



Structural Engineers Association of Colorado Newsletter

# MAY GENERAL MEETING

# **Schedule**

Mark Your Calendar (2011)

General
Membership
Meetings
(Breakfast 7:30 a.m.)
January 20
March 17
May 19
July 21
September 15

Business
Management
Committee
Meetings
(Breakfast 7:30 a.m.)
February 10
April 14
June 9
August 11
October 13

SEAC Board
of Directors
Meetings
(7:30 a.m.)
January 6
February 3
April 7
June 2
August 4
October 6

Fall Seminar
October 20

Annual Dinner Banquet
November 17
6 - 9 p.m.

# Combined CAGE-SEAC General Meeting

Please join us for what is planned as an annual joint meeting with the membership of the Colorado Association of Geotechnical Engineers (CAGE).

We will have four expert panelists, Jim Harris PhD, PE Principal with JR Harris & Co., Bob Thompson MS, PE, Senior Consultant with CTL Thompson, Eric Hanson, BS, PE Principal with Anchor Engineering and Frank Harrison, MS, PE Principal with Michael W. West & Assoc. joining the membership of both organizations to discussing the following general topics:

- 1. Geotechnical investigation and report content and improving communication between the Geotechnical Engineer and the Structural Engineer.
- 2. Temporary and permanent retaining walls, shoring systems, and earth retention.
- 3. Ultimate strength/LRFD/Safety Factors

We will spend our typical presentation hour in 15-20 minute topic segments, getting opinions and advice from our distinguished panelists and time allowing, we will have a question and answer session at the end.

Panelists with Bio's are listed on Page 2

### Did You Know....?

- SEAC currently has 272 members:
  - 223 Professional Members
  - 40 Affiliate Members7 Life/Honorary Members
  - 2- Student Members
- SEAC's website is up and running with many new great features. See article on Page 6.
- SEAC Fall Seminar is October 20, 2011 - See the attached Flyer/Registration Form.

### **Don't Miss Out - May General Meeting**

**Date: Thurs. May 19, 2011** 

Speaker(s): Jim Harris, Bob Thompson, website at <u>www.seacolorado.org</u> or Eric Hanson, & Frank Harrison email your reservation to Caron at:

**Location: Renaissance Denver Hotel** 

3801 Quebec Street

(South of the I-70 Quebec Intersection)

Please Register and RSVP on the SEAC website at <a href="www.seacolorado.org">www.seacolorado.org</a> or email your reservation to Caryn at: <a href="seac@martinmartin.com">seac@martinmartin.com</a>. Reservations MUST be made by: Monday, May 16, 2011.

### **MAY GENERAL MEETING - PANELISTS**

## Combined CAGE-SEAC General Meeting - See You There

Continued from Page 1



Jim Harris is President of J. R. Harris & Company, Structural Engineers, of Denver, Colorado. He has a BSCE from the University of Colorado at Boulder and a MSCE and PhD from the University of Illinois at Urbana-Champaign. His practice includes design, investigation, and applied research for industrial and civil structures and buildings and the development and delivery of training for practicing engineers. The design work includes repair of distressed structures and rehabilitation of old structures, as well as design for new facilities. The investigation work includes the range from condition evaluation through forensic consultation. Earthquake engineering, snow loads, expansive soils, and improved standards of practice are the primary applied research interests. Jim is also active in local, national, and international professional organizations.



Robert W. Thompson P.E., F ASCE
B.S. Civil Engineering Oklahoma State University 1962
M.S. Civil Engineering Oklahoma State University 1965
Retired Chairman, Senior Consultant CTL/ Thompson Inc. Denver, Colorado
Primary areas of technical interest are expansive soils and slope stability issues. Mr. Thompson is active professionally in ASFE, ASCE, and Colorado Association of Geotechnical Engineers and has served as president of both ASFE and CAGE. He also has many years experience as a civil engineering evaluator for ASCE/ABET and was Chair of the ASCE committee for Curricula and Accreditation 1998-1999. He is an active member of the Codes and Standards Council of Geo-Institute of ASCE.



Eric Hanson, P.E., S.E. is the founding partner of Anchor Engineering, Inc. of Denver, CO. He earned a BSCE from the University of Colorado at Boulder. His engineering experience includes structural design of buildings ranging from low to mid-rise commercial office buildings, retail developments, multi-family structures, and production/custom single-family housing. He has forensic engineering experience in the evaluation and production of engineered repairs for single-family residential structures, post-tensioned concrete structures, and industrial/warehouse type structures, as well as providing due diligence structural evaluations for buildings in ownership transitions. Eric enjoys downhill skiing, water skiing, camping and boating with his wife and four children.



