Journals

1. Gautam, S., Kumar, S., Kumar, A., **Rajak, V.K.** and Guria, C., 2025. Development of functional polymer-based clay-free HPHT drilling fluid: Effect of molecular weight and its distribution on drilling fluid performance. *Geoenergy Science and Engineering*, 246, p.213616. https://doi.org/10.1016/j.geoen.2024.213616
2. Kiran, R., Upadhyay, R., **Rajak, V.K**., Kumar, A. and Gupta, S.D., 2024. Underpinnings of reservoir and techno-economic analysis for Himalayan and Son-Narmada-Tapti geothermal sites of India. *Renewable Energy*, 237, p.121630. https://doi.org/10.1016/j.renene.2024.121630 (Impact Factor: 9.0, Q1)
3. Kiran, R., **Rajak, V.K.**, Upadhyay, R. and Kumar, A., 2024. Comparative techno-economic assessment of superhot rock and conventional geothermal energy feasibility for decarbonizing India. *Geothermics*, 122, p.103078. https://doi.org/10.1016/j.geothermics.2024.103078 (Impact Factor: 3.5, Q1)
4. Saif, M., Kiran, R., **Rajak, V.K.** and Verma, R.K., 2024. Investigation of an Indian Site with Mafic Rock for Carbon Sequestration. *ACS omega*, 9(28), pp.30270-30280. https://doi.org/10.1021/acsomega.4c00213 (Impact Factor: 3.7, Q2)
5. Doley, A., Mahto, V., **Rajak, V.K.**, Kiran, R. and Upadhyay, R., 2024. Investigation of Filtration and Shale Inhibition Characteristics of Chitosan-N-(2-hydroxyl)-propyl trimethylammonium Chloride as Drilling Fluid Additives. *ACS omega*, 9(19), pp.21365-21377. https://doi.org/10.1021/acsomega.4c01632 (Impact Factor: 3.7, Q2)
6. Banerjee, S., Banik, A., **Rajak, V.K.**, Bandyopadhyay, T.K., Nayak, J., Jasinski, M., Kumar, R., Jeon, B.H., Siddiqui, M.R., Khan, M.A. and Chakrabortty, S., 2024. Two-Phase Crude Oil–Water Flow Through Different Pipes: An Experimental Investigation Coupled with Computational Fluid Dynamics Approach. *ACS omega*, 9(10), pp.11181-11193. https://doi.org/10.1021/acsomega.3c05290 (Impact Factor: 3.7, Q2)
7. Das, D., Anand, A., Gautam, S. and **Rajak, V.K.**, 2024. Assessment of utilization potential of biomass volatiles and biochar as a reducing agent for iron ore pellets. Environmental Technology, 45(1), pp.158-169. https://doi.org/10.1080/09593330.2022.2102936 (Impact Factor: 2.2, Q3)
8. Doley, A., Mahto, V., **Rajak, V.K.** and Suri, A., 2023. Development of a High-Performance Drilling Fluid Additive for Application in Indian Shale Gas Formations.

Energy & Fuels, 37(17), pp.12824-12837. https://doi.org/10.1021/acs.energyfuels.3c02066 (Impact Factor: 5.2, Q2)

9. Kiran, R., Upadhyay, R., **Rajak, V.K.**, Gupta, S.D. and Pama, H., 2023. Comprehensive study of the underground hydrogen storage potential in the depleted offshore Tapti-gas field. *International Journal of Hydrogen Energy*, 48(3), p. 12396-12409. https://doi.org/10.1016/j.ijhydene.2022.12.172 (Impact Factor: 7.1, Q2)

10. Upadhyay, R., Datta Gupta, S. and **Rajak, V.K.**, 2023. Impact of pressure-dependent diffusivity on transient pressure analysis of a dry Coalbed Methane (CBM) wells: A new approach. *Journal of Earth System Science*, *132*(1), p.34. https://doi.org/10.1007/s12040-022-02040-7 (Impact Factor: 1.9, Q3)

11. Gautam, A., Yadav, R.K., Ajit, K.P. and Rajak, V.K., 2023. A review on CDM-based ductile models and its application. Transactions of the Indian Institute of Metals, 76(5), pp.1141-1154. https://doi.org/10.1007/s12666-022-02790-4 (Impact Factor: 1.5, Q3)

12. Sah, R.K., Kumar, A., Gautam, A. and **Rajak, V.K.**, 2022. Temperature independent FBG based displacement sensor for crack detection in civil structures. *Optical Fiber Technology*, *74*, p.103137. https://doi.org/10.1016/j.yofte.2022.103137 (Impact Factor: 2.6, Q2)

13. **Rajak, V.K.**, Gautam, S., Ajit, K.P., Kiran, R. and Madhumaya, A., 2022. Rheological Property Measurement and Application of Formate-Based Drilling Fluids at Elevated Temperatures: A Review. *MAPAN*, 37(3), pp.665-681. https://doi.org/10.1007/s12647-022-00546-5 (Impact Factor: 1.44, Q4)

14. Datta Gupta, S., Upadhyay, R. and **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*, 43(2), pp. 471-489. (Impact Factor: 1.31, Q3)

15. Gautam, S., Guria, C. and Rajak, V.K., 2022. A state of the art review on the performance of high-pressure and high-temperature drilling fluids: Towards understanding the structure-property relationship of drilling fluid additives. Journal of Petroleum Science and Engineering, 213, p.110318. https://doi.org/10.1016/j.petrol.2022.110318 (Impact Factor: 5.16, Q1)

16. Kiran, R., Dansena, P., Salehi, S. and **Rajak, V.K.**, 2022. Application of machine learning and well log attributes in geothermal drilling. *Geothermics*, 101, p.102355. https://doi.org/10.1016/j.geothermics.2022.102355 (Impact Factor: 4.56, Q1)

17. **Rajak, V.K.**, Kumar, S., Thombre, N.V. and Mandal, A., 2018. Synthesis of activated charcoal from saw-dust and characterization for adsorptive separation of oil from oil-in-water emulsion. *Chemical Engineering Communications*, 205(7), pp.897-913. https://doi.org/10.1080/00986445.2017.1423288 (Impact Factor: 1.9, Q3)

18. **Rajak, V.K.**, Kumar, H. and Mandal, A., 2016. Kinetics, equilibrium and thermodynamic studies of adsorption of oil from oil-in-water emulsion by activated charcoal. *International Journal of Surface Science and Engineering*, 10(6), pp.600-621. https://doi.org/10.1504/IJSURFSE.2016.081038 (Impact Factor: 1.0, Q4)

19. **Rajak, V.K.**, Singh, I., Kumar, A. and Mandal, A., 2016. Optimization of separation of oil from oil-in-water emulsion by demulsification using different demulsifiers. *Petroleum Science and Technology*, 34(11-12), pp.1026-1032. https://doi.org/10.1080/10916466.2016.1181654 (Impact Factor: 1.3, Q3)

20. **Rajak, V.K.**, Relish, K.K., Kumar, S. and Mandal, A., 2015. Mechanism and kinetics of separation of oil from oil-in-water emulsion by air flotation. *Petroleum Science and Technology*, 33(23-24), pp.1861-1868. https://doi.org/10.1080/10916466.2015.1108987 (Impact Factor: 1.3, Q3)

Conferences

1. Imtiaz, M., Rajak, V.K., Dei, S., Chhateja, J. and Biswas, A., 2016, March. Aquatic Oil Spill Remediation by Using Automated Unmanned Boat AUB. In *Offshore Technology Conference Asia*. Offshore Technology Conference.