

List of Publications & Conferences

Publications

- **S.K. Singh**, D. Chakravarty. The Evolution and Future of Machine Learning in Rock Slope Stability: A Systematic Review and Meta-Analysis. Mining, Metallurgy & Exploration (2026). SCIE. <https://doi.org/10.1007/s42461-026-01624-x>
- A. Kumar, **S.K. Singh**, B. Samanta, et al. Risk assessment in sociotechnical systems based on functional resonance analysis method and hierarchical fuzzy inference tree. Sci Rep 15, 23827 (2025). SCIE. DOI: <https://doi.org/10.1038/s41598-025-10063-5>
- A Pandey, **S.K. Singh**, SJ Sridharan, et al. Predictive control of underground mine spray chambers: An integrated machine learning and IoT Approach. International Journal of Refrigeration 179, 142-155 (2025). SCIE. DOI: <https://doi.org/10.1016/j.ijrefrig.2025.08.009>
- **S.K. Singh**, D. Chakravarty, Predicting the Stability of Rock Slopes in the Presence of Diverse Joint Networks and External Factors Using Machine Learning Algorithms. Mining, Metallurgy Exploration. 41, 2421–2440 (2024). SCIE. DOI: 10.1007/s42461-024-01060-9
- **S.K. Singh**, D. Chakravarty (2024), Advanced Machine Learning for Slope Stability Analysis Under Non-homogeneous Conditions: A Comprehensive Mine Study. In: Gorai, A.K., Ram, S., Bishwal, R.M., Bhowmik, S. (eds) Sustainable and Innovative Mining Practices. ICSIMP 2023. Springer Proceedings in Earth and Environmental Sciences. Springer, Cham. DOI: 10.1007/978-3-031-76614-5_22
- **S.K. Singh**, D. Chakravarty, Assessment of Slope Stability using Classification and Regression Algorithms Subjected to Internal and External Factors. Archives of Mining Sciences. 68 (1), 87–102 (2023). SCIE. DOI: 10.24425/ams.2023.144319
- **S.K. Singh**, D. Chakravarty, Efficient and Reliable Prediction of Dump Slope Stability in Mines using Machine Learning: An in-depth Feature Importance Analysis. Archives of Mining Sciences. (2023). SCIE. DOI: 10.24425/ams.2023.148157
- **S.K. Singh**, D. Chakravarty (2023). Interpretable Predictions: Machine Learning Approaches to Understand Slope Stability in the Presence of Joint Networks. In: Sinha, A., Sarkar, B.C., Mandal, P.K. (eds) Proceedings of the 10th Asian Mining Congress 2023. AMC 2023. Springer Proceedings in Earth and Environmental Sciences. Springer, Cham. DOI: https://doi.org/10.1007/978-3-031-46966-4_16

Conferences

- S.K. Singh, D. Chakravarty, Tailoring Machine Learning Models for Robust Prediction of Dump Slope Stability: A Journey Towards Full Model Interpretability in Mining Applications. International Conference on “Safe, Smart and Sustainable Mining (3SM) (2023), Goa, India
- S.K. Singh, D. Chakravarty, Advanced Machine Learning for Slope Stability Analysis Under Non-Homogeneous Conditions: A Comprehensive Mine Study. International Conference on Sustainable and Innovative Mining Practices (2023), Rourkela, India

- S.K. Singh, D. Chakravarty, Review of Slope Monitoring in Mines using Advanced Sensors and Data Analysis Approaches. Proceedings in Recent Advances in Mining Technology- RAMT (2019), Bangalore, India
- S.K. Singh, K. Biswas, D. Chakravarty, Change Detection in the Mining Region of Jharia Coalfield using Landsat 7. Proceedings in Advances in Mining (2020), CSIR-CIMFR, Dhanbad, India