

CURRICULUM VITAE

Name **Dr. PARVATHI G. S.**

Designation Principal Scientist (Scientist E) and
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Areas of Interest Geotechnical Diagnostics and Failure Investigations, Ground improvement methods, Geosynthetics and Geofoam for road construction, FEM modelling, Digital image correlation, Material and Interface Characterization, AI/ML applications in Geotechnical Engineering

Education PhD (2024), Geotechnical Engineering, Indian Institute of Technology, Delhi
M.Tech. (2011), Geotechnical Engineering, Indian Institute of Technology, Kanpur
B.Tech. (2009), Civil Engineering, College of Engineering, Trivandrum

Professional Experience

- Assistant Professor (Honorary), AcSIR (Central Road Research Institute), New Delhi (2024 – till date)
- Principal Scientist (Scientist-E), CSIR-Central Road Research Institute, New Delhi (2022 - till date) (Pay Level 13)
- Senior Scientist, CSIR-Central Road Research Institute, New Delhi (2017 – 2022) (Pay Level 12)
- Scientist, CSIR-Central Road Research Institute, New Delhi (2014 – 2017, (PB-3, GP-6600/-, Pay Level 11)
- Scientist, CSIR-Central Building Research Institute, Roorkee (2012 – 2014) (PB-3, GP-6600/-)
- Geotechnical Engineer, Geodata India Pvt. Ltd., New Delhi (2012-2012)
- Design Engineer, Maccaferri Environmental Solutions Pvt. Ltd., New Delhi (2011 –2012)

Courses being Taught (AcSIR)

- Finite Element Analysis (Course Coordinator)
- Advanced Geotechnical Engineering

National Committees

- EC member of the International Geosynthetic Society (India Chapter)
- Member of the H4 Committee of the Indian Roads Congress
- Member of TXD 30 (Geosynthetics Sectional Committee) of BIS
- Member of MED 18: P5 Panel (Construction Plant and Machinery Committee) of BIS
- Expert Committee Member, Technical Advisory Committee (ULCCS) – Upgradation of Alappuzha–Changanassery Road Project

Standards/ Guidelines Development Contributions

- IRC:132-2022 – *Guidelines for Use of Industrial Waste Materials in Road Embankments* (Drafting Member)
- IRC SP-102 – *Guidelines for Design and Construction of Reinforced Soil Walls* (Drafting Member for Revision; approved by IRC Council in 2024)
- IRC:03:0104 (Erstwhile IRC 56) (Drafting Member)
- Grouping and Rationalization of IRC Documents under H-4 Committee (H-4 Subgroup Chairperson)
- IBC Slope Stabilization Manual for the Built Environment (Drafting Member)
- IS 14458 (Part 6): 2020 – *Guidelines for Retaining Wall for Hill Area — Part 6: Gabion Walls* (Drafting Assistance)
- IRC 113 (2013) – *Guidelines for the Design and Construction of Geosynthetic Reinforced Embankments on Soft Subsoils* (Drafting Assistance)

Membership in Professional Bodies

- Fellow of the Indian Geotechnical Society
- Member of the International Society for Soil Mechanics and Geotechnical Engineering
- Life Member of the Indian Roads Congress
- Member of The Institution of Engineers (India)
- Life Member of the Indian Geotechnical Society, Delhi Chapter
- Young Member of the International Geosynthetic Society
- Member of the International Society for Rock Mechanics
- Member of Deep Foundation Institute- India
- Member of CRRM Management Council (2022-2024, 2026-2028)
- Member of CRRM Residence Allocation Committee (2024-2027)
- Joint Secretary CRRM MBSQ RWC (2023-2028)
- Life Member of IIT Kanpur and IIT Delhi Alumni Association

Achievements

1. Awards and Recognitions

- **Achievement Award for Scientist** from Construction Industry Development Council awarded during 16th CIDC Vishwakarma Awards, 2025
- **Forensic Geotechnical Engineering Award** from Indian Geotechnical Society for the year 2023. This award was received for the project “Failure Analysis and Mitigation of Shangumukham Beach Road, Thiruvananthapuram, Kerala.”
- Indian Geotechnical Society – Delhi Chapter **Young Geotechnical Engineer Award** for the Year 2019.

- **IRC medal** for the Year 2018. This award was received for the paper titled “Municipal Solid Waste in Road Embankment Construction - A Case Study.”
- **IGS-Ferroco Young Geotechnical Engineer Award** for the Year 2018. This is the best paper award in the area of “Dam Engineering and Allied Areas.”
- **Best Paper Award** (awarded to M-tech student) for the 9th Indian Young Geotechnical Engineers Conference held at IIT Indore by the Indian Geotechnical Society, 2025.
- Elected as a **Fellow** of the Indian Geotechnical Society in 2025
- Listed among the **75 Influential Indian-Origin Women Geotechnical Engineers** by the Indian Geotechnical Society in their book ‘Daughters of Indian Soil.’

