

SCIE JOURNAL PUBLICATIONS: -

(SCIE = 08, ESCI = 03, SCOPUS = 10 & WOS = 3)

- 1) **Bhagat, R.M.**, Khandeshwar, S.R., Ranit, A.B. et al. "Tailoring the pore structure of mesoporous composite agro-based adsorbents for the enhanced removal of Cu(II) and Ni(II) heavy metal ions from wastewater." (SCIE) Clean Techn Environ Policy (2025). <https://doi.org/10.1007/s10098-025-03316-4>
- 2) **Rajesh M. Bhagat**, Dilendra B. Jasutkar, Amitkumar B. Ranit, et al. "Machine learning and optimization in hybrid energy storage systems: Integrating MPC, PSO, MILP, and ANN for grid stability and efficiency," International Journal of Electrical Power & Energy Systems, Volume 170, 2025, <https://doi.org/10.1016/j.ijepes.2025.110904>
- 3) Jadhav, A.N., **Bhagat, R.M.**, Bhusari, V. et al. "Synthesis and Photoluminescence in K₅La(MoO₄)₄: Ln³⁺ (Ln = Tb, Er) Green-Emitting Phosphor for Optoelectronic Applications." (SCIE) J. Electron. Mater. (2025). <https://doi.org/10.1007/s11664-025-12234-6>
- 4) Akshay Pimpalkar, **Rajesh M. Bhagat**, Shruti P. Dhale, Ashok A. Mistry, Nilesh S. Ugemuge, Rujuta Joshi, R. Nithya, Prachita A. Patil, K.M. Nissamudeen, "Synthesis and spectroscopic analysis in Ca₃NbGa₃Si₂O₁₄: Ln³⁺(Ln= Sm,Tb) phosphor for optical applications," (SCIE) Journal of Luminescence, Volume 286, 2025, 121363, ISSN 0022-2313, <https://doi.org/10.1016/j.jlumin.2025.121363>.
- 5) Ugemuge, N.S., **Bhagat, R.M.**, Warutkar, G. et al. "Recent Advances in Vanadate Phosphor Materials: Synthesis and Optoelectronic Applications: A Comprehensive Review." (SCIE) J. Electron. Mater. (2025). <https://doi.org/10.1007/s11664-025-12206-w>
- 6) Raut, J.M., Pande, P.B., Madurwar, K.V., **Bhagat, R.M.**, et al. "Life cycle assessment and multicriteria decision making analysis of additive manufacturing processes towards optimal performance and sustainability." (SCIE) Scientific Report 15, 25167 (2025). <https://doi.org/10.1038/s41598-025-92025-5>
- 7) Randive, P., Bhagat, M.S., Bhorkar, M.P., **Bhagat, R.M.**, et al. "Adaptive optimization of natural coagulants using hybrid machine learning approach for sustainable water treatment." (SCIE) Scientific Report, 15, 16096 (2025). <https://doi.org/10.1038/s41598-025-96750-9>
- 8) Jayant M. Raut, Prashant B. Pande, Kamlesh V. Madurwar, Boskey V. Bahoria, **Rajesh M. Bhagat**, Niteen T. Kakade, Pravin Y. Karmore, Latika Pinjarkar, Manjushree Muley, "Performance optimization of hybrid nano-engineered geopolymer binders-based ultra-high-performance concrete", Nano-Structures & Nano-Objects, Volume 42, 2025, <https://doi.org/10.1016/j.nanoso.2025.101469>

