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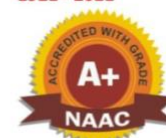
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School of Chemical Technology
Department of Biochemical Engineering
List of Articles Published (2025-26)

1. Mukherjee, K., Sengupta, S., **Singh, A. K.**, Tonk, R., Azizov, S., Rajwade, R. P., & Kumar, D. (2026). Therapeutic potential of *Bergenia ciliata* against lung cancer: an integrative molecular docking, ADMET, and molecular dynamics approach. *In Silico Pharmacology*, 14(1), 38. <https://doi.org/10.1007/s40203-025-00520-4>
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3. Dubey, A., **Singh, L. K.**, & Kumari, M. (2025). GC-MS technology evaluation of ethanol extract from (*Asparagus racemosus* Linn seeds) for possible prevention of *Staphylococcus aureus* infections inducing diabetic scarring. *Journal of Medicinal and Nanomaterials Chemistry*, 7(4), 373-383. <https://doi.org/10.48309/jmnc.2025.536358.1113>
4. Verma, D., Jha, M. K., & **Kumar, S.** (2025). A comprehensive review on lignin extraction from lignocellulosic biomass, and nano-lignin synthesis and modification for potential applications. *The Canadian Journal of Chemical Engineering*. <https://doi.org/10.1002/cjce.70151>
5. Sharma, A., **Kumar, S.**, & Chandel, A. K. (2025). Strategies to reduce carbon and water footprints in lignocellulosic biorefineries towards net zero carbon emissions. *Sustainable Energy Technologies and Assessments*, 82, 104454. <https://doi.org/10.1016/j.seta.2025.104454>
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7. **Agrahari, R.**, Karmakar, S., **Singh, L. K.**, & Rani, R. (2026). Emerging trends and advances in exoelectrogenic microbes as drivers of microbial fuel cells. *Discover Electrochemistry*, 3(1), 19. <https://doi.org/10.1007/s44373-026-00102-9>
8. Garima Awasthi, **Lalit Kumar Singh**, Mohit Nigam, Priyanka Mishra, Saijasi Dubey, Tripti Tripathi, Yash Raj, and Neeraj Mishra, Kinetic Study for the Microbial



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Production of Cellulase Enzyme by Optimizing the Substrate Cellulosic Lemongrass Waste Generated After Essential Oil Extraction. *International Journal of Environmental Sciences*, 2025; 119(20s): 2201-2210 <https://doi.org/10.64252/gtkavy39>

9. Nishad, V., **Kumar, S.**, & Sastry, S. V. (2026). A study on the adsorptive removal of chromium (VI) using zerovalent iron nanoparticles prepared from *Aegle marmelos* fruit shell: Kinetic and isotherm insights. *The Canadian Journal of Chemical Engineering*, 104(4), 1809-1819. <https://doi.org/10.1002/cjce.70214>
10. Dhongde, N. R., **Kumar, S.**, Meshram, S., Singh, S., Meher, J., & Dharmadhikari, S. (2026). Comparative Adsorption Study of Cr (VI) and Mn (II) Ions Using Raw and Chemically Activated Pomegranate Peel-Derived Carbon. *Hungarian Journal of Industry and Chemistry*, 54(1), 1-12. <https://doi.org/10.33927/hjic-2026-01>
11. Tripti Tripathi, **Shravan Kumar**, S.V.A.R. Sastry. Structural Modification of Sugarcane Bagasse using Alkaline, Acid, and Bleaching Pretreatments for Enhanced Yield of Poly (1→4)-β-D-glucopyranose (Cellulose) and Hemicellulose for Utilization as Biocomposites. *Journal of Polymer & Composites*. 2025; 13(06):983-992. <https://journals.stmjournals.com/jopc/article=2025/view=235277>
12. Phillip, A., **Kumar, S.**, & Shah, S. A. (2025). Valorization of Fruit Processing Wastes for Sustainable Biofuel Production: Composition, Co-Digestion Approaches for Enhanced Biogas Production, and Associated Challenges. *European Journal of Scientific Research and Reviews*, 3(3), 191-203. [10.5455/EJSRR.20250626080851](https://doi.org/10.5455/EJSRR.20250626080851)
13. Nishad, V., **Kumar, S.**, & Sastry, S. V. A. R. (2025). Kinetics, isotherms and thermodynamics studies of Cr (VI) removal using zero-valent iron nanoparticles synthesized from *Aegle marmelos* (Bael) plant extract. *Nanotechnology for Environmental Engineering*, 10(3), 66. <https://doi.org/10.1007/s41204-025-00468-y>
14. Singh, P., & **Singh, L. K.** (2025). Carbon quantum dots as a promising tool for heavy metal sensing and removal in wastewater. *Desalination and Water Treatment*, 101435. <https://doi.org/10.1016/j.dwt.2025.101435>
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16. Kumari M, Ghosh NS, **Singh LK**, Dubey A. (2025). Natural and synthetic polymers: A comprehensive review of their applications in drug delivery and pharmaceutical



