



**Western University**  
**Department of Physics and Astronomy**

## **PHYSICS & ASTRONOMY COLLOQUIUM**

**Date:** **Thursday, 8<sup>th</sup> November 2018**  
**Time:** **1:30 p.m.**  
**Location:** **Physics & Astronomy Seminar Room 100**

### **Dr. Catherine Neish**

Department of Earth Sciences  
Western University

### ***"Titan: Ingredients for Life"***

#### **ABSTRACT**

NASA's Cassini mission has revealed Saturn's larger moon Titan to be a world rich in the "stuff of life." Reactions occurring in its dense nitrogen-methane atmosphere produce a wide variety of organic molecules, which subsequently rain down onto its surface. If these molecules mix with water found in cryovolanic lavas or impact melts on Titan's surface, they may react to form biological molecules such as amino acids. The prebiotic reactions occurring on Titan are intriguingly similar to reactions that may have occurred on the early Earth, and provide clues to the origin of life on our own world and worlds throughout the universe. In this presentation, I will report on the ideal locations for identifying biological molecules on Titan's surface, and describe the Dragonfly mission concept for studying Titan as a habitable world.

**HOST:** P.G. Brown

***COFFEE + light snacks will be available in the Atrium, 2nd floor, at 1:15 p.m.***