



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

## **PHYSICS & ASTRONOMY COLLOQUIUM**

**Date:** **Thursday, 16<sup>th</sup> March 2017**  
**Time:** **1:30 p.m.**  
**Location:** **Physics & Astronomy Seminar Room 100**

### **Dr. Michael Dunham**

Physics Department  
SUNY Fredonia

### ***"The formation of stars: How do stars gain their mass?"***

#### **ABSTRACT**

Stars form from the gravitational collapse of dense molecular cloud cores. In the protostellar phase, mass accretes from the core onto a protostar, likely through an accretion disk, and it is during this phase that the initial masses of stars and the initial conditions for planet formation are set. Over the past decade, new observational capabilities have provided wide-field infrared and (sub)millimeter surveys of entire star-forming clouds along with interferometric images at very high angular resolution, giving an unprecedented view of the star formation process. However, we still don't understand why stars form with the masses they are observed to have, why stellar masses span greater than three orders of magnitude, and why the stellar initial mass function is more or less invariant everywhere we look. In this talk, I will discuss the physical processes responsible for stellar mass assembly, focusing on observational constraints on the problem of how mass is transferred from dense cores to stars.

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