



CONNECTIONS

May 2017 Volume 17 Issue 7

Newsletter of the
Structural Engineers
Association of Oregon

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Upcoming SEA O Meetings and Events:

Thursday, May 18, 2017: YMF Happy Hour

Location: TBD

Time: 5:30pm

See page 6 for additional YMF information.

Wednesday, May 31, 2017: SEA O Dinner Meeting

Topic: talk² Joint SEI/SEA O Meeting

Location: Kell's Irish Pub, 112 SW 2nd Ave., Portland, OR

Time: 5:30 pm — 9:00pm Dinner and Presentation

PDH Credit: 1 hour

See page 3 for additional information.

Friday, June 2, 2017: YMF Lunch Meeting

Location: TBD

Time: 12:00pm

See page 6 for additional YMF information.

Wednesday, July 19, 2017: SEA O/OACI Golf Tournament

Location: The Reserve, Aloha, OR

Time: 1:00pm Shotgun Start, 6:00pm Social Hour, 6:30pm Dinner and Awards

See page 12 for additional information.

SEA O has a twitter
account and can be
followed at
[@SEAOregon](https://twitter.com/SEAOregon).



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.

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PRESIDENT'S MESSAGE: *NEVER STOP LEARNING* BY: KEVIN MCCORMICK, S.E.



Before we break for summer, I have one more president's message for you. I leave you with these thoughts. As we look back on our careers, there are always encounters or moments that help define you as a person and as an engineer. It may be a moral dilemma or solving a unique engineering challenge. I tell our young engineers, and remind myself, to learn something new every day. It may be something about engineering or it may be how to not burn the Mac and Cheese. When you stop learning, you are done.

As engineers, we learn from a variety of places. A great source of information is a good contractor. There is wisdom in their words even though they keep telling you "I have done this a thousand times this way" and you keep saying "it does not calculate". Stop and take a minute to see if their way would work, with maybe just a minor tweak. Learning new ways of solving challenges is always a good thing. An example of this for me was the day I was called out to a job site because the contractor had not followed my plans and built something the way he wanted it built. I can remember the shouting match starting as soon as I got out of the car and started walking towards him. This continued until we were face to face. I thought to myself, this is stupid. I stepped back, stuck my hand out and said "can we try this again?" We shook hands and we figured out a way to make what he had built work, with a few

tweaks. That was almost 25 years ago and the lesson is still with me.

Interesting engineering trivia for the month: The Norwegian Laerdal Tunnel runs almost 15 miles through solid gneiss rock of the Hornsipa and Jeronnosi mountains making it the worlds longest completed tunnel. Something we may not think about as structural engineers is that they had to design special lighting to help drivers stay focused and alert, because it takes almost twenty minutes to travel through it.

We all are busy and summertime seems to kick our workload into overdrive. Remember to take some time to relax, and spend time with family and friends. Being mentally healthy is just as important as being physically fit. I will see you all again in September. Have a safe and happy summer!

- Kevin McCormick

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MAY DINNER MEETING ANNOUNCEMENT WEDNESDAY, MAY 31, 2017

talk² Joint SEI/SEAO Meeting

This is a Joint meeting between ASCE SEI/SEAO. This program will be based on a different format, similar to a TED talk, that we call **talk²**. We will be combining multiple speakers in a public forum to discuss ideas, communicate a speaker's compelling interest, expertise, experience and passion in the area of Structural Engineering. Please join us to learn more about bracing of flexural members and systems in steel buildings and bridges, seismic strengthening of wood-frame dwellings in Oregon and seismic certification of non-structural components in the City of Portland.