Mr. Harrison provides project management, technical direction, expert testimony, and peer review services on various geotechnical and civil projects, especially as related to construction in steep or mountainous terrain. He has 30 years of experience, and joined Michael W. West & Associates, Inc. in 2007. He has been a Principal with Golder Associates Inc. in Lakewood, Colorado, and has served as Regional Engineer/Manager for Tensar Earth Technologies in Denver. Mr. Harrison has extensive expertise and experience in analysis, design, and construction of earth retaining walls, shoring systems, and ground stabilization, using a variety of techniques, including Mechanically Stabilized Earth, soil nails, tiebacks, micropiles, and related methods. He is also experienced in design of embankments, cuts, dams, landslide stabilization, building or bridge foundations, construction over soft soils, pavement systems, and other earth stability applications. Mr. Harrison is active in the Colorado Association of Geotechnical Engineers, serving on the Board of Directors from 2003 through 2008, and as President in 2007. He has also been active in the Highway Geology Symposium, serving on the Steering Committee from 2005 until 2008, and as Host Committee Chair of 2006 Symposium in Breckenridge, Colorado.

### Officers & Board Members



Andrew Kelsey President Ascent Group Inc. 303-499-3022 a.kelsey@ascentgrp.com



David Poe VP/Treasurer Secretary Anchor Engineering, Inc. 303-783-4797 david@anchoreng.com



Jim Ness Secretary Monroe & Newell Engineers, Inc. 303-623-49927 jness@monroe-newell.com



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#### Submit comments/articles to:

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seac@martinmartin.com

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

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

# PRESIDENT'S MESSAGE

want to start off by extending a sincere <u>THANK YOU</u> to the following members who have worked so hard to bring an interactive website to SEAC; Elizabeth Jones, Caryn Farrell, Greg Arbour, John Malcom, Jenna Kusmierek with JMK Design Studio, and Anita Larson with The Web Muse & Co.

The new and improved website is up and running and we ask that all members go to our site and register so that you can RSVP for meetings, update your contact info, pay your dues and purchase publications. In addition, this will economize our costs for the management of all of this data.

On tap for this months meeting we have a great group of panelists ready to discuss structural and geotechnical issues with our joint CAGE/SEAC membership meeting. Please see the details in this newsletter and we look forward to a large turnout.

Next we have our upcoming Fall Seminar where SEAC will present an NCSEA sponsored half-day course on the Design of Diaphragms, Chords and Collectors: Based on the 2009/2006 IBC and ASCE/SEI 7-05. This presentation will be given by **Tim Mays, PhD, PE** and we have members who have highly recommended both this course and the presenter. It includes a copy of the design guide from the ICC! Please see the course description attached as part of this newsletter.

Finally, Ihad a very unusual experience yesterday in that I was lauded as the star team member on a project. This probably says a lot about my engineering skills, or lack there of, because I am sure that most of you reading this have been showered with accolades as stellar members of design teams multiple times! In any case, I was trying to determine why this may have happened. There was only one tricky detail to this

remodel and I remember meeting the Owners on-site to review their options and the reasons for the intricate structural detailing should they wish to pursue the removal of existing bearing elements. I believe that because I took the time, un-billable time by the way, to teach my clients about the many steps involved in successfully opening up their space, the risks, estimated costs, and the choices that they had, that they felt a part of the design and construction team and gained an appreciation of what we as Structural Engineers do. I highly recommend taking time to teach your clients more about what we do and why. It promotes our field, increases the perceived value of our services, and solidifies our client base. All things that put us in a winwin position.

Subme C. Pary

Andrew C. Kelsey, PE President



Please welcome our newest member to SEAC:

**Neal J. Bohnen** (Affiliate Member) Huitt-Zollars, Inc.

# ENERAL NOTES

# **MAY SPONSOR:** REDBUILT/LAMWOOD

### THANK YOU

Lam-Wood Systems, Inc.



















### RedBuilt expands footprint with exclusive distribution in key states Lam-Wood Systems becomes exclusive RedBuilt distributor in six markets

BOISE, Idaho— RedBuilt™, one of the world's leading suppliers of engineered lumber products, is making a sizable addition to its U.S. footprint by naming Lam-Wood Systems, Inc. its exclusive distributor in Wyoming, Colorado, New Mexico, Nebraska, Kansas and Western Iowa. As it continues to grow, RedBuilt is also seeking representation for its pioneering, resource-efficient industrial and commercial building products on the East Coast.

