



PHYSICS AND ASTRONOMY SEMINAR

Dr. Adam Muzzin

Kavli Institute, University of Cambridge

“Understanding the Role of Environment in Galaxy Evolution up to $z \sim 1.5$ ”

Abstract

Galaxy clusters are high-density environments in the universe where many galaxies have their star formation strongly truncated or “quenched”. Despite years of study, the astrophysics of this quenching process remains one of the most poorly understood aspects of galaxy evolution. I will present new results on the evolution of cluster galaxies and environmental quenching up to $z \sim 1.5$ based on data from the GCLASS survey, a 220-hour spectroscopic survey performed with Gemini/GMOS. GCLASS has allowed us to make the first measurement of the quenching timescale for galaxies in clusters at early times. I will discuss the implications of this measurement, which suggests that the physical process by which clusters quench star formation in galaxies is changing over cosmic time. Finally, I will conclude by presenting two new surveys, 1) GOGREEN, a Gemini