2. Patents

Method for enhancing the bearing capacity of existing structures using steel fiber-reinforced grout column (filed)

3. Reviewer

Journals

- International Journal of Geomechanics
- Indian Geotechnical Journal.
- Geosynthetics International
- International Journal for Numerical and Analytical Methods in Geomechanics
- International Journal of Civil Engineering
- Biogeotechnics
- Indian Geotechnical Conferences
- NIDM publications

Thesis

- Visvesvaraya National Institute of Technology (VNIT) Nagpur
- Delhi Technological University

4. Developed Facilities as PI/Indenter (₹1.7 crore)

- Advanced testing facilities for geosynthetics (roughness profiler, cross and in-plane permeability testing machines, thickness gauge, interface shear test box, UTM up to 100 kN with temperature chamber).
- Specialized soil testing setups (large-scale consolidation apparatus for vertical drains, computerized consolidation testing system, static physical model testing tank and accessories (50 kN)).
- Laboratory support equipment (digital microscope, PH resistivity, temperature & humidity meters, weighing machines, density apparatus, acrylic tanks, Geofoam testing grips and accessories, workstation units).
- Computational facilities (Digital image correlation system, high-performance mobile workstations, interactive panels).
- Licensed software suites (Geo5 MSEW, MSEW+, Soilworks, GTS NX, ArcGIS, Surfer, Grapher, Origin Pro).

5. Research Projects

Sl. No.	Title of the Project	Duration		Sponsoring Agency
		Start	End	
As Principal Investigator				
1.	Development of Probabilistic Predictive Models for Resource-Efficient Reinforced Earth Wall Systems using Marginal Soils (Task Leader)	2026	Ongoing	CSIR-ULIP
2.	Strength and deformation behaviour of Municipal Solid Waste for embankment construction (Co-Task Leader)	2026	Ongoing	CSIR-ULIP
3.	Development and Field Testing of ‘Natural Prefabricated Vertical Drain’ - A Sustainable Solution for Road Construction Over Soft Soil	2025	Ongoing	National Technical Textiles Mission (NTTM)
4.	Development of ‘Biodegradable Prefabricated Vertical Drain’ by Molding Technique	2024	2026	CSIR-FBR
5.	Five-Day Training Program on the “Application of Geosynthetics Materials for Road Construction”(Co-PL)	2025	2025	National Technical Textiles Mission (NTTM)
6.	Sustainable Geocomposite Drainage-Root Barrier	2022	2024	CSIR-FTT
7.	Hill road widening using lightweight fills- An alternative to hill cutting and filling	2020	2023	NHIDCL
8.	Ground Improvement of Sub-Soil Below Existing Structures Using Steel Fibre Reinforced Grouting	2016	2019	CRRI
9.	Engineering of Disaster Mitigation and Health Monitoring for Safe & Smart Built Environment- Task 2.2 - “Seismic behaviour of piles under dynamic lateral loading.”	2012	2017	CSIR (12 th FYP)
10.	Development of sandwiched soil technology for Geosynthetic Reinforced Earth walls	2013	2014	CBRI
As Team Member				
11.	Behaviour of red mud waste material under cyclic loading	2023	2025	CRRI
12.	Delhi Cluster- "Delhi Research Implementation and Innovation" (DRIIV), Theme Solid Waste Management, WP-6 Use of construction & demolition wastes, incinerated residues in road construction.	2021	2023	IIT-Delhi
13.	Upgradation of R &D and testing facilities in the area of geotechnical Engineering	2016	2018	CRRI
14.	Engineering of Disaster Mitigation and Health Monitoring for Safe & Smart Built Environment-Task1.6 - “Comprehensive geo-investigation and control measures for a landslide in Chamoli-Joshimath region of Garhwal Himalaya.”	2012	2017	CSIR (12 th FYP)

