

Physics colloquium
Department of Physics & Astrophysics,
University of Delhi

December 26, 2023 (Tuesday)

Time: 03:30 PM

Venue: Seminar-Cum-Committee-Room



Prof. Sourin Das
IISER Kolkata

Title: Quantum Condensed Matter Meets Quantum Computing

We offer a perspective on quantum information storage and quantum error correction through the lens of quantum many-body systems. We shall begin by examining a toy model of topological superconductor with Majorana excitations and show that it could serve as a viable candidate for producing topologically protected quantum qubits. Next, we shall present the concept of frustration free spin Hamiltonians and establish the link between their ground states and quantum error-correcting codes. We shall conclude by demonstrating such an error-correcting code in action.