RAJIB SARKAR

Permanent Address:	3, Vivekananda Park, Amravati, Naskar Hat, Kolkata, West Bengal-700039, India
Present Address:	Department of Civil Engineering, Indian Institute of Technology (ISM) Dhanbad, Jharkhand- 826004, India
Mobile:	+91-9430351282
Email:	rajib@iitism.ac.in

PRESENT STATUS:

Working as ***Associate Professor*** in the ***Department of Civil Engineering, IIT (ISM), Dhanbad*** since April 2022.

ACADEMIC EXPERIENCE:

1. **Indian Institute of Technology (Indian School of Mines), Dhanbad** (July 2016 – April 2022) as *Assistant Professor*
2. **Malaviya National Institute of Technology Jaipur** (July 2013 - June 2016) as *Assistant Professor*
3. **University of Bristol, U.K.** (April 2012 – July 2013) as *Post-Doctoral Researcher*

EDUCATIONAL DETAILS:

Degree	Subject	Board/ University	CGPA/ Percentage	Division/ Class	Year
Ph.D.	Soil Dynamics	Indian Institute of Technology Roorkee (Supervisor: Prof. B.K. Maheshwari)	Thesis Title: *Three Dimensional Seismic Behaviour of Soil-Pile Interaction with Liquefaction* (Awarded in November 2009)		2006-2009
M. Tech	Soil Dynamics	Indian Institute of Technology Roorkee	9.64/10	1st Class	2004 - 2006
B.E.	Civil Engineering	Jalpaiguri Govt. Engg. College (University of North Bengal)	84.93%	1st Class (Gold Medalist)	1998 - 2002
12th Std.	Science	West Bengal Council of Higher Secondary Education	82.10%	1st Division (Star Marks)	1998
10th Std.	-	West Bengal Board of Secondary Education	81.78%	1st Division (Star Marks)	1996

AWARDS / DISTINCTIONS:

- 2024- Best technical paper award in the theme of *Soil Dynamics and Earthquake Engineering* in **Indian Geotechnical Conference 2024**. (Paper authored by Shankar Kumar, Rajib Sarkar, Lohitkumar Nainegali; Presented by Mr. Shankar Kumar)
- 2024- Best technical paper award in **Indian Symposium on Offshore Geotechnics 2024**. (Paper authored by Kingshuk Jana, Rajib Sarkar, Subhamoy Bhattacharya; Presented by Mr. Kingshuk Jana)
- 2023- Selected as **Associate Editor** of *ISET Journal of Earthquake Technology*
- 2021- ***IGS Prof. Dinesh Mohan Biennial Prize*** for Best Paper on "Pile Foundation" for the years 2019-2020. (Paper authored by Rahul Sinha, Rajib Sarkar and JS Rajeswari)
- 2021- Elected as ***Executive Committee Member*** of Indian Society of Earthquake Technology (ISET) for the term 2021-2023
- 2020- Best technical paper award in the theme of *Shallow Foundations, Deep Foundations and Forensic Geotechnical Engineering* in **Indian Geotechnical Conference 2020**. (Paper authored by Abhijit Anand, Rajib Sarkar; Presented by Mr. Abhijit Anand)
- 2019- Elected as ***Executive Committee Member*** of Indian Society of Earthquake Technology (ISET) for the term 2019-2021

- *2015*- Recipient of ***Young Engineers Award*** from Institution of Engineers, India
- *2014*- Awarded for ***Best Ph.D. Thesis in Soil-Structure Interaction in India*** from Indian Society of Earthquake Technology (ISET)
- *2012*- Awarded ***EPSRC (Engineering and Physical Sciences Research Council, U.K.) fellowship*** for post-doctoral research in University of Bristol, U.K.
- *2006*- Awarded ***Indian Service of Engineers*** Prize for obtaining the highest C.G.P.A. in M.Tech. (Deapartment of Earthquake Engineering)
- *2005*- Awardee of prestigious ***DAAD*** (Deutscher Akademischer Auslandsamt Dienst) Master's Research Scholarship. This is the Student Exchange Sandwich Program between IITs and German Universities
- *2002*- ***Gold medalist*** in Bachelor of Civil Engineering, University of North Bengal

RESEARCH ACTIVITY:

POST DOCTORAL RESEARCH: University of Bristol, U.K. (April 2012 - July 2013)

Topic: *Study of Lateral Pile-Soil-Interaction in Seismically Liquefiable Soils*

DOCTORAL DISSERTATION: IIT Roorkee (August 2006 - November 2009)

Topic: *Three Dimensional Seismic Behaviour of Soil-Pile Interaction with Liquefaction*

M.TECH DISSERTATION: IIT Roorkee (July 2004 - July 2006)

Topic: *Seismic Response of Concrete Gravity Dam including Dam-Reservoir-Foundation Interaction*

RESEARCH PUBLICATION:

Journals

1. Mohanty M., **Sarkar R.** and Das S.K. (2025). "Effects of Spatial Heterogeneity on Pseudo-Static Stability of Coal Mine Overburden Dump Slope using Random Limit Equilibrium and Random Finite Element Methods: A Comparative Study." *Earthquake Engineering and Engineering Vibration, Springer*, 24 (1): 83-99, DOI: https://10.1007/s11803-025-2303-y
2. Banik N. and **Sarkar R.** (2025). "Effects of bacterial strains on undrained cyclic behavior of bio-cemented sand subjected to wet-dry cycles." *Journal of Rock Mechanics and Geotechnical Engineering, Elsevier*, 17: 432-452, DOI: https://doi.org/10.1016/j.jrmge.2024.05.035
3. Banik N., **Sarkar R.** and Emad Uddin Md. (2025). "Assessment of Dynamic Characteristics of Bio-Cemented Sand Considering Microbially Induced Calcite Precipitation Treatment." *Environmental Science and Pollution Research, Springer*, https://doi.org/10.1007/s11356-024-35768-4.
4. Kumar V., Khan P.K., **Sarkar R.** and Pal S.K. (2025). "Seismic Hazard Assessment of Faizabad Region of Uttar Pradesh, India using Deterministic and Probabilistic Approaches." *Journal of Earth System Science, Indian Academy of Sciences*, 134: 8, https://doi.org/10.1007/s12040-024-02451-8.
5. Mohanty M., **Sarkar R.** and Das S.K. (2024). "A critical review on static and dynamic performance of coal mine overburden dump slopes: Present status and way forward." *Journal of the Geological Society of India*, 100(9): 1271-1286, DOI: https://doi.org/10.17491/jgsi/2024/173981
6. Sahu S.K., Kumar V., Dutta S.C., **Sarkar R.**, Bhattacharya S. and Debnath P. (2024). "Structural safety of offshore wind turbines: Present state of knowledge and future challenges." *Ocean Engineering, Elsevier*, 309:118383. DOI: https://doi.org/10.1016/j.oceaneng.2024.118383
7. Jana K., **Sarkar R.** and Bhattacharya S. (2024). "Adequacy and performance of monopile foundations of multi-megawatt offshore wind turbines along Indian coastal regions." *Ocean Engineering, Elsevier*, 307:118173. DOI: https://doi.org/10.1016/j.oceaneng.2024.118173
8. Kumar S., Najar D.S., **Sarkar R.** and Nainegali L. (2024). "Static and dynamic performance of single batter piles embedded in slope." *Sādhanā, Indian Academy of Sciences*, 49:186. DOI: https://doi.org/10.1007/s12046-024-02531-x.
9. Rajeswari J.S. and **Sarkar R.** (2024). "Adequacy of batter piles under seismic conditions: A review of past performances and investigations." S*tructures, Elsevier,* 61: 106022. DOI: https://doi.org/10.1016/j.istruc.2024.106022.
10. Sharma V., **Sarkar R.** and Prakash A. (2024). "Probabilistic assessment of seismic hazard for Uttarakhand state of India." *Journal of the Geological Society of India,* 100 (4): 531-542. DOI: https://doi.org/10.17491/jgsi/2024/173870
11. Mohanty M., **Sarkar R.** and Das S.K. (2023). "Effect of blast induced vibration on coal mine overburden dump slope through discrete element method." S*tructures, Elsevier,* 56: 105013. DOI: https://doi.org/10.1016/j.istruc.2023.105013