Speakers:

Prof Todd Helwig, J. Neils Thompson Centennial Teaching Fellowship in Civil Engineering, The University of Texas at Austin

"Effective Bracing of Flexural Members and Systems in Steel Buildings and Bridges"

Reid Zimmerman, P.E., S.E., Chair, SEAO Seismic Committee, KPFF Consulting Engineers

"Residential Seismic Strengthening of Wood-Frame Dwellings"

Brianne Pickett, Bureau of Development Services, City of Portland

"Seismic Certification of Non-Structural Components"

Details:

Location: Kell's Irish Pub, 112 SW 2nd Ave., Portland, OR

Time: 5:30 pm — 9:00pm Dinner and Presentation

Cost: \$35 — Prepaid Members
\$20 — Prepaid YMF Members
\$42 — Prepaid Non-Members
Free — Students

Reservations: Pre-registration is required for all. You can register and pay online at www.seao.org before noon, Friday, May 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.

See page 4 for additional information.



ASCE American Society
of Civil Engineers

MAY MEETING DISCUSSION TOPICS

Prof Todd Helwig

"Effective Bracing of Flexural Members and Systems in Steel Buildings and Bridges"

Prof Helwig's research has led to design methodologies for bracing systems for steel box girders as well as new details for stability bracing systems for I-shaped sections. He has developed recommendations for cross-frame and diaphragm systems that rely on lean-on bracing to help reduce the number of fatigue sensitive braces on steel bridges. His research has been recognized with several awards including the ASCE Collingwood Research Prize, the ASCE Moisseiff Award, and the ASCE Shortridge Hardesty Award. Prof Helwig was recognized by TxDOT with a top innovation award in 2005 for work related to lateral bracing of bridge girders by permanent metal deck forms. In 2010, his work on stability bracing systems in steel bridges was recognized at the North American Steel Construction Conference with an AISC Special Achievement Award. In 2017 he was awarded the *T.R. Higgins Lectureship Award* by AISC. He has served on a number of technical committees for AISC, ASCE and SSRC. He is currently the Chair of SSRC.

Reid Zimmerman

"Residential Seismic Strengthening of Wood-Frame Dwellings"

The Seismic Committee of the Structural Engineers Association of Oregon (SEAO) recently published a committee statement recommending an updated method for residential seismic strengthening of wood-frame dwellings in Oregon. This method is simple enough to be used by homeowners, contractors and other non-engineers for voluntary seismic strengthening of one- and two-story wood frame homes. The committee statement is available on the SEAO website. In the presentation, the updated method will be discussed and the Seismic Committee's recommendations for adoption in Oregon jurisdictions will be presented.

Brianne Pickett

"Seismic Certification of Non-Structural Components"

After a major earthquake, building systems often sustain more damage than the structure itself. Some of these systems are necessary for the building to function after an earthquake, such as key electrical, plumbing, fire and mechanical (gas, heating, ventilating) systems. It is particularly important to ensure buildings such as hospitals and first responder facilities; designated emergency operation centers; designated emergency shelters schools; water and waste treatment facilities; public utility facilities and facilities with large quantities of toxic and explosive materials remain functional and allow for the continued operation of the building after an earthquake.

In order to ensure continued operation of such facilities and as part of the City of Portland's overall disaster and earthquake resiliency plan, effective July 1, 2017, the Bureau of Development Services (BDS) will start implementing the provisions of the 2014 Oregon Structural Specialty Code (OSSC) section 1705.11.4 requiring seismic certification of certain non-structural components for structures designated as Risk Category III or IV. This presentation will discuss the requirements for seismic certification of non-structural components and submittal requirements for plan review and approval.

SEISMIC EVENTS

[ASCE Webinars](#)

Friday, May 26, 2017, 8:30 AM – 10:00 AM PST. [Seismic Screening of Buildings Using ASCE 41-13.](#)

Tuesday, June 6, 2017, 9:00 AM – 10:00 AM PST. [Large Wood Diaphragms in Heavy-Wall Buildings: New Understandings of their Seismic Behavior and Improving their Performance.](#)

Monday, June 12, 2017, 8:30 AM – 10:00 AM PST. [Seismic Design of Ordinary, Intermediate, and Special Moment Frames.](#)

Wednesday, June 28, 2017, 8:30 AM – 10:00 AM PST. [The Seismic Coefficient Method for Slope and Retaining Wall Design.](#)

[ATC Council Webinars](#)

