

## **WORKSHOP ON ELECTRON PARAMAGNETIC RESONANCE (EPR) SPECTROSCOPY AND ITS APPLICATIONS (WEPRSA-25)**

**Friday, 7<sup>th</sup> February 2025, 9:00 AM**

**SEMINAR HALL, CHEMICAL SCIENCE BUILDING**

**IISER THIRUVANANTHAPURAM**

This workshop will embark on a comprehensive journey through the fascinating world of Electron Paramagnetic Resonance (EPR) spectroscopy. The workshop covers various topics of EPR from basic theory to advanced topics where learners will explore the fundamental principles that govern the interaction of unpaired electrons with magnetic fields. Further, learners will understand the meaning of the hyperfine interaction and how the EPR can be used as a powerful spectroscopic tool in characterizing organic molecules, protein structure and function, the crucial electron transfer processes in both biological and bio-mimicking systems from outstanding researchers in the field. This workshop will help researchers how to interpret EPR data for meaningful research outcomes, thus preparing them for more advanced applications in research and industry.

Following this, an exclusive hands-on training is arranged where students will delve into the workings of the EPR spectrometer, gaining insight into the various acquisition techniques that are pivotal for capturing high-quality spectral data. The course emphasizes the importance of optimizing EPR measurements, teaching students how to fine-tune experimental parameters for enhanced accuracy and sensitivity. Additionally, participants will become proficient in using EPR software packages, learning the intricacies of data acquisition, processing, and analysis. Lastly, the course introduces the concept of Quantitative EPR, equipping students with the skills needed to perform precise quantitative analyses.