



SEAC

GENERAL NOTES

Structural Engineers Association of Colorado Newsletter

JULY GENERAL MEETING

Lateral Force Resisting Systems for Precast Structures

Schedule
 Mark Your Calendar
 (2012)

General Membership Meetings
 January 18 (Wed.)
 Lakewood Country Club

Renaissance Hotel
 (Breakfast 7:30 a.m.)
 March 15
 May 17
 July 19
 September 20

Business Management Committee Meetings
 (Breakfast 7:30 a.m.)
 February 9
 April 12
 June 14
 August 9
 October 11

SEAC Board of Directors Meetings
 (7:30 a.m.)
 January 5
 February 2
 April 5
 June 7
 August 2
 October 4

Fall Seminar
 October 18

Annual Banquet
 November 15
 11:30 a.m. - 1:00 p.m.

Provisions for lateral resisting concrete systems have changed significantly over the years since their introduction in the ACI 318-71 Code; originally, these provisions did not include requirements specifically addressing precast concrete systems until the 2002 Edition of ACI 318. However, recommendations for precast systems appeared in the 1994 and 1997 Editions of NEHRP and were addressed in more detail in the 2000 Edition, in which new definitions for precast frames and walls were included. Over the past 10 years the precast industry has made significant advances on research, testing, and development of precast systems with high levels of energy dissipation, for example, the Precast Seismic Structural Systems (PRESSS) Research Program which includes Special Hybrid Precast Concrete Moments Frames and Special Hybrid Precast Structural Walls. In addition, work towards codification for a new methodology for the design of precast concrete diaphragms in high seismic regions.

This presentation will provide an overview on the history of precast concrete systems used to resist earthquake induced lateral forces, their applicability, and requirements throughout the different editions of

NEHRP. In addition, Pedro will discuss all of the different precast systems allowed by the current IBC and ACI Codes and their applicability. This presentation will also include a discussion on Intermediate Precast Concrete Structural Walls.

The addition of two new categories of Seismic Force-Resisting Systems (SFRS) for precast concrete in the 2006 Edition of IBC has created some confusion about whether to specify intermediate precast concrete structural walls or ordinary precast concrete structural walls in seismic design category (SDC) B. Additionally, it has been questioned how intermediate precast concrete structural walls that include openings should be reinforced. Pedro will summarize the different requirements of ACI and IBC when intermediate precast walls are specified as part of the SFRS, and will provide guidelines on when it is more cost efficient to specify intermediate precast walls in SDC B as supposed Ordinary Precast Concrete Walls.

See Bio for SEAC Speaker
 Pedro Fernandez on Page 6

Don't Miss Out - July General Meeting
Date: Thursday, July 19, 2012 - 7:30 a.m.

Speaker(s): Pedro Fernandez,
EnCon Design
Location: Renaissance Denver Hotel
 3801 Quebec Street, Denver, CO 80207
 (South of the I-70 & Quebec Intersection)

Please RSVP on the SEAC website at:
www.seacolorado.org
 or email Caryn Farrell at:
seac@martinmartin.com
 Reservations MUST be made by:
 Monday, July 16, 2012.

Officers & Board Members



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Information for inclusion in the newsletter must be received one month prior to the next general meeting.

Caryn L. Farrell
SEAC Executive Assistant
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President's Message

The news in Colorado over the last few weeks has been focused around the catastrophic wildfires our state has suffered. These fires have destroyed a staggering number of homes near Ft. Collins and now an unprecedented number near Colorado Springs. Thankfully, the loss of life from these latest fires has been minimal. My heart goes out to all the people who have suffered the devastating loss of their home and more importantly, their memories and family heirlooms. I cannot imagine the heartache that these folks are suffering right now. When interviewed on the news, those who have lost their home usually say things like "Material things can be replaced, I am just thankful that we all made it out safely." Statements like this are so true. It sometimes takes tragedies like this for all of us to re-learn what is truly important in life.

We have also heard in the news the good things that strangers do for each other in times of crisis. Sure, we also hear of looters and such; but, overwhelmingly it is the good in people that rise to the surface.

I am sure many SEAC members will be involved over the coming weeks and months in making assessments of structures affected by the wildfires. Our members will then be very involved in helping with the re-building process. I am very confident in our structural engineering community to handle each situation with professionalism and yet being sensitive to the clients who have just suffered a traumatic loss.

When making assessments of effected structures, each situation is unique. Wood superstructures likely will have been reduced to ash but the concrete foundations will remain. Before making judgments about concrete foundations, there are a lot of technical papers on the subject of concrete exposed to fire that are available for reference. The American Concrete Institute and the Portland Cement Association are both good starting points. Depending on the specific variables and circumstances, some foundations may be re-used with minor repairs while others may need to be completely demolished. This can be very important as unfortunately many homeowners may not have properly kept up with enough insurance coverage to fully cover the cost of rebuilding. I would also encourage us to take full advantage of your colleagues in SEAC to bounce ideas and questions off of each other. It goes without saying that diligence is in order that may include some destructive testing such as concrete coring to properly assess a given foundation.