Thursday, June 8, 2017, 12:00 PM – 1:30 PM PST. [Webinar on NEHRP Technical Brief No. 2, Seismic Design of Steel Special Moment Frames – A Guide for Practicing Engineers, Second Edition.](#)

Wednesday, June 14, 2017, 12:00 PM – 1:30 PM PST. [Free Webinar on FEMA P-50 and FEMA P50-1, Simplified Seismic Assessment and Retrofit Guidelines for Detached, Single-Family, Wood-Frame Dwellings.](#)

APRIL MEETING RECAP

BY: SARAH VAN OTTERLOO

Topic: Earthquake Resilience: A New Role for Structural Engineers

Speaker: David Bonowitz, SE

There are and have been many different models for determining or modeling resilience of cities or communities following natural disasters. The scope of these models is generally far beyond just structural engineering.

One of the main factors structural engineers try to model or predict in a seismic event is damage to a structure. Damage affects resiliency in the following ways: safety, economy, reoccupancy, and recovery. These in turn affect other areas of the resiliency.

There is a large difference between safety and resiliency. When considering a retrofit based on safety versus recovery, the payout is remarkably different. For safety, the retrofit always pays out. You benefit when you put in the effort, no matter what others do in the community. However, when considering recovery, the payout is not individually based. If the collective community does not build to recovery standards then you do not necessarily receive the benefits of your individual effort. This is a problem of collective action, based around the idea of the “tragedy of the commons”. Your building could potentially be considered safe but not ready to recover.

The fact of the matter is that the ideas that we like about resiliency can turn into ideas that do not particularly work or into ineffective programs. For example, the Oregon Structural Specialty Code is requiring that schools and other occupancy category III and IV structures that have large assembly areas, such as gyms or cafeterias, be designed as community shelters. This is an admirable idea; the shelter could house and protect people in the community as redevelopment is implemented. However, if the school is considered a critical system according to the community’s resiliency plan and should be operational before private homes or housing, then the use as a community shelter could potentially hamper the operational recovery of the school itself.

Resilience is an attribute of an organization or community rather than a single building. Most codes and communities target Life Safety for their buildings, which is vague in terms of actual performance goals. Therefore, an ideological shift needs to occur around the idea of resiliency, transitioning from the safety of a structure to the safety and recovery of the occupants and community. The development of resiliency plans with timelines of expected and target recovery goals should be developed for a community. From the recovery time and operational goals of a community, building standards can then be applied.

The use of Risk categories is where policy currently intersects with building codes. A building’s risk category brings with it a certain set of design criteria and importance factors. These im-

portance factors, however, do not consider the recovery a building after a critical event. The recovery and reoccupancy of a building often relies on nonstructural components and systems. Currently, buildings with Risk Categories I, II, & III, have exemptions for nonstructural components. Redefining risk categories with recovery terms can help shift the ideology to a recovery based design based on community requirements.

Long term tools for a recovery based design approach are probably several code cycles off from being implemented. However, in the short term, there is the option of utilizing Risk Category IV criteria to optimize recovery for a wider variety of building types. For example, San Francisco has a design spectral response acceleration (S_{DS}) of 1.0, while some of the surrounding regions have a S_{DS} of 1.5. So it is quite possible and achievable to take the importance factor (I_e) of 1.5 and have similar designs to buildings in the same general area. Politically, officials would like more from their building codes. Current codes are based around safety rather than functionality, so using a category that holds structures to higher standards could likely guarantee higher functionality and quicker community recovery after a seismic event. By looking at case studies of risk category II structures, based on their occupancy, built to risk category IV standards, this can also be an affordable option. Going from risk category II to risk category IV can be done with a 1 to 2 percent cost premium, if the design considerations are taken into account early enough in the project. Therefore using the short-term option of building to risk category IV standards can be achievable, politically desirable, and affordable, which could help the recovery of a community at least in terms of their physical landscape.

Q/A:

Question 1:

For risk category II structures, can you use the non-structural requirements from risk category IV to achieve a better recovery?

