

LIST OF PUBLICATIONS

List of Research Papers Published in SCI journals

1. **Mukherjee, M.K.* (2001):** Structural Pattern and Kinematic framework of deformation in the southern Nallamalai fold-fault belt, Cuddapah district, Andhra Pradesh, Southern India; *Journal of Asian Earth Sciences, Elsevier* 19, 1-15. [Q2]
2. Chaudhuri, A.K., Saha D., Deb, G., Deb, S.P., **Mukherjee, M.K.**, and Ghosh, G. (2002): The Purana basins of Southern Cratonic Province of India — A case for Mesoproterozoic Fossil Rifts; *Gondwana Research, Elsevier* 5, 23-33. [Q4]
3. **Mukherjee, M.K.* (2003) :** Very low-grade Metamorphism vis-a-vis Penetrative deformation in the southern Nallamalai Fold-Fault Belt, Cuddapah Basin, Andhra Pradesh; *Journal of the Geological Society of India*, 62, 535-548. [Q4]
4. **Mukherjee, M.K.***, Das, S. & Modak, K., (2016): Basement-Cover structural relationships in the Kaladgi Basin, southwestern India: Indications towards a Mesoproterozoic gravity gliding of the cover along a detached unconformity. *Precambrian Research (Elsevier)* 281: 495-520. [Q1]
5. **Mukherjee, M.K.* and Modak, K (2019):** Timing of cleavage development in relation to folding and its implications: an example from the deformed Mesoproterozoic sedimentary cover of Kaladgi basin, southwestern India. *Journal of Geological Society of India*, 93, 379-391. [Q4]
6. **Mukherjee, M.K.***, Modak, K and Ghosh, J. (2019). Illite Crystallinity (IC) index from the Mesoproterozoic sedimentary cover of the Kaladgi basin; southwestern India: implications on crustal depths of subsidence and deformation, *Journal of Earth System Science* 128:101. <https://doi.org/10.1007/s12040-019-1124-7> [Q3]
7. Gupta, A.K. and **Mukherjee M.K.* (2022).** Evaluating Road-Cut Slope Stability Using Newly Proposed Stability Charts and Rock Microstructure: An Example from Dharasu-Uttarkashi Roadway, Lesser Himalayas, India. *Rock Mechanics and Rock Engineering*, 55, 3959-3995. <https://doi.org/10.1007/s00603-022-02846-3> [Q1]
8. Padhi, A.K.; **Mukherjee, M.K.***; Tripathi, B.K.; Pande, D.; Bisht, B.S.; Sarkar, B.C. (2023). Polymetallic Uranium Mineralisation in Rohil, Rajasthan, Western India: Insights from Mode of Occurrences, Structural Controls, Alteration Geochemistry and Exploration. *Minerals*, 13, 555. <https://doi.org/10.3390/min13040555> [Q2]
9. Mishra P.K, Mohanty S.P, Mohanty, D, and **Mukherjee M.K. (2023)** Phosphorous concentration in iron-rich rocks of the Chilpi Group, Bastar Craton, India: implications on late Palaeoproterozoic seawater palaeoproductivity. *Geological Magazine*, 160, 1687-1700. <https://doi.org/10.1017/S001675682300064X> [Q3]
10. Bhaumik, A.K., Kumar, S., Chaudhury, S., Mohanty, S., **Mukherjee, M. K.**, Sain, K., Gupta, A. K., and Kumar, P. (2024). Accumulation of gas hydrates in mass transport deposits at Krishna-Godavari Basin, Bay of Bengal: Foraminiferal, sedimentologic, and seismic evidence. *AAPG Bulletin*, 108, 1687-1703. DOI:10.1306/03222423052 [Q2]
11. Dora, M. L., Upadhyay, D., Baswani, S. R., Meshram, T., **Mukherjee, M. K.**, Mahapatro, S.N., and Randive, K. (2025). Age and genesis of hydrothermal Ni-PGE-Te mineralisation in the Gondpipri mafic ultramafic complex, central India: constraints from zircon U–Pb geochronology and magnetite-pyrite geochemistry. *Mineralium Deposita*, 60, 429-452. [Q1] <https://doi.org/10.1007/s00126-024-01338-4>
12. Padhi, A.K.; **Mukherjee, M.K.***; Bisht, B.S.; Tripathi, B.K.; Pande, D.; Baskaran, S. (2025) Mineral Chemistry of Chlorites and Feldspars and Their Genetic Linkage to Uranium

