National Institute of Technology, Tiruchirappalli:

Performa for CV of Faculty Member Dr.Makendran C

Curriculum Vitae

Dr. MAKENDRAN C is an Assistant Professor (Grade-II) in the Department of Civil Engineering, National Institute of Technology (NIT) Tiruchirappalli, Tamil Nadu, India. He served as Assistant Professor, Road and Transportation Engineering, Department of Civil Engineering, College of Engineering Technology, Wollega University, Nekemte, Ethiopia, East Africa.

He received his Ph.D. in Civil Engineering from Anna University, Chennai, India in 2018. His doctoral research focused on Performance modeling of low volume village roads in India. After graduating in Civil Engineering from Faculty of Engineering and Technology, Annamalai University, Chidambaram. He had obtained a master's degree in Urban Engineering from College of Engineering Guindy (CEG), Anna University, Chennai, Tamil Nadu, India.

His research interest includes Rural Development, Pavement materials are Modified Bitumen, Bituminous Mix. Road Safety and Audits, pavement management system (PMS), Pavement Distress Prediction & Evaluation and Statistical Modelling.

1.	**Name:**	**Dr. MAKENDRAN C**
2.	**Designation:**	Assistant Professor (Grade-II)
3.	**Office Address:**	No: 105, Annex Building, Department of Civil Engineering, National Institute of Technology, Tiruchirappalli – 620 015.
4.	**Telephone** Mobile (Optional):	0431-2503180 +91-9080126710
5.	**Email (Primary): Email (Secondary)**	makendran@nitt.edu dr.makendranc@gmail.com
6.	**Field(s) of Specialization:**	• Transportation Engineering • Pavement Materials- Modified Bitumen • Pavement Performance Evaluation • Destructive and Non-Destructive Testing (NDT)

7. Employment Profile

Job Title	Employer	From	To
Assistant Professor (Grade-II)	National Institute of Technology, Tiruchirappalli	04/12/2025	Till date
Assistant Professor (Grade-II)	National Institute of Technology, Tiruchirappalli	14/10/2022	03/12/2025
Assistant Professor	Wollega University, Nekemte, Ethiopia, East Africa	19/01/2020	30/09/2022

8. **Academic Qualifications (From Highest Degree to High School):**

Examination	Board / University	Year	Division/ Grade	Subjects
Doctor of Philosophy (Ph.D.)	College of Engineering, Guindy (CEG), **Anna University, Chennai**	2018	--	Civil Engineering
Master of Engineering (M.E.)	College of Engineering Guindy (CEG), **Anna University, Chennai**	2009	First Class	Urban Engineering
Bachelor of Engineering (B.E.)	**Annamalai University, Chidambaram**	2006	First Class	Civil Engineering

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
GEM Member	Department Level		
NSS Officer	Institute Level	22/11/2024	Till date
Surveying Lab In charge	Department Level	01/04/2024	Till Date
Swatchhata Committee Member	Institution level	19/09/2023	Till Date
E-Waste Disposal Committee Member	Department	22/11/2023	Till Date

10. **Academic/Administrative Responsibilities outside the University**

Position	Institution	From	To
Doctoral Committee Member	Sastra Deemed University	21/07/2026	Till date
Doctoral Committee Member	VIT Vellore	15/05/2024	Till date
Doctoral Committee Member	Thiagarajar College of Engg., Madurai, Tamil Nadu	10/03/2023	Till date

11. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)
2009	UGC Research Fellowship in Sciences to Meritorious students	University Grants Commission (UGC)	August /2009

12. Details of Academic Work

(i) Curriculum Development

Name of the Course	University	Year
M.Sc., Road and Transportation Engineering	Wollega University, Nekemte, Ethiopia	October, 2020

(ii) Courses taught at Postgraduate levels

- Advanced Highway Materials
- Pavement Evaluation and Management System
- Airport Engineering

(iii)Courses taught at Undergraduate levels

- Highway Engineering
- Railways, Airport and Harbour Engineering
- Traffic Engineering and Safety
- Surveying

(iv) Projects guided at Postgraduate level.

