Institut Spatial de McGill

McGill Space Institute

Seminar Series

Christopher Lee

University of Toronto

Dust and water ice in the Martian atmosphere

The Martian climate system is dominated by three major component cycles — Carbon dioxide, particulate mineral dust and water. Each involves the cycling of substances between the surface and atmosphere, with all three cycles coupled through microphysical, thermal, and radiative processes.

I will discuss efforts to capture the effect of the dust and water ice in the Martian atmosphere using General Circulation Models (GCMs) as a proxy for the real atmosphere. I will describe the processes responsible for dust lifting and water ice sublimation from the surface and their interaction within the atmosphere. Finally, I will show simulations of the Martian atmosphere using the MarsWRF GCM that includes models of these processes, and I will discuss the combined influence of aerosols on the thermal and dynamical evolution of the Martian climate system.

22 Nov. 3:30 pm

MSI conference room, 3550 University

Refreshments following the seminar in the MSI lounge

For more information: msi.mcgill.ca/Seminars.htm