

Curriculum-Vitae



Saumen Maiti

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Professor, Department of Applied Geophysics, IIT (ISM), Dhanbad

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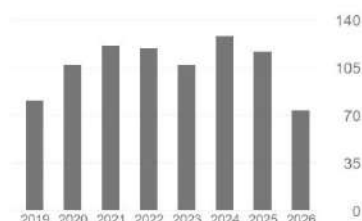
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About Me

My research covers several disciplines; development and application of innovative computational framework based on machine learning and artificial intelligence in various domains of exploration and applied geosciences.

Courses Taught

- GPC 99102/ GPC25101: Geophysical Inversion
- GPC 23102: Electromagnetic Method
- GPC 51201: Petroleum Exploration & Geophysics Geophysical Modelling
- GPC 90101/ GPE26105: Environmental Geophysics
- GPC 93101: Earth and Planetary System
- GPC 26201: Near Surface Geophysics: Hydrology
- GPE 51107: Geohydrology
- GPC 98102/GPC24102: Geophysical Signal Processing
- GPC 98106: Signal Processing
- GPD 523/GPO503: Artificial Intelligence and Machine Learning in Geosciences
- GPC532: Hydrology
- GPD 521: Time Series Analysis in Geosciences
- NGPC207: Introduction to Petrophysics & Geomechanics

Academics

2003-2009 Ph.D (Geophysics), CSIR-National Geophysical Research Institute [CSIR-NGRI], Osmania University, Hyderabad, India.
PhD Thesis: Application of neural network and Walsh transform techniques for identification of rock boundary from the KTB bore hole data. <http://dx.doi.org/10.1190/1.3447983>,
Supervisor: Dr. R. K. Tiwari, Raja Ramanna Fellow, DAE, GOI.

1999-2002 M.Sc. Tech (Applied Geophysics), Indian School of Mines (ISM), Dhanbad, India
Masters Dissertation: "Generation of various thematic maps as input to the watershed management of western part of Burdwan district (W.B) using digital IRS LISS-III image data analysed through EASI/PACE and SPANS image processing and GIS software package."

1996-1999 B.Sc.(Physics Hons.), Narendrapur Rama Krishna Mission Residential College, University of Calcutta, India

Positions

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04/26-Present "Professor", Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad.
04/21-04/26 "Associate Professor", Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad.
05/13-04/21 "Assistant Professor", Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad.
01/13-04/13 "Reader", Indian Institute of Geomagnetism [IIG], Navi-Mumbai.
03/07-12/12 "Fellow", Indian Institute of Geomagnetism [IIG], Navi-Mumbai.
06/05-02/07 "Research Assistant", Central Water & Power Research Station [CWPRS], Pune.
01/04-06/05 "CSIR-Intern Fellow", National Geophysical Research Institute [NGRI], Hyderabad.
02/03-12/03 "Project Fellow", National Geophysical Research Institute [NGRI], Hyderabad.

Awards & Honours

- **Krishnan Gold Medal 2013**, Indian Geophysical Union [IGU], Hyderabad (awarded during the IGU 50th Annual Convention, Hyderabad, January 8, 2014) <http://www.igu.in/awards.htm#KRISHNAN%20MEDAL>
- **JSPS-KAGI21** Exchange Programme for East Asian Young Researchers, Kyoto University, Japan, 2009.
- **CSIR-Intern**, Diamond Jubilee Award, NGRI, Hyderabad, 2003-2004
- Prize with student: Mr. Prasenjit Sarkar, PhD student of Department of Applied Geophysics, IIT (ISM), Dhanbad wins the Best Student Paper **Inder Mohan Thapar Research Award (IMTR)** 2021.
- Prize with student: Mr. Shubham Priyadarshi, 5- Year Integrated M.Sc. Tech (Applied Geophysics) student of Department of Applied Geophysics, IIT (ISM), Dhanbad wins the **Best Student Paper 3rd Prize in 79th European Association of Geoscientists and Engineers (EAGE) Conference & Exhibition 2017**-Student Programme. Title of the paper "PSO-Based Hybrid Approach for Inversion of Vertical Electrical Sounding Data-A Case Study from Western Maharashtra" by S. Priyadarshi, S. Maiti and A. Das
- Selected as **Assistant Professor** on Tenure Track, Dept. of Geology & Geophysics, IIT-Kharagpur, 2010

Publications

Books Chapter (2)

2. **Maiti, S***, and Gupta, G., Integrated Geoelectrical and Hydrochemical Investigation of Shallow Aquifers in Konkan Coastal Area, Maharashtra, India: Advanced Artificial Neural Networks based Simulation Approach: *Advances in modeling and interpretation for near surface geophysics*, (Eds. A. Biswas and SP Sharma), Springer Geophysics, Springer Nature Switzerland AG 2020 https://doi.org/10.1007/978-3-030-28909-6_3
1. Gupta, G., Erram, V. C., and **Maiti, S.**, Application of Electrical Resistivity Tomography in Delineation of Saltwater and Freshwater Transition Zone: A Case Study in the West Coast of Maharashtra, India. In: *GROUNDWATER: ASSESSMENT, MODELING AND MANAGEMENT*, (Eds. M. Thangarajan and Vijay P. Singh), CRC Press, (A unit of Taylor & Francis Group, UK), 1st July 2016 <https://www.crcpress.com/Groundwater-Assessment-Modeling-and-Management/Thangarajan-Singh/p/book/9781498742849>

Memoirs(1)

1. Erram, V. C., Ghodake, V.R., Gupta, G., Sabale, S.M., Narayanpethkar, A.B., **Maiti, S.**, and Kadam, B.D., Delineation of groundwater potential zones in the hard rock terrain of Deccan Volcanic Province using electrical resistivity data. *Memoir. Journal of the Geological Society of India*, No. 80, pp 51-66, 2012.

List of Journal Paper Publications (Web of Science) (43)

43. Kumar, V., Ghosh, S., **Maiti., S.**, 2026, Ensemble machine-learning-based horizontal permeability prediction and hydraulic flow unit characterization of the Hugin Sandstone. *Petrophysics*, 67 (04), 760-780, <https://doi.org/10.30632/PJV67N4-2026a5>
[SCI Impact Factor =0.7: Q3]
42. **Maiti., S***, 2026, A non-linear Bayesian neural network model for global temperature change modelling and quantifying relative influence of climate forcing. *Physica D: Nonlinear Phenomena*, 135191, <https://doi.org/10.1016/j.physd.2026.135191>
[SCI Impact Factor =2.9: Q1]
41. Ravi Kumar, Ch., **Maiti, S.**, Santosh, Naganjaneyulu, K., 2026, Subsurface characterization of thrust belts and synclinal basins of the Kohima region, NE India through gravity modeling: Implication for hydrocarbon resources. *Geophysical Prospecting*, 74 (2), e70143 [doi: 10.1111/1365-2478.70143](https://doi.org/10.1111/1365-2478.70143)
[SCI Impact Factor =1.7: Q3]

