

## ICTS Postdoc/Graduate Student Seminar Series

Title : Fluctuation Theorems for systems at small scales

Speaker : Sourabh Lahiri, ICTS-TIFR, Bangalore

Date : Friday, September 30, 2016

Time : 11:15 am

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Systems at the nano or meso scales show fluctuations in thermodynamic variables like work, heat or entropy from one experimental realization to another, due to the effect of thermal noise. This allows for individual realizations to show violations of the Second Law. The recently discovered Fluctuation Theorems provide stringent conditions that dictate the symmetry of the probability distributions of these variables. I will provide a brief introduction to the Work Fluctuation Theorems and how the thermodynamic variables are defined in the framework of stochastic thermodynamics. The extension of these theorems to the case of feedback-driven protocols will subsequently be discussed. Finally, I will talk about the modifications of these theorems when there are inaccuracies in the measurements.

**Note: This will be an ongoing biweekly seminar series (Fridays, 11:15 am) by the ICTS postdocs and graduate students**