

PRESENTATION ABSTRACTS

2017 Toronto Wood Solutions Fair

Metro Toronto Convention Centre, North Building, Hall C | 255 Front Street West, Toronto, ON M5V2W6

We Can Save the World - One Building at a Time

By: Sandra Frank, Marketing Director, Folkhem, Sweden

Worldwide, the building industry is responsible for about 50% of CO₂ emissions. We need to change that. Right now. Wood is the only renewable building material and as long as we take care of the forests we have a resource that will last forever. Through innovation, digitalisation and a progressive bio-economy, countries like Sweden and Canada could lead the world to a great change and make a big difference, quickly, in the question of CO₂ and other greenhouse gases.

Building Dalston Lane, the World's Largest CLT structure

By: Anthony Thistleton, Founding Partner, Waugh Thistleton Architects

Built from over 4,000 m³ of timber, Dalston Works, completed last month, is the largest CLT structure in the world. This talk explores the background and construction of this landmark building - the challenges of convincing clients, developers and authorities to construct in engineered timber, as well as the technical challenges of building at this scale. Beyond this, Anthony will look at what the future holds - both in terms of the next generation of mass timber buildings on the books and the future of factory built housing made from CLT.

Excellence and Innovation: Inspirational Wood Buildings in the UK

By: Rupert Scott, Membership and Marketing Manager, TRADA

This presentation will highlight recent award winning timber projects recognized in the UK including several beautiful wood buildings that were featured in technical case studies published by TRADA. The Timber Research and Development Association is an internationally recognised centre of excellence on the specification and use of timber and wood products. TRADA's origins go back over 80 years and its name is synonymous with independence and authority. TRADA's aim is to provide members with the highest quality information on timber and wood products to enable them to maximise the benefits that timber can provide.

The Swedish Experience (2-hour Panel)

Panelists: Sandra Frank, Marketing Director, Folkem, Sweden; Michael Collins-Williams, MCIP, RPP, Director, Policy, Ontario Home Builders' Association; Tad Putyra, President & COO, Great Gulf Low Rise

Moderator: Steven Street, Technical Director, Ontario Wood *WORKS!*

An interactive discussion about Sweden's successful and growing culture of wood construction. Several professional perspectives will be shared including that of a Swedish developer that only builds in wood. Canadian experts will discuss the innovative Swedish example in the context of Canadian development needs.

Ideas and Principles for Structurally Efficient Low-Rise Commercial Timber Buildings

By: Claude Lamothe, Principal, Intra-Bois

Several innovative and efficient structural systems used in low-rise buildings located in North America and overseas will be presented. Participants will develop new insights from the ideas and principles drawn from the examples presented. This presentation is greatly inspired from a report (not published yet) sponsored by Natural Resources Canada and the Canadian Wood Council prepared by Intra-Bois Inc.

“The price is right, but will this product work in a Mid-Rise project?” - Tips to help you pick the right products and fire-resistance assemblies.

By: Andy Teasell, P.Eng., Engineering & Technical Support Manager, TrusJoist-Weyerhaeuser

Not all of the products available in a typical lumber yard are suitable for a mid-rise wood-framed building. Whether the need is structural or fire-resistance, this session will take you through some common situations, and provide advice to help you write a specification that will avoid substitution with an attractively-priced (but potentially unsuitable) product or system. Items discussed:

- Some product grades can only take nails at 6” (150 mm) spacing. Find out which ones can do better than that.
- Which is the better choice for rim board and blocking: LVL or LSL?
- Looking to use 1 layer of gypsum for your fire-rated floor assembly? Find out which I-joists are suitable for a 1 hour fire-resistance rating with a single-layer of gypsum.
- How do you make sure your building material supplier is qualified to generate complex mid-rise shop drawings?

CLT Design: Using CWC’s 2017 Wood Design Manual and WoodWorks® Sizer software

By: Kevin Rocchi, M.A.Sc., P.Eng., Technical Service Specialist - Structural Engineering, Canadian Wood Council

Both the Wood Design Manual and WoodWorks® software have been updated to include CLT design, as per the NBC 2015 and the CSA O86-14 (Update 1).

The first half of this seminar will demonstrate how the 2017 Wood Design Manual (scheduled for sale January 2018) provides guidance and time-saving tables for designing CLT gravity and lateral load resisting systems, and will also touch on Glued-laminated Timber (GLT), Nail Laminated Timber (NLT) and Dowel Laminated Timber (DLT). An introduction to CLT lateral load design will be discussed.

The second half will demonstrate how WoodWorks® Sizer 10 (release scheduled for November 2017) can be used to size gravity load resisting CLT panels.

Learning Objectives:

1. Gravity load design of CLT bending and compression members.
2. Intro to the design of other mass timber floor assemblies such as GLT, NLT, and DLT.
3. Intro to the CLT lateral force resisting system design procedures in the CSA O86-14 (Update 1).
4. An overview and demo of the gravity load design of CLT in the WoodWorks® Sizer 10 Software.

