

Trent University

Dr. Raymond March Visiting Scientist

Wednesday, November 7, 2018
11:00 a.m. to 11:50 a.m.
Science Complex Room 115

Professor Hind A. Al-Abadleh
Department of Chemistry and Biochemistry
Wilfrid Laurier University

Surface and Bulk Chemistry of Environmentally-Relevant Multicomponent Systems

Most environmental processes occur at the interface between the different phases of matter present in natural systems. In these processes, surfaces, mainly oxides and hydroxides of transition metals, are present under very different ambient conditions. Molecular-level understanding of surface processes at the gas/solid and liquid/solid interfaces demands using simple model systems and a suite of analytical techniques (surface-sensitive and bulk) coupled with computational chemistry and mathematical modeling tools.

This talk will present an overview of research activities in Al-Abadleh's lab at Laurier in the area of environmental physical chemistry. Specifically, results will be shown on the atmospheric chemistry of iron in secondary organic particle formation from aliphatic and aromatic precursors. Also, investigations of the fate of organic and inorganic arsenic compounds in simulated geochemical environments in the absence and presence of organic matter will be presented. The significance of this research will be highlighted in relation to new secondary pathways for metal-driven atmospheric brown carbon formation, aging of mineral dust aerosols, and the cycling of arsenic in water and soil.

Everyone is welcome to attend!