Mineralization: An Example from Polymetallic Uranium Deposit in Rohil, Rajasthan, Western India. *Minerals*, 15, 41. <https://doi.org/10.3390/min15010041> [Q2]

13. Karmakar, S. **Mukherjee, M.K.*** Dora, M. L., Mohanty, B. (2025). Differential core-to-periphery emplacement of mafic magma in an Archean Complex and its implications: An example from Southern Granulite Terrain, India. *Precambrian Research*, 418, 107673. [Q2] <https://doi.org/10.1016/j.precamres.2024.107673>
14. Padhi, A. K., **Mukherjee, M. K.***, Bisht, B. S., Saravanan, B. (2025). Growth rims in uraninite: Evidence of episodic changes in hydrothermal fluid composition in Rohil uranium deposit, Rajasthan, India. *American Mineralogist*. [Q2] <https://doi.org/10.2138/am-2024-9669>
15. Zooelnon, A.A., Ghosh, S, **Mukherjee, M. K.**, Rajput, A. (2025). The influence of mineralogy and geomechanical properties on the development of natural fractures in coal bearing Strata and its implications: An example from Barakar Formation, Eastern India. *International Journal of Earth Sciences* [Q3] <https://doi.org/10.1007/s00531-025-02541-y>
16. Gangula H., Alvarez, I.G., Manikyamba, C., D'Anderes, J., Yadav, J.K., **Mukherjee, M. K. (2025)**: Critical Mineral Potential of Indian Phosphorites: Evidence of REE enrichment in Ediacaran Sediments from the Cuddapah Basin. *Journal of Geochemical Exploration* [Q1] <https://doi.org/10.1016/j.gexplo.2025.107918>
17. Zooelnon, A. A., Ghosh, S., **Mukherjee, M. K.* (2025)**. Control of lineaments on the distribution of hazardous coal fire zones in Jharia coalfield, Eastern India. *Natural Hazards (Under Review)* [Q2]

Book Chapters

1. **Mukherjee, M. K. and Gupta A. K. (2024)**. Integrating rock mass classification, rock microstructure and neotectonic activity index for predicting road-cut slope failures: An example from Dharasu-Uttarkashi Road section, Northern India. In Tomas, R., Cano, M. Riquelme, A., Pastpr, J. L., Benavente, D., and Ordonez, S. (Eds). *New Challenges in Rock Mechanics and Rock Engineering*, CRC Press (Taylor and Francis), 1205-1210.
2. **Mukherjee, M. K. (2023)**. Prediction of water inflow in a proposed underground coal mine of the Rajgamar dipside (South of Phulakdih Nala), in Chattisgarh, India. In Sinha, A., Sarkar, B. C. and Mandal, P.K. (Eds). *Proceedings of the 10th Asian Mining Congress 2023: Roadmap for best mining practices vis-à-vis global transformation*. Springer, 16-31.
3. Gupta A. K. and **Mukherjee M. K. (2014)**: Rock Mass strength: How does it contribute to the stability of rock slopes? In, *Proceedings of the National Seminar on Innovative Practices in Rock Mechanics (IPRM-2014)*, Bengaluru; 81-93.
4. **Mukherjee, M. K., Sahu, A.K. and Mahanta, S. K (2011)**: Deformation structures of the Banded Iron Formation around Kiriburu and Meghahatuburu deposit, Jharkhand, India, in *New Paradigms of Exploration and Sustainable Mineral Development: Vision 2050*, ISM Dhanbad, 723-732.

List of other research papers

1. Khan, A.S., **Mukherjee, M.K.**, and Sarkar, R.L. (2003): A Re-interpretation of Geology of Ramakona-Sausar-Mogra area, of Sausar fold belt, M.P.; *Gondwana Geological Magazine Special Publication*, 7, 119-128.
2. **Mukherjee, M.K.** and Roy, A. (2004): Some serious difficulties faced by plate tectonic model of geodynamics and problems within the Indian plate. *Geological Survey of India Special Publication*, 84, 351-363.

