

ICTS Seminar

- Title : Ergodicity and localization in many-body systems with mobility Edges
- Speaker : Subroto Mukerjee, Indian Institute of Science, Bangalore
- Date : Tuesday, May 9, 2017
- Time : 2:00 PM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : Many-body localized systems are interacting quantum systems which generically fail to thermalize. The 'standard model' of systems is of interacting degrees of freedom particles (spins) on a one dimensional lattice in the presence of a random potential (Zeeman field). The many-body energy eigenstates of these systems are believed to be localized in the sense that their entanglement entropy is sub-extensive and they are consequently non-ergodic. The other widely studied generic class of quantum systems is of those which thermalize and whose energy eigenstates are delocalized (extensive entanglement entropy) and ergodic. In this talk, I will argue that a third class exists, of systems which have non-ergodic but delocalized energy eigenstates. An important characteristic of these systems is the presence of a mobility edge in the single particle spectrum, which can be obtained from suitable quasiperiodic potentials.