17th International Specialty Conference on Cold-Formed Steel Structures
November 4 – 5, 2004
Orlando, FL

PROGRAM

Wednesday, November 3, 2004
6-9 p.m.  Registration: Wyndham Orlando Resort

Thursday, November 4, 2004
7 a.m. – 4 p.m.  Registration: Wyndham Orlando Resort

8:00 a.m.   Welcoming Remarks:
R.A. LaBoube, University of Missouri-Rolla

8:15 a.m.   Technical Session No. 1
Element Behavior

Chairpersons:
W.S. Easterling, Virginia Tech, Blacksburg, VA, USA
D.L. Johnson, Consultant, Wolfeboro, NH, USA

“Local-Plate and Distortional Post-Buckling Behavior of Cold-Formed Steel Lipped Channel Columns with Intermediate Stiffeners”
N. Silvestre and D. Camotim, IST/ICIST, TU Lisbon, Lisbon, Portugal

“Distortional Buckling Tests on Cold-Formed Steel Beams”
C. Yu and B.W. Schafer, Johns Hopkins University, Baltimore, MD, USA

“Stress Gradient Effect on the Buckling of Thin Plates”
C. Yu and B.W. Schafer, Johns Hopkins University, Baltimore, MD, USA

“Distortional Buckling of Cold-Formed Steel Members”
G.M.B. Chodraui, M. Malite, R.M. Goncalves, and J.M. Neto, University of Sao Paulo, Sao Paulo, Brazil

9:15 a.m.   Technical Session No. 2
Flexural Members and Web Crippling of Beams

Chairpersons:
D.S. Ellifritt, University of Florida, Gainesville, FL, USA
M. Macdonald, Glasgow Caledonian University, Glasgow, UK
“Ultimate Strength of a Continuous Decking of Cold-Drawn Low-Ductility High Strength Steel”
A. M. Akhand and K.A. Sanjery, University of Tenaga Nasional, Malaysia; and W.H.W. Badaruzzaman, Universiti Kebangsaan Malaysia, Malaysia

“Channel Section Beams Under Static and Impact Loading”
J. Rhodes, University of Strathclyde, Glasgow, Scotland, UK; and M. Macdonald, Glasgow Caledonian University, Glasgow, UK

“Behavior of Complex Hat Shapes Used as Truss Chord Members”
N. Nuttayasakul and W.S. Easterling, Virginia Tech, Blacksburg, VA, USA

“Introduction to the Theory and Finite Element Implementation of (Steel) Plasticity”
“Cold-Formed Steel Examples to the Theory and Finite Element Implementation of Plasticity”
H. Hofmeyer, Technische Universiteit Eindhoven, Eindhoven, The Netherlands

“Web Crippling of Cold-Formed Steel Multi-Web Deck Sections Subjected to End One-Flange Loading”
J.A. Wallace and R.M. Schuster, University of Waterloo, Waterloo, Ontario, Canada

10:30 a.m. Break

11:00 a.m. Technical Session No. 3
Compression Members

Chairpersons:
J. Rhodes, University of Strathclyde, Glasgow, UK
B.W. Schafer, Johns Hopkins University, Baltimore, MD, USA

“Design of Fixed-Ended Cold-Formed Steel Plain Angle Compression Members”
B. Young, Hong Kong University of Science and Technology, Hong Kong

“An Experimental Study of the Compressive Performance of Structural Panels with Cold-Formed Thin-Walled Perforated Steel Channels”
B. Salhab and Y.C. Wang, UMIST & The University of Manchester, Manchester, UK

“Design of Cold-Formed Steel Compression Members Subject to Distortional Buckling at Elevated Temperatures”
T. Ranawaka and M. Mahendran, Queensland University of Technology, Brisbane, Australia

“Numerical Simulations of High Strength Steel Box-Shaped Columns”
D. Yang and G.J. Hancock, University of Sydney, Sydney, Australia
“Design of Cold-Formed Web Members with Non-Uniform Cross Sections”
S. Parent, SMI Joist Iowa, Iowa Falls, IA, USA; and J.J. Pote, SMI Joist Arkansas, Hope, AR, USA; and K.W. Neale, Universite de Sherbrooke, Sherbrooke, Quebec, Canada

12:15 p.m.    Lunch

1:30 p.m.    Technical Session No. 4
Rack Structures

Chairpersons:
W.R. Midgley, Midgley, Clauer and Associates, Youngstown, OH, USA
S.R. Fox, Canadian Sheet Steel Building Institute, Cambridge Ontario, Canada

“Tests of Storage Rack Channel Columns with Rear Flanges”
N. Abdel-Rahman, The Steel Network, Raleigh, NC, USA; and A. Fadel and M. El-Sadaawy, Housing and Building Research Center, Giza, Egypt; and S. Mourad, Cairo University, Giza, Egypt

