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Wei-Wen Yu Center for Cold-Formed Steel Structures

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MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY

DIRECTOR: ROGER A. LABOUBE, PH.D., P.E.
FOUNDING DIRECTOR: WEI-WEN YU, PH.D., P.E.

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AISI Committee on Specification Meets

The Committee on Specification for the *North American Specification for the Design of Cold-Formed Steel Structural Members* and its subcommittees met for their semi-annual meetings on July 24 and 25 in Denver, CO. The meetings consisted of updates on ongoing research as well as discussion on proposed changes to the Specification.

Research reports were presented on three AISI sponsored research projects. The Direct Strength Method for Perforated Members project is considering how to design perforated members using the Direct Strength method. The project is directed by Dr. Ben Schafer. Dr. Chris Moen summarized the project's findings. Dr. Cheng Yu reported on research at the University of North Texas to define the behavior of bolts in oversize and slotted holes. A design guide to aid engineers in the proper application of the Specification Section D6.3, Roof System Bracing and Anchorage, is under development at Virginia Tech and was the focus of Dr. T.M. Murray's report.

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19th International Specialty Conference Scheduled

The 19th International Specialty Conference on Cold-Formed Steel Structures has been scheduled for October 14 & 15, 2008 in St. Louis, Missouri. Approximately 45 papers will be presented at the two-day conference.

This year's conference will take place at the Hilton St. Louis at the Ballpark. The hotel is conveniently located near some of St. Louis' biggest attractions such as the world-famous Gateway Arch, the Old Courthouse National Historic Site, Anheuser-Busch brewery, and Laclede's Landing, which transports visitors back to St. Louis' river city past. The St. Louis Cardinals' beautiful new Busch Stadium is located next door to the hotel and the Edward Jones Dome (St. Louis Rams Football) and Scottrade Center (St. Louis Blues Hockey) are close by.

For more information on St. Louis, please visit the St. Louis Convention and Visitors Center website at www.explorestlouis.com. And don't forget to check out nearby St. Charles, which was the starting point for the Lewis and Clark expedition. Set on the river, this picturesque area features cobblestone streets, unique shops and a tour of Missouri's First Capitol (1821-1826). The St. Charles Convention Center website is www.historicstcharles.com.

Conference brochures, complete with full program, are available online at http://ccfssonline.org/cont_ed/intnl_specialty%20updated.html If you would like a hard copy, or if you are not already on our mailing list please contact us at ccfss@mst.edu with your current address. We will also post program information on the Continuing Education page of the CCFSS website <http://ccfssonline.org>.

AISI-sponsored research and standards development reach around the world

As the steel industry becomes more global, so do the research and standards development activities that establish the competitive playing field for steel in construction applications. In June 2008, two significant conferences in Australia brought together preeminent researchers from around the world to share research findings and showcase standards development accomplishments.



The 5th International Conference on Coupled Instabilities in Metal Structures in Sydney included a paper presented by Dr. Roger LaBoube of Wei-Wen Yu Center for Cold-Formed Steel Structures at the Missouri University of Science and Technology which was co-authored by Dr. Helen Chen and Jay Larson of the American Iron and Steel Institute on the AISI "North American Cold-formed Steel Design Standards". In addition, Dr. Ben Schafer of The Johns Hopkins University presented papers resulting from AISI-sponsored research that he has conducted to further develop the direct strength method, a revolutionary design approach recently codified in the AISI North American Specification for the Design of Cold-Formed Steel Structural Members. Dr. Colin Rogers of McGill University discussed his research paper "Inelastic Performance of Weld-Connected Cold-Formed Steel Strap Braced Walls" and "A Unique Buckling Mode of Cold-Formed Steel Framed Shear Walls with Sheet Steel Sheathing" was presented by Dr. Cheng Yu of the University of North Texas. The third day of the three-day conference was devoted to recognizing Dr. Gregory Hancock for his many contributions to research in the area of thin-walled structures. Dr. Hancock has had a significant impact on the AISI standards development activities. His research findings have aided in writing the design standards and he has served on the AISI Committee on Specifications.

The 2008 International Conference on Thin-Walled Structures included a paper presented by Dr. Roger LaBoube of the Missouri University of Science and Technology, which was co-authored by Jay Larson on the "AISI Standards for Cold-formed Steel Framing". Additional papers highlighting AISI-sponsored research included "Elastic Buckling and Tested Response of Cold-Formed Steel Columns with Holes" by Chris Moen and Dr. Ben Schafer of The Johns Hopkins University; "Residential Hip and Valley Roof Framing Using Cold-formed Steel Members" by Brandi Abel, Dr. Sutton Stephens of Kansas State University and Dr. Roger LaBoube of the Missouri University of Science and Technology; and "Rotational Restraint of Distortional Buckling in Cold-formed Steel Framing Systems" by Dr. Ben Schafer, Rachel Sangree and Ying Guan of The Johns Hopkins University.

