

DR. JAYA R SHINGANMAKKI

M.E.(Highway Engg.,) Ph.D.

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SUMMARY

A dedicated educator, with a passion for teaching and sharing knowledge inspiring students to explore the fascinating world of highway engineering. Beyond academic pursuits, a consultant in highway engineering, providing expert advice to government agencies, private companies, and infrastructure developers with consultancy services focusing on construction quality monitoring, road safety audits, traffic management, pavement materials characterization and design. Research interests lie in sustainable transportation systems & Pavement materials.

AREAS OF INTEREST

Pavement Materials, Quality control, Pavement evaluation, Asphaltic Mixes, Design, Construction and Pavement Evaluation, Sustainable materials, Road Safety

PROFESSIONAL EXPERIENCE

Professor, Dept. of Civil Engg., BMS College of Engineering, Basvanagudi, Bengaluru	July '25- till now
Associate Professor, RASTA – Center for Road Technology, VOLVO CE, Peenya, Bengaluru	Sep '14 - July '25
Assistant Professor, M. S.Ramaiah Institute of Technology	Sep '12 - Sep '14
Sr. Lecturer, Sir. M.Visvesvaraya Institute of Technology	Mar '04 - Sep '12
Lecturer, BNM Institute of Technology	Sep '01 - Sep '02
Lecturer, The Oxford Polytechnic	Nov '00 - Sep '01

- Training the students of Civil Engineering in the areas of Strength of Materials, Surveying, Highway Engineering, Pavement Design
- Actively involved in all academic, research and institutional administrative activities

EDUCATION

Visvesvaraya Technological University, VTU Belgavi RASTA - Department of Highway Technology	2018
<ul style="list-style-type: none">• Doctorate Degree Ph.D., in Civil Engineering, Major: Highway Technology• Thesis on “Evaluation of Effective Bitumen Film Thickness on Aggregate Mixes”	
University Visvesvaraya College of Engineering, BUB, Bangalore Department of Highway Engineering	2002-2004
<ul style="list-style-type: none">• Masters of Engineering, M.E. Highway Engineering (FCD) - University 3rd Rank• Dissertation Topic: “Laboratory studies of the effect of Compaction on the Strength Properties of Soil”	
University Visvesvaraya College of Engineering, BUB, Bangalore Department of Civil Engineering	
<ul style="list-style-type: none">• Bachelors in Civil Engineering B.E. First class with Distinction (FCD)	1996-2000

PHD & MTECH GUIDED

- Successfully guided one candidate for his doctoral studies on the title, **“Effect of air voids and bitumen content on BC mixes”** awarded by Visvesvaraya Technological University in 2024.
- Guided over 85 M.Tech dissertations works (2014-2024) projects to successful completion.

FUNDED RESERCH PROJECTS

Leading 4 funded research projects as Principal Investigator (PI) and collaborating 3 projects as Co-PI, successfully completing many research initiatives with a cumulative funding of about ₹173 lakh.

- Principal Investigator (PI) for a project titled **“Laboratory And Field Performance Investigation Of Rural Roads Stabilised with chemical stabilisers in Karnataka”** with a budget of Rs. 26.14 Lakh (INR)
- Principal Investigator (PI) for a project titled **“Performance Evaluation Of Plastic Cell Filled Concrete Pavements (PCFCP) And Roller Compacted Concrete Pavements (RCCP) In Rural Roads Of Karnataka”** with a budget of Rs. 26.43 Lakh (INR)
- Principal Investigator (PI) for a project titled **“Performance Assessment of Roads Constructed Using Waste Plastic in Karnataka Under PMGSY”** with a budget of Rs. 20 Lakh (INR)
- Co-PI for a research project titled, **“Performance Evaluation Of Roads Constructed Using Jute Geo-Textiles In The State Of Karnataka”** awarded by NRiDA, MoRT&H, with a budget of Rs. 26.14 Lakh (INR)
- Co-PI for a research project titled, **“Performance Evaluation Of Pmgysy Roads Constructed Using Terrazyme In The State Of Karnataka”** awarded by NRiDA, MoRT&H, with a budget of Rs. 16.90 Lakh (INR)
- Co-PI for a research project titled, **“Performance Evaluation of Cement Concrete Pavements in Rural Roads”** awarded by NRiDA, MoRT&H, with a budget of Rs. 25 Lakh (INR)
- Co-PI for a research **“Studies On Effectiveness of Crack Sealing treatment with Glasgrid Devihalli-Hassan NH”** awarded by Saint Gobain Industries, with a budget of Rs.25 lakh INR
- Project In-charge for a **Test track expansion design project** for VOLVO Group, Hoskote with a budget of Rs. 5 Lakh (INR)
- Associated in the research project **“Studies on Soil Compaction”** sponsored by Ingersoll Rand India Ltd, Bangalore (2003-2005)

