

ICTS Postdoc/Graduate Student Seminar Series

Title : Spectral statistics and multiplicity for a certain class of random operators

Speaker : Anish Mallick, ICTS-TIFR, Bangalore

Date : Friday, March 17, 2017

Time : 11:15 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Random operators are an important field of study because of their role in the theory of disordered media. One of the early models that used randomness is the Anderson tight binding model, which was developed to study spin wave diffusion in doped semiconductors. The study of any such model boils down to understanding the structure of the spectrum of the underlying operator. For instance, the multiplicity of the spectrum can sometimes imply the presence of symmetry. But in many cases, the multiplicity turns out to be one. However, experiments are done on finite sized systems, so how the operator for a finite system converges to the full operator for an idealized system of infinite extent is also important. Spectral statistics looks at this question at the local level, and one can extend it to study the connection between the behavior of eigenvalues and their corresponding eigenfunctions.

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