As RedBuilt's exclusive distribution partner in those six markets for all light-commercial and multifamily applications, Lam-Wood will represent the manufacturer's complete line of Red-ITM joists, open-web trusses, and RedLam<sup>TM</sup> laminated veneer lumber beams. headers and rim board. As part of the deal, one of RedBuilt's most experienced and knowledgeable technical sales representatives, Bret Maynard, is signing on as the fourth member of the Lam-Wood sales team to ensure a seamless transition as they expand the engineered lumber leader's presence in those markets.

Lam-Wood's engineered lumber sales team will offer assistance with system selection, cost analysis, detailed shop drawings, timely delivery, and job-site follow-up. The Denver-based distributor, which also maintains offices in Colorado Springs, Colo., and Omaha, Neb., will be responsible for all the design and engineering for projects in the territory. The projects will be sold as Lam-Wood packages and the distributor will field technical calls during construction.

According to Randy Ruim, RedBuilt's vice president of sales and marketing, Lam-Wood has been a trusted supplier of quality structural wood products for commercial and multifamily buildings for more than four decades. "Our new relationship with Lam-Wood provides RedBuilt with the best opportunity to effectively meet the needs of the commercial construction industry throughout these key markets," he says. "Lam-Wood has been the preferred choice for engineers, specifiers, and builders throughout the region thanks to their vast industry knowledge and unparalleled service and support, and we couldn't be more excited they're joining the RedBuilt team."

Lam-Wood executives are equally thrilled about the new relationship. "RedBuilt provides the best overall package for our customers — the best products in the industry, top-notch design and engineering, and support that is second to none," Lam-Wood President Chris Anderson says. "In today's uncertain world, RedBuilt's ability to respond and react quickly to any customer needs sets the company apart and is extremely important to us and our clients."

Ruim says the partnership with Lam-Wood is the first of several such relationships RedBuilt is seeking. To complement our existing, inhouse team of technical sales representatives we are expanding our geographical coverage by creating exclusive partner arrangements with qualified potential representatives in select areas. The company is currently actively looking for distributor representation in: Minnesota / Wisconsin; Northern Illinois; Southern Illinois/ Missouri; Upstate New York; New England; Maryland/Delaware/District of Columbia; Carolina's; Georgia;. RedBuilt also has its sights set on

RedBuilt has been recognized as a world leader in developing woodbased structural solutions since 1960. It offers the industry's most innovative engineered-lumber products and building systems for commercial, industrial and multifamily applications. RedBuilt's offerings include composite wood-and steel open-web trusses, engineered wood I-joists, engineered lumber like LVL, and complementary components, product engineering, and on-site technical support, as well as a range of concrete forming and scaffold-planking solutions. Visit www.redbuilt.com or www.lamwood.com for more details.

# **MARCH SPONSOR:** CAD-1

### **THANK YOU**



CAD-1, Inc. is an Autodesk Gold Partner specializing in delivering complete solutions that implement Autodesk technology for maximum competitive advantage. The CAD-1 award-winning staff is skilled at providing a variety of services, including upfront consulting to determine which software best suits your needs; assisting with the installation and setup of the software; customization to ensure the software works your way; training your staff to use it efficiently; and supporting them with expert mentoring and technical assistance.

CAD-1, Inc. believes in the importance of driving sustainable design awareness and adoption. We provide technology, education, and support for initiatives that inform and promote innovations which address current and future sustainable design challenges. We are pleased to collaborate with the architects, engineers, and designers who are creating a cleaner and healthier environment through smart design.

CAD-1, Inc. is an award-winning Autodesk Training Center providing high quality, expert training onsite or at our training center. CAD-1 instructors are ranked in the top ten by Autodesk for instructors in North and South America. Our courses include AutoCAD, AutoCAD Civil 3D, AutoCAD Map 3D, Survey, Revit, AutoCAD Architecture, NavisWorks, and 3ds max.

# **GENERAL NOTES -** Keep them CLASSIFIED!

Structural Engineers Association of Colorado Classified Section & Other General Announcements



303.757.4000 | www.werc.com

Western Engineering & Research Corporation, a forensic engineering firm, seeks a Professional Engineer to join our building investigation team. Responsibilities include evaluation of distressed structures, determination of cause of damage, review of contract documents and codes, presentation of findings in well-written reports, and recommendations for repair. Experience with reinforced concrete, PT slab, and masonry design is desired. Minimum 5 years experience. Candidate must have a BS with preference given to MS or PhD, and must be a licensed professional engineer. See www.werc.com for more information on Western Engineering. Send resume to employment@werc.com.

