Colloquium

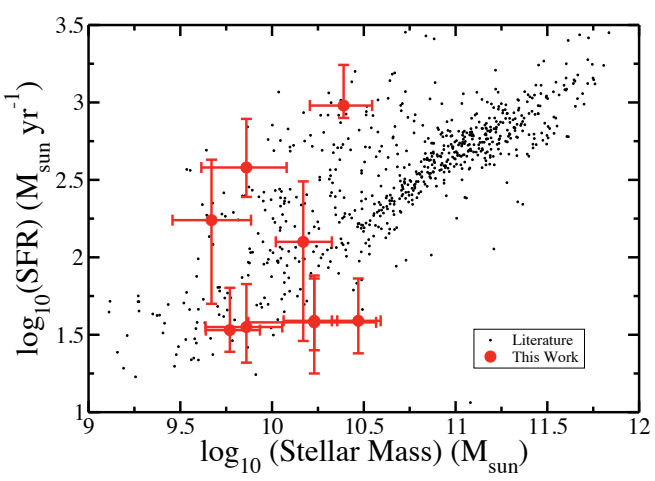
SFB 956

Conditions and Impact of Star Formation

08.12.2014

Monday 4:00 pm | supplementary colloquium

Max-Planck-Institut für Radioastronomie (MPIfR)
Auditorium 0.02
Auf dem Hügel 69 | 53121 Bonn



Peter L. Capak
California Institute of Technology / IPAC, USA

Oceans of Data and Rosetta Stones: Understanding How the First Galaxies Formed

I will begin by giving an overview of the Spitzer Large Area Survey with Hyper-Suprime-Cam (SPLASH), a 3.8 square degree survey of the COSMOS and SXDS fields. I will show early results on the evolution of the star forming galaxy main sequence, the galaxy mass function and galaxy clustering at 4<z<6 and what this teaches us about early galaxy formation. Next, I will show ALMA C[II] 158um and dust continuum maps of ten normal z~6 galaxies selected from the SPLASH data as "Rosetta Stones". These observations show us that the properties of the Interstellar Medium in galaxies are significantly evolving from z~6 to z~4, which must be accounted for when studying early galaxy formation. Finally, I will discuss the statistically robust tools I am developing to analyze the next generation of survey data from Euclid and LSST and how this will help us find the next set of "Rosetta Stones".

The star forming galaxy main sequence is shown at z=5-6 based on data from the SPLASH-COSMOS field. Ten normal galaxies with ALMA Far-Infrared determined star formation rates are plotted in red. Note the generally good agreement with some significant outliers.