



# PHYSICS AND ASTRONOMY SEMINAR

## Dr. Raphael Errani

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### “Substructure abundance and the haloes of Milky Way dwarfs”

#### Abstract

The clustering properties of dark matter on the scale of dwarf galaxies are fiercely debated: what are the structural properties of subhaloes, are they cuspy or cored, and how many subhaloes are to be expected for different dark matter recipes? I will discuss how to obtain unbiased halo mass estimates from projected stellar velocity dispersions of Milky Way dwarfs, and compare my findings to controlled cosmological simulations of the formation of Milky Way-like haloes, tailored to follow the tidal evolution of substructures reliably over several orders of magnitude in mass loss. This comparison reveals puzzling properties for subhaloes hosting ultra-faint dwarfs and thereby highlights observational challenges and basic questions about cold dark matter.

Tuesday, September 24, 2019

3:30 p.m.

ELL – Room 160