



## Physics Colloquium

Friday February 26th, 2010

4:10 - 5:00 pm, 108 EPS

### Putting the Astronomy in Gravitational Wave Astronomy

Dr. Larry Price, University of Wisconsin-Milwaukee

#### **Abstract:**

About 90 years ago Albert Einstein put forth his general theory of relativity. One of the theory's most dramatic predictions is the existence of gravitational waves - ripples in the fabric of space and time. The verification and measurement of this fundamental prediction of Einstein's general theory of relativity will give us access to information about astrophysics, cosmology and the early universe that is otherwise unobtainable. The current generation of ground-based detectors are in operation, busily searching the sky for gravitational waves. However, the real promise comes from the integration of gravitational wave astronomy into the greater astronomical community.

This will allow for measurements that cross spectral bands and provide new paths for insight into some of the most violent processes in the universe. In this talk I will discuss current efforts and future prospects for following up gravitational wave signals from the Enhanced and Advanced Laser Interferometer Gravitational Wave Observatory with more traditional electromagnetic telescopes. In addition, I'll discuss some work on detecting gravitational waves with pulsar timing experiments, which seeks to bridge the gap between gravitational wave and electromagnetic astronomers in a different way.

#### **Host:**

Neil Cornish