUING EDUCATION

#### COMMITTEE

##### Seminars

Andy Stember—andy@jasenginc.com

##### Professional Development

Open

### MEMBERSHIP COMMITTEE

#### Newsletter

JoMarie Farrell—  
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#### Roster

Jane Ellsworth—jane@seao.org

### DELEGATES

#### NCSEA & WCSEA/NWC

Ed Quesenberry—  
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Seth Thomas (Alternate)—  
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## SEAO SCHOLARSHIP FOUNDATION WINNERS

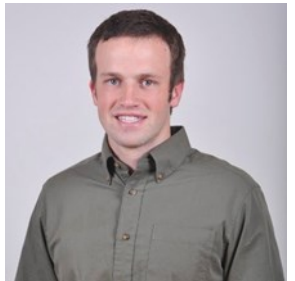
2014-2015

BY: SEAO SF CHAIR TONYA HALOG

The Structural Engineers Association of Oregon is pleased to announce our scholarship recipients for the 2014-2015 academic year. The SEAO Scholarship Foundation Board dispersed a total of \$13,000 this year. \$3,000 scholarships were awarded to Ilya Palnikov and Miranda Barrus. The \$3,500 Don Kramer Memorial Scholarship was awarded to Tyler Magill and the newly established Susan M. Frey Scholarship was awarded to Ezra Stockton. Once again, the generosity of our membership, combined with the success of the annual Trade Show continues to keep our scholarship program strong and allow this level of giving. Thank you to all our donors, the Trade Show vendors and the SEAO membership for your support of the Foundation.

The recipient of the **Susan M. Frey Memorial Scholarship** is **Ezra Stockton**, a Senior at Oregon Institute of Technology. He is concurrently pursuing a Bachelors and Master's Degree in Civil Engineering and has an overall GPA of 3.96 and an engineering GPA of 4.00. In addition to excelling in the classroom, Ezra is very involved with the student chapter of ASCE and has held various positions. This past spring he was in charge of the concrete mix design for the concrete canoe team, devoting a great deal of time to creating a new concrete mix every week for months, tweaking and altering his designs to achieve the strongest lightest mix. Ezra has a strong desire to learn and to mentor others. As a freshman, he was encouraging other freshmen to become involved in ASCE by keeping them up to date on activities, giving recruitment presentations, and hosting engineering activities. As part of the West Point Bridge Design Contest, he introduced basic bridge design principles to high school students, helping them apply the principles to actual designs, and thus helping these students gain an understanding about the profession of structural engineering. This past summer, he interned at CH2M Hill in their Portland office working on pipeline supports, facility structures, and foundations for microprocessor plants. Ezra is very honored to have received this award and wrote a thank you letter expressing his gratitude and saying he looks forward to attending the September dinner to meet the folks who helped make this scholarship possible.

Our **Don Kramer Memorial Scholarship** winner, **Tyler Magill**, recently earned his Bachelor's Degree in Mechanical Engineering from George Fox University and now is pursuing a Master's Degree in Civil Engineering with an emphasis in structures at Oregon State University. He had an overall GPA of 3.92 and an engineering GPA of 3.88. While studying mechanical engineering, Tyler became very interested in offshore drilling structures and structures as a whole. Tyler has interned the past three summers at US Army Corps of Engineers gaining firsthand knowledge of construction of large concrete and steel structures including fish ladders, barrier dams, in-water concrete facilities, monorail hoists, etc. As part of the Corps' Small Projects Team this past summer, he was working on small projects from the design phase all the way through construction. These projects involve a mixture of engineering fields, including mechanical and structural design. Tyler is interested in maritime and coastal structures as well as bridge engineering and plans to take coursework to become more knowledgeable about these structures.



**Ilya Palnikov** completed his Bachelor's Degree this year at Portland State University, with an overall GPA of 3.67 and engineering GPA of 3.46. He is now working towards a Master's Degree. He participated in the Undergraduate Research and Mentoring Program and served as an Undergraduate Research Assistant. While working at PSU's iStar Lab, Ilya was involved with testing bridge columns, anchoring systems, structural panels, and dynamics testing. His graduate research will include testing high-strength steel bolted connections focusing on two topics: 1) investigating the effects of undeveloped filler plates and 2) enhancing the performance of shear links for eccentrically braced frame systems. His experience with bridge retrofitting research has contributed to his interest in bridge design. It is his goal as a graduate student



Continued on Page 5

## WIND COMMITTEE NEWS

Activities for the SEAO Wind Subcommittee have quieted down significantly after a vigorous review of 2012 IBC wind design provisions—a review that helped the State of Oregon adopt the new IBC design provisions into the 2014 Oregon Structural Specialty Code. Now that we've adopted these provisions and the correlating new ultimate design wind speeds, a majority of recent work focuses on simply helping other design professionals in the understanding of the new wind loads and wind speeds.

