National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Conference Return Seminar: Removal of Methyl Green Dye by Adsorption using Nitrogen-doped Graphitic Carbon Nitride
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Supervisor	: Dr. M. Gattu
Venue	: CE Seminar Hall
Date and Time	: 26 Dec 2024 (1000 am)
Abstract	: In this study, nitrogen-doped graphitic carbon nitride (N/g-C3N4) was synthesized by thermal polymerization method and characterized by XRD, FTIR, and FESEM analysis. The efficiency in adsorbing methyl green (MG) dye using N/g-C3N4 as an adsorbent was assessed, with particular attention given to adsorbent dosage, initial dye concentration, and initial pH. Increasing the dose of N/g-C3N4 led to improved adsorption of the dye, reaching a maximum adsorption around 100% for 10 mg/L after 30 minutes with an adsorbent dose of 1 g/L. Conversely, as the concentration of MG dye increased at a constant adsorbent dosage of 1 g/L, the adsorption efficiency decreased. Moreover, higher pH levels were found to correspond to greater adsorption of the dye. The efficiency of N/g-C3N4 in adsorbing MG dye was notable, with negligible adsorption observed in the absence of the adsorbent.