Dr. BAADIGA RAMU

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https://scholar.google.com/citations?user=v7bYfXYAAAAJ&hl=en

BIO SKETCH

I am presently working as **an assistant professor** in the Department of Civil Engineering at **IIT Indore**. I also worked as an assistant professor in the Civil and Environmental Engineering department at IIT Patna. Before joining as an assistant professor, I worked as a postdoctoral research fellow for about 9 months at IIT Hyderabad. I finished my doctoral program at the Indian Institute of Technology (IIT) Hyderabad, India, in the Civil Engineering (Geotechnical Engineering) Department. I have worked with **Prof. Sireesh Saride**, **Prof. Umashankar**, an honorary visiting professor, and Emeritus Prof. M.R Madhav. The major contribution of my work focuses on Geosynthetic Engineering, Pavement Geotechnics, Ground Improvement, and Geotechnical Engineering.

The measures used to check the overall quality of the publications listed in the CV are sourced from the Web of Science; wherever applicable, Google Scholar and Scopus are used to source the H index and impact factor.

EDUCATION

Ph.D: Civil Engineering, Indian Institute of Technology Hyderabad, India

M.Tech: Geotechnical Engineering, National Institute of Technology Silchar, India

B.Tech. (Civil Engineering) and Minor in Management Studies, Rajiv Gandhi University of Knowledge Technologies (RGUKT), R. K Valley, Idupulapaya, India

PROFESSIONAL APPOINTMENTS

Assistant Professor [1st Nov. 2023 to till date], Department of Civil Engineering, Indian Insitute of Technology Indore, India.

Assistant Professor [from 28th Oct. 2022 to 31st Oct. 2023], Department of Civil and Environmental Engineering, Indian Insitute of Technology Patna, India.

Postdoctoral Research Fellow (PDF) (1st Feb. 2022 to Oct. 2022), Indian Institute of Technology Hyderabad, India

RESEARCH PROFICIENCY

Course: **Postdoctoral Research Fellow** (PDF) Ad-hoc basis (Feb. 2022 to Oct. 2022)
Research topic: **Field performance Evaluation of Geosynthetic Reinforced Flexible Pavements**
Funding by: National Highways Authority of India (NHAI)
Supervisors: **Prof. Umashankar B**

Course: **Doctor of Philosophy (Ph.D.)**, Geotechnical Engineering (2017 – 2022)
Research topic: **Mechanistic-Empirical Based Design of Geogrid and Geocell Reinforced Flexible Pavements**
Funding by: National Highways Authority of India (NHAI)
Supervisors: **Prof. Sireesh S, Prof. Umashankar B,** (external support from visiting honorary and Emeritus Prof. M.R Madhav)

Course: **Master of Technology (M.Tech.)**, Geotechnical Engineering (2015 – 2017)
Research topic: **Improvement of Peat Soil by Employing Surface and Deep Mixing Technique:** Emphasis on Unconfined Compressive Strength and Peat-Cement Columns
Supervisor: Dr. Monowar Hussain, External support from **Prof. V.S Raju**

Course: **Bachelor of Technology (B.Tech.)**, Civil Engineering (2011 – 2014)
Research topic: **Assessment of concrete strength using partial replacement of alternative construction materials**
Supervisors: **Prof. V. S. Raju** (external) and Rupas Kumar Meesala (Internal)

Course: Internship (B.Tech.), Civil Engineering (2014)
Research topic: **Insights on the classification of a dam and its maintenance**
Location: Neelam Sanjeeva Reddy Sagar Project, Srisailam, Andhra Pradesh, India.

