

ADVANCED PREFABRICATION ADDRESSING EFFICIENCY, PERFORMANCE AND AFFORDABILITY WORKSHOP



Date: Monday, March 6, 2023 - Vancouver
Location: Fairmont Waterfront
900 Canada Pl, Vancouver, BC

Date: Wednesday, March 8, 2023 - Victoria
Location: Delta Hotels by Marriott Victoria Ocean Pointe Resort
100 Harbour Rd, Victoria, BC



Canadian Wood Council
Conseil canadien du bois



ADVANCED PREFABRICATION WORKSHOP

ADDRESSING EFFICIENCY, PERFORMANCE AND AFFORDABILITY

Overview

The future of construction is moving toward advanced prefabrication systems. This fundamental change is driven by skilled labour shortages, productivity limits, higher building performance expectations and regulations.

Opportunities to use new materials and construction systems, and advanced technology which integrates the design process directly with the manufacturing facilities are enabling buildings to be built smarter, faster, better performing and, more cost-effectively.

This workshop will bring together an advanced manufacturer from Europe, a technical leader from the United States, and some innovative local manufacturers. This workshop was developed for contractors and developers. It will highlight the advances in prefabrication methods, provide guidance on current trends, correct misconceptions and identify options when considering how to design and build your next project.

About Us

Founded in 1959, the Canadian Wood Council (CWC) is Canada's unifying voice for the wood products industry. As a national federation of associations, our 14 members represent hundreds of manufacturers across the country.

For over 60 years, we have supported our members by accelerating market demand for wood products and championed responsible leadership through excellence in codes, standards, and regulations. We also deliver technical knowledge for the construction sector through our market-leading Wood *WORKS!* initiative.

Wood *WORKS!* is a national initiative by the CWC advocating for the adoption of wood in the building and construction sector. With the goal of transforming markets and promoting holistic built environments, this industry-led initiative enables innovative systems integration, strategic market outreach, and supports the sector through training, best practices, research, networking and direct technical support.

Advanced Prefabrication Workshop

Addressing Efficiency, Performance and Affordability

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Time: 8:00 am - 3:45 pm

Agenda

8 am - Welcome

- Registration, Continental breakfast, Welcome to attendees

8:30 am - Offsite Construction - The Profit is in the Process

- Gerry (Gerald) McCaughey, CEO, Offsite Tek LLC, El Segundo, CA, USA

9:35 am - Building Offsite Sustainable Systems (BOSS)

- Chris Hill, CPA CMA, President, BCollective Homes Inc., North Vancouver, BC, Canada

10:35 am - Break

11 am - Examples and Advantages of Consistent Prefabrication

- David Renggli, Deputy CEO, Renggli AG, Switzerland

12 pm - Lunch Break

1 pm - Applying Virtual Construction to Create Successful Pre-Fab

- Joe Geluch, President, Naikoon Contracting Ltd., North Vancouver, BC, Canada

2 pm - Break

2:30 pm - Offsite Construction from Material to Construction

- Sadegh Mazloomi, Research Scientist, Building Systems
- Neal Holcroft - Research Scientist, Engineered Wood Products and Processes
FPInnovations, Vancouver, BC

3:30 pm - Closing

- Event wrap-up details for attendees



ADVANCED PREFABRICATION WORKSHOP 2023 SPEAKER BIOS



AM

March 6 and 8, 2023



OFFSITE CONSTRUCTION - THE PROFIT IS IN THE PROCESS

GERRY MCCAUGHEY

CEO, Offsite Tek LLC, El Segundo, CA, USA

Gerry is an internationally respected business leader who has dedicated his career to helping builders on four continents maximize efficiency and boost profitability with modern methods of construction. He cofounded and successfully grew two offsite construction start-ups into the best-in-class companies – Century Homes in Europe and Entekra in the United States.



BUILDING OFFSITE SUSTAINABLE SYSTEMS (BOSS)

CHRIS HILL, CPA, CMA

President, BCollective Homes Inc., North Vancouver, BC, Canada

Chris brings 15+ years practical building experience and is an active member of the high-performance building community in BC. Professional accomplishments include: Master Residential Builder – CHBA; Bachelor of Arts, Economics – UVIC; Certified Passive House Tradesperson; Passive House Canada Board Member; SaferHomesBC Board Member; and a BC Housing registered builder. Developer of BOSS.



EXAMPLES AND ADVANTAGES OF CONSISTENT PREFABRICATION

DAVID RENGGLI

Deputy CEO, Renggli AG, Switzerland

David Renggli studied business administration and corporate management and subsequently managed real estate transactions in the institutional environment for several years. From 2018, he built up the international activities of the Renggli Group. Since October 2022 he acts as Deputy CEO. The family-owned business, founded in 1923, develops and builds multi-storey, industrially manufactured, high-quality and climate-friendly buildings in timber construction.