3. Khan, A.S. and **Mukherjee, M.K. (2004)**: Specialized Thematic mapping in Sausar Fold Belt in parts of Maharashtra and MadhyaPradesh, *Records, Geological Survey of India*, 137, 48-50.
4. Devarajan, M.K. **Mukherjee, M.K.** Thorat, P.K., Shrivastava, R.K. and Chourasia, A.H. **(2006)**: Report on the Geological Investigations around Jaitapur, in parts of Ratnagiri and Sindhudurg districts, Maharashtra. (Phase-II, Part-I) *Unpublished GSI Reports. GSI, Central Region, Nagpur-440006*.
5. **Mukherjee, M.K.** and Jeere, D.S. **(2006)**: Thematic mapping of Gneiss–Granulite Terrain, Western Bastar Craton, Chandrapur district, Maharashtra. *Record, Geological Survey of India*, 139, 28-30.
6. **Mukherjee, M. K. and Singh A. K. (2009)**: Thematic mapping of Gneiss Granulite Terrain, Western Bastar Craton, Chandrapur district, Maharashtra, FSP-2006-07, *Records, Geological Survey of India, vol 142*.
7. **Mukherjee, M. K. (2010)**: The importance of Clay Minerals in Evaluating Thermal Maturity of Sedimentary basins and Petroleum Potential, in *Geological and Technological facets of CBM, Shale gas Energy Resources and CO2 Sequestration*, 126-134.
8. Sinha, D., Das, S., **Mukherjee, M. K.**, Bandhopadhyay, A., Sadhu, P.K. and Pal, N **(2010)**: Speed Control of Drill Motor for Different Types of Rock Mass according to their Drillability, *Drills and Drilling- an Update, ISM Dhanbad*, pp 103-108.
9. **Mukherjee, M. K** and Modak, K., **(2017)**: Structural Geometry and Deformation Patterns in Mesoproterozoic cover sediments of Kaladgi Basin: Implications for Exploration of Uranium and Hydrocarbons. *Journal of Geoscience Research*, Special vol. 1, 217-22
10. **Mukherjee, M. K., Tripathy, S. K. Jeere, D. S. and Singh A. K. 2010**: Final report on thematic mapping of Gneiss-Granulite terrain, Western Bastar Craton, Chandrapur district, Maharashtra (FS 2004-2007). Unpublished Report, Geological Survey of India, Central Region, Nagpur 440006.

Papers in International Conference/ Symposium

1. **Mukherjee, M. K.**, Jeere, D. S. Tripathy, S. K. and Singh, A. K. **(2008)** : Basin-margin fault history and evidence for associated seismicity along the north eastern margin of the Godavari rift, Chandrapur district, Maharashtra, South Central India. *Proceedings International Conference on Geology—Indian Scenario and Global Context Indian Statistical Institute, Kolkata*. 53.
2. **Mukherjee, M. K. (2008)** : Paleoseismic signatures in basin- margin fault history: implications on pre-, and syn- Gondwana basin evolution along the north-eastern margin of the Godavari rift, Chandrapur district, Maharashtra, South Central India. *Proc. International Gondwana 13th Conference, Dali, China*, 153
3. **Mukherjee, M. K. (2011)**: Cleavage development in the southern Nallamalai-fold-fault belt, Cuddapah Basin, South India: Implications from Geometry, morphology, Deformation mechanisms and strain; *Proceedings of the International symposium on Precambrian accretionary orogens and Field workshop in the Dharwar Craton, Southern India, New Delhi, India*, 90-91.
4. **Mukherjee, M. K. (2013)**: Contrasting deformation Geometry, Kinematics and Microstructures between the Basement and the Mesoproterozoic cover rocks of the Kaladgi Basin, Southwestern India: indications towards deformation of the cover by gravity gliding along a detached unconformity. *Proceedings of the International Conference on Deformation Mechanisms, Rheology and Tectonics, Leuven Belgium* pp 73.
5. **Mukherjee, M. K. (2014)**: Clay Minerals: the importance of their crystal structure, composition and properties in hydrocarbon exploration and landslide studies; in *Proceedings of the International Conference on Emerging Materials: Characterization and Application, Kolkata*. 114.