LIST OF PUBLICATIONS

JOURNAL PUBLICATIONS

1. Baadiga, R., Saride, S., Balunaini, U., and Madhira R. M. (2021). "Influence of Tensile Strength of Geogrid and Subgrade Modulus on Layer Coefficients of Granular Bases." *Transportation Geotechnics*. *Elsevier,* Vol. 29, P. 100557 https://doi.org/10.1016/j.trgeo.2021.100557 **(SCI), Q1 Journal, IF: 4.938, H-index: 33**

2. Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M. (2021). "Influence of Geogrid Properties on Rutting and Stress Distribution in Reinforced Flexible Pavements under Repetitive Wheel Loading.", *Journal of Materials in Civil Engineering,* Vol: 33(12), 04021338 https://doi.org/10.1061/(ASCE)MT.1943-5533.0003972 (**SCI**), **Q1 Journal, IF: 3.651, H-index: 144**

3. Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M. (2021). "Effect of Geogrid Type and Subgrade Strength on the Traffic Benefit Ratio of Flexible Pavements." Tra*nsportation Infrastructure Geotechnology, Springer*. https://doi.org/10.1007/s40515-021-00203-5 **(Scopus), Q2 Journal, IF: 1.997, H-index: 11**

4. Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M (2022). "Behavior of Geogrid-and Geocell-Stabilized Unpaved Pavements Overlying Different Subgrade Conditions Under Monotonic Loading" *International Journal of Geosynthetics and Ground Engineering*, Vol. 8(3). https://doi.org.10.1007/s40891-022-00379-x **(Scopus), Q2 Journal, IF: 2.260, H-index: 21**

5. Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M. (2023). Closure to "Influence of Geogrid Properties on Rutting and Stress Distribution in Reinforced Flexible Pavements under Repetitive Wheel Loading" by Ramu Baadiga, Umashankar Balunaini, Sireesh Saride, and Madhira R Madhav, *Journal of Materials in Civil Engineering*, 35(2), 07022017.https://doi.org/10.1061/(ASCE)MT.1943-5533.0004600 **(SCI), Q1 Journal, IF: 3.651, H-index: 144**

6. Saride, S., Baadiga, R., Balunaini, U., and Madhira R. M. (2022). "Modulus Improvement Factor-based Design Coefficients for Geogrid and Geocell-reinforced Bases" *Journal of Transportation Engineering, Part B: Pavements, Vol 148 (3), 04022037, ASCE*

https://doi.org/10.1061/JPEODX.0000380 **(SCI), Q2 Journal, IF: 2.279, H-index: 13**

7. Baadiga, R., Balunaini, U., and Saride, S. (2022). "Performance of Reinforced Base Courses over Soft Subgrades: Insights from Large-Scale Model Experiments" International Journal of GEOMATE, *22(89), 80-86,* DOI: https://doi.org/10.21660/2022.89.gxi361 **(Scopus), Q3 Journal, IF: 0.925, H-index: 21**

8. Saride, S., and Baadiga, R. (2021). "New Layer Coefficients for Geogrid-Reinforced Pavement Bases.", *Indian Geotechnical Journal*, *Springer*, 51; 182 – 196. https://doi.org/10.1007/s40098-020-00484-6 **(Scopus), Q2 Journal, IF: 1.485, H-index: 18**

9. Goud, N.G., Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M. (2020)" Evaluation of Layer Coefficient Ratios for Geogrid-reinforced Bases of Flexible Pavements.", *Road Materials and Pavement Design.*, Vol.23(1); 119 – 210, https://doi.org/10.1080/14680629.2020.1812424 **(SCI), Q1 Journal, IF: 4.150, H-index: 53**

10. Paul, A., Hussain, M., and Baadiga, R. (2018). "The physicochemical properties and microstructural characteristics of peat and their correlations: reappraisal." International Journal of Geotechnical Engineering, Vol.15(6), 1–12. https://doi.org/10.1080/19386362.2018.1483099 **(Scopus), Q2 Journal, IF: 2.204, H-index: 24**

11. Bherde, V., K M, Likhith., Baadiga, R., Balunaini, U. (2022). "Application of Machine Learning Algorithms for Predicting California Bearing Ratio of Soil" *Journal of Transportation Engineering: Part B, Pavements* (**accepted**) (**SCI**), **Q2 Journal, IF: 2.358, H-index: 13**

12. Baadiga, R., and Balunaini, U. (2023). Evaluation of Pavement Design Input Parameters of Biaxial and Triaxial Geogrid Stabilized Flexible Pavements overlying Soft Subgrades, Cleaner Materials, vol.9, 100192, https://doi.org/10.1016/j.clema.2023.100192
13. Baadiga, R., and Balunaini, U. (2023). Evaluation of Effective CBR and Elastic Modulus of Geogrid-Stabilized Soft Subgrades for Flexible Pavement Design, (**Under preparation**).

