



# PHYSICS AND ASTRONOMY SEMINAR

## Dr. Alison Sills

McMaster University

### “Stellar Mergers and Interactions: Yes, Virginia, Stars Do Collide”

#### Abstract

I will discuss strong interactions between stars in a variety of environments. Despite the vast (average) interstellar distances, stars are social creatures and tend to live in pairs, multiples, or groups. Under these circumstances, stars can, and do, modify each other's mass, radius, composition, and overall evolution through gravitational encounters ranging from wind mass transfer in a binary system to complete stellar collisions and mergers. I will show how such events can change our understanding of particular stellar systems, how they can explain the properties of many unusual objects, and how interactions could change the environment these stars live in. The emphasis for this talk will be on the modelling of these interactions, and I will demonstrate how a combination of stellar evolution, stellar dynamics, and hydrodynamics can bring some understanding to these complicated systems.

Tuesday, January 29, 2013

11:30 a.m.

Elliott Building

Room 062