

# STEEL NEWS & EVENTS

## AISC Awards Faculty Fellowships

AISC has selected two winners of its new annual faculty fellowships program. The goal of the fellowship program is to help accomplish necessary steel research and to develop the steel expertise of young faculty members. The fellowships are also intended to help strengthen steel research and education programs at selected universities, and help faculty provide graduate students with a "feel" for steel.

Amit Varma, of Michigan State, and Linda Hanagan, of Pennsylvania State University, were awarded the first fellowships. Varma's research will focus on the development of innovative long-span slab systems for multi-story residential steel structures. He plans to conceptualize and develop long-span slab systems for



Amit Varma



Linda Hanagan

multi-story steel structures that have the potential to satisfy floor vibration and fire-resistance limit states. Varma also plans to create design provisions that can be used by engineers for the proposed long-span systems.

Hanagan plans to study floor vibration in steel structures. The objectives of the project are to improve the design information for steel structures with occupant-induced excitation, and eliminate floor vibrations as a bias in steel buildings.

Hanagan also plans to develop a preliminary floor-vibration assessment of steel-framed office floors for walking excitations using a database containing thousands of floor-system evaluations. She hopes to provide building-design professionals with an "easier" means of checking floor-system properties early in the design process. Hanagan also will study damping, computer models, and various floor systems. ★

## Upcoming AISC 2003 Fall Seminars

AISC will be offering a series of new educational seminars this fall. Visit [www.aisc.org/seminars](http://www.aisc.org/seminars) for dates and locations.

### Seismic Design and the New 2002 AISC Seismic Provisions

This seminar provides an overview of the new 2002 AISC *Seismic Provisions for Structural Steel Buildings*. This document is the preeminent reference for seismic design of structural steel buildings and is adopted by reference by the model building codes. This edition contains substantial revisions to the design provisions and a completely rewritten commentary that builds on lessons from recent earthquakes and research. This seminar will update the experienced designer of seismic systems and introduce the provisions to those with limited experience. Upon completion of the seminar, you will know what the changes are, where to find them in the provisions, and their implications.

### Common Problems in Design, Fabrication and Erection—Solutions and Prevention

Authored by Jim Fisher and Larry Kloiber, this seminar was first presented at the 2003 NASCC in Balti-

more. The purpose of the seminar is to discuss common design, fabrication, and construction problems that occur on structural steel projects. Solutions to recurring problems and suggestions to prevent problems from occurring will be presented. Included will be a discussion of the necessary procedures and documentation to verify that revisions comply with design requirements, and have been properly made and inspected. The attendee will leave the seminar better equipped to solve and prevent errors in his or her structural design.

### Basic Design for Stability—Columns and Frames

AISC and SSRC have teamed up to offer this six-hour program which focuses on the compressive strength of columns and frames, and provides a fundamental understanding of buckling. The seminar provides background to understand the stability provisions in the AISC *Specification* and methods of stability analysis outlined in the AISC *Commentary*. There will be a strong emphasis on applications through the use of example problems and case studies. ★

## Correction

In the June issue of *Modern Steel Construction*, we incorrectly identified team players in the Stonebriar Centre project, the 2003 Engineering Awards of Excellence National Winner in the \$25M or greater, but less than \$100M category.

AISC-member Bratton Steel, Inc., of Dallas, TX, should have been listed as one of the fabricators.

Also, Draftco, Inc. of Garland, TX detailed the serpentine trusses depicted on the front cover of the June issue.

We regret the errors and apologize for any inconvenience they may have caused. ★



## Students Excel at National Student Steel Bridge Competition Finals

Teams of civil engineering students from 44 universities designed, fabricated and erected steel bridges across an imaginary river for AISC/ASCE's 12<sup>th</sup> Annual National Student Steel Bridge Competition.

Hosted by San Diego State University on May 23-24, 2003, the competition was the culmination of the students' year-long efforts to fund and create model bridges that could be quickly assembled, and that could meet design, load, and deflection requirements. Teams that had qualified at 20 regional competitions were invited to the national final.

Students practiced basic steel fabrication, project scheduling and management, and gained hands-on appreciation for the strength and versatility of structural steel. Competition rules gave site conditions, member size, weight limitations, design loads, and safety and erection guidelines.

