



CONNECTIONS

May 2016 Volume 16 Issue 7

Newsletter of the
Structural Engineers
Association of Oregon

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Upcoming SEAO Meetings and Events:

Friday, May 20, 2016: YMF Lunch Meeting

Location: KPFF, 25th Floor, Broadway Room

Time: 12:00pm to 1:00pm

See Page 6 for additional YMF information.

Wednesday, May 25, 2016: SEAO/SEI Joint Dinner Meeting

Location: Kells, 112 SW 2nd Ave, Portland, OR

Time: 6:00pm to 9:00pm

PDH Credit: 1 hour

See Page 3 for additional information.

Thursday, May 26, 2016: YMF Happy Hour

Location: Burnside Brewing

Time: 5:30 pm to 7:30 pm

See Page 6 for additional YMF information.

Wednesday, July 27, 2016: SEAO/OACI Golf Tournament

Location: Pumpkin Ridge Golf Club

See Pages 10 and 11 for additional information.

SEAO 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: *TOO BUSY FOR NEW CLIENTS?*

BY: GARY J. LEWIS, S.E.



Here it is already the month of May, and construction season will soon reach its peak. The local construction economy still seems very healthy, and it

looks to be a busy summer coming up. A lot of our clients who had been slow or dormant in recent years are ramping up again, and it begins to become difficult to be able to help everyone who comes to us for help without compromising the level of service that we can give our regular clients. I've always believed that everyone who needs one should be able to retain a qualified engineer to help them with their needs, and have tried to do my share of that work, but when you get a call from a homeowner who needs help right away and you are already booked out for several weeks, where do you send them? Since most firms in the area are in the same situation, and are having trouble expanding their staffs to meet growing workload, where are these people to go?

If you thought I would follow that question with a brilliant answer, I'm sorry to disappoint you. I've at times been able to refer them to other engineers, but sometimes they call back because they've been turned down at every referral. I try to squeeze some of them in if they are in dire straits, but that is not always fair to my current clients. If you are in a situation to accept new clients, please let Jane Ellsworth know so that SEAO can help us help these people. If we had a list of available engineers and their areas of work at hand, we might be more accommodating to people in need. For us, this is a good problem to have. For them, it is just a problem.

As we prepare to have our summer hiatus from SEAO activities (except for the Golf Tournament July 27 at Pumpkin Ridge), I want to encourage you to attend the last

membership meeting until September, the joint SEI/SEAO dinner event at Kells on May 25. The program will combine multiple speakers discussing seismic preparedness in the Northwest. The forum's intent is to promote discussion of ideas and communicate each speaker's compelling interest, expertise, experience and passion in the areas of seismic Engineering and science.

Dr. Chris Goldfinger will be giving the first presentation. He is the director of the Active Tectonics and Seafloor Mapping Laboratory, College of Earth, Ocean and Atmospheric Sciences at Oregon State University. His presentation is called "The Really Big One: Evidence for Great Earthquakes in Cascadia and Inland Ground Motions". Dr. Goldfinger was also interviewed and featured in the Pulitzer winning article in the New Yorker Magazine titled "The Really Big One". Amit Kumar, S.E., P.E., Senior Structural Engineer with the City of Portland, and Carmen Merlo, Director of the Portland Bureau of Emergency Management will present on

"State of the Unreinforced Masonry Buildings and Ordinance in the City of Portland". Steve Drahota, P.E., Vice President and Transportation Marketing Manager for HDR, Inc. Engineering, in Portland will present "The Art of Seismic Retrofits".

This promises to be an informative and entertaining program in a different venue than usual, and a chance to meet some of our colleagues from another organization. Please look at the information in this newsletter and sign up as soon as possible to attend.

— Gary Lewis

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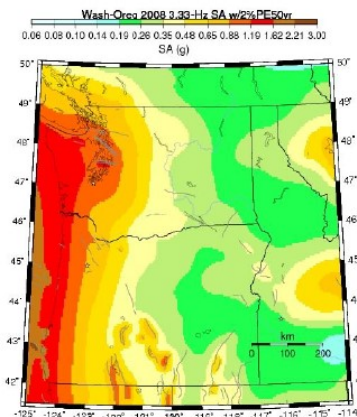
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edq@equilibriumllc.com
Seth Thomas (Alternate)—
seth.thomas@kpff.com

MAY DINNER MEETING ANNOUNCEMENT WEDNESDAY, MAY 25, 2016

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 seismic preparedness in the Northwest. The forum's intent is to promote discussion of ideas, communicate a speaker's compelling interest, expertise, experience and passion in the areas of seismic Engineering and science. Please join us to learn more about Northwest plate tectonics, seismic retrofits of unreinforced masonry buildings in the city of Portland and seismic retrofit of bridges.