6. **Mukherjee, M. K., (2015).** Basement-cover relations in the intracratonic Kaladgi basin, southwestern India: Deformational evidence of a Mesoproterozoic gravity gliding of the cover over the basement, in Siégel, C., Verdel, C., and Rosenbaum, G. (Eds.), *Riding the Wave: GSA Specialist Group in Tectonics and Structural Geology conference, November 2015, Geological Society of Australia, Abstract no. 113, 104-105.*
7. **Mukherjee, M. K., Modak, K., and Das, S., (2015).** Deformation scenario and metamorphism of the Mesoproterozoic cover rocks of the Kaladgi basin, southwestern India. *Proceedings of the 4th Annual International Conference on Geological & Earth Sciences (GEOS 2015), October 2015, Singapore, Global Science and Technology Forum, 50-61. doi:10.5176/2251-3353_GEOS15.42 (Best Research Paper Award)*
8. **Mukherjee, M. K., Gupta, A. K. 2015:** Assessment of slope stability along the road section between Dharasu and Uttarkashi, Uttarkhand, India: Insights from continuous slope mass rating and back analysis of failed slopes. *Abstracts of the International Conference on "Engineering Geology in New Millenium" at IIT Delhi, New Delhi, 27-29 October 2015, p. 215.*
9. De, A., **Mukherjee, M. K. 2015:** Review of stability of pillars in underground coal mines: Recognizing the importance of the strengths of roof and pillar and their interrelationships. *Abstracts of the International Conference on "Engineering Geology in New Millenium" at IIT Delhi, New Delhi, 27-29 October 2015, p. 152.*
10. **Mukherjee, M. K. (2016).** Deformation patterns in the Bagalkot Group of rocks in the intracratonic Kaladgi basin, south western India: A case of Mesoproterozoic gravity gliding of the cover over the basement during basin uplift. Paper number 1859, *Abstract 35th International Geological Congress, Cape Town, South Africa.* <http://www.americangeosciences.org/information/igc>)
11. Karmakar, S, **Mukherjee, M.K,** Mohanty, B and Jaja Uruzula A. **(2016).** Geometry and kinematics of Moyar-Bhavani shear zone (central part), Tamil Nadu India: Characterising a Neoproterozoic oblique transpression. Paper number 459, *Abstract 35th International Geological Congress, Cape Town, South Africa.* <http://www.americangeosciences.org/information/igc>)
12. Gupta A. K. and **Mukherjee, M. K. (2016).** Assessment of rock slope failure analysis and rock mass characterization along road-cuts (NH-108) in Lesser-Himalaya region, India. Paper number 1012, *Abstract 35th International Geological Congress, Cape Town, South Africa* <http://www.americangeosciences.org/information/igc>)
13. Kumbhakar, S., Khan, M. A., **Mukherjee, M. K. (2016).** Gold mineralization along the Gurharpahar ridge in the Mahakoshal fold belt, Central India: Mode of occurrence, distribution, structural controls and exploration. Paper number 3986, *Abstract 35th International Geological Congress, Cape Town, South Africa.* <http://www.americangeosciences.org/information/igc>) Naim, F and **Mukherjee, M. K. (2017):**
14. Naim, F., **Mukherjee, M. K. (2017).** Use of fault displacement vector to identify future zones of seismicity: an example from earthquakes of Nepal Himalayas. Paper no. 293-10, *Geological Society of America Abstracts with Programs. Vol. 49, No. 6, GSA Annual Meeting, Seattle, USA.* doi: 10.1130/abs/2017AM-301896
15. **Mukherjee, M. K. (2019).** An Integrated study on Cleavage development in the contractional zone of a Paleo-Mesoproterozoic sedimentary cover deformed by gravity gliding: An example from Kaladgi Basin, South western India. In Glorie S, Wise T and Dutch R (Eds). *SGTSG and SGSEG 2019 abstracts: biennial meeting of the Specialist Group for Tectonics and Structural Geology and the Specialist Group in Solid Earth Geophysics, Convergence on the Coast, 18–22 November 2019, Port Lincoln, South Australia, Report Book 2019/00019. Department for Energy and Mining, South Australia, Adelaide, p 58.*
16. Mishra, P.K., Mohanty, S.P, **Mukherjee, M. K. (2022).** Low level of phosphorous concentration at the late Paleoproterozoic shallow seawater: Evidence from the BIF rocks of the Chilpi Group, Bastar Craton, Central India. *Goldschmidt 2022 Abstracts.* <https://doi.org/10.46427/gold2022.9003>