6. Industry-Sponsored Projects

Sl. No.	Title of the Project	Duration		Sponsoring Agency
		Start	End	
As Principal Investigator				
1.	Quality Audit of Up-gradation from design Km. 0.000 to Km 69.280 of NH-931 (Pratapgarh Amethi Gauriganj - Musafirkhana) to two lane with paved shoulder in the State of Uttar Pradesh (Co-PL)	2026	Till date	NHAI
2.	Review & Vetting of Geotechnical Design (including FEM Analysis) of Airstrip Z2 Kutch, Project	2026	Till date	Reliance Industries Ltd.
3.	Laboratory Investigation of Closed-Cell Polyurethane Mats for Railway Earthwork Applications in Jhansi-Bina 3rd Line (JLN-DUA Section)	2026	Till date	North Central Railways / M/s LNA Infrastructure
4.	Failure Analysis and Design of Remediation Works for Rehabilitation of Retaining Wall, CRPF Campus, Srinagar	2024	2025	CPWD
5.	Failure analysis and Design of Remediation works for Silewani Ghati hill road	2021	2022	NHAI
6.	Feasibility study of utilization of dredged material from Banganga River catchment of Ramgarh dam	2020	2021	Water Resource Department, Rajasthan
7.	Design of Road Remediation and erosion protection works for the reconstruction of flood- damaged Shangumugham Beach Road, Thiruvananthapuram.	2019	2020	Kerala PWD
8.	Investigation and the design of Landslide Remediation measures in Nilambur-Gudalloor Road, Kerala	2019	2020	Kerala PWD
9.	Design of ground Improvement Measures and Pavement Design for Setting up of MMLP Container Terminal at Paradip, Orissa	2018	2018	Ircon ISL
10.	Ground Improvement Measures Over Soft Organic Soil in the Northern Campus of NIT Manipur, Langol, Imphal.	2016	2017	CPWD
As Team Member				
11.	Design, Construction, Supervision and Pavement performance evaluation of road constructed by using red mud	2023	Ongoing	Hindalco Industries
12.	Quality Audit of Six-Laning Shamlaji to Motachiloda section, NH-8, Ahmadabad, Gujarat	2022	2023	NHAI
13.	Utilization of Red mud for Road and Structural fill applications	2021	2022	Hindalco Industries
14.	Recycling of Ghazipur Municipal Solid Waste for Road Embankment and Subgrade Construction	2021	2022	Invest India
15.	Ground Granulated Blast Furnace Slag (GGBFS) as a soil stabilizer for Road construction	2020	2021	JSW cements
16.	Stability Analysis and Design of Embankment for Red Mud Disposal Pond	2020	2021	Hindalco and NEERI

17.	Performance study of a mix of jarofix-zinc slag as a retained fill in reinforced retaining wall	2019	2020	Hindustan Zinc Ltd
18.	Investigation, Analysis and Design of Remedial Measures of Landslides at Pambai Valley, Dharchulla, Uttarakhand	2019	2019	CPWD
19.	Quality Audit of Under Construction Four Laning of Ludhiana-Talwandi Section from 92.000 Km to 170.000 Km of N.H-95	2018	2019	NHAI
20.	Feasibility of municipal solid wastes (MSW) from Ramana dump site, Varanasi for Road embankment construction	2016	2017	NHAI
21.	Detailed investigation of existing bridge flyovers regarding the structural stability security Audit in New Town, Kolkata	2016	2017	West Bengal Housing Infrastructure Development Corporation
22.	Design of single span two-lane bridge on Gurgaon canal at RD 2245m connecting sector-3 and 8 village Sihi in Faridabad	2016	2017	Irrigation Department Haryana
23.	Utilization of Municipal Solid Wastes at Ghazipur for embankment construction in proposed widening of NH-24	2016	2016	NHAI
24.	Vetting of Pavement design of Agartala-Udaipur section from km 6.800-Km-55.00 of NH-44 in Tripura	2016	2016	Kolkata Metro Construction Limited
25.	Feasibility Study of Chrome Slag for embankment, subgrade and sub base layer of road pavement	2016	2017	Balasore Alloys Ltd.
26.	Embankment Protection and Capacity Augmentation Methods for Red Mud Pond-4 at Muri, Ranchi	2012	2013	Hindalco Industries
27.	Comprehensive study for rehabilitation of people affected by max pond level of 1108m Joshiyara Barrage, Uttarkashi	2012	2013	Central Water Commission