### **Classified Ad Policy**

To place an ad in the SEAC Newsletter and website please contact

Caryn Farrell at: <a href="mailto:seac@martinmartin.com">seac@martinmartin.com</a>

Classified ads need to be kept to 100 words (maximum), and a logo may be submitted in .JPG format.

Your classified ad will be displayed in the next available newsletter and will remain on the SEAC website for two (2) months.

The cost to place an ad is \$100.00.





### PUBLICATIONS FOR SALE

2007 COLORADO GROUND SNOW LOAD REPORT & MAP Price:
\$75 (Members)
\$100 (Non-Members)

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

2006 SURVEY OF COLORADO BUILDING DEPARTMENTS Price:

Воок: \$50 CD: \$100

Please see the SEAC website to order/purchase a publication or Contact Caryn Farrell at: seac@martinmartin.com for order forms.

# **GENERAL NOTES** - General Announcements

Structural Engineers Association of Colorado General Announcements



### Check out the SEAC Website!!!!!

SEAC Members - All SEAC members need to "REGISTER" on the SEAC website. Once you "REGISTER", you will be able to RSVP for all events and Pay (using PayPal) for all events, such as the Fall Seminar. You will be able to RSVP for General Membership meetings and enter your guest names and pay for any quests attending the General Membership meetings. In addition, you will be able to update your information (such as change of company name, address, email information, etc.). Our website also includes an Employment Page. You will be able to pay your Annual Dues online by next year. Reminder the SEAC password is: seacstructure

To "Register" and/or "Create an online Account" Please Follow the link provided below:

http://www.seacolorado.org/become-a-member/

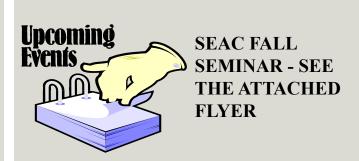


The 2011 Membership Directory can be accessed from the Members Only Page of the SEAC website.

If you have any changes or corrections that need to be made, you can simply update your information on the website (after you register) or email Caryn Farrell at seac@martinmmartin.com

# THE SEAC STEEL LIAISON COMMITTEE GOES PRIME TIME!

Representatives from the SEAC Steel Liaison Committee will be going to Pittsburgh to present the committee's paper on "Complex Sloped Steel Roof Considerations" at the North American Steel Construction Conference taking place May 11th -14th in the Steel City. The members of the committee who originally presented that paper to SEAC in September 2009, including Bryan Starr, Dave Henley, Tim Hickish, Tom Skinner and Jules Van de Pas from SEAC, as well as David Weaver, Justin Mitchell and Tad Toler from the Rocky Mountain Steel Construction Association, will be making two presentations of the paper over the course of the conference. A great group to represent Colorado!



When: October 20, 2011

Where: Renaissance Hotel - Breakfast Served

Cost: \$150.00

SEAC Newsletter Page 6 Issue 3, May 2011





Structural Engineering and Education Solutions, LLC



National Council of Structural Engineers



# **SEAC 2011 FALL SEMINAR**

# Guide to the Design of Diaphragms, Chords and Collectors Based on the 2009/2006 IBC and ASCE/SEI 7-05

#### **COURSE DESCRIPTION**

The 2006 International Building Code presents clear and stringent design criteria for floor and roof diaphragms as necessary to resist wind and seismic loading. However, diaphragms may be one of the most overlooked, under designed, and/or inappropriately detailed areas of a building. Diaphragms should respond elastically to design wind and earthquake forces and their failure could lead to a nonductile complete or partial collapse of the entire structure. Surprisingly, structural engineers are given little guidance on how to design and detail these systems. Simple deep beam models found in textbooks don't apply for typical building arrangements such as L-shaped buildings, buildings with lateral resistance on three sides, buildings with irregularities, and diaphragms with small or large openings. Using practical design examples, this short course presents simple analytical and computer modeling methods that appropriately account for these and other design conditions. The course is based on a recent NCSEA publication titled Guide to the Design of Diaphragms, Chords and Collectors Based on the 2006 IBC and ASCE/SEI 7-05, but expands on the subject matter to address the basics of diaphragms, chords and collectors, minor changes in the 2009 IBC, special wind provisions for high wind zones, and the interpretation of results obtained when using the finite element method. All attendees will receive a copy of Guide to the Design of Diaphragms, Chords and Collectors Based on the 2009/2006 IBC and ASCE/SEI 7-05.

