Southeast Wood Solutions Fair

JANUARY 29, 2014

CHARLOTTE CONVENTION CENTER
501 South College Street
Charlotte, NC 28202

Earn 6 AIA/CES LUs (HSW) or PDH credits free

Register at woodworks.org
### Southeast Wood Solutions Fair Schedule

#### Registration Check-in – Exhibit Hall Opens

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<tr>
<td>8:00 am -</td>
<td>Fire Safety of Tall Wood Buildings: A</td>
<td>The Bullitt Center: Meeting the Living</td>
<td>Energy-Efficient Facilities: Building</td>
<td>Offset Diaphragms and Shear Walls: Part I</td>
<td>Using Software to Design Multi-Story Wood</td>
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<tr>
<td>9:10 am</td>
<td>Research Review</td>
<td>Building Design</td>
<td>Envelope Design Considerations</td>
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<td>Buildings</td>
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<td>10:45 am</td>
<td>Wood Buildings</td>
<td>Bio-Materials</td>
<td>Manufacturing, Materials and Specification</td>
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<td>10:45 am -</td>
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<td>11:00 am -</td>
<td>Design is in the Details: Solutions to</td>
<td>Innovation in Wood Construction:</td>
<td>Healthy Buildings: The Case for Visual</td>
<td>Getting to Yes: Code Alternate Materials</td>
<td>Meeting Fire Codes with OSB</td>
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<td>Noon - 1:20 pm</td>
<td>Common Mid-Rise Design Challenges</td>
<td>A Comparison of Two Projects</td>
<td>Wood</td>
<td>and Means and Permit Streamlining</td>
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<td>Fire Safety of Tall Wood Buildings:</td>
<td>The Bullitt Center: Meeting the Living</td>
<td>Energy-Efficient Facilities: Building</td>
<td>Offset Diaphragms and Shear Walls: Part 2</td>
<td>Fire-Retardant-Treated Wood and the</td>
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<tr>
<td>2:20 pm</td>
<td>A Research Review</td>
<td>Building Design</td>
<td>Envelope Design Considerations</td>
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<td>International Building Code</td>
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<td>3:50 pm -</td>
<td>Timber Skyline: The Rise of Tall</td>
<td>Modern Forestry: Growing Sustainable</td>
<td>Cross Laminated Timber Technology:</td>
<td>Code Conforming Wood Design</td>
<td>Treated Wood and Design</td>
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<td>4:00 pm</td>
<td>Wood Buildings</td>
<td>Bio-Materials</td>
<td>Manufacturing, Materials and Specification</td>
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<td>5:00 pm</td>
<td>Design is in the Details: Solutions to</td>
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**Photo:** University of Washington, Mercer Court, Ankrom Moisan Architects, courtesy W.G. Clark Construction
Recent architectural trends in sustainable urban densification have spurred a movement toward increasingly tall buildings made from mass timber products or a combination of wood and other materials. Many tall timber building concepts are motivated by their suggested advantages in sustainability resulting from the use of wood as a renewable and low-carbon construction material. However, to ensure occupant safety and the protection of property, the next step is to fully assess the fire performance of these buildings. This presentation will discuss results of an initial study performed in coordination with the Fire Protection Research Foundation, as well as recommendations for future research and testing.

In North America, the idea of high-rise wood construction using mass(ive) timber systems is getting a lot of attention. This presentation will provide examples of eight, nine and 10-story timber buildings recently completed in Sweden, Germany, Italy, Austria, the UK and Australia. It will also examine several concepts for timber hybrid buildings up to 40 stories, discussing both the architectural layouts and structural systems proposed. An introduction to the mass timber products and systems that are making these advances possible will also be provided.

This session will use recent mid-rise projects to examine a variety of design solutions for multi-story wood construction. Discussion will focus on areas of design and detailing that often challenge designers of Type III and Type V mixed-use projects—such as designing wood and masonry shaft walls, connecting 2-hour rated walls to 1-hour rated floor/ceiling systems, and balcony construction—and offer possible solutions. Opportunities and advantages to using cross laminated timber in mid-rise buildings will also be explored.