12. Sharma V. and **Sarkar R.** (2023). "Evaluation of seismic hazard of Uttarakhand state of India through deterministic approach." *Journal of Earth System Science, Indian Academy of Sciences*, 132: 176. DOI: https://doi.org/10.1007/s12040-023-02185-z
13. Mohanty M., **Sarkar R.** and Das S.K. (2023). "Seismic performance of coal mine overburden dump slope using extended finite-element method-based Voronoi tessellation scheme." *International Journal of Geomechanics, ASCE*, 23(11): 04023194. DOI:10.1061/IJGNAI.GMENG-8634
14. Banik N., **Sarkar R.** and Emad Uddin Md. (2023). "Assessment of strength and low-strain shear modulus of bio-cemented sand considering MICP treatment." *Environmental Earth Sciences, Springer*, 82: 98. DOI: https://doi.org/10.1007/s12665-023-10780-y.
15. Mohanty M., *Sarkar R.* and Das S.K. (2022). "In-situ investigation on coal mine overburden dump slope and its seismic stability considering heterogeneity." *European Journal of Environmental and Civil Engineering, Taylor & Francis*. DOI: https://doi.org/10.1080/19648189.2022.2144952
16. Baishya R. and **Sarkar R.** (2022). "A Neural Network based Approach for Prediction of PGA and Significant Duration Parameters in the Uttarakhand Region of India." *Environmental Earth Sciences, Springer*, 81: 342. DOI: https://doi.org/10.1007/s12665-022-10455-0
17. Mohanty M., **Sarkar R.** and Das S.K. (2022). "Probabilistic assessment of effects of heterogeneity on the stability of coal mine overburden dump slopes through discrete element framework." *Bulletin of Engineering Geology and the Environment, Springer*, 81: 228. DOI: https://doi.org/10.1007/s10064-022-02720-0
18. Khatri V.N., Nainegali L., **Sarkar R.** and Das S.K. (2022). "Assessment of OB dump and high wall slope stability for Jambad OCP mine through in-situ and laboratory testing." *Current Science*, 123(2): 184-193. DOI: 10.18520/cs/v123/i2/184-193
19. Anand A. and **Sarkar R.** (2021). "Seismic bearing capacity of strip footing on partially saturated soil using modal response analysis." *Earthquake Engineering and Engineering Vibration, Springer*, 21(3): 641-662. DOI: https://doi.org/10.1007/s11803-022-2114-3
20. Rajeswari J.S. and **Sarkar R.** (2022). "Prediction of pile response in lateral spreading soil using multi-gene genetic programming." *International Journal of Geomechanics, ASCE*, 22(7): 04022099. DOI: 10.1061/(ASCE)GM.1943-5622.0002399
21. Anand A. and **Sarkar R.** (2022). "A comprehensive probabilistic investigation on bearing behavior of unsaturated fly ash deposits." *Arabian Journal of Geosciences, Springer*, 15: 369. DOI: https://doi.org/10.1007/s12517-022-09535-z.
22. Anand A. and **Sarkar R.** (2022). "Bearing capacity of spatially variable unsaturated fly ash deposit using random field theory." *Current Science*, 122(5): 542-556.
23. Rajeswari J.S. and **Sarkar R.** (2022). "Kinematic response of single vertical and batter piles to bidirectional ground motions in liquefiable soil." *Structures, Elsevier*, 37: 203-216. DOI: https://doi.org/10.1016/j.istruc.2022.01.006
24. Kumar S., Jat M.K., **Sarkar R.** and Alsabhan A.H. (2022). "Static and dynamic characterization of fibre reinforced sand: A numerical investigation." *Journal of King Saud University- Engineering Sciences.* DOI*:* https://doi.org/10.1016/j.jksues.2021.12.008
25. Anand A. and **Sarkar R.** (2021). "A comprehensive investigation on bearing capacity of shallow foundations on unsaturated fly ash slopes adopting finite element limit analysis." *European Journal of Environmental and Civil Engineering, Taylor & Francis.* DOI: https://doi.org/10.1080/19648189.2021.1967200
26. Rashid, H. and **Sarkar R.** (2021). "Site-specific response of a 5MW offshore wind turbine for Gujarat coast of India." *Marine Georesources & Geotechnology, Taylor & Francis*. DOI:10.1080/1064119X.2021.1972062
27. Rajeswari J.S. and **Sarkar R.** (2021). "Seismic behavior of batter pile groups embedded in liquefiable soil." *Earthquake Engineering and Engineering Vibration, Springer*, 20: 583-604. DOI: https://doi.org/10.1007/s11803-021-2040-9
28. Rajeswari J.S. and **Sarkar R.** (2021). "A three-dimensional investigation on performance of batter pile groups in laterally spreading ground." *Soil Dynamics and Earthquake Engineering, Elsevier*, 141: 106508. DOI: https://doi.org/10.1016/j.soildyn.2020.106508
29. Anand A. and **Sarkar R.** (2021). "A comprehensive study on bearing behavior of cement-fly ash composites through experimental and probabilistic investigations." *Innovative Infrastructure Solutions, Springer*, 6: 39. DOI: 10.1007/s41062-020-00404-w
30. Rajeswari J.S. and **Sarkar R.** (2020). "Performance of piles with different batter angles in laterally spreading soil: a probabilistic investigation." *Bulletin of Earthquake Engineering, Springer*, 18: 6203-6244. DOI: 10.1007/s10518-020-00936-7
31. Sinha R. and **Sarkar R.** (2020). "Probabilistic seismic hazard assessment of Dhanbad city, India." *Bulletin of Engineering Geology and the Environment, Springer*, 79: 5107-5124. DOI: 10.1007/s10064-020-01882-z
32. Anand A. and **Sarkar R.** (2020). "A probabilistic investigation on bearing capacity of unsaturated fly ash." *Journal of Hazardous, Toxic, and Radioactive Waste, ASCE*, 24(4): 06020004. DOI: 10.1061/(ASCE)HZ.2153-5515.0000547
33. Rajeswari J.S. and **Sarkar R.** (2020). "Seismic estimation of transient forces in single pile embedded in liquefiable soil." *International Journal of Geomechanics, ASCE*, 20(9): 06020023. DOI: 10.1061/(ASCE)GM.1943-5622.0001788

