



PHYSICS AND ASTRONOMY COLLOQUIUM

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“The Rise and Fall of Galaxies”

Abstract

The golden age of galaxies has come and gone. From an initial distribution of weak density perturbations, gravity acted bring forth ever-larger structures, overcoming a range of feedback processes to efficiently form stars and galaxies at an exponentially increasing rate. Then just as quickly as it arose, the epoch of efficient galaxy formation faded away, the cosmic star formation rate declining by 90% to its current day value. I will discuss our efforts to understand the processes that shaped this dramatic evolution. At early times, I will trace out the chemical transitions that occurred as galaxies were assembled, how these transitions interacted with other physical processes, and how they can be constrained by observations of high-redshift galaxies and abundance analyses of stars in the Milky Way halo. At late times, I will describe the key role that active black holes are likely to have played in suppressing cosmic star formation, and how the next generation of millimeter wavelength instruments will likely prove to be decisive in tracing out this co-evolution.

Wednesday, March 7, 2018

3:30 p.m.

BWC Building

Room A104