

**Tuesday, November 5, 2019**

Vancouver Convention Centre – East

## **Presentation Outlines and Speaker Bios**

### **1/ North American Wood Design Awards: A Showcase of Wood Design Award Winners from 2018-19**

*Lynn Embury-Williams, Executive Director, Wood WORKS! BC, North Vancouver, BC*

*Marianne Berube, Executive Director, Ontario Wood WORKS!, North Bay, ON*

**Description:** Wood is an extraordinary building material. It is strong, lightweight and safe. It is durable, versatile and adaptable. It is also sustainable and, as new products, systems, and advancements in manufacturing continue to come on-line, the applications for wood products are almost unlimited. Through design innovation, architects and engineers can create larger wood buildings of diverse occupancies that meet or exceed the requirements for safety and performance. Yet wood is also an intimate, precious material well suited to smaller projects and thoughtfully crafted installations. This presentation showcases award-winning projects of every type from the Wood Design Award programs held across Canada and in the US in the past year, shining a light on wood design excellence in both structural and architectural applications.

**Learning Outcomes:** Discover groundbreaking structural uses for wood; Learn about new and innovative architectural uses for wood; Compare design characteristics of projects from various regions of Canada; Determine which wood designs suit your geographical area.

**Track/Seminar: T1/S1    Theme: Architectural/Design**

**Bio: Lynn Embury-Williams:** Lynn is a Registered Professional Forester in the province of BC and has an MBA from the University of Western Ontario. She joined the Wood WORKS! BC program as Executive Director in 2014. Previously the Director of Marketing and Business Development at Canfor, Lynn has brought a wealth of experience and expertise in the areas of marketing and business development to Wood WORKS! BC. In more than two decades of working at Canfor, she was instrumental in helping the company quadruple its size to become the largest SPF producer in the world. For six years, Lynn also chaired the NEWBuildS Forestry Network Program, whose primary goal was to advance scientific knowledge and construction technologies that will enable wood-based products to be used in mid-rise and non-residential construction.

**Bio: Marianne Berube:** Marianne Berube has degrees and work experience in Environmental Science, Business and Investment Management. Marianne has been the Executive Director of Ontario Wood WORKS! for the past 19 years, building the program from its pilot launch to the provincial initiative it is today. Ontario Wood WORKS! is recognized by architects, engineers, building officials, educators and all levels of government as a wood use advocate and a technical resource for information on the wood products industry and sustainable building.

## **2/ How Innovation in Timber Construction has Transformed Contemporary British Architecture**

*Harbinder Birdi, BA Hons, B Arch, RIBA, Senior Partner, Hawkins\Brown Architects LLP, London, UK*

**Description:** Harbinder will present several of the practice's projects - ranging from the housing sector to education, sports and leisure - where innovative, modern methods of timber construction have been used and wood serves as the primary construction material for these RIBA award-winning projects. Harbinder will describe in detail the benefits of using timber both in terms of construction and sustainability.

**Learning Outcomes:** Learn modern methods of timber construction; Hear about the benefits of using timber; Demonstrate construction and sustainability aspects of building with wood.

**Track/Seminar: T1/S2 & T2/S4    Theme: Architectural/Design and High Performance Design**

**Bio: Harbinder Birdi:** Harbinder is a RIBA Chartered Architect and Senior Partner at Hawkins\Brown, one of the leading architectural practices in the UK. Harbinder leads the Infrastructure and Transport sector and is delivering the architectural designs for two of the UK's largest infrastructure projects currently underway; Thames Tideway and three new stations, Tottenham Court Road, Bond Street and Liverpool Street for Crossrail 1. Harbinder lectures in the UK and internationally on professional practice, architecture and construction. He leads the innovation in design and delivery of projects at Hawkins\Brown, focusing on how the practice is using modern methods and off-site construction to deliver innovative contemporary architecture. Harbinder is a previous winner of '40 under 40'; a prestigious UK design award recognizing the best young architects under 40.