### **COURSE INSTRUCTOR**

**Timothy Wayne Mays, Ph.D., P.E.** is President of SE/ES and an Associate Professor of Civil Engineering at The Citadel in Charleston, SC. Dr. Mays is the Executive Director of the Structural Engineers Association of South Carolina and the Structural Engineers Association of North Carolina. Additionally, he serves as Chairman of the Structural Technical Group for ASCE SC Section, Ocean and Marine Engineering Division Chairman for ASEE National, and NCSEA Publications Committee Chairman. He has received two national teaching awards (ASCE and NSPE) and both national (NSF) and regional awards for outstanding research (ASEE). He is a prolific speaker who sits on several code writing committees and his areas of expertise are code applications, structural design, seismic design, steel connections, structural dynamics, and civil engineering aspects of antiterrorism.

National Council of Structural Engineers Associations Course Approval No. 090505C

WHAT DO ATTENDEES RECEIVE?		<b>SCHEDULE</b>	
•	3.5 Professional Development Hours	7:30 - 8:15	Registration and Breakfast
•	Binder of Complete Course Notes and Example	8:15 - 8:30	General Provisions
	Problems Worked During the Course	8:30-9:15	Concrete Diaphragms
•	One copy of the NCSEA publication <i>Guide to</i>	9:30-10:15	Wood Diaphragms
	the Design of Diaphragms, Chords and	10:30 - 11:00	Steel Deck Diaphragms
	Collectors Based on the 2006 IBC and	11:15 - 12:00	Concrete Slab on Metal Deck Diaphragms
	ASCE/SEL 7-05		• •

OCTOBER 20, 2011 RENAISSANCE DENVER HOTEL





Structural Engineering and Education Solutions, LLC



National Council of Structural Engineers



# SEAC FALL SEMINAR - REGISTRATION FORM

### OCTOBER 20, 2011 RENASSIANCE DENVER HOTEL 3801 QUEBEC STREET

To RSVP for this Seminar, you must first "REGISTER" on the SEAC website. Log on to <a href="www.seacolorado.org">www.seacolorado.org</a> & click on the "Register" link, after that you can click on the "RSVP For Events" link and pay for this seminar. <a href="www.seacolorado.org/rsvp-for-events">www.seacolorado.org/rsvp-for-events</a>

Or, if you would like to pay by a check, please make your check payable to **SEAC** and send to the address listed below with this Registration Form.

Attn: Caryn Farrell

**SEAC** 

c/o Martin/Martin, Inc. 12499 West Colfax Avenue Lakewood, CO 80215 Phone: 303.431.6100x403

E-mail: seac@martinmartin.com

#### Cost:

\$150.00 - If received by September 20, 2011 \$175.00 - If received **AFTER** September 20, 2011

### SCHEDULE (BEGINS AT 7:30 A.M.):

7:30 - 8:15 Registration and Breakfast

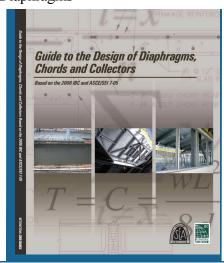
8:15 - 8:30 General Provisions

8:30 - 9:15 Concrete Diaphragms

9:30 - 10:15 Wood Diaphragms

10:30 -11:00 Steel Deck Diaphragms

11:15 - 12:00 Concrete Slab-on-Metal Deck Diaphragms



Company Name:	
Phone No:	
Names of Attendees:	Fee Amount
TOTAL	











# 2011 NCSEA EXCELLENCE IN STRUCTURAL ENGINEERING AWARDS

# **Call for Entries**

NCSEA announces the thirteenth annual Excellence in Structural Engineering Awards Program. This program annually highlights some of the best examples of structural engineering ingenuity throughout the world. Structural engineers and structural engineering firms are encouraged to enter this year's program. Projects will be judged on innovative design, engineering achievement and creativity.

Up to three awards will be presented in eight categories: New Buildings Under \$10M, New Buildings \$10M to \$30M, New Buildings \$30M to \$100M, New Buildings Over \$100M, International Structures, New Bridges/Transportation Structures, Renovation/Retrofit Structures and Other Structures. Eligible projects must be substantially complete between 01.01.08 and 12.31.10.