“Shear Stiffness of Pallet Rack Upright Frames”
S.S. Rao, R.G. Beale, and M.H.R. Godley, Oxford Brookes University, Oxford, UK

“Initial Geometrical Imperfections in Three-Storey Modular Steel Scaffolds”
W.K. Yu, K.F. Chung, and S.L. Chan, The Hong Kong Polytechnic University, Hong Kong SAR, China

2:15 p.m.    Technical Session No. 5
Stainless Steel Structures

Chairpersons:
W.W. Yu, University of Missouri-Rolla, Rolla, MO, USA
H.H. Chen, American Institute of Iron and Steel, Washington, DC, USA

“Design of Cold-Formed Stainless Steel Sections with Single Web Subjected to Web Crippling”
F. Zhou and B. Young, Hong Kong University of Science and Technology, Hong Kong

“Stainless Steel Stub Columns Subject to Combined Bending and Axial Loading”
M. Macdonald, Glasgow Caledonian University, Glasgow, UK; and J. Rhodes, University of Strathclyde, Glasgow, UK

“Experimental Investigation of Distortional Buckling of Cold-Formed Stainless Steel Sections”
M. Lecce and K. Rasmussen, University of Sydney, Sydney, Australia

“Design of Stainless Steel Sections against Distortional Buckling”
M. Lecce, K. Rasmussen, University of Sydney, Sydney, Australia
“Material Properties of Cold-Formed High Strength Stainless Steel Tubular Sections”
B. Young and W.M. Lui, Hong Kong University of Science and Technology, Hong Kong

3:30 p.m.       Break

4:00 p.m.       Technical Session No. 6
Materials and Other Topics

Chairpersons:
T. Pekoz, Cornell University, Ithaca, NY, USA
B. Young, Hong Kong University of Science and Technology, Hong Kong, China

“Software Development for Cold-Formed Steel Elements”
F.J. Granados and W.G. Reyes, ACESCO, Bogota, Colombia

“Mechanical Properties of Cold-Formed Steel at Elevated Temperatures”
J. Chen and B. Young, Hong Kong University of Science and Technology, Hong Kong, China

“Report on the Development of a Cold-Formed Steel Design Course at Kansas State University”
V.J. Kircher, Page McNaghten Associates, Fairway, KS, USA; and S.F. Stephens, Kansas State University, Manhattan, KS, USA

“An Update on Cold-Formed Steel Framing Standards in the United States”
J.W. Larson, American Iron and Steel Institute, Washington, DC, USA

“The 2002 AISI Cold-Formed Steel Design Manual”
R.C. Kaehler, Computerized Structural Design, S.C., Milwaukee, WI, USA; and H.H. Chen, American Iron and Steel Institute, Washington, DC, USA

5:15 p.m.       Adjourn

5:30 p.m. – 6:30 pm    Reception: Sponsored by

American Iron and Steel Institute
Metal Building Manufacturers Association
Metal Construction Association
Rack Manufacturers Institute
Steel Deck Institute
Steel Stud Manufacturers Association
Friday, November 5, 2004
7:00 a.m. – 12:00 Noon  Registration: Wyndham Orlando Resort

8:00 a.m.  Technical Session No. 7
Wall Studs

Chairpersons:
D. Allen, Steel Stud Manufacturers Association, Washington, DC, USA
J.W. Larson, Bethlehem Steel Corporation, Bethlehem, PA, USA

“Strength and Stiffness of Conventional Bridging Systems for Cold-Formed Cee Studs”
P.S. Green, T. Sputo, and V. Urala, University of Florida, Gainesville, FL, USA

“Bracing Strength and Stiffness Requirements for Axially Loaded Lipped Cee Studs”
P.S. Green, T. Sputo, and V. Urala, University of Florida, Gainesville, FL, USA

“Experimental Capacity Assessment of Cold-Formed Boxed Stud Wall Systems Used in Australian Residential Construction”
M. Pham, J. Mills, and Y. Zhuge, University of South Australia, Mawson Lakes, South Australia, Australia

“Design of Distance Profiles in Walls”
N. Albrecht and H. Saal, Universitat Karlsruhe, Karlsruhe, Germany; and R. Podleschny, IFBS, Dusseldorf, Germany

“Performance of Deep Leg L-Headers”
R. Serrette and K. Chau, Santa Clara University, Santa Clara, CA, USA and; D. Peyton, Anderson-Peyton Structural Engineering Consultants, Federal Way, WA, USA and; B. Waters, Hunt Building Company Ltd., Pearl City, HI, USA

