



**S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**

Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR

Condensed Matter Physics and Material Sciences

2nd March'2022

4.00PM

ONLINE

SPEAKER

Dr. Yogesh Singh
Associate Professor and Head,
Department of Physical Sciences, Indian Institute of Science Education and Research

TITLE OF THE TALK
Field Induced Quantum Critical Point in $\text{Yb}_2\text{Fe}_3\text{Si}_5$

ABSTRACT

I will introduce the material $\text{Yb}_2\text{Fe}_3\text{Si}_5$ which our measurements show is a heavy fermion Kondo lattice system which undergoes an antiferromagnetic transition of Kondo reduced moments at $T_N = 1.7\text{K}$. I will then show results of measurements which demonstrate that the magnetic order can be tuned continuously to $T = 0$ on the application of an in-plane magnetic field to reach a Quantum Critical Point (QCP). I will present several novel features of this exciting material and make comparisons with existing scenarios in which quantum phase transitions are discussed.

HOST FACULTY
Dr. Thirupathiah Setti
Assistant Professor & Seminar Coordinator, CONDENSED MATTER PHYSICS AND MATERIAL SCIENCES
