

PUBLICATIONS

Patents and Copyrights

1. Patent Title: Hydroponics Wastewater Treatment System Authors: Dr. Sushil Kumar; Mrs. Sakshi Agrahari; Saurabh Babu. Design application no. 503448-001 Filed on 26-05-2026.
2. Patent Title: A Process of microbial decolorization of reactive textile dyes, Authors: Dr. Sushil Kumar; Dr. Radha Rani; Mrs. Ankita Srivastava. Application No.: 202311003682, Filed on 2023-01-18. (**Granted:** Patent No. 582185 dated 2026-03-02).
3. Patent Title: AN IONIC LIQUID-BASED NANO-PHOTOCATALYST AND A METHOD OF PREPARATION THEREOF, Authors: Dr. Dipesh S Patle, Dr. Sushil Kumar, Dr. P.R. Bhagat, Ms. Aparna Gautam. Application No.: 202311049944, Filed on: 2023-07-25. (**Granted:** Patent No. 533205 dated 16-04-2024).

Journals/Books Editors

1. **Kumar, S.,** Patle D.S., Ahmad Z. (**Guest editors**), Technological interventions in biomass processing: thematic issue for an international conference "CHEM-CONFLUX²²", *Biomass Conversion and Bio-refinery Journal (Springer)*, (2023). <https://doi.org/10.1007/s13399-023-04539-5>
2. **Kumar, S.,** Patle D.S., Ahmad Z. (**Guest editors**), Thematic issue on Technological interventions for promoting sustainability: selected extended papers from an international conference 'CHEM-CONFLUX²²' *Environmental Science and Pollution Research (Springer)* 30, 2023. <https://doi.org/10.1007/s11356-023-26521-4>
3. **Kumar, S.,** Patle D.S., Ahmad Z. (**Guest editors**), Special issue on "International Conference on Technological Interventions for Sustainability (CHEM-CONFLUX 2022)" *Material Today: Proceedings Journal (Elsevier)*, vol. 78(1), A1-A16, 1-208, 2023.
4. **Kumar, S.,** Patle D.S., Mungray A., (**Guest editors**), Special issue on "International Conference on Technological Interventions for Sustainability (CHEM-CONFLUX 2022)" *Energy Nexus Journal (Elsevier)*, 2023.
5. **Kumar, S.,** Patle D.S. (**Guest editors**), Special issue on "CHEM-CONFLUX²²", *Chemical Product and Process Modeling Journal (De Gruyter)* 16(2), 2023
6. **Kumar, S.,** Patle D.S., Zarghami R., (**Guest editors**), Special issue on "CHEM-CONFLUX²⁰", *Chemical Product and Process Modeling Journal (De Gruyter)* 16(2), 2021.
7. **Kumar, S.,** Patle D.S., (**Guest editors**), *Journal of Indian Chemical Society (Elsevier)* vol. 97(10a) 2020.
8. **Kumar, S.,** Patle D.S., Katiyar P., Sawarkar A.N. (eds.) *Proceedings, International Conference on Technological Interventions for Sustainability (CHEM-CONFLUX22)*, Excellent Publishing House, New Delhi, April 14-16, 2022 (ISBN 9789394086166).
9. **Kumar, S.,** Patle D.S. (eds.) *Proceedings, International Conference on Energy and Environmental Technologies for Sustainable Development (CHEM-CONFLUX20)*, Excellent Publishing House, New Delhi, February 14-16, 2020 (ISBN 9789386238863).
10. **Kumar, S.,** Jain, A. (eds.) *Proceedings, Conference on Technological Advancements in Chemical and Environmental Engineering*. Excellent Publishing House, New Delhi, March 23-24, 2012 (ISBN No.: 978519381583-31-9).

