

## AISC Offers Electronic Design Aids

The American Institute of Steel Construction, Inc. has posted *Clean Columns* v3.1 on the Steel Tools™ section of the AISC website located at [www.aisc.org/steeltools](http://www.aisc.org/steeltools). *Clean Columns* is a downloadable, Visual Basic enhanced Excel file that helps engineers reduce the overall cost of steel framing on their project in a matter of minutes.

*Clean Columns* v3.1 calculates the minimum weight column section that can be used without stiffeners and/or double plates to develop a specified percentage of a selected beam's plastic moment capacity based on the criteria in AISC *Design Guide 13*. *Clean Columns* prompts the user to provide loads and member sizes. This tool then identifies the lightest column section that can be used without stiffeners and/or double plates.

Column stiffeners can increase the cost of a moment connection by an equivalent 1000 pounds of steel. With structural steel still selling at 1970s prices, you can increase the column size by more than 100 lb./ft to eliminate stiffeners and doubler plates and still save money—proving once again that least weight is not least cost.

As part of the Steel Solutions Center on the AISC website, the Steel Tools™

section makes designing with steel easier than ever before. "AISC's Steel Tools are developed by the Steel Solutions Center in conjunction with experienced members of the institute's technical committees and other leading industry experts," explained Roberta Marsteller, P.E., Steel Solutions Center Director. "As a result, *Clean Columns* v3.1 is a very comprehensive resource for both veteran and younger designers. Our goal is to provide online tools that help make designers more efficient when working with steel."

Other resources posted in the Steel Tools™ section include:

### **Parametric Bay Studies v4.1**

This tool helps engineers answer questions such as: "Is it less expensive to increase the size of the beams than to camber?" and "Is it more efficient to frame the beams in the long direction or the short?" *Parametric Bay Studies* v4.1 designs a typical bay in a composite steel framed structure and optimizes the design for either the overall weight or the relative cost of the framing system.

### **Surface Area v1.1**

This Visual Basic enhanced Excel spreadsheet helps engineers and archi-

ects quickly estimate how much paint or fire proofing material they will need for their steel structure. The user provides typical member sizes for interior/exterior beams and girders as well as interior columns and the spreadsheet quickly calculates the amount of surface area requiring coating on the project. ★

## Conference on Building Integration Solutions

Austin, Texas

September 17-20, 2003

Registration for the inaugural Architectural Engineering 2003 Conference: Building Integration Solutions is now open. Sponsored by The Architectural Engineering Institute (AEI) of the American Society of Civil Engineers (ASCE), the 2003 Conference will initiate a series of conferences that highlight the significant advancements in architectural engineering, innovation, design, and construction.

For registration and conference details call visit [www.asce.org/conferences/aei2003](http://www.asce.org/conferences/aei2003). Register by August 26 to receive a \$100 savings. ★

## Van Ingen Becomes Advanced Bending Technologies, Inc.

Van Ingen Services, a leading low-deformation bending company since 1982, has changed its name to Advanced Bending Technologies Inc., and opened a new plant which is more than double the size of the old one.

"The new name better represents the range of advanced bending processes we've developed over the last several years," says company President Brad N. Miller.

The new facility, located near the old one, offers greater bending capacity, including a CNC induction-bending machine with up to 40" pipe capacity.

The new plant has triple the material-lifting capacity and offers a faster turn-around time, quicker delivery, and potential cost reductions. For more

information check out Advanced Bending's web site, [www.bending.net](http://www.bending.net). ★

## IBC Presents Special Inspection Seminar

The International Code Council (ICC) in cooperation with the Council of American Structural Engineers (CASE) presents IBC Seminar 120i: Special Inspection and the 2000 International Building Code (IBC). This half-day seminar provides an in-depth overview of IBC Chapter 17 "Structural Tests and Special Instructions."

The seminar examines the "what, why and when?" of two building-code requirements previously not considered in many parts of the U.S.: special inspection by a "qualified" special inspector, and structural observation by a "registered design professional." The seminar will introduce CASE's new "National Practice Guidelines for Special Inspections."

The seminar costs \$125, and is designed for building officials, inspection and testing personnel, builders and contractors, engineers, and architects. For seminar dates and registration information visit [www.iccsafe.org/training](http://www.iccsafe.org/training). ★

### HOT PRODUCTS COMPETITION

Advertisers—don't forget to enter your new and innovative products in *Modern Steel Construction's Hot Products Competition*.