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40. Gupta, S., and **Maiti, S***, 2025. Groundwater Quality and Fluoride Contamination Risks in Jharkhand State: A Regional IWQI Analysis and Hydrochemistry Insights. *Journal of Environmental Chemical Engineering*. **13(5)**, 118253. <https://doi.org/10.1016/j.jece.2025.118253>
[SCI Impact Factor =7.5: Q1]
39. Das, G., **Maiti, S***. 2025. Ensemble learning-based interpretable method for pore pressure prediction using multivariate well logging data of IODP site U1517. *Earth Sci Inform* **18**, 206
<https://doi.org/10.1007/s12145-025-01709-z>
[SCI Impact Factor =4.2: Q1]
38. **Maiti, S***, Gupta, S., and Gupta, P.K., 2024. Prediction of groundwater quality index and identification of key variables using Bayesian neural network. *Water, Air, & Soil Pollution*, **235 (10)**, 664
<https://doi.org/10.1007/s11270-024-07459-w>
[SCI Impact Factor =3.5: Q2]
37. Biswas, A., Rao, G.S., **Maiti, S.**, 2024. Spatial variations in effective elastic thickness and loading ratio in the Indo-Burma subduction zone based on the joint inversion of Bouguer coherence and admittance, *Journal of Asian Earth Sciences*, Volume 270, 106192, ISSN 1367-9120, <https://doi.org/10.1016/j.jseaes.2024.106192>.
[SCI Impact Factor =2.4: Q2]
36. Mondal, S.R., Ghosh, R., Ojha, M. and **Maiti, S.**, 2024 Well log evaluation of the gas-bearing reservoirs in the Bombay offshore basin, Gulf of Cambay, western coast of India. *Exploration Geophysics* . **55 (2)**, 191-212
<https://doi.org/10.1080/08123985.2023.2288958>
[SCI Impact Factor =0.8: Q4]
35. **Maiti, S***, Chiluvuru, R.K., 2024. A deep CNN-LSTM model for predicting interface depth from gravity data over thrust and fold belts of North East India, *Journal of Asian Earth Sciences*, Volume 259, 105881,
<https://doi.org/10.1016/j.jseaes.2023.105881> [Among the most downloaded articles in the last 90 days; Dec. 06, 2023]
[SCI Impact Factor =2.4: Q2]
34. Das, G., and **Maiti, S***, 2024. A machine learning approach for the prediction of pore pressure using well log data of Hikurangi Tuaheni Zone of IODP Expedition 372, New Zealand. *Energy Geoscience*. **5(2)**, 100227
<https://doi.org/10.1016/j.engeos.2023.100227> [Among the most downloaded articles in the last 90 days; Nov,02, 2023]
[SCI Impact Factor =4.7: Q1]
33. Karmakar, M., and **Maiti, S***, 2023. Statistical machine learning augmented interpretation of pore pressure of well1344A located at slope setting of sites IODP, *Journal of Earth System Science*, **132**, 103
<https://doi.org/10.1007/s12040-023-02114-0>
[SCI Impact Factor =2.1: Q3]
32. Gupta, S., and **Maiti, S.**, 2023. Comparison between Self-Organizing Map and Principal Component analysis for water quality assessment and hydro-geochemical characterization in dyke intruded complex geological settings, *Water and Environment Journal*, **37(3)**, 512-526 <https://doi.org/10.1111/WEJ.12855>
[SCI Impact Factor =1.9: Q2]
31. Gupta, P.K., **Maiti, S.** 2023. Novel Efficient Method for Automatic Inversion of Vertical Electrical Sounding Data: Case Study from Sindhudurg District, Maharashtra, India. *Pure Appl. Geophys*. **180**, 243–259.
<https://doi.org/10.1007/s00024-022-03213-7>
[SCI Impact Factor =2.1: Q2]
30. Sengupta, M., Ghosh, R., Sen, A., and **Maiti, S.**, 2023. Capillary pressure equilibrium theory mapping of 4D seismic inversion results to predict saturation in a gas-water system. *Geophysics* **88(2)**, M49–M58.
<https://doi.org/10.1190/geo2022-0054.1>
[SCI Impact Factor =3.6: Q1]
29. Gupta, P.K., **Maiti, S.**, 2023. Enhancing the prediction of hydraulic parameters using machine learning, integrating multiple attributes of GIS and geophysics. *Hydrogeology Journal* . **31**, pages501–520
<https://doi.org/10.1007/s10040-022-02567-5>
[SCI Impact Factor =2.8: Q2]
28. Gupta, P.K., **Maiti, S.**, 2022. Enhancing data-driven modeling of fluoride concentration using new data mining algorithms. *Environ Earth Sci* **81**, 89. <https://doi.org/10.1007/s12665-022-10216-z>
[SCI Impact Factor =3.3: Q2]
27. Ray, A., Khoudaiberdiev, R., Bennett, C., Bhatnagar, P., Boruah, A., Dandapani, R., **Maiti, S.**, and Verma, S., 2022. Attribute assisted interpretation of deltaic system using enhanced 3D seismic data. Offshore Nava Scotia *Journal of Natural Gas Science and Engineering*, **99**, 104428, <https://doi.org/10.1016/j.jngse.2022.104428>
[SCI Impact Factor =6.8: Q1]

