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## CCFSS News Fall 2007

Wei-Wen Yu Center for Cold-Formed Steel Structures

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## Short Course on Cold-Formed Steel Design

The Wei-Wen Yu Center for Cold-Formed Steel Structures is planning for its 20th Short Course on Cold-Formed Steel Structures. The three-day short course will be held October 16th, 17th, and 18th, 2007 in St. Louis, MO.

The short course lectures will present discussion of the behavior and design of cold-formed steel members and connections. The course is structured to provide an introduction to behavior and design for the engineer unfamiliar with cold-formed steel. For engineers experienced with cold-formed steel design, the short course will strengthen their understanding of the fundamental behavior of both members and connections, as well as provide a better understanding of the AISI design specification and the AISI framing standards. A preview of future specification changes will also be provided. The short course content is applicable to the broad range of applications of cold-formed steel to

include framing, metal buildings, deck and panels, and rack structures.

*Included in the course registration is a tour of a local panelizing facility.*



Lectures will be based on information contained in the AISI *North American Specification for the Design of Cold-Formed Steel Structural Members*, 2001 edition with the 2004 Supplement and its Commentary and the AISI *Standards for Cold-Formed Steel Framing*, 2004 editions.

The text *Cold-Formed Steel Design*, 3rd edition, by W. W. Yu will also serve as a course reference.

Included in the course registration is a tour of a local panelizing facility. Gateway Panel is a manufacturer of pre-fabricated cold-formed steel wall panels and truss systems using state-of-the-art automated equipment in their assembly plant located in St. Charles, Missouri. The pre-fabricated cold-formed steel framed wall and floor panels use welded or screw connections. Finish systems such as Exterior Insulation Finish Systems (EFIS), siding or brick veneer are applied in a controlled environment.

Additional information regarding the course may be obtained by contacting Ms. Christina Stratman, Center for Cold-Formed Steel Structures, Tel: (573) 341-4471, Fax: (573) 341-4476, e-mail [cfss@umr.edu](mailto:cfss@umr.edu) or Dr. Roger LaBoube, Tel: (573) 341-4481, Fax: (573) 341-4476 or e-mail: [laboube@umr.edu](mailto:laboube@umr.edu).

### MBMA 2006 Metal Building Systems Manual

Metal Building Manufacturers Association (MBMA) has released the 2006 *Metal Building Systems Manual*. This manual replaces the 2002 *Metal Building Systems Manual* and is the flagship publication of MBMA. Significant changes and improvements have been made to the manual over the years, incorporating the research undertaken by the Association for the betterment of the industry.

The manual is available as either an interactive CD-ROM or hard copy. For more information please visit the MBMA site at [www.mbma.com](http://www.mbma.com).

## 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 July 29, 30, and August 1, 2007 in Minneapolis, MN. The meeting consisted of updates on ongoing research as well as discussion on 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. Chia-Ming Uang reported on a study that is focused on seismic design of cold-formed steel structures. A report on the progress of the second edition of the AISI *Cold-Formed Steel Framing Design Guide* was provided by Tom Trestain. The Virginia Tech study of deep cellular deck diaphragms was the topic of discussion by Dr. Sam Easterling. Dr. Cheng Yu reported on research at the University of North Texas to define the behavior of bolts in oversize and slotted holes.

The Committee finalized the development of a 2007 edition of the Specification. The CCFSS Technical Bulletin Volume 16, Number 2 authored by Dr. W.W. Yu provides a summary of the changes to that are reflected in the 2007 edition of the Specification.

The next meeting of the Committee on Specifications is scheduled for February, 2008.

## Cold-Formed Steel Educational Seminars

The following seminars are being offered for practitioners to gain a better understanding for the design of cold-formed steel members and connections:

The Wei-Wen Yu Center for Cold-Formed Steel Structures is planning for its 20th Short Course on Cold-Formed Steel Structures. The three-day short course will be held **October 16th, 17th, and 18th, 2007 in St. Louis, MO.**

“Design of Cold-Formed Steel Structures”, presented by the American Society of Civil Engineers. The instructors are Drs. R.M. Schuster and R.A. LaBoube. This 1.5 day seminar is scheduled for the following venues:

**December 13-14 2007 in Denver**  
**January 10-11, 2008 in Boston**

For more details: [conted@asce.org](mailto:conted@asce.org).

## CFSEI - New Center Sponsor

The Wei-Wen Yu Center for Cold-Formed Steel Structures welcomes the Cold-Formed Steel Engineers Institute of the Steel Framing Alliance as its' newest sponsoring organization. The Cold-Formed Steel Engineers Institute (CFSEI) is a must-have technical and professional resource for designers of cold-formed steel structures.

The CFSEI is made up of hundreds of structural engineers and other design professionals who are finding a better way to produce safe and efficient designs for commercial and residential structures with cold-formed steel.

