



ICTS Condensed Matter Seminar

Title : Quantum Hall Ferromagnetism in Monolayer Graphene

Speaker : Ganpathy Murthy (University of Kentucky, United States)

Date : Tuesday, 13 December 2022

Time : 04:15 pm (IST)

Abstract : Graphene, a honeycomb lattice of Carbon atoms, has continued to surprise us over the two decades since its discovery. At zero magnetic field, it has a Dirac spectrum at the two valleys. At large perpendicular B field, it displays fourfold (nearly) degenerate Landau level manifolds. Of particular interest is the zero-Landau level manifold (ZLL) near charge neutrality. The spin and valley degrees of freedom combine to generate a rich set of possible ground states at charge neutrality. Based on transport experiments, the true ground state was believed to be a canted antiferromagnet. However, recent scanning tunneling experiments see bond order, which has revived questions about the nature of the ground state. I will discuss some of the recent developments in theory and experiment on $\nu=0$ graphene which enable us to reconcile the apparently conflicting observations.

Venue : **Hybrid Mode**

Offline: Feynman Lecture Hall

Online: Please click on the below link to join the meeting

<https://icts-res-in.zoom.us/j/88606003953?pwd=bIVodW1tbE50QXdIdnpHa2V2Z3R3QT09>

Meeting ID: 886 0600 3953

Passcode: 131322