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26. Mondal, S.R., Ghosh, R., Ojha, M. and **Maiti, S.**, 2022. Predicting Resource Potential of Hydrocarbon in the Gulf of Cambay, West Coast of India, by Integrating Rock Physics and Multi-attribute Linear Regression Transform. *Nat Resour Res* . **31**, 643-661, <https://doi.org/10.1007/s11053-021-09999-y>
[SCI Impact Factor = 6.0: Q1]
25. Chiluvuru, Ravi Kumar., Raj, S., Pathak, B., **Maiti, S.**, and Kasturi, N.,. 2020. High density crustal intrusive bodies beneath Shillong plateau and Indo Burmese Range of northeast India revealed by gravity modeling and earthquake data. *Physics of the Earth and Planetary Interior*, **307**,106555, <https://doi.org/10.1016/j.pepi.2020.106555>
[SCI Impact Factor: 2.1: Q2]
24. Chiluvuru. Ravi Kumar., Kesiezie, N., Pathak, B. **Maiti, S***, and Tiwari, R.K., 2020 Depth estimation of basement structure beneath the KohimaSynclinerium, North East India via Bouguer gravity data modelling. *Journal of Earth System Science*, **129**:56, <https://doi.org/10.1007/s12040-019-1326-z>
[SCI Impact Factor: 2.1:Q3]
23. Kumar, S., Rawat, G., Dhamadharan, S., Sen, K., and **Maiti, S.**, 2019. Dimensionality analysis of MT impedances of Tso-MorariDome:Implication for structural interpretation, *Himalayan Geology*, **40** (2), 190-198.
[SCI Impact Factor: 0.6:Q4]
22. **Maiti, S***, Chiluvuru. R.K., Sarkar, P., and Tiwari, R.K., and Uppala, S., 2020. Interface depth modelling of gravity data and altitude variations: A Bayesian neural network approach", *Neural Computing and Applications*. **32**, 3183-3202, <https://doi.org/10.1007/s00521-019-04276-9>
[SCI Impact Factor: 4.5:Q2]
21. Karmakar, M., and **Maiti, S***, 2019. Short Term Memory Efficient Pore Pressure Prediction via Bayesian Neural Networks at Bering Sea Slope of IODP Expedition 323, *Measurement* , **135**,pp-852-868, <https://doi.org/10.1016/j.measurement.2018.12.034>
[SCI Impact Factor: 6.1: Q1]
20. Karmakar, M., **Maiti, S***, Singh, A., Ojha, M., Maity, B., 2018. Mapping of rock types using a joint approach by combining the multivariate statistics, self-organizing map and Bayesian neural networks: an example from IODP 323 site, *Marine Geophysical Research*, **39(3)**, pp-407-419, <http://dx.doi.org/10.1007/s11001-017-9327-2>
[SCI Impact Factor: 2.4: Q2]
19. **Maiti, S***, Das, A., Shah, R., and Gupta, G., 2017. Application of automatic relevance determination model for groundwater quality index prediction by combining hydro-geochemical and geo-electrical data , *Modeling Earth Systems and Environment*, vol. **3**(4), pp. 1371-1382, <http://dx.doi.org/10.1007/s40808-017-0369-x>
[ESCI Impact Factor: 3.6:Q3]
18. Singh, A., **Maiti, S***, Tiwari, R.K., 2017. Selection of optimum wavelet in CWT analysis of geophysical downhole data. *Journal of Indian Geophysical Union*, Vol **21**(2), pp.153-166,
[ESCI Impact Factor: 0.3:Q4]
17. Das, A., **Maiti, S***, Naidu, S., and Gupta, G., 2017. Estimation of spatial variability of aquifer parameters from geophysical methods: A case study of Sindhudurg district, Maharashtra, India, *Stochastic Environmental Research and Risk Assessment*, **31(7)**, pp-1709-1726, <http://dx.doi.org/10.1007/s00477-016-1317-4>
[SCI Impact Factor: 3.8:Q1]
16. Singh, A., **Maiti, S***, Tiwari, R.K., 2016. Modelling discontinuous well log signal to identify lithological boundaries via wavelet analysis: An example from KTB borehole data. *Journal of Earth System Science*, vol **125**(4), pp.761-776, <http://link.springer.com/article/10.1007/s12040-016-0701-2>
[SCI Impact Factor: 2.1:Q3]
15. Ojha, M., and **Maiti, S.**, 2016. Sediment classification using neural networks: an example from the site-U1344A of IODP Expedition 323 in the Bering Sea. *Deep-Sea Research Part II :Topical Studies in Oceanography*, vol **125-126**, pp 202-213, <http://dx.doi.org/10.1016/j.dsr2.2013.03.024>,
[SCI Impact Factor: 3.3:Q1]
14. Gupta, G., Patil, J.D., **Maiti, S.**,Erram, V.C., Pawar, N.J., Mahajan, S.H., and Suryawanshi, R.A., 2015. Electrical resistivity imaging for aquifer mapping over Chikotra basin, Kolapur District, Maharashtra. *Environmental Earth Sciences*, vol **73**(12), pp. 8125-8143, <http://dx.doi.org/10.1007/s12665-014-3971-5>
[SCI Impact Factor: 3.3:Q2]
13. Gupta, G., Erram, V. C., and **Maiti, S.**, 2015. Geoelectrical investigation for potential groundwater zones in parts of Ratnagiri and Kolhapur districts, Maharashtra. *Journal Indian Geophysical Union*, vol. **19**(1), pp.27-38.
[ESCI Impact Factor: 0.3:Q4]
12. Gupta, G., **Maiti, S.**, and Erram, V.C., 2014. Analysis of electrical resistivity data in resolving the saline and fresh water aquifers in west coast Maharashtra, India. *Journal of the Geological Society of India*, vol **84**(5), pp 555-568, <http://link.springer.com/article/10.1007/s12594-014-0163-6#page-1>
[SCI Impact Factor: 1.2:Q4]

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11. **Maiti, S***, and Tiwari, R.K., 2014. A comparative study of artificial neural networks, Bayesian neural networks and adaptive neuro-fuzzy inference system in Groundwater Level Prediction. *Environmental Earth Sciences*, vol **71(7)**, pp 3147-3160, <http://dx.doi.org/10.1007/s12665-013-2702-7>,
[SCI Impact Factor: 3.3:Q2]
10. **Maiti, S***, Erram, V.C., Gupta, G., Tiwari, R.K., Kulkarni, U.D., and Sangpal, R.R., 2013. Assessment of groundwater quality: A fusion of geochemical and geophysical information via Bayesian Neural Networks, *Environmental Monitoring and Assessment*, vol **185(4)**, pp 3445-3465, <http://dx.doi.org/10.1007/s10661-012-2802-y>,
[SCI Impact Factor: 3.6:Q3]
9. **Maiti, S***, Gupta, G., Erram, V.C., and Tiwari, R.K., 2013. Delineation of shallow resistivity structure around Malvan, Konkan region, Maharashtra by neural network inversion using vertical electrical sounding measurements. *Environmental Earth Sciences*, vol. **68(3)**, pp 779-794, <http://dx.doi.org/10.1007/s12665-012-1779-8>,
[SCI Impact Factor: 3.3:Q2]
8. **Maiti, S***, Erram, V.C., Gupta, G., and Tiwari, R.K., 2012. ANN based inversion of DC resistivity data for groundwater exploration in hard rock terrain of western Maharashtra (India). *Journal of Hydrology*, vol. **464-465**, pp.281-293, <http://dx.doi.org/10.1016/j.jhydrol.2012.07.020>,
[SCI Impact Factor: 7.3:Q1]
7. Tiwari, R.K., and **Maiti, S.**, 2011. Bayesian neural network modeling of tree-ring temperature variability record from the Western Himalayas. *Nonlinear Processes in Geophysics*, vol. **18(2)**, pp.515-528, <http://dx.doi.org/10.5194/npg-18-515-2011>,
[SCI Impact Factor: 2.7:Q2]
6. **Maiti, S***, Gupta, G., Erram, V.C., and Tiwari, R.K., 2011. Inversion of Schlumberger resistivity sounding data from the critically dynamic Koyna region using Hybrid Monte Carlo-based neural network approach. *Nonlinear Processes in Geophysics*, vol. **18(2)**, pp.179-192, <http://dx.doi.org/10.5194/npg-18-179-2011>,
[SCI Impact Factor: 2.7:Q2]
5. **Maiti, S***, and Tiwari, R.K., 2010. Neural network modeling and an uncertainty analysis in Bayesian framework: A case study from the KTB borehole site, *Journal of Geophysical Research*, vol. **115**, B10208, <http://dx.doi.org/10.1029/2010JB000864>,
[SCI Impact Factor: 4.0:Q1]
4. **Maiti, S***, and Tiwari, R.K., 2010. Automatic discriminations among geophysical signals via the Bayesian neural networks approach, *Geophysics*, vol. **75(1)**, pp E67-E78, <http://dx.doi.org/10.1190/1.3298501>,
[SCI Impact Factor: 3.6:Q1]
3. **Maiti, S***, and Tiwari, R.K., 2009. A Hybrid Monte Carlo method based artificial neural networks approach for rock boundaries identification: A case study from KTB borehole, *Pure and Applied Geophysics*, vol **166(12)**, pp 2059-2090, <http://dx.doi.org/10.1007/s00024-009-0533-y>,
[SCI Impact Factor: 2.1:Q2]
2. **Maiti, S***, Tiwari, R.K., and Kuempel Hans-Joachim., 2007. Neural network modeling and classification of litho-facies using well log data: A case study from KTB borehole site, *Geophysical Journal International*, vol **169(2)**, pp733-746, <http://dx.doi.org/10.1111/j.1365-246X.2007.03342.x>,
[SCI Impact Factor: 2.8:Q2]
1. **Maiti, S***, and Tiwari, R.K., 2005. Automatic detection of lithologic boundaries using the Walsh transform: A case study from the KTB borehole. *Computers and Geosciences*, vol. **31(8)**, pp.949-955, <http://dx.doi.org/10.1016/j.cageo.2005.01.016>,
[SCI Impact Factor: 4.1: Q1]