34. Sinha R. **Sarkar R.** and Rajeswari J.S. (2020). "Flexural response of pile foundation in liquefiable soil using finite difference formulation following pseudostatic approach." *Indian Geotechnical Journal, Springer,* 50(6): 880-906. DOI: 10.1007/s40098-020-00434-2
35. Sinha R. and **Sarkar R.** (2020). "Seismic hazard assessment of Dhanbad city, India by deterministic approach." *Natural Hazards, Springer*, 103: 1857-1880. DOI: 10.1007/s11069-020-04059-9
36. **Sarkar R.** and Pareek K. (2020). "Influence of stratification and assessment of fragility curves for mountain tunnels." *Proc. of the Institution of Civil Engineer - Geotechnical Engineering.* DOI: 10.1680/jgeen.19.00134
37. Rajeswari J.S., **Sarkar R.**, Dutta S.C., Singh J.P. and Saw R. (2020). "Seismic behaviour of RC building with raft foundation: A Study for Ganges Basin, India." *Current Science,* 118(5): 759-770. DOI: 10.18520/cs/v118/i5/759-770
38. Roy N., **Sarkar R.** and Bharti, S.D. (2019). "Relative influence of strength and geometric parameters on the behavior of jointed rock slopes." *Arabian Journal of Geosciences, Springer*, 12(20): 640. DOI: 10.1007/s12517-019-4769-2
39. **Sarkar R.**, Dutta S.C., Saw R. and Singh J.P. (2018). "Effect of differential settlement on seismic response of building structure." *Municipal Engineer, Proceeding of Institution of Civil Engineers.* DOI: https://doi.org/10.1680/jmuen.18.00032
40. Roy N., **Sarkar R.**, Sarkar K., Jat M.K. and Fulwaria G. (2018). "Assessment of vulnerability of rock slope considering material and seismic variability." *Journal of the Geological Society of India, Springer,* 92: 449-456. DOI: 10.1007/s12594-018-1040-5
41. Roy N., **Sarkar R.** and Bharti S.D. (2018). "Transverse dynamic response of circular tunnels in blocky rock mass using distinct-element method." *International Journal of Geomechanics, ASCE,* 18(10): 04018124. DOI: 10.1061/(ASCE)GM.1943- 5622.0001268
42. Roy N., **Sarkar R.** and Bharti S.D. (2017). "Prediction model for performance evaluation of tunnel excavation in blocky rock mass." *International Journal of Geomechanics, ASCE,* 18(1): 04017125. DOI: 10.1061/(ASCE)GM.1943-5622.0001023
43. **Sarkar R.**, Roy N. and Serawat A. (2017). "A three dimensional comparative study of seismic behaviour of vertical and batter pile groups." *Geotechnical and Geological Engineering, Springer*, 36(2): 763-781. DOI: 10.1007/s10706-017-0352-3
44. Rajeswari J.S., **Sarkar R**., Roy N. and Bharti S.D. (2017). "Bearing capacity of circular footing supported on coir fiber reinforced soil." *International Journal of Geotechnical Engineering, Taylor and Francis*. DOI: 10.1080/19386362.2017.1334741
45. Roy N. and **Sarkar R.** (2017). "A review of seismic damage of mountain tunnels and probable failure mechanisms." *Geotechnical and Geological Engineering, Springer,* 35(1): 1-28.
46. Bhattacharya S., Tokimatsu K., Goda K., **Sarkar R.**, Shadlou M. and Rouholamin M. (2014). "Collapse of Showa Bridge during 1964 Niigata earthquake: A quantitative reappraisal on the failure mechanisms." *Soil Dynamics and Earthquake Engineering,* 65: 55-71. DOI: http://dx.doi.org/10.1016/j.soildyn.2014.05.004
47. **Sarkar R.**, Bhattacharya S. and Maheshwari B.K. (2014). "Seismic Requalification of Pile Foundations in Liquefiable Soils." *Indian Geotechnical Journal, Springer,* Special Issue on Earthquake Geotechnical Engineering: Seismic Requalification, 44(2): 183-195.
48. **Sarkar R.** and Maheshwari B.K. (2013). "Three Dimensional Nonlinear Seismic Behaviour of 3 x 3 Pile Groups in Liquefiable Soil." *Indian Geotechnical Journal, Springer,* 44(1): 68-76.
49. **Sarkar R.** and Maheshwari B.K. (2012). "Effects of separation on the behaviour of soil-pile interaction in liquefiable soils." *International Journal of Geomechanics, ASCE,* 12(1): 1-13.
50. Maheshwari B.K. and **Sarkar R.** (2011). "Seismic behaviour of soil-pile-structure interaction in liquefiable soils: A parametric study." *International Journal of Geomechanics, ASCE,* 11(4): 335-347.
51. **Sarkar R.** and Maheshwari B.K. (2012). "Effect of soil nonlinearity and liquefaction on dynamic stiffness of pile groups." *International Journal of Geotechnical Engineering, Taylor & Francis,* 6(3): 319-330.
52. Maheshwari B.K. and **Sarkar R.** (2012). "Effect of soil nonlinearity and liquefaction on seismic response of pile groups." *International Journal of Geotechnical Engineering, Taylor & Francis,* 6(4): 497-506.
53. **Sarkar R.**, Paul D.K. and Stempniewski L. (2008). "Nonlinear seismic response of concrete gravity dam including cavitation." *International Water Power & Dam Construction, Dam Engineering,* U.K, XVIII (4):271-288.
54. **Sarkar R.**, Paul D.K. and Stempniewski L. (2007). "Influence of reservoir and foundation on the nonlinear dynamic response of concrete gravity dam." *ISET Journal of Earthquake Technology*, 44(2): 377-389.

Conferences/ Symposium

1. Kumar S., **Sarkar R**. and Nainegali L. (2023). "Dynamic behaviour of laterally loaded pile foundations with different batter angles embedded in sloping ground." Accepted for publication in *Indian Geotechnical Conference 2023*, To be held in IIT Roorkee, India.
2. Anand V., Mahatab M., Shrama A., Raj D., Jat M.K., **Sarkar R**. and Pal S. (2022). "Evaluation of dynamic properties of MICP treated Ennore sand through Bender element test." *17th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg, IIT Roorkee.

