

# Seminar Series 2017 - 2018

Southern Ontario Centre for Atmospheric Aerosol Research  
University of Toronto

## Chemistry and Photochemistry at the Surface of Urban Road Dust

**Prof. Sarah Styler**

*Assistant Professor*

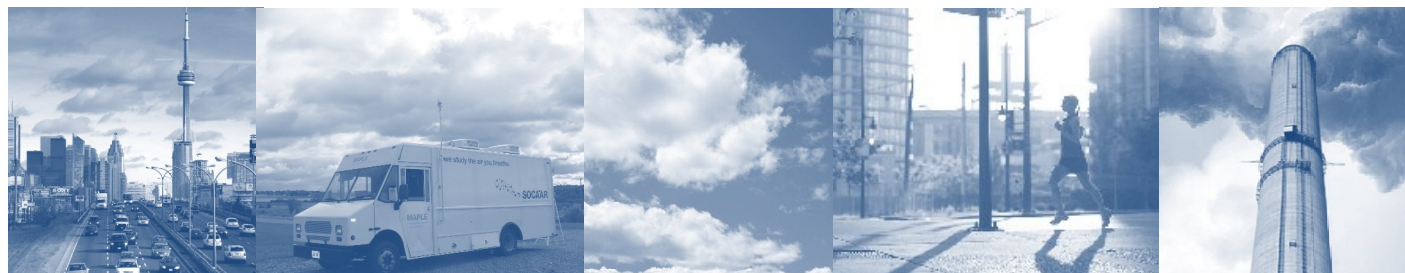
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Road dust is a major source of primary particulate matter in many urban centres. Since road dust contains a variety of toxic species, including heavy metals and polycyclic aromatic hydrocarbons (PAH), studies of this substrate performed to date have primarily focused on its composition and potential health effects. Although laboratory studies have shown that desert dust can act as a photocatalyst, little is currently known regarding chemistry and photochemistry at the road dust surface. Here, we report production of singlet oxygen ( $^1O_2$ ), an important environmental oxidant, by aqueous suspensions of size-fractionated road dust collected in Edmonton, Canada. In addition, we present results from coated-wall flow tube investigations of ozone uptake by winter street sweepings. Together, these results suggest that road dust photochemistry has the potential to influence both the lifetimes of pollutants present at the dust surface and the composition of the surrounding atmosphere.

**Thursday, January 18, 2018 3:00 - 4:00PM**

**Wallberg Building, 200 College Street, Room 215**



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