

SEMINAR NOTICE

*Department of Physics and Engineering Physics
University of Saskatchewan*

SPEAKER: Gloria L. Manney
MLS Science Team, Northwest Research Associates

TOPIC: *Aura Microwave Limb Sounder (MLS) Observations of Recent Extreme Events in the Stratosphere.*

DATE: Tuesday January 10th

TIME: 3:30-4:30 p.m.

PLACE: *Physics 103*

Abstract:

In the past approximately five years, there have been an exceptional number of extreme events that affect the stratosphere; many of these are linked to tropospheric and surface impacts. The Microwave Limb Sounder (MLS) instrument on NASA's Aura satellite provides a suite of daily near-global measurements of temperature and important atmospheric trace gasses (including ozone, water vapor, carbon monoxide, reservoir and active chlorine species, and several others) that provide a comprehensive picture of the effects of these extreme events on stratospheric composition. In this talk I will present a brief description of the MLS instrument, and an overview of analyses of its observations that illuminate the impact of several extreme events on composition. These extreme events include the rare 2019 Antarctic sudden stratospheric warming, the exceptionally strong Arctic stratospheric polar vortex in 2019–2020, stratospheric impacts of the Australian New Years' fires in 2020, and the stratospheric water vapor injection from the Hunga Tonga-Hunga Ha'apai eruption. Many of the measurements by Aura MLS are unique, not currently planned on future missions, and will no longer be available when the Aura mission is terminated.