Speakers:

Dr. Chris Goldfinger

Director, Active Tectonics and Seafloor Mapping Laboratory College of Earth, Ocean and Atmospheric Sciences, Oregon State University

"The Really Big One: Evidence for Great Earthquakes in Cascadia and Inland Ground Motions"

Amit Kumar, S.E., P.E./Carmen Merlo

Amit Kumar, Sr. Structural Engineer, City of Portland

Carmen Merlo, Director of the Portland Bureau of Emergency Management

"State of the Unreinforced Masonry Buildings and Ordinance in the City of Portland"

Steve Drahota, PE

Vice President, Transportation Marketing Manager, HDR, Inc. Engineering, Portland, OR

"The Art of Seismic Retrofits"

Details:

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

Time: 6:00 pm to 9:00pm

Cost: \$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 before noon, Friday, May 20. 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.



ASCE American Society
of Civil Engineers

APRIL MEETING RECAP

BY: DEANNA KUHLMAN

Topic: Deep Foundation Systems Speaker: Manuel Castañeda, PLI Systems

Manuel Castañeda is the president/founder of PLI Systems, Inc. in Hillsboro, OR. PLI Systems started in 1986 and has grown into a multimillion dollar contracting business specializing in deep foundations. His presentation was a brief overview of deep foundation systems and their cost, capacity, and applicability.



PLI Systems has a variety of equipment collected from around the world. In addition, they specialize working with small, mobile equipment that enables them to drill micro

piles practically anywhere (e.g. inside a crawl space of an occupied house). PLI Systems' portfolio includes (but is not limited to): installing 40ft shafts on the Portland hills (with difficult access), 4ft by 35ft diameter schedule 80 pipe pile installation, foundation stabilization for houses with a 110ft drop (with a debris catchment system required), installation of piles and lateral bracing for residential houses, pin piles and grade beams on residential houses, toe stabilization, and geofoam walls.

Since no foundation system is one size fits all, each system has advantages and disadvantages. But, if engineers are more familiar with the variety of deep foundation systems available, we should be able to pick the best solution. The following tables are a summary of the potential deep foundation systems and retaining wall systems presented at the meeting. Some images were taken from PLI Systems' website.

Wall Systems

Type	Example	Notes
Cantilevered Wall	http://www.soilstructure.com/structural-software/cantilever-retaining-wall/	<ul style="list-style-type: none"> • Cantilevered walls can be permanent or temporary • Will need drainage and waterproofing • May need tie backs
Tie Backs		<ul style="list-style-type: none"> • Picture is tie back with H piles and lagging • Can be good for stabilization of rock and silt
Soil Nail		<ul style="list-style-type: none"> • Twisted square tube • May require extra testing • Cost can range around \$85/ft² (for a 600ft² area)
MSE Wall	http://www.geosynthetic.net/scotto-polymeric-strap-reinforcement-interview/	<ul style="list-style-type: none"> • Compacted material with straps layered • Can be good for very large areas • Cost can range around \$65/ft²

APRIL MEETING RECAP (CONT.)

Foundation Systems		
Type	Example	Notes
Helical Pile		<ul style="list-style-type: none"> Cost effective, around \$1,200 for 20ft
Micro Pile		<ul style="list-style-type: none"> One of the cheapest deep foundation options Can be very stiff Can have bar in the middle of pile and grout Can install in very tight spots (around 6in adjacent to the wall, 48" apart) Capacity 5k to 400k
Geo Pier	 http://www.rasmithnational.com/news/	<ul style="list-style-type: none"> Rammed aggregate pier Casings maybe be installed so the soil doesn't cave
IBO	 http://www.dywidag-systems.com/uploads/media/DSI_ALWAG-Systems_IBO-Self-Drilling-Anchor_e.pdf	<ul style="list-style-type: none"> Proprietary product Good in sandy soil IBO's can be a tie backs or vertical Capacity ranges from 25k-400k
Drilled Shaft		<ul style="list-style-type: none"> Can be good in landslide susceptible area Provides a lot of shear capacity Cost can range around \$3,000 per shaft
Driven Pile		<ul style="list-style-type: none"> Cost can range around \$2,000, around 1/3 less cost than drilled shaft
Stelcor	 http://idealfoundationssystems.com/case-study-sunnyside-wa-ideal-stelcor-pile/	<ul style="list-style-type: none"> Drilled displacement micro pile Auger densifies soil Relatively clean and quick Capacities up to 200k

AWARDS COMMITTEE UPDATE

SEAO is pleased to announce the second annual Excellence in Structural Engineering 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.

