# ICTS Postdoc Seminar

| | | |
|---|---|---|
| Title | : | Possibility of topological superconductivity and other exotic phases in experimentally relevant bilayer kagome systems |
| Speaker | : | Aabhaas Vineet Mallik (International Centre for Theoretical Science - TIFR, Bangalore) |
| Date | : | Wednesday, 26 August 2020 |
| Time | : | 02:00 pm (IST) |
| Abstract | : | Motivated by first principles band structure calculations for a bilayer kagome system Fe3Sn2, which exhibits ferromagnetism and a topological flat band close to the Fermi energy, we obtain effective tight-binding models which capture these features. We show that this system exhibits anomalous Hall response over a wide range of experimentally accessible parameter regime. We also show that the system can host an exotic topological superconductor in the presence of an effective attractive interaction between the electrons possibly arising from spin fluctuations. In the end we briefly describe a couple of further interesting possibilities including a fractional Chern insulator that this system may host in the presence of more generic repulsive interactions between the electrons. |
| Online seminar | : | Please click on the below link to Join the Zoom Meeting<br>https://zoom.us/j/99658873156?pwd=WFYwaSt1K0RrRy85bS9TakNOOHp5QT09<br>Meeting ID: 996 5887 3156<br>Passcode : 200284 |