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Wei-Wen Yu Center for Cold-Formed Steel Structures

CCFSS news

UNIVERSITY OF MISSOURI-ROLLA
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# AISI Committee on Specifications Meets

The Committee on Specifications for the North American Specification for the Design of Cold-Formed Steel Structural Members and its subcommittees met for their semi-annual meeting on August 1st, 2nd, and 3rd in Concord, NH. The meeting consisted of updates on ongoing research as well as discussion of proposed changes to the Specification.

Research reports were presented on several AISI sponsored research projects. Direct Strength Method for Perforated Members is the focus of a study reported on by Dr. Ben Schafer. Michael Seek and Jeff Sears updated the Committee on the progress of a study to better define the anchorage forces for a Z-purlin roof system. A research study aimed at defining the shear and tension interaction of arc spot weld connections was reported by Dr. Roger LaBoube. A report on the progress of the second edition of the AISI Cold-Formed Steel Framing Design Guide was provided by Tom Trestain.

The Committee is working toward the development of a 2007 edition of the Specification. A major focus of the meetings was the review of potential new specification changes. Several enhancements to and/or additions to the Specification were adopted at the meetings. These enhancements or additions pertained to the following:

1. Section E4.4.2 - Pull-over strength of screw connections in tension
2. Table F1 - Statistical values for various limit states for screw connections
3. Section C3.1.5 - A minimum safety factor and resistance factor were adopted
4. Section A2.1 - ASTM A1039 was added as an approved steel.
5. Section A2.3.2 - Changes to permit the use of ASTM A1039 and the inclusion of Chapter E to the list of Chapters limited by 75 percent of the specified minimum yield strength or 60 ksi.

The next meeting of the Committee on Specifications is scheduled for February, 2007.

# 18th International Specialty Conference Scheduled for October 26-27 in Orlando, Florida

The 18th International Specialty Conference on Cold-Formed Steel Structures is scheduled to take place on October 26 and 27, 2006 in Orlando, Florida. The Conference will be presented by the Wei-Wen Yu Center for Cold-Formed Steel Structures. Other conference sponsors include American Iron and Steel Institute, Metal Building Manufacturers Association, Metal Construction Association, Rack Manufacturers Institute, Steel Deck Institute, and Steel Stud Manufacturers Association.

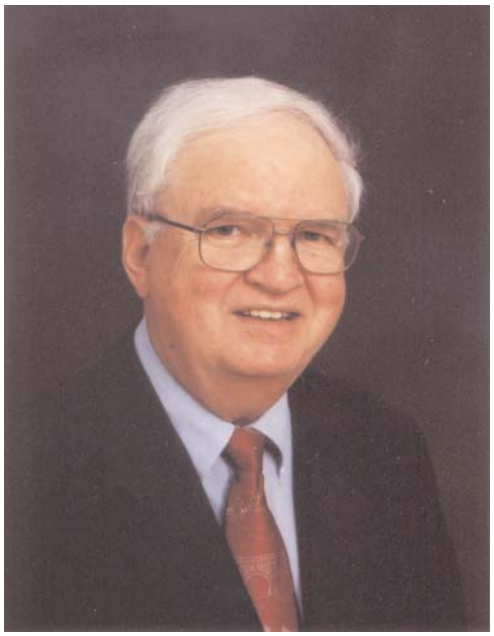
This event is designed to bring together leading scientist, researchers, educators, and engineers who have engaged in the field of research and design of cold-formed steel structures for discussion of recent research findings and design considerations.

As in previous specialty conferences which have been held since 1971, this conference will include presentation of technical papers and the publication of a volume of conference proceedings. A total of 45 papers are scheduled for presentation in several areas of interest to include: Element Behavior, Flexural Members, Floor Joist Assemblies, Compression Members, Rack Structures, Wall Studs, Building Systems, Design Standards Development, and Connections. For a brief abstract of the papers refer to the Spring 2006 Edition of the CCFSS Technical Bulletin at www.umr.edu/ccfss.

The conference will be held at the

**continued on page 2-
See Conference**

# Duane Ellifritt Receives Winter Award



Dr. Duane Ellifritt

Duane S. Ellifritt, Ph.D., P.E. professor emeritus of Civil Engineering at the University of Florida is the recipient of the 2006 George Winter Award. The purpose of the George Winter Award is to recognize the achievements of an active structural engineering researcher, educator or practitioner who best typifies the late Dr. George Winter's humanistic approach to his profession: i.e. an equal concern for matters technical and social, for art as well as science, for soul as well as intellect. Dr. Ellifritt was presented the award for his contributions to the role of aesthetics in structural engineering through his educational and artistic endeavors, particularly the development of the steel connection sculpture now present on nearly 200 university campuses nationwide.

