

## Erector Training

The New Hampshire Community Technical College and the New England Steel Erectors Association of America Proudly Present The Steel Erectors' Training Tower Course. Fifty-four hours of instruction are available over a six-week period beginning October 8, 2002. The training occurs on the campus of NHCTC in Nashua, NH. Topics include an overview of OSHA Subpart R, blueprint reading, fall protection, scaffolding and ladders, and cranes and rigging.

The Steel Training Tower, located on the campus of NHCTC at Nashua, combines classroom knowledge with the practical experience of steel erection. The tower itself, only the second of its kind in the country and the first on any college/university campus in the nation, is designed to give the student knowledge and experience in erecting a full scale steel building infrastructure including the more common steel applications encountered in the

field. More information about this valuable training for steel erectors is available by contacting Diane Laliberte at 603.598.4067 or via e-mail at [dlaliberte@tec.nh.us](mailto:dlaliberte@tec.nh.us). Registration options are available for individual sessions as well as for the entire course.

## Albert E. Egger

Albert Egger, founder of Egger Steel Company, passed away on July 25, 2002. Active in the steel industry since 1927, Egger started his firm, located in Sioux Falls, South Dakota, in 1946 and was Chairman of its board at the time of his death.

Egger served as a member of the AISC Board of Directors from 1968 to 1974. He is survived by his wife of 66 years, Marion, and two children, including son Steve, a former AISC Board Chairman and current president of Egger Steel.

## Thornton-Tomasetti Management Transition

The selection of Daniel A. Cuoco, P.E., as President and Robert P. DeScenza, P.E., as Executive Vice President, the Board of Directors of The Thornton-Tomasetti Group on July 9, 2002 signaled the success of its management and ownership transition plan, which sets the 46-year-old engineering and design firm on a sound course for continued growth and delivery of excellent service to its clients.

Richard L. Tomasetti, P.E., former President, will now be Co-Chairman along with Charles H. Thornton, Ph.D., P.E. Cuoco in New York, supported by DeScenza in Chicago, will be responsible for the day-to-day operations of the firm. "We are committed to maintaining our edge of excellence in our industry and to expanding our business nationally and globally," Cuoco said.

More information on the firm is available at [www.TheTTGroup.com](http://www.TheTTGroup.com).

## Iwankiw Joins Hughes Associates

Effective July 31, 2002, Hughes Associates announces the appointment of Nestor R. Iwankiw, P.E., as Senior Engineer and Director of its new office in Chicago, Illinois. In this position, Iwankiw will provide engineering consulting services to customers in the Midwest and nationally. Iwankiw possesses valuable structural engineering knowledge and design expertise, particularly in structural steel, that will broaden Hughes Associates' lead role in the fire engineering of buildings and other structures.

Commenting on the opening of Hughes Associates' Chicago Office, Philip J. DiNenno, President, stated, "This new office allows us to increase our activities in the Midwest. Nestor Iwankiw not only has unique codes, standards, and practical experience, he is also a recognized technical leader in the area of structural engineering." Iwankiw may be reached via email at [niwankiw@haifire.com](mailto:niwankiw@haifire.com) or by telephone at 773.380.6857.

## FABTECH International 2002

October 29-32, 2002  
Cleveland, OH

FABTECH International is North America's largest annual metal forming and fabricating exposition and conference. The event exists to bring buyers and sellers of metal forming and fabricating technologies together in an environment that facilitates and accelerates business relationships.

With more than 700 exhibiting companies representing forming and fabricating, tube and pipe, stamping, and welding technologies at FABTECH 2002, you can examine all the latest equipment and learn about the most advanced technologies for sheet metal fabrication. You'll learn how to solve today's most pressing manufacturing challenges from the best minds in the industry. Armed with new resources, you'll return to your business with great new ideas for improving productivity and serving your customers. For more information, visit the Fabtech web site at [www.fmafabtech.com](http://www.fmafabtech.com).

## ASCE Names New Executive Director

Patrick J. Natale, P.E., has been selected as the executive director of the American Society of Civil Engineers, effective November 1, 2002. Natale has served as the executive director of the National Society of Professional Engineers since 1999. Prior to that, Natale was a senior executive with the Public Service Electric & Gas Company of New Jersey, where he managed a \$14-million marketing and engineering budget and had oversight of a \$20-million call center with over 450 employees. For the past three years, Natale has also served as secretariat of National Engineers Week, a coalition of more than 40 engineering societies and corporations dedicated to greater public awareness and understanding of the engineering profession.

