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### **CCFSS Technical Bulletin February 1999**

Wei-Wen Yu Center for Cold-Formed Steel Structures

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## **EDUCATIONAL PROGRAMS**

#### Short Course on Cold-Formed Steel Structures

The Center for Cold-Formed Steel Structures is planning for its 16<sup>th</sup> Short Course on Cold-Formed Steel Structures. The short course will be held October 20 - 22, 1999 in St. Louis, MO.

The short course will discuss the behavior of cold-formed steel members and connections. The short 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. A preview of future specification changes will also be provided. Both commercial and residential applications of cold-formed steel will be discussed.

Lectures will be based on information contained in the AISI Specification for the Design of Cold-Formed Steel Structural Members, 1996 edition, and its' Commentary. The text *Cold-Formed Steel Design* by W.W. Yu will also serve as a course reference.

Additional information regarding the course may be obtained by contacting Ms. Bonnie Unal, UMR Continuing Education, Tel: (573) 341-4278, Fax: (573) 341-4992, or Dr. Roger LaBoube, Center for Cold-Formed Steel Structures, Tel: (573) 341-4481, Fax: (573) 341-4476.

#### 15th International Specialty Conference - Call for Papers

The 15th International Specialty Conference on Cold-Formed Steel Structures is scheduled for October 19-20, 2000 in St. Louis, MO. Topical areas to be discussed include: (1) basic and applied research, (2) structural design, (3) new developments in design criteria, (4) development of new products, (5) economy in the use of cold-formed steel, and (6) engineering education.

Abstracts of papers should be submitted by November 1, 1999. Papers will be accepted based on the final manuscript, not an abstract. Written manuscripts are to be submitted by April 1, 2000 to Dr. R. A. LaBoube, Center for Cold-Formed Steel Structures, University of Missouri-Rolla 65409-0030, USA.

#### **AISI Seminar on Cold-Formed Steel Design**

This six-hour seminar on cold-formed steel design was developed to explain the intricacies of designing structures using coldformed steel members and connections. The contents of the lectures provide an overview of the 1996 AISI Specification. Seminar attendance would be beneficial for practicing engineers, engineering professors, and graduate students. The next scheduled seminar is March 12, 1999 in Chicago at the Rosemont Suites Hotel. For further information, please contact Larry Williams, Managing Director, Light Gauge Steel Engineers Association. Tel: (615) 279-9251, Fax: (615)385-5045.

The six-hour seminar is an ideal in-house training program for staff engineers. If your firm or organization has an interest in offering an in-house training program on cold-formed steel design, please contact Dr. Roger LaBoube at the Center for Cold-Formed Steel Structures: Tel: (573)341-4481, e-mail: laboube@umr.edu

# FELLOWSHIPS, SCHOLARSHIPS, AWARDS, AND DESIGN COMPETITION

#### **MBMA Awards Fellowships to Graduate Students**

The Metal Building Manufacturers Association (MBMA) has awarded \$5,000 fellowships to two graduate engineering students for metal building systems research projects for the 1998-1999 school year. The fellowships are intended to encourage the creative design investigation of specialized areas related to metal building systems.

The two fellowship award winners for this year are Ms. Qiao Chesea Guo at the University of Kansas, and Mr. Michael C. Neubert at the Virginia Polytechnic Institute and State University. Ms. Guo will be conducting her fellowship research under the title, "LRFD Beta Factors", with Dr. W.M. Kim Roddis as her advisor on the project. Mr. Neubert will be studying the "Response of Z-Purlin Supported Roof Systems Under Vertical Loading, At Various Different Roof Slopes" under the guidance of his advisor, Dr. Thomas M. Murray.

"The MBMA Fellowship Program was originally initiated in the 1980's. Within the past few years the program has been renewed to provide ongoing academic research covering the structural and engineering dynamics of metal building systems.", said Dr. W. Lee Shoemaker, P.E., MBMA Director of Research and Engineering. "The Fellowship Program is open to graduate civil engineering students who are majoring in structural engineering. This research serves to benefit their educational and professional growth, as well as help this industry expand and grow".

MBMA Staff Engineer Dan Walker coordinated the Fellowship Program. The members of the MBMA Technical Committee reviewed and judged the entries. For additional information, contact: Metal Building Manufacturers Association, 1300 Sumner Ave., Cleveland, Ohio 44115-2851. E-mail address: dwalker@mbma.com. Internet address: http://www.mbma.com.

#### MCA Merit Awards and Design Competition Programs

Recent years have seen an increase in the use of metal in the construction industry. Recognizing its strength, durability, aesthetic appeal and environmental advantages, more and more architects and builders have opted to utilize metal as a vital component in a wide range of construction projects.

To help to ensure the continuation of this trend and to showcase outstanding uses of metal in the construction industry, the Metal Construction Association created its Annual Merit Awards Program. In addition to recognizing projects for their appropriate use of metal in construction, the awards also acknowledge work that advances industry objectives and furthers the art and science of buildings.