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research. *International Journal of Pharmaceutical Chemistry & Analysis*, 12(3):131-144. <https://doi.org/10.18231/j.ijpca.46808.1762759166>

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1. Yadav, P. K., Ojha, K. K., Kumar, A., & **Singh, A. K.** (2025). 3D-QSAR based computational screening of potent ligands against L-type calcium channel (LTCC) protein structure for iron overload in β -thalassemia. *Computers in Biology and Medicine*, 194, 110551. <https://doi.org/10.1016/j.combiomed.2025.110551>
2. Singh, P., & **Singh, L. K.** (2024). Myeloperoxidase enzyme-catalyzed breakdown of zero-dimension carbon quantum dots. *Frontiers in Medical Technology*, 6, 1493288. <https://doi.org/10.3389/fmedt.2024.1493288>
3. Nishad, V., **Kumar, S.**, & Sastry, S. V. A. R. (2025). A review on heavy metals removal using zerovalent iron nanoparticles: Synthesis, mechanism, applications, and challenges. *Trends in Sciences*, 22(5), 9702-9702. <https://doi.org/10.48048/tis.2025.9702>
4. Zainab Mahmood & **Lalit Kumar Singh** (2024). Microbial oil from *R. opacus*: Sustainable biodiesel production. *Research Journal of Chemistry and Environment*, 28, 107-114. <https://doi.org/10.25303/2811rjce01070114>
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6. Bhowmik, S., Prajapati, S. C., **Kumar, S.**, Priyanka, K., & Saxena, R. (2025). Bioremediation of Arsenic metal from water and soil by *Bacillus species*- A review. *Journal of Integrated Science & Technology*, 13(2), 1038. <https://doi.org/10.62110/sciencein.jist.2025.v13.1038>
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<https://doi.org/10.1016/j.eneco.2024.06.003>

9. Rashmi, Tripti Tripathi, Sanjit Pandey and **Shravan Kumar** (2024). Transforming Lignocellulosic Biomass into Biofuels: Recent Innovations in Pretreatment and Bioconversion Techniques. *International Journal for Research in Applied Science & Engineering Technology*, 12(X), 1079-1089.
<https://doi.org/10.22214/ijraset.2024.64808>
10. Nigam M, **Singh LK** (2025). Biodegradation of Toxic Dyes using a Multi-Microbial System with *Pseudomonas putida* and *Lysinibacillus sphaericus* Consortium and Pathway Elucidation for Acid Yellow 42, Reactive Red 198 and Reactive Black 5. *Jornal of Neonatal Surgery*. 14(17S):841-848.
<https://www.jneonatsurg.com/index.php/jns/article/view/4677>
11. **Lalit Kumar Singh**, Deepika Shukla, Sadaf Hashmi, Mamta Tiwari, Anubhav Dubey, Mamta Kumari, Vaishnavi Sahu, Narendra Kumar Prajapati (2025). Diabetic wound mechanisms: pathogenesis, molecular targets. *Cuestiones de Fisioterapia*, 54, 2522-2549. <https://doi.org/10.48047/nf26pn19>
12. Awasthi, A., Maheshwari, V., Rastogi, K., Singh, K., **Kumar, S.**, Kapoor, A., & Sastry, S. V. A. R. (2025). Treatment of textile dyes using modified banyan leaf-based biosorbent using batch and intensified batch process: Kinetic and isotherm studies. *Biomass Conversion and Biorefinery*, 15(19), 26285-26300.
<https://doi.org/10.1007/s13399-023-05173-x>