Book Chapters

1. Kumar Saurabh, Narayan Suman, Kumar Sushil, Green hydrogen and Fuel Cells: Production and Classification. Green Hydrogen and Fuel Cell Technology Publisher: Elsevier, 2025 (Accepted).
2. Gautam, A., Kumar, S. and Patle, D.S., Process intensification opportunities in the production of microalgal biofuels. *Microalgae-Based Systems: Process Integration and Process Intensification Approaches*, p.377. Publisher: Walter de Gruyter GmbH & Co KG.r, 2023
3. Meena R.R., Soni, P., **Kumar, S.**, *Electrocoagulation of fluoride from water with Fe-based ion electrode* in Book entitled "Advanced Treatment Technologies for Fluoride Removal in Water" (Springer Nature) 2023, 978-3-031-38845-3
4. Wasewar K.S., **Kumar, S.**, *Life cycle assessment (LCA) of plastics* in Book titled "Plastic and Microplastic in the Environment: Management and Health Risks" <https://doi.org/10.1002/9781119800897.ch13> (Elsevier) 2022.
5. Kamsonlian, S., Yadav, S., Wasewar K.S., Gaur A., **Kumar, S.**, *Treatment of contaminated water: membrane separation and biological processes*, Book titled "Contamination of Water: Health Risk Assessment and Treatment Strategies" (Elsevier) 2021, Pages 339-350, <https://doi.org/10.1016/B978-0-12-824058-8.00034-7>.
6. Arfin, R.M., Wasewar K.S., Katiyar P., **Kumar, S.**, *Process Intensification in wastewater treatment: Cavitations and hybrid technologies for organic pollutants* Book titled "Contamination of Water: Health Risk Assessment and Treatment Strategies" (Elsevier) 2021, Pages 363-374, <https://doi.org/10.1016/B978-0-12-824058-8.00034-7>.
7. Srivatava, A. Saxena, D., Patle, D., Gaur, A., **Kumar, S.** "Wastewater Treatment using Nano-Adsorbents based on Chitin/Chitosan Derivatives: A Review" Excel India Publishers, New Delhi (2020) (978-93-89947-26-7)
8. Gehlaut A.K., Hasan S.U., **Kumar S.**, Gaur A. "An overview of advance nano-materials for carbon dioxide capture and storage" Excel India Publishers, New Delhi (2020) (978-93-89947-26-7)
9. Patle, D.S., Khajone, V., Bhagat, P.R., Jaiswal, A.K., **Kumar, S.** "Functionalized ionic liquids for photodegradation of dyes" the book entitled "Water Pollution and Remediation: Photocatalysis" M. Inamuddin (ed.) **Springer**, 2020.
10. Sheth P. N., Gupta S., **Kumar S.** "Energy Integration in Process plants" for book entitled Sustainable utilization of natural resources, Mondal P., Dalai A. K. (eds.), **CRC Press** 2015 (ISBN No.: 9781315153292-19).
11. Nitin Sahai, Tanvi Jain, **Sushil Kumar** and P.K.Dutta "Development and selection of porous scaffolds using computer aided tissue engineering: An important tool for regenerative medicine" in New Springer book Series on "Polymer and Composite Materials" on Chitin & Chitosan for Regenerative Medicine Part II: Focus on therapeutics, functionalization & computer aided techniques. (ISBN No.: 978-81-322-2510-2) **Springer Pub.**
12. **Kumar, S.**, Prakash, N., Datta, D. *Biopolymers based on Carboxylic Acids Derived from Renewable Resources*, in Biopolymers: Biomedical and Environmental Applications. Susheel Kalia and Luc Avérous (eds.), **Scrivener Wiley Publishing** LLC, USA, 2011, 169-182 (ISBN No.: 9780470639238).

International Journals

1. Kumar S, **Kumar, S.** Statistical Optimization, Mechanistic and Thermodynamics Insights into Gallic Acid Extraction using Hydrophobic Deep Eutectic Solvent based on Tri-n-octyl Phosphine Oxide and Decanoic Acid. [*Journal of Chemical Technology & Biotechnology \(John Wiley; IF: 2.4\)*](#) 2026 (Accepted in Press).
2. Rishi Kumar Verma, Sushil Kumar, Performance Evaluation of a Solar-Powered Electrocoagulation Treatment of Tannery Wastewater with Rotating Electrodes of Aluminium and Iron: Response

Surface Methodology Optimization, Equilibrium Isotherms, Kinetics, and Economic Feasibility. [*Environmental Science and Pollution Research \(Springer\)*](#) 2026, 33, 2234–2255.