INTERNATIONAL CONFERENCE

1. Baadiga, R., Balunaini, U., and Saride, S. (2021). "Influence of geogrid aperture size on the behavior of mechanically stabilized pavements". *International Airfield and Highway Pavements Conference,* **https://doi.org/10.1061/9780784483510.025** **(Scopus)**

2. Baadiga, R., Balunaini, U., and Saride, S. (2021) Performance of Reinforced Base Courses over Soft Subgrades: Insights from Large-Scale Model Experiments, *The Eleventh International Conference on Geotechnique, Construction Materials and Environment*, Kyoto Research Park, Kyoto, Japan 3-5 November 2021.

NATIONAL CONFERENCE

1. Bodhanam S P., and Baadiga, R. (2023). A State-of-the-Art Review on Factors Affecting the Performance of Geosynthetic Reinforced Flexible Pavements Constructed over Soft Subgrades, Indian Geotechnical Conference, December 14-16, 2023, IIT Roorkee, Roorkee (Accepted)
2. Bherde, V., K M, Likhith., Baadiga, R., Balunaini, U. (2022). "Prediction of California Bearing Ratio (CBR) of Soils using AI-based Techniques." Indian Geotechnical Conference 2022, Kochi, India, 15th to 17th December 2022.
3. Baadiga, R., and Saride, S (2020). "New Layer Coefficients for Geogrid-Reinforced Pavements Bases" Theme Lecture (*Lec. By* Prof. Sireesh Saride), Developments in Geotechnical Engineering for Sustainable Tomorrow (DIGEST), Indian Geotechnical Conference (IGC), December 2020, Visakhapatnam, India.
4. Baadiga, R., Kumar, K., and Sasanka, M. (2018). "Preparation of Clay Bed in Large-Scale Test Tank and Calibration of Control Parameters." *National conference in Geotechnical Applications*. IGS-Hyderabad Chapter, *GeoApps 2018*, March 2018.
5. Baadiga, R., Paul. A., Hussain. M. (2017). "Experimental Model Study: Improvement of Peat Soil by Construction of Floating Peat-Cement Columns through Application of Deep Mixing Method", Indian Geotechnical Conference 2017 GeoNEst, 14-16 December 2017, IIT Guwahati, India.
6. Baadiga, R., and Hussain. M. (2017). "Effect of ion migration from peat-cement columns." Recent advancement in Geotechnical Investigation and Ground Improvement Technique, 14th & 15th May, 2017, Silchar, India.

JOURNAL REVIEWER

1. Journal of Materials in Civil Engineering, **ASCE**
2. Journal of Transportation Engineering: Part B, Pavements, **ASCE**
3. International Journal of Pavement Research and Technology, ***Springer***
4. Transportation Infrastructure Geotechnology, ***Springer***
5. Geotextile and Geomembranes, ***Elsevier***
6. Transportation Geotechnics, ***Elsevier***
7. Road Materials and Pavement Design, ***Taylor and Francis***
8. International Journal of Pavement Engineering, ***Taylor and Francis***
9. International Journal of GEOMATE
10. SN Applied sciences, ***Springer***
11. Cleaner Materials, ***Elsevier***

AWARDS AND RECOGNITION

1. Recipient of **IGS-Shri A.G. Dastidar Biennial Award** (2022) for best paper in ground improvement on titled "topicNew Layer Coefficients for Geogrid-Reinforced Pavement Bases"
2. Received **outstanding research performance award 2022** in Ph.D. in Civil Engineering from IIT Hyderabad
3. **The GEOMATE best paper award** received for the entitled paper on "Performance of Reinforced Base Courses over Soft Subgrades: Insights from Large-Scale Model Experiments" 2021. **Best Paper among 400 Technical papers**
4. **Received memento for overall technical presentation coordinator** during research scholar's day program 23rd April 2021.
5. Baadiga, R., Balunaini., U., Saride, S., and Madhira R. M. (2021). Influence of Geogrid Properties on Rutting and Stress Distribution in Reinforced Flexible Pavements under Repetitive Wheel Loading., J. Mater. Civ. Eng., 10.1061/(ASCE)MT.1943-5533.0003972. **Top downloaded paper from India**