## **3/ Virtual Design Construction: Reasons, processes, uses and cost**

*Xenia Gordienko, Senior VDC Coordinator, EllisDon Corporation, Vancouver, BC*

**Description:** VDC (Virtual Design Construction) tools have been integrated by several architects, engineers and contractors, but there are still many companies hesitating to embrace the BIM software. The main reason for that is not estimated BIM (Building Information Modelling) effort in proportion to the way of conventional design. This presentation will touch on the history and the psychological success behind BIM. Fast tracking into the current status, the presenter will share specific case study scenarios of time/money saving in BIM projects, and discuss the next steps for the construction industry in relation to VDC.

**Learning Outcomes:** Why VDC/BIM became an undiscussable trend; What to do if you are a stakeholder in a BIM project /or would like to become one; What BIM effort makes sense for my project; How I can estimate BIM expenses and income.

**Track/Seminar: T1/S3 & T2/S5    Theme: Architectural/Design and High Performance Design**

**Bio: Xenia Gordienko:** Xenia Gordienko is a Senior VDC Coordinator with EllisDon Corporation and is currently working on the Center for Mental Health and Addictions. Prior to joining EllisDon, Ms. Gordienko served a major European-based construction company with a focus on creating BIM strategies, and developing and implementing BIM standards. Ms. Gordienko earned a Bachelor of Architecture and

Design from the University of Applied Sciences in Stuttgart, Germany and a Bachelor of Computer Science and Computer Engineering at the State University for Aerospace Technology in St. Petersburg, Russia. She is a guest speaker at the University of Applied Sciences and Arts Northwestern Switzerland, a speaker at the BUILDDEX Conference and the Canadian Wood Council/Wood *WORKS!* Workshop.

#### **4/ 100 Mile Building – Generating Local Solutions**

*Jordan Edmonds, Architectural Technologist AIBC, LEED AP BD+C, Urban Arts Architecture, Vancouver, BC*

**Description:** The Radium Hot Springs Community Hall and Library project utilized a unique project process that commenced with a wood stakeholders workshop to identify local partners, sponsors, champions and trades. This community-led engagement and design process developed solutions unique to their place, supporting regional economies rooted in sustainable practices and increasing the use of local materials and trades. The result is a wood building reflective of the local industry and resources in the Columbia Valley, and one of the first DLT buildings constructed in Canada.

**Learning Outcomes:** Generating local solutions; Community-led design process; Dowel Laminated Timber structures; Embodied carbon.

**Track/Seminar:** T2/S1 & T1/S4     **Theme:** High Performance Design and Architectural/Design

**Bio: Jordan Edmonds:** Jordan Edmonds is Technical Director at Urban Arts Architecture. Since forming in 2006, Urban Arts Architecture has been committed to the sustainable growth of small communities throughout BC and the Yukon, specializing in community projects - creating facilities that are often the only gathering place in town. UAA's public work is delivered through an integrated design process that includes the community, stakeholders, the owner, and the design team.

#### **5/ Forests of Opportunity: Using Wood Products from Responsibly Managed Forests**

*Nadine Block, Senior VP of Government and Network Relations, Sustainable Forestry Initiative Inc., Washington, DC*

**Description:** Architects and builders choose wood because it is a superior building material. Wood is a beautiful, renewable resource that is easy to work with. It also offers numerous environmental benefits. Using wood in green building projects supports many of the benefits offered by responsibly managed working forests, including clean air and water, biodiversity, habitat for wildlife, and employment for local communities. Now, a new LEED Alternative Compliance Path (ACP) for forest products will strengthen the positive impact of responsibly managed working forests in the construction sector. Learn how SFI Certification offers a new pathway for green building professionals.

**Learning Outcomes:** Apply the new Alternative Compliance Path to get LEED credits for using legal, responsible, and certified-sourced forest products in projects; Examine what is involved for a mill or manufacturer to get certified to the SFI Standards; Discuss SFI standards as mechanisms for sustainable forest management, verified supply chains, and responsible procurement of forest fiber; Explore current trends and data for markets that increasingly favor certified wood products.

**Track/Seminar: T2/S2    Theme: High Performance Design**

**Bio: Nadine Block:** Nadine Block is Senior VP of Government and Network Relations at SFI, a non-profit organization committed to advancing sustainability through forest-focused collaboration. Nadine manages government engagement in the U.S. and Europe, particularly related to forest management, climate change, bioenergy, forest products procurement, and combatting illegal logging. She also oversees SFI's community engagement strategy in the U.S.