- 9) **R. M. Bhagat** and S. R. Khandeshwar, "Removal of Nickel from Industrial Wastewater by an Agro-based Composite Adsorbent," *Nature Environment and Pollution Technology*, Vol. 23, Issue No. 01, pp. 505-515, 2024.
- 10) **Rajesh Bhagat** and S. R. Khandeshwar, "Characterization of Developed Agro-Based Adsorbents: A Study," *Key Engineering Materials*, ISSN: 1662-9795, Vol. 960, pp 171-184 , 2023, doi:10.4028/p-RbOb2z
- 11) **Bhagat R.M.**, Pande P.B., Raut J.M., Dhengare S.W, Borse A.S., Jasutkar D.B., "Optimizing Urban Infrastructure: Design and Analysis of Sewer Networks with SewerGEMS" *International Journal of Engineering Trends and Technology* Volume 72, Issue 10, 225-234, October 2024, ISSN: 2231-5381 , <https://doi.org/10.14445/22315381/IJETT-V72I10P122>
- 12) **R. M. Bhagat** and S. R. Khandeshwar, "Utilization of Wheat and Pigeon Pea Husk Adsorbents to Remove Copper and Nickel from Industrial Wastewater," *Eco. Env. & Cons.* 29 (November Suppl. Issue) : 2023; pp.(S122-S129), <http://doi.org/10.53550/EEC.2023.v29i06s.020>
- 13) **Rajesh M. Bhagat**, Jayant M. Raut, Boskey V. Bahoria, Sagar W. Dhengare, Prashant B. Pande, Yoginee S. Pethe, Nilesh Shelke, Vikrant S. Vairagade, "Strength prediction of fly ash-based sustainable concrete using machine learning techniques: an application of advanced decisionmaking approaches," (*eSCI*) *Multiscale and Multidisciplinary Modeling, Experiments and Design*, (2025) 8:96, pp 1-19, <https://doi.org/10.1007/s41939-024-00697-9>
- 14) Prashant Pande, Jayant Raut, **Rajesh Bhagat**, Boskey Bahoria , "Influence of Agro-Industrial Waste on Unconfined Compression Strength Parameters of Expansive Soil: An Experimental Investigation," *Journal of Advanced Research in Applied Mechanics* 125, Issue 1 (2025) 27-41, <https://doi.org/10.37934/aram.125.1.2741>
- 15) Jayant Raut, Prashant Pande, Avinash Vasudeo, **Rajesh Bhagat**, Boskey Bahoria, Atul Kurzekar, "Experimental Tests of Slope Failure due to Rainfall using Physical Slope Modelling," *Journal of Advanced Research in Applied Mechanics* 126, Issue 1, 2025, pp 49-59 49, <https://doi.org/10.37934/aram.126.1.4959>
- 16) Boskey V. Bahoria , Prashant B. Pande, Sagar, W. Dhengare, Jayant M. Raut, **Rajesh M. Bhagat**, Nilesh M. Shelke , Satyajit S. Uparkar , Vikrant S. Vairagade, "Predictive models for properties of hybrid blended modified sustainable concrete incorporating nano-silica, basalt fibers, and recycled aggregates: Application of advanced artificial intelligence techniques," *Nano-Structures & Nano-Objects* 40 , (2024) 101373, <https://doi.org/10.1016/j.nanoso.2024.101373>