3. Banik N. and **Sarkar R**. (2022). "Influence of microbial treatment on the stiffness and strength enhancement of standard Ennore sand." *Indian Geotechnical Conference 2022*, Held in Kochi, India.
4. Banik N. and **Sarkar R**. (2022). "Evaluation of dynamic properties of MICP treated Ennore sand through Bender element test." *17th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg, IIT Roorkee.
5. Mohanty M., **Sarkar R**. and Das S.K. (2022). "Assessment of Seismic Stability of Coal Mine Overburden Dump Slope using Random Limit Equilibrium Method (RLEM) and Random Finite Element Method (RFEM)-A Comparative Study." *Indian Geotechnical Conference 2022*, Held in Kochi, India.
6. Mohanty M., **Sarkar R**. and Das S.K. (2022). "Earthquake induced damage assessment of coal mine overburden dump slope using extended finite element method coupled with Voronoi tessellation scheme." *17th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg, IIT Roorkee.
7. Mohanty M., **Sarkar R.**, Das S.K. and Reddy K.R. (2021). "Numerical modelling of coal mine overburden dump slopes: Developments and current state-of-the-art." Proc. *Indian Geotechnical and Geoenvironmental Engineering Conference (IGGEC)*, Held at NIT Jalandhar.
8. Anand A. and **Sarkar R.** (2020). "Probabilistic investigation on seismic bearing capacity of shallow foundation on unsaturated fly ash deposit." Proc. *Indian Geotechnical Conference*, Held at Andhra University College of Engineering, Visakhapatnam, December 17-19, 2020.
9. Rajeswari J.S. and **Sarkar R.** (2020). "Comparative study on behaviour of vertical and batter piles in laterally spreading ground." Proc. *7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamic*s, To be held at IISC Bangalore, India.
10. Sinha R. and **Sarkar R.** (2020). "Deterministic seismic hazard assessment of Dhanbad city, India." Proc. *7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamic*s, To be held at IISC Bangalore, India.
11. Rajeswari J.S. and **Sarkar R.** (2020). "Three Dimensional Investigation on Seismic Performance of Batter Pile groups in Laterally Spreading Ground." In Second ASCE India Conference on *Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE2020)*, Held in Kolkata, India.
12. Rajeswari J.S. and **Sarkar R.** (2019). "Seismic response of batter piles in liquefiable soils." In *Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions*: 4629-4636. http://dx.doi.org/10.1201/9780429031274, 7th International Conference on Earthquake Geotechnical Engineering, Held in Rome, Italy.
13. Rajeswari J.S. and **Sarkar R**. (2018). "Reliability analysis of single pile in lateral spreading ground: A three-dimensional investigation." *Indian Geotechnical Conference 2018*, Held at IISC Bangalore.
14. Rajeswari J.S. and **Sarkar R**. (2018). "Three-dimensional investigation on variation of transient forces in single pile considering liquefiable soil." *16th Symposium on Earthquake Engineering*, Held in Dept. of Earthquake Engg, IIT Roorkee.
15. Anand A. and **Sarkar R.** (2017). "Experimental and numerical investigation on load-settlement behaviour of stone column reinforced fly ash backfill." *Indian Geotechnical Conference*, Held at IIT Guwahati, December 2017.
16. Rajeswari J.S., **Sarkar R**., Roy N. and Bharti S.D. (2017). "A numerical investigation on bearing capacity of isolated footing on fiber reinforced sands." *Indian Geotechnical Conference*, Held at IIT Guwahati, December 2017.
17. Roy N., **Sarkar R.** and Bharti S.D. (2017). "Dynamic response of tunnel in blocky rock mass with EPS geofoam as seismic buffer." *Indian Geotechnical Conference*, Held at IIT Guwahati, December 2017.
18. Roy N. and **Sarkar R.** (2016). "Identification of critical parameters of seismic behaviour of tunnels in discontinuous medium." *Indian Geotechnical Conference*, Held at IIT Madras, December 2016.
19. Roy N. and **Sarkar R.** (2016). "Reliability based seismic tunnel performance in stratified ground condition." *INDOROCK 2016*, Held at IIT Bombay, June 2016.
20. Roy N. and **Sarkar R.** (2015). "Effect of mechanical properties of discontinuity on the seismic stability of tunnel in jointed rock mass." *Indian Geotechnical Conference*, Held at Pune, December 2015.
21. **Sarkar R.** and Maheshwari B.K. (2015). "Three dimensional seismic behaviour of soil-pile-structure interaction: Effects of soil plasticity and liquefaction." *UKIERI Workshop on Seismic Requalification of Pile Supported Structures (SRPSS)*, Held at IIT Guwahati, January 2015.
22. **Sarkar R.** and Serawat A. (2014). "Influence of shape of p-y curve on failure mechanism of piles in liquefiable soils." *15th Symposium on Earthquake Engineering*, Held at IIT Roorkee: 352-361.
23. **Sarkar R.**, Shrimal D. and Goyal S. (2014). "Seismic analysis of a 275m tall RCC multi-flue chimney: A comparison of IS code provisions and numerical approaches." *Structural Engineering Convention (SEC)*, Held at IIT Delhi, December 2014.
24. Bhattacharya S., **Sarkar R.** and Huang Y. (2012). "Seismic design of piles in liquefiable soils." *International Symposium on Coastal Engineering Geology*, Held in Shanghai, China.
25. **Sarkar R.,** Sengupta K. and Ghosh D.K. (2011). "Soil foundation interactive approach for analysis & design of a gas turbine generator foundation." Proc. of *International Symposium on Advances in Ground Technology and Geo-Information*, Held in Singapore.

26. Dutta M.K. and **Sarkar R**. (2010). "Dynamic analysis of forced draft fan foundation: A comparison between analytical and FE approach." *Proc. of 14th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg, IIT Roorkee: 590-597.
27. Maheshwari B.K. and **Sarkar R.** (2010). "Behaviour of pile supported structure under strong ground motion considering liquefaction of the soil medium." Proc. of *9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders*, Paper No.-356, Toronto, July 2010.
28. **Sarkar R.** and Maheshwari B.K. (2008), "Influence of soil nonlinearity and liquefaction on the seismic response of pile groups." Proc. of *14th World Conference on Earthquake Eng.*, Beijing, China, October 2008.
29. **Sarkar R.** and Maheshwari B.K. (2008). "Three-dimensional seismic analysis of pile groups." Proc. of *12th Int. Conference of IACMAG*, Held in Goa, India.
30. **Sarkar R.** and Maheshwari B.K. (2006). "Evaluation of seismic ground response in DEQ campus of IIT Roorkee using SASW test." *Proc. of 13th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg., IIT Roorkee: 401-409.
31. **Sarkar R.**, Maheshwari B.K. and Singh H.P. (2006). "Evaluation of liquefaction potential of soil in DEQ campus of IIT Roorkee." *Proc. of 13th Symposium on Earthquake Engineering*, Dept. of Earthquake Engg., IIT Roorkee: 531-538.

