

**Tuesday, December 7th, 2:30 pm**

**Speaker:** Annika Peter

**Institution:** The Ohio State University

**Title:** A Halo Census With Galaxies And Light

**Abstract:**

One of the strongest predictions of the standard cold dark matter paradigm is the hierarchy of structure down to Earth-mass scales. However, individual self-bound clumps of dark matter--"halos"--are difficult to detect directly. Instead, we use galaxies as lampposts for halos. By counting galaxies, we can measure the underlying population of dark matter halos. In this talk, I describe results that seem completely at odds with each other in measuring the population of small halos. I argue that the resolution to the problem is a better mapping between galaxies and halos. I will show what my group is doing so far to address the problem, and what opportunities lie ahead in the wide-field surveys of the 2020's.