Submission Categories:

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

Please see pages 8 and 9 for eligibility requirements and submission form. All submissions must be post-marked by June 30, 2016.

YOUNG MEMBER FORUM ACTIVITIES

Upcoming YMF Events:

Friday May 20th – Lunch Meeting
Location: KPFF, 25th Floor, Broadway Room
Time: 12:00pm to 1:00pm
Lunch will be provided.

Thursday May 26th – YMF Happy Hour
Location: Burnside Brewery, 701 E Burnside St.
Time: 5:30pm to 7:30pm

Bring a friend or coworker and get to know some other young professionals in the area over food and drinks. Happy hour food provided by SEAO.

YMF Website Info:

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

Please visit our website for more information on YMF events and information.

SEISMIC EVENTS

ASCE Webinars

Monday, June 6, 2016, 9:00 AM – 10:30 AM PST. [Seismic Screening of Buildings Using ASCE 41-13.](#)

Friday, June 24, 2016, 8:30 AM – 10:00 AM PST. [Seismic Evaluation and Retrofit of Existing Buildings: An Overview of Changes to the New ASCE 41-13.](#)

ATC Webinars

Thursday, May 26, 2016, 12:00 PM – 1:30 PM PST. [Free Webinar on Earthquake Strengthening of Cripple Walls in Wood-Frame Dwellings \(ATC-125\).](#)

NEW MEMBERS

The newest members to join SEAO are:

John Mitchell – SSOE Group
Ian Wright - SSOE Group
Jimenez Allmand-Albarca III – Black & Veatch

Welcome New Members!!

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.

EMPLOYMENT OPPORTUNITIES

ERICKSON STRUCTURAL CONSULTING ENGINEERS

Project Structural Engineer
Vancouver, WA

Erickson Structural Consulting Engineers is seeking a motivated and detail-oriented, full-time project structural engineer to join our growing and busy office. The successful candidate must be a licensed PE in Oregon or Washington, or gain licensure via reciprocity in Oregon and/or Washington within six months of hire. A successful candidate must also be comfortable with direct client interaction, possess excellent English verbal and written communication skills, and demonstrate familiarity with a wide range of building structural systems. Preference will be given to candidates with experience in the evaluation and remediation of existing building structures and proficiency using AutoCAD. This position offers a competitive compensation package, including health and dental benefits, a matching 401k plan, a flexible work schedule and an opportunity to play a significant role in the firm's success. To apply, submit a cover letter describing your career aspirations and compensation expectations, a copy of your resume and a list of professional references to info@ericksonstructural.com.

FIRST UNITED ENGINEERING

Civil Engineer
Portland, OR

First United Engineering is a small firm that has been doing business for more than 30 years. We are looking for an Oregon Registered Civil engineer with two years minimum experience. CAD experience is a plus.

Please send resume to: jaime@firstunitedengineering.com or mail to 922 Killingsworth St, Portland, OR 97217.

CATENA CONSULTING ENGINEERS

Structural Engineer
Portland, OR

catena consulting engineers provides the personal environment of a small firm while providing the opportunity to work on a variety of projects. Our projects vary in size from a single day's effort to large projects with construction values in excess of \$300 million. You will gain design experience in concrete, steel, timber, and masonry buildings and will work on a wide variety of project types including buildings created for healing, learning, living, and interacting. Due to the technical complexity and challenge of many of our projects, we seek engineers that hold a Master's degree, and that have a desire to learn, grow, and be challenged. U.S. citizenship is preferred. We are currently seeking engineers with 0-6 years of experience in structural engineering for buildings. For a detailed advertisement and to submit your resume, visit our website <http://www.catenengineers.com/opportunities.php>.