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1. Agarwal, P., Vibhandik, R., **Agrahari, R.**, Daverey, A., & Rani, R. (2024). Role of root exudates on the soil microbial diversity and biogeochemistry of heavy metals. *Applied Biochemistry and Biotechnology*, 196(5), 2673-2693. <https://doi.org/10.1007/s12010-023-04465-2>
2. Nigam, M., & **Singh, L. K.** (2024). Comparative Evaluation of *Pseudomonas putida* and *Lysinibacillus sphaericus* in Submerged Fermentation for Microbial Degradation of Dyes Present in Industrial Effluents. *International Journal of Basic and Applied Biology*, 11(1), 18-22. <http://www.krishisanskriti.org/Publication.html>
3. Raj, T., Sompura, S., Chandrasekhar, K., Singh, S. K., Pandey, S., **Singh, L. K.**, ... & Singhania, R. R. (2023). Technology development and challenges for the transformation of municipal solid waste into sustainable energy production. *Biomass and Bioenergy*, 178, 106965. <https://doi.org/10.1016/j.biombioe.2023.106965>
4. Alok Raja, Om Prakash Singh, Abhishek Kumar Lal, Shakti Katiyar, Hemant Kumar Sharma, **Shravan Kumar**, Rahul (2023). Effect of Rice Husk Ash and Ground Granulated Blast-Furnace Slag on Mechanical Properties and Resistance to Chloride Penetration of High Strength Concrete. *Eur. Chem. Bull.* 12(12), 1883-1893 [10.48047/ecb/2023.12.12.1252023.29/09/2023](https://doi.org/10.48047/ecb/2023.12.12.1252023.29/09/2023)
5. Brahman Pasumarthi, Shiv Charan Prajapati, Alok Raj, Reena Saxena, **Shravan Kumar**, Rahul (2024). Assessment of heavy metal contamination in urban soil and its implications for human health. *Migration Letters*, 21(S6), 1671-1692. www.migrationletters.com
6. Mahmood, Z., & **Singh, L. K.** (2023). *Rhodococcus opacus* high-cell-density batch cultivation with a bagasse hydrolysate for possible triacylglycerol synthesis. *Biomedical and Biotechnology Research Journal (BBRJ)*, 7(2), 209-217. https://doi.org/10.4103/bbrj.bbrj_55_23
7. Mahmood Zainab and **Singh Lalit Kumar** (2023) Enhanced Production of Microbial Lipid from *R. opacus* using Bagasse Hydrolysate *Res. J. Chem. Environ.*, Vol. 27(12), 64-75. <https://doi.org/10.25303/2712rjce064075>



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9. Shukla Abhimati and **Singh Lalit Kumar** (2023). A comparative study on the removal and recovery of hexavalent chromium from tannery wastewater using an isolated strain *Aspergillus proliferans* LA and a known strain *Aspergillus terreus*. *Res. J. Chem. Environ*, Vol. 27(11), 97-109. <https://doi.org/10.25303/2711rjce0970109>



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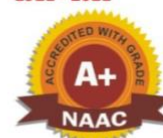
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1. **Agrahari, R.,** & Rani, R. (2022). Electrochemical behavior of a multi modular microbial fuel cell operated using cow dung enriched inoculum: enhanced energy recovery using electrochemical optimization. *Journal of Cleaner Production*, 374, 133901. <https://doi.org/10.1016/j.jclepro.2022.133901>
2. Pandey, A. K., Park, J., Ko, J., Joo, H. H., Raj, T., **Singh, L. K.,** ... & Kim, S. H. (2023). Machine learning in fermentative biohydrogen production: advantages, challenges, and applications. *Bioresource technology*, 370, 128502. <https://doi.org/10.1016/j.biortech.2022.128502>
3. Dwivedi, E., & **Singh, L. K.** (2023). Immobilization of Laccase Enzyme and its Application. *J Clin Bio Med Adv* 2 (1) 01, 4. [308-__article1684302705.pdf](#)
4. Shukla, A., & **Singh, L. K.** (2023). Insight Into Biosorption of Hexavalent Chromium Using Isolated Species *Aspergillus Proliferans* LA: A Systemic and In silico Studies. *Biomedical and Biotechnology Research Journal (BBRJ)*, 7(1), 83-92. https://doi.org/10.4103/bbrj.bbrj_7_23
5. Dwivedi, E., & **Singh, L. K.** (2022) Comprehensive Review on Biological Synthesis of Copper Nanoparticles and Their Multivariate Applications. *Adv Appl Sci Res.* 13:99. <https://doi.org/10.36648/0976-8610.13.11.99>