Research Publications of Prof. D. P. Mishra

Research Publications in International and National Journals

2025

1. Dasgupta, T., **Mishra, D.P.**, Pandey, A. (2025). Investigation of thermal stability, heat transfer dynamics, low-temperature oxidation kinetics and gas evolution profiles of coal: An innovative approach. *Fuel* 381, 133354. https://doi.org/10.1016/j.fuel.2024.133354 **(IF: 6.7, Q1)**.

2. Roy, S., **Mishra, D.P.**, Agrawal, H., Bhattacharjee, R.M. (2025). Development of productivity model of continuous miner operators working in hazardous underground mine environmental conditions. *Measurement* 239, 115516, Elsevier. https://doi.org/10.1016/j.measurement.2024.115516 **(IF: 5.2, Q1).**

3. Mishra, D., **Mishra, D.P.,** Mohalik, N.K., Ray, S.K. and Pandey, J. K. (2025). Effect of depth and particle size on spontaneous combustion of coal in deep underground mines of Jharia coalfield. *Journal of Sustainable Mining* 24(1), 117-129. https://doi.org/10.46873/2300-3960.1443 **(IF: 0.7, Q4)**.

2024

4. Azam, S., Liu, S., Bhattacharyya, S., **Mishra, D.P.** (2024). Prevalence of Nano-sized coal mine dust in North and Central Appalachian coal mines – Insights from SEM-EDS Imaging. *Journal of Hazardous Materials* 476, 135226, Elsevier. https://doi.org/10.1016/j.jhazmat.2024.135226 **(IF: 12.2, Q1)**.

5. Yadav, A.K., Mishra, S., DP **Mishra, D.P.** (2024). A detailed review study on utilization of mine and industrial wastes for backfill strengthening. *Arabian Journal of Geosciences* 17 (4), 121, Springer. https://doi.org/10.1007/s12517-024-11917-4 **(SCIE).**

6. Paluchamy, B., **Mishra, D.P.** (2024). Characterization and Health Risk Assessment of Airborne Dust Generated in a Highly Mechanized Underground Metalliferous Mine. Journal of The Institution of Engineers (India): Series D, 1-10, Springer. https://doi.org/10.1007/s40033-024-00656-1 **(Scopus).**

7. Paluchamy, B., **Mishra, D.P.** (2024). Measurement and analysis of airborne dust generation and dispersion from low-profile dump truck haulage in underground metalliferous mines. Measurement 35(2), 114252, Elsevier. https://doi.org/10.1016/j.apt.2024.104343 **(IF: 5.6, Q1).**

8. Sahu, A., **Mishra, D.P.** (2024). Prevention and suppression of coal dust explosion in underground coal mines: Role of rock dust type, particle size, proportion, concentration, and thermal properties. Advanced Powder Technology 35 (2), 104343, Elsevier. https://doi.org/10.1016/j.apt.2024.104343 **(IF: 5.2, Q1).**

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9. Behera, S.K., Singh, P., **Mishra, D.P.,** Mishra, K., Kumar, A., Mandal, S.K., Mandal, P.K., Mishra, A.K. (2023). Required strength design of cemented backfill for underground metalliferous mine. International Journal of Mining, Reclamation and Environment 37 (10), 927-952, Taylor & Francis. https://doi.org/10.1080/17480930.2023.2242159 **(IF: 2.4, Q2).**

10. **Mishra, D.P.,** Verma, S.K., Bhattacharjee, R.M., Upadhyay, R., P Sahu, P. (2023). Geological and microstructural characterisation of coal seams for methane drainage from underground coal mines. Bulletin of Engineering Geology and the Environment 82 (9), 341, Springer. https://doi.org/10.1007/s10064-023-03352-8 **(IF: 4.2, Q1).**

11. Ahuja, M., Mondal, D., **Mishra, D.P.**, Ghosh, S., Kumar, M. (2023). Assessment of financial and environmental impacts of pre-mining methane drainage in Indian scenario: A case study using Jharia coal seams. Innovation and Green Development 2 (3), 100065, Elsevier. https://doi.org/10.1016/j.igd.2023.100065 **(Scopus).**

12. Ahuja, M., **Mishra, D.P.**, Mohanty, D., Agrawal, H., Roy, S. (2023). Development of Empirical and Artificial Neural Network Model for the Prediction of Sorption Time to Assess the Potential of CO_2 Sequestration in Coal. ACS Omega 8 (34), 31480-31492. https://doi.org/10.1021/acsomega.3c04412 **(IF: 4.1, Q2).**

13. Behera, S.K., **Mishra, D.P.**, (2023). Singh, P. et al. Tensile strength of cemented paste backfill for lead–zinc mill tailings: lab and in situ scenarios. Arabian Journal of Geosciences 16(8):451, Springer. https://doi.org/10.1007/s12517-023-11536-5.

