

# PHYSICS & ASTRONOMY SEMINAR

## **“Mapping the Early Galaxy: RR Lyrae Spectroscopy”**

***Presented by:***  
**Irina Plaks**

**Abstract:** Studying stellar populations in the Milky Way’s halo is one of several ways that astronomers can gain insight into how the halo formed. By studying the abundances, kinematics, and spatial distributions of the RR Lyrae population, a very old (10 Gyr) group of variable stars with a particularly short period of less than a day, researchers can understand the conditions present during the galaxy’s formation. These stars are ideal for observation due to their narrowly defined absolute magnitude and distinctive light curves. However, much of the data we have on known RR Lyrae variables is outdated, and with the construction of new telescopes, astronomers now have the opportunity to bring the information up to date. Using data from the All Sky Automated Survey for SuperNovae (ASAS-SN), updated periods and light curves have been found for the RR Lyrae variables studied in Layden (1998). Now, this updated information, as well as spectroscopic data, is being used to find the distance, velocity through space, and metal abundances of these same stars, providing metallicities and kinematic properties for this old stellar population.

**Thursday, January 28th, 2021**  
**4:00 pm**

# PSLB 112