HOLMES CULLEY

Structural Engineer
San Francisco and Los Angeles, CA

Holmes Culley is a California based structural engineering firm dedicated to providing quality service and creative design solutions. As part of the New Zealand based Holmes Group, we are an international practice with over 300 professionals in six offices, providing engineering expertise to clients along the West Coast and throughout the Pacific Region. We are seeking structural engineers with 5+ years design experience for both our San Francisco and Los Angeles offices; M.S. degree in Structural Engineering and PE license are preferred.

Check us out at www.holmesculley.com and send your resume with cover letter to hr@holmesculley.com.

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.



STRUCTURAL ENGINEERS ASSOCIATION OF OREGON

9220 SW Barbur Blvd, #119, PMB #336, Portland, OR 97219

503.753.3075

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

2016 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 second annual SEAO Awards will be recognized as a part of the September 28, 2016 dinner meeting and awards ceremony.

Eligibility Requirements:

1. Project must have completed construction during the calendar year of 2015 or 2016.
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, 2016.**



STRUCTURAL ENGINEERS ASSOCIATION OF OREGON

9220 SW Barbur Blvd, #119, PMB #336, Portland, OR 97219

503.753.3075

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

2016 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 SEAO 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 SEAO)

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

Firm Name:

Address:

City:

State:

Zip:

SEAO 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 SEAO

Mail all materials to:

SEAO 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, 2016

2016 SEAO / OACI GOLF TOURNAMENT

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



JULY 27TH, 2016
Pumpkin Ridge Golf Club
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 2016! After the success of last two year's events, we will be heading back to the beautiful, **award winning course and facilities of the Pumpkin Ridge Golf Club!**

Only 20 miles West of Portland, OR, the Pumpkin Ridge Golf Club contains two championship courses, both beautifully etched into the landscape by renowned golf course architect Bob Cupp. The course we'll be playing on, **Ghost Creek, is a par-71, 6,839-yard classic course**, carefully carved through the natural and beautiful Portland wetlands, framed by lush stands of trees, and with dramatic mountain vistas.

We will have a shotgun start at 1:00PM, allowing us to all finish at the same time to share stories of the day's glory and despair, along with dinner, beverage and many prizes. We hope that you will come join us and support both organizations.

The course also offers a 17-acre practice facility to hone your skills prior to the tournament so come early. Power carts and range balls are included in the golf fee.

WHEN:

DATE: Wednesday, July 27th
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:

PUMPKIN RIDGE GOLF COURSE
12930 NW Old Pumpkin Ridge Rd
North Plains, OR 97133
Phone: (503) 647-4747

DINNER:

Dinner Will Be Served

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 JULY 1st**

PLEASE RETURN THIS ENTRY FORM BY JULY 3rd 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:** _____

2016

SEAO / OACI

GOLF TOURNAMENT



JULY 27TH, 2016
Pumpkin Ridge Golf Club

Contact Info:

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

Donation / Hole Sponsor Form

Sponsor Information:

Company Name: _____

Contact Name: _____

Phone: _____ Fax: _____

Email: _____

HOLE SPONSORSHIP

☐ **GOLD** - \$250 for individual banner at the hole and recognition on banner at dinner.

☐ **SILVER** - \$200 for tee sign stationed driving range before golf and recognition on banner at dinner.

☐ **BRONZE** - \$175 recognition on banner at 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

☐ Gift Cards | \$50 & \$100

☐ Ocean Tuna Fishing Trip for 2 | \$600

☐ Restaurant Gift Cards | \$300

☐ Yeti 65 Cooler | \$400

☐ Nike Wedge | \$100

☐ Power Washer | \$500

Would you like to sponsor/donate your own raffle prize?

☐ NO ☐ YES, Please describe below:

SPECIAL SPONSORSHIPS

☐ LD/KP/Long Putt Hole Sponsor
\$150

☐ On Course Drink Refreshment Sponsor
\$375
(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



2016 Western States Roundup – NW SEA Conference

Schedule of Events

Wednesday 8/3

The Element Hotel in Downtown Bozeman

1 – 5 pm: Western States and NW Delegate Meetings

5 pm – 8 pm: Welcome Reception



Thursday 8/4 & Friday 8/5

Montana State University Ballrooms

8:30 am - 5 pm : Breakfast – Lunch – Vendors – Seminars!

