Publications:

Journal Papers:

1. **Upadhyay, R**., Kumar, R., Kumar, A., Mobarsha, G., Kiran, R., Rajak, V.K., 2025. Coalbed Methane (CBM) Well Performance: A New Methodology Combining IPR and VLP Analysis. *International Journal of Coal Science & Technology*. Accepted
2. Parida, B., Sinharay, R., **Upadhyay, R.,** Dixit, M., 2024. Pseudo-Isotherm: A Revised Concept of Desorption Phenomena of Coal Bed Gas Reservoirs Integrating Isotherm, Material Balance, and Pressure for Optimized Field Development. *SPE Journal*. SPE-219177-PA. https://doi.org/10.2118/219177-PA
3. Kiran, R., **Upadhyay, R.,** Rajak, V.K., Kumar, A., Gupta, S.D., 2024. Underpinnings of Reservoir and Techno-economic analysis for Himalayan and Son-Narmada-Tapti Geothermal Sites of India. *Renewable Energy*. Volume 237. https://doi.org/10.1016/j.renene.2024.121630
4. Kiran, R., Rajak, V.K., **Upadhyay, R.,** Kumar, A., 2022. Comparative techno-economic assessment of superhot rock and conventional geothermal energy feasibility for decarbonizing India. *Geothermics.* Volume 122. https://doi.org/10.1016/j.geothermics.2024.103078
5. **Upadhyay, R.,** Kagdi, I., Parida, B., 2023. A Novel Alternative Method of Compositional Simulation: A Semi-Analytical approach for Predicting and Evaluating Reservoir Performance of a Multi-component Coalbed Methane (CBM) Well. *ACS Omega.* https://doi.org/10.1021/acsomega.3c08030
6. **Doley, A.**, Mahato, V., Rajak, V.K., Kiran, R., **Upadhyay, R.**, 2024. Investigation of Filtration and Shale Inhibition Characteristics of Chitosan-N-(2-hydroxyl)-propyl trimethylammonium Chloride as Drilling Fluid Additives. *ACS Omega. https://doi.org/10.1021/acsomega.4c01632*
7. Kiran, R., **Upadhyay, R.,** Rajak, V.K., Gupta, S.D., Pama, H., 2023. Comprehensive Study of the Underground Hydrogen Storage Potential in the Depleted Offshore Tapti-Gas field. *International Journal of Hydrogen Energy*. Volume 48, Issue 33, 12396-12409. https://doi.org/10.1016/j.ijhydene.2022.12.172
8. **Upadhyay, R.,** Gupta, S.D., Rajak, V.K., 2023. Impact of Pressure Dependent Diffusivity on Transient Pressure Analysis of Dry Coalbed Methane (CBM) Wells – A New Approach. *Journal of Earth System Science*. Volume 132, Issue 1 https://doi.org/10.1007/s12040-022-02040-7
9. Mishra, D.P., Verma, S.K., Bhattacharjee R.M., **Upadhyay, R.,** Sahu, P., 2023. Geological and microstructural characterisation of coal seams for methane drainage from underground coal mines. *Bulletin of Engineering Geology and the Environment*. Volume 82, Issue 9 https://doi.org/10.1007/s10064-023-03352-8
10. Kumar, A., **Upadhyay, R.,** Kumar, S**.,** 2022. Tubing and Rod Failure Analysis in Rod Pumped Wells in an Indian Western Oil Field. *SPE Journal*. https://doi.org/10.2118/212848-PA
11. Gupta, S.D., **Upadhyay, R.,** Rajak, V.K., 2022. Establishment of economic viability for hydrocarbon production through a geocellular model developed in challenging geological reservoir of onshore sedimentary basin, India. *Himalayan Geology*. Volume 43, Issue 2, 471-489.