INVITED LECTURES

- Invited as Resource person for National level workshop on **“Optimizing the Use of Natural Aggregates Towards Sustainable Pavement Construction”** at KLS Vdit Haliyal, Uttar Kannada District on 15th March 2024
- Invited as a speaker at CII National Conclave on Road Safety, New Delhi on and delivered a talk on the topic, **“SAFETY IN ROAD CONSTRUCTION A COMMITMENT TO SECURE PRECIOUS LIVES”** on 16th Jan 2024
- Invited guest lecture on **“Construction of Flexible roads”** on 15.12.2023 for AE/JE of Karnataka Rural Infrastructure Development Ltd., GOK
- Invited guest lectures on Pavement Material Characterization in the training programs during six-day Faculty Development Programme on **“Recent Advancements in Transportation Engineering”** at Ramaiah Institute of Engineering, Bangalore during 16th- 21st Jan 2017.
- Delivered guest lecture on 18-10-2019 on the topic **“Road User’s Ethics and Influence on Society ”** at DSU

ASSOCIATIONS WITH PROFESSIONAL BODIES

- Nominated as a Member of the IRC Council and designated to serve on the H2, H5, and H6 technical committees of the Indian Roads Congress (IRC) 2025-2027
- Nominated as Member of VTU Board of Studies 2023-2025, and REVA University for the Civil engineering Disciplines. - 2023-24
- Nominated as Member of CII Karnataka Infrastructure & Urban Mobility Panel 2024-25.
- Elected as Council Member for IRC for the year 2024-25, at IRC Annual Session, Raipur
- Life member of Indian Roads Congress
- Life member of Indian Institute of Technical Education
- Associate Member of The Institution of Engineers
- Member of International Association of Engineers