**Conference**
**cont. from page 1**

The conference will be held at the Rosen Centre Hotel, which is conveniently located on Orlando's International Drive only minutes away for the Orlando airport and major area attractions such as Walt Disney World, Universal Studios, and Sea World. Advance registration is requested. For more information, including a conference registration form, program, and additional information on the Orlando area, visit the Center's website at www.umr.edu/~ccfss, or contact the Center by e-mail at ccfss@umr.edu or phone 573-341-4471.

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# AISI Committee on Framing Standards Update

In the fall of 2006, the AISI Committee on Framing Standards (COFS) will release the Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings, 2001 Edition with Supplement 2, a North American Standard for Cold-Formed Steel Structural Framing - Product Data, and a Code of Standard Practice for Cold-Formed Steel Structural Framing, 2006 Edition with Commentary.

The COFS is also working to develop North American editions of its standards on General Provisions, Header Design and Truss Design. These North American standards will be available for adoption and use in the United States, Canada and Mexico in 2007. Also in 2007, the COFS will be developing new standards on Floor and Roof System Design and Load and Span Tables and working to update existing standards on Lateral Design and Wall Stud Design.

These documents represent a portion of the full suite of documents needed to sustain the growth of the cold-formed steel structural framing industry. Committee activity is also directed towards the necessary research and development to support the maintaining and periodical upgrading of these documents. Research projects are being initiated to investigate the Performance of Cold-Formed Steel Strap Braced Walls, Rotational Restraint of Sheathing and Sheathing Braced Design of Wall Studs.

The next meetings of the COFS will be in Orlando, FL on October 24 and 25 immediately before the 18th International Specialty Conference on Cold-Formed Steel Structures. For more information about the activities of the COFS, please check the AISI website at www.steel.org or contact Jay W. Larson at jlarson@steel.org.

# AISI PUBLISHES DIRECT STRENGTH METHOD DESIGN GUIDE

## *Guide Offers Innovative New Design Approach for Cold-Formed Steel Members*

The American Iron and Steel Institute (AISI) has published the Direct Strength Method Design Guide, which offers an innovative new approach to the design of cold-formed steel members. Benjamin Schafer, Ph.D., who developed the Direct Strength Method, wrote the guide.

Delbert F. Boring, P.E., vice president of construction market development for AISI, said: "The Direct Strength Method will redefine the way that engineers design with cold-formed steel. Previously, there were no provisions for designing cold-formed members with complex cross-sections without performing tests. The Direct Strength Method considers elastic buckling behaviors and enables engineers to predict strength for virtually any configuration of prismatic cold-formed steel members. This method will significantly improve the design of cold-formed steel members."

The guide provides practical and detailed instruction on the use of the Direct Strength Method. It includes a tutorial to help engineers interpret elastic buckling analysis results, and provides prescriptive guidelines and examples for developing beam and column charts. It also includes extensive design examples covering 14 different cold-formed steel cross-sections, under a variety of different loading and boundary conditions, which allow engineers to directly compare results between the Direct Strength Method and conventional design. The guide also provides instruction on how to handle unique situations in the elastic buckling analysis of cold-formed steel members.

The Direct Strength Method Design Guide is available in both print and electronic formats and can be purchased on AISI's e-store at www.steel.org. Four recommended companion resources are also available via the AISI e-store:

- Supplement 2004 to the North American Specification for the Design of Cold-Formed Steel Structural Members, 2001 Edition,
- North American Specification for the Design of Cold-Formed Steel Structural Members, 2001 Edition,
- AISI Cold-Formed Steel Design Manual, 2002 Edition, and
- Finite Strip Method Software.

