

List of Publications

✓ **Papers published in Peer-Reviewed/SCI/SCIE/Scopus (Total no. 26)**

- 1) **Das, A. J.**, Mandal, P. K., Bhattacharjee, R., Tewari, S., Ghosh, N., & Kumar, R. (2025). Analysis of failure characteristics, 3D stress distribution and strength evaluation of rectangular and long coal pillars through analytical solution and numerical simulation with field validation. *Acta Geotechnica*, 1-26. **(SCIE/Q1/IF: 5.7)**
- 2) Sabapathy, R., Mandal, P. K., Paul, P. S., & **Das, A. J.** (2025). Evaluation of potentiality of coal bump hazard in underground coal mines through numerical modelling and binary logistic regression approach with field validation. *Bulletin of Engineering Geology and the Environment*, 84(6), 333. **(SCIE/Q1/IF: 4.2)**
- 3) Kolikipogu, N. R., Mandal, P. K., **Das, A. J.**, Tewari, S., Bhattacharjee, R., Porathur, J. L., & Jagapthal, V. K. (2025). Analytical and Numerical Modeling Approaches for Estimating the Optimum Line of Extraction in Continuous Miner Workings with Field Observations. *International Journal of Geomechanics*, 25(6), 04025098. **(SCIE/Q2/IF: 3.3)**
- 4) Gaurav, K., Kumar, R., Mandal, P. K., & **Das, A. J.** (2023). Evaluation of a novel pyramidal design of rock bolt bearing plate using analytical, experimental, and numerical methods. *Engineering Structures*, 297, 116998. **(SCIE/Q1/IF: 6.4)**
- 5) Kumar, R., Mandal, P. K., Ghosh, N., **Das, A. J.**, & Banerjee, G. (2023). Design of stable parallelepiped coal pillars considering geotechnical uncertainties. *Rock Mechanics and Rock Engineering*, 56, 6581–6602. **(SCIE/Q1/IF: 6.6)**
- 6) **Das, A. J.**, Mandal, P. K., Ghosh, N., Singh, A. P., Kumar, R., Tewari, S., & Bhattacharjee, R. (2023). Evaluation of energy accumulation, strain burst potential and stability of rock mass during underground extraction of a highly stressed coal seam under massive strata-a field study. *Engineering Geology*, 322, 107178. **(SCIE/Q1/IF: 8.4)**
- 7) Kumar, R., **Das, A. J.**, Mandal, P. K., Bhattacharjee, R. & Tewari, S. (2021). Probabilistic stability analysis of failed and stable cases of coal pillars. *International Journal of Rock Mechanics and Mining Sciences*, 144, 104810. **(SCI/Q1/IF: 7.5)**

Annexure I: List of Publications (in Journals)

- 8) **Das, A. J.**, Paul, P. S., Mandal, P. K., Kumar, R., & Tewari, S. (2021). Investigation of failure mechanism of inclined coal pillars: numerical modelling and tensorial statistical analysis with field validations. *Rock Mechanics and Rock Engineering*. 54(6), 3263-3289. **(SCIE/Q1/IF: 6.6)**
- 9) Kumar, R., Mandal, P. K., Narayan, A., & **Das, A. J.** (2021). Evaluation of load transfer mechanism under axial loads in a novel coupler of dual height rock bolts. *International Journal of Mining Science and Technology*, 31(2), 225-232. **(SCIE/Q1/IF: 13.7)**
- 10) Tewari, S., Himanshu, V. K., Porathur, J. L., Bhattacharjee, R., **Das, A. J.**, & Mandal, P. K. (2020). Exploitation of mica deposits at Nellore mica belt, Andhra Pradesh, India. *Current Science*, 118(4), 593-602. **(SCIE/Q3/IF: 1.0)**
- 11) **Das, A. J.**, Mandal, P. K., Prakash, A., Roy, L. B., & Tewari, S. (2020). Underground extraction methodology of contiguous coal seams ensuring the safety of the parting and the surface structures. *Safety Science*, 121, 215-230. **(SCIE/Q1/IF: 5.4)**
- 12) **Das, A. J.**, Mandal, P. K., Paul, P. S., Sinha, R. K., & Tewari, S. (2019). Assessment of the Strength of Inclined Coal Pillars through Numerical Modelling based on the Ubiquitous Joint Model. *Rock Mechanics and Rock Engineering*, 52(10), 3691-3717. **(SCI/Q1/IF: 6.6)**
- 13) **Das, A. J.**, Mandal, P. K., Paul, P. S., & Sinha, R. K. (2019). Generalised analytical models for the strength of the inclined as well as the flat coal pillars using rock mass failure criterion. *Rock Mechanics and Rock Engineering*, 52(10), 3921-3946. **(SCI/Q1/IF: 6.6)**
- 14) Kushwaha, A., Tewari, S., Mandal, P. K., Bhattacharjee, R., **Das, A. J.**, Singh K. K. K. (2019) Stability evaluation of old and unapproachable underground mine workings below surface structures. *Journal of Geological Society of India*, 93, 351-359. **(SCI/Q3/IF: 1.5)**
- 15) **Das, A. J.**, Mandal, P. K., Sahu, S. P., Kushwaha, A., Bhattacharjee, R., & Tewari, S., (2018). Evaluation of the effect of fault on the stability of underground workings of coal mine through DEM and statistical analysis. *Journal of Geological Society of India*, 92, 732-742. **(SCI/Q3/IF: 1.5)**