## SEPTEMBER MEETING SPONSOR



## Under One Brand—Unified in Our Mission and Commitment to the Customer

For more than 55 years, Simpson Strong-Tie has never stopped working toward helping our customers succeed by providing innovative products, full-service engineering and field support, product testing and training, and on-time product delivery. Simpson Strong-Tie offers a full array of products for residential, commercial and industrial construction. As we continue to move into other commercial and infrastructure markets, we will introduce new products designed to protect, repair and strengthen concrete, wood and steel structures. These new product lines, like all of our others, will feature the Simpson Strong-Tie brand and logo – and the trusted levels of service and quality you've come to expect.

## YOUNG MEMBER FORUM ACTIVITIES

*By: Phil Davis & Seth Thomas*

### Upcoming YMF Events:

**Thursday, September 25th – Happy Hour** — Location: Green Dragon, 928 SE 9th Avenue, Portland. Time: 5:30 pm to 7:30 pm. Bring a friend, coworker, or both and enjoy a beer and some food while getting to know some other young professionals in our area.

**Thursday, November 6th – YMF Lunch Meeting** — KPFF Consulting Engineers, 111 SW Fifth Avenue, 26th Floor Conference Room—noon to 1:00 pm. Join us for our bi-monthly lunch meeting to discuss future events and activities. This is a great way to get involved in SEAO.

**Future Events**—In the upcoming year, the YMF is planning more social events in addition to our monthly happy hours. Continue to check the newsletter for details about a group outing to a Portland Winterhawks game, a bowling social, and additional upcoming tours.

**YMF Website Info:** <http://www.seao.org/committees/youngmembers/>. Please visit our website for more information on YMF events and information.

## SEISMIC EVENTS

### [ASCE Webinars \(www.asce.org\)](http://www.asce.org)

Thursday, September 25, 2014, 9:00 – 10:00 AM PST. [Advanced Topics in the Seismic Design of Nonbuilding Structures and Non-structural Components to ASCE 7-10..](#)

Thursday, October 23, 2014, 8:30 – 10:00 AM PST. [Seismic Evaluation and Retrofit of Existing Buildings: An Overview of Changes to the New ASCE 41-13.](#)

### [EERI Seminar \(www.eeri.org\)](http://www.eeri.org)

Seattle, WA: Thursday, November 6, 2014. [EERI Technical Seminar Series: Performance Based Design — State of the Practice for Tall Buildings.](#)

### [The Great Oregon Shakeout Earthquake Drill \(www.shakeout.org\)](http://www.shakeout.org)

Thursday, October 16, 2014.



## NEW SEAO LIFE MEMBER JED SAMPSON, PE, SE

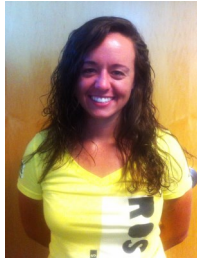


As Region 9 Seismic Project Manager for the United States General Services Administration for the last four years, Jed has helped guide construction of over \$700 million of new buildings, seismic renovations, and unique structures. He previously worked for the City of Portland Bureau of Development Services for 22 years. He was Chief Structural Engineer for the last five of those years. Before working in the government sector, Jed worked for 12 years as a design engineer for various structural consulting firms in the Portland Oregon area. He graduated with a BS in Engineering in 1976 from the University of Tennessee and has been a Registered Engineer since 1980.

Jed will be awarded with Life Member status at October's meeting. Please mark your calendars to attend and congratulate Jed at next month's meeting. Additional information about Jed and his career will be included in next month's newsletter.

## SEAO SCHOLARSHIP FOUNDATION WINNERS (CONT.)

**Miranda Barrus** is a Senior at the Oregon Institute of Technology pursuing both Bachelor's and Master's Degrees in Civil Engineering. She has an overall GPA of 3.75 and an engineering GPA of 3.73. Miranda is the Vice President and Field Trip Coordinator for the Student Chapter of the Institute of Transportation Engineers and she serves as Corresponding Secretary of the Engineering Honor Society. She is also an active member of the ASCE Student Chapter, attending conferences, Host-A-Student Dinner, & community service events. She has participated in the concrete canoe competition and the geotechnical competition. Miranda is particularly interested in bridge design and is looking forward to participating in the ASCE steel bridge design competition this year. During her internship last summer at the City of Portland Bureau of Transportation and this summer at OBEC Consulting Engineers, Miranda was able to experience the application of her learning to real-world engineering and design. Miranda states, "As a result of my recent internship experience, I am certain that my education in civil engineering will not come to an abrupt halt once I have my degree in hand. I believe my continuing education is just that: never ending."



