WoodWorks
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Texas
Wood Solutions Fair

MAY 2, 2013
IRVING CONVENTION CENTER AT LAS COLINAS
500 W. Las Colinas Blvd.
Irving, TX 75039

Earn 6 AIA/CES CEHs or PDH credits free

Register at woodworks.org
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<tr>
<th>Time</th>
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<tr>
<td>7:00 am</td>
<td>Registration Check-in – Exhibit Hall Opens</td>
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<td>9:10 am - 9:45 am</td>
<td>Break – Exhibit Expo</td>
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<td>10:45 am - 11:00 am</td>
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<td>1:15 pm - 2:15 pm</td>
<td>Building Codes and Standards Update</td>
<td>Materials Matter: Design Trends for a Sustainable Future</td>
<td>Glued Laminated Timber: An Innovative and Versatile Engineered Wood Product</td>
<td>Designing Wood-frame Schools in the Bethel School District</td>
<td>Meeting Fire Codes with Oriented Strand Board (OSB)</td>
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<td>2:15 pm - 2:45 pm</td>
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The National Design Specification (NDS®) for Wood Construction is the dual format Allowable Stress Design (ASD) and Load Resistance Factor Design (LRFD) document referenced in US building codes and used to design wood structures worldwide. In this seminar, participants will learn how to apply ASD and LRFD provisions to wood construction, and their similarities/differences with respect to design values and behavioral equations.

This presentation will delve into provisions of the 2012 International Green Construction Code (IgCC), examining organization, fundamentals, mandatory requirements vs. electives, and the role of local jurisdictions and project developers in determining code requirements. A particular focus will be provisions regarding materials selection, and especially specification and use of wood. Language relative to the use of life cycle assessment in building design and materials selection will also be examined. Similar provisions of ASHRAE 189.1, an alternative compliance path for those following the IgCC, will be considered, as will required and voluntary elements of various green building programs and other code initiatives.

One of the biggest eye openers for those new to the design of non-residential wood buildings is that designing and detailing the connections is not as complex as imagined. This seminar will feature an overview of common faster types and the wood connection philosophies relevant to each. Topics will include techniques for designing efficient, durable and structurally safe connections, minimizing environmental effects on wood connections, simple design examples and available resources. Also included will be the latest information on timber rivet connections, which are underutilized yet offer many advantages, such as a clean and elegant look.

What are the latest trends and topics in the world of code development? How are the wood design standards keeping up with technology? Who are the “players” developing green codes, energy codes, and building codes? What are the ICC Code Action Committees? This presentation will offer a high altitude look at recent activities of the International Code Council, the American Wood Council and the states and jurisdictions that are using their codes and standards. In the process, the latest code changes and their underlying issues will be identified.

Today, moving forward means looking back to traditional, natural materials and using them in new ways. Find out how wood materials provide solutions for building professionals in terms of durability, fire, moisture and sustainability. Discover the innovations and design trends that are allowing traditional wood materials and systems to be the solution of choice for a variety of building types, including four- to six-story mid-rise buildings, cross laminated timber structures up to 15 stories and commercial structures of all types and sizes. The quest for construction value along with the goal of carbon neutrality is resulting in greater recognition of wood’s benefits around the world. This presentation will also explore how materials matter through life cycle assessment (LCA), Environmental Product Declarations, green building rating systems, forest certification and biophilia.

The overall strength of a building is a function of all of its components—roof, walls, floors, and foundation—working together as a unit. This session will provide a top to bottom overview of lateral design for wood-framed structures. Topics will include lessons learned from natural disasters, structural load-path continuity, and recent evolution in shear wall and uplift-resistant design.

While new energy codes and green building programs are placing greater emphasis on energy efficiency, many ‘green buildings’ are being criticized because their energy performance has failed to live up to expectations. This presentation will focus on the performance characteristics of new and existing insulation technologies as well as the importance of a well designed air barrier system. This interactive session is designed to sort through the myriad of insulation choices in order to match the best insulation system to the type of structure. Energy codes are for the first time requiring specific installation protocols for insulation. These requirements will be explained in order to help participants develop appropriate specifications—both to meet new codes and create buildings with better performance.

