ICTS Seminar

Title : Neutrino Mass and the Large Scale Structure (LSS) of the Universe

Speaker : Arka Banerjee, Stanford University

Date : Friday, March 13, 2020

Time : 2:30 pm

Venue : Emmy Noether Seminar Hall, ICTS Campus, Bangalore

Abstract : Terrestrial experiments have confirmed that Standard Model neutrinos must have at least two massive eigenstates, but the absolute value of their masses, and their ordering are yet to be determined. In this talk, I will discuss why the total neutrino mass leaves unique imprints on the formation and evolution of structure in the Universe, and the various modeling tools being employed to accurately characterize this effect at large scales, where perturbation theory techniques can be applied, as well as on small scales, which need state-of-the-art high resolution N-body simulations. I will then discuss the status of ongoing and planned attempts at measuring the total neutrino mass from real observables of LSS, like galaxy clustering and weak lensing measurements, in various cosmological surveys.