“Cold-Formed Steel Slip-Track Connection”
J.R. Gerloff, Computerized Structural Design, Milwaukee, WI, USA; and P. Huttlemaier, Milwaukee School of Engineering, Milwaukee, WI, USA; and P.W. Ford, Matsen Ford Design, Pewaukee, WI, USA

“Shear Rigidity of Sheathed Walls with Pneumatically Driven Pin Connections”
S.W. Baur, University of Missouri-Rolla, Rolla, MO, USA and; W. Suaris, University of Miami, Coral Gables, FL, USA

9:45 a.m.  Break
10:15 a.m. Technical Session No. 8
Building Systems

Chairpersons:
W.L. Shoemaker, Metal Building Manufacturers Association, Cleveland, OH, USA
R.B. Haws, NUCONSTEEL, Denton, TX

“A New Ultra Long-Spanning, Combined Steel Formwork and Reinforcement Hybrid Decking System Using Cold-Formed Components”
M. Glaesle and M. Patrick, University of Western Sydney, Sydney, Australia; and R. Grey, OneSteel Reinforcing, Sydney, Australia

“Influence of Profile Distortion on the Shear Flexibility of Profiled Steel Sheeting Diaphragms”
M. Duerr and H. Saal, Universitat Karlsruhe, Karlsruhe, Germany

“Seismic Performance of Sheathed Cold-Formed Shear Walls”
R. Landofo, L. Fiorino, and G. Della Corte, University of Naples, Naples, Italy

“Cold-Formed Steel Frame Shear Wall Applications with Structural Adhesives”
R. Serrette, I. Lam, H. Qi, and H. Hernandez, Santa Clara University, Santa Clara, CA, USA; and A. Toback, Henkel Loctite Corporation, Rocky Hill, CT

“Effects of Hail Damage on the Carrying Capacity of Standing Seam Profiles”
A. Heubner and H. Saal, University of Karlsruhe, Karlsruhe, Germany

11:30 am. Lunch

12:45 p.m. Technical Session No. 8 (Continued)
Building Systems

Chairpersons:
W.E. Schultz, Nucor Research and Development, Norfolk, NE, USA
R.M. Schuster, University of Waterloo, Waterloo, Ontario, Canada

“Computer Modeling of Sloped Z-Purlin Supported Roof Systems to Predict Lateral Restraint Force Requirements”
M.W. Seek and T.M. Murray, Virginia Tech, Blacksburg, VA, USA

“Roof Diaphragm Strength and Stiffness”
O. Avci, Virginia Tech, Blacksburg, VA, USA; and J. Mattingly, Nicholas J. Bouras, Summit, NJ, USA, and L.D. Luttrell, West Virginia University, Morgantown, WV, USA, and W.S. Easterling, Virginia Tech, Blacksburg, VA, USA
1:00 p.m.  

Technical Session No. 9  
Connections

Chairpersons:
R.L. Brockenbrough, R.L. Brockenbrough and Associates, Pittsburgh, PA, USA  
J. Mattingly, Nicholas J. Bouras, Inc., Summit, NJ, USA

“Local Connection Failures in Composite Sandwich Panel Systems”
A. Smith, B. Kershaw, M. Mahendran and Somadasa Wanniarachchci, Queensland University of Technology, Brisbane, Australia

“Self-Drilling Knee-Joints for Cold-Formed Steel Portal Frames in Cyclonic Regions”
J. Carr, A. Mansour, and J. Mills, University of South Australia, Adelaide, Australia

“Performance of Ridge and Eaves Joints in Cold-Formed Steel Portal Frames”
D. Dubina, A. Stratan, A. Cuitina, and L. Fulop, Politehnica University of Timisoara, Timisoara, Romania; and Zsolt Nagy, Lindab Ltd., Bucharest, Romania

“Design Criteria for Seam and Sheeting-to-Framing Connections of Cold-Formed Steel Shear Panels”
L.A. Fulop and D. Dubina, Politehnica University of Timisoara, Timisoara, Romania

“The Structural Behavior of Connections of Cold-Formed Steel Portal Frames”
Y.B. Kwon, Yeungnam University, Gyongsan, Korea; and H.S. Chung, Yehwa Construction Co., Ltd., Seoul, Korea; G.D. Kim, Research Institute of Industrial Science and Technology, Hwasung, Korea

“Structural Behaviour of High Strength Cold-Formed Steel Z Purlins with Overlaps”
K.F. Chung and H.C. Ho, Hong Kong Polytechnic University, Hong Kong, China

“Compression Behavior of Thin Gusset Plates”
D.G. Lutz and R.A. LaBoube, University of Missouri-Rolla, Rolla, MO, USA

3:00 p.m.  

Closing Remarks
R. A. LaBoube, University of Missouri-Rolla, Rolla, MO

3:10 p.m.  

Adjourn