

Faculty Profile

Professional Summary

1. Presently working as Assistant Professor (Selection Grade) in Department of Civil Engineering, RV College of Engineering, Bengaluru from 2011.
2. Areas of Interest include Transportation Planning, Pavement material characterization and Road safety.
3. Committed in delivering quality teaching in a variety of undergraduate and postgraduate courses
4. Actively involved in industry based research projects worth 28 lakhs, training and consultancy programs -50 lakhs and has publications in national and international journals.
5. Guided 20 M Tech and 15 UG Projects.

Personal Information

- **Name:** Dr Varuna M
- **Designation:** Assistant Professor
- **Department:** Civil Engineering
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Domain of Expertise

Pavement Engineering and Road Safety

Research Focus

- **Primary Area:** Pavement Engineering, Road Safety and Transportation Planning
- **Allied Areas:**
 - Pavement material characterization ,Pavement Design, Pavement Management Systems, Highway Geometric Design, Urban Mobility

o Academic Qualifications

- **Ph.D.:** Civil Engineering Discipline, Visvesvaraya Technological University, 2023
- **M.Tech:** Highway Technology, Visvesvaraya Technological University, 2010 (Gold Medal)
- **B.E :** Civil Engineering, Bangalore University, 2008

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	RV College of Engineering	Assistant Professor	02-09-2011 to till date
2.	Acharya Institute of Technology	Assistant Professor	30-07-2010 to 30-08-2011

Publications & Patents

Journal Publications

1. Varuna M , Bhavani Prasad G , Anjaneyappa Venkateshappa , Amarnath M S , "Influence of RAP and Waste Plastic on Cracking Resistance of Warm SMA Mixes," Civil Engineering and Architecture, Vol. 10, No. 1, pp. 79 - 87, 2022. DOI: 10.13189/cea.2022.100107
2. Varuna, M., Raikar, D., Sunil, S. Studies on Temperature Differential for Different Types of Overlay Over Cement Concrete Pavement. In: Singh, D., Vanajakshi, L., Verma, A., Das, A. (eds) Proceedings of the Fifth International Conference of Transportation Research Group of India . Lecture Notes in Civil Engineering, Vol 218. Springer, Singapore.2022 https://doi.org/10.1007/978-981-16-9921-4_27
3. M. Varuna, S. Sunil, Anjneyappa, M.S. Amarnath, Studies on warm stone asphalt mixes using natural and synthetic fibres, Materials Today: Proceedings, Volume 46, Part 10, 2021, Pages 5098-5103, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2020.10.497>.
4. S. Sunil, M. Varuna, M.S. Nagakumar, Performance evaluation of semi rigid pavement mix, Materials Today: Proceedings, Volume 46, Part 10, 2021, Pages 4771-4775, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2020.10.311>.

5. Hemanth Kamplimath, Varuna M., "Traffic Growth Rate Estimation Using Transport Demand Elasticity Method: A Case Study For National Highway-63", Journal of Civil Engineering, Vol 1 Issue 2 August 2013, ISSN Print: 2231- 1068 ISSN Online: 2249-0779
6. Udayshankar, Varuna M, " Laboratory Studies of Dense Bituminous Mixes-II with Reclaimed Pavement Material", International Journal of research in engineering and technology, Vol 1 Issue 2 August 2013, ISSN(Online): 2321-8843
7. Varuna M., Rajesh Gopinath, and Fathima Samana S., " A Conjoint Analysis of the Design Irregularities and Public Realms of a National Highway in Bangalore", International Journal of Engineering Research and Applications, Vol. 3, Issue 3, May-Jun 2013, pp.454-457, ISSN: 2248-9622
8. Varuna M., Rajesh Gopinath, and Fathima Samana S., " Analysis of soil erosion pattern due to human intervention in the watersheds of Tungabhadra sub-basin", TJPRC, Vol 2 Issue 1 March 2012, ISSN 2249-6866
9. Varuna M, et al., "Performance evaluation of Cr(VI) removal by using activated carbon and water hyacinth", International journal of chemical sciences, 10(3), 2012, 1389-1386, ISSN 0972-768X

Conference Papers

List of National Conference

1. Varuna M, " Studies on low carbon emission bituminous mixes for road construction " 10th All India peoples technology Congress organized by FOSET Feb 2015.
2. Varuna M, Fathima Samana, "Salient excerpts of an eco-friendly construction –A case study", 9th All India peoples technology Congress organized by FOSET on 8th and 9th February, 2013, Kolkata.

