Mid-Atlantic Wood Solutions Fair

AUGUST 27, 2014
WALTER E. WASHINGTON CONVENTION CENTER
801 Mount Vernon Place NW
Washington, DC 20001

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

Register at woodworks.org
# Mid-Atlantic Wood Solutions Fair Schedule

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<tr>
<td>7:00 am</td>
<td>Registration Check-in – Exhibit Hall Opens</td>
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<tr>
<td>8:00 am - 9:10 am</td>
<td>Wood in Corporate Architecture: Epic Systems Campus</td>
<td>Forests and Forest Products</td>
<td>Experience Wood: Empowered to Experiment</td>
<td>International Building Code Essentials for Wood Construction</td>
<td>Architectural Alternatives: Post-Frame Building Systems</td>
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<tr>
<td>9:10 am - 9:45 am</td>
<td>Break – Exhibit Expo</td>
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<td>9:45 am - 10:45 am</td>
<td>The Bullitt Center: Meeting the Living Building Challenge</td>
<td>EPDs and HPDs: Opportunities within LEED v.4 and Green Globes</td>
<td>Walls that Work: Detailing for Performance</td>
<td>Detailing for Wood Shrinkage</td>
<td>Preservative-Treated Wood: Use and Specification</td>
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<tr>
<td>10:45 am - 11:00 am</td>
<td>Break – Exhibit Expo</td>
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<td>Noon - 1:20 pm</td>
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<td>2:20 pm - 2:50 pm</td>
<td>Break – Exhibit Expo</td>
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<td>2:50 pm - 3:50 pm</td>
<td>The Bullitt Center: Meeting the Living Building Challenge</td>
<td>EPDs and HPDs: Opportunities within LEED v.4 and Green Globes</td>
<td>Walls that Work: Detailing for Performance</td>
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<td>Fire-Retardant-Treated Wood: A Primer</td>
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<td>3:50 pm - 4:00 pm</td>
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<td>4:00 pm - 5:00 pm</td>
<td>Urban Acoustics</td>
<td>Energy Code Compliance: Wood-Frame Buildings and the IECC</td>
<td>Durable Design: Lessons from Historic Wood Structures</td>
<td>Offset Diaphragms and Shear Walls: Part II</td>
<td>Sustainable Designs: Western Red Cedar</td>
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**Lunch • Wood Design Awards**

Photo: Federal Center South – Building 1202, ZGF Architects, LLP, photo Benjamin Benschneider
WOOD IN CORPORATE ARCHITECTURE: EPIC SYSTEMS CAMPUS
Chad Clow AIA, Cuningham Group
Epic Systems’ 2 million-square-foot corporate campus includes 13 office buildings occupied by more than 6,000 employees. Epic is one of the world’s largest medical software companies, and the design of its campus was intended to create a playful, creative environment amidst the seriousness of software design. Inspired by rural Wisconsin, timber is used throughout as both structure and finish and contributes to the character and warmth of campus buildings. This case study presentation will demonstrate the use of wood in large-scale corporate architecture, highlighting unique applications, solutions to design challenges, and wood’s ability to create intriguing spaces.

THE BULLITT CENTER: MEETING THE LIVING BUILDING CHALLENGE
Brian Court, AIA, LEED AP, The Miller Hull Partnership, LLC
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. A performance-based certification program, the LBC requires buildings to be evaluated after one year of occupancy prior to certification. In this presentation, Project Architect Brian Court will give a short overview of the LBC, discuss the design strategies for the Bullitt Center, and highlight structural and environmental virtues of the heavy timber structural system such as renewability, contribution to energy efficiency, and light carbon footprint.