## T.R. Higgins Nominations Sought

The American Institute of Steel Construction, Inc. (AISC) is now accepting nominations for the 32nd annual T.R. Higgins Award. The award, which includes a \$10,000 cash prize, recognizes an outstanding lecturer and author whose technical paper or papers, published during the eligibility period, are considered an outstanding contribution to the engineering literature on fabricated structural steel.

In making the award, the jury considers both the quality of the nominated papers and the nominees capabilities as a lecturer. The papers will be judged for originality, clarity of presentation, contribution to engineering knowledge, future significance and value to the fabricated structural steel industry.

To be eligible, the author must be a permanent resident of the United States. The paper or papers must have been published in a professional journal within the five-year period from January 1, 1997, to January 1, 2002. The

2003 award winner will give a minimum of six presentations of the lecture on selected occasions during the year, the first to be presented at the North American Steel Construction Conference in Baltimore on April 2, 2003.

Anyone may submit nominations, which should include the following information:

- Name and affiliation of person nominated for Lectureship.
- Title of paper or papers to be named in nomination with public citation.
- In case of multiple authors, identify the principal author.
- Reasons for nomination.
- A copy of the paper as well as any published discussion must accompany the nomination.

The Award is named for Theodore R. Higgins, former AISC Director of Engineering and Research, who was widely acclaimed for his many contributions to the advancement of engineering technology related to fabricated structural steel. The award

honors Higgins for his innovative engineering, timely technical papers and distinguished lectures.

Send your nominations for the T.R. Higgins Lectureship Award to: T.R. Higgins Award Nomination, c/o Janet Tuegel, Engineering and Research Coordinator, American Institute of Steel Construction, Inc., One East Wacker Drive, Suite 3100, Chicago, IL 60601-2000. Nominations must be received by November 29, 2002.

## Correction

In the July 2002 issue of *Modern Steel Construction*, AISC-member Bratton Steel, Inc., of Dallas, TX, was omitted from the credits for Stonebriar Centre, Frisco, TX, the National Award Winner in the \$25 million to \$100 million category of the 2002 I.D.E.A.S. awards. Bratton Steel fabricated essentially all of the architecturally-exposed structural steel and truss framing for the project. We apologize for the omission.

## Record Attendance at Student Steel Bridge Competition

Forty-four universities entered a steel bridge in the 11<sup>th</sup> Annual National Student Steel Bridge Competition held at the University of Wisconsin-Madison. The 2002 National Student Steel Bridge Competition was part of the ASCE's 150th Anniversary National Student Conference. Over 1,200 students were in attendance.

The ASCE/AISC National Student Steel Bridge Competition is a fun, challenging competition that pits teams of young civil engineering students against each other and the clock as they design and construct a bridge to span a river valley in a mountainous rural region. The competition brings together everything students learn in the classroom—ranging from design, fabrication and construction to fostering a teamwork environment. The bridge must support at least 2,500 lbs., the weight of an average car, with minimal deflection and cost. To add to the excitement, they must build the bridge over "water" so that if a bolt is

dropped, points are lost. Winners and first place runners-up from the 20 regions compete at the national level. Prizes are awarded in seven areas including construction speed, lightness, stiffness, efficiency, economy, aesthetics and overall performance.

"This competition teaches students about project management and how to work with steel effectively to maximize the material's attributes," said AISC's University Relations Director, Fromy Rosenberg, P.E. "It is a real-life exercise for the engineers of tomorrow."



North Dakota State University students receive their first place prize in the ASCE/AISC National Student Steel Bridge Competition. Participants are (l to r): Faculty advisor, Dr. Kenneth Kellogg, P.E.; Brian Johnston; Corey Bergman; Adam Hanson; Andrew Budde; Cassie McNames; Greg Thompson; Mitch Okeson; Ryan Ackerman; Andrew Olsen; Joey Lewis.

## Building Integration Solutions

**Call for Abstracts**  
**September 17-20, 2003**  
**Austin, Texas**

The first Building Integration Solutions Conference will focus on a professional approach to the integration of building elements. Architectural engineering is undergoing significant changes with a strong momentum towards effective integration of building design, construction, and operation. Engineers, Architects and other building team professionals are invited to share cutting edge projects and research on a variety of topics such as:

- developing technologies,
- retrofit,
- codes and standards,
- acoustics,
- illumination,
- occupant health and productivity, and
- leadership in energy and environmental design (LEED).