Cold-Formed Steel Building Component Safety Information Booklet

WTCA's Cold Formed Steel Council (CFSC) has release The Cold-Formed Steel Building Component Safety Information booklet (CFSBCSI), which is now available for purchase. CFSBCSI includes the most current information regarding the handling, installation, restraint and bracing of cold-formed steel trusses.

The booklet includes information on important safety items to be considered when handling and installing trusses, required information to be included by the building designer in the construction documents for projects, crane use and proper truss handling, hip set assembly installation recommendations, long span truss installation, field assembly and other special conditions, permanent restraint and bracing concepts and guidelines, construction loads, truss damage, jobsite modifications and installation errors, and fall protection general guidelines.

To learn more about CFSBCSI or to order copies, please visit www.cfsc.sbcindustry.com.

RMI Announces New Rack Standard

A new American National Rack Standard (ANSI MH16.1-2008) has been developed by RMI. The Standard is substantially different than the 2004 Edition that it replaces and is scheduled to become the default design Standard for the 2009 International Building Code.

In recognition of its 50th anniversary celebration, RMI is making the document available on a complimentary basis through 2008. Requests can be sent by email to jnofsinger@mhia.org.

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One of the important aspects of the meetings was the development of the 2008 edition of the AISI Design Manual. The manual is being updated and revised to provide better support for engineers using of cold-formed steel. All the existing examples will be revised in conformance with the 2007 Specification and new examples will be added to illustrate the new added provisions, which include:

1. unstiffened elements and edge stiffeners with stress gradient;
2. bearing stiffeners design
3. combined bending and torsion loading
4. anchorage of bracing for purlins roof systems under gravity loads with top flange connected to metal sheathing
5. Direct Strength Method
6. Second-Order Analysis

In addition, all the test standards have all received a technical review and will be presented in a recently adopted standard format.

The next meeting of the Committee on Specification is scheduled for February 19 and 20, 2009.

News from MCA

1. Semi-annual meeting being held July 29-31 in Anchorage, AK. MCA will be kicking off their 25 year anniversary celebration at that meeting.
2. LCA (Life Cycle Assessment) Training seminar being held on August 20 in Chicago, offered by Five Winds.
3. Research on Above Sheathing Ventilation of metal roofing continues at ORNL. Additional research on a field demonstration comparison being planned for 2009
4. Research on Dynamic Building Envelope systems being considered for 2009 and beyond. This would involve evaluating thermal performance of wall and roof assemblies using cool/reflective surfaces, insulation, air spaces, natural ventilation, PCM (phase change materials), radiant barriers and hydronics for heat exchange.
5. METALCON expo and conference being held in Baltimore, MD on October 1-3, 2008.

Re: Dr. Helen Chen Named Manager of AISI Construction Standards Development

Washington, D.C. - In early 2008, the American Iron and Steel Institute (AISI) reorganized the AISI Construction Technical Program (CTP) with Jay Larson as Managing Director. Subsequently, Helen Chen was asked to conduct a strategic review of all AISI's construction standards activities, evaluating our existing standards development process and positioning our process to be responsive to future industry objectives. This review led to the consolidation of AISI's standards development function activities under the Construction Standards Development (CSD) banner.

With this review now completed, Helen Chen has been named as Manager of AISI Construction Standards Development. In this position, she is responsible for maintaining and improving AISI's standards development operations, facilitating our ongoing standards development committee activities, and ensuring AISI's recognition as an accredited American National Standards Institute (ANSI) Standards Development Organization.

AISI is recognized internationally for its efforts in producing and updating standards for the cold-formed steel industry. The work is conducted through the Committee on Specifications and the Committee on Framing Standards, with the resulting committee documents approved by ANSI and adopted by model building codes as legally enforceable construction regulations.

ASCE-SEI COMMITTEE ON COLD-FORMED MEMBERS MEETS IN DENVER

A meeting of the ASCE-SEI Committee on Cold-Formed Members was held on July 25, 2008 in Denver, Colorado.

The committee has proposed two technical sessions for the upcoming ASCE-SEI Structures Congress to be held in Austin, Texas in April, 2009. The proposed sessions are entitled "Specification of Cold-Formed Steel for the Practicing Engineer" and "Designing with Cold-Formed Steel".

The committee made plans to develop a Wikipedia page for Cold-Formed Steel. The intent of the Wikipedia page is to provide an introduction into the topic of cold-formed steel and also to provide a portal to other sources of information about the cold-formed steel industry and research.

A suggestion was made to pursue an ASCE-SEI funded special project to develop a textbook entitled "Low Rise Building Design". The special project would be a joint project with ASCE-SEI committees on wood and masonry.