2019 HALF-DAY WORKSHOP

BUILDING SMART with High Performance Building Design

BC HOUSING RESEARCH CENTRE

Presented by the British Columbia Building Envelope Council (BCBEC) and BC Housing.

Tuesday, February 26, 2019

8:00 am to 12:00 pm
Registration and Breakfast start at 7:00 am

The Italian Cultural Centre
3075 Slocan Street, Vancouver, B.C.

This workshop will focus on innovation and building design considerations required for single and multi-unit buildings. It will explore concepts and design rules of thumb to achieve higher standards for livability, high-performance sustainability with carbon neutrality, and durability of assemblies. Industry leaders will discuss a variety of topics, including: wall, roof and attic performance, prefab assemblies, taller mass timber buildings, lighting and thermal comfort.

Register at BCBEC.com

This event is eligible for professional learning credits.
This event includes a trade show portion. Sponsorship opportunities are available.

BRITISH COLUMBIA

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7:00 am	Registration, Tradeshow & Buffet Breakfast
8:00 am	Opening Remarks and Welcome – BCBEC
8:15 - 8:35 am	**SESSION 1**
	Building with Wood – Designing with Durability **Peter Moonen** | Wood WORKS! BC
8:35 - 9:15 am	**SESSION 2**
	Platforms-for-Life | Urban Housing Design Systems **Oliver Lang** | Intelligent City and LWPAC
9:15 - 9:40 am	**SESSION 3**
	Bird Collisions with Glass: Conservation Opportunities for the Building Sector **Krista de Groot, David Bruce** | Canadian Wildlife Service
9:40 - 10:10 am	Tradeshow and Coffee Break
10:10 - 11:00 am	**SESSION 4**
	MURB Design Guide for Enhanced Performance and Liveability **Terri Peters** | Ryerson University
11:00 - 11:50 am	**SESSION 5**
	R30+ Effective Roofs in Residential Construction in B.C. **Lorne Ricketts** | RDH Building Science Inc.
11:50 - 12:00 pm	Closing Remarks – BCBEC

PROGRAM + BIOS

1 Building with Wood — Designing for Durability

Designing with wood adds a different dimension to durability, as wood is used as a structural and architectural medium, and in both interior and exterior applications. As such, designers and builders must have an understanding of the factors likely to impact wood in use and consider treatment and design solutions. This presentation provides specifiers with an overview of the key weathering and wear factors affecting wood, how wood is impacted, and potential design considerations to reduce risk of aesthetic and/or structural failure. Examples of projects will be reviewed with the goal to evaluate the level of durability achieved in practice — bad, good, best — and examine ways in which issues could have been avoided.

Peter Moonen

Peter Moonen is a Technical Manager for Wood WORKS! BC and focuses on local government, educational and institutional issues and projects. He has been working in the sector for more than 30 years. His work supports industry associations, export marketing groups and provincial and federal government departments including Canada's Corps of Trade Commissioner. Peter regularly presents on achieving greater sustainability, durability and the appropriate use of wood in Asia, Europe and throughout North America.

2 Platforms-for-Life | Urban Housing Design Systems

This presentation will focus on required innovation for the vertical integration of design engineered mass-timber based building systems through a start-to-end parametric software and CNC and robotically assisted off-site prefabrication process. The session will exemplify this through current projects including Corvette Landing in Esquimalt, a 12 storey mass-timber Passive House market condominium project, that has recently received approvals for rezoning, development permit and go ahead from a National Expert Review Panel and the Building Safety Standard Branch for its use of the Platforms-for-Life mass-timber based building system. The session will include an introduction to the approach, building design, systems technologies, platform design, mass-customization, regulatory issues, lessons learned, and how this technology is scalable and adaptable.