Structural Engineering as a profession has an opportunity to shine in the midst of these recent catastrophes. I know that we will, and I look forward with pride to see the end results!

GENERAL NOTES - *Keep them CLASSIFIED!*

Structural Engineers Association of Colorado Newsletter Classified Section



William L. Simons & Associates
Consulting Structural Engineers
8785 Relston Rd., Suite 202
Arvada, Colorado 80002-2353
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We are seeking a top-notch Structural Engineer who would like to own his own business, by first working for our firm to learn the ropes, and then engage in a leveraged buyout. We are a small firm, with an extensive clientele, and great potential for continued growth.

Please contact William Simons at 303-431-2406 or send an email to simonsengr@aol.com



JUNIOR STRUCTURAL ENGINEER/REVIT MODELER CONTRACT TO HIRE POSITION

We are seeking Junior Structural Engineers/REVIT modelers with between two and five years of experience in engineering and modeling institutional, educational, commercial and residential buildings with REVIT Structure. The position is initially a 3 month contract position with the possibility of full time employment afterwards.

Applicants with an interest in architecture and design, and an ability to design creative aesthetic structural details, would be ideal.

Please send your resume via e-mail.

Contact: Julian Lineham, P.E.,
President

TELEPHONE:(303) 558-3145 x1

E-MAIL:jlineham@studionyl.com

For more information about us please visit www.studionyl.com

Classified Ad Policy

To place an ad please contact

Caryn Farrell at:

seac@martinmartin.com

Ads will be placed on the SEAC Website and newsletter.

Employment Ads must be kept to 100 (maximum).

The cost is \$100.00.

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THANK YOU



“A group of prestressed concrete manufacturers, working together to promote the application and use of precast/prestressed concrete in construction”

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Speaker Bio - Continued From Page 1



Pedro Fernandez, P.E., M.ASCE is the Engineering Manager for EnCon Design, LLC, graduated with a BS in Civil Engineering from the Western Institute of Technology (ITESO) in Guadalajara, Mexico. He is currently working on his Thesis towards a MS degree in Civil Engineering at the University of Colorado Denver. Pedro has more than 12 years of experience as an engineer and manager designing structural precast concrete systems for buildings. His expertise includes prestressed and precast concrete design, methods, materials and codes; and has written articles for journals on concrete technology and structural precast concrete systems. He lectures at the University of Colorado Denver, for the Continuing Engineering Education Program (CEEP) teaching PE review courses. Pedro is a licensed Professional Engineer in the states of CO, WA, OR, ID, NV, WY, OK, KS, NC, GA and AL. He is a member of ASCE, PCI, ACI, AISC, ICC, SEAC, Colorado Earthquake Hazard Mitigation Council (CEHMC), Earthquake Engineering Research Institute (EERI) and an active member of the PCI Blast Resistance and Building Code Committees; in addition, he serves as the Chairman of the PCI Seismic Committee.

Welcome

Please welcome our newest members to SEAC:

Eric Schultz (Professional Member)
JVA, Inc.

Benjamin Kaan (Affiliate Member)
Thornton Tomasetti

Jeffrey S. D'Andrea (Affiliate Member)
Thornton Tomasetti

Cole D. Brubaker (Student Member)

Katharine A. Courtright (Student Member)



The 2012 Membership Directory has been posted on the seac website under the Member's Page. www.seacolorado.org

Please take a moment to REVIEW the Membership Directory. If you see any changes that need to be made please send an email to seac@martinmartin.com.



2012 SEAC SCHOLARSHIP RECIPIENTS

The SEAC Scholarship Committee Congratulates the 2012 Scholarship Recipients

Mr. Cole Brubaker will be a junior at Colorado State University next fall. He is a member of the University Honors Program with a 3.978 GPA and was selected as the outstanding junior of the year within the college of engineering by Phi Kappa Phi. He is a member of Chi Epsilon Engineering Society. Cole served as a Student Ambassador at CSU and was a Resident Assistant on campus.

Ms. Katharine Courtright will be a junior next fall at the Colorado School of Mines with a 3.93 GPA. She is a member of Society of Women Engineers, American Society of Civil Engineers and Association of General Contractors. She is also very involved with Junior Achievement which she is passionate about. She served as a Resident Assistant at The School of Mines. Katharine is from Houston, Texas and worked for a short while for URS and Cameron Iron Works.



2010 recipient **Mr. Brandon Parker** was recently hired by JVA, Associates and **Ms. Erin Dowds** completed her last class required for her master's degree in May, and hopes to complete her thesis in December. She was an intern at Martin/Martin from May 2011-February 2012 and in February started as a full-time design engineer at Anchor Engineering, Inc.

2011 recipient **Mr. Pedro Oronia** finished his second semester of grad school and is heading to Houston for a summer internship with ConocoPhillips. He will be graduating in December 2012 and will start his Masters Report this summer, working on making a standard design for building platforms for solar water heaters in rural areas. This summer **Mr. Daren Hobbs**, another 2011 recipient, will be working with CH2M Hill as a bridge engineering intern. He is excited about this internship because it is exactly what he would like to be doing when he finishes his Master's in bridge design.