



SEAC

GENERAL NOTES

Structural Engineers Association of Colorado Newsletter

JANUARY GENERAL MEETING

Techniques and Design Considerations For Strengthening of Existing Concrete Structures

Although the upgrade of concrete structures is somewhat of a “scientific art” that has been practiced for many years it has evolved into a complex science that requires a blend of engineering, material science and construction perspectives. Projects may utilize traditional materials such as conventional cement-based and steel materials as well as advanced composite materials (FRP’s) commonly used for aerospace applications. As the techniques to properly design and install these materials for retrofit applications are not common to the engineering and general construction industry, they can cause strengthening projects to be even more challenging and complex than new construction.

There are many factors that create the need for strengthening. They include construction and design errors, increase in live load, new code requirements, low concrete strength, voids created during concrete placement, new penetrations and prevention of progressive collapse from blast loads. Unfortunately, the speed at which new construction projects are being completed today also contributes to some of these issues. This presentation will describe the different techniques, materials and

design concepts used for upgrading concrete structures. Special emphasis will be placed on strengthening with FRP composites- specifically design approach based on the latest ACI 440 (FRP) guidelines, installation methods, fire resistance, testing and QC. The use of each technique will be illustrated through actual case studies.



ACI member *Dr. Tarek Alkhrdaji, PhD, PE* is an Engineering Manager with Structural Preservation Systems. He has been involved in numerous projects involving structural upgrade and rehabilitation of concrete structures using conventional methods and advanced FRP composites as well as full-scale load testing. He has authored over 30 papers and articles on the topic of structural upgrade and testing of concrete structures. Mr. Alkhrdaji is a member of ACI Committee 437 (Strengthening Evaluation of Concrete Structures) and is currently Co-Chairing ACI 440 Subcommittee F (FRP Strengthening). He is also a member of ASCE (American Society of Civil Engineers) and ICRI (International Concrete Repair Institute).

Schedule

Mark Your Calendar (2009)

General Membership Meetings

(Breakfast 7:30 a.m.)

January 15

March 19

May 21

July 16

September 17

Business Practice Committee Meetings

(Breakfast 7:30 a.m.)

February 12

April 9

June 11

August 13

October 8

SEAC Board of Directors Meetings

(7:30 a.m.)

January 8

February 5

April 2

June 4

August 6

October 1

Annual Dinner Banquet

Date TBD

6 - 9 p.m.

Don't Miss Out - January General Meeting

Date: Thurs. January 15, 2009

Speaker(s): Joel Levenberg &

Tarek Alkhrdaji, PhD, PE

Location: Renaissance Denver Hotel

3801 Quebec Street

Please e-mail your reservation to **Caryn** at: seac@martinmartin.com. **Reservations MUST be made By Monday, January 12, 2008**

Officers & Board Members



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WWW.SEAColorado.org

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

Caryn L. Bauer
SEAC Executive Assistant
seac@martinmartin.com

President's Message

Welcome to 2009! I am honored to begin my term as President of the Structural Engineers Association of Colorado. Due to all the great work of past officers and directors, the organization is very strong, making it easy for new officers to step into their positions and keep things moving forward. I certainly found this to be true the past two years serving as Secretary and Treasurer. During this time I enjoyed getting to know the other Board Members and I would like to acknowledge some members who have ended their terms. **Stan Neujahr** was the President during my first year on the board and is ending his four year term. Stan is a great guy to work with, and during his four years he established new banking accounts and financial software, got us going with taking more photos at our events, set up great technical presentations, and arranged sponsors. He along with others have focused on getting a scholarship endowment fund going, and he plans to continue to work on that. **Jim Royston** has ended his three year term as a Director. Jim's main area of focus was our website. He worked with our Webmaster, Richard Huddleston, and other Board Members to reformat the website, and establish on-line purchasing of publications. He also assisted Stan with the Scholarship Committee.

We welcome our new Board Members; Andrew Kelsey, Secretary, and Alex Abel, Director. **Rodd Merchant** will complete his term on the Board serving as Past-President this year. Under Rodd's leadership as President we had a banner year with great Breakfast Meeting Presentations and record attendance. The Education Committee came in strong to put on the Fall Seminar, and we have begun to see involvement from several

members with NCSEA, our national organization.