7. Research Publication

a. Journals

1. Kumar, S., Mathur, M., Verma, G. J., Kumar, K., Garg, N., **Sreekantan P. G.**, & Jewariya, M. (2026). Characterization of Valve and Gudgeon Pin of an Internal Combustion Engine. *MAPAN*. <https://doi.org/10.1007/s12647-026-00909-2> (SCI IF: 1.3)
2. **Sreekantan, P. G.**, Dayana, M. PJ., & Sinha, A. K. (2025). Characterization of River Dredged Material for Sustainable Reuse in Road Construction. *Marine Georesources & Geotechnology* 1–21 <https://doi.org/10.1080/1064119X.2025.2578800> (SCI IF: 2.7)
3. **Sreekantan, P. G.**, Dayana, M. PJ., Havanagi, V. G., & Sinha, A. K. (2025). Geotechnical and geophysical evaluation and remediation of hill road failure: a case study. *International Journal of Disaster Resilience in the Built Environment*. <https://doi.org/10.1108/IJDRBE-04-2024-0045> (SCI IF: 1.5)
4. **Sreekantan, P. G.**, Bansal, D. & Ramana, G.V. Interface Shear Behavior of Geofoam-Sand: A Comprehensive Laboratory Investigation. *Int. J. of Geosynth. and Ground Eng.* **10**, 88 (2024). <https://doi.org/10.1007/s40891-024-00599-3> (SCI IF: 2.3)
5. Sinha, A.K., Havanagi, V.G. & **Sreekantan, P. G.**, Recycling of Stabilized Copper Slag Waste for Sustainable Road Embankment Construction: A Pilot Study. *Iran J Sci Technol Trans Civ Eng* (2024).

- <https://doi.org/10.1007/s40996-024-01622-3> (SCI IF: 1.7)
6. **Sreekantan, P. G.**, Pant, A. & Ramana, G.V. (2024) Parametric evaluation and prediction of design parameters of geofoam using artificial neural network and extreme gradient boosting models. *Innov. Infrastruct. Solut.* 9, 282. <https://doi.org/10.1007/s41062-024-01606-2> (SCI IF: 2.4)
 7. SaiMadhu, K., Sasidharan, D., Kadiroli, Bharath G.; **Sreekantan P. G.**; Solanki A. J. (2024). Mechanical characterization of Rice Husk Ash incorporated bituminous concrete. *Innov. Infrastruct. Solut.* 9, 267. <https://doi.org/10.1007/s41062-024-01587-2> (SCI IF: 2.4)
 8. Bhatt, P., Sinha, A. K., Dayana PJ, M., Hasan, M., & **Sreekantan, P. G.** (2024). Performance Evaluation of Zinc Tailing Waste Material for Embankment Construction: Experimental and Numerical Investigation. *Journal of Mining and Environment*. Article in Press. <https://doi.org/10.22044/jmc.2024.13368.2459> (SCI IF: 0.3)
 9. **Sreekantan, P. G.**, Vangla, P., and Ramana, G. V. (2024). Image-aided physical and compression characterisation of EPS geofoam. *Geosynthetics International*, 31(3), 283-295. <https://doi.org/10.1680/jgein.22.00363> (SCI IF: 4.565)
 10. **Sreekantan, P. G.**, Ramana, G. V., Nohawar, P. S. (2023) Assessing the flexural characteristics of geofoam using digital image correlation technique. *Indian Journal of Engineering and Materials Sciences*, 30(4), 523-529. <https://doi.org/10.56042/ijems.v30i4.642> (SCI IF: 0.615)
 11. Dayana, M., **Sreekantan, P. G.**, & Sinha, A. K. (2023). Investigation of Hillslope Failure and Mitigation: A Case Study of Sillewani Ghat, Chhindwara, India. *Journal of the Geological Society of India*, 99(5), 621–634. <https://doi.org/10.1007/s12594-023-2363-4> (SCI IF: 1.459)
 12. Havanagi, V.G., Sinha, A.K., and **Sreekantan, P. G.** (2022). Failure Investigation and Design of Remedial Measures for Reinforced Earth Wall-A Case Study. *Indian Highways*, 50 (7), 38-48
 13. **Sreekantan P. G.**, Sinha, A.K., Havanagi, V.G., & Dayana, M. (2022). Failure analysis and mitigation of Shankumugham beach road, Kerala, India—a case study. *Arabian Journal of Geosciences*, 15(14), 1-14. <https://doi.org/10.1007/s12517-022-10536-1>. (SCI IF: 1.459)
 14. Sinha, A.K., Havanagi, V.G., **Sreekantan, P. G.**, & Chandra, S. (2022). Geotechnical characterisation of zinc tailing waste material for road construction. *Geomechanics and Geoengineering*, 17(6), 1984-2004. <https://doi.org/10.1080/17486025.2021.1990420> (SCI IF: 1.3)
 15. Sinha A. K., Havanagi V. G., and **Sreekantan P. G.** (2019). Utilisation of waste materials in Road Construction. *Journal of New Building Materials & Construction World (NBM&CW)*, New Delhi, Vol. 25(3) pp 78 – 88.
 16. **Sreekantan P.G.**, Sinha A.K., Havanagi V.G. (2019). Red Mud - Fly Ash Mix as an Embankment Fill Material. *Indian Highways* 47 (3), pp 20-25. Post Conference International Symposium on Geotechnics for Transportation Infrastructure (ISGTI 2018) In Sundaram R., Shahu J., Havanagi V. (eds) *Geotechnics for Transportation Infrastructure. Lecture Notes in Civil Engineering*, vol 29. Springer, Singapore. https://doi.org/10.1007/978-981-13-6713-7_20
 17. **Sreekantan P. G.**, Vasant. G. Havanagi, Vijay Kumar Kanaujia, Anil Kumar Sinha (2018). Ground Improvement for the Construction of Road Over Soft Organic Soil: A Case Study. *The Bridge and Structural Engineer*, 48 (2), pp: 70-80
 18. **Parvathi G. S.**, Basudhar P. K. (2020). Flexural Response of Beams on Visco-Elastic Foundations with Predictions beyond the Loading Area. *International Journal of Geotechnical Engineering*, Taylor and Francis Group Publications, 14 (4), 442-451. <https://doi.org/10.1080/19386362.2018.1450700> (SCI IF: 1.9)
 19. V.G. Havanagi, A.K. Sinha, **G.S. Parvathi**, S. Chandra (2017). Paper Discussion on Municipal Solid Waste in Road Embankment Construction - A Case Study. *Journal of the Indian Roads Congress*, 79(1), pp 64
 20. V.G. Havanagi, A.K. Sinha, **G.S. Parvathi**, S. Chandra (2017). Municipal Solid Waste in Road Embankment Construction - A Case Study. *Journal of the Indian Roads Congress*, 78(2), pp 79-90