The Bullitt Center, a six-story heavy timber building recently completed in Seattle, is predicted to be the world’s most energy efficient commercial building. It has been designed to last 250 years and to achieve the highest benchmark of building sustainability—Living Building Challenge™ (LBC) certification. Following a short overview of the LBC, this presentation will highlight the design strategies for the Bullitt Center as well as structural and environmental virtues of the heavy timber structural system such as renewability, contribution to energy efficiency and light carbon footprint.

This presentation will address land management techniques associated with agriculture (organic and non-organic) and forestry, including natural forest management as well as plantation forestry. These systems are used to grow bio-based materials such as wood products, agricultural foods and fibers, and the raw materials for bio-energy. The presentation will compare and contrast common forestry and agricultural practices and include discussion of the diverse challenges and benefits associated with each system.

Innovations and discussions focused on solid wood construction in Canada are resulting in the consideration of heavy timber as a viable structural material for many projects. Further, the benefits of wood are becoming increasingly relevant in the context of global warming and non-renewable resource depletion, and its use can have a large impact on a project’s carbon footprint. This presentation will focus on the use of panelized wood in two innovative Perkins+Will projects, both located at the University of British Columbia: the Centre for Interactive Research on Sustainability (CIRS) and the Earth Sciences Building (ESB).
ROOM 3

MORNING SESSION 8:00 AM • AFTERNOON SESSION 1:20 PM

Energy-Efficient Facilities: Building Envelope Design Considerations
Steve Easley, Steve Easley & Associates Inc.

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 cost-effective design recommendations for high performance building enclosures. It will explore why many buildings fail to perform as expected, and provide recommendations on envelope detailing, insulation and air sealing techniques for various climates, and information to include in specifications.

MORNING SESSION 9:45 AM • AFTERNOON SESSION 2:50 PM

Cross Laminated Timber Technology: Manufacturing, Materials and Specification
Bryan Readling, PE, APA

While cross laminated timber (CLT) technology originated in Europe as a proprietary system, considerable advances have been made to establish CLT as a material capable of competing with concrete and steel in US non-residential and multi-family construction markets. Among the most notable, a new product standard developed by APA and approved by the American National Standards Institute (ANSI/APA PRG 320) lays out the requirements and test methods for CLT certification and quality assurance, and recently approved code changes will see CLT recognized in the 2015 International Building Code (IBC). With an emphasis on manufacturing and specification, this session will provide an overview of current North American CLT production as well as practical information related to its use.

MORNING SESSION 11:00 AM • AFTERNOON SESSION 4:00 PM

Healthy Buildings: The Case for Visual Wood
David Fell, PhD, FPInnovations

Recent studies, along with evidence emerging from Europe and Asia, suggest that the use of wood indoors lowers stress reactivity and reduces susceptibility to illness and a better ability to focus attention. This is relevant both in the context of evidence-based design, which studies the effects of building design on occupants (among other things), and biophilic design, which considers the general affinity humans have for nature and addresses it through design elements and materials. This presentation will provide an overview of the evidence and mechanisms through which wood can affect human health and its increasing use in educational, office and other environments.

ROOM 4

MORNING SESSION 8:00 AM (Part 1) • AFTERNOON SESSION 1:20 PM (Part 2)

Offset Diaphragms and Shear Walls
Terry Malone, PE, SE, WoodWorks

Lateral force resisting systems in today’s structures are more complex than they were several decades ago, incorporating multiple horizontal and vertical offsets in the diaphragms, multiple irregularities and fewer lateral resisting elements. This two part presentation will provide a brief review of the method used to analyze these complex structures.

Part 1 (morning) – Topics will include code requirements, how to recognize diaphragm irregularities and discontinuities, how shears are distributed through complex diaphragms, the method of analysis used to solve the transfer of forces across areas of discontinuity, and the analysis of flexible wood sheathed or untopped steel decking diaphragms with horizontal offsets.

Part 2 (afternoon) – This session will cover how to conduct a preliminary breakdown of a complex diaphragm to better understand the distribution of forces and assure that complete load paths are being established. Examples will be provided illustrating how to analyze in-plane and out-of-plane offset shear walls that are typically created by these diaphragms.

