



# Abir Sarkar

## ASSISTANT PROFESSOR

+91-8811046006

abirsarkar2007@gmail.com

Professor with hands-on experience in Teaching Civil Engineering, Geotechnical Engineering and M.Tech. thesis guidance, targeting assignments as an **Assistant Professor in Civil Engineering.**

### Profile Summary

- ▶ A student-centered educator with more than a year of experience in teaching, with a track record of identifying and selecting instructional strategies to meet unique students' needs; teaching over 2k students
- ▶ Skilled in Geotechnical Engineering, Soil Dynamics, with a **Ph.D.** focused in **Vibration Isolation** from National Institute of Technology Silchar, Assam; Thesis title: "Application of Artificial Intelligence for the Prediction of Elastic Wave Velocities and Screening Efficiencies of Vibration Isolation Systems"
- ▶ Published 2 international journals, 2 book chapters, 6 conference papers and personally reviewed 2 articles international journals
- ▶ Recipient of Patent from Australian government for "**A Method for Using A Composite Geofom and A Sand-Crumb Rubber Mixture as An Infill Material to Act as A Wave Barrier**"; **Australian Patent Number-2021104583**
- ▶ Partially guided 3-4 Masters' students in their thesis and studies
- ▶ Possessing a thorough understanding, knowledge and hands on experience in Non-destructive Testing (NDT) for structural health monitoring and subsurface soil profiling
- ▶ Implemented assessments that measured progress towards academic standards
- ▶ Applied contemporary principles of learning theory and teaching methodology
- ▶ Attending academic events and networking with other researchers and field experts
- ▶ Supervising, advising, and mentoring teaching assistants, graduate and post-graduate students
- ▶ Lead and develop internal and external networks to foster collaboration and share information and ideas to promote the subject and the University
- ▶ Carry out the role of an academic lead, i.e. sustaining a shared sense of direction for the discipline and a shared participation in the University's success through engagement with University strategies ensuring decisions are taken forward effectively by all staff they lead, enabling, supporting and celebrating individual achievement
- ▶ Planned course instruction based on the approved syllabus/course outline provided to assure course content and learning objectives are met
- ▶ Developed study protocols and coordinated data collection for qualitative and quantitative studies both online and in-person

### Core Competencies

- Student Mentoring
- Teaching
- Learning strategies
- Curriculum Development
- Student Mentoring
- Classwork Evaluation
- Thesis Guidance
- Student Motivation

### Soft Skills

- |                     |              |
|---------------------|--------------|
| Attention to detail | Communicator |
| Patient             | Curious      |
| Thinker             | Leadership   |

### Academic Details

- ▶ Ph.D. from National Institute of Technology, Silchar, Ph.D. Scholar, 2015 - 2021
- ▶ M.Tech. from National Institute of Technology, Silchar, 2012 - 2014
- ▶ B.Tech. from Meghnad Saha Institute of Technology, Kolkata, 2008 - 2012

## Organizational Experience

### Swami Vivekananda University, Barrackpore HOD

27<sup>th</sup> Sept' 2021 - Present

- ▶ Attending academic events and networking with other researchers and field experts
- ▶ Supervising, advising, and mentoring teaching assistants and graduate students
- ▶ Participating in faculty and departmental meetings
- ▶ Teaching Advanced Soil Mechanics, Finite Elements Methods, Soil Exploration and Analysis of Foundations
- ▶ Shortlisting, interviewing, and selecting students for graduate programs
- ▶ Developing and delivering course material, curricula, and syllabi
- ▶ Assisting with the training and recruitment of new lecturers, teaching assistants, and Professors Conducting research, publishing papers, and attending conferences
- ▶ Engaged in the construction expansion activities of the university as a Site Engineer
- ▶ Coordinator of the Exam cell of the Civil Engineering department
- ▶ Faculty in charge of Geotechnical Engineering Lab
- ▶ Conducting total station survey
- ▶ Provided M.Tech. thesis guidance to around 3-4 students

### SIEM, Siliguri Assistant Professor

Feb' 2015 - May 2015

- ▶ Actively involved in consultancy work
- ▶ In charge of the Soil Mechanics lab
- ▶ Guided two B.Tech. final year projects