17. **Mukherjee, M. K. (2025):** Structural Geometry, Geochemistry and Emplacement Scenario of a Gabbro Intrusive in Archaean Bhavani Gneissic Complex, Southern Granulite Terrain, India: Petrogenetic and Metallogenic Implications. (SE-16 A005), *Proceedings of the International Conference of AOGS 2025., 27 July-1 Aug 2025, Singapore.*
18. Harshitha, G., Ignacio González-Álvarez, Manikyamba, C., D'Andres, J., **Mukherjee, M.K.**, Yadav, J.K., **(2025).** Ediacaran pristine Phosphorites from the Cuddapah Basin, India: Rare Earth Element mobilization, accumulation and enrichment mechanisms. *Abstracts of Goldschmidt Conference, 6-11 July, 2025, Prague.*

Papers in National Conference/ Symposium

1. **Mukherjee M. K. (2000).** Interaction Of Low-Grade Metamorphism And Penetrative Deformation – A Case Study From The Southern Nallamalai Fold Belt of Cuddapah Basin, South India; Abstracts of *National Symposium on Milestones in Petrology at the end of the millennium and Future Perspectives November 14-16, at Banaras Hindu University, Varanasi.*
2. **Mukherjee M. K. (2003)** :On Mechanisms of Faulting and Seismogenesis; *Proceedings of National Workshop on Seismic microzonation and risk hazard management organised by GSI Training Institute, Hyderabad at Nagpur.*
3. **Mukherjee, M. K. (2011):** Syn- and Post depositional deformation structures from the Proterozoic cover in the North eastern Sectors of the Godavari Graben: Implications on the behaviour of the basin margin Fault during basin growth and closure *Abstracts of Field workshop on Godavari Basin: Proterozoic and Phanerozoic Evolutionary trends and Coal Exploration & Exploitation; Kothagudem, AP, p24*
4. Das S., and **Mukherjee, M. K., (2011):** Deformation Pattern of the Mesoproterozoic Kaladgi group in east-central parts of Kaladgi basin, Bagalkot district, Karnataka; *Abstracts of the National Seminar on Geodynamics and Metallogenesis of the Indian Lithosphere, BHU, Varanasi. pp 98.*
5. **Mukherjee, M. K. (2011a):** The Shale Gouge Ratio – an important parameter for characterization of fault seals in Hydrocarbon Reservoirs; *Proceedings of International Seminar on Recent Advances in Geosciences, ISM Dhanbad 135-137.*
6. Apat A. and **Mukherjee M. K. (2012):** Characterizations of igneous plutons and their components within Chotonagpur Gneissic complex around Baliapur-Sabaigarha, Dhanbad district, Jharkhand in *Proceedings of National Workshop on Recent Advances in Geosciences in Bihar and Jharkhand, p 16.*
7. **Mukherjee M. K., Karmakar S and Mohanty B (2013):** Geometry and Classification of shear zone related folds from Moyar Bhavani Shear zone around Pulliyamkombai and Vanipudur, Erode district, Tamil Nadu. Abstracts, *National Workshop on Recent Scientific advances in the southern Granulite Terrain, 20.*
8. Gupta A. K. and **Mukherjee M. K. (2014):** Rock Mass strength: How does it contribute to the stability of rock slopes? in *Proceedings of the National Seminar on Innovative Practices in Rock Mechanics (IPRM-2014), Bengaluru; 81-93.*
9. **Mukherjee, M. K. (2016).** The importance of composition, chemistry, and properties of clays in landslide studies. Abstracts, *National seminar on the improvement of road construction techniques in the Himalayan region, April 4 2016, Graphic Era Hill University, Dehradun*