This conference is the first in a series of exciting new conferences hosted by The Architectural Engineering Institute (AEI) of ASCE to exchange ideas, debate changes to existing approaches, improve design methods, discuss case studies, and share innovations. For complete details please visit [www.ae-institute.org](http://www.ae-institute.org) today.

## 2003 NOVA Awards

The Construction Innovation Forum (CIF) has announced the call for nominations for 2003 NOVA Awards honoring construction innovations around the world. Entries are sought from every section of the construction industry. Nominations for the 2003 NOVA Awards are due on October 1, 2002. CIF's web site, [www.cif.org](http://www.cif.org), offers more information as well as a downloadable nomination form.

The Construction Innovation Forum is a non-profit, international organization founded in 1987 to encourage and recognize innovations that have improved the quality or reduced the cost of construction. CIF's goal is to educate industry leaders on the importance of innovation in the construction industry and encourage others to develop, implement, and require innovative processes.

The NOVA Award is CIF's most distinguished honor. Recipients are carefully chosen based upon strict selection criteria and a rigorous investigation process by a jury of international experts. To be selected for a NOVA Award, an innovation must be a proven success with a positive, important effect on construction or service. The innovation must be a significant advance, not just a natural evolution of existing methods, common sense or good practices. Finally, the innovation must be documentable and presentable.

The 2003 winners will be announced in February 2003 and will join an elite list of only 50 innovations worldwide to be honored by CIF with the NOVA Award.

## Steel Bridge Forum

**September 17, 2002**  
**Rutgers University, New Brunswick, New Jersey**

Recognizing the important need for technology transfer, the steel bridge industry joined its efforts in 1986 to create the Steel Bridge Forum. The Forum evolved from a series of workshops conducted by Bethlehem Steel Corporation. The Concept has expanded under the auspices of the American Iron and Steel Institute, acting as secretariat on behalf of its contributing members that represent the steel bridge erectors, fabricators, producers and other industry affiliates.

The Forum is a national exchange of information and innovative ideas that improve the performance and life cycle cost of steel bridges. The success of the Steel Bridge Forum stems from pooling the industry's efforts to organize meetings that deliver value to the: Departments of Transportation and to the federal, local and toll bridge owners and the design consultants. The Forum works very closely with each state to create the agenda: When the DOT talks, we listen, very carefully. As such, the Forum has earned an excellent reputation for tech transfer by the nation's leading experts in design and research.

Over 8,000 steel bridge professionals have attended the Forum. "We are very excited about the opportunity to bring the Steel Bridge Forum and its

trade show to New Jersey and to partner with the NJ DOT and the Department of Civil Engineering at Rutgers University," said Camille George Rubeiz, P.E., AISI's director of transportation and infrastructure. "We want to get this state-of-the-art information into the hands of bridge owners and consultants to save them time and money- precious commodities in this busy industry. The New Jersey Department of Transportation is providing its designers and customers a valuable educational experience (see side box) by bringing the Steel Bridge Forum to NJ where many structural bridge engineers will benefit from the knowledge of innovators on the cutting edge of steel bridge design and research."

For more information on the Steel Bridge Forum, or to register, visit [www.steel.org/infrastructure/sbf/](http://www.steel.org/infrastructure/sbf/).

## Call for Papers

**ERES 2003**  
**September 22-24, 2003**  
**Ancona, Italy**

The Fourth International Conference on Earthquake Resistant Engineering Structures (ERES) will provide a forum for discussion of both basic and applied research in the various fields of engineering, relevant to earthquake resistant analysis and the design of structural systems. The conference will be of interest to people who are concerned with earthquake resistant analysis and the design of structural systems.

Complete information on the call for papers, as well as additional information about the conference, is available at [www.wessex.ac.uk/conferences/2003/eres03/index.html](http://www.wessex.ac.uk/conferences/2003/eres03/index.html).

## Engineering Journal Abstracts for Second Quarter 2002



### Using Moment and Axial Interaction Equations to Account for Moment and Shear Lag Effects in Tension Members

by Howard I. Epstein and Christopher L. D Aiuto

Shear lag effects and moments reduce the strength of structural steel tension members. This shear lag exists when connections to tension members transmit the load through some, but not all, elements of the member (legs of an angle, web and flanges of a W or tee, etc.) and may result in an eccentrically loaded connection. Recent research on structural tees at the University of Connecticut has shown that the moment produced by eccentric loading depends upon the connection geometry as well as the rotational stiffness of the connection. Once the moments in tension tees and other sections are found, these members may be more correctly and safely designed by accounting for the interaction of bending moment and axial force, instead of the empirical shear lag factors. The rotational stiffness of the connections is shown to be an important design consideration.