S.No.	Name	Roll No.	Year	Specialization	Research Area / Project Title	Status
1	Ajay Kumar	203125002	2026-2027	Transportation Engineering and Management	Pavement Materials	Ongoing
2	Harshavarthan Loganathan	203125008	2026-2027	Transportation Engineering and Management	Modified Bitumen	Ongoing
3	Mylapilli Sivannarayana	2023125013	2026-2027	Transportation Engineering and Management	Pavement Materials	Ongoing
4	Rajesh L	203125019	2026-2027	Transportation Engineering and Management	Pavement Materials	Ongoing
5	Chittibomma Likith Harsha	203124006	2025-2026	Transportation Engineering and Management	Experimental Investigation on the Effect of Swine Manure and Nano-Calcium Oxide in Bitumen for Sustainable Asphalt Pavement	Completed

6	Gokul G	203124009	2025-2026	Transportation Engineering and Management	Modified Binder	Completed
7	Nikhil S L	2031240017	2025-2026	Transportation Engineering and Management	Enhancing Whitetopping Pavement Performance: A Comparative Experimental and Numerical Study of Basalt Fiber and Geogrid Reinforcement	Completed
8	Polamarasetty Naveen	2031240019	2025-2026	Transportation Engineering and Management	Comparative study on the Impact of various Oil spills on Bituminous Concrete	Completed
9	Krishna Dev Nishad	203123013	2024-2025	Transportation Engineering and Management	Evaluation of Skid resistance and Texture Depth in various Bitumionus Mixes	Completed
10	Kura Akash	203123014	2024-2025	Transportation Engineering and Management	Enhancing the properties of Conventional Bitumen Through Nanotechnology	Completed
11	Poojala Venkata Sumanjali	203123020	2024-2025	Transportation Engineering and Management	Performance Evaluation of Cold Recycled Asphalt Mixture Using Reclaimed Asphalt and High Strength Fibre	Completed
12	Rajkumar Dhakad	203123022	2025-2025	Transportation Engineering and Management	Study on bitumen Modification with Bio Sourced Sugarcane Molasses and Eggshell Powder	Completed
13	Jitendra Singh	203122012	2023-2024	Transportation Engineering and Management	Developing User Perception Model of Service Quality Attributes for Paratransit Services-A Case Study of Agra, Uttar Pradesh	Completed
14	Kunwar Deepankar	203122014	2023-2024	Transportation Engineering and Management	Structural Assessment of Pavement Quality Concrete Reinforced with Different Types of Grids	Completed
15	Vijay Singh	203122026	2023-2024	Transportation Engineering and Management	Comparative Study of Stabilization Methods for Full-Depth Reclamation and Formulation of Guidelines	Completed
16	Mudimadugula Pavankumar	203522014	2023-2024	Construction and Management	Study of Logistics Management and Cost Benefit Analysis for Proposed Greenfield Highways	Completed

(v) UG Project

S.No.	Name	Roll No.	Year	Research Area / Project Title	Status
1	Himanshu Meena Ajay Kshirsagar Muhammad Shuraih M Rithika P	103121041 103121057 103121069 103121093	2024-25	Study on Rheology of Various Lignosulfonate-Modified Bitumen and Performance of the Bituminous Mixture	Completed
2	Ameer Faisal H Asvin Raja Kumar S A Navaneeth Iyyani Ragesh Priyanshu Bansal Seyan Ebenezer F	103120010 103120018 103120072 103120085 103120100	2023-24	Performance Analysis of Bituminous Concrete Using Calcium Lignosulfonate	Completed
3	Krishna Yadav Bhavya Kudikala Pagidi Sai Keerthi Teerth Raj	103119059 103119063 103119076 103119116	2022-23	Study on Bituminous Concrete By Using Sisal Fibre and Polymer Modified Binder Cubes for Rural Roads in India	Completed

(vi) Other contribution(s)

1. Construction of Spring Water Station for a Rural Community around Nekemte Town. Ethiopia, East Africa, In the year 2021.

2. Planning Design and Renovating Poor Households' Homes in Nekemte City, Ethiopia, East Africa, In the year 2021.

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Laboratory Investigation of Self-curing concrete using Water-soluble polymer in Ethiopia	Wollega University, Ethiopia	2020	2022	Completed
Manufacturing of Geo polymer concrete in Ethiopian Country	Wollega University, Ethiopia	2021	2022	Completed

15. Number of Ph.Ds guided

Name of the PhD Scholar	Title of PhD Thesis	Role (Supervisor/ Co Supervisor)	Full-Time/Part-Time	Year of Award
Alok Kumar	Modified Binder	Supervisor	Full Time	On going
Sanam Teja Reddy	Environmental Impact	Supervisor	Part Time	On going
Desni C	Pavement Material	Supervisor	Full Time	On going