ADVANCED PREFABRICATION WORKSHOP 2023 SPEAKER BIOS



PM

March 6 and 8, 2023



APPLYING VIRTUAL CONSTRUCTION TO CREATE SUCCESSFUL PRE-FAB IN ANY ENVIRONMENT AND LOCATION

JOE GELUCH

President, Naikoon Contracting Ltd., Vancouver, BC, Canada

Joe started his career at a young age as a labourer on construction sites and over the past 21 years moved through the ranks of apprentice, Red seal Carpenter, Site Supervisor, Gold Seal Project Manager and now President and CEO of Naikoon. Over the past 13 years as President of Naikoon, he has gained expertise in many different aspects of both commercial and residential construction and led his teams through almost 100 projects and to over 40 industry awards, locally, provincially and nationally. He is a passionate and experienced expert in Passive House, Mass Timber, off-site and Net Zero construction. Industry impact includes being a founding member of Canada's Net Zero Energy Housing Council, CHBABC Executive Board of Directors, Technical Research Committee and chair of BCIT Carpentry Advisory Committee.



OFFSITE CONSTRUCTION FROM MATERIAL TO CONSTRUCTION

NEAL HOLCROFT

*Research Scientist, Engineered Wood Products and Processes,
FPIInnovations, Vancouver, BC*

Neal is a Research Scientist at FPIInnovations specializing in the hygrothermal performance of building envelope systems. He is currently involved in testing airtightness of prefabricated wood-based wall assemblies, monitoring of mass timber buildings to assess durability and energy performance, and validating hygrothermal models of wood-based assemblies.



SADEGH MAZLOOMI

Research Scientist, Building Systems, FPIInnovations, Vancouver, BC

Sadegh is a Research Scientist at FPIInnovations working on different timber engineering topics including building vibration and acoustics as well as non-destructive testing of mass timber structures. He is also experienced in the development of sampling and testing plans for lumber and engineered wood products.

ADVANCED PREFABRICATION WORKSHOP 2023 PRESENTATION ABSTRACTS



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March 6 and 8, 2023



8:30 AM OFFSITE CONSTRUCTION - THE PROFIT IS IN THE PROCESS

GERRY MCCAUGHEY

CEO, Offsite Tek LLC, El Segundo, CA, USA

This presentation will discuss current challenges facing the construction industry, with a focus on offsite manufacturing becoming a part of the solution. Some of these challenges include labour shortages, scheduling issues and increasing building costs, all of which can be effectively addressed with integrated building systems that can also increase profits for builders.

9:35 AM BUILDING OFFSITE SUSTAINABLE SYSTEMS (BOSS)

CHRIS HILL, CPA, CMA

President, BCollective Homes Inc., North Vancouver, BC, Canada

Offsite construction, also known as prefabricated or modular, has been gaining popularity in BC as a way to improve efficiency and reduce costs. One of the most popular offsite construction methods is the use of prefabricated panels, which can be assembled on site to construct various building types. We will explore the current state of offsite construction in BC, focusing on the use of prefabricated panels and how they can be used to achieve Passive House standard and reduce embodied carbon emissions. We will also examine the potential benefits and challenges of offsite, with an open sourced system called BOSS.

Photographer credit: Julie Masson, project: Ecoquartier Les Vergers

ADVANCED PREFABRICATION WORKSHOP 2023 PRESENTATION ABSTRACTS



AM

March 6 and 8, 2023

11AM EXAMPLES AND ADVANTAGES OF CONSISTENT PREFABRICATION

DAVID RENGGLI

Deputy CEO, Renggli AG, Switzerland

The wood construction sector in Europe is dominated by prefabrication companies. Especially in the single and multi-family residential sectors and, increasingly, in the mixed use and smaller commercial sectors. As in North America, the European construction sector faces labour shortages, higher building performance expectations, and affordability issues. Prefabrication is a natural solution.

Productivity gains of prefabrication must be balanced to meet the expectations of building owners, designers and occupants who also want design flexibility and quality. Renggli AG is a 5th-generation Swiss company that plans, develops and builds sustainable construction projects in modern architecture using timber.

PM

March 6 and 8, 2023

1 PM APPLYING VIRTUAL CONSTRUCTION TO CREATE SUCCESSFUL PRE-FAB IN ANY ENVIRONMENT AND LOCATION

JOE GELUCH

President, Naikoon Contracting Ltd., Vancouver, BC, Canada

Here we will highlight real world case studies of several wood projects which utilized Virtual Construction as a methodology to manage and successfully execute pre-fabrication and off-site construction in any location and environment.

ADVANCED PREFABRICATION WORKSHOP 2023 PRESENTATION ABSTRACTS



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March 6 and 8, 2023

2:30 PM OFFSITE CONSTRUCTION FROM MATERIAL TO CONSTRUCTION

NEAL HOLCROFT

*Research Scientist, Engineered Wood Products and Processes,
FPInnovations, Vancouver, BC*

SADEGH MAZLOOMI

Research Scientist, Building Systems, FPInnovations, Vancouver, BC

Neal and Sadegh will present research aimed at positioning wood as the preferred material as construction shifts offsite and into factories. They will explain different specifications of wood products that are more suitable for automated prefabrication process. Then, they will present the work on optimizing panelized construction for energy efficiency and durability. They will examine the results of airtightness testing of different strategies to reduce air flow through the joints between wood-frame panels to inform design and specification of materials. Finally, they will explore research on monitoring moisture transfer in wood-based building envelopes.

