



**ASTROPHYSICS  
SEMINAR SERIES**

**Ranga-Ram Chary**

**Caltech**

**“CSI-Los Angeles:  
The Growth of Distant Galaxies and Reionization”**

**Monday, April 14, 2014**

**Refreshments at 3:15pm in CAS 500**

**Talk begins at 3:30pm in CAS 502**

**Abstract:**

The discovery of an unusual population of galaxies with extremely strong nebular line emission has come as a panacea to several problems in galaxy evolution. These objects, classified as H $\alpha$  emitters, were first detected in the  $z > 5$  Universe in deep Spitzer imaging, where they dominate the spectroscopically confirmed star-forming galaxy population. Since then, they have been re-discovered in the local Universe in the Sloan Digital Sky Survey where they constitute 0.04% of the spectroscopic sample, and at intermediate redshifts using Hubble/WFC3 grism surveys. Their ubiquity in the distant Universe and the unusual properties of their stellar population make them strong candidates for being progenitors of massive galaxies at  $z \sim 2$  and for being the primary sources responsible for reionization. I will present our work in identifying these galaxies, insights into the mechanism for fueling star-formation in these objects and the resultant reionization history of the Universe. The merits of using multiwavelength observations in obtaining an improved understanding of high redshift galaxy populations will in particular be highlighted.