



Western University
DEPARTMENT OF PHYSICS AND ASTRONOMY

PHYSICS & ASTRONOMY COLLOQUIUM

Date: **Thursday, 19th January 2017**
Time: **1:30 p.m.**
Location: **Physics & Astronomy Seminar Room 100**

Dr. Jeyhan Kartaltepe

School of Physics & Astronomy
Rochester Institute of Technology (RIT)

“What Drives Star Formation in the Most Luminous galaxies in the Universe?”

ABSTRACT

Galaxy mergers and interactions are thought to play a key role in the evolution of galaxies. These collisions can affect many important galaxy properties, such as their physical structure, their star formation rates, and the growth of their central black holes. However, the details of this role, and how it has changed over the age of the Universe, is still a matter of much debate. Both theoretical models and some recent observations have suggested that mergers do not play a dominant role in the early Universe, but that instead much of the mass growth of galaxies can be attributed to secular processes such as disk instabilities. I will present the results of a detailed, multiwavelength analysis of galaxies selected to have very high star formation rates in the early Universe, at the key epoch when the majority of stars in the Universe formed. By studying the structure and morphology of these objects, we can place constraints on their merger histories and quantify how such an event influences the overall rate of star formation. I will also discuss plans for future work using new facilities in order to better understand and quantify the significance of this role.

COFFEE + light snacks will be available in the Atrium, 2nd floor, at 1:15 p.m.