

CURRICULAM VITAE

Name **PARVATHI G. S.**

Designation Senior Scientist

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Areas of Interest Geotechnical engineering, Ground improvement methods, Geosynthetics and Geofoam for road construction, Numerical modelling

Education Ph.D (Pursuing), Geotechnical Engineering, Indian Institute of Technology, Delhi
M.Tech., Geotechnical Engineering, Indian Institute of Technology, Kanpur, July 2009 to May 2011
B.Tech., Civil Engineering, College of Engineering, Trivandrum, August 2005 to June 2009

Professional Experience

- September 2017 to till date, Senior Scientist, CSIR-Central Road Research Institute, New Delhi
- November 2014 to September 2017, Scientist, CSIR-Central Road Research Institute, New Delhi
- September 2012 to November 2014, Scientist, CSIR-Central Building Research Institute, Roorkee
- May 2012 to September 2012, Geotechnical Design Engineer, Geodata India Pvt. Ltd., Delhi
- June 2011 to May 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
- 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-Ferroc Young Geotechnical Engineer Award** for the Year 2018. This is a best paper award in the area of “Dam Engineering and Allied Areas”

2. 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	In-house (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	In house (CRRI)
5.	Upgradation of R &D and testing facilities in the area of geotechnical Engineering	Member	2016	2018	In-house (CRRI)

3. 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	Member	2016	2017	Balasore Alloys Ltd.

	layer of road pavement				
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	Ongoing	Hindustan Zinc Ltd
14.	Investigation and the design of Landslide Remediation measures in Nilambur-Gudalloor Road, Kerala	Project Leader	2019	Ongoing	Kerala PWD
15.	Design of Road Remediation and erosion protection works for the reconstruction of flood damaged Shangumugham beach road, Thiruvananthapuram	Project Leader	2019	Ongoing	Kerala PWD
16.	Feasibility study of utilization of dredged material from Banganga River catchment of Ramgarh dam	Project Leader	2020	Ongoing	Water Resource Department, Rajasthan

4. Major Projects carried out during the tenure in Private firms

Sl. No.	Title of the Project	Client
1.	Design and analysis of the Gabion retaining wall proposed for the Bund protection work in Kuttanadu	Kerala Irrigation Department
2.	Detailed Design of reinforced earth wall for railway in Tindharia, West Bengal	Lea Associates South Asia Pvt. Ltd.
3.	Deep excavation design of Azadpur and Mukundpur metro station for Delhi metro corridor CC-04 (Phase III)	M/s CEC-CICI(JV)and Delhi Metro Rail Corporation
4.	Retaining wall design for the slope protection in the Hill side of Switch yard of 9 km long tunnel of Chenani to Nashri Section of NH-1A in the State of Jammu & Kashmir	M/s Leighton Contractor (India) Pvt. Ltd.

5. Research Publication

a. Journals

1. A. K. Sinha, V. G. Havanagi and **G. S. Parvathi** (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.
2. **G.S. Parvathi**, A.K. Sinha, V.G. Havanagi, (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
3. **Parvathi Geetha Sreekantan**, 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
4. **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
5. 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
6. 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

7. 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.
8. 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
9. **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

10. 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
11. **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
12. **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
13. **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

**Lectures Given
for various
training
Programmes**

- Analysis of distressed geosynthetic retaining walls and the design of remedial measures
- Application of Geosynthetic materials in Highway Construction
- Ground Improvement Techniques-Case Studies
- Use of Geosynthetics for Problematic Soils
- Introduction to Bridge Protection Works
- Ground Engineering using Geosynthetics
- Performance of piled raft on dynamic loading
- In-situ ground improvement techniques and their applications
- Upgrading of existing landfills by dynamic compaction
- A state-of-the-art presentation on standard penetration test

**Participation in
Standard/guidel
ine preparation**

- Member of working group for the preparation of guidelines for **IS 14458: Part- 6** “Construction of Gabion walls” for BIS/CED 56-Hill Area Development Engineering Sectional Committee
- Member of the working group of IRC H4 Committee for the preparation of guidelines on ‘**Recycled Waste Materials for Road Embankment and Subgrade Construction**’
- Assisted in preparing draft for **IRC 113 (2013)** “Guidelines for the design and construction of geosynthetic reinforced embankments in soft sub-soils”, for the H4 committee members of IRC
- Assisted in the revision of Indian Roads Congress guidelines (**IRC SP-59**), “Guidelines for Use of Geotextiles in Road Pavements and Associated Works
- Assisted in the revision of Indian Roads Congress guidelines **MORTH-2013**, “Specifications for Road and Bridge Works- clause 3100 -Reinforced Earth”
- Worked as an alternate member of 3 technical committee from CBRI for BIS- CED 56, TXDC, CED 43.5
- Member of AcSIR Committee from 2013-2014 at CBRI

**Academic Activities/
Guideship**

Worked as a faculty for AcSIR and took lectures for the following courses for the post graduate students

- ENG (CBRI) 1-139 Advanced Geotechnical and Foundation Engineering
- ENG (CBRI) 3-142 Landslide Disaster Mitigation
- ENG (CBRI) 1-138 Disaster Resistant Building System I

