

ICTS Seminar

- Title** : Emergent non-Fermi liquid in the excitations of the half-filled Landau level
- Speaker** : Prashant Kumar (Princeton University)
- Date** : Wednesday, 22nd February 2023
- Time** : 03:45 pm (IST)
- Abstract** : The half-filled Landau level is a fascinating point in the phase diagram of quantum Hall effect. It has been hypothesized to be a non-Fermi liquid where composite-fermions (CFs) emerge at low energies. In this talk, I will first review the Dirac composite-fermion theory and how it explains the observations of Fermi-surface at half-filling. I will then present our numerical calculations of the excitation spectra of the half-filled Landau level on infinite cylinders. By comparing our results with a quasi-1D theory of CFs, we show compelling quantitative evidence for the emergence of composite-fermions at low energies. I will further comment on some of its non-fermi liquid aspects and future directions.
- Venue** : **Offline:** Emmy Noether Seminar Room (ICTS)
Online: Please click on the below link to join the seminar
<https://icts-res-in.zoom.us/j/81600215164?pwd=dzNHQ29GZHMvSjMwODVYUzRCQTE0Zz09>
Meeting ID: 816 0021 5164
Passcode: 212221