If you are an engineering or design professional — the CFSEI is where you'll find the latest technical information, tips, and industry standards.

The Center for Cold-Formed Steel Structures (CCFSS) was established at the University of Missouri-Rolla in May 1990 under an initial grant received from the American Iron and Steel Institute. The Center's sponsors now also include: The Cold-Formed Steel Engineers Institute of the Steel Framing Alliance, Metal Building Manufacturers Association, Metal Construction Association, Rack Manufacturers Institute, Steel Deck Institute, Steel Stud Manufacturers Association. and the University of Missouri-Rolla. In 2000, the Center was renamed for its Founding Director, **Dr. Wei-Wen Yu.**

The mission of the Center is to provide an integrated approach for handling research, teaching, engineering education, technical services, and professional activity. The Center brings together the technical resources of interested parties, i.e., university researchers, steel producers, product manufacturers, consultants, building officials, government agencies, and others with a common goal of continued improvement of cold-formed steel design and construction.

## New MCA Document on Understanding the Rainscreen Principle

A new resource for the design and construction communities helps clarify the key principles and background of the two accepted rainscreen systems — drained/back-ventilated (D/BV) and pressure-equalized/compartimented (PER). This valuable document clears up the increasing confusion and misinformation about these pressure equalized rainscreen systems that are metal-based cladding systems rapidly growing in use in domestic commercial building markets.

The document has been prepared by a task force of the Metal Construction Association (MCA) to educate designers and installers on the proper details and basic performance levels of the rainscreen approach to controlling rainwater penetration while offering venting and drying potential.

“MCA members were very concerned that the level of confusion about the different rainscreen principles would cause inferior systems to be designed and used on buildings in a manner that would not be satisfactory to building owners. Because this viable approach to moisture control is quickly growing

in use we felt it was important to take action now to correct any misunderstandings about how to create the most effective design and installation methods for this type of wall construction material,” noted MCA Technical Director Scott Kriner.

The document clarifies details of the D/BV and PER rainscreen principles and offers conceptual illustrations for their design. It also notes the importance of coordinating the integral elements of the system, such as outer leaf, insulation, air/vapor barrier and inner leaf, to ensure satisfactory performance. Testing documentation and additional reference sources are also included in the new publication titled “Understanding the Rainscreen Principle.” It is available for download on the MCA Web site at [www.metalconstruction.org/pubs/pdf/mca07\\_Rainscreen.pdf](http://www.metalconstruction.org/pubs/pdf/mca07_Rainscreen.pdf).

Members of the MCA task force who researched the topic and authored the document include: J. David Clapperton, principal of Austell, GA-based The Miller-Clapperton Partnership, Inc.; Bill Yannetti, senior

manager-technical service, for Chesapeake, VA-based ALPOLIC Mitsubishi Chemical America, Inc.; Arthur Pinkham, AIA, director of technical services for Cambridge, MA-based RHEINZINK America Inc.; and Keith D. Boyer, P.E., director/design and development for Moon Township, PA-based CENTRIA.

MCA is an organization of manufacturers and suppliers whose metal products are used in structures throughout the world. The association promotes the use of metal in construction through education, marketing support, technical programs, monitoring of industry issues and achievement awards. For more information about MCA, visit [www.metalconstruction.org](http://www.metalconstruction.org).

MCA’s flagship event is METALCON International, a trade show and conference with a 38-session educational program and product exhibits from more than 400 companies. The 18th annual METALCON is slated for October 3-5, 2007 at the Las Vegas Convention Center. For more information visit [www.metalcon.com](http://www.metalcon.com).

### Calendar

#### October 16-18, 2007

20th Short Course on Cold-Formed Steel Structures  
St. Louis, MO  
[http://ccfss.umn.edu/conted/short\\_course.html](http://ccfss.umn.edu/conted/short_course.html)

#### June 23-25, 2008

5th International Conference on Coupled Instabilities in Metal Structures (CIMS - 2008)  
Sydney, Australia  
[www.civil.usyd.edu.au/cims2008/](http://www.civil.usyd.edu.au/cims2008/)

#### June 18-20, 2008

5th International Conference on Thin-Walled Structures (ICTWS 2008)  
Brisbane, Australia  
<http://www.ictws2008.qut.edu.au/>

#### October 14-15, 2008

19th International Specialty on Cold-Formed Steel Structures  
St. Louis, MO  
[http://ccfss.umn.edu/conted/intl\\_specialty\\_updated.html](http://ccfss.umn.edu/conted/intl_specialty_updated.html)

**Be sure to mark your calendar!**

**The deadline for submission of abstracts for the**

**19th International Specialty Conference on Cold-Formed Steel Structures**

**October 14 & 15, 2008  
St. Louis, Missouri**

**is November 1, 2007.**

**Email your abstract to us at [ccfss@umn.edu](mailto:ccfss@umn.edu)**