- 17) Prashant B. Pande, Sagar W. Dhengare, Jayant M. Raut, **Rajesh M. Bhagat**, Boskey V. Bahoria, Nilesh Shelke, Sachin D. Upadhye, Vikrant S. Vairagade, “Optimizing sustainability and resilience of composite construction materials using life cycle assessment and advanced artificial intelligence techniques,” Asian Journal of Civil Engineering, 2024, <https://doi.org/10.1007/s42107-024-01200-y>
- 18) Prashant B. Pande, Sagar W. Dhengare, Jayant M. Raut, **Rajesh M. Bhagat**, Boskey V. Bahoria, Nilesh Shelke, Sruthi Nair, Vikrant S. Vairagade, “Integrated hybrid machine learning techniques and multiscale modeling towards evaluating the influence of nano-material on strength of concret,” (eSCI) Multiscale and Multidisciplinary Modeling, Experiments and Design, (2025) 8:26, <https://doi.org/10.1007/s41939-024-00588-z>
- 19) Bahoria, B.V., **Bhagat, R.M.**, Pande, P.B. et al. “Design optimization of 3D printed concrete elements considering life cycle assessment and life cycle costing,” Int J Interact Des Manuf., 19, 2183–2202 (2025). <https://doi.org/10.1007/s12008-024-02193-3>
- 20) Raut, J. M., Pande, P. B., Bahoria, B. V., **Bhagat, R. M.**, Kumbhalkar, M. A., Sargar, T. S. and Sakhlecha, M., “Dynamic Analysis and Balancing of Railway Tracks Supported by Concrete Sleepers,” African Journal of Applied Research, Vol. 11, No. 1 (2025), pp.838-856, <http://www.ajaronline.com>, <https://doi.org/10.26437/ajar.v11i1>
- 21) Dhengare, S.W., **Bhagat, R.M.**, Raut, J.M. et al. “Application of Advanced Data Fusion and Hybrid Machine Learning Techniques for Strength Prediction and Optimization of Fly-Ash Based Sustainable Concrete.” SN COMPUT. SCI. 6, 232 (2025). <https://doi.org/10.1007/s42979-025-03764-1>
- 22) **R. M. Bhagat** and S. R. Khandeshwar, “Utilizing Agricultural-based Adsorbents to Remove Copper and Nickel from Industrial Wastewater,” International Journal of Engineering and Management Research, Volume-13, Issue-3 (June 2023), <https://doi.org/10.31033/ijemr.13.3.20>
- 23) **Rajesh M. Bhagat**, “Transit Oriented Development and Environmental Impact of Nagpur Metro Rail Project: A Case Study of Nagpur Metro Alignment-2” International Journal for Research in Applied Science & Engineering Technology, Vol.-06, Issue-1, January-2018, ISSN: 2321-9653.
- 24) **Rajesh M. Bhagat**, “Building Information Modeling for Construction Industry in India,” International Journal of Emerging Trends in Engg. & Science, Vol.-02, Issue-04, July-Aug 2015, PP 88-92, ISSN 2349-6967.
- 25) **Rajesh M. Bhagat**, “Impact of Vetiver Grass on Properties of Domestic Wastewater,” International Journal of Emerging Trends in Engg. & Science, Vol.-02, Issue-04, July-Aug 2015, PP 126-132, ISSN 2349-6967.

- 26) **Rajesh M. Bhagat**, “Impact of Domestic Sewage for Irrigation on Properties of Soil,” International Journal of Research Studies in Science, Engg & Technology, Vol.-01, Issue-05, Aug.-2014, PP 60-64, ISSN 2349-4751.

CONFERENCE PUBLICATION:- SCOPUS = 05

- 1) Bhagat, R.M. et al. (2025). A Comprehensive Review of Sewer Network Design by SewerGEMS. In: Khode, B.V., Kurwadkar, S., Pawade, P., Ghodmare, S.D., Khan, H.A. (eds) Innovations in Technologies: Pioneering Sustainable Infrastructure for a Resilient Future. IC-RTIDSM 2023. Sustainable Civil Infrastructures. Springer, Cham. https://doi.org/10.1007/978-3-031-82133-2_33, 5th International Conference on Recent Trends in Infrastructural Development and Sustainable Materials (IC-RTIDSM-2024) 9 & 10 February, 2024, by Department of Civil Engineering at G H Raison College of Engineering, Nagpur (India).
- 2) **Rajesh Bhagat**, Shahu Zade; Kishor Gorre; Divya Nighade; Mahek Khan; Akshay Talwekar; Ved Shinde; Atul Kurzekar; Jayant Raut ‘Optimization and simulation of water distribution network system: A comprehensive review,’ AIP Conf. Proc. 3231, 060008, (2024), <https://doi.org/10.1063/5.0235923>, Fifth International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2023) organized by the Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, Tamil Nadu, India held during 29 - 30, December 2023.
- 3) S. W. Dhengare; U. P. Waghe; Abhishek Dakhole; **R. M. Bhagat**, ‘Evaluation of various-shaped elevated RCC water storage vessels in zone V,’ AIP Conf. Proc. 3231, 060016 (2024), <https://doi.org/10.1063/5.0236243>, Fifth International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2023) organized by the Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, Tamil Nadu, India held during 29 - 30, December 2023.
- 4) Atul S. Kurzekar; Uday P. Waghe; **Rajesh M. Bhagat**; Yogesh P. Kherde, ‘Evaluation of various-shaped elevated RCC water storage vessels in zone V,’ AIP Conf. Proc. 3188, 070005 (2024), <https://doi.org/10.1063/5.0240286>, Fifth International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2023) organized by the Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, Tamil Nadu, India held during 29 - 30, December 2023.
- 5) Badhiye, A., Bahoria, B.V., Pande, P.B., Raut, J.M., **Bhagat, R.M.** (2025). Comparative Analysis and Design of Staging Structure of Elevated Tank for Offsite Precast and Cast in Place Structure. In: K N, S., Wee, H.M., Oliveira, M.O. (eds) Innovations in Electronic Materials: Advancing Technology for a Sustainable Future. ICEAMST 2024. Advances in Science, Technology & Innovation. Springer, Cham. https://doi.org/10.1007/978-3-031-73816-6_2, ICEAMST-2024, RV College of Engg. Bengaluru, 3-4th July 2024.

