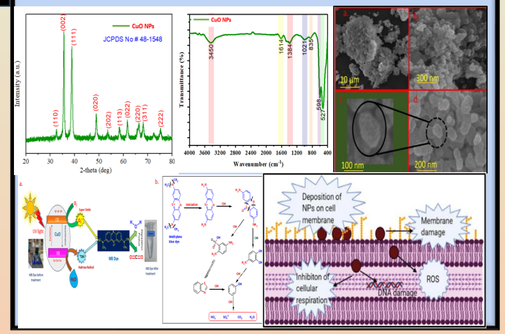
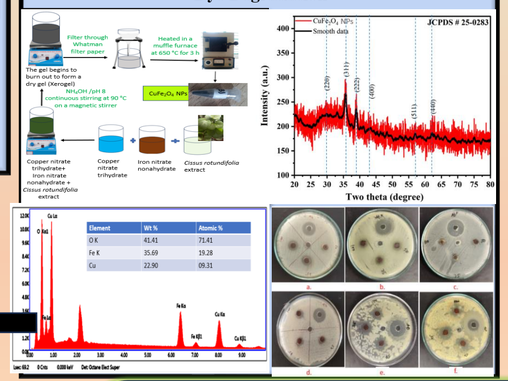
Thrust Area

1. Synthesis and characterization of Metal oxide-based nanoparticles and their nanocomposites, using the bottom-up approach.
2. Evaluation of Therapeutic and Environmental applications of the synthesized nanostructured materials

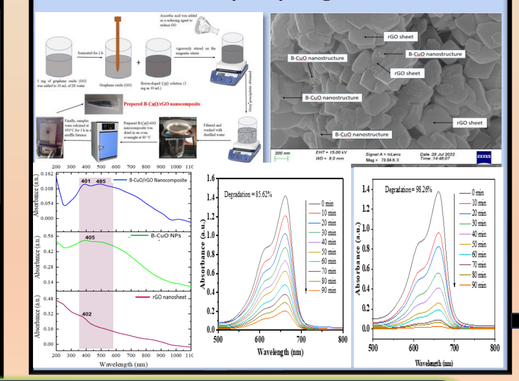
Green Synthesis of CuO NPs from *Aloe Barbadensis Miller:* Antibacterial Activity, and Photocatalytic Dye Degradation



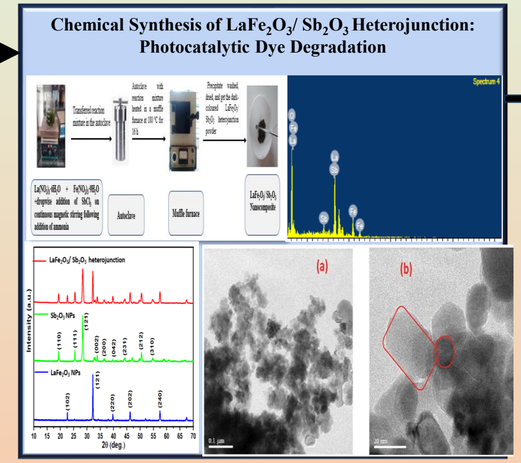
Green Synthesis of $CuFe_2O_4$ NPs from *Cissus Rotundifolia:* Antibacterial Activity, And Photocatalytic Dye Degradation



Chemical Synthesis Of B-CuO and B-CuO/rGO Binary Nanocomposite : Antibacterial Activity and Photocatalytic Dye Degradation



Chemical Synthesis of $LaFe_2O_3$/ Sb_2O_3 Heterojunction: Photocatalytic Dye Degradation



MAJOR FINDINGS

1. Bottom-up approach was used to produce nanomaterials for therapeutic and environmental applications, particularly the degradation of MB and MC dyes
2. The Green method was used for the preparation of CuO and $CuFe_2O_4$ NPs, and the chemical method was used for B-CuO/rGO and $LaFe_2O_3/Sb_2O_3$ nanocomposites heterojunction.
3. Chemical synthesis provides good results compared to green synthesis
4. Improved antibacterial activity was exhibited by the heterojunctions and nanocomposites