[Total SCI Impact Factor= 134.6: @2026 JCR]

Other Full Length Research Publications(30)

30. Sahu, R., and **Maiti, S.**, 2025. Enhancing lithological interpretation from petrophysical well log of IODP expedition 390/393 using machine learning. <https://arxiv.org/abs/2512.13529>
29. Ch. Ravi Kumar, Syiem, SM, Talukdar, D., and **Maiti, S.** 2022. Aeromagnetic and gravity signatures of Myllem pluton and its implications. *Indian Journal of Geosciences* 76 (2), 153-164; https://scholar.google.com/citations?view_op=view_citation&hl=en&user=-v8O-xEAAAAJ&sortby=pubdate&citation_for_view=-v8O-xEAAAAJ:7T2F9Uy0os0C
28. Dabi, S., Vishwakarma, A., **Maiti, S.**, 2022. Joint Implementation of Ensemble and Deep Learning Regression Techniques to Predict Missing Density Logs, Paper Number: IPTC-22454-MS, Paper presented at the International Petroleum Technology Conference, Riyadh, Saudi Arabia, February 2022. <https://doi.org/10.2523/IPTC-22454-MS>

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27. Dabi, S., and **Maiti, S.**, 2021. Implementation of Machine Learning Ensemble Techniques for 3D Inversion of Gravity Data AGU Fall Meeting 2021 <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/952871>
26. Dabi, S., Vishwakarma, A., **Maiti, S.**, 2021. Prediction of Shear Sonic Time log Using Machine Learning Techniques and Empirical Relations AGU Fall Meeting 2021 <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/948652>
25. Bhowmick, D., Gupta, D. K., **Maiti, S.**, and Shankar, U., 2019. Stacked autoencoders based machine learning for noise reduction and signal reconstruction in geophysical data. arXiv:1907.03278
24. Bhowmick, D., Gupta, D. K., **Maiti, S.**, and Shankar, U., 2018. Deep Autoassociative Neural Networks for Noise Reduction in Seismic data. arXiv:1805.00291 [cs.CE] <https://www.cornell.edu/>
23. Bhowmick, D., Gupta, D. K., **Maiti, S.**, and Shankar, U., 2018. Velocity-porosity super model: A deep neural networks based concept. arXiv:1804.07112 [cs.CE] <https://www.cornell.edu/>
22. Shah, R., and **Maiti, S.**, 2018. Artificial Neural Networks using Regularized Logistic Regression Cost Function: A Robust Lithofacies Classifier. 80th EAGE Conference & Exhibition 2018, 11-14 June 2018, Copenhagen, Denmark. <http://dx.doi.org/10.1007/10.3997/2214-4609.201801740>
21. Das, A., and **Maiti, S.**, 2017. Groundwater quality prediction using Bayesian automatic relevance determination modelling. *Society of Petroleum Geophysicists (SPG)*, November 17-19, Jaipur, India, Extended Abstract. 180 (on CDROM), pp.1-5, <http://www.spgindia.org/>
20. Kumar R. Ch., Kesiezie N., Singh, N., and **Maiti, S.**, 2016. Seismic site response studies for microzonation and hazard assessment of Kohima, Nagaland, North Eastern Region of India. *Indian Journal of Geosciences*, Vol. 71(3), pp. 501-518, https://www.researchgate.net/publication/342588664_Seismic_site_response_studies_for_microzonation_and_hazard_assessment_of_Kohima_Nagaland_North_Eastern_Region_of_India
19. Priyadarshi, SK **Maiti, S.**, Rekapalli, R Tiwari, RK 2016. A hybrid PSO-GSA-based inversion of noise-corrupted seismic data using singular spectrum-based time slice denoising, SEG Technical Program Expanded Abstracts, 4835-4839 <https://doi.org/10.1190/segam2016-13871026.1>
18. Singh, B.B., Srivardhan, V., and **Maiti, S.**, 2016 Integrated particle swarm optimization based inversion of self potential anomaly for mineral detection, 78th EAGE Conference and Exhibition, Vienna, Austria, May 30-02 June 2016 ,Extended Abstract, <http://dx.doi.org/10.3997/2214-4609.201601269>
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5. **Maiti, S.,** Gupta, G., and Erram, V., Inversion of resistivity sounding data of Koyna region: A Hybrid Monte Carlo based neural network approach, Presented at 46th Annual Convention of *Indian Geophysical Union* Meeting, Wadia Institute of Himalayan Geology, Dehradun, October 5-7, 2009.
4. **Maiti, S.,** Neural Network Modeling of Geophysical Well Log Data: A Case Study from German Continental Deep Drilling Program (KTB) Site, 5th KAGI21 International Summer School, Japan, 21st August-3rd September 2009
3. **Maiti, S.,** and Tiwari R.K., Classification of Lithofacies Boundaries Using the KTB Borehole Data: A Bayesian Neural Network Modeling, 7th Biennial International Conference & Exposition, *Society of Petroleum Geophysicists (SPG)*, Hyderabad, 14-16 January, 2008.
2. **Maiti, S.,** and Tiwari, R.K., Interpretation of gravity anomaly over symmetric sedimentary basin using Walsh Transforms techniques. Proceedings 5th Conference and Exposition on Petroleum Geophysics on "Geophysics: Leveraging Technologies for E&P Business", *Society of Petroleum Geophysicists (SPG)*, Hyderabad, 2004.
1. **Maiti, S.,** and Tiwari, R.K., An automatic method for detecting and analyzing geophysical signal using Walsh transform. Proceedings 40th Annual Convention and Meeting on "Sustainability Science and Environmental Geophysics", *Indian Geophysical Union*, University of Madras, Chennai, 2003.

