



Second Egypt-US Workshop and Training Course

Use of Light Steel Framing in Residential Buildings



7-9 December 2014

*Presidential Hall
Cairo University
Egypt*



The Egyptian Society of Steel Structures (ESSS) and the US Cold Formed Steel Research Consortium (CFSRC) are organizing a one-day workshop and a two-day training course on the use of light steel framing in residential buildings. The two events shall be held at the Cairo University Presidential Hall and are sponsored by the Science and Technology Development Fund (STDF) and Cairo University.

The *one-day workshop* is intended to present cold formed steel construction to stakeholders involved in the building construction industries, planners, developers, architects, civil engineers, and project managers. The workshop will cover the essential knowledge of CFS residential buildings. The contents include recent advances in design and construction of CFS buildings, innovative solutions for walls and floors, fire, acoustic and vibration behavior, and fabrication and erection considerations.

The *two-day training course* is intended to bring comprehensive education and training to structural engineers and steel construction companies who are looking to expand their work scope to include cold formed steel buildings. The course contents cover all aspect of cold formed steel design such as structural systems and loads, elastic buckling analysis using Prof Schafer's internationally recognized software package CUFSM, CFS design using the Direct Strength Method, and lateral load design. In addition to lecture presentations, the course instructors shall interact with the attendees in group exercises using real-life case studies. These include the CFS-NEES building constructed at University of Bufalo, USA, and the Digital Library building constructed at the Faculty of Engineering of Cairo University as the first cold formed steel building in Egypt. Each participant shall receive copies of relevant design resources, copies of the presentations, and a certificate of attendance.

An *industrial exhibition* shall also be organized for building construction companies to show their related products.

Preliminary Program

One Day Workshop: 7 December 2014

Time	Topic	Speakers
8:00 am	Registration	
9:00 am	Welcoming Speeches	
9:30 am <i>Lecture 1</i>	<i>Cold Formed Steel Residential Buildings: An innovative Solution to Egypt's Housing Problem</i>	Metwally Abu-Hamd Cairo University, Egypt
10:15 am <i>Lecture 2</i>	<i>Recent Advances in Cold Formed Steel Design and Construction</i>	Ben Schafer Johns Hopkins Univ., USA
11:00 am	Tea / Coffee Break	
11:30 am <i>Lecture 3</i>	<i>Cold-Formed Steel Design Resources</i>	Cris Moen Virginia Tech. Univ., USA
12:15 pm <i>Lecture 4</i>	<i>Fabrication and Erection</i>	Francisco Vilhena Dosmontes Co., Portugal
1:15 pm	Lunch Break	
2:15 pm <i>Lecture 5</i>	<i>Innovative Solutions for Walls and Floors</i>	Metwally Abu-Hamd Cairo University, Egypt
3:00 pm <i>Lecture 6</i>	<i>Fire, Acoustic and Vibrations Behavior</i>	Maged Hanna M. Zaki HBRC, Egypt



CFS Digital Library Building at Cairo University during Construction



CFS NEES Building at University of Buffalo during Testing

Training Course Day 1: 8 December 2014

Time	Topic	Speaker
9:00 am <i>Lecture 1</i>	<i>Cold-Formed Steel (CFS) Structural Systems and Loads</i>	Ben Schafer Johns Hopkins Univ., USA
9:45 am <i>Group Exercise</i>	<i>NEES Building Calculation and Drawing Review, Wall and Floor Demand Calculations</i>	<i>All</i>
10:45 am	Tea / Coffee Break	
11:30 am <i>Lecture 2</i>	<i>Introduction to Thin-Walled Structures and Elastic Buckling Analysis</i>	Cris Moen Virginia Tech. Univ., USA
12:15 pm <i>Group Exercise</i>	<i>NEES Building Wall Stud and Floor Joist Elastic Buckling Calculations</i>	<i>All</i>
1:15 pm	Lunch Break	
2:15 pm <i>Lecture 3</i>	<i>CFS Design with the Direct Strength Method</i>	Cris Moen Virginia Tech. Univ., USA
3:00 pm <i>Group Exercise</i>	<i>NEES Building Wall Stud and Floor Joist Capacity Calculations</i>	<i>All</i>

Training Course Day 2: 9 December 2014

Time	Topic	Speaker
9:00 am <i>Lecture 1</i>	<i>CFS Building Lateral Design</i>	Ben Schafer Johns Hopkins Univ., USA
9:45 am <i>Group Exercise</i>	<i>NEES Building Shear Wall and Diaphragm Design</i>	<i>All</i>
10:45 am	Tea / Coffee Break	
11:30 am <i>Lecture 2</i>	<i>CFS Design according to Egyptian Code: Part 1</i>	Metwally Abu-Hamd Cairo University, Egypt
12:15 pm <i>Group Exercise</i>	<i>Case Study: Digital Library Building at CU</i>	<i>All</i>
1:15 pm	Lunch Break	
2:15 pm <i>Lecture 3</i>	<i>CFS Design according to Egyptian Code: Part 2</i>	Metwally Abu-Hamd Cairo University, Egypt
3:00 pm	<i>Closing</i>	<i>All</i>

Speakers

- 1- **Ben Schafer:** Professor and Chair of the Civil Engineering Dept. at Johns Hopkins University, USA. Professor Schafer serves on numerous technical committees related to cold-formed steel structures, is a past-president of the Cold-Formed Steel Engineers Institute, is the current Chair of the Structural Stability Research Council SSRC and is the founder of the Cold Formed Steel Research Consortium CFSRC. He has received a National Science Foundation CAREER award, the ASCE Collingwood and Huber Prizes, and many teaching awards. For further information on Professor Schafer's activities, please see www.ce.jhu.edu/bschafer.
- 2- **Cris Moen:** Associate Professor, Civil Engineering Dept, Virginia Tech University, USA and President and CEO of NBM Technologies, Inc. Dr. Moen and NBM Technologies, Inc. specialize in taking powerful state-of-the-art analysis skills derived in academia and using them to solve challenging industry problems. His technical expertise lies in the areas of thin-walled structures, structural stability, and structural optimization.
- 3- **Francisco Vilhena:** Associate Manager and Chief Technical Engineer, Dosmontes Construction Lda Company, Portugal. Mr. Vilhena has a long time experience in the fabrication and erection of cold formed steel construction in Portugal and abroad.
- 4- **Metwally Abu-Hamd:** Professor of Steel Structures and Bridges and former Head of the Structural Engineering Dept, Faculty of Engineering, Cairo University, Egypt. Dr Abu-Hamd served as Director of the Civil Engineering Research and Studies Center at Cairo University from 1994 to 2005. He has been a member of the Permanent Committee of the Egyptian Code of Practice for Steel Structures and Bridges since 1984.
- 5- **Mohammed Zaki:** Head of Structures and Steel Construction Institute, National Housing and Building Research Center, Egypt.
- 6- **Maged Hanna:** Associate Professor, Structures and Steel Construction Institute, National Housing and Building Research Center, Egypt.
- 7- **Mina Samir:** Assistant Professor, Structural Engineering Dept, Faculty of Engineering, Cairo University. Presently on leave at the National Institute of Standards and Technology (NIST), USA.

Registration Fees:

❖ Workshop Only:	150 LE / person
❖ Workshop and Training Course:	450 LE / person
❖ Industrial Exhibitions:	5000 LE / 5 m ² space

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