Annexure I: List of Publications (in Journals)

- 16) Mandal, P. K., **Das, A. J.**, Kumar, N., Bhattacharjee, R., Tewari, S., & Kushwaha, A. (2018). Assessment of roof convergence during driving roadways in underground coal mines by continuous miner. *International Journal of Rock Mechanics and Mining Sciences*, 108, 169-178. **(SCI/Q1/IF: 7.5)**
- 17) **Das, A. J.**, Mandal, P. K., Bhattacharjee, R., Tiwari, S., Kushwaha, A., & Roy, L. B. (2017). Evaluation of stability of underground workings for exploitation of an inclined coal seam by the ubiquitous joint model. *International Journal of Rock Mechanics and Mining Sciences*, 93, 101-114. **(SCI/Q1/IF: 7.5)**
- 18) **Das, A. J.**, Mandal, P. K., Ghosh, C. N., & Sinha, A. (2017). Extraction of locked-up coal by strengthening of rib pillars with FRP—A comparative study through numerical modelling. *International Journal of Mining Science and Technology*, 27(2), 261-267.. **(SCIE/Q1/IF: 13.7)**
- 19) Sahu, S. P., Yadav, M., Rani, N., **Das, A. J.** (2018). Assessment of occupational health exposure to particulate matter around opencast coal mines, India: a case study. *Arabian Journal of Geosciences*, 11(14), 373-383. **(Q4)**
- 20) Sahu, S. P., Yadav, M., Pradhan, D. S., Rani, N., **Das, A. J.** (2018). Spatio-temporal variations of respirable particles at residential areas located in the vicinity of opencast coal projects, India: a case study. *Arabian Journal of Geosciences*, 11(10), 241-255. **(Q4)**
- 21) Sahu, S. P., Yadav, M., **Das, A. J.**, Prakash, A., Kumar A (2017). Multivariate statistical approach for assessment of subsidence in Jharia coalfields, India. *Arabian Journal of Geosciences*, 10, 191-201. **(Q4)**
- 22) Raja, S., Mandal, P. K., Paul, P. S., **Das, A. J.** (2018). Prediction of coal bump with respect to local mine stiffness and post-failure stiffness using numerical modelling. *Journal of Mines Metals & Fuels*, 66(6), 328-338. **(Scopus Index)**.
- 23) **Das, A. J.**, Mandal, P. K., Paul, P. S., Sinha, R. K. (2018). Strategies for underground extraction of the inclined coal seams by continuous miner. A Technical Publication of The Mining, Geological and Metallurgical Institute of India, 114, 1-12. **(Peer Reviewed)**

Annexure I: List of Publications (in Journals)

- 24) **Das, A. J.**, Mandal, P. K., Kumbhakar, D., Mishra, P. K. (2014). Effects of rib pillars at higher depth of working: a numerical modelling based study. Mining Engineers Journal, 16, (02), 23-30. **(Peer Reviewed)**
- 25) **Das, A. J.**, Mandal, P. K., Ghosh, C. N., Sinha, A., (2014). An attempt to develop a technology for extraction of locked-up coal from underground mines using artificial pillars, The Indian Mining and Engineering Journal, 53(5), 18-25. **(Peer Reviewed)**
- 26) **Das, A. J.** (2013). Determination of status of opencast mines in Kenda area, ECL-whether these are abandoned or disused, a case study, Mining Engineers Journal, 15(3), 20-27. **(Peer Reviewed)**