PhD Awarded (11)

11. Ms. Goutami Das (20DR0048)[23/08/2020—01/12/2025]: *Interpretable ML/DL for pore pressure prediction using well log data of Hikurangi Tuaheni Zone of IODP Expedition 372*. Goutami works for Telesto Energy
10. Ms. Surabhi Gupta (18DR0141)[28/7/2018—01-12-2025]: *Hydrogeochemical Analysis with IWQI and AI/ML-based Groundwater Quality Prediction*. Sole Guideship via ref. No. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 15.12.2025
Surabhi works for ONGC, PSU, Govt. of India
9. Anirban Biswas (18DR0028) [28-07-2018--11-08-2025]: *"Lithospheric structure and mechanical strength variations over the Indo-Burma Subduction zone, Southeast Asia*. (with Dr. G.S.Rao, IIT Bombay) *Principal Guideship via ref. no. 2573/EXAM/2199/PhD/AGP/AB/24 dt. 18.08.2025*
8. Mr. Praven Kumar Gupta (17DR000543) [24/8/2017-17/10/2023]: *Data-driven techniques for enhanced modelling of aquifer parameters*. Sole Guideship via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 17/10/2023, Praveen now works for Coal India Limited. GOI
7. Mrs. Moumita Sengupta (17DP000261) [13/3/2017-17/10/2023]: *Development and application of rock physics techniques for geophysical mapping of the time-lapse elastic properties of reservoirs for CO₂ sequestration and EOR*. *Principal Guideship via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 17/10/2023*, Moumita now works for Crain India
6. Mrs. Sikha Rani Mondal (17DP000230) [9/2/2017-15-09-2023]: *An integrated approach of well log, seismic and rock physics modeling to delineate hydrocarbon prospects at the Gulf of Khambhat, Mumbai offshore*. *Principal Guideship via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 15/09/2023*, Sikha now works for DGH, GOI
5. Mr. Amit Kumar Ray (17DP000154) [03/08/2016-02/03/2023] *Enhanced seismic characterization of deltaic channel sands using attribute analysis and machine learning*. Amit now works for Telesto Energy; Sole Guideship, via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 17/03/2023
4. Mr. Ch. Ravi Kumar (2016DR1025)[24/07/2015-16/04/2022]: *Integrated Geophysical Studies for Deciphering Crustal Structure and Seismotectonics in parts of North Eastern Region, India*. Ravi now works for Geological Survey of India (GSI), GOI. *Principal Guideship via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 24/04/2022*
3. Ms. Mampi Karmakar, (2015DR0070)[17/04/2015-09/06/2020]: *Pore Pressure and Lithology Prediction using Machine Learning Techniques*. Mampi now works Halliburton Company in Machine Learning and Data Science Group. Boroda. *Principal Guideship, via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 20/06/2020*
2. Mrs. Anasuya Das (2013DR/0156)[24/07/2013-16/11/2018]: *Aquifer Characterisation in parts of Sindhudurg District, Maharashtra, India using Geo-electrical and Hydro-geochemical data*. Anasuya now works for Geological Survey of India (GSI), GOI. *Sole Guideship, via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt. 16/11/2018*

Self Attested
Saumen Maiti

1. Mrs. Amrita Singh (2013DR0158) [24/07/2013-29/03/2017]: *Modelling of Discontinuous Geophysical Signal using Wavelet Transform*. Amrita now works at NGRI, Hyderabad as SERB Postdoc on Gas Hydrate exploration and geo-environmental problems. *Sole Guideship, via ref. no. Exam/219905/Ex.Bd./2007-08(Vol.III) dt.29/03/2017*

PhD Submitted (1):

1. Mr. Vikram Kumar (21DR0214)[16/08/2021—XX/12/2026]: *Application of Machine Learning to Predict Permeability and Compressional Sonic Logs from Multi-Source Subsurface Data*. Dt. 08/07/2026, Guide: Prof. Sayantan Ghosh (PE) and Prof. Saumen Maiti (AGP)(Co-Guide)

PhD Ongoing(8)

1. Mr. Anuj Kumar Srivastava (22DR0053)[08-08-2022.....]: *Reservoir parameter estimation via AI/ML*, Anuj works for CIL, PSU, Govt. of India
2. Ms. Pragati Chaurasia (22DR0175)[08-08-2022..]: *Potential-field data analysis with deep learning*, Pragati works for GSI, Govt. of India
3. Mr. Aditya Raj (23DP0042) [22-12-2023.....]: *Deep learning with Multi-Mineral System Prediction*, Aditya works for GSI, Govt. of India
4. Mr. Aayush (25DR0071) [xx-xx-2024.....]: *Interpretable AI/ML for Critical Mineral Exploration*
5. Mr. Debasish Mandal, (25DR0119)[xx-xx-2024.....]: *Explainable AI/ML for Critical Mineral Exploration*
6. Mr. Vivek Kumar Mourya, (25DP0183)[2026.....]: *AI+ Signal Processing for Reservoir Characterisation*.
7. Mr. ANKIT CHOUDHARY (26DR0156)[xx/xx/2026..]: *AI/ML for Water Resource Management*.
8. Mr. Saikat Dey(26DR0235) [xx/xx/2026....]:*AI/ML for Geomechanics*

R&D and Sponsored Project (7)

7. Anusandhan National Research Foundation (ANRF) sponsored Project No: SRDP1217G 2025-2027

Partnerships for Accelerated Innovation and Research (PAIR) Network titled "Development of Innovative and Cutting-Edge Indigenous Technologies for Critical Minerals Exploration and Smart/Sustainable Mining"

Funding Agency: Anusandhan National Research Foundation (ANRF), Department of Science and Technology (DST), Govt. Of India

Status: Ongoing.

PI: Dheeraj Kumar/Ejaz Ahmad, **Co-PIs: Saumen Maiti & Others**

Sanctioned Amount: Rs. 2,30,00,000/-

Sanctioned Letter No. ANRF/PAIR/2025/000027/PAIR-B dt. 12 July, 2025

6. MTCS Adani Enterprises Ltd sponsored Project No: SRDP1334I 2026-2028

Title: "Development of an Integrated AI/ML and Deep Learning-Based Exploration Model for Aquifer Resources Mapping"

Funding Agency: Mining Tech Consultancy Services Ltd. (MTCS)- Adani Enterprises Ltd

Sanctioned Amount/Outlay: Rs. 84,85,640.00/-

Status: Ongoing.