Answer 1:

Potentially. It is possible that the non-structural damage is the most hazardous to the recovery. The only time when building to risk category IV standards is not generally worth it is when the supporting infrastructure is unable to recover as well.

Question 2:

With 80% of our current structures built prior to seismic considerations, what is your vision for existing buildings?

Answer 2:

Programs should be developed to bring existing structures to a life safety threshold, while simultaneously building new structures to higher standards. This would create a generational cycle for buildings, allowing new and existing buildings, as well as infrastructure, to work together in the act of recovery.

IBC INFO

1607.12 Roof Loads

CHANGE TYPE: Addition

CHANGE SUMMARY: The term “vegetative roof” has been defined in Section 202 and a reference to ASTM E 2397 has been added to Section 1607.

2015 CODE:
SECTION 202
DEFINITIONS

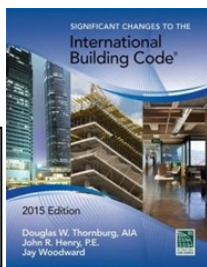


VEGETATIVE ROOF. An assembly of interacting components designed to waterproof and normally insulate a building's top surface that includes, by design, vegetation and related landscape elements

1607.12.3.1 Vegetative and landscaped roofs. The uniform design live load in unoccupied landscaped areas on roofs shall be 20 psf (0.958 kN/m²). The weight of all landscaping materials shall be considered as dead load and shall be computed on the basis of saturation of the soil as determined in accordance with ASTM E 2397. The uniform design live load in unoccupied landscaped areas on roofs shall be 20 psf (0.958 kN/m²). The uniform design live load for occupied landscaped areas on roofs shall be determined in accordance with Table 1607.1.

CHANGE SIGNIFICANCE: The definition of “vegetative roof” has been added to Section 202 to be consistent with the definition in the ICC *International Green Construction Code* and ASTM D1079, *Standard Terminology Relating to Roofing and Waterproofing*. A reference to ASTM E 2397, *Standard Practice for Determination of Dead Loads and Live Loads Associated with Vegetative (Green) Roof Systems*, has been added for the purpose of determining soil loads on vegetative roofs. The provisions pertaining to landscaped roofs have been reorganized, and a reference to Table 1607.1 has been added for live loads on occupiable landscaped areas of roofs.

This excerpt is from the Significant Changes to the International Building Code, authored by John Henry, PE, Jay Woodward and Doug Thornburg, AIA. The book is available at shop.iccsafe.org. Use ID # 4000S12.



AWARDS PROGRAM BY: BRYNN ADKINS

SEAO is pleased to announce the third annual Structural Engineer Awards Presentation to acknowledge outstanding projects and structural engineering advancement. Projects will be judged by a panel of invited judges from multiple fields related to design and construction and will be based on innovative design, engineering achievement, and creativity. Awards will be presented at the September dinner meeting.

Submission Categories:

- New Buildings Under \$10M
- New Buildings Over \$10M
- Renovation/Retrofit
- Special Use Structures

Please see pages 10 and 11 for eligibility requirements and submission form. All submissions must be post-marked or emailed by June 30, 2017.

YOUNG MEMBER FORUM ACTIVITIES

BY: KATE PFRETZSCHNER AND DEANNA KUHLMAN

Upcoming YMF Events:

Thursday May 18th – Happy Hour

Location: TBD

Time: 5:30pm

Friday June 2nd – Lunch Meeting

Location: TBD

Time: 12:00pm to 1:00pm

Lunch will be provided.

YMF Website:

Please visit our website for more information on YMF events:

<http://www.seao.org/committees/advocacy/ymf/> .

WEBSITE UPDATE

The SEAO board is looking at overhauling the website in the next year, as our current website is becoming obsolete. The board is soliciting input from the membership to help guide the overhaul process. We would like to know what features the current website has that you like, dislike, and wish worked better. In addition, what would you like to see added, reorganized, or changed? This website is one of the tools SEAO can offer its membership, and we want to make it as useful as possible for all our members.

