

## Faculty Profile

Name : Dr. Amrita  
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**About me:** Dr. Amrita specializes in Geotechnical Engineering, with teaching experience in core subjects related to Soil Mechanics and Geotechnical Engineering. Her research interests include Soil–Structure Interaction, Numerical Analysis, Ground Improvement Techniques, and Dynamic Simulation. She has been serving as an Assistant Professor in the Department of Civil Engineering at the National Institute of Engineering (NIE), Mysore, since July 2025. In this role, she is actively involved in teaching, mentoring students, and contributing to departmental academic activities.

### **Qualification:**

- B. Tech. – Civil Engineering – College of Engineering, Trikaripur, Kasaragod, Kerala
- M. Tech. – Geotechnical Engineering – NITK, Surathkal
- Ph. D. – Geotechnical Engineering – NITK, Surathkal

### **Courses Taught:**

- Geotechnical Engineering
- Sustainable Design Concepts for Building Services
- Mechanics of Solids
- Architecture and Town Planning
- Introduction to Sustainable Engineering
- Geotechnical Lab

### **Publications:**

#### **Journal Publications:**

1. **Amrita**, Jayalekshmi, B. R., and Shivashankar, R. (2026). Seismic Performance Evaluation of the Interaction between RC Buildings and Soil-Nailed Structures. *International Journal of Geomechanics*, 26(4), 04026023.
2. **Amrita**, Jayalekshmi, B. R. and Shivashankar, R. (2025). “Dynamic response assessment of RC buildings featuring basement storeys integrated with soil-nailed structures.” *Journal of Building Engineering*, 105:112545, 1-22. <https://doi.org/10.1016/j.jobbe.2025.112545> (SCIE)
3. **Amrita**, Jayalekshmi, B. R. and Shivashankar, R. (2024). “Integrating soil-nailed walls with RC building for seismic stability in space-constrained sites.” *Bulletin of Engineering Geology and the Environment*, 83:423, 1-20. <https://doi.org/10.1007/s10064-024-03922-4> (SCIE)

4. **Amrita**, Jayalekshmi, B. R. and Shivashankar R. (2024). "Dynamic stability evaluation of nail stabilised vertical cuts in various site classes." *Geomechanics and Engineering*, 38(4), 421-437. <https://doi.org/10.12989/gae.2024.38.4.421> (SCIE).
5. **Amrita**, Jayalekshmi, B. R. and Shivashankar R. (2025). "Numerical study on reinforced vertical cuts integrated with RC buildings under ground motions." *Earthquake Engineering and Engineering Vibrations*, 24(4), 959-976. <https://doi.org/10.1007/s11803-025-2354-0> (SCIE).

#### Conference Proceedings:

1. **Amrita**, Shivashankar, R. and Jayalekshmi, B. R. (2019). "A Brief Review on Dynamic Response of Retaining Walls." *8th International Engineering Symposium –IES*, March 13-15, Kumamoto University, Japan, pp.C6-7-1-6.
2. **Amrita**, and Shivashankar, R. (2017). "Study of Interference of Strip Footing on Clay." *6th International Engineering Symposium – IES*, March 1-3, Kumamoto University, Japan, pp.C2-4-1-4.
3. Anaswara, S., **Amrita**, Shivashankar, R. (2017). "Numerical Analysis on Interference of Strip Footings on Soils." *International Conference on Modeling & Simulation in Civil Engineering (ICMSC)*. International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249-8958, Volume-7, Issue- ICMSC17, Page No.: 116-119, December 2017. <https://www.ijeat.org/download/volume-7-issue-icmsc17/>

#### Book Chapters:

1. **Amrita**, Jayalekshmi, B. R. and Shivashankar R. (2024). "Investigation on stability of vertical cuts retained by soil nailing using finite element method." In: Sivakumar Babu, G.L., Mulangi, R.H., Kolathayar, S. (eds) Technologies for Sustainable Transportation Infrastructures. SIIOC 2023. *Lecture Notes in Civil Engineering*, vol 529, pp.667-679. Springer, Singapore. [https://doi.org/10.1007/978-981-97-4852-5\\_54](https://doi.org/10.1007/978-981-97-4852-5_54) (SCOPUS)
2. **Amrita**, Jayalekshmi, B. R. and Shivashankar R. (2023). "Numerical investigation on performance of nail stabilised vertical cuts." *Materials Today: Proceedings*. <https://doi.org/10.1016/j.matpr.2023.07.298> (SCOPUS)
3. Vinay, N. S., **Amrita**, Jayalekshmi, B. R. and Shivashankar R. (2022). "Dynamic Soil–Structure Interaction Effects in Integrated Retaining Wall-Building System." In: Adhikari, B.R., Kolathayar, S. (eds) Geohazard Mitigation. *Lecture Notes in Civil Engineering*, vol 192, pp.403-413 Springer, Singapore. [https://doi.org/10.1007/978-981-16-6140-2\\_32](https://doi.org/10.1007/978-981-16-6140-2_32) (SCOPUS)
4. **Amrita**, Jayalekshmi, B. R. and Shivashankar, R. (2021). "Seismic Behaviour of Soil Nailed Wall." In: Das B.B., Nanukuttan S.V., Patnaik A.K., Panandikar N.S. (eds) Recent Trends in Civil Engineering. *Lecture Notes in Civil Engineering*, vol 105, pp.251-257. Springer, Singapore. [https://doi.org/10.1007/978-981-15-8293-6\\_22](https://doi.org/10.1007/978-981-15-8293-6_22) (SCOPUS)
5. **Amrita**, Jayalekshmi, B. R. and Shivashankar, R. (2021). "Dynamic Response of Soil Nailed Wall." In: Sitharam T.G., Palapati R.R., Kolathayar S. (eds) Seismic Design and Performance. *Lecture Notes in Civil Engineering*, vol 120, pp.151-161. Springer, Singapore. [https://doi.org/10.1007/978-981-33-4005-3\\_12](https://doi.org/10.1007/978-981-33-4005-3_12) (SCOPUS)

#### Other achievements:

- Indian Geotechnical Society (IGS) – Life Membership – LM-5265
- JASSO scholarship program for attending 3<sup>rd</sup> Spring Internship Program - SIP 2017 in at the Graduate School of Science and Technology, Kumamoto University, Japan.