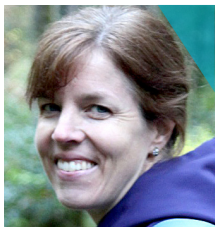
Oliver Lang

Oliver Lang is a German Canadian architect, fabricator, developer, and entrepreneur. He is a graduate of Columbia University GSAPP with a MSc. Advanced Architectural Design and graduated from the University of Technology Berlin with a Diplom-Ingenieur, and with studies at the ETSAB Barcelona. He is the founder and CEO of Intelligent City and the founder and principal of LWPAC Lang Wilson Practice in Architecture Culture. Both companies collaborate to provide fully integrated design to fabrication housing product and systems solutions and are based in Vancouver, BC.

PROGRAM + BIOS

3 Bird Collisions with Glass: Conservation Opportunities for the Building Sector

Over one billion birds die from colliding with glass every year in Canada and the U.S., making glass one of the top sources of direct anthropogenic mortality for birds. We will explore current incentives for adopting bird-friendly building practices including municipal bird-friendly guidelines and standards, green building certification, and legal issues surrounding accidental deaths of birds at buildings. This talk will explain why clear and reflective glass is so lethal to birds, outline architectural guidelines for reducing bird window collisions for new construction, and discuss options for retrofitting existing structures to address this widespread conservation issue.



Krista De Groot

Krista De Groot is a Vancouver-based biologist with the Canadian Wildlife Service, Environment and Climate Change Canada. Krista's recent research interests include threats to birds due to urban development and agriculture; including building, landscape, and seasonal influences on bird-window collisions, testing of bird-window collision deterrent products and use and alternatives to rodenticides to control agricultural pests. Krista provides technical advice to the City of Vancouver, Corporation of Delta, Vancouver Park Board, University of British Columbia and others on bird conservation-related issues and has coordinated international bird conservation partnerships including Partners in Flight, the Pacific Birds Joint Venture and the Canadian Intermountain Joint Venture.

David Bruce

David Bruce is a volunteer at the Reifel Bird Sanctuary on Westham Island, Delta, BC. As part of his service, he has assisted biologists from the Canadian Wildlife Service in their research. He is a retired professional engineer with two degrees in civil engineering from Queen's University. During his career, he has been in senior management positions of manufacturing industries in the building supply sector. He was in the residential window and door manufacturing industry and has been president of the WDMA-BC. He lives on a floating home on the Fraser River estuary, an important migratory bird habitat in western North America. Being close to Westham Island and living on water has sparked his interest in birding.

PROGRAM + BIOS

4 MURB Design Guide for Enhanced Performance and Liveability

This presentation will present findings from the MURB Design Guide, a publication aimed at professionals interested in understanding how to deliver high performance buildings and accessing the latest downloadable building science resources as technical reference materials. Main concepts and design rules of thumb will be illustrated for a number of performative building aspects including passive and active systems, daylight, thermal comfort and ventilation. The Guide is now in its second edition and was funded by BC Housing's Research and Education Grants Program (Kesik and O'Brien 2016, Kesik and Peters 2017).

Terri Peters

Terri Peters is an architect and Assistant Professor at Ryerson University whose interdisciplinary work investigates the architectural and social dimensions of sustainable housing. She completed her PhD in Architecture in 2015 and before joining Ryerson, she held a SSHRC Postdoctoral Fellowship at University of Toronto where she focused on design for health and wellbeing, and the potential of environmental simulation to improve daylight design in residential buildings. Her new book *Computing the Environment: Digital Design Tools for Simulation and Visualisation of Sustainable Architecture* was published by in 2018.

5 R30+ Effective Roofs in Residential Construction in B.C.

An increased level of thermal performance is becoming necessary as part of energy performance improvements required by the BC Energy Step Code and the Vancouver Building Bylaw. Each building and construction project is different and presents unique challenges and considerations. This presentation will provide an overview of potentially applicable assemblies to meet the bylaw performance targets for compact (non-attic) roofs on low-rise wood-frame detached and semi-detached homes and townhouses in British Columbia.

Lorne Ricketts

Lorne Ricketts is a Principal and Building Science Specialist with RDH Building Science Inc. and specializes in new construction, investigation, research, and education projects. Recently, Lorne led the development of the Illustrated Guide to R30+ Effective Vaulted & Flat Roofs in Residential Construction.

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