If you have any ideas, please contact Seth Thomas (seth.thomas@kpff.com).

ASK A QUESTION, GET AN ANSWER

Do you have a code question you would like to ask the Wind Committee or Snow Committee? SEAO is pleased to announce a simple way for Q&A's with technical committees. Email questions to jane@seao.org, and SEAO will direct your question to the appropriate committee chair for a response. Questions and their answers will be made anonymous and available to the membership on the website www.seao.org.

Committees include: Seismic, Wind, Snow, Code, Vintage Building, and Special Inspections.

SUPPORT THE NATIONAL STUDENT STEEL BRIDGE COMPETITION AT OSU MAY 26 AND 27, 2017

Oregon State University and the OSU School of Civil and Construction Engineering are excited to host the 2017 National Student Steel Bridge Competition (NSSBC) this Memorial Day weekend, May 26 and 27. We would love your help in reaching our goal of **\$35,000** in order to make this incredible experience possible, while keeping participant fees low.

At the NSSBC, approximately 50 student teams and over 500 students from universities all over the world construct and test bridges which they have designed and fabricated to meet a detailed set of specifications. The Steel Bridge teams compete to be the best in aesthetics, lightness, stiffness, construction speed, construction economy, and structural efficiency. The bridges need to support 2500 pounds and be erected in a timed construction event with another set of detailed constraints.

If it is possible for you to donate, your gift can help to:

- Cover costs of competition materials and equipment
- Keep student registration fees as low as possible
- Cover costs of venues, parking, and food for our participants, judges and volunteers. We have been fortunate to have had a great turnout of professionals to serve as judges on Saturday.

This competition provides students with the opportunity to learn fabrication processes, to gain design/management experience, and to experience the excitement of competing against teams from other colleges and universities. Please help us to showcase Beaver Nation and to host the best NSSBC to date.

To make a donation, please visit <https://create.osufoundation.org/nssbc>. Any questions, please contact Judy Liu (judy.liu@oregonstate.edu) or Tom Miller (thomas.miller@oregonstate.edu).

Go to <http://nssbc2017.org/> for more information, including events that are open to the public. We'd love to see you there!

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.

EMPLOYMENT OPPORTUNITIES

(ISAT) INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY

Structural Engineer
Portland, OR

(ISAT) International Seismic Application Technology, in Portland, Oregon is a world-class provider of consulting, engineering and seismic mitigation products for the commercial Mechanical, Electrical and Plumbing markets. Headquartered in La Mirada, ISAT has office locations throughout the US and is expanding abroad. Learn more about ISAT at www.isatsb.com/. Immediate opening for a licensed Structural Engineer (S.E.). Compensation \$85,000 to \$180,000/yr. DOE. Responsibilities include: Creating details with supporting calculations. Typical seismic support scenarios include shaft risers, wall mounts, frames, supplemental beams, vibration isolation mounts, anchorage of equipment, thermal anchors and guides, and vertical supports for MEP utilities. Understanding and clarifying engineering project scopes with clients. Provide cost effective engineering solutions. Develop a thorough understanding of seismic Building Code requirements as they pertain to non-structural systems. Interested? Send resume to scott@isatsb.com.

LUND OPSAHL

Structural Engineer and Design Engineer
Seattle, WA

Lund Opsahl is a growing structural engineering firm located in the SODO neighborhood of Seattle and we are looking to expand our team of exceptional individuals. Lund Opsahl is known for its technical leadership and creative environment. We are a woman owned business and work on a wide range of project types. 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. Currently we are looking for people in the following positions: Structural Engineer and Design Engineer. Please visit our website, www.lundopsahl.com for additional information and job descriptions for each of these positions.

You can also send inquires and/or resumes to careers@lundopsahl.com.

