

CURRICULAM VITAE

Name

PARVATHI G. S.

Designation

Principal Scientist

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Areas of Interest

Geotechnical engineering, Ground improvement methods, Geosynthetics and Geofoam for road construction, Numerical modelling, Digital image correlation

Education

M.Tech. (2011), Geotechnical Engineering, Indian Institute of Technology, Kanpur

B.Tech. (2009), Civil Engineering, College of Engineering, Trivandrum

Professional Experience

- 2022 - till date, Principal Scientist, CSIR-Central Road Research Institute, New Delhi
- 2017 - 2022, Senior Scientist, CSIR-Central Road Research Institute, New Delhi
- 2014 - 2017, Scientist, CSIR-Central Road Research Institute, New Delhi
- 2012 - 2014, Scientist, CSIR-Central Building Research Institute, Roorkee
- 2012 - 2012, Geotechnical Engineer, Geodata India Pvt. Ltd., Delhi
- 2011 - 2012, Design Engineer, Maccaferri Environmental Solutions Pvt. Ltd., Delhi

Membership to Professional Bodies

- Life Member of Indian Roads Congress
- Life Member of Indian Geotechnical Society
- Life Member of Indian Geotechnical Society Delhi Chapter
- Member of International Geosynthetic Society
- Member of International Society for Rock Mechanics
- Member of Deep Foundation Institute- India
- Life member of IIT Kanpur Alumni Association

Achievements

1. Awards

- Received Indian Geotechnical Society – Delhi Chapter **Young Geotechnical Engineer Award** for the Year 2019.
- Received **IRC medal** for the Year 2018. This award was received for paper titled “Municipal Solid Waste in Road Embankment Construction - A Case Study”
- Received **IGS-Ferroco Young Geotechnical Engineer Award** for the Year 2018. This is a best paper award in the area of “Dam Engineering and Allied Areas”

2. Patent (filed)

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

3. Research Projects

Sl. No.	Title of the Project	Role	Duration		Sponsoring Agency
			Start	End	
1.	Development of sandwiched soil technology for Geosynthetic Reinforced Earth walls	Project Leader	2013	2014	CBRI
2.	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”	Member	2012	2017	CSIR
3.	Engineering of Disaster Mitigation and Health Monitoring for Safe & Smart Built Environment- Task 2.2 - “Seismic behaviour of piles under dynamic lateral loading”	Project Leader	2012	2017	CSIR
4.	Ground Improvement of Sub-Soil Below Existing Structures Using Steel Fibre Reinforced Grouting	Project Leader	2016	2019	CRRI
5.	Upgradation of R &D and testing facilities in the area of geotechnical Engineering	Member	2016	2018	CRRI
6.	Hill road widening using lightweight fills	Project Leader	2020	Ongoing	NHIDCL
7.	Delhi Cluster- "Delhi Research Implementation and Innovation" (DRIIV), Theme Solid Waste Management, WP-6 Use of construction & demolition wastes, incinerated residues in road construction.	Member	2021	Ongoing	IIT-Delhi
8.	Sustainable Geocomposite Drainage-Root Barrier	Project Leader	2022	Ongoing	CSIR-FTT

4. Industry Sponsored Projects

Sl. No.	Title of the Project	Role	Duration		Sponsoring Agency
			Start	End	
1.	Comprehensive study for rehabilitation of people affected by max pond level of 1108m Joshiyara Barrage, Uttarkashi	Member	2012	2013	Central Water Commission
2.	Embankment Protection and Capacity Augmentation Methods for Red Mud Pond-4 at Muri, Ranchi	Member	2012	2013	Hindalco Industries
3.	Ground Improvement measures over soft organic Soil in the Northern Campus of NIT Manipur, Langol, Imphal	Project Leader	2016	2017	CPWD
4.	Feasibility Study of Chrome Slag for embankment, subgrade and sub base layer of road pavement	Member	2016	2017	Balasore Alloys Ltd.
5.	Vetting of Pavement design of Agartala-Udaipur section from km 6.800-Km-55.00 of NH-44 in Tripura	Member	2016	2016	Kolkata Metro Construction Limited
6.	Utilization of Municipal Solid Wastes at Ghazipur for embankment construction in proposed widening of NH-24	Member	2016	2016	NHAI
7.	Design of single span two lane bridge on Gurgaon canal at RD 2245m connecting sector-3 and 8 village Sihi in Faridabad	Member	2016	2017	Irrigation Department Haryana
8.	Detailed investigation of existing bridges flyovers regarding the structural stability security Audit in New Town, Kolkata	Member	2016	2017	West Bengal Housing Infrastructure Development Corporation
9.	Feasibility of municipal solid wastes (MSW) from Ramana dump site, Varanasi for Road embankment construction	Member	2016	2017	NHAI
10.	Design of ground Improvement Measures and Pavement Design for Setting up of MMLP Container Terminal at Paradip, Orissa	Project Leader	2018	2018	Ircon ISL
11.	Quality Audit of Under Construction Four Laning of Ludhiana-Talwandi Section from 92.000 Km to 170.000 Km of N.H-95	Member	2018	2019	NHAI
12.	Investigation, Analysis and Design of Remedial Measures of Landslides at Pambai Valley, Dharchulla, Uttarakhand	Member	2019	2019	CPWD
13.	Performance study of a mix of jarofix-zinc slag as a retained fill in reinforced retaining wall	Member	2019	2020	Hindustan Zinc Ltd

