Department of Physics - University of Toronto

Post-Doctoral Positions in Atmospheric Remote Sounding

The Remote Sounding group in the Department of Physics, University of Toronto has a number of vacancies at the post-doctoral level to work on ongoing projects.

1) The Measurements Of Pollution In The Troposphere (MOPITT) experiment to measure carbon monoxide and methane in the lower atmosphere was launched on 18 December 1999 on NASA's Terra satellite. Data have now been collected for five years and the experiment continues.

2) The Canadian Atmospheric Chemistry Experiment (ACE) for the SCISAT-1 satellite was launched in August 2003. The group is involved in both the instruments that comprise ACE: the infrared Fourier Transform Spectrometer (FTS) and the UV/Vis/Nir diode array spectrometer (MAESTRO). Both these instruments probe the atmosphere with solar occultation measurements and focus on middle atmosphere and upper troposphere process chemistry.

3) The MANTRA balloon program is an investigation of the chemical state of the middle atmosphere using large high-altitude balloon launches. Instrumentation is designed to supplement and complement the satellite measurements.

4) The Toronto Atmospheric Observatory (TAO) is a roof-top facility housing ground-based instruments that measure atmospheric composition. The primary instrument is an infrared FTS that is part of the Network for Detection of Stratospheric Change and other international efforts.

5) The Polar Environment Atmospheric Research Laboratory (PEARL) is a new Arctic laboratory that is just being commissioned at Eureka: 80N 86.2W. This laboratory will make a wide variety of measurements of the atmosphere from 0 to 100 km.

6) We have an active program investigating the atmosphere of Mars with the objective of sending instrumentation to Mars to study the atmosphere.

7) We have an active program in laboratory spectroscopy involving both Fourier Transform Spectroscopy and Difference Frequency Spectroscopy. We are currently looking at issues involving the computation of spectra from first principles and the effect of temperature on spectral lineshapes.

The remote sounding group numbers about 30 people and, as can be seen from the above, is active in the areas of fundamental studies, instrument design, construction and test, field deployment and data interpretation. Members of the group are encouraged to

participate in as many activities of the group as possible. More details can be found at our web-site:

http://www.atmosp.physics.utoronto.ca

For these positions the ideal candidate(s) would have a Ph.D. degree in atmospheric science, physics, chemistry or engineering in a relevant area of research. Experience in one or more of satellite instrumentation, data processing, retrieval techniques, field campaigns, atmospheric spectroscopy and experimental techniques would also be desirable. Candidates should be well organized and be capable of working independently and under pressure. He/she will also be a team player with good verbal and written communication skills in order to deal effectively with the various organizations involved in each project.

Applications should be sent to: **Prof. James R. Drummond, Department of Physics, University of Toronto, 60 St. George Street, Toronto, Ontario, CANADA, M5S 1A7, fax: (416)-978-8905 e-mail: james.drummond@utoronto.ca.** Applications should include a full cv, and a statement of interests. Candidates should also arrange to have two letters of reference sent to the above address. Consideration of candidates will begin immediately.

The University of Toronto is committed to employment equity and encourages applications from qualified women and men, members of visible minorities, aboriginal persons, and persons with disabilities.