



STRUCTURAL ENGINEERS OF COLORADO

NEWSLETTER

SEPTEMBER SEAC/RMSCA GENERAL MEETING

2016 SCHEDULE

Meetings

Loc: Renaissance Hotel
Time: Breakfast 7:30 a.m.
September 15

Fall Seminar

Loc: Renaissance Hotel
Date: October 27
Time: 7:30 a.m.—12 p.m.

Annual Meeting

SEAC Board Dinner
Date: November 12
Loc: Denver Art Museum
Time: 6:00pm—9:00pm

Board of Directors

Martin/Martin, Inc.
Time: 7:30 a.m.
January 7
February 4
April 7
June 2
August 4
October 6

Please see the
attached flyer for
our Fall Seminar
details!

What Structural Engineers Should Know About Fire Design

Dr. Garlock's presentation will focus on the history of fire design and where we are going now, structural fire design and real structural response to fire, and why structural fire engineering brings efficiency, economy, and elegance to structural design by going beyond the common prescriptive methods.



Bio: Maria Garlock, Ph.D., PE
*Associate Professor, Department of Civil and
Environmental Engineering—Princeton University*

Dr. Garlock is the 2016 recipient of the prestigious T.R. Higgins Lectureship Award, which is presented annually by the American Institute of Steel Construction (AISC). Dr. Garlock is being honored for several of her papers on fire resistance in steel structures, as well as her outstanding reputation as an engineer and lecturer.

Dr. Garlock is an Associate Professor at Princeton University in the Department of Civil and Environmental Engineering, and also the Director of the Architecture and Engineering Program and the Acting Director of the Program in Urban Studies.

In addition to the multi-hazard resistant structural design, Dr. Garlock studies the best examples of structural designs of the present and past, which encompass the ideals of efficiency, economy, and elegance.

RSVP September 2016 MEETING

September 15, 2016

Breakfast at 7:30 a.m.
Renaissance Hotel
3801 Quebec Street,
Denver, CO 80207

RSVP by
Monday, September
12, on the [SEAC web-](#)

BOARD OF DIRECTORS

Structural Engineers Association of Colorado



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susiejorg315@comcast.net

We Want to Hear from YOU! The SEAC Board of Directors is interested in hearing your suggestions, comments, and ideas. Please feel free to contact a member of the BOD at any time. Thank you to all of our members who continue to support SEAC!

PRESIDENT'S MESSAGE

Structural Engineers Association of Colorado

It is hard to believe that September is already here. Did anyone else notice snow caps on the mountains while driving to work a few days ago? Summer is in the wane, and I feel that I did not have time to do even half of what I had hoped to do during my kid's summer break. I imagine that many of you may have a similar sense of regret that another summer is passing too quickly. Maybe you haven't found time to hike or bike or camp or work around the house as much as you planned. To help with the onset of fall, I like to recall a quote from one of my favorite authors, John Steinbeck, who wrote in his book, *Travels with Charlie: In Search of America*, "*What good is the warmth of summer, without the cold of winter to give it sweetness.*"

On a business note, there are many different SEAC activities and agendas in the works right now. A couple notable activities include...

I have been assured that the launch of our new website is just around the corner. At the time I write this president's message, the website is currently scheduled to launch within three days. Please accept my apology for the repeated delays in launching the new site. Like Heinz ketchup, hopefully, good things come to those who wait. Please look for the interactive forum on the new website, and take advantage of it as a way for our members to openly discuss topics of interest to SEAC members.

The annual SEAC Business Practices Survey has been completed by the Business Management Committee. The Board of Directors and the Business Management Committee recently met to review the 2016 results, and to brainstorm ways to improve the annual survey for the benefit of all SEAC members. Hopefully, some of these ideas can be incorporated into the 2017 survey, making it even more beneficial for SEAC.

On a non-SEAC note, the Denver Business Journal recently launched a new interactive map on their website called "Crane Watch." It is a pretty nifty map that pin points significant commercial projects that are under way in metro Denver. If you click on a project pin, a pop-up window will appear with some basic project information, including address, description, cost, size, and schedule. I recommend you check it out if you have time. In an anecdotal sense, it might shed some light on why many of us did not do everything we had planned with our summer.

Cheers,



Benton Cook, SEAC President

ANNOUNCEMENTS

Structural Engineers Association of Colorado

PRECAST COMMITTEE COMMENTS NEEDED!