Book/ Chapter

1. Mohanty M., **Sarkar R**. and Das S.K. (2024). "Assessment of Seismic Stability of Coal Mine Overburden Dump Slope using Random Limit Equilibrium Method (RLEM) and Random Finite Element Method (RFEM)-A Comparative Study." B. T. Jose et al. (eds.), *Proceedings of the Indian Geotechnical Conference 2022 Volume 6*, Lecture Notes in Civil Engineering 484, https://doi.org/10.1007/978-981-97-3393-4_26
2. Mohanty M., **Sarkar R**. and Das S.K. (2022). "Performance of Coal Mine Overburden Dump Slope Under Earthquakes Using Extended Finite Element Method Based Voronoi Tessellation Scheme." *Geoenvironmental and Geotechnical Issues of Coal Mine Overburden and Mine Tailings*, Springer Transactions in Civil and Environmental Engineering, S.K. Das et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-99-6294-5
3. Banik N. and **Sarkar R**. (2023). "Evaluation of dynamic properties of MICP treated Ennore sand through Bender element test." *Proceedings of 17th Symposium on Earthquake Engineering (Vol. 3)*, Lecture Notes in Civil Engineering 331, M. Shrikhande et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-99-1579-8_2
4. Mohanty M., **Sarkar R**. and Das S.K. (2023). "Earthquake induced damage assessment of coal mine overburden dump slope using extended finite element method coupled with Voronoi tessellation scheme." *Proceedings of 17th Symposium on Earthquake Engineering (Vol. 3)*, Lecture Notes in Civil Engineering 331, M. Shrikhande et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-99-1579-8_4
5. Anand V., Mahatab M., Shrama A., Raj D., Jat M.K., **Sarkar R**. and Pal S. (2023). "Evaluation of dynamic properties of MICP treated Ennore sand through Bender element test." *Proceedings of 17th Symposium on Earthquake Engineering (Vol. 4)*, Lecture Notes in Civil Engineering 332, M. Shrikhande et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-99-1459-3_41
6. Amani S., Prabhakaran A., Bhattacharya S., Rashid H., and **Sarkar, R.** (2023). "Seismic hazards associated with offshore wind farms." *Chapter 8, Wind Energy Engineering, Elsevier*. DOI: https://doi.org/10.1016/B978-0-323-99353-1.00018-9
7. Mohanty M., **Sarkar R**., Das S.K. and Reddy K.R. (2023). "Numerical modelling of coal mine overburden dump slopes: developments and current state-of-the-art." Lecture Notes in Civil Engineering 280, A. K. Agnihotri et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-19-4739-1_23
8. Anand A. and **Sarkar R.** (2022). "Probabilistic investigation on seismic bearing capacity of shallow foundation on unsaturated fly ash deposit." *Ground Characterization and Foundations*, Lecture Notes in Civil Engineering, 167, Satyanarayana Reddy, C.N.V. *et al.*, Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-16-3383-6_41
9. Sinha R. and **Sarkar R.** (2021). "Deterministic seismic hazard assessment of Dhanbad city, India." Seismic Hazards and Risk, Lecture Notes in Civil Engineering 116, T. G. Sitharam et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-15-9976-7_1
10. Rajeswari J.S. and **Sarkar R.** (2021). "Comparative study on behaviour of vertical and batter piles in laterally spreading ground." Seismic Design and Performance, Lecture Notes in Civil Engineering 120, T. G. Sitharam et al. (eds.), Springer Nature Singapore Pte Ltd. DOI: https://doi.org/10.1007/978-981-33-4005-3_5
11. Rajeswari J.S. and **Sarkar R**. (2020). "Reliability analysis of single pile in lateral spreading ground: A three-dimensional investigation." Geohazards, Lecture Notes in Civil Engineering 86, M. Latha Gali and P. Raghuveer Rao (eds.), Springer Nature Singapore Pte Ltd. https://doi.org/10.1007/978-981-15-6233-4_27
12. **Sarkar R.**, Shrimal D. and Goyal S. (2015). "Seismic analysis of a 275m tall RCC multi-flue chimney: A comparison of IS code provisions and numerical approaches." Advances in Structural Engineering (SEC), V. Matsagar (ed.), Springer India. DOI: 10.1007/978-81-322-2193-7_80.
13. Bhattacharya S., **Sarkar R**. and Huang Y. (2012), "Seismic design of piles in liquefiable soils." New Frontiers in Engineering Geology and the Environment, Springer, 31-44.

RESEARCH PROJECTS:

1. **Title of Project**: Site-Specific Challenges of Larger Offshore Wind Turbines along Indian Coast and Possible Geotechnical Solutions (As PI)
   Amount: Rs. 43,12,264/-
   Funding Agency: Science & Engineering Research Board, DST
   Status: Ongoing
2. **Title of Project**: Effect of blasting on opencast mine dump and development of relationship between blast induced vibration and dump design (As PI)
   Amount: Rs. 1,07,82,840/-
   Funding Agency: Coal India Limited
   Status: Completed
3. **Title of Project**: Development of earthquake disaster risk index for 60 Indian cities (As Co-PI)
   Amount: Rs. 15,00,000/-
   Funding Agency: National Disaster Management Authority
   Status: Ongoing
4. **Title of Project**: Performance study of steel oil storage tanks under seismic loading (As Co-PI)
   Amount: Rs. 17,35,500/-
   Funding Agency: Ministry of Earth Sciences
   Status: Ongoing
5. **Title of Project**: Investigation on batter piles in laterally spreading soil (As PI)
   Amount: Rs. 24,78,480/-
   Funding Agency: Ministry of Earth Sciences
   Status: Ongoing
6. **Title of Project**: Scientific study of ultimate slope of pit and dumping slope stability of working of Jambad OCP, Kajora area ECL (As Co-PI)
   Amount: Rs. 8,26,000/-
   Funding Agency: ECL
   Status: Completed
7. **Title of Project**: Seismic response of mountain tunnels in sloping ground (As PI)
   Amount: Rs. 9,68,997/-
   Funding Agency: FRS (IIT(ISM), Dhanbad
   Status: Completed
8. **Title of Project**: An experimental study on improvement of backfilled soils by stone columns (As PI)
   Amount: Rs. 2,00,000/-
   Funding Agency: TEQIP-II, IIT(ISM), Dhanbad
   Status: Completed