The deadline for submittals is May 15, 2003. Read more about it by visiting:

[www.aisc.org/hotproducts](http://www.aisc.org/hotproducts)

Watch for the results in the August 2003 issue of *Modern Steel Construction!*

## **13<sup>th</sup> World Conference on Earthquake Engineering**

**Vancouver, British Columbia**

**August 1-6, 2004**

The 13<sup>th</sup> World Conference on Earthquake Engineering is a unique opportunity for dialogue among leading researchers and practitioners who work in a wide range of disciplines to reduce the devastating effects of earthquakes. The program will feature keynote presentations, special theme sessions, special presentations on recent earthquakes, poster presentations and selected papers on the following topics: earthquake risk reduction, earthquake engineering in practice, social and economic issues, engineering seismology, geotechnical engineering, structural engineering, lifeline systems, dams, design criteria and methods, lessons from recent earthquakes, non-structural elements, and other topics, like architecture, industrial facilities, fire, etc. For more information visit the conference web site, [www.13wcee.ca](http://www.13wcee.ca). ★

# STEEL NEWS & EVENTS

## NASCC 2003: Baltimore Blockbuster!

**S**unny skies and Baltimore's shimmering inner harbor greeted guests as they arrived at the North American Steel Construction Conference during the first week of April. More than 2,300 people participated in this year's events, topping last year's total. Speakers from around the globe addressed steel-related topics in engineering, fabrication, construction, detailing, and business and project management. The conference also featured its largest exhibition floor ever, with 134 exhibitors showcasing their products and services.

Many attending the NASCC said that it was an important opportunity

for dialogue and learning within the structural steel industry. "The conference was very successful on a variety of levels," said civil engineering Prof. Kim Roddis, of the University of Kansas, Lawrence, KS. "[By creating the NASCC] AISC has made a lot of progress in moving the whole design and fabrication process forward."

"I like the interplay between fabricators, engineers and steel construction at the conference," added Walter W. Farrell, of Eskenazi, Farrell & Fodor, P.C., Chicago, IL.

Keynote speakers included AISC Vice President of Engineering and Research Louis Geschwindner, Ph.D., P.E. on the evolution of the next AISC

*Specification for Steel Buildings*; Architecture magazine Editor C.C. Sullivan on recent architectural trends and their impact in steel design and construction; and T.R. Higgins Award Winner John M. Barsom. Technical sessions on everything from floor vibration and snow loads to crisis management and erection stability were divided into three tracks: design, construction and Structural Stability Research Council (SSRC). Four short courses and two tutorials also were offered.

"All of the sessions are good eye-openers for people in the steel industry," said University of Houston Ph.D. candidate Ozgur Egilmez. "People tend to concentrate in one area, and



The fabricators' breakfast was a chance for dialogue about common concerns.



At the AISC booth, staff was available to answer questions.



More than 2,300 people registered for the NASCC, topping last year's attendance.



Conference attendees get hands-on experience with the CIS/2 data transfer format.

they don't get exposed to the big picture. The NASCC is a chance to see the big picture."

The 65,000-sq.-ft exhibition hall gave visitors a very big picture of steel-related products and services like machinery, tools and software. One highlight of the exhibition was AISC's CIS/2 interactive, a booth that gave visitors the chance to sample the CIS/2 data interchange format. CIS/2, also known as CIMSteel, allows detailers and engineers to download 3-D computer modeling information from each others' software programs.

Another highlight of the show was a real-time demonstration of the recyclability of steel. During the opening-night reception in the exhibit hall, attendees took turns hitting a used Oldsmobile Achieva sedan with a sledgehammer. The next day, the sedan was shredded in Lorton, VA at Davis Industries, Inc. before being melted down and rolled into a steel beam at AISC-member TXI Chaparral Steel in Petersburg, VA. After the beam's grand re-entrance into the NASCC exhibition hall on Friday, Peddinghaus' Model 44-19 Structural Band Saw sliced it into small sections that visitors could take home as souvenirs.

The conference also featured a tour of the nearby Infra-Metals steel service center. "I had never been to a large service center," said Charlie Cianchette of AISC-member Cianbro Corporation, Pittsfield, ME. "It's good to see what's out there—and it was surprising to see that amount of iron under one roof."

The annual conference dinner was held at the Baltimore ESPN Zone, where attendees could relax and socialize with food, drinks and virtual-reality arcade games.

AISC also presented numerous awards during the conference: the Geerhard Haaijer Educator Award to Lynn S. Beedle, the Special Achievement Award to Gregory G. Deierlein, and the Lifetime Achievement Award to W.F. Chen and Robert McNamara. In addition, the annual Engineering Awards of Excellence were presented on the second day of the conference. ★



Pamela and Chip Pocock pose in front of the SEAA booth.



Chicago Metal Rolled's George Wendt smiles in front of a rolled steel shape.