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
16/04/2026	International Conference on Advances in Green, Net-Zero Innovation-Sustainability	International	Presenter	NIT Tiruchirappalli	Tiruchirappalli
12/02/2026	Second International Conference, Recent Advances in Infrastructure Development	International	Presenter	NIT Calicut	Calicut
19/01/2024	RAP Workshop	National	Participant	IIT Bombay	Mumbai
15/05/2023 To 20/05/2023	Pavement Design: Principles and Practices	National	Participant	NIT Calicut	Calicut

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convener / Co-Convener)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
Nil	**---**	**---**	**---**	**---**

18. Invited Talks delivered

Topic	Date	Inviting Organization
Destructive and Non-Destructive Testing Techniques on Concrete Pavement	06-03-2026	CVR College of Engineering Hyderabad, Telangana, India, Civil Engineering, Association (CEA) in association with National Digital Library of India, (NDLI)
One-Week Online Faculty Development Program on "Recent Advancements in Civil Engineering Emerging Practices and Technologies	25-02-2026	KPR Institute of Engineering and Technology, Coimbatore Tamil Nadu

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Geotechnical Society	LM-970
Life Member	Indian Road Congress	251092/ dated on 03/01/2024
Life Member	Transport Research Group, India	20207/dated on 26/02/2024

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Ethiopia	2 years and 8 months	Served as an Assistant Professor

21. Publications

(A) <u>Refereed Research Journals</u>:

1. Alok Kumar, **Makendran Chandrakasu**. Performance Assessment of Bituminous Mixtures Modified with Sodium Lignosulfonate. Iranian Journal of Science and Technology, Transactions of Civil Engineering, (2026).https://doi.org/10.1007/s40996-026-02162-8

2. Kumar, A., **Makendran, C**. Suitability analysis of sodium lignosulphonate a bio polymer as bitumen modifier for low volume roads in India. Innov. Infrastruct. Solut. 10, 317 (2025). https://doi.org/10.1007/s41062-025-02117-4

3. **Makendran C;** Karthik, Study on Fly Ash Based Geopolymer Concrete for Rural Road Construction in India, Materials Circular Economy, **(2024)**,Springer, https://doi.org/10.1007/s42824-024-00143-8

4. Kamalasekar A.;Murugasan R.;**Makendran C.**;Francis M.R.Static and cyclic behaviour of fibre-reinforced pavement concrete with copper slag as fine aggregate, Revista Materia, **Volume** 29, **Year** 2024, DOI:10.1590/1517-7076-RMAT-2023-0323

5. **Makendran C.**, Statistical modelling of rutting for low-volume roads in India, Gradjevinar, **Volume** 75, **Year** 2023, **Pages** 379387, DOI:10.14256/JCE.3486.2022

6. Athiappan K.;Murugasan R.;**Makendran C**.;Raj F.M., Mechanical properties of asphalt mixtures containing reclaimed asphalt incorporating Acrylonitrile Butadiene Styrene (ABS), Revista Materia, **Volume** 28, **Year** 2023, DOI:10.1590/1517-7076-RMAT-2023-0201

7. **C.Makendran**.;Suthandhiram K.;Garoma S.;Merea B.;Sethuraman Garoma S., Merea B., and Sethuraman B., Laboratory Study on the Water-Soluble Polymer as a Self-Curing Compound for Cement Concrete Roads in Ethiopia,Technologies, **Volume** 10, **Year** 2022, DOI:10.3390/technologies10040080

8. **C.Makendran**.;Rajiah M.;Senathipathi V.;Ravi Sekhar C.Comparative Evaluation of Distress Prediction Modelling of Village Roads in India Using Regression and ANN Techniques, Journal of Transportation Engineering Part B: Pavements, **Volume** 147, **Year** 2021,DOI:10.1061/JPEODX.0000287

9. **Makendran C**.;Vignesh Kumar M.;Mahalingam B.;Packialakshmi S.;Palani T, Roughness prediction models based on variable distress parameters using neural network and MLRA for PMGSY roads,International Journal of Advanced Science and Technology, **Volume** 29, **Year** 2020, **Pages** 2208–2218.

