

Mehdi Zahed, Ph.D., OAA, M. Arch – Professor of Architectural Technology, Algonquin College



Mehdi Zahed is a licensed architect (OAA) and Professor at Algonquin College, bringing over two decades of academic and industry experience across Canada. In his recent research with the University of Calgary, he completed a PhD focused on integrating BIM with Life Cycle Assessment (LCA) to advance sustainability and embodied GHG analysis in the building sector and architectural practice. His work addresses the critical gap between construction documentation and environmental performance by improving the readiness of BIM models for LCA. Mehdi serves as the faculty representative on the College's Board of Governors, is a member of BECOR's Board of Directors, and is actively engaged with the Carbon Leadership Forum (CLF) Ottawa Chapter.

Session #2: Thermal Bridging Impacts on Building Performance – Real Examples

Thermal bridging in the building envelope occurs when conductive materials such as steel and concrete create pathways that allow heat to bypass insulation, reducing overall energy efficiency and increasing the risk of condensation and durability issues. In Canada's cold climate, minimizing thermal bridging is especially important, and recent updates to the National Energy Code of Canada for Buildings (NECB) have significantly strengthened thermal performance requirements for new construction. These codes now mandate lower maximum thermal transmittance (U-values) for walls, roofs, and fenestration, introduce more stringent control of air leakage (including optional whole-building airtightness testing), and promote continuous insulation and improved detailing to limit heat loss. Furthermore, the adoption of tiered performance pathways encourages designers to exceed minimum standards and move toward net-zero-energy-ready buildings by 2030, making high-performance envelopes and reduced thermal bridging central considerations in contemporary Canadian building design. This presentation examines thermal bridging calculation methods and provides real project examples of both satisfactory and poor wall, balcony and window junction details and their impact on the overall performance on buildings

Mohammad Azimi – Toro Aluminum – Thermal Simulation Specialist



Mohammad is a Thermal Simulation specialist with Toro Aluminum.

He is a Thermal Analysis Engineer with 4 years of experience in evaluating and optimizing the thermal performance of building enclosures. Specializing in heat transfer simulations and thermal bridging analysis, Mohammad has contributed to a wide range of building design projects, utilizing advanced software such as Siemens NX, SOLIDO, and THERM & WINDOW to deliver high-quality thermal analysis and solutions for a wide variety of applications, such as manufacturer products and systems, new construction, and building retrofit projects.

Mohammad holds a BSc and MEng in mechanical engineering from the University of Toronto. He is a member of Professional Engineers in Ontario (PEO). He also holds a Certified NFRC and AERC Simulator certificate.