Thursday 6 pm – 9 pm: Key Note Speaker Dinner, Bobcat Stadium Skybox (TBD)

9pm – 12pm: Music on Main Street, Downtown Bozeman!

Friday 6 pm – 10 pm: BBQ Dinner – Music – Views – Fun! (Location TBD)

Saturday 8/6 – Fly Fishing, Rafting, Picnic – Sweet Pea Arts Festival, Yellowstone Park... TBD.

Registration Information Coming Soon... look for announcements!



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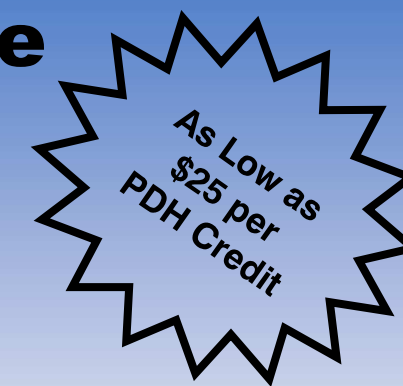
SEE NEXT PAGE FOR CONFERENCE SCHEDULE AND REGISTRATION RATES

SEAoA 50th Anniversary Convention And Conference

June 16-18, 2016

Attendee Registration Information

REGISTER ONLINE at <http://www.seaoa.org>



WE-KO-PA RESORT & CONFERENCE CENTER 10438 NORTH FORT MCDOWELL ROAD • SCOTTSDALE/FOUNTAIN HILLS, AZ 85264 PHONE: (480) 789-5300

SEMINAR TOPICS (9.0 PROFESSIONAL DEVELOPMENT HOURS)

The Future of Structural Engineering—Ashraf Habibullah, President/
CEO, Computers and Structures, Inc.

OdySEA Aquarium (Scottsdale, AZ) — Daniel Van Cuyk, P.E., CTS
Consulting Structural Engineers

Steel Moment Frame Testing, How and Why? - Ryan E. Smith, P.E.,
S.E.; SidePlate Systems

Post-Tensioned Concrete Design of Two Way Slab Systems—Bryan
Allred, S.E., Seneca Structural Engineering

Design Considerations for Mid-Rise Wood Structures—Terry Malone,
P.E., S.E.



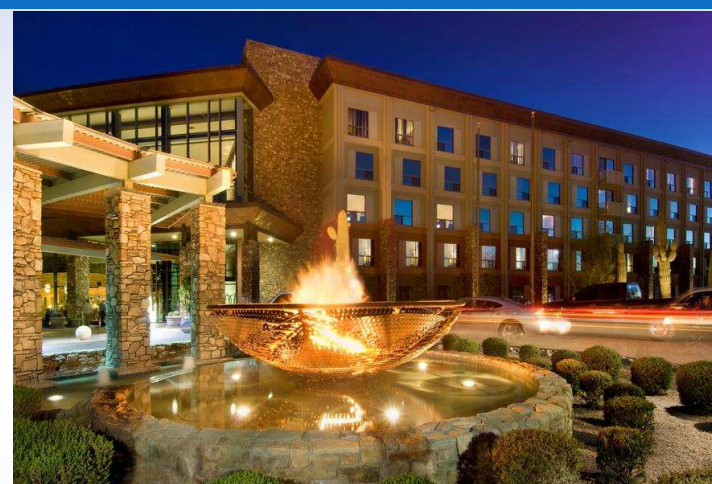
**3D Printed Structures: Challenges and
Opportunities** — Caitlin T. Mueller, PhD,
Massachusetts Institute of Technology

Vibrations of Concrete Floors — Mike Mota, PhD,
PE, SECB, Concrete Reinforcing and Steel Institute

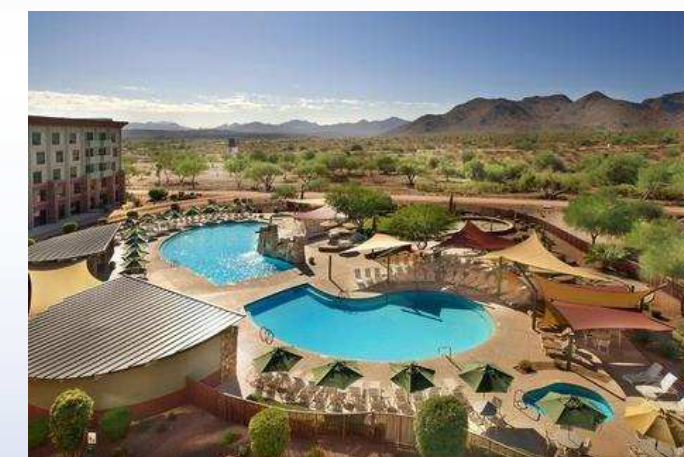
Design of Shelf Angles for Masonry Veneers—W. Mark McGinley, Ph.
D PE, FASTM; University of Louisville, Arizona Masonry Guild