14.	Investigation and the design of Landslide Remediation measures in Nilambur-Gudalloor Road, Kerala	Project Leader	2019	2020	Kerala PWD
15.	Design of Road Remediation and erosion protection works for the reconstruction of flood damaged Shangumugham beach road, Thiruvananthapuram	Project Leader	2019	2020	Kerala PWD
16.	Feasibility study of utilization of dredged material from Banganga River catchment of Ramgarh dam	Project Leader	2020	2021	Water Resource Department, Rajasthan
17.	Stability Analysis and Design of Embankment for Red Mud Disposal Pond	Member	2020	2021	Hindalco and NEERI
18.	Ground Granulated Blast Furnace Slag (GGBFS) as a soil stabilizer for Road construction	Member	2020	2021	JSW cements
19.	Recycling of Ghazipur Municipal Solid wastes for Road Embankment and subgrade construction	Member	2021	2022	Invest India
20.	Failure analysis and Design of Remediation works for Silewani Ghati hill road	Project Leader	2021	2022	NHAI
21.	Utilization of Red mud for Road and Structural fill applications	Member	2021	2022	Hindalco Industries
22.	Quality Audit of Six Laning Shamlaji to Motachiloda section, NH-8, Ahmadabad, Gujarat	Member	2022	Ongoing	NHAI
23.	Design, Construction, Supervision and Pavement performance evaluation of road constructed by using red mud	Member	2023	Ongoing	Hindalco Industries

5. Research Publication

a. Journals

1. **Parvathi G. S.**, Vangla P., and Ramana G. V. (2023) “Image-aided physical and compression characterisation of EPS geofoam” Geosynthetics International. Ahead of Print, pp. 1–40 DOI: 10.1680/jgein-2022-363
2. Dayana M., **Parvathi G. S.**, and Sinha A.K. (Accepted for publication). “Investigation of Hillslope Failure and Mitigation- A Case Study of Sillewani Ghat, Chhindwara, India”. Journal of the Geological Society of India.
3. Havanagi, V.G., Sinha, A.K., and **Parvathi G. S.** (2022). Failure Investigation and Design of Remedial Measures for Reinforced Earth Wall-A Case Study. Indian Highways, 50 (7), 38-48
4. **Parvathi G. S.**, 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>.

5. Sinha, A.K., Havanagi, V.G., **Parvathi G. S.**, & Chandra, S. (2022). Geotechnical characterisation of zinc tailing waste material for road construction. *Geomechanics and Geoengineering*, 17(6), 1984-2004. DOI:10.1080/17486025.2021.1990420 (ESCI)
6. Sinha A. K., Havanagi V. G., and **Parvathi G. S.** (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.
7. **Parvathi G.S.**, 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
8. **Parvathi G. S.**, 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
9. **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
10. 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
11. 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

a. Conferences

12. Abhijeet Kumar and **Parvathi G. S.** (2022), Comparison of Different Ground Improvement Techniques for the Road Construction over Kuttanadu Clay Strata. *Proceedings of the Indian Geotechnical Conference*, Kochi, 13-15th December 2022
13. **Parvathi G. S.**, Mariya Dayana, A. K. Sinha, and Vasant G. Havanagi (2022), 3-Dimensional Finite Element Analysis of Shankumugham Beach Road Due to Rainfall-Induced Storm Surge. *Proceedings of the Indian Geotechnical Conference*, Kochi, 13-15th December 2022
14. A K Sinha, V G Havanagi and **G.S. Parvathi** (2019). Phosphogypsum waste material for road construction. *National seminar on alternative highway construction material*, Ranchi, Jharkhand.
15. V.G. Havanagi, A.K. Sinha, **G.S. Parvathi** (2018), "Characterization of Phosphogypsum waste for Road construction" *Proceedings of the Indian Geotechnical Conference*, Bengaluru, 13-15th December 2018
16. **G.S. Parvathi**, A.K. Sinha, V.G. Havanagi (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
17. V.G. Havanagi, A.K. Sinha, **G.S. Parvathi**, S. Chandra (2017) "Characterisation of Municipal Solid Waste for Road Embankment Construction" *National Conference on New Technology for Road Construction*, Lucknow, India, pp: 64-78
18. **Parvathi G. S.**, Ghosh A. (2016) "Reinforced Soil Wall Construction using Red Mud, an Industrial waste", *Young Scientists Conclave of India International Science Festival*, New Delhi
19. **Parvathi G. S.**, 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

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