PROFESSIONAL AFFILIATIONS

1. Life member of India Geotechnical Society (IGS), Membership ID: 15072
2. Life member of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) Life Member -LM – 4201
3. Corresponding member, International Technical Committee **TC-307** on "Sustainability in Geotechnical Engineering" of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) **for the term 2022-2025**.

PROFESSIONAL ACTIVITIES ORGANIZED

National Symposium

1. Committee member for Nature-Inspired Technologies for Carbon Sequestration and Ground Engineering [NiTCSGE] (recent advances and future prospects), held at IIT Patna, 22-23rd December 2022

International Indo – Korean Seminar Series

2. Organized first Indo - Korean Seminar Series on "MASW Land Streamer for Geohazard Assessments." March 24, 2023
3. Organized second Indo - Korean Seminar Series on "Full-Scale Field Investigations on Geosynthetic Reinforced Asphalt Overlays" on 19th May 2023.
4. Organized third Indo - Korean Seminar Series on "Towards Sustainable and High-Performance Construction Materials" on 22nd June 2023.
5. Organized fourth Indo - Korean Seminar Series on "Indian Perspectives on Sustainable Pavement Technologies: Research to Practice" on 31st July 2023
6. Organized fifth Indo - Korean Seminar Series on "The Art of Tunneling in Challenging Ground Conditions" on 10th October 2023.

7. Organized sixth Indo - Korean Seminar Series on "Seismic Responses of a Cantilever Retaining Wall: Effects of Pulse-like Ground Motions." on 16th November 2023.
8. Organized and acted as presentation coordinator during the research scholar's day program on 23rd April 2021.

PROFESSIONAL CERTIFICATIONS

1. Participated in webinar series talk of Prof. Harry G Poulos on "Foundation design challenges for tall buildings", Prof. M R Madhav on "Ground versus soils," and Body language by Marry Ellen, 19th January 2021.
2. Earned 34 professional development hours (PDHs) from Fabricated Geomembrane Institute (FGI) conducted by the University of Illinois.
3. Certification course in Diploma of Computer Applications (DCA)

SUBJECTS TAUGHT & UNDERTAKEN AT IIT PATNA

S.No.	Subject undertaken	Stream	Year
1	Civil Engineering Materials	B.Tech. 2nd Year	January 2023 to May 2023
2	Engineering Drawing	B.Tech. 1st Year	November 2023 to December 2023 January 2023 to April 2023
3	Pavement Geotechnics	B.Tech., M.Tech., Ph.D.,	July 2023 to December 2023
4	Fundamentals of Soil Behavior	B.Tech., M.Tech., Ph.D.,	July 2023 to December 2023

ACADEMIC RESPONSIBILITIES UNDERTAKEN AT IIT PATNA

1. Departmental Amenities Coordinator, Civil Engineering, IIT Patna.
2. M.Tech., Coordinator for Geotechnical Engineering, IIT Patna, Batch 2023 – 2024
3. Faculty advisor for M.Tech., in Geotechnical Engineering, IIT Patna, Batch 2023 - 2024

EXTRACURRICULAR ACTIVITIES

- Second Dan (2nd black belt martial artist) in Goju-Ryu Martial arts
- Won several medals at district and state level in Kata and Kumite, Martial arts
- Won medals in cricket and Volleyball at IIT Hyderabad intra sports
- Obtained black belt from Karate Association of India and Goju Ryu
- Led Intra University Cricket Team and won championship conducted by civil engineering association, RGUKT (2012-2013)

- Led intra university volleyball team and won annual sports meet conducted by RGUKT (2010-2011)
- Participated District level volleyball conducted by military world games in 2007.