PUBLICATIONS AND PRESENTATIONS

- Published a paper titled, “Use of Waste Plastic in Rural Roads under PMGSY”, INDIAN HIGHWAYS, Volume: 53, Number: 01, JANUARY 2025, ISSN 0376-7256, Indian Roads Congress
- Published a paper titled, “Sensitivity Analysis of HDM-4 Models for Developing Road Asset Management in India: A Case Study on Regional Calibration Approach”, Sachin Gowda¹, Ganesha Kalburgi, Vijaykumar Sagar, Aakash Gupta⁴ and Jaya R S, IRC Publication November 2024
- Published a paper titled “Development of Correlation Between Indirect Tensile Strength and Resilient Modulus for VG-40 Bituminous Concrete” Dr. Aakash Gupta, Prajwal M G, Sachin Gowda & Jaya R S., INDIAN HIGHWAYS, Volume: 52, Number: 01, JANUARY 2024, ISSN 0376-7256, Indian Roads Congress
- Published a paper titled, “Unsupervised Clustering of Asphalt Pavement Conditions Using Fuzzy C-Means Algorithm with Principal Component Analysis Aided Dimensionality Reduction”, Machine Intelligence for Research and Innovations, Proceedings of MAITRI 2023. Volume 2, Springer, SSN 2367-3370, ISSN 2367-3389 (electronic), Lecture Notes in Networks and Systems, ISBN 978-981-99-8134-2 ISBN 978-981-99-8135-9 (eBook), <https://doi.org/10.1007/978-981-99-8135-9>
- TRB Annual Meeting Machine Learning-Based Ensemble Techniques for Optimal Prediction of Pavement Condition
- Published a paper titled, “Determination of Air Voids in Asphalt Mixes by Image Processing Technique”, International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181, <http://www.ijert.org> Published by: www.ijert.org Vol. 12 Issue 07, July-2023
- Published a paper titled, “Study of Effect of Variation of Filler Type and its Proportion in Bituminous Mixes”, International Research Journal of Engineering and Technology (IRJET) An ISO 9001-2008 Certified Journal, e-ISSN: 2395-0056 p-ISSN: 2395-0072 <http://www.irjet.net> Published by: www.irjet.net, Vol: 10 Issue 08, Aug 2023 Paper ID: FTP10081306
- Published a paper titled, “Effect of Variation of the Gradation in the Bituminous Mixes”, International Journal of Engineering and Technology (IJERT) ISSN: 2278-0181, <http://www.ijert.org> Published by: www.ijert.org Vol. 12, Issue 8, August-2023. Paper ID: IJERTV12IS080033
- Paper titled, “A study of air voids (Vv) variation with compactive effort in Asphalt mixes” Nanoworld Journal, indexed in Scopus ID: 21100926589 ISSN: 2379-1101 (Accepted and under process)
- Paper titled “Volumetric behaviour of bituminous mix by field compaction and its variation compared to laboratory compaction” Indian Journal of Engineering & Materials Sciences (Accepted and under process)
- Published a paper titled, “Updating Vehicle Operating Cost based on Wholesale Price Index”, International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181, <http://www.ijert.org> IJERTV12IS070097, Published by: Vol. 12 Issue 07, July-2023
- Published a paper titled, “Determination of Air Voids in Asphalt Mixes by Image Processing Technique”, International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181, <http://www.ijert.org> Published by: www.ijert.org Vol. 12 Issue 07, July-2023
- Published a paper titled, “Evaluation of Pavement Surface Distress Using Image Processing and Artificial Neural Network” ASTM Journal of Testing and evaluation, Feb 2023
- Presented and published the paper titled “Use of Industrial Waste Paper Sludge Ash as Partial Replacement to Cement in making Concrete Paver Blocks” during the International Airfield and Highway Pavements Conference, from June 8 - June 10, 2021 organised by The Transportation & Development Institute of the American Society of Civil Engineers (ASCE)
- Presented a technical paper on “Study of Hydraulic Performance and Stabilization Aspect of Non-Woven Geotextile for Various Soils” during the International Airfield and Highway Pavements Conference from June 8 - June 10, 2021, organised by The Transportation & Development Institute of the American Society of Civil Engineers (ASCE)