NATIONAL FUNDER



Natural Resources
Canada

Ressources naturelles
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INDUSTRY FUNDERS



BC COUNCIL
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Interior Lumber
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PROVINCIAL PARTNERS



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TIMBER INSPIRES



StructureCraft



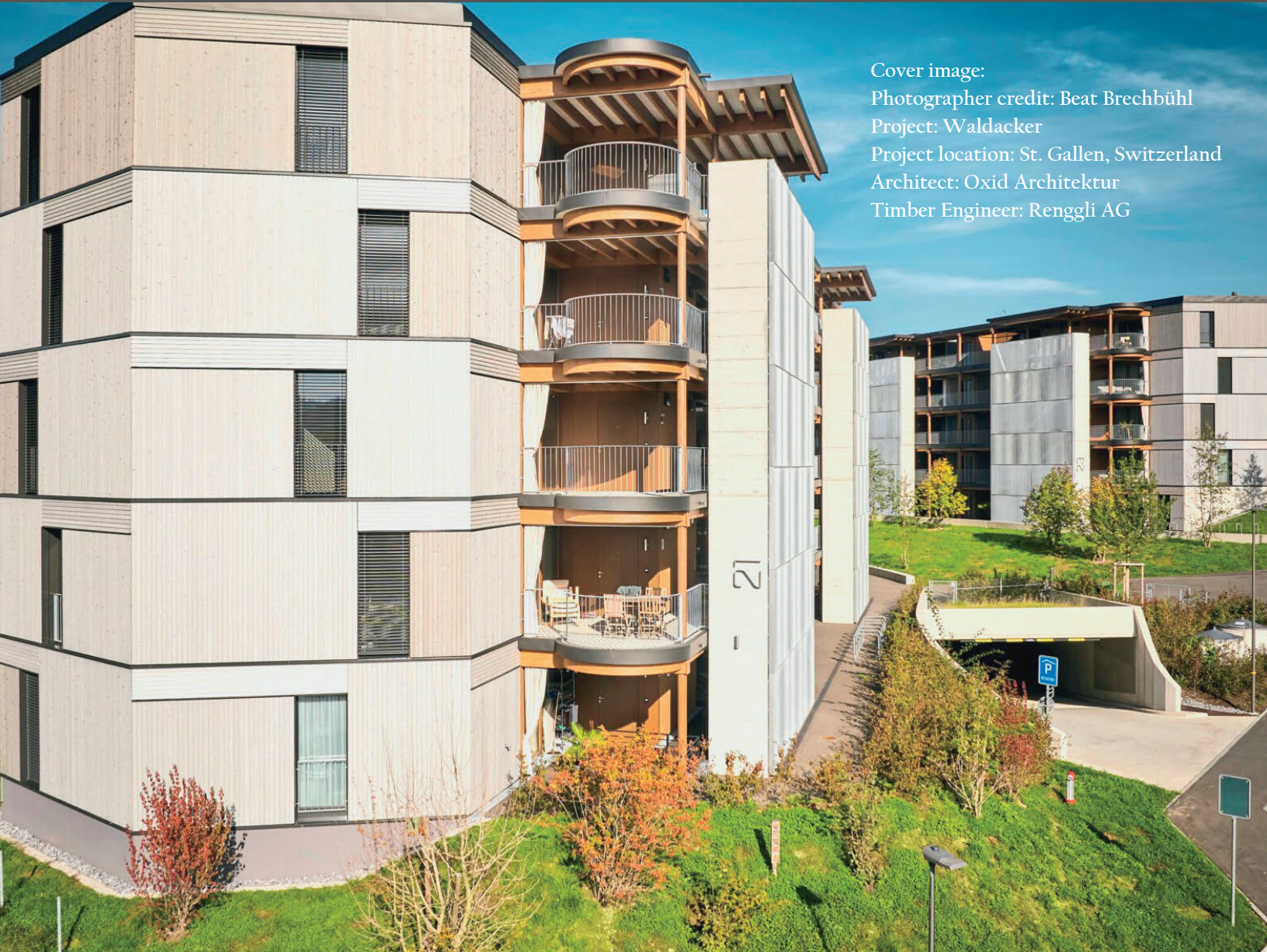
MASS TIMBER CORPORATION
Intelligence In Wood



Structural Wood Systems



Weyerhaeuser



Cover image:
Photographer credit: Beat Brechbühl
Project: Waldacker
Project location: St. Gallen, Switzerland
Architect: Oxid Architektur
Timber Engineer: Renggli AG



ASK CWC

We provide support across Canada for your questions on using structural wood in your designs.

Connect with us at helpdesk@cw.ca or (613) 747-5544 for information on your local WoodWORKS! chapter and representative.