MAJOR COURSES TEACHING/TAUGHT

Sl. No.	Course Name	UG/PG
1.	Soil-Structure Interaction	PG
2.	Soil Dynamics	PG
3.	Geotechnical Earthquake Engineering	PG
4.	Advanced Soil Mechanics	PG
5.	Geotechnical Engineering	UG
6.	Advanced Foundation Design	UG
7.	Finite Element Method	UG
8.	Machine Foundation	UG
9.	Computer Aided Design in Civil Engineering	UG
10.	Building Materials, Construction and Management	UG

PH.D. THESIS SUPERVISED

1. **Dr. Rajeswari J.S.** "Investigation on Batter Pile Foundation in Liquefiable and Laterally Spreading Ground," Registration: August 2017, Department of Civil Engineering, IIT(ISM), Dhanbad, Awarded: December 2021.
2. **Dr. Abhijit Anand**. "Bearing Capacity of Shallow Foundations on Variably Saturated Geomaterials with Emphasis on Pond Ash," Registration: August 2016, Department of Civil Engineering, IIT(ISM), Dhanbad, Awarded: April 2022.
3. **Dr. Madhumita Mohanty**. "Effects of Heterogeneity on Static and Dynamic Behaviour of Coal Mine Overburden Dump Slopes," Registration: July 2018, Co-Supervisor: Prof. S.K. Das, Dept. of Civil Engineering, IIT(ISM) Dhanbad, Awarded: May 2023.
4. **Dr. Sandeep Kumar.** "A Study on Seismic Response of Road Over Bridge Embedded in Liquefiable Sand with Fibre Reinforcement, (As Joint External Supervisor) Registration: 2015, Supervisor: Prof. Mahesh Kumar Jat, Dept. of Civil Engineering, MNIT Jaipur, Awarded: April 2023.
5. **Dr. Nilanjana Banik**. "Investigation on Cyclic Performance of Sand Treated with Microbially Induced Calcite Precipitation Technique," Registration: August 2018, Dept. of Civil Engineering, IIT(ISM) Dhanbad, Awarded: August 2024.

PH.D. THESIS EXAMINED

1. **Mr. Stephen Irinyemi** "Development of a Probabilistic Seismic Risk Assessment Framework for Critical Infrastructure in West Africa (PSRA CIWA)," University of Manchester, U.K., 2022.

ONGOING DOCTORAL DISSERTATION

1. **Mr. Kingshuk Jana**. "Behaviour of Offshore Wind Turbine with Monopile Foundation under Liquefying Ground Condition," Registration: August 2021, External Co-Supervisor: Prof. Subhamoy Bhattacharya (University of Surrey, U.K.), Dept. of Civil Engineering, IIT(ISM) Dhanbad.
2. **Mr. Shankar Kumar**. "Behaviour of Vertical and Batter Pile Groups in Slope under Lateral Loading," Registration: August 2021, External Co-Supervisor: Dr. L. Nainegali (NIT Surathkal), Dept. of Civil Engineering, IIT(ISM) Dhanbad.
3. **Mr. Rajat Banik**. "Investigation on Performance of Combined Pile-Raft Foundation (CPRF) in Laterally Spreading Ground," Registration: August 2022, Dept. of Civil Engineering, IIT(ISM) Dhanbad.
4. **Mr. Sumit Kumar**. "Performance of Different Configuration of Micropiles Combined with Foundations for Earth Slope Stabilizations based on Static and Dynamic Studies," Registration: August 2022, External Co-Supervisor: Dr. Lohitkumar Nainegali (NIT Surathkal), Dept. of Civil Engineering, IIT(ISM) Dhanbad.
5. **Ms. Sakshi**. "Performance study of steel oil storage tanks under dynamic loading," Registration: July 2023, Co-Supervisor: Dr. Tanish Dey, Dept. of Civil Engineering, IIT(ISM) Dhanbad.
6. **Mr. Abhinav Bharat**. "Site-Specific Challenges of Larger Offshore Wind Turbines along Indian Coast and Possible Geotechnical Solutions," Registration: July 2024, Dept. of Civil Engineering, IIT(ISM) Dhanbad.

M.TECH. THESIS SUPERVISED:

1. **Arun Serawat** (2015). "Three-Dimensional Dynamic Behaviour of Batter Pile Groups," M.Tech. Thesis, Dept. of Civil Engineering, MNIT Jaipur.
2. **Komal Pareek** (2016). "Seismic Response of Tunnel Structure: Effect of Stratigraphy and Assessment of Fragility Curves," M.Tech. Thesis, Dept. of Civil Engineering, MNIT Jaipur.
3. **Gaurav Fulwaria** (2016). "Evaluation of Critical Combination of Geotechnical Parameters and Assessment of Seismic Fragility Curves for Rock Slopes," M.Tech. Thesis, Dept. of Civil Engineering, MNIT Jaipur.
4. **Jai Prakash Singh** (2017). "Seismic Analysis of a RCC Building with Raft Foundation considering Soil-Structure Interaction," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad, Co-Supervisor: Prof. S.C. Dutta.
5. **Ranjeet Saw** (2017). "Effect of Differential Settlement on the Seismic Response of RC Building," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad, Co-Supervisor: Prof. S.C. Dutta.
6. **Rajeswari J.S.** (2017). "Bearing Capacity of Isolated Shallow Footings on Fiber Reinforced Sand," Registration: July 2015, M.Tech. Thesis, National Center for Disaster Mitigation and Management, MNIT Jaipur, Co-Supervisor: Dr. S.D. Bharti.
7. **Aditya Mehra** (2018). "Seismic Isolation Technique for Medium Rise Building using Rubber Sand Mixture (RSM)," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad, Co-Supervisor: Dr. Sukanta Chakraborty
8. **Piash Ghosh** (2018). "Effects of Irregularity on Seismic Behaviour of Multi-storey RC Buildings," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad, Co-Supervisor: Dr. Sanket Nayak
9. **Rajeev Ranjan Singh** (2019). "Structural Health Monitoring using Horizontal to Vertical Spectral Ratio for Earthquake Risk Mitigation," M.Tech. Thesis, Dept. of Applied Geophysics, IIT(ISM), Dhanbad, Co-Supervisor: Dr. Mohit Agrawal

10. **Rahul Sinha** (2020**).** "Seismic Microzonation of Dhanbad City, India," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
11. **Samrat Kiranjeet** (2020**).** "Probabilistic Investigation of Single Vertical Pile in Laterally Spreading Ground," M.Tech Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
12. **Bimal Mandi** (2021**).** "Dynamic Response of Dyke with Proposed Ash Pond," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
13. **Haroon Rashid** (2021). "Site Specific Response of a 5MW Offshore Wind Turbine for Gujarat Coast of India considering Dynamic Soil Structure Interaction," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
14. **Rishav Baishya** (2022). "Neural Network-Based Approach for the Prediction of PGA and Significant Duration Parameters in the Uttarakhand Region of India," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
15. **Vaibhav Sharma** (2022). "Seismic Hazard Assessment of Uttarakhand, India by Deterministic and Probabilistic Approaches," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
16. **Danish Shafi Najar** (2023). "Performance of Single Piles with Different Batter Angles in Slopes," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.
17. **Vibhav Kumar Gupta** (2024). "Microzonation of Joshimath for Seismic and Landslide Hazards," M.Tech. Thesis, Dept. of Civil Engineering, IIT (ISM), Dhanbad.

