

## Majorana nanowire with unconventional superconductivity and RKKY interaction in Borophene

**Abstract :** In the first part of the talk, I will discuss the transport signature of Majorana Zero Mode in a quasi-one-dimensional ferromagnet-superconductor junction where the superconductor consists of mixed singlet and triplet pairings. How two terminal differential conductance in this geometry can exhibit possible spin-selective coupling of a pair of Majorana zero modes, which appear at the ends of the superconducting nanowire, to the ferromagnetic lead will be discussed. In the second part, I will show how RKKY exchange interaction can be a possible probe of the tilt parameter associated with the anisotropic tilted Dirac cones in Borophene, a 2D allotrope of Boron.