

ENVIRONMENTAL MITIGATION LAB

Faculty Details:



Mr VETRISSELVAN K

Assistant Professor

Department of Chemical Engineering

A.C.Tech Campus, Anna University

Tamil Nadu, India - 600025.

Ph: 044 2235 9131

E-Mail: vetriselvan@annauniv.edu

About the Laboratory:

Environmental Mitigation Lab forms a part of research laboratories in the Department of Chemical Engineering, A.C.Tech, Anna University. It is a newly formed lab by Mr. Vetrivelvan K, Assistant Professor of Chemical Engineering Department. The current work includes the treatment of various textile dyes and heavy metals from industrial effluents through photocatalytic degradation and adsorption using efficient Nano-materials prepared. Work is also going in marine growth prevention on offshore structures of oil industries. The lab aims to study multiple issues related to pollution and environmental degradation and to develop cost-effective, innovative processes and technologies in future to address them.

Accomplishment:

Publications:

1. Vetrivelvan Kumaran, Sudhagar P, Ajay Kumar Konga, Gomathipriya Ponniah, " Photocatalytic Degradation of Synthetic Organic Reactive Dye Wastewater Using GO-TiO₂ Nanocomposite", Polish Journal of Environmental Studies , published by HARD. Vol. 29, Issue 2, pp. 1683-1690 (2020).
2. Vetrivelvan Kumaran, Hariharan N, Ajaykumar Konga, Induja M, Gomathipriya Ponnaiah,"ZnO-rGO nanocomposite as high-performance photocatalyst in dye degradation", Indian Journal of Chemical Technology, published by NISCAIR. Vol. 27, Issue 5, pp. 424-429 (2020).
3. Vetrivelvan Kumaran, V. R. Reshmawahini, P. Gomathipriya, "Effect of Cu Dopant on ZnO Photocatalyst in the Degradation of Navy Blue Textile Dye from Synthetic

Wastewater", Chemical Engineering & Technology, published by Wiley. Vol. 44, Issue 5, pp. 942-947 (2021).

Conference Presentations:

1. Sudhagar.P, Vetrivelvan.K , Gomathi Priya.P, "REMOVAL OF ORANGE ME2RL BY PHOTOCATALYTIC METHOD USING SYNTHESIZED GO-TiO₂ NANO COMPOSITE" presented in a National level conference on Emerging Trends in Chemical and Petrochemical Technology, organised by Department of Petrochemical Technology, ANNA UNIVERSITY: BIT CAMPUS TIRUCHIRAPPALLI, in 2016.
2. Anbu A, Vetrivelvan Kumaran, "Industrial Wastewater Treatment Using Magnetic Nanoparticles by Adsorption" presented in a National level conference on Water Energy and Environment, organised by Department of Chemical Engineering, Hindustan Institute of Technology & Science, in 2019.
3. Vetrivelvan Kumaran, Reshmawahini V R, Gomathipriya P, "Effect of Cu Dopant on Photocatalytic Degradation of Industrial Wastewater by ZnO Nano Catalysts" presented in an International level conference on International Conference on Green Energy for Environmental Sustainability (ICGEES – 2020), organised by National Institute of Technology, Calicut (NITC), in 2020.

Student Projects:

1. M.Tech-Environmental Science and Engineering student from the lab, Arun.A got student funded project titled "Carbon Sphere Based Magnetic Nanocomposite for Oily Wastewater Treatment", under Student Project Scheme 2019-2020, Tamil Nadu State Council for Science and Technology in 2020.
2. B.Tech Chemical Engineering students from the lab, Athithiya R.T.S, Harikishore E and Vishnu Shree S got student funded project titled "Prevention of Marine Growth in Offshore Structures by Using Alternate Ultrasonic Waves" by Students innovative projects under research support scheme, Centre for Sponsored Research and Consultancy, Anna University in 2022

List of Major Equipments:

S.No.	Name of the Equipment
1.	UV-visible spectrophotometer
2.	Photocatalytic reactor
3.	Sonicator

List of Research Scholars:

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