b. Conferences and Book Chapters

1. Butle, V. V., **Sreekantan, P. G.**, Mandal, A., & Srinivasan, V. (2025). Numerical Analysis of Highway Embankment Constructed Using a Lightweight Fill: A Case Study. In N. P. Bhandary,

- B. Tiwari, I. P. Acharya, M. Subedi, D. R. Pathak, & K. Sharma (Eds.), *Proceedings of GeoMandu 2024 Volume 3* (Vol. 658, pp. 341–351). Springer Nature Singapore. https://doi.org/10.1007/978-981-96-8532-5_27
2. Butle, V. V., **Sreekantan, P. G.**, Mandal, A., & Srinivasan, V. (2025). Numerical evaluation of lightweight geofoam-filled highway embankment on indian soft subsoils: A case study approach. In A. Juneja, A. Joseph, & D. S. Murty, *GeoVadis* (1st ed., pp. 615–620). CRC Press. <https://doi.org/10.1201/9781003645931-100>
 3. Rohan Pokale, **Sreekantan, P. G.**, Srinivasan V (2025). "Reinforced Soil Structures: A Review of Soil Polymeric Reinforcement Interactions". Proceedings of Indian Young Geotechnical Conference – 2025, IIT Indore, India
 4. Mayuresh Ghule, **Sreekantan P. G.**, Srinivasan V. (2025). "Forensic Evaluation of Retaining Wall Failure on Clay Slopes: A Case Study". Proceedings of Indian Young Geotechnical Conference – 2025, IIT Indore, India
 5. Rohan Pokale, **Sreekantan, P. G.**, Srinivasan V. (2025). "AI-ML Enabled Prediction of Interaction Coefficients of Geogrid and Geostap with various In-fill Materials". Proceedings of iGrip Conclave 2025, IIT Gandhinagar, India
 6. Mayuresh Ghule, **Sreekantan, P. G.**, Srinivasan V. (2025). "Failure Analysis of Retaining Wall on Clay Slopes and their Remediation: A Case Study". Proceedings of iGrip Conclave 2025, IIT Gandhinagar, India
 7. Mariya Dayana, P. J., Nizar, N., **Sreekantan, P. G.**, & Bhupendra. (2025). Rainfall Induced Hillslope Failure: A Case Study. In M. S. Dixit, S. S. Jaiswal, N. Satyam, A. P. Singh, & V. B. Maji (Eds.), *Proceedings of the Indian Geotechnical Conference (IGC 2024), Volume 3* (Vol. 669, pp. 433–447). Springer Nature Singapore. https://doi.org/10.1007/978-981-96-7767-2_34
 8. **Sreekantan, P. G.** and Ramana, G. V. (2023). Roughness based prediction of geofoam interfaces with concrete. In Geosynthetics: Leading the Way to a Resilient Planet (pp. 580- 585). CRC Press. <https://doi.org/10.1201/9781003386889-61>
 9. Kumar, A., **Sreekantan, P. G.** (2024). Comparison of Different Ground Improvement Techniques for the Road Construction Over Kuttanadu Clay Strata. In: Jose, B.T., Sahoo, D.K., Puppala, A.J., Reddy, C.N.V.S., Abraham, B.M., Vaidya, R. (eds) Proceedings of the Indian Geotechnical Conference 2022 Volume 4. IGC 2022. Lecture Notes in Civil Engineering, vol 479. Springer, Singapore. https://doi.org/10.1007/978-981-97-1753-8_14
 10. **Sreekantan, P. G.**, Mariya Dayana, P.J., Sinha, A.K., Havanagi, V.G. (2024). Three- Dimensional Finite Element Analysis of Shankumugham Beach Road Due to Rainfall- Induced Storm Surge. In: Jose, B.T., Sahoo, D.K., Shukla, S.K., Krishna, A.M., Thomas, J., Veena, V. (eds) Proceedings of the Indian Geotechnical Conference 2022 Volume 7. IGC 2022. Lecture Notes in Civil Engineering, vol 491. Springer, Singapore. https://doi.org/10.1007/978-981-97-2700-1_6
 11. Sinha A. K., Havanagi V. G., and **Sreekantan P. G.** (2019). Phosphogypsum waste material for road construction. National seminar on alternative highway construction material, Ranchi, Jharkhand.
 12. Havanagi V. G., Sinha A. K., and **Sreekantan P. G.** (2018). Characterization of Phosphogypsum waste for Road construction. Proceedings of the Indian Geotechnical Conference, Bengaluru, 13-15th December 2018
 13. **Sreekantan P. G.**, Sinha A. K. and Havanagi V. G. (2018). Analysis of Distressed Geosynthetic Reinforced Soil Wall-A Case Study. Proceedings of International Conference on Pavements and Computational Approaches, CSIR-Central Road Research Institute, pp: 25-32
 14. Havanagi V. G., Sinha A. K., **Sreekantan P. G.**, and Chandra (2017). Characterisation of Municipal Solid Waste for Road Embankment Construction. National Conference on New Technology for Road Construction, Lucknow, India, pp: 64-78
 15. **Sreekantan P. G.**, Ghosh A. (2016). Reinforced Soil Wall Construction using Red Mud, an Industrial waste. Young Scientists Conclave of India International Science Festival, New Delhi
 16. **Sreekantan, P. G.**, Ghosh A. (2016). Capacity Augmentation of Red Mud Pond using Industrial Waste. Proceedings of International Geotechnical Engineering Conference on “Sustainability in Geotechnical Engineering Practices and Related Urban Issues”, Mumbai, India