PI: Saumen Maiti, Co-PI: Partha Pratim Mandal

5. MTCS Adani Enterprises Ltd sponsored Project No: SRDP1333I 2026-2028

Title: "Development of an Integrated AI/ML and Deep Learning-Based Exploration Model for Mineral Resources Mapping"

Funding Agency: Mining Tech Consultancy Services Ltd. (MTCS)- Adani Enterprises Ltd

Sanctioned Amount/Outlay: Rs. 84,85,640.00/-

PI: Partha Pratim Mandal, **Co-PI: Saumen Maiti**

Status: Ongoing.

4. SERB DST sponsored Project No: DST(SERB)(216)/2018-2019/628/AGP 2019-2024

Title: "Dyke intruded fractured rock characterization using discrete dual porosity and neural network modelling of geo-electrical data for water resource management"

Funding Agency: Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Govt. Of India

Status: Completed.

PI: Saumen Maiti, Co-PI: Nil

Sanctioned Amount: Rs. 26, 22,000/-

Sanctioned Letter No. CRG/2018/001368 dt. 26/02/2019

Self Attested
Saumen Maiti

3. MoES sponsored Project No: MoES (7)/2015-2016/416/AGP**2015-2019**

Title: "Delineation of blind faults and its geometry around Kishanganj via Bayesian neural network inversion of gravity data"

Funding Agency: Ministry of Earth Science (MoES), Govt. of India

Status: Completed

PI: Saumen Maiti. Co-PI: Nil

Sanctioned Amount: Rs. 38, 56,700/-

Sanctioned Letter No. MoES/P.O./(Geosci)/44/2015 dt. 12/06/2015

2. TexMin sponsored Project No. TexMin/SEED/2021-2022/03/AGP**2021-2022**

Title : "Optimizing Exploration Drill Location with Existing Data using Artificial Intelligence"

PI: Saumen Maiti. Co-PI: Shalivahan, & U.K. Singh

Funding Agency: TexMin/ Department of Science and Technology (DST), Govt. Of India

Status: Completed

Sanctioned Letter No. PSF-IH-1Y-007 dt. 13/05/2021

Sanctioned Amount: Rs. 7,40,000/-

1. FRS Project No: FRS (49)/2013-2014/AGP**2014-2017**

Title: "Multi-valued function approximation using neural networks: application to geophysical well log data"

Funding Agency: ISM under FRS scheme

Status: Completed

PI: Saumen Maiti, Co-PI: Nil

Sanctioned Amount: Rs. 5.2 lakhs

Sanctioned Letter No. FRS(49)/2013-2014/AGP

Consultancy Project(5)**5. Consultancy Project No. CONS/7750/2026-2027****2026-2027**

Title: Ground Magnetic Data Acquisition, Processing, Interpretation & Reporting - Siwana Ring Complex Exploration Blocks

CI: Partha Pratim Mandal, **Co-CI: Saumen Maiti**

Funding Agency: M/S MTCS, Jaipur

Status: Completed.

Sanctioned Amount: Rs. 18.29 lakhs

Sanctioned Letter No.: **CONS/7750/2026-2027** dt. 16/08/2026

4. Consultancy Project No. CONS/7725/2026-2027**2026-2027**

Title: Re-Interpretation of Geophysical Datasets (Aero – Geophysical & Ground Geophysics) for SB – 2 & SB -3 Blocks of Siwana Ring Complex

CI: Partha Pratim Mandal, **Co-CI: Saumen Maiti**

Funding Agency: M/S MTCS, Jaipur

Status: Completed.

Sanctioned Amount: Rs. 4.72 lakhs

Sanctioned Letter No.: **CONS/7725/2026-2027** dt. 06/08/2026

3. Consultancy Project No. CONS/7678/2026-2027**2026-2027**

Title: "Data Re-Interpretation of Aero - Geo Physical Data under the Critical and Strategic Mineral Project"

CI: Partha Pratim Mandal, **Co-CI: Saumen Maiti**

Funding Agency: M/S MTCS, Jaipur

Status: Completed.

Sanctioned Amount: Rs. 2.36 lakhs

Sanctioned Letter No.: CONS/7678/2026-2027 dt. 30/06/2026

2. Consultancy Project No. CONS/3694/2017-2018**2017-2018**

Title "Hydrological Study of Ground Water in Bera Colliery, Bastacolla"

Funding Agency: Bharat Coking Coal Limited (BCCL)

CI: Sanjit. K. Pal, **Co-CI: Saumen Maiti**, Member: Saurabh Datta Gupta.

Status: Completed

Sanctioned Amount: Rs. 3.38 lakhs

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Saumen Maiti

Sanctioned Letter No.: CONS/3694/2017-2018 dt. 19/11/2017

1. Consultancy Project No. CONS/3807/2017-2018

2018-2019

Title "Hydrological Study at Pakri Barwardih Coal Mine to Delineate Water Saturated and Dry Formations". .

Funding Agency: Bharat Coking Coal Limited (BCCL)

CI: Sanjit. K. Pal, **Co-Cl: Saumen Maiti**

Status: Completed

Sanctioned Amount: Rs. 10.00 lakhs

Sanctioned Letter No. CONS/3807/2017-2018 dt. 27/03/2018

Workshop/EDP Course/Short Term Course/Training/GIAN Course(7)

7. GIAN Course (Course ID: 2414024) [No.: DRD/GIAN/COURSE/0163/2024-25]

2024-2025

Global Initiative of Academic Network (GIAN) course on "**Inverse Methods and Machine Learning: Applications in Geosciences**" (Course ID: 2414024)" June **23-27, 2025**, at **IIT(ISM), Dhanbad**.

Sanctioned Amount: Rs. 6.64 lakhs +2.18 lakhs (Participant's registration fees)

Speakers: Prof. Mrinal K. Sen, University of Texas, Austin and Saumen Maiti, IIT(ISM) Dhanbad

Participants: 47!

https://www.linkedin.com/posts/gian-india_brochure-activity-7275402384711839747-vyFO?utm_source=share&utm_medium=member_android

6. EDP Course (Hybrid) (No: EDP/7247/2024-25)

2024-2025

EDP Course on the topic "**Resource Parameter Estimation and Forecasting Using Skillful and Interpretable AI/ML of Geoscience Data**" was conducted during 8th July-12th July 2024 at **IIT(ISM) Delhi Center, Okla, Phase 1, Delhi**. (EDP No.: No EDP/7247/2024-25).

Speakers: Academic & Industry, 9

Participants: More than 50!

CI: Saumen Maiti, Co-Cl: Partha Pratim Mandal.

Funding Agency: ONGC, OIL, IOCL, Telesto Energy Pte. Ltd., Industry and/or Academic Participants Registration/Sponsorship.