At the July SEAC Meeting, the SEAC Precast committee presented, “Recommended Practices for Specifying & Delegating Responsibilities for Precast Concrete Building Structures in Colorado.”

The committee has prepared a white paper discussing recommended practice, and appreciates and welcomes comments on the draft of the white paper.

The paper is available [here](#).

Please send comments to Trevor Kirkley (TKirkley@EnconUnited.com)
by September 30, 2016.

GIRLS IN STEM

The SEAC Education Committee is looking for companies and volunteers who would be interested to participate in the student outreach opportunities for the “Girls in STEM” program.

WE are currently looking for Engineering companies willing to host a tour with Q&A, rotations with high school students.



If interested, contact us at EducationSEAC@gmail.com

ANNOUNCEMENTS

Structural Engineers Association of Colorado

The new SEAC website is **LIVE!**

We invite you to explore the new site:

<http://seacolorado.org/>

For your convenience, your account has been set up and you can login as follows:

Your username is the first part of your email.

For example: cfarrell@martinmartin.com

Username: cfarrell

Password: SEAC2016 – Please change this password when you log in.

Please log in by clicking on the button "My Account" in the left hand navigation or entering your information into the form on the sidebar. You will be redirected to a summary page that will track any recent activity on your account. The word "subscription" applies to your annual membership payment with SEAC and your access to your online account.

Click on "Account Details" to change your password.

If you find any bugs or errors on the site, please feel free to log them in the forum:

<http://seacolorado.org/forums/forum/seac-member-forum/>

or email seac@martinmartin.com.

We appreciate your patience as we continue to upload information on to the new website.

IS YOUR COMPANY HIRING?

Consider placing an ad in the bi-monthly SEAC newsletter to reach over 300 members, including professional engineers, architects, contractors, suppliers, and vendors.

To learn more, contact Michelle Mishkar (SEACNEWS@MartinMartin.com)

THANK YOU TO OUR SPONSOR!

Structural Engineers Association of Colorado



The Rocky Mountain Steel Construction Association is a regional trade organization affiliated with the American Institute of Steel Construction (AISC). The objectives and purposes of the association are:

- ♦ To promote and expand the use of structural steel construction
- ♦ To bring into closer touch those persons with an interest in the use of structural steel
- ♦ To disseminate accurate and reliable information concerning technical developments and construction techniques
- ♦ To encourage continuing development of and adherence to appropriate standards of safety and quality relating to steel structures

RMSCA is made up of over 80 diverse member firms including fabricators, erectors, detailers, material producers and suppliers, and construction related vendors.

SPONSORS!

Your Logo Could Go Here!

Do you know someone that would be interested in
sponsoring a SEAC Meeting?

Please contact Don Carroll, Past-President, 561-226-1220 - DCarroll@wje.com

SEAC COMMITTEES... We Need You!

Structural Engineers Association of Colorado

Have you considered joining a committee?

*Your participation is what makes our organization so successful.
If you are interested in joining, please click on the hyperlinked name to contact
the Committee Chair or Board Liaison.*

Committee	Chairperson	Contact Phone	Board Liaison
BIM	Dezi Mackey	303.431.6100	Jeannette Torrents
Building Dept. Survey	DORMANT		Rob Jackson
Business Management	Paul Hause	303.399.5154	Paul Doak
Construction Industry	Mark Cormier	303.444.1951	Paul Doak
Denver Building Dept.	Jerry Maly	303.914.4300	Rob Jackson
Education	Irena Kahanek	720.296.7595	Susan Jorgenson
	Chad Mitchell	720.407.1031	
Ethics	Peter Marxhausen	303.947.5375	
Membership	Jerry Maly	303.914.4300	Ben Cook
Nominating	Jerry Maly	303.914.4300	Ben Cook
Northern Colorado	Greg Black	970.619.8986	Greg Black
Precast Concrete	Trevor Kirkley	303.298.1900	Paul Doak
	Graham Allen	303.480.1111	
SEER	Brent Norris	303.860.9021	Rob Jackson
	Mike Piper	303.431.6100	
Scholarship	Jeannette Torrents	303.444.1951	Susan Jorgenson
Seismic Standards	Rob Jackson	303.843.2850	Ben Cook
Snow Loads	Jeanette Torrents	303.444.1951	Jeannette Torrents
Standard of Practice	Jim Ness	303.623.4927	Paul Doak
Steel Materials	Ben Cook	303.914.4300	Ben Cook
Wind Loads	Jeannette Torrents	303.444.1951	Jeannette Torrents
Young Engineers	Mathew Peterson	303.726.2909	Susan Jorgenson



