National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

Curriculum Vitae

Brief Profile:

Dr. Manthiram Karthik Ravichandran is an Assistant Professor in Civil Engineering with a strong academic background and research focus in sustainable water and wastewater management. He completed his bachelor's degree in civil engineering and master's degree in environmental engineering from Anna University, Chennai and earned his Ph.D. from Indian Institute of Technology Madras. His doctoral research focused on the "Removal of Pharmaceuticals and Personal Care Products Using Engineered Natural Treatment Systems", contributing to the growing field of emerging contaminant management.

His research interests broadly include water and wastewater treatment, natural and nature-based treatment systems, fate and transport of emerging micropollutants such as PPCPs and PFAS, faecal sludge management, process modelling, and sustainability. He has hands-on experience in the design, operation, and performance evaluation of biological and constructed wetland systems, along with environmental auditing of industrial treatment facilities. His work also involves advanced analysis of trace contaminants across environmental matrices and assessment of remediation strategies. With a blend of academic, research, and field experience, Dr. Karthik is committed to advancing sustainable environmental solutions while fostering application-oriented learning and research.

1. Name: Dr. Manthiram Karthik Ravichandran
2. Designation: Assistant Professor
3. Office Address: 306, Civil Annexure Building, Department of Civil Engineering, NITT
4. Telephone (Direct) (Optional):

   Telephone : Extn (Optional):

   Mobile (Optional):
5. Email (Primary): rmkarthik@nitt.edu Email (Secondary) : na
6. Field(s) of Specialization: *Water and Wastewater treatment, Nature-based treatment systems, Emerging Contaminants, Treatment Process Design including treatability studies, Process Simulation and Modeling, Onsite sanitation systems, Life Cycle Assessment, Environmental auditing*
7. Employment Profile

Job Title	Employer	From	To
Assistant Professor Grade II	National Institute of Technology Tiruchirappalli	Dec 2025	Till date

Assistant Professor Grade I	Sri Sivasubramaniya Nadar College of Engineering, Chennai.	Jan 2024	Dec 2025
Consultant – Research and Development	CDD India, Bengaluru	Jul 2023	Dec 2023
Project Officer (post-doctoral work)	Indian Institute of Technology Madras, Chennai.	Jul 2022	Jul 2023

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

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D. in Environmental Engineering	Indian Institute of Technology Madras, Chennai	2022	-	Environmental Engineering (Removal of Pharmaceuticals and Personal Care Products using Engineered Natural Treatment Systems)
M.E in Environmental Engineering	Thiagarajar College of Engineering, Anna University (Chennai)	2017	First Class	Environmental Engineering
B.E in Civil Engineering	Dr. Mahalingam College of Engineering and Technology, Anna University (Chennai)	2015	First Class with Distinction	Civil Engineering
Higher Secondary	Little Flower Matriculation Higher Secondary School, Tirunelveli	2011	First Class	Mathematics -Biology
Secondary	Little Flower Matriculation Higher Secondary School, Tirunelveli	2009	First Class	All Subjects

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
MIS committee - Member	Department	Feb 2026	Till date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Doctoral Committee Member of PhD Scholar	VIT, Vellore	Feb 2026	Till date
Subject expert for formulation of syllabus	Anna University, Chennai	AY2025-26	AY2025-26