Sanctioned Amount: Rs. 5.9 lakhs

5. Workshop (Physical) (No.: IIT(ISM)(Workshop)/2023-2024/45/AGP)

2023-2024

Prof. Jagdeo Singh Memorial Lecture & Workshop on the topic "**AI and Automation for Geophysical Exploration and Sustainable Resources Management**" was conducted on 5th November 2022 at GJLT, IIT(ISM) Dhanbad. (No.: IIT(ISM)(Workshop)/2023-2024/45/AGP).

Speakers: Academic & Industry,

Participants: More than 120!

CI: Saumen Maiti, CI: Saurabh Datta Gupta.

Funding Agency: Telesto Energy Pte. Ltd., Industry and/or Academic Participants Registration/Sponsorship.

Sanctioned Amount: Rs. 2.2 lakhs

4. Workshop (Online):

2021-2022

Workshop conducted on "**Measurement, Computation and Deep Learning in Geosciences**" on August 18, 2021 5.00PM-8.30P.M.(IST)

Coordinator: Saumen Maiti, Co-Coordinator: G.S. Rao

Speakers:

Prof. Mrinal K Sen, Associate Director, Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin delivered talk on "**Inverse Problems and Machine learning in Geosciences**"

Prof. Subhashis Mallick, The University of Wyoming, P.O. Box 3006 Laramie, Wyoming delivered talk on "**Geosciences and Changing Climate**"

Prof. Tapan Mukerji, Department of Energy Resources Engineering-Energy Resources Engineering, Stanford University delivered talk on

"Recent advances in Machine learning and Geophysics: Pitfalls and opportunities"

Prof. Ramesh Singh, Department of Physics, Computational Science and Engineering, Schmid College of Science, Chapman University,

Self Attested
Saumen Maiti

Hashinger #219, One University Drive, Orange, CA 92866 delivered talk on "Dynamic Nature of Earth Systems Using Broad Band Electromagnetic Waves"

3. Webinar Series (Online):

2021-2022

Webinar Series on the topic "**Imaging & Interrogating the Earth's Subsurface**" during December 15-16, 2021 & Time: 4:30-6:15 PM (IST).

Coordinator: Saumen Maiti

Speaker:

Prof. Andrew Curtis, University of Edinburgh, U.K. (<https://blogs.ed.ac.uk/curtis/>)

Talks with following details;

Talk 1: 1 hour 45 mins (with questions and a break in the middle)

Topic: *Bayesian imaging & interrogation, focusing on Monte Carlo methods*

<https://www.youtube.com/watch?v=TRwfKwZb6UI>

Talk 2: 1 hour 45 mins (with questions and a break in the middle)

Topic: *Bayesian imaging with uncertainty analysis, focusing on machine learning methods.*

<https://www.youtube.com/watch?v=Lan5cdC0Z4M>

Abstract: Inversion and machine learning methods have been used in a variety of contexts to image the interior of the Earth using data recorded on the surface. Far less attention has been paid to imaging uncertainties in those results - the range of other models that would also fit the data. This talk focuses on methods to image the family of *all* interior models that are consistent with the data within some class of model constraints imposed by parameterizations and prior information, and to constrain the Bayesian posterior probability density across that class of models. This allows us to answer geoscientific questions by interrogating the posterior distribution: an example will be shown where we infer the probability distribution of the volume of subsurface basins from seismic surface wave data, and provide an estimate of the optimal (least-biased) answer.

Bio-data: Andrew Curtis is Professor of Mathematical Geoscience at the University of Edinburgh. He originally studied Mathematics in Edinburgh, but converted to Geophysics during his D. Phil. (Ph. D.) in the University of Oxford where he modeled ground deformation due to earthquake rupture and used seismic tomography to image the structure beneath Tibet. He decided to focus on seismology and inverse theory, which led him to an industrial research position in Schlumberger Cambridge Research for 8 years, before moving back to the University of Edinburgh in 2005. Since 2010 he has run the industrially-funded research consortium, the Edinburgh Imaging Project, which focuses on imaging and uncertainty analysis. He first worked on machine learning during the first wave of neural networks' popularity in the 1990's, and never really stopped!

2. Short-Term Course under TEQIP-III

2020-2021

Course Coordinator for conducting a 5-days short term course on the topic "**Artificial Intelligence and Applications in Geosciences**" sponsored by TEQIP-III, GOI, during 11-15th January, 2021.

1. Training (Online) Scientific Social Responsibility Policy (SSRP) (File No: CRG/2018/001368)

2020-2021

A one day online training on the topic of "**Artificial Intelligence in Exploration Geosciences**" for the research scholar of other IITs/Central University/IIGM/DST Labs is conducted on 31/07/2020 under (SERB)/DST Scientific Social Responsibility Policy (SSRP) of the research and development (R&D) project entitled "**Dyke intruded fractured rock characterization using discrete dual porosity and neural network modelling of geo-electrical data for water resource management**" (File No: CRG/2018/001368).

Funding Agency: SERB, Govt. of India

PI: Saumen Maiti

Sanctioned Amount: Rs. 0.7 lakhs

Keynote Address(1)

- **Maiti, S.**, 2025, *Interpretable and Explainable AI/ML for Geoscientific Data*. 4th Federation of Indian Geosciences Associations (FIGA) Triennial Congress during 6-8, November 2025, INCOIS, Hyderabad, INDIA. <https://figa2025.incois.gov.in/figa2025/ProgrammeSchedule.jsp>

Invited Talk(8)

- **Maiti, S.**, 2024. Resource Characterization and Modelling using AI/ML, 47th Association of Exploration Geophysicists (AEG) Conference, on "Geo-exploration for Critical Minerals and Precious Metals" during 12-13 December 2024, Hyderabad, India,

Self Attested
Saumen Maiti

- **Maiti, S.,** Clustering methods on Short Term Virtual Course on the topic "*Inversion and Machine Learning Applications for the Geoscience Data Analysis*" sponsored by MoES, GOI, 08-27th March, 2021 <https://www.ngri.org.in/cms/skill-development.php>
- **Maiti, S.,** Clustering using well logs on Short Term Virtual Course on the topic "*Inversion and Machine Learning Applications for the Geoscience Data Analysis*" sponsored by MoES, GOI, 08-27th March, 2021 <https://www.ngri.org.in/cms/skill-development.php>
- **Maiti, S.,** Data Driven Computational Learning Framework for Assessment of Groundwater: A Review of Potential Techniques. Diamond Jubilee National Conference on "*Emerging Trends in Geophysical Research for Make-in-India (ETGRMI)-2018*" March 9-11, 2018, at Department of Applied Geophysics, Indian Institute of Technology (Indian School of Mines), Dhanbad-826004
- **Maiti, S.,** Artificial Neural Networks: Theory and Practices in Geophysical Data Analysis. In Short Term Training on "*Geophysical Software Practices for Subsurface Imaging*" sponsored by SERB, DST, GOI, New Delhi, December 12-17, 2016 at Department of Applied Geophysics, Indian Institute of Technology (Indian School of Mines), Dhanbad-826004.
- **Maiti, S.,** What does a geophysicist do? Training Programme on "*Basic Geophysical Techniques*" sponsored by DST, GOI, New Delhi, January 18-25, 2015 at Department of Applied Geophysics, Indian School of Mines, Dhanbad-826004.
- **Maiti, S.,** Advancement of neural network modeling: Insights for Earth Probing. 50th Annual Convention on "*Sustainability of Earth System-The Future Challenges*" Indian Geophysical Union (IGU), January 9-12, 2014, National Geophysical Research Institute (NGRI), Hyderabad-500007.
- **Maiti, S.,** Neural Network Modeling of Geophysical Well Log Data: A Case Study from German Continental Deep Drilling Program (KTB) Site, 5th KAGI21 International Summer School, Japan, 21st August-3rd September 2009