PUBLICATIONS AND PRESENTATIONS ...CONTD

- Presented a technical paper on “Validation of Calibration Factors and Prioritisation Using HDM4 for Road Network- A Case Study” during the International Airfield and Highway Pavements Conference from June 8 - June 10, 2021, organised by The Transportation & Development Institute of the American Society of Civil Engineers (ASCE)
- Received the ‘Best Paper’ award in the Pavement Engineering Theme, at the International Virtual Conference on "SSDUGI in India and Canada" organized by NIT Trichy from 25th to 26th March 2022, paper titled, “Evaluation of pavement surface distress using image processing and neural network” authored by Suhas T. R., Pradeep Kumar, Jaya R. Shinganmakki
- Published a paper titled, “Recycled concrete aggregates in varied proportion for black cotton soil stabilization” authored by Nabeel Muhamed, N.K.; Jaya, R.S.* at EATA 2021 9th European Asphalt Technology Association Conference Book of Abstracts June 7 - 9, 2021 Vienna University of Technology, Austria (Virtual Conference) -
- Presented a paper titled “Use of Recycled Concrete Aggregates in Mechanical Stabilization for Low Volume Roads” that was peer reviewed by a topic related committee and selected for presentation at the 12th TRB International Conference on Low Volume Roads, September 15–18, 2019, Kalispell, Montana, USA.
- Published a paper titled “Use of Recycled Concrete Aggregates (RCA) in Bituminous Concrete Grade-I Mixes” during the Fourth National Conference on Road and Infrastructure, held during 4th -5th April, 2019 at RASTA- Centre for Road Technology, Bengaluru ISBN: 978-93-5367-163-1
- Secured the “Best Poster Award” for the work on “Mechanical Stabilization of Black Cotton Soil Using Recycled Concrete Aggregates” at the International Conference on Pavement and Computational Approaches (ICOPAC-2018, held during 16th-17th November, 2018 at CRRRI, New Delhi.
- Presented a paper titled “Study on Binder film thickness for Paving Mixes compacted by varying effort” during the 78th Annual Session of Indian Roads Congress held during 3rd to 6th, November, 2017 at Bangalore.
- Published a paper titled, “Prediction of CBR value of soil based on lab studies by Regression Analysis” during the 3rd National Conference on Transportation Systems Engineering and Management CTSEM-2016, held at BMS college of Engineering, Bangalore during 24th-25th November, 2016
- Presented and published a paper titled, “Determination of Binder Film thickness for Bituminous mixtures prepared with various types of Fillers” during the 6th International Conference on Structural Engineering and Construction Management -2015, held at University of Peradeniya, KANDY, Sri Lanka during 11th – 13th December 2015 ISBN: 978-955-589-210-0
- Presented and published a paper titled, “A Review of different studies carried out on the Evaluation of Bitumen Film thickness for better Durability of pavements” at ICCSEM-2013 International Conference, held at Dayananda Sagar Institutions Campus, Bangalore during 26th and 27th September 2013.
- Published a paper titled “A Study on the variation of viscosity and Film thickness of Binders at Various Temperatures” at ICCSEM-2013 International Conference, be held at Dayananda Sagar Institutions Campus, Bangalore during 26th and 27th September 2013.
- Presented and Published a paper entitled “Evaluation of Bitumen Film Thickness for Mixes subjected to Short term Ageing” Proceedings of the International Conference on Advances in Architecture and Civil Engineering (AARCV 2012), 21st-23rd June 2012 ISBN 978-93-82338-01-7 at MSRIT, Bangalore.
- Co-authored a “Do-it-yourself guide” - Manual for Citizen Monitoring of PMGSY roads that helps anyone monitor a PMGSY road for quality, which explains the basics of construction of a road, what to check on a road and how to use the PAC developed toolkit for monitoring bearing ISBN 978-81-88816-99-6
- Published a paper entitled “Evaluation of Strength Enhancement of Soil by the method of Stabilization” in the proceedings REDECON 2010 National Seminar Deminar and Exhibition held from 28th to 30th January 2010
- Co-authored a “Do-it-yourself guide” - Manual for Citizen Monitoring of PMGSY roads that helps anyone monitor a PMGSY road for quality, which explains the basics of construction of a road, what to check on a road and how to use the PAC developed toolkit for monitoring bearing ISBN 978-81-88816-99-6