KPFF PORTLAND

Structural Engineer
Portland, OR

KPFF Portland Structural is looking for Experienced Structural Engineers who are motivated and interested in an opportunity for growth. KPFF is about freedom to work on what inspires you. Our engineers work on a vast spectrum of projects located around the globe: from anchorage of mechanical systems to complex, non-linear analysis of high-rise structures. We're a group of dedicated, friendly, hard-working professionals with the benefits of a large and stable firm but none of the red tape that comes with it. At KPFF you will work individually and collaboratively in the design and construction process for a wide array of challenging projects. You will work closely with talented engineers, BIM / CAD technicians, architects, project managers, contractors and client teams. Providing first-class service to our clients is what we're about. If this sounds like an environment you could thrive in, visit www.kpff.com/careers.

AKANA

Structural Engineer
Portland, OR

Akana is a Native American-owned multi-discipline consulting firm with a diverse portfolio of clients and projects throughout the United States offering a wide variety of services related to buildings, infrastructure, fisheries and transit facilities. We offer a stimulating work environment and great benefits in a culture that promotes growth. Learn more about our firm at www.akana.us. Akana currently seeks Structural Engineer with minimum of 10 years of professional experience. Experience in steel, concrete, masonry and timber, and willingness to work with non-traditional building methods and structures is important. Our focus on good client service requires excellent communication and project management skills. Familiarity with seismic analysis and AutoCad drafting with Revit a plus. Engineering degree from an ABET-accredited university and registration as a Professional Engineer preferred.



STRUCTURAL ENGINEERS ASSOCIATION OF OREGON

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2017 Excellence in Structural Engineering Awards

The Structural Engineers Association of Oregon (SEAO) Excellence in Structural Engineering Awards was created to acknowledge outstanding projects and structural engineering advancement by members. The third annual SEAO Awards will be recognized as a part of the September 27, 2017 dinner meeting and awards ceremony.

Eligibility Requirements:

1. Project must have completed construction during the calendar year of 2016 or 2017.
2. At least one member of the design team, research team, or a principal of the firm responsible for entry must be a member of SEAO.
3. Entries may be of any size, type, and location.
4. Projects may be submitted into one category only.
5. Each company may submit up to two projects per category (8 projects total).

SEAO Judging Criteria:

Projects will be judged by a panel of invited judges from multiple fields related to design and construction based on the following criteria:

1. Creativity of structural design
2. Complexity of design criteria
3. Ingenuity of design for efficient use of materials and construction
4. Fulfillment of client's / owner's needs or expectations
5. Suitability of the structure for its environment

Entry Instructions:

All entries must include the following:

1. Completed entry form on following page, including signature. Please enter all information as they would appear on an award.
2. Project Summary:
 - a. A written summary of the project emphasizing any outstanding accomplishments achieved and hurdles overcome during the course of the project's duration.
 - b. Two pages of text maximum, (10.5 point font minimum, 1.5 line spacing), plus one optional additional page for photos and figures at the end of the summary. Architectural renderings will not be considered and should not be included with the summary. Figures showing structural analysis or structural drafting models and details (Revit, AutoCAD, etc.) are allowed.
 - c. Summary must not include names of participating firms or project team members to allow for impartial judging. Any included names will be removed prior to judging.
 - d. Do not include any confidential or sensitive information.
3. Provide up to 15 photos (per project entry). If entry is mailed, provide a separate CD/Flash drive with all photos and figures. If entry is emailed, provide a separate Zip file attachment of .jpg images. Renderings will not be considered.
4. \$100 Entry Fee (per entry). Please make checks payable to SEAO and mail check as noted at bottom of entry form.
5. Multiple entries may be mailed together (and paid by single check). Refer to entry form for mailing address. If entries are emailed, send each entry in a separate email to the email address provided at the bottom of the entry form.
6. All entries shall become the sole property of SEAO. SEAO reserves the right to use or publish some or all entry material in publications. By entering, the Entrant grants a royalty-free license to SEAO to use any copyrighted material submitted. Such right includes publication of photographs and names of award recipients without compensation to Entrants.
7. **Submissions must be post-marked or emailed by June 30, 2017.**



STRUCTURAL ENGINEERS ASSOCIATION OF OREGON

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503.753.3075

www.seao.org E-mail: jane@seao.org

2017 Excellence in Structural Engineering Award Entry Form

Project Information:

Project Name:

This project is to be judged under the following category (select **one**):

New Buildings Under \$10M

Renovation / Retrofit

New Buildings Over \$10M

Special Use Structures

**Note: The SEAOW Awards Committee reserves the right to transfer projects into a different category as it sees fit*

Project Location: City:

State:

Total Construction Budget:

Completion Date:

Entering Firm: (contact must be a current member of SEAOW)

Please complete all sections of the form below. This information may be used for publicity purposes.

