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Departmental Seminar

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Seminar Title	: Conference Return Seminar on Green Synthesis of 2D Composite Materials for Advanced Photocatalytic Applications ( Presented at CHEMCON-2024, December 27-30)
Speaker	: Rupak Kumar Patnaik (Phd, Roll No. 522ch1004)
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Venue	: New Seminar Hall, Chemical Engg. Department
Date and Time	: 10 Jan 2025 (11.00 A.M.)
Abstract	: Organic pollutants especially originating from pharmaceutical and dye industries have largely contributed to the depleting quality of water bodies and also pose a threat to the flora and fauna. As the demand of these pharmaceuticals and organic dyes have only increased in the past few years, so is their negative impact on the environment. Hence, several techniques have been formulated in order to counter the effects of these organic pollutants. With their unique characteristics, such as high surface area and characteristic electronic and density states, 2D composites have shown great promise as photocatalysts for environmental remediation. They have been extensively studied for their prospective uses in various fields, including sensing, drug delivery, batteries, and notably, wastewater treatment. In this review, we discuss in detail the various approaches for the production of different types of 2 dimensional composites through green chemistry and their application in photocatalytic degradation of organic pollutants. We also discuss the importance and advantages of green synthesis for the production of 2D composites and their subsequent effect on the environment. Keywords: 2D composites, Green chemistry, photocatalytic degradation