URBAN ACOUSTICS
Steve Thorburn, PE, LEED AP, CTS-I, CTS-D, Thorburn Associates
As with any issue of building performance, the acoustics of a mixed-use wood-frame structure can be designed to meet or far exceed minimal requirements. It is the responsibility of the design team to determine acoustical expectations for the project and meet them within the available budget. Through the use of case studies, this fast-paced, interactive session will explore how multi-story wood systems can be used to meet acoustical privacy goals. Discussion will focus on the detailing and construction of units, and how consideration of the construction process can help keep acoustical costs down. With the objective of providing implementable solutions, the session will include construction details and photos showing what has and hasn’t worked in actual buildings.

FORESTS AND FOREST PRODUCTS
Kathryn Fernholz, Dovetail Partners, Inc.
This presentation will answer many questions about forests and forest products, such as: Where do our trees and forests grow? How have forests changed over time? What is the relationship between people and forests—now and in the past? How are forests managed—and are they being managed responsibly? Are our forests and forest products sustainable? Why is wood an environmentally-friendly choice?

EPDs AND HPDS: OPPORTUNITIES WITHIN LEED V.4 AND GREEN GLOBES
User-friendly product transparency and life cycle assessment (LCA) tools facilitate exploration of design alternatives and lead to environmentally better buildings, while freeing design and engineering teams from adherence to long lists of prescriptive provisions. Two of these tools, Environmental Product Declarations (EPDs) and Health Product Declarations (HPDs), are being used to improve environmental impacts and occupant environment. This presentation will provide an overview of these tools, including what goes into their development, what they reveal, and how to use them effectively. Opportunities for applying EPDs, HPDs and LCA provisions within LEED v. 4, Green Globes and other green building standards will also be explored.

ENERGY CODE COMPLIANCE: WOOD-FRAME BUILDINGS AND THE IECC
Andrew Klein, PE
This presentation focuses on the challenges of meeting 2012 International Energy Conservation Code (IECC) requirements in wood-frame buildings, and related design considerations. Topics will include the code’s scope, content and significant changes since the 2009 edition. Compliance path options will also be discussed in the context of specific building systems and features.
ROOM 3

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

**Experience Wood: Empowered to Experiment**
David Fell, PhD, FPInnovations

The use of wood as a finishing material creates a special connection between the building and its occupants due to its biological context and natural variability. The visual, auditory, tactile and olfactory experience is rooted in the way trees grow. Examining the “experience of wood” from a scientific perspective, this session will provide a guide to the use of wood-based finishes on attributes such as hardness, reflectance of visual surfaces, grain patterns, light conditioning, acoustics, color, humidity control, and more. Attendees will be empowered to experiment and vary the use of wood in their architectural designs.

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

**Walls that Work: Detailing for Performance**
Mary Uher, MS, APA

With wall systems serving so many functions in a building, they can be a challenge to effectively design. As a part of the structural and thermal envelopes, wood-frame walls are vital to building performance. Structural design must be balanced with the need for door and window openings and, at the same time, detailed to limit water and air infiltration. This program focuses on how to maximize wall performance while reducing cost through a combination of new design methods and time-tested details.

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

**Durable Design: Lessons from Historic Wood Structures**
Matthew B. Bronski, PE, Simpson Gumpertz & Heger Inc.

While modern construction techniques are helping designers achieve increasing levels of building performance, durability is one objective that can benefit from lessons of the past. This presentation is based on an independent research project that examined the durability of historic wood buildings in Rome in the context of their construction details. Undertaken by the speaker, Matthew Bronski, over ten months, the project included hands-on study of about two dozen historic buildings ranging in period from the first century B.C. to the early 1900s. Through project examples, Bronski will offer a compelling diagnosis of durability successes and failures, while sharing a series of lessons and principles that can be used to design more durable enclosures.