Annexure I: List of Book/Book Chapter

✓ List of Book/Book Chapter

- 1) Kumar, R., Mandal, P. K., **Das, A. J.**, Bhattacharjee, R., & Tewari, S. (2024). Design of Underground Structures Under Geotechnical Uncertainties. In *Frontiers of Performability Engineering: In Honor of Prof. KB Misra*. Singapore: Springer Nature Singapore, pp. 401-422.
- 2) **Das, A. J.**, Mandal, P. K. (2015). Underground extraction of Locked-Up coal: Numerical modelling based studies”, Lambert Academic Publishing, Germany, ISBN: 978-3-659-80250-8.
- 3) Proceedings of National Conference on Advances in Mining (AIM-2020): Editors: Prabhat Kumar Mandal, Ranjan Kumar, **Arka Jyoti Das** & Pradeep K Singh.

Annexure I: List of Publications (in proceedings of conferences / symposia/ seminars)

✓ **Papers published in proceedings of conferences / symposia/ seminars (Total no. 31)**

- 1) **Das, A. J.**, Mandal, P. K., Ghosh, N., Tewari, S., Bhattacharjee, R., Kumar, R., & Roy, L. B. (2025). Geotechnical challenges and suitable methodology for highwall mining of coal seams with less than 3 metre parting. In Innovative and Responsible Mining for Inclusive Growth: Proceedings, 11th Asian Mining Congress, Kolkata, West Bengal, India, October 30–31, 2025, pp. 135-154.
- 2) Giri, A., **Das, A. J.**, Paul, P. S., & Murari, R. (2025). Importance of Detailed Geological and Geotechnical Domains in Underground Metal Mine Stope Design. In Innovative and Responsible Mining for Inclusive Growth: Proceedings, 11th Asian Mining Congress, Kolkata, West Bengal, India, October 30–31, 2025, pp. 123-134.
- 3) Mandal, P. K., Ghosh, N., **Das, A. J.**, Kumar, R., Bhattacharjee, R., & Tewari, S. (2025, October). Underground Coal Mines: Assessment, Challenges and Remedial Approaches. In Innovative and Responsible Mining for Inclusive Growth: Proceedings, 11th Asian Mining Congress, Kolkata, West Bengal, India, October 30–31, 2025, pp. 235-254.
- 4) **Das, A. J.**, Mandal P. K., Bhattacharjee R., Tewari S., Ghosh N., Kumar R. (2025) Design approaches for enhancing coal recovery in highwall mining using paste fill technology. In Proc. National Seminar on Technological Advancements for Sustainable Mining and Exploration, Jointly organised by MGMI, Dhanbad Chapter and CSIR-CIMFR, Dhanbad, 31st January to 1st February 2025 CSIR-CIMFR, Dhanbad, pp. 201-221.
- 5) Mandal, P. K., Ghosh, N., Bhattacharjee, R. M., Sinha, R. K., **Das, A. J.**, Kumar, R., Bhattacharjee, R., Tewari, S. (2024). A study on the behaviour of coal pillars at greater depths in Indian geomining conditions. In Proc. All India Seminar on Current Trends of Sustainable Underground Mining Organized by ISM Alumni Association Kolkata Chapter Biswa Bangla Convention Centre, New Town, Kolkata, 29th and 30th November 2024, 9p.
- 6) Bhagat, N. K., Singh, R. K., Mishra, A. K. & **Das, A. J.** (2024). Benefits of Directional Controlled Blasting Technique for Stabilization of Problematic Rock-Cut Slopes of Konkan Railway. In Proceedings of the 2nd International Conference on Geotechnical Issues in Energy, Infrastructure and Disaster Management (ICGEID), January 18-20, 2024, pp. 355-376.