The competition is open to all individuals involved in the metal construction industry. All entrants are eligible for Merit Awards, Honor Awards, and Scholarship Awards. President's Awards, which are judged by the MCA Board of Directors, are open only to MCA members.

Submissions must be received no later that July 15, 1999. Send completed application with supporting material to: 1999 MCA Merit Awards Program, 104 S. Michigan Avenue, Suite 1500, Chicago, IL 60603, Tel: (312) 201-0193.

In addition, the First Student Design Competition has been initiated by MCA for the design of a boat club utilizing sheet metal components and metal structural members. Faculty members who wish to enroll all or part of their classes in the competition must complete the registration form and return it to MCA Student Competition prior to March 10, 1999. For further information, please contact MCA, Tel: (312) 201-0193, Fax: (312) 201-0214, e-mail: 74733.1624@compuserve.com.

#### **Graduate Fellowship at UMR**

The Wei-Wen Yu Graduate Fellowship is available in the Department of Civil Engineering of the University of Missouri-Rolla. The recipient must be a graduate student majoring in Civil Engineering and pursing a degree at UMR with an emphasis in cold-formed steel structures. The stipend of the fellowship is currently \$2,000 per year.

Since 1995, the following six graduate students have received the Wei-Wen Yu Gradute Fellowship: Mr. Mike M. Harper (Behavior of Cold-Formed Steel Roof Trusses), Dr. Dan Li (Genetic/Algorithm for Multiobjective Opimization of Structures), Dr. Exaud N. Koka (Behavior of Coped Web Elements of Cold-Formed Steel Members), Mr. Michael L. Jones (Spacing of Connections in Compression Elements for Cold-Formed Steel Members), Mr. Marc A. Sokol (Determination of the Tensile and Shear Strengths of Screws and the Effect of Screw Patterns on Cold-Formed Steel Connections), and Mr. Sutton F. Stephens (Header Beams for Residential Construction).

For further information, please contact the Center for Cold-Formed Steel Structures or the Department of Civil Engineering, University of Missour-Rolla, Rolla, MO, 65409-0030, Tel: (573) 341-4461, Fax: (573) 341-4729.

## **RESEARCH PROJECTS ON COLD - FORMED STEEL STRUCTURES**

The Center for Cold-Formed Steel Structures published a Research Directory and Abstracts on Cold-Formed Steel Structures in 1997. Forty-eight recent projects are now included on the Center's webpage at <u>www.umr.edu/~ccfss</u>. If you are currently conducting research related to cold-formed steel structural members, connections, and assemblies or have just completed recent projects, please provide the information to the Center by using the attached form on Survey of Current Research for updating our database. The following areas are of interest:

Influence of cold-work on material properties, buckling behavior and post-buckling strength of structural elements/sections/ systems. shear diaphragms, bracing and stiffening of thin-walled members and structural systems, wall studs, sandwich panels, housing, dynamic analysis of cold-formed steel structures, connections, special plated and shell type structures, design criteria, computer aided design, construction methods, application and energy conservation related to production and use of cold-formed steel structures, and other related subjects.

#### SURVEY OF CURRENT RESEARCH

1. Project title: \_\_\_\_\_

2. Investigators (Name, title, address, telephone number, fax number, e-mail):

3. Sponsor (Name, address, amount of funding): -

4. Abstract of the project (Use separate sheet as necessary):

5. Publications:

Date:

\_\_\_\_ Signature:

#### SURVEY ON CENTER ACTIVITIES

You are cordially invited to participate in a survey to improve the Center activities. Please use the following form to make any suggestions or recommendations:

1. Future Technical Services should include:		
2. Future Engineering Education Programs should in	nclude:	
3. Future Publications should include:		
4. Future Webpage should include:		
5. CCFSS NEWS should be improved by considering:		
6. CCFSS Technical Bulletin should be improved by considering:		
7. Other suggestions:		
Name:		
Affiliation	Mailing Address	
Telephone	Fax:	e-mail

## CALENDAR

March 12, 1999 AISI Seminar on Cold-Formed Steel Design Chicago, IL *Contact:* (615) 279-9251

April 7-8, 1999 Meeting of the AISI Committee on Framing Standards Washington, D.C. *Contact: (202) 452-7215* 

June 20-23, 1999 4th International Conference on Steel and Aluminum Structures

Espoo, Finland Contact: (+358) 9-451-3780

July 22-24, 1999 Meeting of the AISI Committee on Specifications Cleveland, OH *Contact: (202) 452-7130*  October 4-6, 1999 SSRC Annual Technical Session and Meeting Memphis, TN *Contact: (901) 527-7300* 

October 12-14, 1999 MetalCon International Rosemont Convention Center Chicago, IL *Contact: (312) 201-0193* 

October 20-22, 1999 Short Course on Cold-Formed Steel Structures St. Louis, MO *Contact: (573) 341-4278* 

October 19-20, 2000 15<sup>th</sup> International Specialty Conference on Cold-Formed Steel Structures St. Louis, MO *Contact* (573) 341-4481

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