



## The dual role of stellar feedback regulating galaxy evolution and the growth of supermassive black holes

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**Tuesday**

**November 28**

**12:30 P.M.**

**Rm 184 NSH**

Feedback from massive stars, including supernovae, stellar winds, and radiation, is believed to play a central role in galaxy evolution. In this talk, I will present recent progress in understanding the implications of stellar feedback using cosmological hydrodynamic simulations from the Feedback In Realistic Environments (FIRE) project. In these simulations, stellar feedback regulates star formation locally in galaxies while driving large-scale winds that connect galaxies with their surrounding circumgalactic medium. I will discuss the efficiency of winds evacuating gas from galaxies, the importance of wind re-accretion to galaxy mass assembly, and the surprising contribution of intergalactic transfer of material between galaxies via winds. Zooming into galactic nuclei, I will show that stellar feedback regulates the early growth of the central black hole in low mass galaxies by continuously evacuating the nuclear gas reservoir, which has important implications for the co-evolution of supermassive black holes and galaxies and the frequency and mass scale of massive black hole mergers.