
Registration Seminar

Seminar Title	: Remediation of microplastics from water resources and other diverse sources with comprehensive investigation into adsorption techniques
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Venue	: New Seminar Room, Department of Chemical Engineering
Date and Time	: 27 Mar 2024 (11:00 AM)
Abstract	: Microplastics (MPs) are a particular kind of emerging pollutants that have drawn increased interest recently. Research has revealed the presence of microplastics in food products as well as the air, soil, and water. It is unquestionably true that microplastics are entering our bodies due to the widespread utilization of plastics in commonly used items. Industrial procedures have also led to a substantial influx of compounds that degrade at a slower pace into our surroundings and the food chain. As the global frontrunner in scientific services, our objective is to empower consumers to promote global health, cleanliness, and safety. This entails offering education and assistance to customers seeking to detect and examine microplastics. This study examines the process of remediation of microplastics through adsorption using different synthesized adsorbents and also models the complete process. Currently, the synthesis of microplastics is accomplished using discarded plastic materials to create replicas of microplastics found in actual water samples. The purpose of this study is to analyze the behavioral characteristics of microplastics (MPs) in natural water resources and investigate the effectiveness of zeolite Y adsorption in their removal. Zeolite Y is synthesized using halloysite nano-clay. The analysis of the synthesized zeolite revealed the presence of a combination of zeolite. Further optimization studies need to be undertaken to achieve better results. The characterization of synthesized products demonstrated the proper formation of the MPs and their potential for adsorption. Examination was conducted using optical microscopy, FESEM_EDS, XRD, Raman spectroscopy, and FTIR to identify and quantify MPs and Zeolite.