New Sound Transmission Performance Requirements for Multi-Unit Residential Buildings in the 2015 National Building Code of Canada

By: Ineke Van Zeeland, M. Eng., Senior Manager, Codes & Standards – Fire and Acoustics, Canadian Wood Council

This technical presentation will discuss the new requirements in the 2015 National Building Code of Canada (NBC) for apparent sound transmission class (ASTC) ratings in multi-unit residential buildings (in both Part 3 and Part 9 buildings). It will also present some of the tools available to assist designers to demonstrate compliance with the new requirements, including the National Research Council’s Research Report RR-331, “Guide to Calculating Airborne Sound Transmission in Buildings.”

Wood Products – Climate Change & Carbon Benefits

By : Adam Robertson, M.A.Sc., P.Eng., Manager, Codes and Standards - Structural Engineering and Sustainability, Canadian Wood Council

The evolution and linkages between contemporary climate change mitigation strategies at the global, national, provincial and municipal levels will be discussed. The carbon benefits of using wood products will be explored, including forests as carbon sinks, wood building products as long-term carbon storage devices and emissions reductions through product substitution. Design considerations and decision-making related to both embodied and operational GHG emissions is becoming an increasingly more important requirement in the building sector. Free tools and resources to help understand and quantify GHG reductions in the built environment will be showcased.

Midrise Cost Comparison: Steel, Concrete, Wood

By: Patrick Crabbe, Project Coordinator, Atlantic Wood *WORKS!*

With the overall benefits of using wood as a building material well documented, Atlantic Wood *WORKS!* studied the opportunities for 6 storey wood construction in Atlantic Canadian centres. The research included a comprehensive market study and projections for mid-rise demand in four major centres in Atlantic Canada, a review of recent and upcoming planning changes in major Atlantic Canadian cities, and a full cost analysis that compared wood construction to three other construction methods in use in the Atlantic market using a real-life wood mid-rise structure built by an experienced builder. This talk presents the findings of that direct cost comparison between steel, concrete and wood.

North American Wood Design Awards: a Showcase of Wood Design Award Winners from 2016-17

By: Marianne Berube, Executive Director, Ontario Wood *WORKS!* and Lynn Embury-Williams, Executive Director, Wood *WORKS!* BC

Find your design inspiration! This presentation will highlight award-winning projects from the Wood Design Award programs held across Canada and in the US in the past year. The projects featured in this presentation showcase innovative uses of wood in institutional, commercial and residential designs. Unique, one-of-a-kind buildings will be showcased, as will designs that can be easily and cost-effectively replicated.

Acoustics – Avoiding complaints and meeting/exceeding building code requirements

Cristian Wallace, Business Development & Specifications, AcoustiTECH

This presentation defines building code requirements and outlines acoustic principles in addition to discussing efficient means of acoustic insulation using multiple floor/ceiling assemblies for light wood-frame and mass timber buildings. This presentation will benefit any building and design professionals such as architects, designers, acoustic engineers, builders/developers and general contractors. Material covered includes basic acoustic principles and definitions; impact and airborne sounds in wood-frame buildings; means of soundproofing wood-frame buildings; and the do's and don'ts for acoustics in buildings (through case studies and examples).

Learning objectives:

1. Define general acoustics principles
2. Demystify sound propagation of noise in different materials
3. Demystify sound insulation of floor/ceiling assemblies
4. Recognize the proper acoustic solution

Western Red Cedar – Distinctive, Sustainable Design

Jay Poppe, Cedar Specialist, Western Red Cedar Lumber Association

This presentation will include some information basic to lumber and forest products while it features the nature of the western red cedar lumber, the benefits unique to these products, and how they are appropriate for incorporation in any sustainable design. It will also touch on information about specifying 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.

Effective R value calculator for walls: A free tool to demonstrate compliance with prescriptive wall provisions of OBC's SB-12.

By: Robert J. Jonkman, P.Eng., Director Codes and Standards - Structural Engineering, Canadian Wood Council

Learning Objectives:

1. Ontario's Energy Efficiency for Housing provisions changed in January 2017. You will learn about wall assemblies that comply with SB12's 2017 compliance packages.
2. Although there are less compliance packages to choose from in 2017, the addition of "effective" R values provides better flexibility to comply. You will learn what effective R value is and how to calculate it for wood framed walls.
3. Canadian Wood Council's free web-based EffectiveR wall thermal calculator (www.effectiveR.ca) assists designers and builders in choosing code-compliant wall construction. You will learn about the 1440 combinations of walls, how the calculator works, and how to use it to demonstrate code compliance.
4. The durability of wall assemblies increases in importance as wall airtightness is improved, and insulation levels increase. You will learn how the calculator provides guidance on the durability of walls based on 5 cities in Canada, representing 5 climatic conditions.

Moisture and Mould in Gypsum Board

By: Dr. Jeffrey Seibel, Faculty of Applied Science and Engineering, University of Toronto and Bob Hartogsveld, Architectural Solutions Manager, CertainTeed Gypsum & Insulation Canada

Why and How Mass Timber Sells

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