Firm Name:

Address:

City:

State:

Zip:

SEAOW Contact Name:

Contact Email:

Phone:

By signing below, I accept responsibility for any issues regarding project confidentiality agreements.

→ **Signature:**

Involved Entities:

Owner/Developer:

General Contractor:

Architectural Firm:

Geotechnical Firm:

Civil Firm:

MEP Firm:

Other:

Role:

Submission Checklist:

Entry Form

Project Summary (see entry instructions)

CD/flash drive for mailed entries or separate email
attachment w/up to 15 photos/images

Check for \$100 per entry made payable to SEAOW

Mail all materials to:

SEAOW Awards

Structural Engineers Association of Oregon

9220 SW Barbur Blvd, #119, PMB #336

Portland, OR 97219

Or Email all materials (10 MB maximum
per email) to:

seao.excellence.awards@gmail.com

Submissions Must Be Post-Marked or Emailed By June 30, 2017

2017 SEAO / OACI GOLF TOURNAMENT



**\$20,000
HOLE IN ONE
PRIZE!**

JULY 19TH, 2017
The Reserve
Vineyards & Golf Course
1:00 PM - SHOTGUN START!

EVENT DETAILS:

The S.E.A.O. and O.A.C.I. have joined together to hold another day of golf, fun and prizes for 2017! We've selected a brand new location for this year's tournament, the Reserve's North Course in Aloha, just outside of Hillsboro, OR!

Designed by the award-winning Bob Cupp, the Reserve's North Course is a more expansive, open air course that captures a lot of Oregon's low land landscapes, including the rolling hills of the valleys, and grassy coastal dunes. Measuring up to 6,845 yards, this par-72 course will be an excellent new location for the tournament and our players.

Per usual, we will have a shotgun start at 1pm, and capping the evening with dinner, beverages, and prizes for participants and their teams.

We look forward to seeing everyone come out again for our annual golf tournament, and are confident this will be the best one yet!

WHEN:

DATE: Wednesday, July 19th
SHOTGUN START: 1:00PM
SOCIAL HOUR: 6:00PM
DINNER & AWARDS: 6:30-7:30PM

TOURNAMENT:

4-Person Scrambles

CONTACT:

Jane Ellsworth
ph: (503) 753-3075
em: jane@seao.org

Don't forget to bring money for the raffle prizes and string! This year's raffle prizes will be:

- 42" TV
- Apple Watch
- Nike Wedge
- Ocean Tuna Fishing Trip for 2
- Power Washer
- YETI Cooler
- Gift Cards
- Much more!

WHERE:

The Reserve (North Course)
4805 SW 229th Ave.
Aloha, OR 97007
Phone: (503) 649-8191

DINNER:

A barbecue dinner, cosponsored by **RAMJACK** will be served after the tournament.

FEES:

Golf & Dinner: \$125/person
(Includes golf cart & driving range)
SEAO Young Members Forum: \$85
Mulligan: \$5/ea

Appropriate "Country Club" attire is required:

- Collared Shirts
- No Denim
- Shorts must have a 6" inseam
- Soft spikes only

**NO REFUNDS FOR
CANCELLATIONS AFTER JUNE 28th**

**PLEASE RETURN
THIS ENTRY FORM
BY JUNE 28th TO:**

S.E.A.O.

