Research Contributions

(Google Scholar Citations 373, h index – 9, i10 index - 8)

- Authored **14+ SCI-indexed journal publications (Q1/Q2)**
- **Indian Patent Granted** on cellulose nanocrystal synthesis (2022)
- Extensive work on Janus nanoparticles, bimetallic catalysts, and sustainable catalytic processes
- Research aligned with industry relevance, sustainability, and technology transfer

Research Publications (09)

1. **Landge, V. K.**, Sonawane, S. H., Chaudhari, R. V., & Babu, G. U. B. (2020). Selective oxidation of Glycerol: a Biomass-derived feedstock using the Pt–Cu Janus catalyst for value-added products. Industrial & Engineering Chemistry Research, 60(1), 185-195.
   DOI: 10.1021/acs.iecr.0c04626 (**IF- 4.2, Q1**)
   url: https://pubs.acs.org/doi/abs/10.1021/acs.iecr.0c04626
2. **Landge, V. K**., Sonawane, S. H., Sivakumar, M., Sonawane, S. S., Babu, G. U. B., & Boczkaj, G. (2021). S-scheme heterojunction Bi_2O_3-ZnO/Bentonite clay composite with enhanced photocatalytic performance. Sustainable Energy Technologies and Assessments, 45, 101194. DOI: 10.1016/j.seta.2021.101194 (**IF-8, Q1**).
   url: https://www.sciencedirect.com/science/article/abs/pii/S2213138821002046
3. **Landge, V. K.**, Sonawane, S. H., Manickam, S., Babu, G. U. B., & Boczkaj, G. (2021). Ultrasound-assisted wet-impregnation of Ag-Co nanoparticles on cellulose nanofibers: Enhanced catalytic hydrogenation of 4-nitrophenol. Journal of Environmental Chemical Engineering, 105719. DOI: 10.1016/j.jece.2021.105719 (**IF-7.7, Q1**).
   url: https://www.sciencedirect.com/science/article/abs/pii/S2213343721006965
4. **Landge, V. K.**, Hakke V. S., Sonawane, S. H., Kakunuri M., Babu, G. U. B., & Boczkaj, G. (2022). Synthesis of bimetallic Co-Pt/Cellulose nanocomposites for catalytic reduction of p-nitrophenol. Reaction Chemistry & Engineering. 7, 641-652. DOI: 10.1039/D1RE00422K (**IF-3.9, Q1**).
   url: https://pubs.rsc.org/en/content/articlelanding/2022/re/d1re00422k/unauth
5. Hakke, V. S., **Landge, V. K.**, Sonawane, S. H., Babu, G. U. B., Manickam, S., & Boczkaj, G. (2022). Cu (II) ions removal from wastewater using starch nanoparticles (SNPs): An eco-sustainable approach. The Canadian Journal of Chemical Engineering (**IF-2.1, Q2**). DOI: https://doi.org/10.1002/cjce.24588,
   url: https://onlinelibrary.wiley.com/doi/abs/10.1002/cjce.24588
6. Sonawane, S., Rayaroth, M. P., **Landge, V. K.**, Fedorov, K., & Boczkaj, G. (2022). Thermally activated persulfate-based Advanced Oxidation Processes—recent progress and challenges in mineralization of persistent organic chemicals: a review. Current Opinion in

Chemical Engineering, 37, 100839 (**IF-6.6, Q1**). DOI: https://doi.org/10.1016/j.coche.2022.100839,
url: https://www.sciencedirect.com/science/article/pii/S2211339822000491