List of International Conference

1. V. Anjaneyappa, M. Varuna, M. R. Archana, S. Sunil, R. Holla, B. M. Mahendra, and S. S. Vaidya, "Smart phone for measurement of reflectivity of road pavement markings," in Proc. 8th Int. Conf. Comput. Syst. Inf. Technol. Sustain. Solutions (CSITSS), 2024, doi: 10.1109/CSITSS64042.2024.10817066.
2. Vasanti Patil, Varuna M, and Sunil Siddaraju. "Enhancing cold mix bituminous concrete with bagasse ash and GGBS as a filler: A study on mechanical properties." International Conference on New Horizons in Civil Engineering: Innovative Civil Engineering Materials and Systems (NHCE-ICEMS 2024), Manipal Institute of Technology, Manipal, 2024.
3. Sunil S, M S Nagakumar and Varuna M "Mechanical Properties of Open Graded Cement Grouted Bituminous Mixes Incorporation of Construction and Demolition Aggregates", 5th Conference of Transportation Research Group of India (CTRG) 18-21 December 2019, MANIT Bhopal, India.

4. Varuna M, Prakash R, Anantharama," Influence of Vehicular Traffic on 'Urban Warming' and 'Global Warming' for the city of Bangalore." International Conference (CC 2015) on Climate Change: Impact on developing countries Organized by Union Christian College, Shillong Meghalaya, 2015
5. Srikanth S, **Varuna M**, "Comparative evaluation of warm mix Asphalt containing reclaimed asphalt pavement for DBM II mix " at Indian edition of American society of Civil Engineers held at IIT Hyderabad, 7-8 Oct, 2014.
6. Pooja Akkur,Karthik G L & **Varuna M**,"Minor junction improvements of State Highway Belgaum-Yaragatti(SH20):A case study",JCETR,Pg 525-532,Volume 2 Issue 1 January – June 2014,ISSN 2349-9575.
7. Keerthikumar,Srikanth S,Pradeep B H & **Varuna M**,"Studies on Warm stone matrix asphalt mixes using RAP materials", JCETR,Pg 541-549,Volume 2 Issue 1 January – June 2014,ISSN 2349-9575.
8. Srikanth S, Keerthikumar, Pradeep B H & **Varuna M**" Comparative evaluation of warm mix asphalt containing reclaimed asphalt pavement for DBM II mix", JCETR,Pg 561-567,Volume 2 Issue 1 January – June 2014,ISSN 2349-9575.
9. Varuna M,"Study of soil erosion for six watersheds of Tungabhadra Basin due to deforestation", International conference on climate change, forest resource and environment, organized by Kerala university during 9-11 December 2011.
10. Varuna M, Fathima Samana & Rajesh Gopinath,"Influence of Design irregularities and Public realm on Pedestrian walkways in Bangalore's current urban scenario", International Conference on current trends in Engineering & Management, Organized by Vidyavarhaka College of Engineering, Mysore during July 12-14,2012.

Books/Book Chapters

1. M. Varuna, Deepak Raikar, and S. Sunil, "Studies on Temperature Differential for Different Types of Overlay Over Cement Concrete Pavement", Lecture Notes in Civil Engineering, Volume 218,2022. DOI: 10.1007/978-981-16-9921-4_27.

Patents **[Filed / Published / Granted]**

1. NIL

R & Grants & Consultancy Projects

Ongoing & Completed Research Projects

- Post implementation project appraisal for road safety program for SH and MDR spread across state – Funding Agency: Planning and Road Asset Management Centre (PRAMC), PWP&IWTD, Government of Karnataka, Duration: 3 Years, Role: Worked Traffic specialist for the project
Cost-20 Lakhs
- Post implementation project appraisal for road safety program for SH and MDR spread across state- Additional Spots – Funding Agency: Planning and Road Asset Management Centre

(PRAMC), PWP&IWTD, Government of Karnataka, Duration: 3 Years, Role: Worked Traffic specialist for the project
Cost-3 Lakhs

- Studies on Retro reflective Properties of Thermoplastic Pavement Markings” Funding Agency – 3M India limited, Duration: 1 Year, Role:Co PI

