



## ICTS Lecture Series

**Title** : Lecture 07: Topology and localization: The quantum Hall regime

**Speaker** : Ravindra N Bhatt (Princeton University and TIFR)

**Date** : Tuesday, 21<sup>st</sup> February 2023

**Time** : 03:30 pm to 05:00 pm (IST)

**Abstract** : This is a series of eight lectures covering several aspects of electronic properties of disordered quantum matter. At the centre of this field is the metal to insulator transition, the first quantum phase transition to be recognized as such, over seventy years ago. The lectures will start with early models, proceeding on to the description in terms of a scaling approach for noninteracting electrons, followed by effects of electron-electron interactions, and ensuing consequences for the transport, optical, dielectric, magnetic and thermodynamic properties of disordered materials at low temperatures. The effect of topology on localization, both for noninteracting electrons (i.e. single particle), as well as on many-body localization in interacting systems will be covered, focusing on the quantum Hall regime.

**Venue** : Emmy Noether Seminar Room (ICTS) and Online

Please click on the below link to join the meeting

<https://icts-res-in.zoom.us/j/85930431654?pwd=c1lhSlgybzIxYTY1ZFBQQ1FEbEEvZz09>

Meeting ID: 859 3043 1654

Passcode: 232322