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4. Meena RR., Singh R.M., Soni P., Kumar R., **Kumar S.** Intensification of fluoride removal using electrocoagulation reactor with rotating fins and rings electrodes (Aluminium and Iron) in different configurations. [*Chemical Engineering and Processing: Process Intensification \(Elsevier; IF: 4.3\)*](#), 2025, 216, 110463.
5. Kumar S, **Kumar, S.** Potential of Deep Eutectic Solvents as Green and Sustainable Solvents for the Recovery of Carboxylic Acids from Aqueous Solution: A Review. [*Journal of Chemical Technology & Biotechnology \(John Wiley; IF: 2.4\)*](#) 2025, 10(8), 1541-1562.
6. Singh N., Patle D. S., **Kumar, S.** Natural Deep Eutectic Liquids as Green Solvents in Intensified Extraction of Bioactive Compounds from Fruit Wastes. [*Environmental Progress and Sustainable Energy \(John Wiley; IF: 2.8\)*](#) 2025, 44(4), e14651.
7. Agrahari, S., Singh N., Bharti B., **Kumar, S.** Medicinal plant ashwagandha in hydroponics: Pioneering greywater remediation using response surface methodology along with plants' physiological and phytochemical attributes for sustainable resource recovery. [*Chemosphere \(Elsevier; IF: 8.1\)*](#) 2025, 376, 144260.
8. Rishi Kumar Verma, Sushil Kumar, Intensification of electrocoagulation treatment of simulated tannery wastewater using rotating electrodes: Parametric, isotherms, kinetic and techno-economic studies. [*Chemical Engineering and Processing - Process Intensification \(Elsevier; IF: 4.3\)*](#) 2025, 209, 110150.
9. Gautam K., Kumar Y., Sonawane S., **Kumar S.** Electrochemical treatment of wastewater containing reactive Blue 4 (RB 4) dye: RSM and ANN optimization, techno-economic analysis and sludge characterization. [*Cleaner Chemical Engineering \(Elsevier; Scopus\)*](#) 2025, 11, 100138.
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11. Meena RR., Singh R.M., Soni P., Kumar R., **Kumar S.**, Fluoride Removal using a Rotating Anode Electro-Coagulation Reactor: Parametric Optimization using Response Surface Methodology, Isotherms and Kinetic Studies, Economic Analysis and Sludge Characterization. [*Journal of Environmental Management \(Elsevier; IF: 8.1\)*](#) 2024, 370, 122600.
12. Agrahari, S., **Kumar, S.** Emerging and Futuristic Phyto-Technologies for Sustainable Wastewater Treatment with Resource Recovery and Economical Aspects. [*Journal of Water Process Engineering \(Elsevier; IF: 6.7\)*](#) 2024, 65, 105753.
13. Jujaru M., Pradhan K., Gaur S., Jain A., Kumar S., Generation of Biosurfactants by *P. aeruginosa* gi |KP163922| on Waste Engine Oil in a Free and Immobilized Cells System. [*The Canadian Journal of Chemical Engineering \(John Wiley; IF: 1.8\)*](#) 2024, 102, 3776–3786.

14. Singh N., Patle D. S., **Kumar, S.** Microwave- and Ultrasonication-Based Intensified and Synergetic Approaches for Extraction of Bioactive Compounds from Pomegranate Peels: Parametric and Kinetic Studies. [*Industrial and Engineering Chemistry Research \(American Chemical Society\)*](#) 2024, 63, 20, 9214–9224.
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21. Dipesh S. Patle, Ahmad Z., Kumar S., Technological interventions for promoting sustainability: selected extended papers from an international conference 'CHEM-CONFLUX²²'. [*Environmental Science and Pollution Research \(Springer\)*](#) 2023, (30) 61523–61525.
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