

# Physics & Astronomy Colloquium

Presents



## Dr. Ansel Neunzert

(they/them)

Postdoctoral Scholar at LIGO Hanford  
Observatory

Thursday, January 18, 2024  
12:10 pm, Webster Room 11

*This will be available on Zoom only.*

**“Farther, faster, and clearer: gravitational wave science in LIGO’s fourth observing run and beyond.”**

The first part of this talk will cover the basics of the Laser Interferometer Gravitational-wave Observatory (LIGO) detectors and the science they enable, highlighting recent detector improvements and contextualizing LIGO in the growing field of gravitational-wave science. Next, I will turn to the future and discuss some as-yet-undetected classes of gravitational waves, particularly long-duration signals expected to emanate from rapidly spinning neutron stars. Throughout the talk I will emphasize efforts to identify and mitigate instrumental noise sources in the LIGO detectors, an endeavor which connects topics from astrophysics to instrument science.

*Host: Dr. Guy Worthey*

*ZOOM Information: Meeting ID: 965 8240 9398 • Passcode: physastro*