

Patents Granted

1. Reduced Graphene Oxide Coated Oxidized Graphene Framework Incorporated Polymer Foam and Method for Preparing Thereof. Dharmveer Yadav, Shobha Shukla, Sumit Saxena. 507021, Feb 2024.
2. Oil Water Separation Graphome Column. Shobha Shukla, Sumit Saxena, Dharmveer Yadav, Jyotiraman De. 575441, Dec 2025.

Patents Published

3. System for continuous skimming of floating hydrocarbons liquids. Sumit Saxena, Shobha Shukla, Jyotiraman De, Dharmveer Yadav. Published, Application No: 202521106822, Nov 2025.

Journal Publication

1. Yadav, D., Chakraborty, T., Sahu, L. K., Redkar, N., Saxena, S., & Shukla, S. (2025). UV-regenerable PVDF/PEI/SnO₂ nano-composite membrane for antibiotic removal. *Chemical Engineering Journal*, 520, 166116. **(Q1, IF-13.4)**.
2. Yadav, D., Das, R. K., Saxena, S., & Shukla, S. (2023). OGF nanocomposite foam for enhanced recyclability and oil-recovery. *Journal of Cleaner Production*, 411, 137266. **(Q1, IF-10)**.
3. Yadav, D., Karunanithi, A., Saxena, S., & Shukla, S. (2022). Modified PVA membrane for separation of micro-emulsion. *Science of the Total Environment*, 822, 153610. **(Q1, IF-8.1)**.
4. Yadav, D., Chakraborty, T., Bedar, A., Saxena, S., & Shukla, S. (2025). Double-defence design for super-antifouling membranes in emulsion separation. *Separation and Purification Technology*, 367, 132851. **(Q1, IF-8.2)**.
5. Yadav, D., Chauhan, V. K., Thakur, A. K., Pradhan, K., Saxena, S., & Shukla, S. (2025). Salt resistant green graphene foam for solar energy conversion: Energy and economic analysis. *Renewable Energy*, 254, 123683. **(Q1, IF-9)**.
6. Das, R. K., Singh, G. P., Yadav, D., Palwe, A., Kumar, C., Saxena, S., & Shukla, S. (2025). Carbon Quantum Dots Based Nanocomposite for Selective Mercury Detection. *Small*, 21(7), 2404578. **(Q1, IF-13)**.

7. Redkar, N., Mishra, J., Yadav D., Das, R.K., Manohar, C., Saxena, S., Shukla. S., (2025). A Sustainable Bioinspired Nano-assembly of Live Marine Bacteria for Mineralization of Phenothiazine Dye, *Journal of Materials Chemistry A*, **(Q1, IF 11.9)**
8. Pradhan, K., Chauhan, V. K., Yadav, D., Thakur, A. K., Shukla, S., Duttagupta, S. P., & Saxena, S. (2025). Ferrite nano-coating for rapid sustainable desalination using solar stills. *Desalination*, *614*, 119131. **(Q1, IF-8.3)**.
9. Chakraborty, T., Yadav, D., Bedar, A., Joshi, R., Kumar Pandey, M., Saxena, S., & Shukla, S. (2025). Modified PVDF ultrafiltration membrane with host–guest supramolecular trapping for efficient separation of multiple organic contaminants. *Separation and Purification Technology*, *356*, 129725. **(Q1, IF-8.1)**.
10. Chakraborty, T., Yadav, D., Sahu, L. K., Pandey, M. K., Saxena, S., & Shukla, S. (2024). CB[6]/ZnO chelated superoleophobic-hydrophilic PVDF membranes for one-step remediation of multi-contaminant in wastewater. *Chemosphere*, *368*, 143637. **(Q1, IF-8.1)**.
11. Chakraborty, T., Yadav, D., Bedar, A., Pandey, M. K., Saxena, S., & Shukla, S. (2024). PVDF-Halloysite-Ceria multifunctional membrane for one-step treatment to industrial effluent. *Journal of Environmental Chemical Engineering*, *12*(3), 112936. **(Q1, IF-7.7)**.
12. Chakraborty, T., Yadav, D., Mondal, R., Pandey, M.K., Saxena, S., Shukla, S., (2026). Molecular recognition in PVDF–Montmorillonite–GO hybrid polymer membranes for precision pollutant removal and fouling resistance. *Journal of Environmental Chemical Engineering*, Volume 14, 121127 **(Q1, IF 7.7)**
13. Mondal, R., Chakraborty, T., Yadav, D., Bellare, J., Saxena, S., & Shukla, S. (2024). Poly(vinylidene fluoride)/Nickel Oxide–Montmorillonite Mixed-Matrix Membranes for Oil Separation from Emulsified Oily Wastewater. *ACS Applied Nano Materials*, *7*(19), 22752–22765. **(Q1, IF-5.3)**
14. Shejale, K. P., Shejale, K. P., Yadav, D., Patil, H., Patil, H., Saxena, S., Saxena, S., Shukla, S., & Shukla, S. (2020). Evaluation of techniques for the remediation of antibiotic-contaminated water using activated carbon. *Molecular Systems Design & Engineering*, *5*(4), 743–756. **(Q1, IF-4.9)**.
15. Bedar, A., Yadav, D., Kirti, S., Das, R. K., Saxena, S., & Shukla, S. (2024). Nanomagnets doped antifouling membrane for fine emulsion separation. *Polymer*, *290*, 126484. **(Q1, IF-4.6)**.

16. Agrawal, M., Chakraborty, T., Yadav, D., Saxena, S., & Shukla, S. (2025). Hydrophilic and superoleophobic GO-TiO₂ PVDF/PEI membrane with antifouling properties for efficient oil-water separation. *Next Materials*, 8, 100618. **(Q1)**.
17. Sawant, M., Chakraborty, T., Yadav, D., Biranje, S., Saxena, S., & Shukla, S. (2025). Stabilization strategies and optimization of polyvinyl alcohol-chitosan hybrid polymer. *Hybrid Advances*, 8, 100345. **(Q2)**.
18. Chakraborty, T., Yadav, D., Bedar, A., Pandey, M. K., Saxena, S., & Shukla, S. (2024). Synthesis and optimization of ceria variants via sol-gel combustion method for environmental remediation. *Materials Open Research*, 3, 1. **(Q2)**.
19. Rohit, H., Yadav, D., Shukla, S., Saxena, S., (2026). Development of Alginate Graphene Oxide Hydrogel as a Sustainable Platform for Emulsion Separation, *Hybrid Advances*, 13, 100658 **(Q2)**