

Friday, October 7th
4:10 – 5:00 PM
Barnard Hall 103

Seeking Massive Black Holes in Dwarf Galaxies

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Abstract:

Recent discoveries of massive black holes in dwarf galaxies suggest that they may have a more common presence than once thought. We present a study of several high-resolution, cosmological, zoom-in simulations focusing on dwarf galaxies that host massive black holes at $z = 0$. Larger dwarf galaxies are more likely to host MBHs than those of lower mass. About 50% of the MBHs in dwarfs are not centrally located, but rather are wandering within a few kpc of the galaxy center. The reason for off-center locations is mainly due to galaxy-galaxy mergers, and the black holes remain off-center due to very long dynamical friction timescales. The accretion luminosities of most MBHs in dwarfs are low throughout cosmic time, rendering them extremely difficult to detect electromagnetically. However, the merger history of these black holes is optimal for gravitational wave detection by LISA.

Host: Amy Reines

**** Refreshments served in the Barnard second floor atrium at 3:00 p.m.****