



# PHYSICS AND ASTRONOMY SEMINAR

## Dr. Bryan Miller

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### “Globular Clusters and Nuclei in Dwarf Elliptical Galaxies”

#### Abstract

I will present recent work to study the globular clusters and nuclei in dwarf elliptical galaxies in the Virgo and Fornax Clusters. Gemini/GMOS spectroscopy shows that the globular clusters are mostly old and metal-poor, very similar to the globular clusters in the Milky Way halo. The nuclei tend to be more metal-rich than the globular clusters. The  $[\alpha/\text{Fe}]$  ratio appears to be solar for the globulars, but the nuclei may be slightly alpha-enhanced. We also use the kinematics of the globular clusters to estimate the masses and mass-to-light ratios of the dwarfs. The dwarfs in our sample have masses around  $10^{10}$  Msun and are not strongly dark matter dominated. We also see differences in globular cluster specific frequencies between different types of dwarf galaxies. Implications of these results on dwarf elliptical galaxy formation and evolution will be discussed.

Tuesday, September 2, 2014  
3:00 p.m.  
Elliott Building  
Room 161