Session	**2A - Arctic House: Exploring Net Zero in the North**
Date	Thursday, May 24, 2013
Time	10:30 to 11:30 a.m.
Speakers	David Silburn, M.Arch., BA Environmental Studies, and Ryan Amies, M.Arch.

What does it mean to live sustainably in the North? With two months of darkness, monthly utility bills over $1500, temperatures below -40 degrees Celsius and variable permafrost that results in homes built on space frames, it certainly can be a challenge. SAIT's Green Building Technology (GBT) research group was approached by GBM Construction in Fort Simpson N.W.T. to design a high performance Near Zero or Net Zero home. Through the use of NSERC funds, the GBT team created a design that promotes pride in ownership and a healthy indoor environment while addressing this extreme climate with advanced envelope assemblies and integrated mechanical systems. Northern architecture, high performance energy efficiency, passive solar strategies, advanced wall assemblies, optimization and costing models in addition to mechanical and renewable energy solutions will be discussed.

David Silburn, M.Arch, is an intern architect and Research Associate in Applied Research and Innovation Services. He has developed and managed the GBT research initiative since 2009, and has taught and developed course & program curricula for Energy and Construction programs, non profits and NRCan's Building Canada program. David acts as designer, construction manager and technical consultant for the Discovery series Net Zero homes while working with multiple industry partners to design, fabricate and introduce building integrated renewable technologies and advanced envelope assemblies into the market. Select publications and roles include Principal Designer- ENMAX SolAbode Solar Decathlon 2009. Principal designer Discovery 5 Net Zero home in addition to multiple reports to Federal and Provincial government on Near Zero, Net Zero and Energy Efficiency Component Assemblies. Silburn received the Custom Project of the Year award from the Net Zero Coalition for his work on the Discovery 4 home and a DIRTT Innovation award for the design, development and prototype of a solar thermal evacuated tube balustrade.

Ryan Amies, Principal Investigator and Intern Architect (AAA), provides architectural services and project management for Green Building initiatives including design, research and development, construction and curriculum integration. In addition to his research role, Ryan is responsible for establishing industry partnerships to engage in Green Building Technologies design innovation. Ryan's work experience includes a wide range of conceptual design, prototype development and commercialization services across oilfield and construction industries. He has also owned and operated a design service proprietorship since 2002, providing services across a range of architectural, civil, mechanical, structural, and graphic design projects. Ryan is a SAIT and University of Calgary alumni as a graduate of the Architectural Technology program (2001) and Master of Architecture (2010) respectively. He maintains membership with the Royal Architecture Institute of Canada (RAIC) and Alberta Association of Architecture (AAA) and was instrumental as a designer and team lead in the 2009 Solar Decathlon.

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