9220 SW Barbur Blvd. #119

PMB #336

Portland, OR 97219

(503) 753-3075 Phone

(503) 214-8142 Fax

Player Names

Green Fees

Membership

Payment Enclosed

☐ Golf & Dinner - \$125 ☐ SEAO ☐ OACI \$_____

☐ Golf & Dinner - \$125 ☐ SEAO ☐ OACI \$_____

☐ Golf & Dinner - \$125 ☐ SEAO ☐ OACI \$_____

☐ Golf & Dinner - \$125 ☐ SEAO ☐ OACI \$_____

Included: 1 (one) five-foot string per group.

Mulligan Add-Ons (1 Mulligan = 1 Shot Per Person)

☐ Check Enclosed

☐ Mulligans - \$5 ea (Limit 5 Per Foursome) _____ Qty \$_____

☐ VISA / ☐ MasterCard / ☐ AMEX Accepted

Total \$_____

Name On Card: _____ Card #: _____ Exp. Date: _____

Contact Number: _____ Billing Zip Code: _____ 3-Digit Code On Back Of Card: _____

2017 SEAO / OACI GOLF TOURNAMENT



JULY 19TH, 2017
1^{PM} Shotgun Start
The Reserve
Vineyards and Golf Course

Contact Info:
Jane Ellsworth
(503) 753-3075
oaci@comcast.net

SPONSORSHIP FORM

Company Name: _____

Contact Name: _____

Phone: _____ Fax: _____

Email: _____

HOLE SPONSORSHIP *(choose any or all of the following)*

- | | | |
|---|---|--|
| ☐ CORE SPONSORSHIP - \$250
Comes with individual tee signage, recognition on signage/banners at both the dinner and driving range. | ☐ PREMIUM SPONSORSHIP - \$1,000
Complete setup at the tee of one of two available, 3-par holes. Will include recognition from SEAO/OACI at the dinner. | ☐ PLATINUM SPONSORSHIP - \$3,000
Join RAMJACK in sponsoring the barbecue dinner to be hosted on site after the tournament. Includes separate recognition from SEAO/OACI at the dinner. |
|---|---|--|

WE THANK YOU FOR YOUR SUPPORT!

If you or your company would like to sponsor more than the above hole sponsorships, please check any of the additional sponsorship items below, or the option to sponsor/donate your own raffle prize:

RAFFLE PRIZE SPONSORSHIPS

- ☐ 42" TV | \$600
- ☐ Apple Watch | \$400
- ☐ Garmin GPS Golf Wawtch | \$200
- ☐ Traeger Grill | \$600
- ☐ Ocean Tuna Fishing Trip for 2 | \$600
- ☐ YETI 65 Cooler | \$400
- ☐ iFly Gift Card | \$90
- ☐ Top Golf Gift Card | \$150
- ☐ Power Washer | \$500
- ☐ Escape Room for Four | \$120

Would you like to sponsor/donate your own raffle prize? (ex: Mariner's seats, Blazers seats, etc)

☐ NO ☐ YES, Please describe below:

☐ Check Enclosed

☐ VISA / ☐ MasterCard / ☐ AMEX Accepted

Name On Card: _____ Card #: _____ Exp. Date: _____

Contact Number: _____ Billing Zip Code: _____ 3-Digit Code On Back Of Card: _____

SPECIAL SPONSORSHIPS

- ☐ LD/KP/Long Putt Hole Sponsor
\$150
- ☐ On Course Drink Refreshment Sponsor
\$400 *(Host drink cart for one beverage per participant to be redeemed during play)*
- ☐ Tee Off Sponsor
\$250 *(Host keg of Micro-brew)*
- ☐ 19th Hole Sponsor
\$250 *(Host keg of Micro-brew)*
- ☐ Golf Cart Sponsor
\$200 *(Host the golf carts with a sign in each cart with your company name)*
- ☐ Scorecard Sponsor
\$200 *(Host the scorecards with the name of your company on each card)*

Please Return This Form A.S.A.P. to:

S.E.A.O.
9220 SW Barbur Blvd., Suite #119, PMB #336
Portland, OR 97219
Email: oaci@comcast.net

Total \$ _____