

# SEMINAR NOTICE

*Department of Physics and Engineering Physics  
University of Saskatchewan*

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**SPEAKER:** Daniel Zawada, PhD Candidate  
Department of Physics & Engineering Physics

**TOPIC:** *Remote Sensing of the Atmosphere with Limb Scattered Sunlight*

**DATE:** February 28th, 2017

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

**PLACE:** Physics 103

## **ABSTRACT:**

Trace species make up a relatively small fraction of the atmosphere, but can have large physical impacts. For example: the stratospheric ozone layer shields the surface of the Earth from solar UV radiation, and after the eruption of Mount Pinatubo in 1991 the Earth cooled by nearly 0.5°C due to the injection of sulfur dioxide into the stratosphere. Recent satellite based atmospheric remote sensing missions designed to monitor these trace species have exploited the limb scatter technique, where the instrument looks through the edge of the atmosphere towards space and measures sun scattered light. Limb measurements are unique in the sense that they have the potential to simultaneously obtain high vertical resolution and near global coverage. A downside of limb measurements is that it is a complicated procedure to invert the measurements, i.e. to convert the raw scattered light signals to vertical profiles of species in the atmosphere.

This talk will give an overview of various techniques used in atmospheric remote sensing and what these measurements are used for. In particular, I will describe in detail the general procedure of inverting limb scatter measurements. Lastly I will discuss my work on an improved ozone retrieval from the Ozone Mapping and Profiler Suite - Limb Profiler, NASA's next generation limb instrument currently in orbit.

*Coffee and Cookies will be served in the Physics lounge at 3:00 p.m. for those attending the seminar.*