



ST JOSEPH'S UNIVERSITY, BENGALURU, 26-29 OCTOBER 2026

4 Day Workshop for Masters and Advanced Bachelor Students

What is it about

Modern physics explores nature across vast length and energy scales: from the smallest fundamental particles to the largest structures in the universe. This workshop introduces students to key ideas in particle physics, astronomy, and cosmology, and highlights how these fields are deeply connected.

Who Should Attend

The workshop is intended for MSc and BSc Physics students. While no formal prerequisites are required, a basic understanding of undergraduate-level physics is assumed. Familiarity with Python programming will be advantageous, though not necessary. The program is designed to be self-contained.

Highlights

- Elucidating Theoretical Concepts by Experts
- Hands-on sessions with real LHC experimental (open) data
- Online astronomical data resources and Stellarium

Topics

Particle Physics

- Quarks and Leptons
- Symmetries and Standard Model
- Experiments: Seeing the unseen

Astronomy & Astrophysics

- Sun and Solar System
- Stars and Galaxies
- Stellar Graveyard

Cosmology

- CMB Radiation
- Expanding Universe
- Darkmatter / Dark Energy

Learning Through Enquiry

Explore ideas through questions, discussion, collaborative problem-solving, and analysis of real data, with ample interaction with instructors.

Organised by



Research Cell,
St. Joseph's University
Bengaluru

In Association With



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(formerly DST/SERB)

Mentors

Prof. Arun Varma Thampan
Prof. Poulouse Poulouse