## **6/ Tall Timber In The UK - Lessons Learned From 10 Years Of Progress**

*Dave Lomax, Senior Associate, Waugh Thistleton Architects, London, UK*

**Description:** This session will focus on the work of Waugh Thistleton since they completed the world's first 'tall timber' CLT building in 2009, through their work on office buildings, factories, pavilions and more besides, culminating in their recently published research '100 CLT Buildings UK' and their recent work on tall fully modular factory-built timber homes. We will spend time on the technical challenges - and opportunities - of delivering Dalston Works which at the time of completion in 2017 was the world's largest CLT building, and cover the change required in ways of working to deliver successful off-site manufactured buildings.

**Learning Outcomes:** Technical solutions and opportunities of working in mass timber for buildings up to 10 storeys; Understanding of the progress of volumetric factory-built timber homes in the UK market up to 6 storeys; Possibilities for office and factory buildings using mass timber including extension of existing structures; Opportunities for further research using recently published new work by Waugh Thistleton.

**Track/Seminar: T2/S3 & T1/S5    Theme: High Performance Design and Architectural/Design**

**Bio: Dave Lomax:** Dave Lomax led the delivery of the world's largest CLT building and directs the practice's work on factory-built homes. Waugh Thistleton are leading the international conversation on tall timber building and were awarded the RIBA President's Award for Practice-located Research in the field. Last year they were shortlisted for the prestigious RIBA Stirling Prize for building of the year.

## **7/ New BC Firewall/Exterior Wall Interface Details & BCBC ASTC Solutions**

*Robert (Bob) Marshall, P. Eng., BDS, LEED AP, Building Science Manager, CertainTeed SAINT GOBAIN, Mississauga, ON*

**Description:** Discover solutions for firewalls and exterior wall interface holistic solutions at roofs and walls that provide fire protection, smoke protection, sound control, minimum thermal bridging and tightness functions in multi buildings from the partnership with BCIT's Learning Centre for Zero Energy Buildings. Also, NRC tested Apparent Sound Transmission Class (ASTC) less complicated solutions that increase the speed of construction for wood mid-rise buildings will be presented.

**Learning Outcomes:** Become familiar with fire, sound and airtightness code requirements; Understand the importance of holistic solutions; Apply practical applicable code examples; Share knowledge of smarter sound control and fire protection assemblies.

**Track/Seminar: T3/S1    Theme: Structural/Engineering/Seismic/Fire**

**Bio: Robert (Bob) Marshall:** Bob has 40+ years of experience as a building specialist. He is co-author of LEED Canada's Durable Building credit with Dr. Ray Cole. He is appointed as an expert by SCC for ISO standards on the built environment. Bob was retained by BC on the \$1.5B Leaky Condominium Class Action that was dismissed. His passion is to facilitate Code Solutions towards Zero Energy Buildings.

## **8/ Design Options for Three- and Four-Storey Wood School Buildings in British Columbia**

*Nick Bevilacqua, Associate Principal, Fast + Epp, Vancouver, BC*

*Ray Wolfe, AIBC, MRAIC, Partner, Thinkspace Architecture Planning Interior Design, Surrey, BC*

**Description:** There are currently a number of planned new school projects throughout British Columbia that require either three - or four-storey buildings, and this demand is increasing as land values continue to rise. Though timber construction offers a viable option for these buildings, code constraints have limited timber schools to a maximum of two storeys while also imposing overall floor area limitations. Consequently, the development of viable structural options for larger timber school buildings has lagged. This session will explore the range of possible timber construction approaches for school buildings up to four storeys in height within a seismic region.

**Learning Outcomes:** 21st century school planning principles and their impact on timber building construction; Timber vertical load-bearing systems with a focus on the technical considerations and architectural implications related to school buildings; Timber lateral force-resisting systems with a focus on the technical considerations and architectural implications related to school buildings; Comparison of a few possible design concepts for four-storey timber school buildings.