17. **Sreekantan P. G.**, Basudhar P. K. (2013). Visco Elastic Foundation Model Parameter Estimation Using Inverse Analysis Technique. Proceedings of the Indian Geotechnical Conference, Roorkee, India

Books

1. Murali Krishna, A., Adhikari, A., Umashankar, B., **Parvathi, G. S.**, Roychowdhury, D., Mahajan, R. R., Vyas, S., Khan, S., & Kapadia, V. (Eds.). (2025). *Geosynthetics in India: Case histories* (Publication No. 354). International Geosynthetics Society (India).

8. Events Organized

a. International Events

- Member of the Technical Committee - *TRANSFORM 2026*.
- Scientific Member – *UL International Conclave on Sustainable Construction – “Innovative Technologies and Practices”*, IIIC Kerala (Dec 5–7, 2024), organized by ULCCS Ltd. & IIIC.
- Organizing Team Member – *International Workshop on Advances in Roadway and Railway Applications using Geosynthetics*, IIT Hyderabad (Oct 3, 2024), organized by Indian Chapter of IGS, CBIP & IIT Hyderabad.
- Organizing Team Member – *International Symposium on Geotechnics of Transportation Infrastructure*, IIT Delhi (Apr 7–8, 2018), organized by IGS Delhi Chapter.
- Organizing Team Member – *Indian Geotechnical Conference on Geotechnical Advances and Novel Geo-Mechanical Applications*, IIT Roorkee (Dec 22–24, 2013), organized by IGS.

b. National Workshops & Training

- Organizing Secretary – *Workshop on "Carbon Footprint and Sustainability Evaluation for Transportation Infrastructure using Geosynthetics"*, CRRI, New Delhi (Dec 1-2, 2025), organized by the Indian Chapter of IGS & CRRI.
- Organizing Team Member – *Workshop on "Reinforced Soil Walls: Distresses and Remedies"*, CBIP, New Delhi (Apr 5–6, 2024), organized by the Indian Chapter of IGS & CBIP.
- Co-organizing Secretary – *International Webinar on ‘Ground Improvement Techniques on Highway Construction’*, CRRI (May 29–30, 2020), organized by CRRI.
- Organizing Secretary – *Hands-on Training Program on 2D Finite Element Software*, CRRI (Feb 4–8, 2020), organized by CRRI.
- Organizing Team Member – *National Workshop on “Engineering Geophysics for Civil Engineering and Geo-Hazards”*, CBRI (Nov 22–23, 2012), organized by CBRI.