Scholarship recipients will each receive a one-year student membership to SEAO as part of the award. Thank you again to all of our members and friends who have donated to the Scholarship Foundation.

Also, we would like to thank the Scholarship Committee for their help in reviewing and scoring the applications:

Chad Kilian (Black & Veatch)  
Brad Larsen (OBEC Consulting Engineers)  
Dominic Webber (BergerABAM).

## PEO MEETING ANNOUNCEMENT

### PEO Columbia Chapter September Meeting Announcement

#### Heavy Lift Helicopter Manufacturing In Oregon

The Professional Engineers of Oregon Columbia Chapter will host a presentation by Ian Gibson, Chief Engineer at Erickson Aircrane on October 7, 2014, at the Moda Center (Blazer Arena). Erickson Aircrane manufactures heavy lift helicopters in Oregon and operates them around the world. The presentation will focus on the design and manufacturing of these unique aircraft, including the key mechanical, electrical, and computer control systems necessary for the success of the aircraft. The presentation will be in the Private Dining Room at the Moda Center, One Center Court, Portland, OR 9727. Registration is from 6 to 6:30 pm, social hour and dinner from 6:30 pm to 7:30 pm with the presentation to follow. For more information contact Christian Steinbrecher, P.E., PEO Columbia Chapter Program Chair, [cfs@CaRPEngs.com](mailto:cfs@CaRPEngs.com) or 503-297-4827. Register on line at <http://www.oregonengineers.com/>. PDH hours available to attendees.

# EMPLOYMENT OPPORTUNITIES

## ITS Technologies

ITS Technologies is seeking Candidates with a Structural Design/Structural Engineer background to work in the Portland area. We currently have openings for a Structural Designer, a Structural Engineer, and a Project Manager with a Structural Design/Structural Engineering background. This position offers a variety of great benefits, including health insurance, 401(k), paid time off, and a salary that is based on experience.

### Responsibilities & Requirements for Structural Designer Include:

- Bachelor's Degree in Civil/Structural Engineering
- 3D design experience is desired; Revit Structure and Navisworks experience is highly preferred
- Previous A&E firm experience with industrial and high-tech manufacturing facilities is preferred, but is not required
- Proficiency with AutoCAD in the creation of construction documents is required

### Responsibilities & Requirements for Structural Engineer & Project Manager Include:

- Bachelor's Degree in Civil/Structural Engineering; Master's Degree is preferred
- Previous structural design experience with emphasis on industrial facilities is strongly preferred
- Industrial steel and concrete design experience
- Licensed Professional Engineer (PE) required; Structural Engineer License (SE) is preferred
- Design structural projects and effectively utilize other engineering resources to provide complete detailed design packages that meet all aspects of the client's specifications and design standards
- Provide all pertinent information and required deliverables for each project
- Review and comprehend project documents submitted by clients
- Prepare design documents for drafting
- Prepare engineering calculations for permitting and client review
- Ensure that all applicable engineering design requirements for applicable codes are incorporated into each design packages

### Benefits Include:

- Medical
- Dental
- Vision
- 401(k)
- Paid Holidays
- Paid Vacations
- Tuition Reimbursement

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Please submit your cover letter, resume, college transcripts, and references via email to [HR@mscengineersinc.com](mailto:HR@mscengineersinc.com) (no phone calls or walk-ins).



## EMPLOYMENT OPPORTUNITIES (CONT.)

### **Oregon Department of Fish and Wildlife Chief Engineer Salem, OR**

Located in Salem, direct the department's Engineering Program that provides engineering and related services necessary to design, build, repair, and maintain the department's buildings and structures. In order to carry out department goals and objectives, s/he will develop and implement program policies, procedures and priorities and develop and manage program budgets.

For more information, see job posting at [www.dfw.state.or.us/hr](http://www.dfw.state.or.us/hr).

**Qualifications:** Six years of experience in supervision/staff-technical/professional-level work in Engineering Management. Two years must have included supervision/management of a program, section, or unit which included: development of program rules and policies, development of long- and short-range goals and plans, program evaluation, and budget preparation. A Bachelor's degree or equivalent course work in a field related to management or Civil or Structural Engineering may substitute for some experience. Note: You must be a licensed Professional Engineer (PE) in Oregon for this position.

**Salary:** \$4,881-\$7,199/mo. Generous benefits package.

**Closing Date:** September 18, 2014

**Contact:** Apply online at: [www.dfw.state.or.us/hr](http://www.dfw.state.or.us/hr)