LOCATION:

Renaissance Denver
3801 Quebec St.
Denver, CO 80207

SEMINAR SCHEDULE: 4 PDH

7:00am – 7:45am

Registration/ Breakfast/Networking with Sponsors

7:45am - 9:30am

Precast Concrete Presentation

9:30am - 9:45am

Break / SEAC YMG to meet students/
Networking with Sponsors

9:45am - 11:15am

Seismic-Resistive Design of Wood Buildings

11:15am – 11:30am

Break/Networking with Sponsors

11:45am - 12:30am

Special Design Provisions for Wind and
Seismic Overview and Changes

SPONSOR



SEAC Fall Seminar Payment

www.seacolorado.org

Early Registration and Payment:

Deadline: Monday, October 17th

Members: \$125

Non-Members: \$145

Students: \$25

Regular Registration Fee Online or Payment at the Door:

Members: \$145

Non-Members: \$165

Students: \$40

**Online Payments Close: Monday,
October 24th**

**** Need to pay by check? See Pg. 3.****

2016 SEAC FALL SEMINAR

Thursday, October 27th

Precast Concrete Presentation

Presented by: Jason P. Lien, PE, FPCI

Executive Vice President at EnCon United, Denver, Colorado

Coordination Details Between the EOR and the Precast Designer

- **Camber/Topping/Drainage/Bottom Tensile Stress Interaction**
Investigate the impact of placing restrictions on the bottom tensile stress of prestress member and the interrelationship that has on camber, topping thickness, and drainage in a prestress parking deck. A review of bottom tensile stress limits per ACI 318 and code prescribed stress limitations.
- **Holes in Prestressed Beams**
One technique to leverage smaller structural depths or plenum space is through the use of holes in inverted tee beams between double tee stems. A brief review of the statics under construction loading, service loading, and ultimate loading. Rational design methods are presented for distribution of prestress, shear, torsion, and moment.

ASCE 7-16 Adoption of PCI Diaphragm Research

ASCE 7-10 has been modified and updated to ASCE 7-16 and includes a new section, 12.10.3, Alternative Design Provisions for Diaphragms including Chords and Collectors, within the Diaphragm Chords and Collectors section, 12.10. This new section provides for an alternative determination of diaphragm design force level, which is mandatory for precast concrete diaphragms in buildings assigned to SDC C, D, E, or F.

State of BIM in the PCI Precast Industry

General overview presented as a historical perspective to current implementation benefits, focus on data exchange through IFC and validation testing of import/export utilities, and a case study application.

Wood Seismic Design Presentation

Presented by: Michelle Kam-Biron, PE, SE, M.ASCE, SECB

Senior Director, Education, American Wood Council

Seismic-Resistive Design of Wood Buildings

This presentation highlights 2015 International Building Code (IBC), 2010 Minimum Design Loads for Building and Other Structures (ASCE 7-10) and the 2015 Special Design Provisions for Wind and Seismic (SDPWS) requirements applicable to the seismic design of wood structures. Wood-frame shear wall and diaphragm code issues are discussed including deflection equations, detailing requirements, and limitations on the use of wood in seismic design. Changes from previous codes and standards will also be discussed and additional resources will be referenced.

- Identify IBC code requirements for seismic design of wood structures
- Identify ASCE 7-10 and SDPWS for seismic design of wood structures
- Understand the limitations of wood shear walls and diaphragms
- Identify special seismic detailing requirements for wood structures

Shear Wall Design Examples per 2015 WFCM and 2015 SDPWS

There are several design tools and standards to assist engineers, architects, and building officials with the design of shear walls. Prescriptive approaches such as those outlined in AWC's 2015 Wood Frame Construction Manual (WFCM) for One- and Two-Family Dwellings and 2015 WFCM High Wind Guides tend to provide conservative results. Engineered approaches such as those outlined in AWC's 2015 Special Design Provisions for Wind and Seismic (SDPWS) typically result in more efficient designs. This course will outline several resources available for shear wall design and compare design results.