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
Nil		

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
Nil				

13. Details of Academic Work

(i) Curriculum Development

Nil

(ii) Courses taught at Postgraduate and Undergraduate levels

Postgraduate level: Cleaner Production and Environmental Sustainable Management

Undergraduate level: Environmental Engineering II, Basics of Civil Engineering

(iii)Projects guided at Postgraduate level

Nil

(iv)Other contribution(s): Nil

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Nil				

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Nil			

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

Date (s)	Title of Activity	Level of	Role (Participant/	Event Organized by	Venue

		Event (International/ National/ Local)	Speaker/ Chairperson, Paper presenter, Any other)		
15-19th January 2023	Performance of pilot-scale hybrid constructed wetland for greywater treatment	International	Paper presenter	13th IWA International Conference on Water Reclamation and Reuse	Chennai
23rd – 25th March 2022	Attenuation and fate of pharmaceutically active compounds in the baffled constructed wetland treating greywater	International	Paper presenter	First International Conference on Circular Economy for Sustainable Water Management (SuWaM 2022)	IIT Madras, Chennai
31st August – 2nd September 2021	Occurrence and fate of antimicrobial agents in a hybrid flow constructed wetland treating greywater	International	Paper presenter	AQUA≈360: Water for All - Emerging Issues and Innovations	University of Exeter, United Kingdom
7-8th November 2020	Decentralized greywater treatment using baffled constructed wetland	International	Paper presenter	13th International Conference on Challenges in Environmental Science and Engineering (CESE-2020)	Online
11th September 2020	Occurrence, fate and risk assessment of PPCPs in wastewater from the rural community	International	Paper presenter	2nd International Conference on Wastewater Technologies and Environmental Treatment (ICWTET-2020)	Online
17th April 2017	Process simulation model for nutrient removal in wastewater treatment	International	Paper presenter	National Conference on Innovations in Materials, mechanics and Processes for sustainable development	Coimbatore Institute of Technology, Coimbatore.

16th September 2016	An Approach towards energy neutral wastewater treatment system – A case study	International	Paper presenter	National conference on "Energy and Environment"	IIT-Madras and CODISSIA, Coimbatore.

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

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

18. Invited Talks delivered

Topic	Date	Inviting Organization
Application of Smart Materials and AI/ML in Civil Engineering	25th Aug 2025	University College of Engineering, Thirukkuvalai

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Nil		

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Nil		

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Kannan, U.,	Short-chain PFAS:	Results in	20		2026	

Ravichandran, M.K., Monisha, M., Krishnasamy, S., Prabakar, P., Darshini, D. and Sunantha, G.,	A global challenge-Environmental fate, health risks, and promising removal technologies	Chemistry				
Prabakar, P., Thampan, D., Karthika, S., **Ravichandran, M.K.,** Subramanian, A., Nagarajan, A.M., Hussain, R., Sivagami, K.	A State of Art Review on Large scale Desalination Technologies and Brine Management	Environmental Science: Water Research & Technology	11	167-195	2025	
Biswas, P., Vellanki, B. P., **Ravichandran, M. K.,** Kazmi, A. A., & Philip, L.	Widespread Surveillance of Emerging Contaminants in the Yamuna River Basin: Evaluation of Surface Water, Sediments, Groundwater, and Aquatic Plants.	ACS ES&T Water	4	2044–2056	2024	
Ravichandran, M.K., Philip, L.	Fate of carbamazepine and its effect on physiological characteristics of wetland plant species in the hydroponics system	Science of the Total Environment	846	-	2022	
Ravichandran, M.K., Philip, L.	Assessment of the contribution of various constructed wetland components for the removal of pharmaceutically active compounds	Journal of Environmental Chemical Engineering	10	-	2022	
Ravichandran,	Removal and risk	Journal of	9		2021	

M.K., Yoganathan, S., Philip, L.	assessment of pharmaceuticals and personal care products in a decentralized greywater treatment system serving an Indian rural community	Environmental Chemical Engineering				
Renganathan, J., Insamam Ul Huq, Ramakrishnan, K., **Ravichandran, M. K.,** & Philip, L.	Spatio-temporal distribution of pharmaceutically active compounds in the river Cauvery and its tributaries, South India	Science of the Total Environment	800		2021	
Ravichandran, M.K., Philip, L.	Insight into the uptake, fate and toxic effects of pharmaceutical compounds in two wetland plant species through hydroponics studies	Chemical Engineering Journal	426		2021	
Manthiram Karthik, R., Philip, L.	Sorption of pharmaceutical compounds and nutrients by various porous low-cost adsorbents	Journal of Environmental Chemical Engineering	9		2021	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Karki, B.K., **Ravichandran, M. K.,** & Philip, L.	Constructed Wetlands for Wastewater Treatment in India: Insights from Recent	Proceedings		Roorkee Water Conclave (RWC) - 2024	IIT Roorkee, India.	3rd – 6th March 2024

	Development					

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
Ravichandran, M. K., Abraham, A. P., Anantha Moorthy U., Pradeep R.	Optimizing Nutrient Removal through Integration of Microbial Fuel Cells with Constructed Wetlands for Wastewater Purification	Springer, Singapore	2025	978-981-96-2814-8
Ravichandran, M. K., Ravisankar, V.	Exploration of Nature-Based Technologies for Urban Pollution Challenges in Rapidly Growing Cities.	Springer Nature	2025	978-3-031-83833-0.
Ravichandran, M. K., Thayyil, M. I., & Philip, L.	Application of engineered natural treatment systems for pollution abatement.	IWA	2023	978-1789063714