12. Neelu., **Upadhyay, R.,** Parida, B., 2022. A new approach to evaluate and predict the reservoir performance of a two-phase flow Coalbed Methane (CBM) well with fully-coupled time-dependent desorption and pressure-dependent diffusivity effects. *Energy & Fuels.* Volume 36, Issue 10, 5284-5306. https://doi.org/10.1021/acs.energyfuels.2c00429
13. Chattaraj, S., **Upadhyay R.**, Mohanty D., Halder, G, Kumar T., 2021. Evaluating production behaviour of CBM wells from Raniganj Coalfield through reservoir characterization under constrained field data conditions. *Journal of Natural Gas Science and Engineering*. Volume 92, 2021, 103969. https://doi.org/10.1016/j.jngse.2021.103969
14. Kumar, A., **Upadhyay, R.**, 2021. A New Two-Parameters Cubic Equation of State with Benefits of Three-Parameters. *Chemical Engineering Science*. Volume 229, 2021,116045. https://doi.org/10.1016/j.ces.2020.116045
15. **Upadhyay, R.**, Laik, S., 2017. An alternative approach to predict reservoir performance in a Coalbed Methane (CBM) well flowing under the dominant matrix shrinkage effect. *Transport in Porous Media*. Volume 119, Issue 3, 649-672. https://doi.org/10.1007/s11242-017-0904-2
16. **Upadhyay, R.**, Laik, S., 2017. A Computational Approach to Determine Average Reservoir Pressure in the CBM Well Flowing Under Dominant Matrix Shrinkage Effect. *Transport in Porous Media*, Volume 116, Issue 3, 1167-1188. https://doi.org/10.1007/s11242-016-0816-6

Conferences, Workshops, and Webinars:

1. Parida, B., **Upadhyay, R.,** Dixit, M., Sinharay, R., Mishra, A., Patel, A., Patel, S., Chand, J., Fife, D. (2024). Quantification of Relative Permeability in Coal Bed Methane Reservoirs Through Production Data Analysis and Material Balance for Reliable Forecasting, Evaluation, and Optimize Field Development. Paper presented at the ADIPEC, Abu Dhabi, UAE, November 2024. SPE-222095-MS. doi: https://doi.org/10.2118/222095-MS
2. **Upadhyay, R.,** Gupta, S.D., Kumar, A., Kiran, R., Rajak, V.K. (2024). A preliminary study of quantification of CO2 sequestration potential and associated incremental methane recovery from Jharia Coalbed Methane (CBM) field considering the flow dynamics that prevail in CBM reservoirs. Paper presented at the UrjaVarta-2024 Conclave organised by Directorate General of Hydrocarbons (DGH), New Delhi, July 2024
3. Parida, B. P., Sinharay, R., Dixit, M., **Upadhyay, R.,** Chand, J. C., and D. Fife. "Pseudo-Isotherm: A Revised Concept of Desorption Phenomena of Coal Bed Gas Reservoirs Integrating Isotherm, Material Balance, and Pressure for Optimized Field Development." Paper presented at the GOTECH, Dubai, UAE, May 2024. doi: https://doi.org/10.2118/219177-MS
4. Kumar, A., **Upadhyay, R.**, Raj Kiran, Rajak, V.K. (2024), Reliable Estimation of CO2 Storage Capacity in Geological Structures of India, Presented at India Energy Week 2024, Goa, India
5. **Upadhyay, R.**, 2021. "Webinar on Sustainable Solutions for Upstream Petroleum Industry" organized by ONGC on 7th May 2021 as part of activities planned by Minitry

of Petroleum and Natural Gas (MoPNG) under Bharat Ka Amrut Mahotsav to Celebrate 75 years of India's Independence.

6. Chattaraj, S., **Upadhyay R.**, Mohanty D., Singh, A.K., 2019. Reservoir Modeling for Prediction of Coalbed Methane Production – A Case Study from Raniganj Block, India. Presented in: MAS-2019 Department of Mathematics & Computing, IIT(ISM) Dhanbad
7. **Upadhyay, R**; Rai, S, "Extraction of CBM and CMM from coal bed and coal mine (opportunities and challenges) - A review", Presented in: National Seminar on Mining Industry: Challenges & Opportunities (MICO-2018) organized by Indian Mine Managers' Association during 1st – 2nd December 2018 at Dhanbad, India.
8. **Upadhyay, R.**, 2018. "Workshop on Coalbed Methane (CBM)" conducted for executives of Reliance Industries Limited from 19th – 20th December 2018 at Mumbai, India.