### IT Skills

- ▶ ABAQUS
- ▶ MATLAB
- ▶ RAYFRACT
- ▶ SPSS
- ▶ ORIGIN

### Publications

- ▶ Barman, R., Sarkar, A., & Bhowmik, D. (2023). Composite Sand-Crumb Rubber and Geofoam Wave Barrier for Train Vibration. *Geotechnical and Geological Engineering*. <https://doi.org/10.1007/s10706-023-02674-4>
- ▶ Bisui, M., Chatterjee, S., Sarkar, A., & Ralli, R. (2023). Numerical and Experimental Analysis of Vibration Mitigation Using a Series of Hollow Boreholes. *Journal of Vibration Engineering & Technologies*, 0123456789. <https://doi.org/10.1007/s42417-023-01181-3>
- ▶ Sarkar, A., Mazumdar, A., & Bhowmik, D. (2023). Application of Soft Computing Techniques for Prediction of Seismic Wave Velocity. 2023 9th International Conference on Control, Decision and Information Technologies (CoDIT), 2532–2537. <https://doi.org/10.1109/CoDIT58514.2023.10284120>
- ▶ Sarkar, A., Bhowmik, D. (2023). Prediction of Seismic Wave Velocity Using Artificial Intelligence. In: Sil, A., N. Kontoni, DP., Pancharathi, R.K. (eds) *Recent Trends in Civil Engineering*. Lecture Notes in Civil Engineering, vol 274. Springer, Singapore. [https://doi.org/10.1007/978-981-19-4055-2\\_42](https://doi.org/10.1007/978-981-19-4055-2_42)
- ▶ Sarkar, A., Dutta, D., Bhowmik, D.: Estimation and prediction of screening efficiency of Sand Crumb Rubber (SCR) mix infill trench. *Soil Dynamics and Earthquake Engineering* (2022)
- ▶ Sarkar, A., Bhowmik, D.: Prediction of Seismic Wave velocity using Artificial Intelligence. *Soft Computing* (2022)
- ▶ Sarkar, A., Barman, R., Bhowmik, D.: Estimation and prediction of screening efficiency of Sand Crumb Rubber (SCR) mix infill trench. *International Journal of Geotechnical Engineering* (2021). DOI: 10.1080/19386362.2021.1964784
- ▶ Barman, R., Sarkar, A., Bhowmik, D.: Numerical Study on Vibration Screening Using Trench Filled with Sand–Crumb Rubber Mixture. In: *Seismic Hazards and Risk*. Lecture Notes in Civil Engineering. pp. 269–282 (2021). DOI:10.1007/978-981-15-9976-7\_25
- ▶ Sarkar, A., Barman, R., Bhowmik, D.: Numerical investigation on vibration screening using geofoam and sand-crumb rubber mixture infilled trench. *International Journal of Geosynthetic and Ground Engineering* (2021) DOI:10.1007/s40891-021-00329-z
- ▶ Paul, A., Sarkar, A., and Bhowmik, D., (2018). "Subsurface Soil Characterization by Correlating P–wave velocity with engineering properties of soil". In 16th Symposium on Earthquake Engineering, IIT Roorkee
- ▶ Sarkar, A., and Bhowmik, D. (2017). "Site Soil Classification Applying Seismic Refraction Tomography". In RAGIGIT 2017, National conference on Recent Advancement in Geotechnical Investigation and Ground Improvement Technique, NIT Silchar
- ▶ Sarkar, S., Sarkar, A., and Dey, A.K. (2017). "In RAGIGIT 2017, National conference on Recent Advancement in Geotechnical Investigation and Ground Improvement Technique, NIT Silchar." In RAGIGIT 2017, National conference on Recent Advancement in Geotechnical Investigation and Ground Improvement Technique, NIT Silchar

### Personal Details

**Date of Birth:** 9<sup>th</sup> March 1990

**Languages Known:** Bengali, English and Hindi

**Address:** Greenfield City, Maheshatala, Kolkata - Pincode - 700141, West Bengal