9. Student Guidance

Name of Student	Title of Dissertation / Project	Year	University
Ph.D. Students			
Rejina Mullappalli	Piled Basal reinforcement for ground improvement of soft subsoils	Ongoing	AcSIR - CRRI
Tarannum Meraj	Probabilistic predictive models for Reinforced Soil Walls with marginal fills	Ongoing	AcSIR - CRRI
Mukesh Kumar	Characterization and Performance Study of Natural Fiber-Based Prefabricated Drains	Ongoing	AcSIR - CRRI (Co-supervisor)
Akash Bharadwaj	Landslides – Advanced Monitoring Techniques and Remediation	Ongoing	AcSIR - CRRI
Pankaj Bhatt	Strength and Deformation Behavior of Municipal Solid Waste in Road Construction	Ongoing	AcSIR - CRRI (Co-supervisor)

Sandeep Kumar	Study of Surface Texture Characteristics of Automobile Components Used in Internal Combustion Engine Using Tactile Profilometer	Ongoing	AcSIR - NPL (Co-supervisor)
M.Tech Dissertation Students			
Vamsi Krishna	Long-Term Creep and Consolidation Performance of different types of prefabricated vertical drains	2026	VNIT Nagpur (Co-supervisor)
Achal Dhakkad	Interface shear behavior of modified coir geotextiles with clay	2026	Jabalpur Engineering College
Mayuresh Ghule	FEM Analysis of Clayey Slopes & Remediation	2025	VNIT Nagpur (Co-supervisor)
Rohan Pokale	ML Prediction of Geogrid/Geostap Interaction	2025	VNIT Nagpur (Co-supervisor)
Jayapriya K. P.	Rockfall Remediation Measures along Nilambur–Gudalloor Road	2021	CUSAT (Co-supervisor)
Vaibhav Butle	Numerical Analysis of Geofoam Embankments on Soft Subsoils	2019	VNIT Nagpur (Co-supervisor)
Surada Yadavrao	Steel Fibre Reinforced Grout Columns for Ground Improvement	2019	VNIT Nagpur (Co-supervisor)
M.Tech Interns			
Ameera P. C.	Influence of Particle Size/Shape & Geotextile Type on Interface Shear Strength	2024	NIT Calicut
Aritra Roy	QA/QC of Reinforced Soil Walls & Slopes	2022	NIT Suratkal
Abhijeet Kumar	Ground Improvement for Embankments on Marine Clay Strata	2021	NIT Suratkal
B.Tech Students			
Himani Agarwal	Characterization of PU Foams for vibration isolation of railway embankment	2026	NIT Jalandhar
Akanksha Malav	Review of studies of marginal material utilization for reinforced soil wall	2026	NIT Jalandhar
Varsha	Degradation studies of jute geotextiles	2026	NIT Jalandhar
Vineet Anand	Characterization and clogging behavior of geotextiles for Municipal Solid Waste Inert fills	2026	Galgotia College of Engineering and Technology
Ratnesh Kumar Yadav	-do-	-do-	-do-
Abhineet Kumar	-do-	-do-	-do-
Abhishek Sharma	Transient Seepage & Slope Stability of Rainfall-Induced Landslide	2026	BITS Pilani (Co-supervisor)
Y.P.G. Yeshwant Sainath	Numerical Modelling of Geogrid Pullout Behaviour on Soils	2014	SASTRA University
Nisha	Experimental & Numerical Study of Soil–Geogrid Interaction	2014	BITS Pilani
T. Manasa	Strength & Permeability of Fly Ash-Clay Mix for Landfill Liners	2012	BITS Pilani (Co-supervisor)
Naseera K.K.	Properties of Steel Fibre Reinforced Grout for Ground Improvement	2018	TKM College of Engineering, Kerala
Adil Shah	Flyash–Sand Mixture for Structural Filling in Geogrid Retaining Walls	2014	Roorkee Institute of Technology
Naveen Jeet Pal	Shear Tests on Soil with Industrial Wastes	2014	HBTI Kanpur
Shivani Mainwal	FEM Modelling of Pile Group in Layered Sandy Soil	2013	Phonics Group of Institutions