Annexure I: List of Publications (in proceedings of conferences / symposia/ seminars)

- 7) **Das, A. J.**, Mandal, P. K., Ghosh, N., Tewari, S., Bhattacharjee, R. (2023). Design of extraction methodology for highwall mining under multi-seams conditions - a case study. In Souvenir & Supplementary Volume of 10th Asian Mining Congress, Kolkata, 6-9 November, 2023, pp. 45-55.
- 8) Kumbhakar, S., **Das, A. J.**, Rao, N. K., Verma, C. P., Mandal, P. K. (2023). Stability assessment of overburden dump on black cotton soil bench: a numerical modelling approach. In Souvenir & Supplementary Volume of 10th Asian Mining Congress, Kolkata, 6-9 November, 2023, pp. 98-106.
- 9) Mandal, P. K., Bhattacharjee, R., Ghosh, N., Singh, A. P., Tewari, S., **Das, A. J.** (2023). Bridging Efficiency and Safety: A Case Study of Extraction of Thick Coal Seam Having Low Incubation Period Using Continuous Miner. In Proc. 10th Asian Mining Congress, Kolkata, 6-9 November, 2023, pp. 110-129.
- 10) Ghosh, N., Tewari, S., Bhattacharjee, R., **Das, A. J.**, Mishra, P. K., Mandal, P. K. (2023). A study on the effects of horizontal stress anisotropy on stability of galleries in deep underground coal mines. In Souvenir & Supplementary Volume of 10th Asian Mining Congress, Kolkata, 6-9 November, 2023, pp. 137-145.
- 11) **Das, A. J.**, Mandal, P. K., Kumar, R. (2023). Design of underground structures and support systems for extraction of inclined coal seam. In Proc. 15th ISRM Congress 2023 & 72nd Geomechanics Colloquium, Sulzberg, Austria, 9-14 October, 2023, pp.141-146.
- 12) Bhattacharjee R., Tewari S., **Das A. J.**, Singh A. P., Mandal P. K. (2022). Geotechnical considerations and numerical modeling approach for preparation of strata control and monitoring plan (SCAMP) for highly stressed depillaring panel in underground coal mines-a case study. In Proc. 9th Asian Mining Congress, Kolkata, 4-7 April, 2022 pp. 272-286.
- 13) Kumar, R., Mandal, P. K., **Das, A. J.**, Jagapthal, V. K., Kumar, G., Bhattacharjee, R., Tewari, S. (2022). Optimum combination of long and short tendons for stable roadways intersections in coal mines. In Proc. 9th Asian Mining Congress, Kolkata, 4-7 April, 2022, pp. 255-262.
- 14) Mandal, P. K., **Das, A. J.**, Kumar, R., Tewari, S., Bhattacharjee, R. (2022). Strata control considerations to ensure safety of underground workplace during extraction of inclined coal seam. In Proc. 9th Asian Mining Congress, Kolkata, 4-7 April, 2022, pp. 235-242.

Annexure I: List of Publications (in proceedings of conferences / symposia/ seminars)

- 15) Kumar, R., Mandal, P. K., **Das, A. J.**, Gaurav, K., Bhattacharjee, R., Tewari, S. (2021). Minimizing uncertainties in roof rock reinforcement design for stable mine roadways. In Proc. International Conference on Maintenance and Intelligent Asset Management (ICMIAM), Ballarat, Australia, 2021, pp. 1-5.

doi: 10.1109/ICMIAM54662.2021.9715222.
- 16) **Das, A. J.**, Mandal, P. K., Tewari, S. Bhattacharjee, R., Kumar, R. (2020). Issues and approaches for the underground extraction of the inclined coal seams. In Proc. National Conference on Advances in Mining (AIM-2020), 14-15 February, 2020, CSIR-CIMFR, Barwa Road, Dhanbad, pp. 24-31.
- 17) Mandal, P. K., **Das, A. J.**, Kumar, R., Bhattacharjee, R, Tewari, S., Singh, A. P., Kumar, L., Singh, S. K. (2020). Geotechnical issues for underground extraction of coal by continuous miner in India-some case studies. In Proc. National Conference on Advances in Mining (AIM-2020), 14-15 February, 2020, CSIR-CIMFR, Barwa Road, Dhanbad, pp. 496-510.
- 18) Mandal, P. K., **Das, A. J.**, Bhattacharjee, R., Singh, S. K. (2019). Geotechnical issues for underground extraction of coal by continuous miner in India-some case studies. In Proc. 8th Asian Mining Congress, 5-9 November, 2019, Kolkata, India, pp. 277-286.
- 19) Mandal, P. K., **Das, A. J.**, Tewari, S., Bhattacharjee, R., Kumar, L., Singh, P. K. (2019). Stability evaluation and safe designing of barriers against rivers in an opencast working - a case study. In Proc. International Congress on Rock Mechanics and Rock Engineering, 13-18 September, 2019, Foz da Iguassu (Iguassu City), Brazil, pp.784-792.
- 20) **Das, A. J.**, Prakash A., Mandal, P. K., Tewari, S. (2019). Design of extraction methodology of contiguous coal seams under surface structures. In Proc. International Conference And Exhibition On Energy & Environment : Challenges & Opportunities- ENCO 2019, 20-22 February, 2019, New Delhi, India, pp. 808-818.
- 21) Mandal, P. K., Singh S. K., Singh R., **Das, A. J.**, Singh A. P., Mishra P. K. (2018). Design of extraction methodology for depillaring of a coal seam by continuous miner under weak strata - A case study. In Proc. conference on National Seminar on Technological Advancement and Emerging Mining Methods (TAEMM 2018), 24th - 25th August, 2018, CSIR-CIMFR, Dhanbad, pp. 161-176.