Recognized by the steel and construction industries for its expertise in developing codes and standards, AISI's work in this area is managed by the AISI Construction Market Committee, which is supported by the investment of the following AISI member companies:
AK Steel Corporation
Dofasco Inc.
IPSCO Inc.
Mittal Steel USA
Nucor Corporation
Severstal North America Inc.
Steelscape, Inc.
United States Steel Corporation
USS-POSCO Industries

AISI serves as the voice of the North American steel industry in the public policy arena and advances the case for steel in the marketplace as the preferred material of choice. AISI also plays a lead role in the development and application of new steels and steelmaking technology. AISI is comprised of 33 member companies, including integrated and electric furnace steelmakers, and 118 associate and affiliate members who are suppliers to or customers of the steel industry. AISI's member companies represent approximately 75 percent of both U.S. and North American steel capacity. For more news about steel and its applications, view AISI's Web site at www.steel.org.

*The **CCFSS News** and **CCFSS Technical Bulletin** are published bi-annually to the Center's website. Current and past volumes of each publication may be viewed in .pdf format on the Center's website www.umr.edu/~ccfss.*

*To receive the **CCFSS News** and **CCFSS Technical Bulletin** by email, as well as brochures and other announcements by regular mail, please contact the Center at ccfss@umr.edu and provide us with both your email and physical mailing addresses.*

# Center's Steering Committee Meets

The Steering Committee of the Wei-Wen Yu Center for Cold-Formed Steel Structures met in Concord, NH on August 1, 2006. The meeting was in conjunction with the meetings of the AISI Committee on Specifications.

At their annual meeting the Steering Committee reviewed the Center's current activities including technical services, engineering education, professional activity, and research.

It was reported that the Center's educational efforts were expanded in 2006. The UMR graduate course on cold-formed steel design is now taught as a distance education course which enables engineers and students worldwide to enroll in the course. Also, the Center has developed and is offering a "Lunch and Learn" seminar to consulting engineering firms. This continuing education program offers 1.5 PDH credits.

As new activity of the Center, it will begin to facilitate the development of articles for STRUCTURE Magazine. These articles will address the many applications of cold-formed steel structures.

## First Announcement of the 5th Conference on Coupled Instabilities in Metal Structures (CIMS-2008)

Sydney, Australia
23-25 June 2008

You are invited to the 5th conference on Coupled Instabilities in Metal Structures. Following the successful series of conferences in Timisoara (1992), Liege (1996), Lisbon (2000) and Rome (2004), the conference will this time be held in Sydney, Australia.

The aim of the conference is to bring together academics, researchers and practitioners in the broad field of stability, analysis and design of metal structures. The conference will provide an opportunity for participants to (i) review recent achievements in the advancement of knowledge and understanding in this field, (ii) share the latest trends and developments, and (iii) exchange ideas and views on current and future research areas of need.

The year of the conference coincides with Professor Greg Hancock reaching 60. The third day will therefore be a symposium dedicated to Greg Hancock and his many achievements.

The key dates for the conference are:
Submission of abstracts 31 March 2007
Submission of full paper for review 30 September 2007
Submission of final paper 15 January 2008
Conference dates 23 - 25 June 2008

Further information will be communicated via email and posted on the CIMS-2008 web site http://www.civil.usyd.edu.au/cims2008/

*This conference is being organized in collaboration with Prof. Mahen Mahendran from the Queensland University of Technology, who is in charge of the Fifth International Conference on Thin-walled Structures (ICTWS5) to be held in Brisbane, Australia, from 18-20 June 2008 (see calendar at right). The two conferences are held sequentially, separated by a weekend.*

# Calendar

**October 26 & 27, 2006**
18th International Specialty Conference on Cold-Formed Steel Structures
Orlando, FL
www.umr.edu/~ccfss

**November 16 & 17, 2006**
4th International Symposium on Steel Structures (ISSS)
Seoul, Korea
http://ksscc.or.kr/
www.umr.edu/~ccfss

**April 18-21, 2007**
North American Steel Construction Conference (NASCC '07)
New Orleans, LA
www.aisc.org

SSRC 2007 Annual Stability Conference
New Orleans, LA
www.aisc.org

**July 24-27, 2007**
6th International Conference on Steel and Aluminum Structures (ICSAS '07)
St. Catherine's College, Oxford, England
www.brookes.ac.uk/go/icsas07

**July 30-August 1, 2007**
3rd International Conference on Steel and Composite Structures
University of Manchester, UK
www.meeting.co.uk/confercare/icscs07

**June 18-20, 2008**
5th International Conference on Thin-Walled Structures (ICTWS5)
Brisbane, Australia
Contact: TBA

**June 23-25, 2008**
5th Conference on Coupled Instabilities in Metal Structures (CIMS-2008)
Sydney, Australia
http://www.civil.usyd.edu.au/cims2008/