This seminar will showcase the versatility of glued laminated timber (glulam), demonstrating how it’s been used to solve a variety of design challenges—from 100-foot clear span beams to complex reverse curved arches to 500-foot clear span space frames. Learn how glulam has evolved over 100 years of use and how continued advances have given it unparalleled performance. Topics will include detailing and connection design for glulam-framed structures, fire safety characteristics, and sustainability.
Seminars and Speakers (continued)

MORNING SESSION 9:45 AM • AFTERNOON SESSION 2:45 PM

Case Study: First Commercial Project
Opens Door for CLT in US
Darryl Byle, PE, CLT Solutions

This case study presentation will showcase the first commercial building in the US constructed with cross laminated timber (CLT)—The Long Hall in Whitefish, Montana. Completed in 2011, this two-story infill project epitomizes many of the benefits of CLT, including speed of installation (the building took just five days to erect), the environmental and aesthetic benefits of wood, and energy efficiency. Project engineer Darryl Byle will discuss the design and construction process, as well as the building code challenges associated with being among the first in North America to use CLT. He will also share the results of a cost analysis that compared CLT to concrete masonry units.

MORNING SESSION 11:00 AM • AFTERNOON SESSION 3:55 PM

Understanding the Design Requirements for Five-story Wood-frame Construction
Ethan Martin, PE, WoodWorks

This presentation will examine how to design five-story wood-frame residential buildings and six-story mixed-use projects within the International Building Code (IBC). Discussion will focus on code requirements with an emphasis on height and area limitations. Topics will also include technical challenges such as how to design for wind and seismic forces, how to control shrinkage, and enhanced fire protection requirements.

MORNING SESSION 8:00 AM • AFTERNOON SESSION 1:15 PM

Designing Wood-frame Schools in the Bethel School District
James Hansen, Bethel School District

This presentation will investigate the use of wood framing in Washington State’s Bethel School District, with an emphasis on energy efficiency, building costs and benefits to the local community. It will be delivered by the District’s Director of Construction & Planning, who was instrumental in the development of green building standards for public schools and under whose leadership the District has constructed 10 schools utilizing Washington State Sustainable Protocols.

MORNING SESSION 9:45 AM • AFTERNOON SESSION 2:45 PM

Vorarlberg, Austria: A Model for Sustainable Architecture
Ulrich Dangel, University of Texas

Vorarlberg is the second smallest Austrian province, yet its contemporary and innovative timber architecture over the last three decades is unparalleled in Europe. Deeply rooted in the region’s longstanding tradition of building craft, a number of pioneering architects have established a strong technical, economical and functional vocabulary that has evolved into a unique architectural culture. A growing number of buildings reach the high standard of the Austrian passive house energy regulations, and the regional government actively encourages the use of renewable energy sources and environmentally-friendly building products. As a result, Vorarlberg has been able to develop sustainable construction practices while still retaining its unique regional style.

MORNING SESSION 11:00 AM • AFTERNOON SESSION 3:55 PM

Adventures in Engineering:
Designing the Iconic Metropol Parasol
Jan-Peter Koppitz, Dipl-ing, Eur Ing, MstructE CEng, Ove Arup & Partners

Recognized around the world for its unusual geometry, the iconic Metropol Parasol in Seville, Spain is one of the world’s largest timber structures. This presentation by project engineer Jan-Peter Koppitz will trace what he calls the adventure of engineering this unique project. From the first sketches to the turn of the last screw, the design team—architects, structural engineers and wood specialists—found itself on an expedition in new technological and architectural territory. This could only be managed with great deal of knowledge, experience and creativity, as well as the courage to pursue innovative, never-tryed solutions.

MORNING SESSION 8:00 AM

Fire Retardant Treated Wood and the International Building Code
Ray Miller, Hoover Treated Wood Products, Inc.