Appointments(17)

- **Head,** Department of Applied Geophysics, IIT(ISM) Dhanbad-826004, from 01.07.2025-till date
- **Coordinator** of Executive Development Program (EDP) course on the topic "**Resource Parameter Estimation and Forecasting Using Skillful and Interpretable AI/ML of Geoscience Data**", 8th -12th July 2024 at at IIF, IIT(ISM) Delhi Center, Okla, Phase 1, Delhi. (No.: No EDP/7247/2024-25).
- **Member** of the Assessment Committee for regular staff/employee of CSIR-NGRI, Govt. of India, since 2024
- **Member** of the DFSC, Department of Applied Geophysics, IIT(ISM) Dhanbad-826004, since 2024
- **Panelist,** on the workshop on the topic "**Use of Emerging Technologies for Mineral Exploration**" organised by Southern Region, Geological Survey of India, Hyderabad on 22nd December 2023.
- **Convener** of Prof. Jagdeo Singh Memorial Lecture & Workshop on the topic "**AI and Automation for Geophysical Exploration and Sustainable Resources Management**", 5th November 2022 at GJLT, IIT(ISM) Dhanbad (No.: IIT(ISM)(Workshop)/2023-2024/45/AGP).
- **Convener** of Webinar Series on the topic "**Imaging & Interrogating the Earth's Subsurface**" during December 15-16, 2021 & Time: 4:30-6:15 PM (IST).
- **Coordinator** of Executive Development Program (EDP) course on the topic "**Resource Parameter Estimation and Forecasting Using Skillful and Interpretable AI/ML of Geoscience Data**", 8th -12th July 2024 at at IIF, IIT(ISM) Delhi Center, Okla, Phase 1, Delhi. (No.: No EDP/7247/2024-25).
- **Panelist,** on the workshop on the topic "**Use of Emerging Technologies for Mineral Exploration**" organised by Southern Region, Geological Survey of India, Hyderabad on 22nd December 2023.
- **Convener** of Prof. Jagdeo Singh Memorial Lecture & Workshop on the topic "**AI and Automation for Geophysical Exploration and Sustainable Resources Management**", 5th November 2022 at GJLT, IIT(ISM) Dhanbad (No.: IIT(ISM)(Workshop)/2023-2024/45/AGP).
- **Convener** of Webinar Series on the topic "**Imaging & Interrogating the Earth's Subsurface**" during December 15-16, 2021 & Time: 4:30-6:15 PM (IST).
- **Convener** for the workshop conducted on "**Measurement, Computation and Deep Learning in Geosciences**" on August 18, 2021 5.00PM-8.30P.M.(IST)
- **Convener,** DUGC, Department of Appl. Geophysics, IIT(ISM) Dhanbad since 5/10/2020
- **Panelist,** on the Theme "**Inversion and Machine Learning Techniques for Geophysical Data**" of the **VAIBHAV Summit**, session V13H4S2 by Govt. of India, on 17th Oct 2020, <https://vaibhav.gov.in/v11.php>

Self Attested
Suman Maiti

- **Convener** of a session on "Quantification and Modelling of Nonlinear Processes in Climate Change and Extreme Events" under the main theme of "Quantification of Non-linear Geological Processes" at 36th *International Geological Congress (IGC)*, 2020(to be re-scheduled!), New Delhi, India <http://www.36igc.org/theme41.php>.
- **Organizing Secretary** of Diamond Jubilee National Conference on the Topic "Emerging Trends in Geophysical Research for Make-in-India (ETGRMI-2018), organized by Department of Applied Geophysics, IIT(ISM) Dhanbad-826004 during March 9-11, 2018 at IIT(ISM) Dhanbad-826004
- **Co-convener** of a session on "Critical Phenomena in the Earth's System Processes: Applications of Fractal, Chaos and Catastrophe Theory" at AOGS conference, Hyderabad, 5th - 9th July, 2010. <http://www.asiaoceania.org/society/public.asp?view=aogs2010/listBySectionSessions>

Professional Affiliation(3)

Indian Geophysical Union (IGU), Hyderabad (Life Member)
Society of Exploration Geophysicists (SEG), USA (Member)
Association of Exploration Geophysicists (AEG) (Life Member)

Editors & Editorial Board Members(2)

Scientific Reports: Springe Nature Publisher,
Associate Editor, *Journal of Geological Society of India (JGSI)*

Reviewers of Journals(25)

- *Geophysical Prospecting*: Wiley Publisher
- *Computational Geosciences*: Springer Publisher
- *Neural Computing and Application*: Springer Publisher
- *Journal of Hydrology*: Elsevier Publisher
- *Journal of the Geological Society of India*: Springer Publisher
- *Earth Interactions*: American Geophysical Union Publisher
- *International Journal of Electrical Power and Energy Systems*: Elsevier Publisher
- *CLEAN - Soil, Air, Water*: Wiley Publisher
- *Geophysics*: SEG, US
- *Science of the Total Environment*: Elsevier Publisher
- *Measurement*: Elsevier Publisher
- *Neural Processing Letters*: Springer Publisher
- *IEEE Access*: IEEE Publisher
- *Journal of Applied Geophysics*: Elsevier Publisher
- *Transport in Porous Media*: Springer Publisher
- *IEEE Transactions on Neural Networks and Learning Systems*: IEEE Publisher
- *Journal of Natural Gas Science and Engineering*: Elsevier Publisher
- *Advanced Engineering Informatics*: Elsevier Publisher
- *Arabian Journal of Geosciences*: Springer Publisher
- *Neurocomputing*: Elsevier Publisher
- *Earth Science Informatics*: Springer Publisher
- *Geomechanics and Geophysics for Geo-Energy and Geo-Resources*: Springer Publisher
- *Scientific Reports*: Springe Nature Publisher,
- *Water Research X*: Elsevier Publisher
- *Natural Resources Research*: Springer Publisher

Personal Information

- Nationality : Indian.
- Date of birth : November 14, 1978.
- Place of birth : Contai, West Bengal, India.
- Marital Status : Married.
- Language : Fluent English spoken / written, Hindi, Bengali.
- Hobbies : Playing Carom, Cricket, Football, Reading Articles.

Last updated: 19/08/2026

Self Attested
Saumen Maity