

Seminar Series 2016 - 2017

Southern Ontario Centre for Atmospheric Aerosol Research
University of Toronto

MURB Research at Building Energy and Indoor Environment Lab

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High-rise multi-unit residential buildings (MURBs) are an important housing asset in urban regions. In Toronto alone, condominiums and rental apartment comprise more than half of the over one million households in the city with an asset value well over \$100B. MURBs are generally energy intensive compared to other housing types and occupant surveys have indicated serious indoor environmental quality (IEQ) issues including cross-contamination between suites, uncontrolled air leakage from the exterior and chronic over- or under-heating in different parts of the buildings. There is also mounting pressure from municipal, provincial and federal governments to reduce energy use in the building sector to meet ambitious greenhouse gas (GHG) emission targets. However, changes in energy use directly impact the active systems that provide ventilation and space conditioning which, in turn, affect occupant comfort and health. While modeling tools are available to predict this effect, these tools are used for code and standard compliance and typically do not reflect actual energy or IEQ performance. To date, there has been almost no research to quantitatively assess the current quality of the indoor environment in these buildings as well as the impact of energy efficiency measures on IEQ. As the pressure to reduce GHG emissions, and therefore energy use, is often at odds with the increasing demands of occupants for a higher quality indoor environment, an understanding of this relationship is crucial to the long-term sustainability of this housing asset. Studying the relationship between IEQ and energy use is the focus of research activities in the BEIE Lab and this presentation will showcase some of the projects we're currently working on.

Wednesday, March 1, 2017, 2:00 – 3:00 PM

Wallberg Building, 200 College Street, Room 407



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