2015 NDS Design Specification — Michelle Kam-Biron, P.E., S.E.,
SECB

**Innovation in Lateral Force Resisting Systems: Viscous Dampers in
Light Frame Wood Construction** — Jesse Karns, P.E., S.E. ; MiTek USA



- Exhibitor Trade Show and Welcome Reception
- SEAoA Excellence Awards



- Raffle Prizes for Attendees
- Commemorative Gift
- A Relaxing Resort Atmosphere

SEAoA 50th Anniversary MAIN EVENT

Sponsored by

Computers and Structures

Friday Evening June 17th, 6-9pm

Food, Entertainment and Homage



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Engineers since 1966

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2016 REGISTRATION RATES				CONVENTION AND CONFERENCE SCHEDULE		
Thursday Afternoon and Friday Sessions (9.0 PDHs)	Registration Period	Member Rates	Non-Member Rates	Thursday June 16th 8:00 AM—12 Noon <i>1/2 Day Seminar - Separate Registration Required—See Website for Topic</i> 1:00 PM Convention Opening Remarks 1:30pm—5:00pm Post-Tensioned Two Way Slabs <u>OR</u> Mid-Rise Wood Structures Vibrations of Concrete Floors <u>OR</u> 2015 NDS Design Specification		
	Pre-Registration Registrations through March 21st	\$210	\$250	Friday June 17th 7:30am—Breakfast 8:00am—8:15am Opening Remarks/Housekeeping 8:15—11:45am Steel Moment Frame Testing <u>OR</u> Shelf Angles for Masonry Veneers OdySEA Aquarium Presentation 11:45-1:30pm Lunch Presentation <i>SEAOA Excellence Awards Presentation</i>		
	Early Registration March 22nd—May 9th	\$225	\$275	Friday Evening 3:30—5:00pm SPECIAL PRESENTATION The Future Of Structural Engineering - Asharf Habibullah 6:00-9:00pm SEAOA 50th Anniversary MAIN EVENT Sponsored by Computers and Structures, Inc. and Asharaf Habibullah 6:00—Complimentary Cocktail Hour ~6:30—Dinner Service ~ 7:30 Honoring SEAOA's Past ~ 8:00 Entertainment -To Be Announced		
	Standard Registration May 10th — June 10th	\$275	\$325	5:00pm—7:30pm Exhibitor Trade Show Minute-to-Win-It Competition Watch our exhibitors and sponsors compete for your votes		
	Bring-A-Colleague Combo Rate May 10th—June 10th	\$225 Each Person	\$275 Each Person	1:30pm-3:00pm 3D Printed Structures <u>OR</u> LFRS: Viscous Dampers in Wood 3:00-3:30pm ATTENDEE RAFFLE		
	LATE or Walk-In Registrations After June 10th		\$375	Saturday Seminar 8am –3pm <i>Separate Registration</i> <i>See Website for Topic and Details</i>		
	Students VALID ID REQUIRED Registrations through June 10th		\$25 (fee waived if sponsored by a Chapter)			
	Companion Registration Anytime		\$150			
	Thursday Morning Session Till June 10th LATE/Walk-In Registration After June 10th Separate Registration on Website (4.0 PDHs)	\$75 \$100	\$100 \$125			
	Saturday Session Till June 10th LATE/Walk-In Registration After June 10th Separate Registration on Website (6.0 PDHs)	\$125 \$175	\$150 \$200			
Join SEAOA now for member rates and membership through July 2017 Email us directly for these offers at info@seaoa.org				\$99 Hotel Rate Rate Valid June 13th to June 20th Book by phone using code SEAOA or through the link below to received our guaranteed lowest negotiated rate with no resort fees: https://bookings.ihotelier.com/bookings.jsp?groupID=1550189&hotelID=96432 BOOK EARLY Rooms are limited and this rate may not be available after May 16th.		