10. **Chandrakasu Makendran** and Rajah M., Development of a roughness estimation model for low volume roads, Gradjevinar, **Volume** 70, **Year** 2018, **Pages** 97-104,DOI:10.14256/JCE.1488.2015
11. **Makendran C**.;Murugasan R.;Velmurugan S. Performance prediction modelling for flexible pavement on low volume roads using multiple linear regression analysis, Journal of Applied Mathematics, **Volume** 2015, **Year** 2015,DOI:10.1155/2015/192485

(B) **Conferences/Workshops/Symposia Proceedings**

1. Conference Proceedings Mudimadugula, P., **Makendran, C**., Yashwanthika, S. (2026). Enhancing Logistics Management and Optimizing Logistics Using Linear Programming in Highway Projects. In: Pillai, V.M., Ravi Sekhar, C., Goh, M. (eds) Recent Advances in Logistics, Supply Chain and Transportation, Volume 2. ICLST 2024. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-95-0853-2_12

2. Sumesh, M., Alengaram, U.J., Mo, K.H., Kiran, R., **Makendran, C.** (2025). A Critical Review on Mechanical and Microstructural Characteristics of Geopolymer Composites Reinforced with Industrial By-Products. Innovative Technologies for Smart and Sustainable Infrastructure. Springer, Cham. https://doi.org/10.1007/978-3-031-92801-7_18

3. Pavankumar and **C. Makendran,** "Mathematical Model for Solving Transportation Problems Using Linear Programming During Highway Construction," in Proc. 1st Indian Conf. Disaster Resilient Infrastructure, Paper ID: I-DRI 24-17, pp. 1–11, NIT Puducherry, India, 2024.

4. Pavankumar, M., **Makendran, C**., & Kumar, A. (2024). Study of logistics management and cost benefit analysis for green field highways. Proceedings of the First Indian Conference on Disaster Resilient Infrastructure (Paper ID: I-DRI 24-22, pp. 1–9). National Institute of Technology, Puducherry.

5. **Makendran C**, Bituminous mixes using Sisal fibre for controlling the fatigue cracks in rural roads in India, Vol. 3, pp. 1–6, 2023.Published under licence by IOP Publishing Ltd, DOI 10.1088/1755-1315/1326/1/012061

6. **Makendran C**, Study on self-curing concrete using Polyethylene Glycol 600 for highway infrastructure projects, Materials Today Proceedings, Vol. 3, pp. 1–6, 2023.

7. **C Makendran**, M Karthik, SM Jakir Hasan, M Harivignesh, and G Varun Raahul, Designing an Intelligent Pavement Maintenance and Management System using Drone Imagery and Artificial Intelligence, MATEC Web of Conferences, Technologies and Advances in Automation, Aerospace and Robotics, VIT, Bhopal, 2024.

8. **Makendran C** and Karthik M, Study on Fly ash based geopolymer concrete for rural road construction in India, ICSMEA 2024, IITMadras, Chennai, 2024.

9. **Makendran C** B. Mahalingam and Jagan Inti., Laboratory study on partial replacement of conventional construction materials for the construction industry in India, MATEC Web Conf. 4th International Conference (SPICE 2023), Vol. 384, 2006, Sustainable Practices and Innovations in Civil Engineering, Chennai, 2023.

10. Gujar A.G, Basanta Kumar P,Palai Sumanta B Aravinthd S. Gnana kumar G Ram S **Makendran C,** Investigating mechanical strength of a natural fibre polymer composite using SiO2 nano-filler, Materials Today: Proceedings, 56, part (3), pp. 1522–1526, 2022.

11. M.D. Mohan, Raghuram K.S. J.N.S.Raju, D.Ravi M. M.Venkata Rao RamSubbiah, and **Makendran C**, Study on influence of nano-filler content on the performance of natural fibre reinforced epoxy composites, Materials Today: Proceedings, 56, part (3), 1562 1562–1566, 2022.

12. **Makendran C**, Patnaik, Nilofer Jifara Ravindra, Khongdet, Reliability analysis of cement manufacturing technique in computerised clinker processing method, Al-kadhum 2nd international conference, Vol. 2591, Issue 1, applications of information and communication technology, Iraq, 2023.

13. **Makendran C**, Relationship of Noise Level with Pavement Distresses, International Conference on Sustainable Technologies and Advances in Automation, Aerospace and Robotics, pp. 461–469, Recent Advances in Mechanical Engineering, VITBhopal, 2022.

14. Rajamane N.P., **Makendran C** , R.Gobinath, and S. Chandra Chary, Self-Curing Concrete Using Water-Soluble Polymer for Developing Countries, IOP Conf. Series: Materials Science and Engineering, Materials Science and Engineering, Hyderabad, 2020.