
Departmental Seminar

Seminar Title	: Conf. Return Seminar: Fabrication of nanofiber matrix through electrospinning process to facilitate controlled release of active compounds
Speaker	: Shakthi Sree V,
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Venue	: CH-306
Date and Time	: 02 Jan 2025 (5.00PM)
Abstract	: Objective: To fabricate a nanofiber using a suitable for electrospinning process to facilitate controlled release of active compounds. Methodology: In this study, the electrospinning process was employed to fabricate nanofibers using two different polymers: Polyvinyl Alcohol (PVA) and Polystyrene (PS). PVA was chosen for its water solubility and biocompatibility, making it an ideal candidate for applications involving controlled release of active compounds. In contrast, PS was selected for its hydrophobic nature and structural stability, allowing for the formation of robust fibers. The essential oils were loaded into the nanofiber matrix pre and post electrospinning process and the results were compared. Results and discussions: Various characterization techniques like Field emission scanning electron microscopy, confocal laser scanning microscope, Fourier Transform infrared spectroscopy, Raman spectroscopy, contact angle measurements were performed and the results indicated that Polyvinyl alcohol was found to be a better nanofiber matrix compared to polystyrene for the encapsulation of essential oils. The polystyrene structure was completely disrupted due to the addition of essential oil.