

The Tenth Annual Harold I. Schiff
Lecture
Faculty of Pure and Applied Science

Presented by:

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on:

Aerosols and Climate

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York University

Schulich School of Business, Rm. 038

Abstract: Aerosol particles in the atmosphere originate from a variety of sources, e.g., wind-blown dust, seaspray, biomass and fossil fuel combustion, and the atmospheric oxidation of sulfur dioxide and hydrocarbons. Human activity has approximately doubled the atmospheric burden of aerosol particles over the natural background. Atmospheric aerosols influence the Earth's climate in a number of different ways: They scatter and absorb sunlight, they trap infrared radiation, and they modify the properties of clouds. The magnitude and direction (warming or cooling) of the aerosols' climatic effect depends on its chemical and physical properties, such as solubility, light absorption, and size distribution. We estimate that aerosols have a net cooling effect at the present time, significantly offsetting greenhouse warming. Beyond this net cooling at the global scale, there are complex feedbacks between aerosols, climate and hydrology at regional scales, which are just beginning to be understood.

*Organized by the York University Centre for Atmospheric Chemistry
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