- 6) A Paper Presented on 'Composite Adsorbent to Remove Heavy Metals from Industrial Wastewater', in a National Conference on Recent Advances in Engg and Technology-2019 at GCOE, Nagpur on 15th Feb 2019.
- 7) A Paper Presented on 'Removal of Cu and Ni from Synthetic Solution by Developed Adsorbents from Wheat and Pigeon Pea Husk', in a International conference on Advancing Knowledge from Multidisciplinary Perspectives in Engg. & Tech. ICAKMPET-23, 26th & 27th January 2023, Hybrid Conference, IFERP, Philippines.
- 8) A Paper Presented on 'Removal of Cu and Ni from Industrial Wastewater by Agro-based Adsorbents', in International Conference on Innovation in Engg., Science and Management, ICIESM-23, WCOEM, Nagpur on 21st Feb 2023
- 9) A Paper Presented on 'Removal of copper from industrial wastewater by developed composite adsorbents', in International Conference on Advances in Water Treatment and Management (ICAWTM-23) 11-12 March 2023, Gandhinagar, Gujarat, India.
- 10) A Paper Presented on 'Green Building: A Global Approach for Sustainable Development', in an International Conference (Techelons-2014) in Association with Dept. of Science & Technology (Govt. of India) at PRPCOE, Amravati.

PATENT PUBLISHED AND GRANT:-

- 1) An Agro-Based Composite Adsorbent to Remove Heavy Metals from Industrial Wastewater, Application No. 202321044247, Published on 22/09/2023, awaiting grant.
- 2) A Method for Preparing Brick Comprising Recycled Sand and Dust from Constructional Demolition Waste, Published on 22/11/2024, awaiting grant.
- 3) A Composition for Preparing Sustainable Concrete Comprising Marble Powder and Copper Slag, by Amruta A. Yadav, Ajay R. Gajbhiye, Rajesh M. Bhagat, Harshal R. Nikhade, Sneha G. Hirekhan, Jayant M. Raut, Published on 06/12/2024, awaiting grant.
- 4) A Method for Producing Artificial Aggregates from Waste Materials, by Prajkta U. Waghe, Atul S. Kurzekar, Uday P. Waghe, Sneha G. Hirekhan, Rajesh M. Bhagat, Yogesh P. Kherde, Published on 29/11/2024, awaiting grant.
- 5) A Method for Preparing Lightweight Fill Materials, by Sneha G. Hirekhan, Harshal R. Nikhade, Anshul R. Nikhade, Amruta A. Yadav, Abahy G. Hirekhan, Atul S. Kurzekar, Monali R. Wagh, Rajesh M. Bhagat, Sagar W. Dhengare, Published on 06/12/2024, awaiting grant.
- 6) A Real-Time Monitoring System for Compost Tea, by Madhuri S. Bhagat, Aniruddha D. Ghare, Rajesh M. Bhagat, Yogita K. Shrivastava, Prachitesh P. Wakde, Ishant H. Meshram, Devang D. Kene, Published on 29/11/2024, awaiting grant.