AISC's Allison Galvin and Scott Melnick take a few minutes to mug for the camera at the conference dinner at ESPN Zone.



Design Data's live SDS/2 detailing software demonstration was a popular stop.

## NASCC Quips and Quotes

"You can do anything in structural engineering, as long as it's right! That's the beauty of structural steel..."

—James Fisher, during Short Course 3, on common problems in design, fabrication and erection

"I'm sure this won't be a memorable lecture because of its contents...does anyone have a paper clip?"

—John M. Barsom, facing a slide projector jam during the T.R. Higgins lecture

"I was pleased to see Lynn Beedle honored. It's nice to see people recognized, and Beedle is not only a great contributor to steel research, but a great person as well."

—Ralph M. Richard, SSSA Inc., Tucson, AZ

"We should have the conference outside, it's so beautiful, these are the best two days of spring."

—Fred Martelli, Atlantic Stud Welding, Inc., West Chester, PA

"Why design with steel? Thin members and transparency; mesh and point supports; lightness; honesty of expression; recyclability; demountability; angles, curves and cut-outs; and pre-fabbing and customizing."

—C.C. Sullivan, on recent architectural trends and structural steel applications.

## NASCC 2003: What Did You Learn?

**N**otepad in hand, *Modern Steel Construction's* Beth Pollak chatted with conference attendees about their favorite sessions. Here's what they had to say.

### Short Course 1: Moving up the Construction Food Chain—From Bottom Feeder to Killer Whale (It's not a Biological Accident)

Timothy Heffner, Dave Steel Co., Asheville, N.C.: "It reinforced what I need to do, not just on a day-to-day basis, but for long-term business development."

### Short course 2: Financial Management for Fabricators

Jane Brown, Steel Fabricators of Monroe, Monroe, LA: "The insurance analysis was good. We have enjoyed good times, but now we have to make tough choices. The session and the interaction was reassurance that we're not the only ones facing some of these issues."

### Short Course 3: Common Problems in Design, Fabrication and Erection—Solutions and Prevention

Paul Hobbs, P.E., Engineering Ventures Inc., Burlington, VT: "James Fisher is entertaining. I went to his session on joists just to hear him again. It hit so many practical things we do, like deck cantilevers, anchor bolts and columns that are too short. It's really practical information that I can take back to my company."

Allan H. Gold, AIA, S.E., F.ASCE, AHG Structural Engineering, Chicago, IL: "Those guys are terrific, it's the best I saw while I was here. They were very helpful for young engineers, or for an old person like me, to remind me of past mistakes!"

### Keynote 1: Evolution of the AISC Specification—The Next Steps

Robert Raffle, P.E., AIA, RID, The HDMR Group, Charleston, WV: "[After the lecture] I feel more comfortable [with the new Specification]. Dr. G is an old professor of mine, and it's good that he pointed out that some of the fears people are expressing [about combining ASD and LRFD in the new Specification] is the difference between

easy and difficult—easy is what you're used to and difficult is what you still have to learn.

Brian Hsi, Rathgeber/Goss Associates, Rockville, MD: "It was informative for younger engineers. You could learn where we started and where we're going...and that the convergence of ASD and LRFD is not far—it's just that there are more factors that we'll have to learn. We should have a cheat sheet to learn all the factors!"

Dustin Cole, Star Building Systems, Oklahoma City, OK: "Lou did a good job...I hope in 2005 we get the best of both worlds."

### Steel Castings in Architecture and Engineering:

G. Charles Naeve, P.E., Architectural Engineers Collaborative, Austin, TX: "It was my favorite session. There are so many applications for structural castings in conventional erection. It's the aesthetic side of structural steel."

### Designing and Building Steel Parking Structures

Joseph F. Keuler, Savannah College of Art and Design, Savannah, GA: "Excellent presentation, that coupled aesthetics with security and material utilization. The speakers were well-prepared and top notch. One thing that was interesting was how design criteria and structures need to change as consumer needs change—such as how the size of cars are going from small to SUVs."

### What a Detailer Should Include on Erection Drawings

Ronald Plienis, Details Plus, Edgemere, MD: "It was very informative and there were great handouts: a booklet on drawings and copies of standards. This way I could learn and take notes home with me."

### Integrating EDI into the Design, Fabrication and Detailing Process:

Joseph Varon, P.E., The Haskell Company, Jacksonville, FL: "The EDI session was a great discussion, with a lot of interaction. We talked about some of the impediments to working with EDI in the commercial and non-design-build world.

Juan Pablo Acuna, Acuna y Asociados S.A., Santiago, Chile: "I liked the EDI session. In Chile we're working with Bechtel on EDI projects, and our second big project is underway right now."

