



## ICTS Seminar

- Title** : Possible signatures of beyond the standard model physics through near future cosmological observations
- Speaker** : Subinoy Das, Indian Institute of Astrophysics, Bangalore
- Date** : Thursday, September 1, 2016
- Time** : 11:30 am
- Venue** : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract** : In recent years cosmology and astrophysical experiments have told us about the existence of dark matter, dark energy and neutrino mass --all of which need physics beyond the standard model. But the particle nature of these essential components of our Universe is still unknown as their presence have been confirmed only through their gravitation effects. There have been many theoretical models and speculations about them and many near future experiments are coming up to confirm or rule out some of the most favourite models. I will discuss how some of the present cosmological experiments have already put stringent constraints on the particle physics of these components and if we are lucky, future experiments like high redshift 21 cm line detection from hydrogen cloud, dark energy survey and measurement of CMB spectral distortion can provide us strong definite signatures of some of the fundamental physics needed to explain these unknowns.