**Track/Seminar: T3/S2 & T3/S4    Theme: Structural/Engineering/Seismic/Fire**

**Bio: Nick Bevilacqua:** With 15 years of industry experience, Nick has a broad experience base that enables him to be fluent in all building types and primary structural materials. Nick has considerable experience in the education sector, and is currently working on a number of schools throughout the province that feature various configurations and degrees of timber construction.

**Bio: Ray Wolfe:** Ray is an architect and partner at Thinkspace Architecture Planning and Interior Design. He is an award-winning architect with a focus on institutional and specifically education projects. As a practicing architect, Ray has been involved in advancing the knowledge of topics such as modular construction, school area standards and a variety of studies involving the use of wood in schools with the Ministry of Education, FII and Wood *WORKS!*. Ray believes passive sustainable strategies and the use of wood play an important role in the next generation of education buildings in Canada.

## **9/ Mid-rise Engineering Considerations for Engineered Wood Products**

*Jeff Olson, P.E., P.Eng., Boise Cascade EWP, White City, OR*

**Description:** While many designers are familiar with engineered wood products such as I-joists and structural composite lumber, it is important to understand the structural requirements associated with

each in order to achieve proper performance—especially in mid-rise construction. With an emphasis on products used in commercial and multi-family buildings, this presentation will cover engineered wood product acceptance, testing requirements, lateral design, and proper detailing.

**Learning Outcomes:** Testing requirements and acceptance of wood I-joists and structural composite Lumber (SCL) products; Dimension stability in regards to moisture content changes and the differences between solid wood products; Lateral design, including information on I-joist diaphragm capacities and the detailing of rim board connections; Fire resistance design, including wood I-joist assembly requirements and SCL char rate equivalency to solid wood.

**Track/Seminar: T3/S3    Theme: Structural/Engineering/Seismic/Fire**

**Bio: Jeff Olson:** Currently the Technical Services Manager for Boise Cascade, Engineered Wood Products division. Licensed as a Professional Engineer in several western Canadian provinces and US states.

## **10/ Developments in the Mass Timber Revolution**

*Nicholas Sills, GM - Customer and Technical Services, Structurlam Mass Timber Corporation, Penticton, BC*

**Description:** This presentation will cover current developments in the mass timber revolution. It will review recent projects completed, issues surrounding their development, as well as project supply deployment methods and what the upcoming building codes hold for mass timber throughout North America. The session will begin with a brief intro to 12 storey projects and cost-effective manners for design of systems.

**Learning Outcomes:** Design Solutions; Cost Effective Projects; Tall Wood Structure Basics; Building Codes & Fire.

**Track/Seminar: T4/S1    Theme: Codes, Standards and Building Performance**

**Bio: Nicholas Sills:** Nicholas has a Bachelor of Science in Wood Products Processing from UBC, and a Masters of Science, specializing in Timber Engineering from Bern University in Switzerland, with an additional 10 years' experience in timber framing and mass timber construction.

## **11/ Encapsulated Mass Timber: A new construction type for the 2020 NBC**

*Marc Alam, Manager, Codes & Standards - Fire, Canadian Wood Council, Ottawa, ON*

**Description:** This seminar will discuss the fire-related national building and fire code changes related to a new construction type called Encapsulated Mass Timber Construction (EMTC) to be used for wood buildings up to twelve storeys. As well, it will provide an overview of ongoing fire research at the National Research Council of Canada into various performance aspects of mass timber construction and tall wood buildings.

**Learning Outcomes:** Proposed new construction type EMTC; Proposed new ULC encapsulation rating test; Proposed additions for EMTC in the 2020 NBC and NFC; Mass timber fire testing.

**Track/Seminar: T4/S3 & T3/S5    Theme: Codes, Standards and Building Performance and Structural/Engineering/Seismic/Fire**

**Bio: Marc Alam:** Marc Alam is a member of the Canadian Wood Council. As Manager, Codes and Standards in the fire division, Marc assists through participation in CWC's building code and standards fire-related initiatives and the development of CWC's fire design tools, as well as code-related fire research projects.