7. **Landge, V. K.**, Huang, C. M., Hakke, V. S., Sonawane, S. H., Manickam, S., & Hsieh, M. C. (2022). Solar-Energy-Driven Cu-ZnO/TiO_2 Nanocomposite Photocatalyst for the Rapid Degradation of Congo Red Azo Dye. Catalysts, 12(6), 605 (**IF-3.9, Q2**). DOI: https://doi.org/10.3390/catal12060605,
url: https://www.mdpi.com/2073-4344/12/6/605
8. Hakke, V. S., **Landge, V. K.**, Sonawane, S. H., Babu, G. U. B., Ashokkumar, M., & Flores, E. M. (2022). The physical, mechanical, thermal, and barrier properties of starch nanoparticle (SNP)/polyurethane (PU) nanocomposite films synthesized by an ultrasound-assisted process. Ultrasonics Sonochemistry, 88, 106069 (**IF-8.4, Q1**).
DOI: https://doi.org/10.1016/j.ultsonch.2022.106069,
url: https://www.sciencedirect.com/science/article/pii/S1350417722001626.
9. **Vividha K Landge**, R. W. Gaikwad, Hemant S. Sadafale, Vikas S. Hakke, Shirish H. Sonawane, A. R. Warade, S. A. Misal, (2026). Unraveling zeolite-paper composite as a sustainable adsorbent material for efficient removal of zinc ions. Materials Science and Engineering: B, 328, 119288 (**IF- 4.6, Q1**)
DOI: https://doi.org/10.1016/j.mseb.2026.119288
url: https://www.sciencedirect.com/science/article/pii/S0921510726001121?dgcid=coauthor

Book Chapter Details (05)

1. S. B. Potdar, **V. K. Landge**, S. S. Barkade, Irina Potoroko, S. H. Sonawane, “Flavor encapsulation and release studies in food”, in Encapsulation of active molecules and their delivery systems, Elsevier 2019. ISBN No.: 9780128193631
2. Sneha A. Korpe, **Vividha K. Landge**, Vikas S. Hakke, Shirish H. Sonawane, P. V. Rao and, Shriram S. Sonawane, AOPs for Petrochemical/Textile/Tannery industry wastewater treatment, Novel Approaches Towards Wastewater Treatment and Resource Recovery Technologies, Edited by Arvind Kumar Mungray, Alka A. Mungray, Shriram Sonawane, Shirish Sonawane, Elsevier, August 1, 2022. ISBN: 9780323906272. https://doi.org/10.1016/B978-0-323-90627-2.00002-2.
3. **Vividha K. Landge**, Vikas S. Hakke, Sneha A. Korpe, P. Venkateswara Rao, and, Shirish Sonawane, Hybrid systems using hydrodynamic cavitation / ultrasound / Fenton processes for effective treatment of wastewater, Novel Approaches Towards Wastewater Treatment and Resource Recovery Technologies, Edited by Arvind Kumar Mungray, Alka A. Mungray, Shriram Sonawane, Shirish Sonawane, Elsevier,

August 1, 2022. ISBN: 9780323906272. http:// doi.org/10.1016/B978-0-323-90627-2.00003-4.

4. Vikas S. Hakke, **Vividha K. Landge**, and Shirish Sonawane, R. W Gaikwad. Mathematical, numerical and experimental investigations of metal extraction processes, Applications of Nanofluids in Chemical and Bio-medical Process Industry, Edited by Shriram Sonawane, Hussein A. Mohammed, Arvind Kumar Mungray, Shirish Sonawane Elsevier, June 1, 2022. ISBN: 9780323905640. https://doi.org/10.1016/B978-0-323-90564-0.00012-X.
5. Hemant S. Sadafale, Vikas S. Hakke, **Vividha K. Landge** and R. W. Gaikwad, "Hydrodynamic Cavitation Treatment: Effect of Orifice Design on Treating Semiconductor Wastewater" in Advances in Environmental Research (Volume 105) Edited by Justin A. Daniels, Nova Science Publishers, Inc. ISBN: 979-8-89530-500-3 (eBook), ISSN: 2158-5717, DOI: https://doi.org/10.52305/JXFB5757

Granted Indian Patent (01)

- Shirish H. Sonawane, Vikas Hakke, **Vividha K Landge**, P. Dilip Kumar, "Time and productive method for the production of cellulose nanocrystals and its use thereof", Indian Patent no 538910, Granted from 11/11/2022.

Conferences & Professional Activities

- Presented research at ISCRE-26, Pacifichem-2021, IIT Guwahati (2020), IIT Delhi (2021), SVNIT (2021), SVERI (2024), etc.
- Contributor to international conferences on catalysis, sonochemistry, process intensification and wastewater treatment

Peer-Review Recognition in Reputed Journals

Has been recognized through reviewer certifications from internationally reputed Springer journals:

- Reviewer for **Scientific Reports** (2025)
- Reviewer for **Water, Air, & Soil Pollution** (2025)