Annexure I: List of Publications (in proceedings of conferences / symposia/ seminars)

- 22) **Das, A. J.**, Mandal, P. K., Paul, P. S., Sinha R. K., Tewari, S. (2018). Rock mechanics considerations for mechanised extraction of an inclined coal seam. In Proc. National Conference on Recent Challenges in Mining Industry (RCMI - 2018), 28th April, 2018, CSIR-CIMFR, Dhanbad, India, pp. 121-130.
- 23) **Das, A. J.**, Mandal, P. K., Paul, P. S., Sinha, R. K., Kushwaha, A., Tewari S. (2017). Effect of the strata inclination during underground extraction of the inclined coal seams. In: Proc. 7th Asian Mining Congress, Kolkata, India, 8-10 November, 2017, pp. 223-238.
- 24) Ghosh C. N., Behera S. K., Mandal P. K., Prashant, Mandal P. K., **Das A. J.**, Singh P. K., (2017). Development of technology for extraction of locked up coal using artificial pillars. In: Proc. International Conference on NexGen Technologies for Mining and Fuel Industries (NxGnMiFu-2017), 15-18 February, New Delhi, India, pp. 417-424.
- 25) **Das A. J.**, Mandal P. K., Kushwaha, A. (2017). Effect of Fault on the Stability of Workings during Underground Extraction of Coal. In: Proc. International Conference on NexGen Technologies for Mining and Fuel Industries (NxGnMiFu-2017), 15-18 Feb., New Delhi, India, pp. 155-164.
- 26) Mandal, P. K., **Das, A. J.**, Kushwaha A. (2017). Planning of strata control study programme during depillaring. In: Proc. International Conference on Deep Excavation, Energy Resource and Production (DEEP16), 24-26 January, IIT Kharagpur, India, 16p.
- 27) Mandal, P. K., **Das, A. J.** (2016). Optimal extraction of coal from developed pillars locked-up under different surface/sub-surface structures. In: Proc. 35th International Conference on Ground Control in Mining, 26-28 July, 2016, Morgantown WV, pp. 132.139.
- 28) Mandal, P. K., **Das, A. J.**, Misra, P. K., Roy, L. B. (2016). Design of extraction methodology for semi-mechanised depillaring of an inclined coal seam. In: Proc. 6th Asian Mining Congress, 23-27 February, Kolkata, India, pp. 131- 142.
- 29) **Das, A. J.**, Mandal, P. K. (2016). Improvement of recovery percentage of locked-up coal by strengthening the rib pillars. In: Proc. 6th Asian Mining Congress, 23-27 February, 2016, Kolkata, India, pp 143-152.

Annexure I: List of Publications (in proceedings of conferences / symposia/ seminars)

- 30) Mandal, P. K., **Das, A. J.**, Ghosh, C. N., Sinha A. (2014). Extraction of locked-up coal by artificial pillars - An attempt for development of a technology. In: Proc. 5th Asian Mining Congress, 13-15 February, Kolkata, India, 9p.
- 31) Mandal, P. K., **Das, A. J.**, Kumbhakar, D., Mishra, P. K. (2013). Extraction of coal pillars at higher depth- A numerical modelling based study. In: Proc. International Conference on Coal and Energy- Technological Advances and Future Challenges, 15-17 December, Kolkata, India, pp. 83-96.