

ICTS Postdoc/Graduate Student Seminar Series

Title : Seeking topological phases in amorphous systems and in fractals

Speaker : Adhip Agarwala, ICTS-TIFR, Bangalore

Date : Friday, November 24, 2017

Time : 11:15 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Topological band theory is now part of the staple condensed matter physics diet. Apart from providing novel technological possibilities, it provides physically meaningful avenues for applying many interesting theoretical constructs. However, much of our present understanding of such topological phases hinges on presence of a pristine lattice, in a well defined spatial dimension. In this informal talk, I will present our attempts to seek topologically insulating phases in blatantly random lattices and on fractals which do not have a spatial integral dimension. Our investigations in the former leads to an explicit demonstration of a topological phase on an amorphous system, while in the latter it shows a peculiar realisation of a "topological metal". I will discuss the theoretical and experimental implications of these studies, and the many questions it opens up.

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