Guided **Two M-tech and Eight B-Tech** civil Engineering students as a part of their Thesis/Projects

Name	Thesis Title	Year	Degree/University
Vaibahv Butle	Numerical analysis of Highway Embankment constructed using lightweight fill for Indian soft-subsoil conditions	2019	M. Tech VNIT Nagpur
Surada Yadavrao	Ground Improvement of Sub-Soil Below Existing Structures Using Steel Fibre Reinforced Grouting	2019	M. Tech VNIT Nagpur

Conference Organized/Participated

1. **Co-Organizing Secretary of International webinar** on ‘Ground Improvement Techniques for Highway Construction’, conducted by CSIR-CRRI, 29-30 May 2020
2. Organized training on Numerical modelling using 2D finite element software soilworks for CRRI scientists and research staff, 4th -10th February 2020.
3. Participated in the Workshop on “Geotechnical Engineering Practice - Case studies” held at CRRI on 24th September 2019
4. Participated Indian Geotechnical Conference on Advances in Geotechnical Engineering held at IISC Bengaluru on 13th-15th December 2018.
5. Participated in Indian Roads Congress, 79th Annual Session held at Nagpur on 22nd – 25th November 2018.
6. Participated in International Conference on Pavements and Computational Approaches (ICOPAC) 2018 held at CRRI, New Delhi on 16th to 17th Dec 2018
7. **Organizing Committee Member** of “International Symposium on Geotechnics of Transportation Infrastructure” to be held at IIT Delhi, India on 07th – 8th April 2018.
8. Participated in National Dissemination Workshop on "Megacity Logistics: Metrics, Tools and Measures for Sustainability (MEGALOG)” held on December 13, 2017 at, CSIR-CRRI, New Delhi.
9. Participated in Geo-environment 2017 Workshop on Landfills and Waste to Resources on April 19th, 2017 at IIT Delhi
10. Participated in National Dissemination Workshop on "Development and Application of Technologies for Sustainable Transportation (SUSTRANS)” held on March 17, 2017 at, CSIR-CRRI, New Delhi.
11. Participated in India- International Science Festival 2016, CSIR-

- National Physical Laboratory, New Delhi, 8 - 11 December 2016.
12. Participated in International Geotechnical Engineering Conference on “Sustainability in Geotechnical Engineering Practices and Related Urban Issues”, Mumbai, 23-24 September 2016
 13. Participated in workshop on “Solid Waste Management: Reinvention, Opportunities and Way Ahead” conducted by Centre for Science and Environment, held at New Delhi on 12th July 2016
 14. Participated in workshop on “Climate change and Landslides” held at CRRRI on 5th and 6th May 2016
 15. **Organizing committee member** of Indian Geotechnical Conference on Geotechnical Advances and Novel Geo-Mechanical Applications held at IIT Roorkee on 22nd - 24th December 2013.
 16. Participated in Indian Geotechnical Conference on Advances in Geotechnical Engineering held at IIT Delhi on 13th – 15th December 2012.
 17. **Organizing Committee member** of National workshop on “Engineering Geophysics for Civil Engineering and Geo-Hazards” held at CSIR-CBRI on 22nd - 23rd November 2012
 18. Participated in conference on “Emerging Trends of Energy Conservation in Buildings” held at CSIR-CBRI on 1st- 3rd November 2012
 19. Participated in third Indian Geotechnical Society Ferroco-Terzaghi Oration on the topic “Design and Construction of Barrier Systems to Minimize Environmental Impacts due to Municipal Solid Waste Leachate and Gas” held at IIT Delhi on 5th October 2012
 20. Participated in Workshop on “CSIR@800: Empowering people through Science and Technology” held at CSIR – IGIB, New Delhi on 27th - 29th September 2012.
 21. Participated in workshop on “CPT and its use for the Geotechnical Investigations” held at New Delhi on 4th April 2012
 22. Participated in “National Get-Together on Road Research and its Utilization” (NGT 2012) organized by CSIR- CRRRI at New Delhi on March 1st -2nd, 2012

Short Courses/Trainings undertaken

23. Participated in Seminar on Geotechnical Challenges in Water Resource Projects, Dehradun, India, January 2012
1. Participated in Work-Life balance programme at CSIR-HRDC Ghaziabad from 24th to 26th July 2019
2. Participated in National Level training programme on “**Climate Change, Hill Area Development and Landslide Management**” held during 10th -14th June, 2019
3. Participated in a Short Course on **Geotechnical Modelling using GeoStudio** at IIT Delhi from 18th - 20th December 2017
4. Participated in **BIS young standardiser’s training program** conducted by Bureau of Indian Standards on 24th March 2017 at Manak Bhawan, New Delhi
5. Participated in Induction Training Programme at CSIR-HRDC Ghaziabad from 21st to 30th July 2013
6. Diploma in civil CADD and Training for software like **Primavera, STAAD Pro and AutoCAD** in CADD centre, Trivandrum, 2007-2008