MORNING SESSION 9:45 AM • AFTERNOON SESSION 2:50 PM

Code Conforming Wood Design
Michelle Kam-Biron, PE, SE, American Wood Council

This presentation is based on a new series of publications by the American Wood Council and International Code Council (ICC), titled Code Conforming Wood Design (CCWD), which summarizes allowable wood use in buildings in accordance with the 2012 IBC. The series features a comprehensive overview of the design flexibilities permitted for wood in commercial construction, as well as eight documents specific to different use groups. Intended to complement the code (but not replace it), the series should help designers and building officials better understand how wood can be used in various applications. Participants can download a complimentary copy at www.awc.org/codes/ccwd/index.html.

MORNING SESSION 11:00 AM • AFTERNOON SESSION 4:00 PM

Getting to Yes: Code Alternate Materials and Means and Permit Streamlining
Michael Malinowski, AIA, Applied Architecture, Inc.

This session will cover principles and strategy for effective navigation of the building permit process when materials or designs don’t fit with conventional code application, as well as the use of permit streaming. Alternate Materials and Means Requests (AMMR) can be used for various reasons including: use of innovative products and systems, new design concepts and complex geometries. Successful project examples will be used to demonstrate how to approach the AMMR process. In addition, the landscape of permit streaming concepts will be outlined with a focus on how to engage design professionals on the ‘public’ side of the counter in a project’s ultimate success.
**ROOM 5**

**MORNING SESSION 8:00 AM**

**Using Software to Design Multi-Story Wood Buildings**  
*Matt Brown, PE, RISA Technologies*

See how engineering software can be used to design multi-story buildings featuring wood walls, wood diaphragms, glued laminated timber (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.

**MORNING SESSION 9:45 AM**

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

This presentation will include information basic to lumber and forest products while focusing on the nature of western red cedar lumber products, their unique benefits and why they are appropriate for incorporation into any sustainable design. It will also touch on information about western red cedar lumber grades, installation and finishing. Forest certification will be discussed, as will reasons why using western red cedar affords your clients the best environmental and sustainable products for their design requirements.

**MORNING SESSION 11:00 AM**

**Meeting Fire Codes with OSB**  
*Bob Palardy, LP Building Products*

This presentation will provide an overview of fire-rated cementitious coated oriented strand board (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 1:20 PM**

**Fire-Retardant-Treated Wood and the International Building Code**  
*Jim Gogolski, Hoover Treated Wood Products*

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.

**AFTERNOON SESSION 2:50 PM**

**Treated Wood and Design**  
*Eddy Longshore, Western Wood Preservers Institute*

The durability of all structures relies on effective design—which, for wood buildings, includes the use of preservative-treated wood where excessive moisture or termite infestation is likely. This course offers practical advice for specifying the chemical alternatives used to protect wood’s durability in these circumstances. Topics will include determining the appropriate type of treatment based on the American Wood Protection Association Use Category Standards and ICC-ES Report Evaluations, labeling required under the IBC and best management practices for sensitive or aquatic environments. Considerations related to treated wood in multi-residential and commercial structures, fasteners and connectors, safe handling and environmental protection will also be discussed.

**AFTERNOON SESSION 4:00**

**Quality Assurance in Architectural Woodwork**  
*William A. Munyan, AIA, CDT, AWI*

Take the mystery out of architectural woodwork projects by learning the best way to communicate with contractors. Learn to use the Architectural Woodwork Standards to visually identify compliant vs. noncompliant products and identify the differences between premium, custom and economy-grade woodwork. Proper construction of drawers, countertops, cabinets, veneer and wall panels will also be discussed.
Who Should Attend?
With a full day of seminars and a trade exposition, the Southeast 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 “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 LUs (HSW) or PDH credits (one per attended seminar). Visit woodworks.org for details and learning objectives. AIA/CES forms and professional development certificates will be available on site.

More Information
Visit woodworks.org. WoodWorks is an approved AIA provider.

WoodWorks
Free design and engineering support for non-residential and multi-family wood buildings
For project support, email help@woodworks.org. For resources such as CAD/REVIT details, span tables, design examples and more, visit woodworks.org.