

Seminar Series 2017 - 2018

Southern Ontario Centre for Atmospheric Aerosol Research
University of Toronto

Understanding Relevant Emissions and Atmospheric Formation Processes for Toxic Air Pollutants

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The environment in cities around the world is degraded by gaseous and particle-phase air pollutants that adversely affect human health. Some pollutants of concern such as benzene and diesel particulate matter are directly emitted from sources and are not very reactive in the atmosphere. More complex problems involve pollutants such as formaldehyde where some fraction of the atmospheric burden results from photochemical reaction processes. In such cases, the relative importance of direct emissions versus *in situ* atmospheric formation is unclear and varies seasonally. Furthermore relevant sources and precursor compounds may be unclear. In this talk, I will describe the use of adjoint methods within atmospheric chemistry and transport models to identify, quantify, and rank sources and processes responsible for air pollution at urban receptors that are heavily affected by air pollution. The adjoint approach is complementary to traditional analytical methods that study the effects of a few key model inputs or parameters on all model outputs.

Wednesday, March 28, 2018 3:00 - 4:00PM

Wallberg Building, 200 College Street, Room 407