14. Das, K., **Mishra, D.P.** & Bhattacharjee, R.M. (2023). Ventilation Air Requirement for Mass-Production Panels (MPPs) in Indian Coal Mines: A Critical Appraisal. J. Inst. Eng. India Ser. D 104, 359–371, Springer. https://doi.org/10.1007/s40033-022-00371-9 **(Scopus)**.

15. Rao, S., **Mishra, D.P.,** Mishra, A. (2023). Methane migration and explosive fringe localization in retreating longwall panel under varied ventilation scenarios: a numerical simulation approach. Environmental Science and Pollution Research 30 (25), 66705-66729, Springer **(IF: 5.8, Q1).**

16. Shukla, U.S., **Mishra, D.P.,** Mishra, A. (2023). Prediction of spontaneous combustion susceptibility of coal seams based on coal intrinsic properties using various machine learning tools. Environmental Science and Pollution Research 30 (26), 69564-69579, Springer. https://doi.org/10.1007/s11356-023-27248-y **(IF: 5.8, Q1).**

17. Roy, S., **Mishra, D.P.**, Agrawal, H., Bhattacharjee, R.M. (2023). WBGT prediction and improvement in hot underground coal mines using field investigations and VentSim models. Mining, Metallurgy & Exploration 40 (3), 985-1005, Springer. https://doi.org/10.1007/s42461-023-00770-w (**IF: 1.9, Q2).**

18. Sahu, J.N., Kapelyushin, Y., **Mishra, D.P.,** Ghosh, P., Sahoo, B.K., Trofimov, E., Meikap, B.C. (2023). Utilization of ferrous slags as coagulants, filters, adsorbents, neutralizers/stabilizers, catalysts, additives, and bed materials for water and wastewater treatment: A review. Chemosphere 325, 138201 Elsevier. https://doi.org/10.1016/j.chemosphere.2023.138201. **(IF: 8.8, Q1).**

19. Sahu, A., **Mishra, D.P.** (2023). Effects of intrinsic properties, particle size, bulk density, and specific gravity on thermal properties of coal dusts. Environmental Science and Pollution Research, Springer. DOI: https://doi.org/10.1007/s11356-022-25035-9 **(IF: 5.8, Q1)**.

20. Pandey, B.P., **Mishra, D.P.** (2023). Developing an Alternate Mineral Transportation System by Evaluating Risk of Truck Accidents in the Mining Industry—A Critical Fuzzy DEMATEL Approach. *Sustainability* 2023, *15*(8), 6409; https://doi.org/10.3390/su15086409 **(IF: 3.9, Q2).**

21. Sahu, A., **Mishra, D.P.** (2023). Coal mine explosions in India: Management failure, safety lapses and mitigative measures. The Extractive Industries and Society, Vol. 14, June 2023, 101233, Elsevier. https://doi.org/10.1016/j.exis.2023.101233. **(IF: 3.1, Q3).**

22. Paluchamy, B., **Mishra, D.P.** (2023). Airborne dust pollution due to mechanised scaling in underground metalliferous mine cross-cut drive under buoyancy-driven airflow. Mining Technology, 132:1, 30-40, Taylor & Francis. 10.1080/25726668.2022.2159301 **(ESCI)**.

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23. Sahu, A., **Mishra, D.P.** (2022). Investigation of lag on ignition of coal dust clouds under varied experimental conditions. Advanced Powder Technology 33(11) November 2022, 103804, Elsevier. https://doi.org/10.1016/j.apt.2022.103804 **(IF: 5.2, Q1)**.

24. Roy, S., **Mishra, D.P.**, Bhattacharjee, R.M., Agrawal, H. (2022). Genetic programming for prediction of heat stress hazard in underground coal mine environment. Natural Hazards, 114, 2527-2543, Springer. https://doi.org/10.1007/s11069-022-05478-6 **(IF: 3.7, Q2).**

25. Mishra, D., Mohalik, N.K., Mishra, D.P., Ray, S.K., Pandey, J.K. (2022). Improving workplace environment of a deep underground coal mine with multiseam workings: An alternative approach. Mining, Metallurgy & Exploration 39, 1429-1443, Springer. https://doi.org/10.1007/s42461-022-00639-4 **(IF: 1.9, Q2).**

26. Das, K., **Mishra, D.P.**, Bhattacharjee, R.M. (2022). Heat and humidity problems in Indian coal mines mass production panels and their remedies. Journal of The Institution of Engineers (India): Series D, 103, 539-547, Springer. DOI: https://doi.org/10.1007/s40033-022-00364-8 **(Scopus).**

27. Muduli, L., Jana, P.K., **Mishra, D.P.** (2022). Wireless Sensor Network Based Miner Localization in Underground Coal Mines. In: Rout, R.R., Ghosh, S.K., Jana, P.K., Tripathy, A.K., Sahoo, J.P., Li, KC. (eds) Advances in Distributed Computing and Machine Learning. Lecture Notes in Networks and Systems, vol. 427. Springer, Singapore. https://doi.org/10.1007/978-981-19-1018-0_11.