## **12/ The Truth about Sound-insulation for Wood-frame Buildings**

*André Rioux, Co-owner/Business Development, AcoustiTECH a division of FINITEC GROUP, St. Lambert-de-Lauzon, QC*

**Description:** This presentation defines building code requirements and outlines acoustic principles. In addition to discussing efficient means of sound-insulation using multiple floor/ceiling assemblies for light wood-frame and mass timber buildings, you will be able to hear the difference between different acoustic ratings. This presentation will benefit any building and design professionals such as architects, designers, acoustic engineers, builders/developers and general contractors.

**Learning Outcomes:** Basic acoustic principles and definitions; Impact and airborne sounds in wood-frame buildings; Means of soundproofing wood-frame buildings; The do's and don'ts for acoustics in buildings (through case studies and examples).

**Track/Seminar: T4/S4    Theme: Codes, Standards and Building Performance**

**Bio: André Rioux:** Since the creation of AcoustiTECH in 2000, Andre has been travelling all over Canada and the US to collaborate with architects, developers, engineers and contractors. Andre's experience, combined with the expertise of his team, has resulted in AcoustiTECH being a reference in the field of acoustics for new and existing buildings. After more than 18 years, Andre continues to enjoy meeting with professionals and contribute to the success of their projects.

## **13/ Will the Building Code Change how we Build?**

*Dr. Guido Wimmers, Associate Professor, Chair of the Master of Engineering Program, University of Northern British Columbia, Prince George, BC*

**Description:** This session is focussing on the changes triggered by the BCBC and how this will influence the processes of how we build. The height and the energy efficiency of buildings is asking for new methods of wood construction and we will explore possible solutions.

**Learning Outcomes:** Analyze limitations of current practice; Discuss optimization potential for wood construction; Differentiate advantages of on-site vs. off-site construction.

**Track/Seminar: T4/S2 & T4/S5    Theme: Codes, Standards and Building Performance**

**Bio: Dr. Guido Wimmers:** Guido Wimmers joined the University of Northern British Columbia in 2014 as Chair for the Integrated Wood Design Program and implemented the interdisciplinary approach for engineering and design of modern wood structures, combining structural engineering with building

physics and modern fabrication. Guido received his Doctoral degree in Engineering Sciences and a Master degree in Architectural Engineering from the Leopold Franzens University, Innsbruck, Austria. Before coming to UNBC, he worked in multi-disciplinary teams in Austria, Germany and Italy in research and engineering as well as architectural offices. He played a key role in the implementation of the International Passive House Standard in BC and across Canada. Guido is an internationally renowned expert in the field of energy-efficient buildings, envelope design and building physics and an active member of several committees such as the BC Step Code committee. Having many years of industry experience, his passion is the fostering of collaboration between industry and academia.

## **Luncheon Keynote: Mjøstårnet – The world tallest timber building**

*Øystein Elgsaas, Architect, Partner, Voll Arkitekter, Trondheim, Norway*

**Description:** The construction industry is a major contributor to the greenhouse gas emissions. With the recent years' focus on climatic change, we all have a responsibility to choose environmentally friendly materials whenever possible. Wood is a natural renewable raw material and has a small negative impact on the environment, provided it comes from certified and sustainably managed forests, therefore the use of wood as a building material will contribute to reduce the CO2 content in the atmosphere. Mjøstårnet is to be a symbol of this "green shift", and a proof that tall buildings can be built using local resources, local suppliers and sustainable wooden materials. With its distinct architectural appearance, Mjøstårnet is a signal building, both in the way it stands out with its 85,4 meters in the picturesque landscape of Brumunddal, but also in its revolutionary use of timber in the construction and cladding.

**Learning Outcomes:** Learn how the Mjøstårnet project came to be and why it is such an important building; Learn more about the design process behind creating the world tallest timber building; Understand how fire safety and wood works together in this project; Gain an understanding of the technical and ground-breaking construction system that made the world record a possibility.

**Track/Seminar: LUNCHEON KEYNOTE    Theme: Inspirational**

**Bio: Øystein Elgsaas:** Øystein Elgsaas graduated with a master i arkitektur, NTNU, Norway in 2010. He has since been employed at Voll Arkitekter and in 2015 was made Partner. He has been instrumental in several high profile projects including: Himmel og Hav 2015-2017, Ringve Park 2014-2016, Mjøstårnet 2017-2019 and most recently, Narvik secondary School 2019.