



**Western University**  
**DEPARTMENT OF PHYSICS AND ASTRONOMY**

## **PHYSICS & ASTRONOMY COLLOQUIUM**

**Date:** Thursday, 29<sup>th</sup> September 2016  
**Time:** 1:30 p.m.  
**Location:** Physics & Astronomy Seminar Room 100

**Dr. Megan Reiter**  
Department of Astronomy  
University of Michigan

### ***“Powerful jets driven by intermediate-mass protostars in the Carina Nebula”***

#### **ABSTRACT**

Protostellar jets are a signpost of star formation. They signal active disk accretion even in sources too distant for the disk to be resolved directly. We have surveyed a sample of protostellar jets in the Carina Nebula that offer a unique view of outflows from higher-mass protostars. These jets propagate into a giant H II region where Lyman continuum photons from nearby O-type stars excited and ionize atoms in the jets. This reveals the collimated jet core that would otherwise remain unseen and allows us to measure its physical properties using the diagnostics of photo-ionized gas. High mass-loss rates estimated for these jets require high accretion rates, implying that these jets are driven by intermediate-mass (~2-8 Msun) protostars. I will discuss what we have learned from this new view of collimated jets from intermediate-mass protostars and how intermediate-mass protostars can help resolve whether high-mass stars form via the same accretion mechanisms as low-mass stars.

**Coffee will be available in the Atrium, 2nd floor, at 1:15 p.m.**

**We look forward to seeing you at the Colloquium! As a courtesy to the speaker and audience, please set your cellphones to “silent” mode. Thanks!**