**Idaho State University  
Physics Colloquium**

**Gravitational Waves: A New Window to the Universe**  
  
[Bence Becsy](https://physics.montana.edu/gravity/index.html)  
[Montana State University](https://physics.montana.edu/)

Since the first detection of gravitational waves in 2015, the Laser Interferometer Gravitational-wave Observatory (LIGO) observed dozens of gravitational wave signals coming from binary black holes, binary neutron stars, and neutron star-black hole binaries. This growing catalog of compact objects can help us shed some light on exciting questions in astrophysics, like how these compact objects form at the last stages of stellar evolution and how they end up in binaries. They can also help us measure the rate at which the Universe expands, or how matter behaves at extremely high densities. In this talk we will explore what the LIGO observations can tell us about these questions so far, and what we might learn in the next decade.

**Monday, October 25 2021  
Via Zoom (**[**https://isu.zoom.us/j/83295998937**](https://isu.zoom.us/j/83295998937)**)  
4:00 – 4:50 pm**