EVENTS ORGANIZED

1. ***8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (8ICRAGEE)*** at IIT Guwahati, 11-14 December 2024, As Organizing Secretary, Conference Chair: Prof. B.K. Maheshwari, IIT Roorkee Co-Organizing Secretary: Prof. Abhishek Kumar, IIT Guwahati.
2. ***1st Webinar Series on Geotechnical Earthquake Engineering*** at IIT Roorkee, November 2021- October 2022, As Co-Chair, Chair: Prof. B.K. Maheshwari, IIT Roorkee.
3. Short Term Course on ***Advances in Civil Engineering*** (sponsored by M/s Dalmia Cement) at IIT (ISM) Dhanbad, 6-8 April 2018, Coordinator: Dr. Sanket Nayak
4. Guest Lecture of ***Prof. Subhamoy Bhattacharya***, University of Surrey, U.K. on ***Soil-Structure Interaction*** and ***Offshore Wind Turbine*** at Dept. of Civil Engineering, IIT (ISM) Dhanbad (16-17 August 2016)
5. Invited lecture series of ***Prof. J.N. Mandal***, IIT Bombay on ***Ground Improvement Techniques*** at Dept. of Civil Engineering, MNIT Jaipur (March 29, 2015)
6. Special lecture series on ***Earthquake Structural Dynamics*** at MNIT Jaipur from August 14-16, 2015. Key Speakers: *Prof. T.K. Dutta/ Er. Arvind Jaiswal/ Prof. C.V.R. Murty*
7. Workshop on ***Application of Wireless Sensor Networks for Disaster Management*** at MNIT Jaipur from June 17-18, 2014. Key Speakers: *Prof. D.P. Agarwal/ Dr. S. Sarkar/ Dr. K.S. Raju*
8. Workshop on ***Structural Dynamics for Practicing Engineers*** at MNIT Jaipur from November 20-22, 2014. Key Speakers: *Prof. T.K. Dutta/ Prof. C.V.R. Murty/ Dr. V. Matsagar*

MAJOR CONSULTANCY WORKS

1. 2024-***A Scientific Study on the Assessment of Impact of Mine Blasting Operations on Environmental Pollution and Important Structures of Chittorgarh Fort for suggesting Suitable Remedial Measures***; Client: M/s Birla Corporation Limited Kolkata, Cost Outlay: Rs. 206.5 Lac, IIT(ISM) Dhanbad (Lead the Civil Engineering team in the multi-disciplinary project).
2. 2023- ***Design Validation for 3 Numbers Structural Steel Sheds and Respective RCC Foundations for Stockpiles at NMDC Limited Bacheli/Kirandaul (Chattisgarh) Site****;* Client: M/s Mecon Limited Ranchi, Cost Outlay: Rs. 8.07 Lac, IIT(ISM) Dhanbad (As PI).
3. 2020- ***Slope Stability Analysis and Optimisation of Tailing Pond Dyke Slope, Jharsuguda****;* Client: M/s Mecon Limited Ranchi, Cost Outlay: Rs. 10.03 Lac, IIT(ISM) Dhanbad (As PI).
4. 2020- ***Construction of Source (Intake Well) in Maithan and Panchet Dam for Drinking Water System for Multi Villages of Nirsa-Govindpur (North and South)****;* Client: DW&S Circle, Dhanbad, Cost Outlay: Rs. 4.13 Lac, IIT(ISM) Dhanbad (As Co-PI).
5. 2019- ***Evaluation of liquefaction potential for upgradation of Patna Medical College and Hospital, Patna under PMSSY (Phase-IV)***; Client: M/s CK Constructions Pvt. Ltd., Cost Outlay: Rs. 7.08 Lac (As PI).
6. 2018- ***Vetting of Civil Design Calculations for Expansion of IOCL Township at Paradip, Odisha***; Client: M/s Mecon Limited Delhi, Cost Outlay: Rs. 3.25 Lac, IIT(ISM) Dhanbad (As PI).
7. 2018- ***Geotechnical and Material Testing for Mohammadganj Barrage Canal***; Client: M/s Wapcos Limited Delhi, Cost Outlay: Rs. 24.74 Lac, IIT(ISM) Dhanbad (As PI).
8. 2018- ***Additional Work of Geotechnical and Material Testing for Mohammadganj Barrage Canal***; Client: M/s Wapcos Limited Delhi, Cost Outlay: Rs. 4.32 Lac, IIT(ISM) Dhanbad (As PI).
9. 2018- ***Preparation of Site Specific Response Spectrum for Railway Bridges in Manipur***; Client: M/s AECOM Asia Company Limited Kolkata, Cost Outlay: Rs. 5.90 Lac, IIT(ISM) Dhanbad (As PI).

10. 2018- ***Third Party Quality Control & Quality Assurance for Civil, Electrical, Mechanical & all other allied works for redevelopment of GPRA colony at Nauroji Nagar, New Delhi***; Client: M/s NBCC (India) Ltd. New Delhi, Cost Outlay: Rs. 2.0 Crore (In parts), IIT(ISM) Dhanbad (As Co-PI).
11. 2017- ***View on Use of Rock of Sedimentary Origin as Coarse Aggregate of Concrete for Industrial Structure***; Client: M/s Mecon Limited Ranchi, Cost Outlay: Rs. 0.20 Lac, IIT(ISM) Dhanbad (As PI).
12. 2016- ***Evaluation of Site Specific Seismic Design Parameters for Proposed Dam on River Brahmani, District Chittorgarh, Rajasthan***; Client: M/s PDCOR Limited Jaipur, Cost Outlay: Rs. 4.58 Lac, MNIT Jaipur (As PI).