- Identify and understand the basic shear wall system to resist wind and seismic loads
- Understand the difference between segmented and perforated shear wall design
- Understand hold down design
- Be able to identify and analyze shear walls per 2015 WFCM, 2015 WFCM High Wind Guides, and 2015 SDPWS and understand the differences between them

Jason P. Lien, PE, FPCI



Jason is Executive Vice President of EnCon United, a corporate holding company of six precast concrete manufacturing plants spread across the United States. He has over 20 years of experience in the design, manufacture, and delivery of precast concrete systems. Jason formed and oversees EnCon's engineering division, EnCon Design, LLC, a design firm specializing in manufactured concrete products, as well as EnCon's construction division, EnCon Construction, LLC which focuses on concrete repair, concrete restoration, tilt-up, and general contracting.

Jason is one of the youngest recipients to be elected as a Fellow of Precast/Prestressed Concrete Institute. He is a two-time Leslie D. Martin Award of Merit winner and served for 8 years on the Institutes' Technical Activities Committee (TAC) supporting the technical advancement of precast/prestressed concrete. Other appointments include active participation on the PCI Design Handbook Committee, both 6th and 7th Design Handbook editions. He has presented over 50 seminars related to the design and use of precast concrete.

Previously, Jason was President of StructureWorks, a software development company specializing in an enterprise 3D design and drawing automation application, Built on the SolidWorks modeling platform and Microsoft SQL. Jason has been working with the Georgia Institute of Technology for nearly 2 decades on the advancement of software technology and data exchange/interoperability for the manufactured concrete market.

He holds a BS and MS in Engineering Systems for the Colorado School of Mines in Golden, Colorado. Jason is a registered Professional Civil Engineer in Colorado, California, New Mexico, Wyoming, and the Territory of Guam.

Michelle Kam-Biron, PE, SE, M.ASCE, SECB



Michelle Kam-Biron is a California licensed structural engineer and Senior Director of Education for the American Wood Council (AWC) where she is expanding AWC's national continuing education program in addition to lecturing extensively throughout the nation and authoring several articles related to wood construction. Before joining ASC, she worked for nearly five years in the wood industry as the Senior Technical Director – National Lead Mid-rise/Multi-family Construction for WoodWorks. Additionally, she was a Structural Engineering consultant and Executive V.P. of Harris Engineering, in California and has over 20 years of experience managing and designing a wide range of projects of various structural materials as well as California Division of State Architect contract plan review. Ms. Kam-Biron graduated from Cal Poly, San Luis Obispo with a BS in Architectural Engineering (ARCE) and has served as a volunteer on the school's ARCE's Industry Advisory Council. She is a certified Earthquake Disaster Assessment volunteer and a member of the International Code Council. Michelle serves on the NCSEA Basic Wood Education Committee and Continuing Education Committee. She is also President of the Structural Engineers Association of Southern California and is the in-coming chair ASCE-SEI Wood Education Committee.

REGISTRATION INFORMATION

REGISTER EARLY TO RECEIVE THE DISCOUNT

Early Registration and Payment Deadline: Monday, October 17, 2016

Members: \$125.00 Non-Members: \$145.00 Students: \$25.00

Regular Registration Fee Online/Payment at the Door

Members: \$145.00 Non-Members: \$165.00 Students: \$40.00

Members & Non-members RSVP Online at: <http://seacolorado.org/event/fall-seminar/>

*Note: Credit card payments will be processed by Paypal through the first full week of September until our SSL certificate has been installed. Then, secure payments will be entered directly into the website and processed by Square.

We will still be accepting payments by check.

Make your check payable to: **SEAC**

Mail to the address listed below along with this Registration Form:

SEAC

c/o Martin/Martin, Inc.

12499 W. Colfax Ave.

Lakewood, CO 80215

Attn: Caryn Farrell

PAYING BY CHECK – REGISTRATION FORM

Company Name			
Phone No. and Email:			
	Name of Attendees	SEAC Member (Y/N)	Fee Amount
Total:			

WEBINAR – REGISTRATION FORM (MEMBERS OUTSIDE METRO AREA)

Company Name			
Phone No. and Email:			
	Name of Attendees	SEAC Member (Y/N)	Fee Amount
Total:			

Make your check payable to: **SEAC (Reference “ Webinar” in Memo Line)**

Mail to the address listed below along with this Registration Form:

SEAC c/o Martin/Martin, Inc.