### Multi-Story Residential Systems

Walter W. Farrell, Eskenazi, Farrell & Fodor, P.C., Chicago, IL: "The girder-slab system was interesting. I've heard of it and seen it advertised, but I've never really used it. I'm going to look into it. I thought the practicality of steel and plank was interesting."

Michael Eckstein, Cannon Construction Corp.-Western Division, Portland, OR: "I'm familiar with the staggered truss, and with beam and post—and I'd been aware of girder-slab, but this year there was more information than last year. It was really impressive and seems like an efficient solution."

### Cambering and Forming of Steel

Bill Duvall, P.E., Rathgeber/Goss Associates, Rockville, MD: "Excellent talk. They gave lecture notes, practical advice and rules of thumb. We design composite floor systems, and we always come back to the same question: do we camber?"

### The New AISC Certification Building Standard:

Wayne Magruder, Standard Supplies, Gaithersburg, MD: "You always get nervous when you're looking at the unknown, but now I feel more comfortable with the new Standard. We'll probably go with the new Standard when we renew our certification."

### Erection Stability Issues

Jules Van de Pas, P.E., S.E., Computerized Structural Design, S.C., Englewood, CO: "Mike West on erection stability was excellent—it was because of the applicability and the practicality of the lecture. It's also interesting to see more fabrication equipment this year in the exhibition than before!"

### Tutorial 1: Practical Steel Design, 2-20 Stories

Jason Hart, Datum Engineers, Dallas, TX: "The tutorial on 2-20 story con-

struction pointed out important specifications. It was more practical than school, and gave you specifics of what to do and what to avoid."

## Risk Management and Insurance

Frank Mitchell, Western Slope Iron & Supply, Grand Junction, CO: "We've all been aware of risk transfer for some time. We learned some of the options that we have and how to handle documentation. We also learned how to manage the owner's insurance requirements with different insurance policies."

## Reducing the Cost of Steel Connections:

Jayendra R. Patel, P.E., The Haskell Company, Jacksonville, FL: "I liked the half-an-hour question and answer session. It was a mixed crowd, with input from fabricators, detailers and engineers."

Christopher W. Kemmlein, P.E., Thornton Tomasetti Cutts LLC, Washington, DC: "The discussion afterwards focused on communication between engineers and detailers. It opens the lines of communication—and if people aren't doing it now, they should be."

Stephen Cotton, Virginia Tech, Masters in Engineering student, Blacksburg, VA: "It was entertaining. There was a heated discussion about snug bolts, bearings, and twist-offs."

## Practical Detailing for Moment Frames and Braced Frames

Mark W. Zimpelman, P.E., URS Corporation, Washington DC: "My company focuses on East Coast seismic considerations, but the speakers gave good exposure to both coasts. It's valuable to get the perspective on the opposite coast, as opposed to how we handle it just on this side."

## Extended End-Plate Moment Connections

Kenneth R. Staver, P.E., Conewago Building Systems, LLC, Hanover, PA: "It was a fast-paced seminar which gave a good preview of AISC *Design Guide 16*." ★

## NASCC 2003: Follow That Car!

Everyone knows that more than 95 percent of the structural steel produced in the U.S. is from recycled materials, right? Well just in case you weren't a believer, this year's NASCC exhibit hall featured an audience participation event to emphasize the point.

On Wednesday evening, a stripped-down late-model Oldsmobile Achieva was brought to the exhibit hall, and conference attendees were invited to don safety goggles and take a swing at it with their choice of sledge hammers.

Within hours, the car was transferred to a scrap yard (Davis Industries of Lorton, VA) for shredding. The car,

which weighed about 2200 lb. when it arrived at the shredder, netted about 1800 lb. of steel for recycling. The shredded car fit nicely in a cardboard box about 4' on each side.

The steel shreds were shipped to AISC-member TXI Chaparral's Petersburg, VA mill, where they joined other steel scrap in the electric arc furnace.

A completed W27x85 containing steel recycled from the car was delivered to the exhibit hall Friday morning, and promptly sliced into souvenirs by AISC-member equipment manufacturer Peddinghaus.

A special thanks to everyone at Davis Industries, TXI Chaparral and Peddinghaus for their help!



Attendees released some frustration on an Oldsmobile Achieva in the exhibit hall.



At the scrap yard, the car was shredded, loaded into a box and then sent to the mill.



The scrap was melted and rolled into a wide-flange, which returned to Baltimore...



...to be sliced into thin souvenir sections for conference attendees.

**Mark your calendar now  
for next year's NASCC!**

Long Beach, CA  
March 24–27, 2004