The competition is sponsored by AISC, and co-sponsored by the American Society of Civil Engineers, The American Iron and Steel Institute, The James F. Lincoln Arc Welding Foundation, the National Steel Bridge Alliance, Nucor Corporation and TXI Chaparral Steel. AISC thanks all of its sponsors for their support! ★

Prizes were awarded in seven areas. Listed below are the top three teams in each category:

### Speed of Construction:

1. University of Wisconsin-Madison
2. Clemson University
3. University of Florida

### Lightness:

1. Penn State University
2. University of Wisconsin-Madison
3. Lakehead University

### Aesthetics:

1. Columbia University
2. University of Illinois-Urbana
3. University of Wisconsin-Madison

### Stiffness:

1. Penn State
2. SUNY-Canton
3. Southern Polytechnic University

### Economy:

1. University of Michigan
2. University of Wisconsin-Madison
3. Clemson University

### Efficiency:

1. University of Wisconsin-Madison
2. Lawrence Tech
3. Penn State

### Overall Performance:

1. University of Michigan
2. University of Wisconsin-Madison
3. University of Florida



Overall winner University of Michigan, in action.



Students from Rensselaer Polytechnic Institute race to place a bridge member.

## Fabricators Share Safety Tips

AISC's Safety Task Group is looking for safety tips! AISC fabricator members can assist in developing ideas for improving safety by submitting their shop-safety tips. The Task Group will post ideas for safety activities on the AISC web site.

Much of the safety information fabricators traditionally receive is generic or directed at other types of facilities. However, fabrication shops require useful solutions designed specifically for their needs and practices. Innovative safety ideas from AISC members could be a great resource for other fabricators. Sharing suggestions can raise awareness and reduce hazards, and help comply with regulations that are sometimes inadvertently overlooked.

David Sailing of Zalk Josephs Fabricators (ZJ) in Stoughton, WI has contributed the following two ideas to start the Task Group's list:

- ZJ loads trailers from the shop floor or their yard using a travel lift, a very common practice. Working on the trailer presented a possible fall hazard, and climbing from the ground to the trailer also entailed some risk of fall, muscle strain, and reduced productivity. To reduce these hazards, ZJ built a platform with an extendable lip and with stairs on each end. The travel lift straddles two trailers and the platform, allowing the crew to load from the outside in toward the platform.

- Cranes have to maintain clearance from the proximity of power lines, but the distance from a line can be hard to judge. One way is to put an extension on a jib and hang a rope from it. If the rope hits the line, the crane is at its clearance limit.

Leroy Vanadestine of Cianbro Corporation also offers the following tips:

- Vanadestine distributes checkbook-sized booklets to supervisors. The booklets include the company vision and mission; a section titled *Key Elements of Success*, which shows safety as the first element; a description of Cianbro's accident prevention process and the company's safety goals and safety statistics for the last five years; six safety activities; and sections on financial

goals, personnel goals and customer-satisfaction goals. There is a section on first-aid procedures, including some stretches to loosen up. There is a chart of welding symbols and a list of matching filler metals. Also included are weight and measure conversions and SI conversion factors. A calendar shows when OSHA logs need to be posted, when company reports are due, when equipment needs to be winterized and when some seminars, such as *Right to Know* and *New Employee Safety* will be conducted.

- A reminder for regulatory compliance: eye protection from the arc is required for workers in the vicinity of welders as well as the welders themselves. Screens, shaded lenses and instructions to avoid looking at the arc are all useful in complying with this requirement (ANSI Z49.1 paragraph 4.1.3, 1910.252 (e)(2)iii, *Welding Handbook*, 8<sup>th</sup> ed. Vol. 1 pp. 522 and 524).

Send a short description of your ideas to Tom Schlafly at [schlafly@aisc.org](mailto:schlafly@aisc.org). Clearly state the hazard being reduced and how others can apply the information in their shop. The description should communicate the idea, and does not have to provide all the detail that was necessary to make it work in your shop.

Please be sure to obtain the appropriate authority at your firm to release the idea so the Task Group can share it with others. Remember to include your name and firm name. Posted ideas will be credited, and the committee plans to give a prize one year from now to the companies that contribute the most creative ideas. ★

### Did You Know That...

...AISC's codes and specifications can be referenced by number? For example:

- AISC 350-99 is the *LRF Specification for Structural Steel Buildings*, December 27, 1999.
- AISC 303-00 is the *Code of Standard Practice for Steel Buildings and Bridges*, March 7, 2000.

For more code and standard numbers, check out AISC's publications catalog or visit [www.aisc.org/bookstore](http://www.aisc.org/bookstore).