Western University
Department of Physics and Astronomy

PHYSICS & ASTRONOMY COLLOQUIUM

Date: **Thursday, 24 September 2020**
Time: **1:30 p.m.**
via Zoom: https://westernuniversity.zoom.us/j/98534432889?pwd=VjErR3M5My8zNFNSMXAwTkc2QTcvZz09

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"Weather on other worlds: From studying clouds and winds to seeking life"

ABSTRACT

Weather systems are now known to be ubiquitous on brown dwarfs, and probably also on all extrasolar planets with atmospheres. Brightness monitoring of rotating brown dwarfs and exoplanets has revealed storm- and band-like cloud structures, much like on solar system planets. Spectroscopic monitoring has probed the altitudes and chemistry of the constituent cloud layers. Astronomy is thus rapidly revealing the structure of exoplanetary atmospheres.

The unprecedented observational precision that enabled these developments has also offered an interesting new opportunity: to efficiently seek habitable Earth-like exoplanets around very low-mass stars or brown dwarfs. This is the goal of a new small-satellite telescope mission proposed to the Canadian Space Agency and recently endorsed in the 2020 Long Range Plan for Canadian Astronomy. The small-sat mission, POEP, is led jointly by Bishop's and Western Universities. Any planets discovered by POEP may well offer the first opportunity to discover extrasolar life.

Host: **Prof. W. K. Hocking**