



INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B, Raja S. C. Mullick Road, Jadavpur, Kolkata-700 032

School of Physical Sciences

SEMINAR NOTICE

Title : Tuning frustrated magnets

Speaker : Dr. Mayukh Majumder, Shiv Nadar University, Uttar Pradesh, India

Date : August 23, 2022 (Tuesday)

Time : 15:00 hours (IST)

Venue : Online Mode using Zoom Platform
Zoom link of the seminar:
<https://zoom.us/j/91214797729>
Meeting ID: 912 1479 7729
Passcode: 230191

Abstract:

Competing exchange interactions in frustrated systems are often responsible for a large degeneracy in the ground state. In some conditions, a novel state of matter called "spin liquid" emerges where spins are highly correlated and fluctuate down to low temperatures. A very few candidate quantum spin liquid (QSL) materials proposed over the last decade bear key experimental signatures of this exotic state, including persistent spin dynamics and the absence of long-range order within the experimentally accessible temperature range. I will discuss my journey in the field of frustrated magnets and show how tuning helps in different ways, including stabilizing new phases of matter. All the pieces of evidence are mainly based on powerful local techniques (Nuclear Magnetic Resonance (NMR) and Muon Spin Relaxation / Rotation (μ SR)) as bulk techniques are pretty inadequate in addressing the actual behaviour of such complex states.

All are cordially invited to attend the seminar.