### A Technical Note: Comparison of Design Specifications for Design of Pipe and Round HSS Pedestrian Guardrail Systems

by Thomas Sputo

Traditionally, when steel guardrail systems are specified, they have been designed using the AISC Allowable Stress Design Specification. Alternate, less frequently-used design specifications which are current include other specifications from the American Institute of Steel Construction (AISC), the American Iron and Steel Institute (AISI), and the National Association of Architectural Metal Manufacturers (NAAMM). Although the move to Load and Resistance Factor Design (LRFD) methods has been slow, this paper will compare the design of

steel pipe guardrail systems using five different design specifications, two of which are LRFD specifications and three of which are ASD specifications. The design methodology discussed here is equally applicable to both pipe and hollow structural section (HSS) guardrail systems.

### Design Concepts for Jib Cranes

by James M. Fisher and Steven J. Thomas

Jib cranes are either attached to a building column or cantilever vertically from an independent floor mounted column. This paper will primarily address jib cranes that are attached to building columns. Essentially a jib crane is a boom with a moveable trolley hoist. The trolley hoist moves along the length of the boom and the boom swivels allowing the lifted load to be maneuvered about in a relatively small semi-circular area. There are two different types of column-mounted jib booms normally encountered. The fundamental difference between the two is in the way in which the vertical column force is distributed. The suspended boom is analyzed as if it delivers 100 percent of the vertical load to the column at the top hinge. The cantilevered boom distributes the vertical load equally between the two hinges. Column-mounted jib crane forces produce effects on the overall building frame and building bracing systems as well as local effects at the columns to which they are mounted. The effects on the building can be accounted for by placing point loads on the columns(s) at the appropriate locations and combining them with the appropriate load combinations as prescribed by the building code. The local effects must be dealt with individually.

### New Fatigue Provisions for the Design of Crane Runway Girders

by James M. Fisher and Julius P. Van De Pas

Proper functioning of bridge cranes is dependent upon proper crane runway girder design and detailing. The runway design must account for the fatigue effects caused by the repeated passing of the crane. Runway girders should be thought of as a part of a system comprised of the crane rails, rail attachments, electrification support, crane stops, crane column attachment, tie back and the girder itself. All of these items should be incorporated into the design and detailing for the crane runway girder system.

Based on the authors experience it is estimated that 90 percent of crane runway girder problems are associated with fatigue cracking. To address these conditions, this paper will discuss the AISC LRFD Specification (AISC, 1999) fatigue provisions, crane loads, typical connec-

tions and typical details. A design example is provided.

### Relating SMRFs Seismic Drift Demands to Element Deformation Demands

by Akshay Gupta and Helmut Krawinkler

A procedure is outlined and evaluated for estimation of beam and panel zone deformation demands for given estimates of story drift demands for regular steel moment resisting frame (SMRF) structures. The total story drift demand is related to the story plastic drift demand by estimating the story yield drift based on the weakest element at the connection. The story plastic drift demand is related to the panel zone and beam plastic deformation demands by a function based on story geometry and member properties. The procedure is verified for a series of code compliant SMRFs. It complements a process presented in the literature that permits the estimation of seismic drift demand for frame structures from the spectral displacement demand at the first mode period of the structure. The combined process should prove useful in conceptual design, in estimating deformation demands for performance assessment, and in improving basic understanding of seismic behavior of steel frame structures.

## S.E. Refresher Course

The Continuing Education Committee of the Structural Engineers Association of Illinois (SEAOI) is planning to present its 2002-2003 Structural Engineers Refresher Course at a downtown location in Chicago. The refresher course provides an in-depth review of structural engineering principles and applications. It is intended to help prepare candidates for the Illinois Structural Engineers State Board Examination.

Sessions will be held on Monday and Thursday evenings from 6:00 to 7:45 p.m. The course is tentatively scheduled to begin on November 11, 2002 and end on March 31, 2003 for a total of 35 sessions. The 2002-2003 course will feature 61 hours of classroom interaction with experienced instructors-providing an excellent forum for intensive review and stimulating discussion of the broad range of content areas.

Further information is available by calling the SEAOI office at 312.372.4198. Early registration is encouraged.