When I moved to Colorado in 2004, I immediately joined SEAC, and it was a great decision. Attending SEAC meetings was a wonderful way for me to meet practicing structural engineers and feel more connected in the community, as I was part of a two person branch office initially! I have found Colorado, in general, and SEAC, in particular, to be very welcoming environments. I hope this will remain the case. For structural engineers working on their own or in small offices, involvement in SEAC is a great way to connect with peers and stay abreast of technical and professional developments.

Although 2008 was a great year for our organization, many firms in the A-E design community did not end the year so strong. These are difficult times and it is impossible to know how long they will last. The one silver lining is that engineers may have more time to get involved with organizations such as SEAC and committee activities that they normally are too busy to handle. There are many SEAC committees, some active and going strong, others getting started again (such as the Architectural Committee) and some dormant waiting to be revitalized. Check out the list on our website and feel free to contact the chair person noted or myself for more information.

See you at the January 15th meeting!

GENERAL NOTES - ANNOUNCEMENTS

Annual Dinner - 2008



Brent Norris (Right), Past-President



Jack Petersen, Past-President



Natalie Mozer-Renn, Past-President

Thank You!

SEAC Board of Directors would like to extend a special Thank You to YOU; its Members. SEAC continues to be an outstanding organization because of your continued support and its many Volunteers. The Board of Directors values your opinions and suggestions. Please feel free to contact anyone on the BOD at any time.

In The Spotlight

2009 Membership Dues

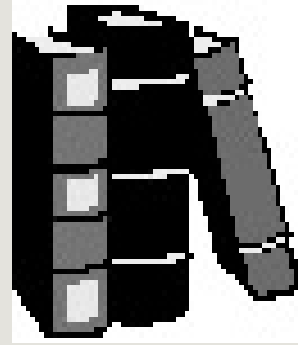
Dues notices have been emailed out to all members. Membership payments are due by **January 19, 2009**. Please submit payment **with** the Dues Form. In addition, please provide your email address (see attached Dues Notice form). We want to make sure SEAC has your most current contact information. Thank you for your help!

If you have a change of address, phone, fax, or e-mail. Please e-mail Caryn Bauer at seac@martinmartin.com

We want your

Suggestions

SEAC wants to hear from you! Do you have ideas/suggestions for this year's Annual Dinner or for future General Meetings? Please contact Elizabeth Jones at: ejones@martinmartin.com with any ideas or suggestions.



PUBLICATIONS FOR SALE

2007 COLORADO GROUND SNOW LOAD REPORT & MAP
Price: \$75 (members)

A GUIDE FOR CONSULTING STRUCTURAL ENGINEERING SERVICES: A RECOMMENDED STANDARD OF PRACTICE
Price: \$25 (members) and \$50 (non-members)

2006 SURVEY OF COLORADO BUILDING DEPARTMENTS
UNIT PRICE: \$50.00
CD: \$100.00

Contact Caryn Bauer at:
seac@martinmartin.com for order forms.



STRUCTURAL ENGINEERS ASSOCIATION OF COLORADO

2009 SEAC MEMBERSHIP DUES NOTICE

MEMBERSHIP CATEGORIES AND ASSOCIATED 2009 DUES

Professional Members

Professional engineers registered by the State of Colorado who are actively practicing, teaching or conducting research in the field of structural engineering.

- Local\$120.00
- Outside toll-free calling area\$60.00

Affiliate Members

Persons with an interest in the objectives of SEAC.

- Local\$120.00
- Outside toll-free calling area.....\$60.00

Student Members\$30.00

Full-time students who are pursuing engineering degrees at colleges and universities and who are interested in the practice of structural engineering.

Business Management Committee Members(additional) \$40.00

Please attach payment along with this form by:

Monday, January 19, 2009
Make check Payable to: SEAC
c/o Caryn Bauer
Martin/Martin, Inc.
P.O. Box 151500
Lakewood, Colorado 80215
303.431.6100

Please provide member information, including your email address on the back of this form.

WEBSITE: [Hwww.seacolorado.org](http://www.seacolorado.org)
*SEAC's Website requires the following information to
access the "Member" portion of the website:
Username: seac
Password: structure*

Please provide the following information for each respondent submitting payment using this notice:
SEAC will be sending all newsletters and updates via email. Please provide your email address.

Company Name: _____

<u>Print Individuals Name</u>	<u>Professional</u>		<u>Affiliate</u>		<u>Student</u>	<u>Member of Business Management</u>	<u>Total Dues</u>
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