Cost-2.8 Lakhs

Ongoing & Completed Consultancy Projects

Associated in testing, and delivering consultancy services for

1. L&T IDPL, Chennai
2. Professional Civil Infra Pvt. Ltd
3. Feedback Infra Private Limited
4. MSV International Inc
5. BREN Corporation
- 6.Nesa Engineers
- 7.Chetan Infrastructure
- 8.Ajax Private Limited
9. LIC India
- 10.Chandrashekar Associates

Delivered Consultancy Services rupees – 50 lakhs

Professional Memberships

1. Life Member for Indian Roads Congress

Awards & Recognitions

- Gold Medal in M Tech – Highway Technology, Visvesvaraya Technological University, 2010

Student Supervision

- **M.Tech/M.Sc. Students:** 20
- **Undergraduate Research Mentees:** 25

Professional Roles

Teaching

Core Courses:

- CV123ATB, Elements of Civil Engineering
- CV365TDB- Transportation Engineering
- 21CV73G1-Pavement Materials and Design
- 21CV7H3-Urban Transport Planning

Advanced/Lab Courses:

- MHT322IA-Traffic Engineering
- CV363IA- Geotechnical Engineering

Professional Roles

1. Placement Coordinator
2. Counselor
3. Member of Transport Committee
4. Gate students coordinator
5. Library Incharge
6. NAAC Co ordinator
7. Project committee

Responsibilities

- **Academic:** Department Placement Coordinator
- **Administrative:** Highway Engineering Lab In-charge, Department Library In- Charge

External Connect

- Member of BoE for University Visvesvaraya Technological University

Details of Technical Talks Delivered

1. Delivered Technical talk on "Design of Flexible pavements" for Engineers of PWP&IWTD during three days training program on "Design Construction and Maintenance of Bituminous Pavements" on 7th June 2022
2. Demonstrated and conducted "Road Safety Audit" on 28th November 2019 for Engineers of PWP &IWTD during three days training program on "Road Safety Engineers" held between 27-29th. November 2019.
3. Delivered Technical talk on "Data Interpretation of Pavement Evaluation " Two days Seminar on "Pavement Evaluation and Rehabilitation" Organised by Institution of Engineers and Dept.of Civil Engineering, KLE Dr. MS Sheshagiri College of Engineering and Technology, Belagavi, 7-8, September 2017

3. Delivered Technical talk on "Design of Flexible Pavement using IITKGP Software" for Engineers of PWP&IWTD during two weeks training program on "Design, construction, maintenance and management of urban roads" on 15th Feb 2016
5. Delivered Technical talk on "Design of Flexible Pavement using IITKGP Software" for Engineers of BBMP during two weeks training program on "Design, construction, maintenance and management of urban roads" on 15th Feb 2016.
6. Delivered talk and demonstrated "Tests on Aggregates & Bitumen" for Engineers of BBMP during two weeks training program on "Design, construction, maintenance and management of urban roads" on 9th Feb 2016.
7. Conducted Tutorials on "Intersection Design" for Engineers of BBMP during two weeks training program on "Design, construction, maintenance and management of urban roads" on 12th Feb 2016.
8. Conducted field studies on "Road Safety Audit" for Engineers of BBMP during two weeks training program on "Design, construction, maintenance and management of urban roads" on 17th Feb 2016.
9. Delivered Technical Talk on "Pavement materials and Testing" for Junior Engineers of Rural Development and Panchayat Raj, Govt of Karnataka on 8th Feb 2016.
10. Conducted field studies on "Benkelman beam deflection studies" during two days orientation program on "Construction and maintenance of flexible pavements" for BBMP Engineers on 28th Jan 2016.
11. Conducted Tutorials on "Design of flexible pavements" for Engineers of PWP & IWTD, Govt of Karnataka during two days training program on "Design of flexible pavements and project reports" on 8th October 2015.
12. Conducted field studies on "Road safety audit assessment" during three days training program on "Road safety engineering" for Engineers of PWP & IWTD, Govt of Karnataka on 5th November Jan 2015.
13. Conducted field studies on "Road safety audit" during three days training program on "Road safety engineering" for Engineers of PWP & IWTD, Govt of Karnataka on 20th August Jan 2015.
14. Conducted data Interpretation on "Preparation of Road safety audit report based on field studies" during three days training program on "Road safety engineering" for Engineers of PWP & IWTD, Govt of Karnataka on 21st August Jan 2015.