This presentation takes an in-depth look at fire retardant treated wood (FRTW) focusing on: FRTW characteristics, properties and performance in a fire; preparation, treatment, inspection and labeling; fire tests, standards and building code requirements; how and where FRTW is used; and the impact of FRTW on construction and insurance costs.

MORNING SESSION 9:45 AM

Structural Design of Post-frame Building Systems:
A Conceptual Presentation
Dr. Harvey Manbeck, PE, National Frame Building Association

This program begins with a brief description of post-frame building systems followed by an overview of key concepts for their structural design. Information is presented from a conceptual standpoint as opposed to an equation and computational standpoint. Two design methods are addressed: one for post-frame systems without diaphragm action, the other for post-frame systems with diaphragm action. The majority of the program is focused on the latter. The presentation will show how a simple yet powerful and readily available computer program, DAFI, determines the proportion of design lateral loads that are carried to ground by the individual post frames and the proportion carried to ground by the roof diaphragm and shear walls. The program then shows how the isolated post foundations are designed to resist lateral and uplift forces. Technical resources available to design professionals will also be discussed.
MORNING SESSION 11:00 AM

**Architectural Casework**
Greg Lutz, Architectural Woodwork Institute

This presentation will provide design professionals with an understanding of the casework requirements as published in the *Architectural Woodwork Standards, Edition One (AWS)*. Attendees will learn how to navigate the AWS book and better understand the differences in premium grade vs. custom grade casework that allow for balanced cost-to-benefit decisions in contract documents. They will leave with a solid understanding of custom architectural casework and what to expect in finished products.

AFTERNOON SESSION 1:15 PM

**Meeting Fire Codes with Oriented Strand Board (OSB)**
Randy Trussell, LP Building Products

This presentation will provide an overview of fire-rated cementitious coated OSB sheathing for wall and roof sheathing applications. Topics will include its structural and performance properties and contribution to enhancing the sustainable built environment.

AFTERNOON SESSION 2:45 PM

**Using Software to Design Multi-story Wood Buildings**
Deborah Penko, PE, RISA Technologies

See how engineering software can be used to design multi-story buildings featuring wood walls, wood diaphragms, glulam, and dimension lumber. Learn how wind and seismic loads are automatically generated and applied to the structure, and how finite element analysis offers improved accuracy over conventional hand calculation methods. A special emphasis will be placed on the design of an entire building for both strength and serviceability requirements.

AFTERNOON SESSION 3:55

**Sustainable Designs: Western Red Cedar**
Steve From, Western Red Cedar Lumber Association

This presentation will include some information basic to wood and forest products while focusing on the nature of Western Red Cedar lumber and its unique benefits. It will touch on information about Western Red Cedar lumber grades, installation and finishing, as well as forest certification and why Western Red Cedar is an appropriate choice for sustainable designs.

Who Should Attend?
With a full day of seminars and a trade exposition, the Texas Wood Solutions Fair will pack an informational punch for architects, engineers, developers, code officials and anyone else interested in wood’s exciting design possibilities. Register today if you’d like access to wood design experts for one-on-one support, informative seminars, technical information from manufacturers, engineering consultants and industry associations, and exhibits featuring a wide range of structural and finishing products.

How to Register
To register, visit woodworks.org and look under “Education & Events” on the home page. As part of the registration process, you will be asked to choose which seminar you plan to attend in each time slot. Once your request has been processed, you will receive an email confirmation that your registration is complete. To help make your choices, speaker bios are available on the website.

Cost
There is no cost to attend and complimentary lunch will be provided.

Education Credits
Attendees can earn up to 6 AIA/CES CEHs or PDH credits (one per attended seminar). Please refer to the chart for HSW and HSW/SD details and visit woodworks.org for learning objectives. AIA/CES forms and professional development certificates will be available on site.

More Information
Visit woodworks.org

WoodWorks

Free architectural and engineering support for wood buildings

WoodWorks provides free resources that can help you design and build non-residential and multi-family structures out of wood more easily and at less cost. For one-on-one project support, online training, CAD/REVIT details, case studies and more, visit woodworks.org.