Editorial | 2013 NCSEA Annual Conference

The Gathering for the Practicing Structural Engineer

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The 21st Annual NCSEA Conference will be held in Atlanta from September 18-21. In keeping with tradition, this conference caters to the practicing structural engineer: The goal is to provide an outstanding educational opportunity filled with practice ideas and techniques that you can apply when you return to your office.

The formal program kicks off on the morning of Thursday, September 19, with a keynote address delivered by William (Bill) Baker of Skidmore, Owings & Merrill. The designer of an array of skyscrapers, including the world's tallest building, the Burj Khalifa, Bill Baker will speak about *The Philosophy of Design: The Structural Engineer's Role in Creating Architecture*. Following the keynote address, Jon Schmidt will discuss the ins and outs of the Department of Defense's *Minimum Antiterrorism Standards for Buildings*, a must-know guideline for anyone involved with the structural design of military facilities. This will be followed up by Bob Pekelnicky's overview of ASCE 41-13, *Seismic Evaluation and Retrofit of Existing Buildings*, the new basis for seismic assessments and upgrades that will be invoked by the 2015 *International Existing Building Code*.

Thursday afternoon will offer dual tracks. Harry Gleich will delve into the provisions of ACI 550, *Guide to Emulating Cast-in-Place Detailing for Seismic Design of Precast Concrete Structures*. Concurrently, Terry Malone will deliver *The Analysis of Offset Diaphragms and Shear Walls* which will include discussion of "The Visual Shear Transfer Method", a simple method of depicting the direction of shears acting through a diaphragm. Next, Dr. William Thornton will discuss steel connections, *The Last Bastion of Rational Design*, which will provide the fundamental basis for connection design and will differentiate between analysis assumptions and reality, as well as provide an overview of the Lower Bound Theorem of Limit Analysis. Concurrently, Sam Rubenzer will present *Load Generators: What exactly is my software doing?*, which will compare and contrast the wind load and seismic load generation features of the major commercial structural engineering software packages, including RISA, RAM., ETABS, Fastrak, and STAAD, and will provide more insight into what building code provisions are, and are not, considered in the generation of the loads.

Thursday afternoon wraps up with some lessons learned. John Tawresey will present *The Structural Curtainwall*, which will focus on the structural performance criteria of curtainwall systems using examples of actual projects, as well as clarify and classify curtainwall structural criteria contained in the building codes, industry standards, and architects' typical specifications. Concurrently, Greg Greenlee will deliver a case study of the underpinning and micropile foundations used at the renovation of the Northrop Auditorium at the University of Minnesota. In this project, the shell of an iconic 1929 structure was maintained, while an aggressive interior renovation was undertaken that included lowering the base floor elevation and enhancing the column loading capacities, permitting the transformation of an underutilized theater into a world-class performance facility.

On Friday morning, there will be Vendor Presentations from 8 a.m. to 10 a.m. Technical sessions will resume after the morning break with Dr. Donald White's presentation of *Practical Design of Complex Stability Bracing Configurations*, introducing a more general approach to allow the application of the fundamental concepts and requirements of AISC Appendix 6 to more complex bracing scenarios not currently captured by the design equations. On Friday afternoon, you can look forward to a two-part presentation on the book everyone has been waiting for, NCSEA's newest publication, *Guide to Design of Serviceability of Building Systems*, delivered by lead author Dr. Kurt Swensson. This presentation will provide practical information for structural engineers to evaluate the serviceability performance of buildings pursuant to the requirements of the building code. It also tackles many of the "gray areas" that are noticeably absent from the building code.

In addition to the outstanding technical presentations, the conference has much more to offer. On Wednesday, you are invited to sit in on one or more of the many committee meetings that will be taking place throughout the day; and, on Wednesday afternoon, there will be a complimentary short-course tutorial by Dr. Leroy Emkin: *The AISC Direct Analysis Method*. The Direct Analysis Method is currently the most rational analytical procedure to account for structural stability of steel-frame structures, and it serves as the basis for the 2005 and 2010 AISC Steel Design Specifications. A detailed discussion and demonstration of the step-by-step process for performing the Direct Analysis Method by computer, combined with a discussion of the impact of such a process on structural engineering workflow, will be presented.

Conference social events include a Wednesday evening reception hosted by the Structural Engineering Certification Board (SECB), a Thursday evening Exhibitor Reception, and a Friday evening reception and Awards Banquet, highlighted by the presentation of the NCSEA *Excellence in Structural Engineering Awards* and honoring engineers who have made outstanding contributions to the structural engineering profession.

The annual meeting of NCSEA's 43 member organizations is an open meeting and will be held on Friday from 8:00 a.m. to 10:00 a.m. (Member Organization reports) and on Saturday from 8:00 a.m. to noon. Scholarships and registration discounts are again available to Young Members (defined as age 35 or younger), and a Young Members Group Reception is slated for Wednesday evening.

I trust you will agree that this line-up of technical presentations coupled with all the other activities of the conference make this an event that you, the practicing structural engineer, cannot afford to miss! In addition, you will have the chance to mingle with the leaders of the structural engineering profession. For more information and to register, please visit NCSEA Conferences and Institutes at **www.ncsea.com**. I look forward to seeing you in Atlanta!