12499 W. Colfax Ave.

Lakewood, CO 80215

Attn: Caryn Farrell

WEBINAR PRICING

\$ 145..... 1 or 2 people

\$ 420..... 3 - 5 people

\$ 7556-10 people

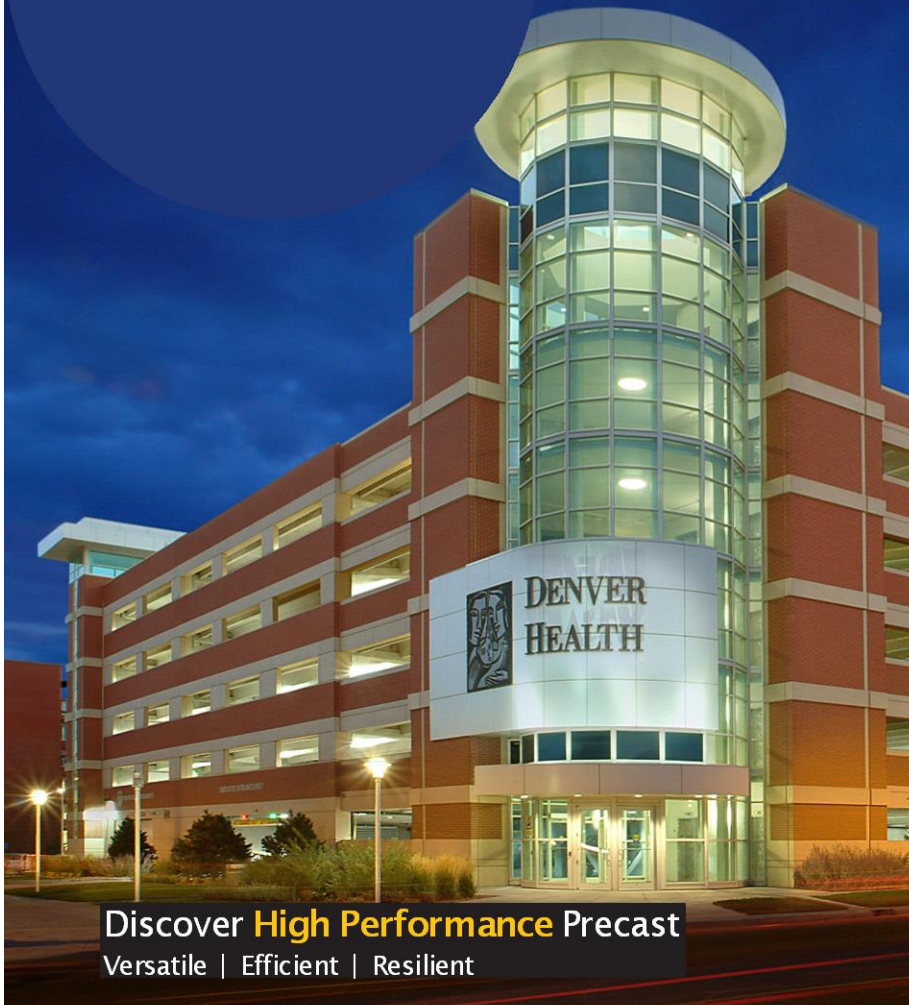
\$ 1,199 11 and more

The WEBEX unique access password for the SEAC Fall Seminar will be e-mailed to you after payment is received (by October 17th).

Please list all attendees’ name and contact information.

EXPLORE • DESIGN • BUILD

Explore the Possibilities. Design Your Vision. Build a Masterpiece.
Precast/Prestressed Concrete



Discover **High Performance** Precast
Versatile | Efficient | Resilient

Versatile

- Aesthetic versatility
- Structural versatility
- Scalable performance
- Adaptable use and reuse

Efficient

- Minimal site disturbance
- Accelerated construction
- Thermal performance
- Reduced life-cycle costs
- Durable, low maintenance
- Reduced detailing and trades
- Reduced risk

Resilient

- Long service life
- Storm resistance
- Earthquake resistance
- Blast resistance
- Passive fire resistance
- Indoor environmental quality
- Safety to occupants

Precast and prestressed concrete can be designed and manufactured for any application, ranging in size from short span bridges to some of the largest structures in the world. We manufacture superior concrete products—maximizing the versatility, efficiency and resiliency of your building or transportation project.

For more information visit our website at pcims.org or contact John Dobbs, Executive Director at 303.562.8685 or jdobbs@pcims.org