10. Invited Lectures and Panel Discussions

Year	Lecture Topic	Event and Date	Organizing Institution
2026	Coastal road remediation with diaphragm-wall design and construction aspects	Technical Session on Ground Improvement Techniques: Current Practices and Future Directions, 11–15 May 2026	UEM, Jaipur
	Road Construction using Geonaturals	FDP on Recent Trends in Sustainable Engineering Concepts, 6 April 2026	SKIT, Jaipur
	Advanced Imaging Approaches for Multiscale Physical and Mechanical Characterization of Geofoam	Symposium on Scaling Geosynthetics, 7 March 2026	IIT Bombay
	Composite Solutions for Smart Infrastructure (<i>Panel Discussion</i>)	International Symposium on Advancements in Composites, Specialty Fibers and Chemicals, 5–6 June 2026; Panel Discussion: 6 June 2026	ATIRA, Ahmedabad
2025	Ground Improvement using Geosynthetics	Skill Development Programme on Application of Geosynthetics for Road Construction, 17 December 2025	OUTR, Bhubaneswar
	Failure Investigation and Mitigation of Reinforced Soil Structures	Skill Development Programme on Application of Geosynthetics for Road Construction, 19 November 2025	NIT Warangal
	Designing Climate-Resilient Coastal Road Protection Systems: Insights from the Shankhumugham Road Project in Thiruvananthapuram	Short-Term Course on Integrating Advances in Geotechnical & Highway Engineering, 28 April 2025	NIT Jalandhar
2024	Road Construction with Jute Geotextiles: Insights from CRRI's Experience	National Conference on Jute Geotextiles in Civil Engineering: Sustainable Solutions for the Future, 13 September 2024	IISc Bengaluru
	Design of Remedial Measures for Distressed Reinforced Soil Walls: Case Studies	Workshop on Reinforced Soil Walls: Distresses and Remedies, 6 April 2024	IGS-India & CBIP
	Shankhumugam Coastal Road Remediation – Design and Construction	Course CSA501, 1 March 2024	VNIT Nagpur
	Foundation for Transportation Infrastructure	FDP on Recent Advances in Transportation Geotechnics (ReATraG'24), 17 January 2024	College of Engineering Trivandrum
2023	Design and Construction of Coastal Road Protection Method at Shankhumugham Beach, Thiruvananthapuram	Workshop Geokeralam, 17 November 2023	IGS & CUSAT, Kochi
	Recent Advances in Geosynthetic Research at CRRI	Industry Day during One Week One Lab (OWOL), 17 July 2023	CSIR-CRRI
	Analysis and Design of Remedial Measures for Distressed Geosynthetic Reinforced Earth Wall: Case Studies	Recent Advances in Transportation Geotechnics & Infrastructure Development, 13 July 2023	NIT Jalandhar
2022	Application and Usability of Geotextiles	Technical Textiles Conference, 23 August 2022	Ministry of Textiles, Government of India, Imphal

2021	Analysis and Design of Remedial Measures for Distressed Reinforced Earth	FDP on Advancements in Geotechnical Engineering (AGE 2021), 24 November 2021	NIT Calicut
2020	Need of Holistic Approach at Hill Road Project Planning Stage (<i>Panelist</i>)	Workshop on Sustainable Solutions to Challenges in Hill Infrastructure, 30–31 October 2020	RAASTA & Maccaferri
	Ground Improvement Techniques – Case Studies	ISTE Webinar, 14 August 2020	Government College of Engineering Kannur
	Analysis and Design of Remedial Measures for Distressed Reinforced Earth	International Webinar on Ground Improvement Techniques for Highway Construction, 30 May 2020	CSIR-CRRI

11. Capacity Building

Co-PL of NTTM-sponsored Five-Day Training Programme on Application of Geosynthetic Materials for Road Construction (2025); contributed to programme planning, development of technical course modules, coordination, and delivery of expert lectures. The programme was conducted across six institutions, reaching 619 undergraduate engineering students.

12. Training for Practicing Engineers

Delivered more than **40 lectures** in CRRI and the Indian Academy of Highway Engineers (IAHE) covering the following topics:

- Design of embankments and reinforced earth (RE) walls
- Hands-on training on embankment and RE wall design software
- Use of geosynthetics for problematic soils and road works
- Application of geosynthetics in highway and infrastructure projects
- Drainage for hill roads, including investigation and design of drainage systems for hill, urban, and rural roads
- Stability analysis of slopes and design of retaining structures with software demonstration
- Ground improvement techniques with case studies
- Foundations for airfield pavements on problematic soils
- Bridge protection works and erosion control measures
- Design and construction of reinforced earth walls
- Basics of soil mechanics for practicing engineers