28. Pandey, B.P., **Mishra, D.P.** (2022). Improved Methodology for Monitoring the Impact of Mining Activities on Socio-Economic Conditions of Local Communities. Journal of Sustainable Mining, Vol. 21: Iss. 1, Article 6, 65-79. https://doi.org/10.46873/2300-3960.1348. **(IF: 1.0)**.

29. **Mishra, D.P.** (2022). Effects of intrinsic properties, particle size and specific surface area on WOP and spontaneous combustion susceptibility of coal. Advanced Powder Technology 33 (3), March 2022, 103454, Elsevier. https://doi.org/10.1016/j.apt.2022.103454 **(IF: 5.2, Q1)**.

30. Sahu, A., **Mishra, D.P.** (2022). Coal dust monitoring and computational simulations of dust dispersion in continuous miner development heading through auxiliary ventilation systems. Current Science, Vol. 122, No. 4, 25 February 2022, 419-428. doi: 10.18520/cs/v122/i4/419-428. **(IF: 1.1, Q4)**.

31. Roy, S., **Mishra, D.P.**, Bhattacharjee, R.M., Agrawal, H. (2022). Heat Stress in Underground Mines and its Control Measures: A Systematic Literature Review and Retrospective Analysis. Mining, Metallurgy & Exploration 39, 357-383, Springer. https://doi.org/10.1007/s42461-021-00532-6 **(IF: 1.9, Q2)**

32. **Mishra, D.P.** (2022). Physico-chemical characteristics of pulverized coals and their interrelations- a spontaneous combustion and explosion perspective. Environmental Science and Pollution Research, 29:24849-24862, Springer. DOI: 10.1007/s11356-021-17626-9 **(IF: 5.8, Q1)**.

33. **Mishra, D.P.**, Kumar, K., Sahu, J.N. (2022). Study of Pyrolyzates from a Variety of Indian Coals and Their Dependency on Coal Type and Intrinsic Properties – An Analytical Fast Pyrolysis Study. Combustion Science and Technology, 194:13, 2771-2792, Taylor & Francis, DOI: 10.1080/00102202.2021.1890722. (**IF: 1.9, Q3**)

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34. Behera, U., Das, S.K., **Mishra, D.P.**, Parhi, P.K., Das, D. (2021). Enhancing the rheology and leachability of fly ash slurry using natural – synthetic mixed surfactant system for hydraulic stowing in underground mines. International Journal of Coal Preparation and Utilization, Taylor & Francis, DOI: 10.1080/19392699.2021.1995374 **(IF: 2.1, Q3)**.

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36. Paluchamy, B., **Mishra, D.P.** (2021). Airborne dust generation and dispersion profiles due to loaded LPDT haulage in decline of a highly mechanised underground lead-zinc ore mine. Environmental Technology & Innovation 24, November 2021, 101908, Elsevier. https://doi.org/10.1016/j.eti.2021.101908 (**IF: 7.1, Q1**).

37. Behera, U., Das, S.K., **Mishra, D.P.**, Parhi, P.K., Das, D. (2021). Sustainable Transportation, Leaching, Stabilization, and Disposal of Fly Ash Using a Mixture of Natural Surfactant and Sodium Silicate. *ACS Omega* 6, 22820−22830, American Chemical Society. https://doi.org/10.1021/acsomega.1c03241 (**IF: 4.1, Q2**).

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42. Muduli, L., **Mishra, D.P.** and Jana, P.K. (2020). Optimized Fuzzy Logic based Fire Monitoring in Underground Coal Mines: Binary Particle Swarm Optimization Approach. IEEE Systems Journal, June 2020, vol. 14(2), pp. 3039-3046. doi: https://doi.org/10.1109/JSYST.2019.2939235 (**IF: 4.4, Q2**)

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57. **Mishra, D.P.** and Das, S.K. (2015). One-Dimensional Consolidation of Sedimented Stowed Pond Ash and Pond Ash-Lime Mixture Deposits—A Comparative Study, *Particulate Science and Technology: An International Journal*, Taylor & Francis, 33:2, 172-177, (DOI: 10.1080/02726351.2014.947662) (**IF: 2.5, Q3**).
58. Panigrahi, D.C., **Mishra, D.P.**, Sahu, P. and Bhowmik, S. C. (2015). Assessment of radiological parameters and radiation dose received by the miners in Jaduguda uranium mine, India. *Annals of Nuclear Energy*, Elsevier, Vol. 78, April 2015, pp. 33–39 (DOI: 10.1016/j.anucene.2014.12.024) (**IF: 1.9, Q2**).
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