CONSULTANCY PROJECTS HANDLED

- Traffic Safety studies & Improvement of four Junctions at Hoskote, NH 75 for Client: VOLVO Group under their CSR Initiative: Rs. 1 Lakh INR
- Technical Consulting Services for Design verification, and Quality control of CBU yard construction, Toyota Kirloskar Motors (TKM) Bidadi, Cost of project: Rs. 14.4 Lakhs INR
- Third party quality checking Consulting Services for Design verification, and Quality control of CBU yard construction, Toyota Kirloskar Motors (TKM) Bidadi, Cost of project: Rs.5.9 Lakhs INR
- Technical Consulting Services for Plant-1 road failure counter-measures, TKM Bidadi, Cost of project: Rs. 1.04 Lakhs INR
- Technical Consulting Services for Subtrack Works, TKM Bidadi, Cost of project: Rs.1.56 Lakhs INR
- Laboratory Tests on materials for the Project of CBU yard Construction. Cost of project: Rs. 4 Lakhs INR
- Material testing & technical services of new service road from Jalahalli metro station to Nagasandra Metro station to be taken up by Namma Metro, BMRCL
- Material testing for Binders used for Shivamogga Airport project. Cost of project: Rs. 83,000 INR
- Pavement Inspection of Completed works of Ward no. 7 & 8, Kodigehalli Sub Division, Byatarayanapura, BBMP and Yelahanka Zone, BBMP
- Pavement Performance Evaluation & Preparation of DPR for the KIADB Roads of Road Improvement Works, Jigani Industrial Area, Bengaluru
- Investigation on the layer composition and causes of a prematurely failed pavement laid at THOPUR GHAT section NH-7 for Strategic Marketing & Research Team, Bangalore.
- Site visits & Quality monitoring of the project on Improvements for connecting roads of Doddaballapura Industrial Area link roads of Birla junction to Chikka Tumkur, Vivekanandanagar road (Road no.1, ch:0.00km to 4.166km), Doddaballapura Industrial area to Jinkebachalli road(Road no.2, Ch:00.00km to 1.500km
- Site visits & Quality monitoring of the project on Formation of 24.00m wide road, No.2, 18.00m wide road No.4 & 5 & 8 Roads 12.00m wide Road including Construction of Box Drain, Ducts for pipe crossing, Deck Slab Culverts Single Cell Box Culverts, Storm Water Drains, Park & providing and laying water supply line in Devakathikoppa Industrial Area, Shimoga. District
- Site visits & Quality monitoring of the project on Formation of 24.0m wide road, 18.00m wide, 15.00m wide road & 12.00m wide road including Construction of Drain, RCC Pipe Ducts Spur Culverts, Deck Slab Bridge, Storm Water Drains GLSR, Park & Providing & laying waterSupply line in Vemgal Industrial Area, Kolar Taluk, Kolar District Package – I
- Site visits & Quality monitoring of the project on Formation of 30m wide roads (Road No.-1, 2, 2A, 3,4 & Nelhal road including Asphaltting , construction of RCC side drains, RCC Cross drainage, works, RCC storm water drain, HDPE water supply pipe line, at Vasanthanarasapura 2nd Phase Industrial Area, Tumkur Taluk, Tumkur District.
- Mix Design for Dense Graded Bituminous Macadam (DBM, Gr-2) for the project on Improvements and asphaltting to 4 selected arterial, sub arterial roads and other roads in Yelahanka zone under Package YNK-02014-15(03)
- Material testing & Quality control tests for several KIADB works and for PMGSY roads, Govt. of Karnataka

ACHIEVEMENTS IN CAREER

- Elected as Council Member of Indian Roads Congress (IRC), New Delhi and Technical member of IRC H2, H5 and H6 committee.
- Recently nominated in the committee constituted for Highways Specifications & Standards (HSS) for the tenure 2025-27.
- Member of CII Karnataka Infrastructure & Urban Mobility Panel 2024-25.
- Presented her research work at Montana, USA at the Transportation Research Board (TRB) Low volume roads conference in Sep, 2018.
- Received an "Award of Appreciation" on behalf of organization RASTA under the category "Women Building India" at the 10th Edition of EXCON 2019, Bengaluru received from the Hon. Minister for Road Transport & Highways of India, Sri. Nithin Gadkari and the then Hon. Chief Minister of Karnataka Sri. B.S. Yediyurappa.
- Had been nominated as Member of Board of Studies for Faculty of Civil Engineering, VTU Belgaum, REVA University & M.S.Ramaiah Institute of Technology, Autonomous college under VTU.
- Secured the third place for the project guided at the Open Day Project exhibition held at MSRIT held in April 2014
- Successfully carried out the duties of Presiding Officer at the General Elections to the Karnataka Legislative Assembly 2008 Bangalore South.

PERSONAL DETAILS

- Name : Dr. JAYA RAGHUVVEER SHINGANMAKKI
- Professional Experience: 23 years
- Residential Address : C-603, NCC ASTER PARK, YELAHANKA NEW TOWN,
GKVK POST, BANGALORE 560065
- Date of Birth : 20/09/1978
- Gender : Female
- Marital Status : Married
- Mobile : 944 851 0511
- Email : jayars.civ@bmsce.ac.in / jayars.bmsce@gmail.com

REFERENCES

- Dr. A. Veeraragavan
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- Dr. V. Ramachandra
Technical Advisor, UltraTech Cement Ltd
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DECLARATION

I Dr. Jaya R. Shinganmakki declare the above mentioned information are true to the best of my knowledge.



Dr. Jaya R Shinganmakki