
Synopsis Seminar

Seminar Title	: Synthesis and Characterizations of Multifunctional PVDF based Nanocomposite Thick Films for Bone Regeneration Applications
Speaker	: A.P Kajal Parida (Rollno : 519ph6018)
Supervisor	: Pawan Kumar
Venue	: Room No. MC 126, Dept. of Physics & Astronomy
Date and Time	: 16 May 2025 (4:00 PM)
Abstract	: Bone regeneration involves a dynamic interplay between engineered biomaterial and native bone-tissue, which can adapt and respond to biological signals. Polymer-matrix composites films are among the most promising biomimetic options due to their ease in integration and surface modification. Bone regeneration is a critical area of research in biomedical engineering, particularly for restoration of bone defects that cannot heal naturally. Incorporating nanoparticles into polymer matrices offers a promising strategy to enhance their dielectric, thermal, and biocompatible properties, particularly for biomedical applications such as bone regeneration. The presence of nanoparticles facilitates ion–dipole interactions within the polymer network, which significantly improves the dielectric behaviour by increasing charge storage capacity and polarization under electric fields. In the present work, multifunctional PVDF based nanocomposite films are synthesized and characterized for bone regeneration applications.