ROOM 4

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

**International Building Code Essentials for Wood Construction**
Michelle Kam-Biron, PE, SE, SECB, M.ASCE, American Wood Council (AWC)

Based on the new AWC/International Code Council publication, Code Conforming Wood Design (CCWD), this presentation takes the mystery out of International Building Code (IBC) parameters for wood in non-residential and multi-residential construction. Topics will include maximum building sizes (participants will receive pre-calculated tables for eight occupancies, with and without frontage and sprinkler increases); alternatives for establishing required fire resistance; special provisions for pedestal buildings; precautionary recommendations for buildings under construction; criteria for finishes, exterior coverings, appendages, and other wood features; and the use of AWC design standards and other publications in relation to the IBC. Participants may download a complimentary copy of the CCWD www.awc.org/codes/ccwdindex.html

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

**Detailing for Wood Shrinkage**
Douglas R. Steimle, PE, Schaefer

For condominiums, apartments, hotels and dormitories, multi-story wood construction is viewed by many as a way to achieve higher density at lower cost, while reducing the project’s carbon footprint. One of the challenges, in designing these taller buildings, is how to calculate and address wood shrinkage, which occurs as the wood dries from its ‘green’ state to its in-service equilibrium state. This session will examine shrinkage associated with wall and floor design, and demonstrate how to minimize effects of both shrinkage and differential movement with proper detailing. The discussion will include solutions to shrinkage-induced construction issues such as drywall cracking, window frame wracking, and compromised plumbing lines.

**MORNING SESSION 11:00 AM (PART I) • AFTERNOON SESSION 4:00 PM (PART II)**

**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.
ROOM 5

MORNING SESSION 8:00 AM

Architectural Alternatives: Post-Frame Building Systems
Dr. Harvey Manbeck, PE, National Frame Building Association
Architecturally, post-frame buildings can resemble any other building, so much so that it’s increasingly difficult to identify a post-frame structure. This presentation will provide an overview of post-frame construction and its benefits, such as cost effectiveness, energy efficiency, durability and sustainability. Topics will include structural features that make post-frame systems unique, two basic design approaches, and design resources. More than 20 project examples will be showcased to illustrate key performance characteristics and architectural alternatives.

MORNING SESSION 9:45 AM

Preservative-Treated Wood: Use and Specification
Kris Owen, Western Wood Preservers Institute
In applications where wood may be exposed to moisture, insects or fungal organisms, preservative-treated wood can help ensure a building’s durability. In this presentation, participants will learn about the manufacturing process for pressure-treated wood, available products and their differences, and how preserved wood is used in construction. Topics will include types of preservative treatments and the required levels of retention, as dictated by the end-use application, desired service life and exposure conditions. AWPA Use Category standards and ICC-ES Report Evaluations will be reviewed, and discussion will cover current issues concerning treated wood in residential and commercial construction. Participants will also receive free access to the treated lumber smartphone app.

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

Sustainable Designs: Western Red Cedar
Steve From, Western Red Cedar Lumber Association
This presentation will include some information basic to lumber and forest products while it features the nature of western red cedar lumber, the benefits unique to these products, and how they are appropriate for incorporation in any sustainable design. The presentation 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.

AFTERNOON SESSION 1:20 PM

An Introduction to Structural Design of Post-Frame Buildings
Dr. Harvey Manbeck, PE, National Frame Building Association
This program begins with a description of post-frame building systems and 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: for post-frame systems with and without diaphragm action, focusing mostly on the former. 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. It 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.

AFTERNOON SESSION 2:50 PM

Fire-Retardant-Treated Wood: A Primer
Kris Owen, Western Wood Preservers Institute
For some applications—such as exterior walls in Type III Construction—building codes allow the use of wood providing it is fire-retardant-treated (FRT). This presentation offers an overview of FRT wood in the United States, including specific references under the IBC, available products and examples of typical use. This session will explore how treatments are impregnated into the wood, how the preservatives offer fire protection and the testing required to confirm fire-retardant capabilities. Topics will also include understanding the labels on FRT wood products for interior and exterior uses, and occupant safety.
Who Should Attend?
With a full day of seminars and a trade exposition, the Mid-Atlantic 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” 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
Free design and engineering support for non-residential and multi-family wood buildings
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WoodWorks is an approved AIA provider.