REVIEWING WORK

- Soil Dynamic and Earthquake Engineering, Elsevier
- Journal of Rock Mechanics and Geotechnical Engineering, Elsevier
- International Journal of Geomechanics, ASCE
- European Journal of Environmental and Civil Engineering, Taylor and Francis
- Canadian Geotechnical Journal, NRC Press
- Bulletin of Engineering Geology and the Environment, Springer
- Earthquake Engineering and Engineering Vibration, Springer
- Arabian Journal of Geosciences, Springer
- Geotechnical and Geological Engineering, Springer
- Journal of Hazardous, Toxic, and Radioactive Waste, ASCE
- Indian Geotechnical Journal, Springer
- KSCE Journal of Civil Engineering
- Marine Georesources and Geotechnology, Taylor & Francis

EXPERT LECTURES DELIVERED

1. Delivered invited lecture on "***Comparative Behaviour of Vertical and Batter Piles in Liquefiable Soils through Finite Element Method***" at Online Faculty Development Programme *Performance-Based Earthquake Design: Combining Finite Element Analysis and AI for Structural Optimization*, Electronics & ICT Academy and Department of Civil Engineering, NIT Warangal, 21st January 2025.
2. Delivered invited lecture on "***Earthquake-Resistant Design Considerations for Pile-Supported Structures with focus on Tall Building Foundations***" at Two-days Workshop on *Recent Advancements and Best Practices in Civil Engineering with Emphasis on Application of High-Strength Reinforcement Bars in Concrete Construction* sponsored by Tata Tiscon, IIT(ISM) Dhanbad, 3rd January - 4th January 2025.
3. Chaired technical Session at the **Indian Symposium on Offshore Geotechnics (ISOG) 2024**, held from 8th November- 9th November in Mangalore, India.
4. Delivered expert lecture on "***Seismic Hazard Analyses: A Case Study for Dhanbad***" at Executive Development Programme on *Advanced practices for geo-engineering challenges for Hydro Power Project Development* for the Executives of NHPC Limited, IIT(ISM) Dhanbad, 23rd October - 25th October 2024.
5. Delivered expert lecture on "***Seismic Behaviour of RC Buildings with Raft Foundation: A Case Study for Ganges Basin, India***" at Expert Lectures in Civil Engineering, Aliah University Kolkata, 24th August 2024.
6. Delivered expert lecture on "***Effects of Blast Induced Vibration on Coal Mine Overburden Dump Slopes***" at Executive Development Programme on *Blast Resilience of Civil Infrastructures: Emerging Global Trends*, IIT(ISM) Dhanbad, 8th July – 12th July 2024.
7. Delivered expert lecture on "***Seismic Hazard Analysis of Dhanbad City using Remote Sensing and GIS***" at Summer School in Geospatial Science and Technology (Level 2), IIT(ISM) Dhanbad, 14th June - 4th July 2024.
8. Delivered invited lecture on "***Seismic Performance of Foundations of Offshore Wind Turbines in Indian Contex*t**" at Faculty of Power and Aeronautical Engineering, Warsaw University of Technology, Poland, 20th June 2024.
9. Delivered expert lecture on "***Influence of Heterogeneity on the Stability of Coal Mine Overburden Dump Slopes***" at Two days' Workshop on *Advanced Geological and Geophysical Techniques for Landslide Hazard Assessment*, IIT(ISM) Dhanbad, 19-20th February 2024.
10. Delivered expert lecture on "***Effects of Heterogeneity on Static and Dynamic Behaviour of Coal Mine Overburden Dump Slopes***" at Executive Development Programme on *Advanced Practices for Geo-Engineering Challenges: An Integrated Geological and Geophysical Approach*, IIT(ISM) Dhanbad, 13th July 2023.
11. Delivered expert lecture on "***Seismic Behaviour of RC Buildings with Raft Foundation: A Case Study for Ganges Basin, India***" at Faculty Development Program (FDP) on Application of Dynamics in Civil Engineering Problems, Dr. B.C. Roy Engineering College, Durgapur, 24th June 2022.
12. Delivered expert lecture on "***Seismic Behaviour of RC Buildings with Raft Foundation: A Case Study for Ganges Basin, India***" at Faculty Development Program (FDP) on Modeling and Seismic Analysis of Reinforced Concrete Building, NIT Warangal, 23rd March 2022.

13. Delivered lectures on "***Earthen Dam and Embankment***" in the training programme of Nirman Sahayaks of Gram Panchayats under ISGPP-II of Govt. of West Bengal, Organized by Narula Institute of Technology, 29th July 2021 and 16th July 2021.
14. Delivered expert lecture on "***Probabilistic Assessment of Effects of Heterogeneity on the Stability of Coal Mine Overburden Dump Slope through Discrete Element Framework***" at Workshop on *Finite Element Analysis and Field Instrumentation in Mining Geotechnics*, VNIT Nagpur in Collaboration with CMPDI, 10th July 2021.
15. Delivered expert lecture on "***Comparative Behaviour of Vertical and Batter Piles in Liquefiable Soils through Finite Element Method***" at Workshop on *Computational Modelling of Geotechnical Structures using FEM Based Software*, NIT Uttarakhand, TEQIP-III Project, 2nd March 2021.
16. Delivered expert lecture on "***Seismic Response of Concrete Gravity Dam considering Dam-Reservoir-Foundation Interaction: Case Study of Koyna Dam***" at Jadavpur University organized by IGS Kolkata Chapter, 8th December 2018.
17. Delivered expert lecture on "***Introduction to Soil Structure Interaction***" in the UGC sponsored refresher course "Recent Trends in Civil Engineering" at Jadavpur University on 6th January 2018.
18. Delivered Keynote Speech in the ***Structural Engineering Convention*** **(SEC 2014)** held at IIT Delhi.
19. Delivered expert lecture in the ***UKIERI Workshop on Seismic Requalification of Pile Supported Structures*** (SRPSS 2015) at IIT Guwahati.

CONFERENCES ATTENDED

- 2024-*8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, Organized by ISET, IIT Guwahati and IIT Roorkee, Held at IIT Guwahati
- 2021-*7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, Held Online, Organized by IISc Bangalore and IIT Roorkee.
- 2019-*7th International Conference on Geotechnical Earthquake Engineering*, Held at Rome, Italy.
- 2017-*Indian Geotechnical Conference*, Held at IIT Guwahati, India.
- 2018-*16th Symposium on Earthquake Engineering*, Held at IIT Roorkee, India.
- 2016-*Indian Geotechnical Conference*, Held at IIT Madras, India.
- 2015-*Indian Geotechnical Conference*, Held at College of Engineering Pune, India.
- 2010-14th *Symposium on Earthquake Engineering (SEE)*, Held at IIT Roorkee, India.
- 2008-12th International Conference of *International Association for Computer Methods and Advances in Geomechanics* (*IACMAG*), Held in Goa, India.

PROFESSIONAL MEMBERSHIP

- Member of *American Society of Civil Engineers* (Member ID: 9794982)
- Life member of *Indian Society of Earthquake Technology* (LM-1354)
- Life member of Indian Geotechnical Society (LM-3830)

PROFESSIONAL EXPERIENCE

1. **Consulting Engineering Services (I) Pvt. Ltd** (August 2002 - July 2004)
   - **Position:** Assistant Engineer
   - **Duties:** Geometric design of roads & highways, flexible pavement design, design of foundations
2. **Lahmeyer International India Pvt. Ltd** (November 2009 - March 2012)
   - **Position:** Deputy Manager
   - **Duties:** Analysis and design for Machine Foundations and industrial/ special structures like R.C.C. Chimney, Quenching Tower, Dome structures, Power House Buildings etc.

(RAJIB SARKAR)