Entries are due on Friday, July 22, 2011. Awards will be presented in October at the NCSEA Annual Meeting in Oklahoma City, Oklahoma. Winning projects will be featured in future issues of STRUCTURE Magazine. For award program rules, project eligibility and entry forms, see the Call for Entries on the NCSEA web site at www.ncsea.com.

# National Council of Structural Engineers Associations



# NCSEA Webinar



### 2010 T. R. Higgins Award Lecture The AISC Seismic Design Provisions: Past, Present and Future



Since their initial publication in 1992, the AISC Seismic Provisions for Structural Steel Buildings (AISC 341) have undergone continuous updating efforts, brought on by numerous factors such as earthquake damage, new research results, and the development of new structural systems. Now firmly rooted in U.S. design specifications and building codes, the 2010 edition of AISC 341 continues this updating process through a series of technical changes and a major format revision. This lecture will summarize the background for the provisions and the changes to AISC 341-10 and will postulate the future for seismic design of structural steel systems.

**James O. Malley, S.E.**, is a Senior Principal with Degenkolb Engineers. He received both his bachelor's and master's degrees from the University of California at Berkeley. Mr. Malley has over 28 years of experience in the seismic design, evaluation and rehabilitation of building structures. He was responsible for the analytical and testing investigations performed as part of the SAC Steel Project in response to the Northridge earthquake damage.

In 2000, AISC presented Mr. Malley with its Special Achievement Award. Mr. Malley is a member of the AISC Specifications Committee and the Chair of the AISC Seismic Subcommittee. He was named the 2010 T.R. Higgins Lectureship Award winner for his work on the AISC Seismic Provisions. Mr. Malley is also President of NCSEA, has served as a member of the SEAONC and SEAOC Board of Directors, and was President of SEAONC in 2000-2001 and SEAOC in 2003-2004. He was named a SEAOC Fellow in 2007.





The cost is \$250 per internet connection. Several people may attend for one connection fee. Register at www.ncsea.com. Approved in All 50 States.

This course will award 1.5 hours of continuing education. The times will be 10:00 am Pacific, 11:00 am Mountain, 12:00 pm Central, and 1:00 pm Eastern.

# NCSEA Nineteenth Annual Conference

# "Leadership in Structural Engineering!"

Stepping Engineering Up to the Next Level

October 20-22, 2011 Renaissance Oklahoma City Convention Center

For more information and to register, visit www.ncsea.com.

The Oklahoma Structural Engineers Association (OSEA) is excited to host this year's NCSEA Annual Conference. Events and opportunities include:

- Presentations by speakers from across the country.
- Experiencing national "Leadership in Structural Engineering" and learning how to step up your practice while earning hours of Diamond-Reviewed continuing education.
- Exciting networking opportunities with exhibitors and other colleagues on Friday evening at the Oklahoma City Museum of Art.
- Attending the banquet honoring nominees for the 2011 NCSEA Excellence in Structural Engineering Awards and individual awards for contributions to the profession, including the James Delahay, Robert Cornforth, and NCSEA Service Awards.

# News from NCSEA Affiliate Member CSC

CSC Helps Structural Engineering Students at Georgia Tech

Chicago, IL - March 30, 2011 - With a third ranked graduate civil engineering program, Georgia Tech understands the importance of keeping up with leading edge technology. By implementing CSC's software, Fastrak, for use in steel design courses students are not only learning about technology but also current steel design codes.

Don White, Professor in the School of Civil and Environmental Engineering at Georgia Tech, and member of the AISC Specification Committee, had this to say about his choice, "I was impressed with the practical and technically sound implementation of the direct analysis method offered by Fastrak. Many other software programs fall short in this arena. In addition, it is essential for the software to provide an efficient work flow in creating the structural models and a clear synthesis of key structural responses. This allows the engineer to understand and assess the correctness of the calculations. Fastrak does this."

CSC's Fastrak is a software program focusing on the analysis, design and documentation of structural steel buildings. Fastrak implements the direct analysis method fully, using a rigorous second-order analysis that accounts for both P- $\Delta$  and P- $\delta$  effects. CSC chose this method because it gives the user access to the most powerful analysis and design solutions. It allows for the widest range of building structures with accurate and reliable results.

After using Fastrak in his courses for two months now, Dr. White has found the design results to be accurate and the modeling to be user friendly allowing for a streamlined process. The wind load wizard added to the streamlined process with its interactive graphical interface. "By avoiding issues I previously had with other software programs I am able to spend more time educating my students. That is what counts," said Dr. White. To learn more about CSC's structural solutions, visit www.cscworld.com/us/.



