



# PHYSICS AND ASTRONOMY COLLOQUIUM

## Dr. Gail Zasowski

Johns Hopkins University

### “Galactic Astrophysics in the Era of Big Data”

#### Abstract

Astronomy has entered the era of big data. Once relying on lone scientists sketching nebulae and counting stars through the eyepieces of their backyard telescopes, astrophysical research is becoming increasingly dominated by large, multi-national collaborations operating expansive surveys and mining enormous multiwavelength datasets. This shift has led to qualitatively new understandings of the Universe, spanning cosmology to planet formation. I will explore this new paradigm, focusing on the study of our own Milky Way Galaxy, which is currently on the very brink of this "big data" revolution. I will discuss new revelations in our understanding of the Milky Way, highlighting results from the SDSS APOGEE survey, which is actively revealing new aspects of the chemical and dynamical history of the Milky Way's stellar and interstellar components. These unique insights, inaccessible before the rise of surveys and big data, are unlocking the narrative of how the Milky Way and other galaxies evolve across cosmic time.

Monday, February 29, 2016

3:40 p.m.

Clearihue Building

Room A203