

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY COLLOQUIUM
UTAH STATE UNIVERSITY

SEPT
30
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*Air Pollution and Oxidative
Potential – Concepts and Methodology*

Poor air quality is a major environmental health risk. It contributes to excess mortality from cardiovascular and respiratory diseases. Health effects of air pollution are mainly associated with inhalation of fine particulate matter (PM_{2.5}), as the small size of these particles allows them to deposit in the deep lung. The underlying biochemical mechanisms are not fully understood; however, increasing evidence suggests that PM-induced oxidative stress causes respiratory inflammation with adverse health outcomes. Oxidative stress related to inhalation of aerosols follows molecular pathways that lead to the formation of reactive oxygen species upon the reaction of PM-bound redox-active constituents with antioxidants in the lung. The ability of PM-bound chemicals to deplete the levels of lung antioxidants is known as oxidative potential (OP) and it has been widely adopted as a metric to characterize one form of aerosol toxicity. OP is often quantified using a variety of acellular chemical assays that target different end-points. This seminar provides an overview of the aerosol properties and chemical pathways that contribute to OP, discusses the methods used to determine OP, and showcases results of a recent field study conducted across Canada.

4-5PM (MDT) | Zoom

Meeting ID: 991 3991 8394

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