

The 6th International Conference on Engineering Mechanics and Materials
CSCE 2017, Vancouver

Panel Discussions: Tall wood buildings – Are they safe and efficient?

Where: The Westin Bayshore, Vancouver, Room No: **Cyprus 2**

When: June 2nd 2017, Friday, 4 PM to 5:30 PM

Moderator:

Shahria Alam, PhD, PEng



Shahria Alam is an Associate Professor in the School of Engineering at the University of British Columbia, Okanagan campus, Kelowna, Canada. Dr. Alam's research interests include performance based seismic design of steel, concrete and timber structures, repair and retrofitting of structures, seismic applications of Shape Memory Alloys, large-scale testing of frames, walls, braced frames, nonlinear finite element analysis, and response of structures to extreme loading. Dr. Alam is the Vice-Chair of the Engineering Mechanics and Materials Division of CSCE. He is the lead researcher in device and materials testing and impact assessment for Survive Thrive in Applied Research STAR-UBC facility. He is also the director of Smart Materials and Structures Lab and the Structural Health Monitoring and Non-Destructive Testing Lab at UBCO.

Panelists:

Thomas Tannert, PhD, PEng

Presentation Title: **Will tall wood buildings be hybrid?**



Bio: Dr. Thomas Tannert joined the University of Northern British Columbia in 2016 as BC Leadership Chair in Tall and Hybrid Wood Construction. Thomas received his Ph.D. from UBC, a Master's degree in Wood Science and Technology from the University of Bio-Bio in Chile, and a Civil Engineering degree from the Bauhaus-University Weimar in Germany. Before going to UNBC, he worked in multi-disciplinary teams in Germany, Chile, and Switzerland and as a professor at UBC.

Abstract: Wood is a renewable building material and countless examples around the world demonstrate that it can be successfully used as structural material if proper design, construction and maintenance procedures are applied. But using wood also poses significant challenges: it is highly variable in its properties, highly anisotropic, hygroscopic, viscoelastic, biodegradable and combustible. These characteristics have led to severe height limitations when using wood and only recent developments have led to a global revival in the interest to use wood for tall structures. In this presentation, the benefits of combining wood with other structural materials to address these challenges will be discussed.

Marjan Popovski, PhD, PEng

Presentation Title: **Wood Renaissance: Taking the Renewable Buildings to New Heights**



Bio: Marjan is Principal Scientist and Quality Manager at the Advanced Building Systems Department of FPInnovations and an Adjunct Professor at the Department of Wood Science at UBC. He is one of the leading researchers in the area of seismic performance of wood structures. He is an author of over 160 scientific and technical publications, including textbooks chapters, the Canadian Technical Guide for the Design of Tall Wood Buildings, the Canadian and the US CLT Handbooks, and the Canadian Technical Guide for Mid-rise Wood Frame Construction. Marjan is active in the national and international codes and standards arena. He is a member of Technical Committee of the Canadian Standard for Engineering Design in Wood and has served on the NBCC Standing Committee on Earthquake Design.

Abstract: Wood is one of the longest standing building materials in existence, with homes been built over 10,000 years ago. Until the turn of the 20th century, wood was used as structural material in all types of residential and non-residential construction, including the early skyscrapers. For various reasons, the rich history of wood use in tall and large buildings was halted during the second decade of the 20th century and lasted until the late 1990s. Since then we are witnessing a renaissance of wood use in various types of construction, including tall buildings. The presentation will touch on above mentioned aspects and will inform the audience on the latest tall wood building projects in North America and around the world.

Nicholas Sills, MSc

Presentation Title: **Wood Renaissance: Taking the Renewable Buildings to New Heights**



Bio: Nicholas Sills obtained his Bachelors of Science in Wood Products Processing from UBC in 2010 and further explored his love of European timber-based modular construction techniques by completing his Masters of Science in Timber Engineering at the Bern University of Applied Science in Biel, Switzerland in 2014. Nicholas enjoys working with architects, engineers and project teams to create one-of-a-kind projects using Mass Timber construction systems and multi-criteria optimization analysis to provide solutions for the modern construction industry. He is the detailing department supervisor for Structurlam Products.

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Lucas Epp, Struct Eng

Presentation Title: **Tall Wood buildings – design and construction**



Bio: Lucas Epp is a structural engineer with ten years of experience working in Canada, the UK, and New Zealand. While in London he designed a range of projects and sculptures with world class architects, and developed an expertise in complex geometry and challenging structures. Lucas leads the engineering department at StructureCraft where he has been involved in large-scale timber structures including the 2010 Vancouver Olympics Speed Skating Oval, and more recently as lead engineer for the T3 Minneapolis office building

Abstract: This presentation will have a brief look at Framework, the tallest all-wood building in North America at 12 stories where post-tensioned CLT rocking wall core has also been used.