

**Modeling Advanced LIGO  
Calibration Error and its  
Effects on Parameter Estimation**

**Presented by**

**Theresa Chmiel '17**

**Senior Honors Talk in Physics**

**W**ithin the last decade, exciting research has been devoted to the LIGO (Laser Interferometer Gravitational-Wave Observatory) scientific collaboration works to directly detect the presence of gravitational waves in the universe. A gravitational wave is a ripple in spacetime predicted by the theory of general relativity. This project is concerned with modeling high frequency calibration error from the LIGO detectors and determining what effect this error has on measuring the equation of state of a neutron star.

**FALL Physics**  
**COLLOQUIUM SERIES 2016**

**Friday, September 23, 2016 - 3:10 p.m.**

**Franklin Miller, Jr. Lecture Hall  
Hayes 109**

*Reception to follow.*