- 7) A Self-Flushing System for Weirs, by Radhika Thakre, Yogesh Kherde, Uday Waghe, Rajesh M. Bhagat, Published on 29/11/2024, awaiting grant.
- 8) An Instrument for Determination of Stability of Slope, by J. M. Raut, Rajendra R. Dighade, Shantanu R. Khandeshwar, Prashant B. Pande, Harshal R. Nikhade, Rajesh M. Bhagat, Dhiraj G. Agrawal, Pawan K. Hinge, Vaishali N. Mendhe, Vilas G. Meshram, Published on 22/09/2023, awaiting grant.
- 9) A Composition for Making Sustainable Concrete Comprising Metakaolin and Copper Slag, by Amruta Yadav, Ajay R. Gajbhiye, Alpesh A. Adekar, Sneha G. Hirekhan, Harshal R. Nikhade, Dhiraj G. Agrawal, Pawan K. Hinge, Rajesh M. Bhagat, Yogesh P. Kherde, Sagar W. Dhengare, Published on 22/09/2023, awaiting grant. A Method for Preparing Brick Comprises Recycled Sand and Dust from Constructional Demolition Waste', Patent Published on 22/11/2024 and waiting for grant.
- 10) Electro Coagulation Wastewater Treatment Machine, Design No. : 412019-001, Date: 30/03/2024 by Rajesh Bhagat.
- 11) Digital Pointing Trowel Pointing for the Construction Industry, Design No.: 415100-001, Date: 26/04/2024 by Rajesh Bhagat.
- 12) Artificial Intelligence Based Digital Spirit Level for Construction, Rajesh Bhagat, Design No.: 427899-001, Date: 23/08/2024 by Rajesh Bhagat.

COPYRIGHTS OF LITERARY/DRAMATIC WORK :-

- 1) Literary Work Notes for PE-IV Wastewater Treatment Part-1, Reg. No. L-152660/2024, Rajesh Bhagat & Monika Tiwari.
- 2) Literary Work Notes for Surveying Part-3, Reg. No. L-99875/2021 by Rajesh Bhagat.
- 3) Literary Work Notes for Air Pollution Solid and Waste Management, Reg. No. L-72929/2018 by Rajesh Bhagat.
- 4) Literary Work Poster for Characterization and Composition of Nagpur Municipal Solid Waste and Treatment Suggestion, Reg. No. L-71777/2018 by Rajesh Bhagat.
- 5) Literary Work Poster for Reckoning of Environmental Consequences due to Nagpur Metro Rail , Reg. No. L-80123/2019 by Rajesh Bhagat.
- 6) Literary Work Notes for Laboratory Manual Of Strength Of Materials (part-i), Application No.: 9820/2025-CO/L, by Sagar Dhengare, Udaykumar Waghe, Prajakta Waghe & Rajesh Bhagat.

TEXT BOOK PUBLICATION:-

- 1) A Text Book on “Municipal Solid Waste Management and Improvement Strategies” Author Dr. Rajesh Bhagat, Dr. Amit Ranit, Dr. Mangesh Bhorkar & Prof. Abhilasha Deshmukh, RK Publishers, ISBN 978-93-48020-94-9, September 2024.
- 2) A Text Book on “Environmental Sustainability Pollution & Management” Author Dr. Rajesh Bhagat, Dr. Amruta Yadav, Dr. Sneha Hirekhan & Dr. Harshal Warhade, RK Publishers, ISBN 978-93-48655-97-4, January 2025.
- 3) A Text Book on “Air Pollution: Science, Effects & Advanced Control Technology” by Author Dr. Rajesh Bhagat, Mr. S. G. Kalamkar, Mr. Y. P. Kherde & Dr. M. P. Bhorkar, RK Publishers, ISBN 978-93-48655-73-8, March 2025.
- 4) A Text Book on “Basics of Soil Engineering” by Author Dr. J M Raut, Dr. P B Pande & Dr. Kamlesh Madurwar & Dr. Rajesh Bhagat, RK Publishers, ISBN 978-93-48655-85-1, April 2025.