



# PHYSICS AND ASTRONOMY SEMINAR

## Dr. Gail Zasowski

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### “New Tools for Galactic Archaeology from the Milky Way”

#### Abstract

One of the critical components for understanding galaxy evolution is understanding the Milky Way Galaxy itself -- its detailed structure and chemodynamical properties, as well as fundamental stellar physics, which we can only study in great detail locally. This field is currently undergoing a dramatic expansion towards the kinds of large-scale statistical analyses long used by the extragalactic and other communities, thanks in part to an enormous influx of data from space- and ground-based surveys. I will describe the Milky Way and Local Group in the context of general galaxy evolution and highlight some recent developments in Galactic astrophysics that take advantage of these big data sets and analysis techniques. In particular, I will focus on two diverse approaches: one to characterize the distribution and dynamics of the carbon-rich, dusty diffuse ISM, and one to map the resolved bulk stellar properties of the inner disk and bulge. The rapid progress in these areas promises to continue, with the arrival of data sets from missions like SDSS, Gaia, LSST, and WFIRST.

Tuesday, March 1, 2016

3:15 p.m.

Elliott Building

Room 162