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

Dr. R. GANDHIMATHI, M.E., Ph.D. (Env)

Brief Profile:

Dr. R. Gandhimathi is Professor, at the Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, India. She obtained her B.E. degree in Civil Engineering from Govt. College of Engineering, Salem (Madras University), M.E. in Environmental Engineering from College of Engineering, Guindy (Anna University), and Ph.D. in Environmental Engineering from Indian Institute of Technology Madras. Her research area includes water treatment, wastewater treatment, contaminant transport modeling, and solid waste management. She has been working specifically on the removal of contaminants of emerging concern (CECs), microplastics and refractory organics / recalcitrant pollutants from water, wastewater, stabilized leachate and textile wastewater by various advanced oxidation processes coupled with a biological system. Under her guidance, research students have developed novel catalysts for treatment of pharmaceuticals and personal care products (PPCPs) from wastewater. Also worked on biopolymer production from hydrocarbon-rich oily wastewater using a novel mixed bacterial consortium. Other studies include, sustainable treatment systems such as constructed wetlands for municipal wastewater treatment, green synthesis of nano-catalysts for the removal of organics, heavy metals, and dyes, and experimental investigation, and numerical modeling of transport of PPCPs through a saturated soil mass. She has made significant contributions in each of these areas. She has published 99 articles in Scopus and Web of Science indexed journals with a total citation count of 5300 with h-index 36 over a period from 2008 to date. Five Journal articles were published in the American Society of Civil Engineers, which is more credential to her research work. One of her journal articles titled "Trends in Electro-Fenton process for Water and Wastewater Treatment: An overview" published in the journal "Desalination" was listed in the Top 5 Most Downloaded Articles in 2013.

She has guided 6 Ph.Ds., 90 M. Tech. and 18 B. Tech. projects in the field of Environmental Engineering. She has been actively involved in the modernization of the Environmental Engineering laboratory and purchased equipment worth 3 crores to strengthen various research areas in the Environmental Engineering field under the plan fund. She has completed DST, SERB and TNPCB sponsored projects in the research areas such biopolymer production, wastewater treatment and leachate migration modeling. She is a member of various professional bodies and a reviewer for many Elsevier journals of her discipline.

She served as an Associate Dean (Academic) to assist the activities related to the National Institute Ranking Framework (NIRF), National Board of Accreditation (NBA), Senate matters, Academic Peer Review, Convocation, and Institute Day. During her tenure, she assisted in the accreditation of 10 PG Engineering programs, up-gradation of accreditation for 6 UG programs, and submission of Self-Assessment Report (SAR) for 2 UG programs. As a ranking coordinator of the Institute, she is in charge of data submission to various ranking agencies such as NIRF and THE World University Rankings. She is part of the NIRF task force and also a convener of the Strategic Planning Group (SPG) of the Institute.

National Institute of Technology, Tiruchirappalli:
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CURRICULAM VITAE

Name	**:**	**Dr. R. GANDHIMATHI**
Designation	**:**	Professor
Office Address	**:**	Department of Civil Engineering National Institute of Technology Tiruchirappalli- 620 015
Telephone (Direct)	**:**	+91 431 2503171
Email (Primary)	**:**	rgmathii@nitt.edu
Email (Secondary)	**:**	rgmathii@gmail.com
Field(s) of Specialization	**:**	**Environmental Engineering**
Projects Guidance (Ph. D. / PG / UG)		
Ph.D.	**:**	6 (Completed) + 5 (Ongoing)
PG (M. Tech.)	**:**	90 (Completed) + 5 (Ongoing)
UG (B. Tech.)	**:**	18
Research Publications / Citations / Book Chapters / Conferences		
Research Articles and Reviews	**:**	103
h Index	**:**	36
Research Citations	**:**	5305
Book Chapters	**:**	4
International Conferences	**:**	26
National Conferences	**:**	50
Sponsored Projects	**:**	3 Completed
Academic Identity	**:**	
Scopus Id	**:**	25951386400
Researcher Id (WoS)	**:**	V-6397-2018
ORCID Id	**:**	0000-0001-5652-4274
Google Scholar Id	**:**	RJqICQEAAAAJ

1. Employment Record

ORGANIZATION	DESIGNATION	PERIOD
National Institute of Technology, Tiruchirappalli	Professor	21.09.2022 to Till Date
	Associate Professor	12.03.2018 to 20.09.2022
	Assistant Professor (Grade I)	06.11.2011 to 11.03.2018
	Assistant Professor (Grade II)	06.11.2008 to 05.11.2011
	Lecturer (TEQIP)	17.11.2006 to 05.11.2008

Indian Institute of Technology Madras, Chennai.	Ph.D. Research Scholar	30.07.2003 to 14.11.2006
Kongu Engineering College, Perundurai.	Lecturer	01.06.2000 to 14.07.2003

2. Academic Record

COURSE	INSTITUTION	BOARD / UNIVERSITY	YEAR OF STUDY	PERCENTAGE	SUBJECTS
Ph. D.	Indian Institute of Technology Madras, Chennai.	IIT Madras	2003 - 2008	**9.71** (CGPA)	Environmental Engineering
M.E.	College of Engineering, Guindy.	Anna University	1999 - 2000	**8.96** (CGPA) (1st Class with Distinction)	Environmental Engineering
B.E.	Govt. College of Engineering, Salem.	Madras University	1994 - 1998	**76.10 %** (1st Class with Distinction)	Civil Engineering
HSC	St. Mary's Hr. Sec. School, Salem.	State Board	1993 - 1994	**86.92 %**	Maths & Biology
SSLC	Sri Sarada Vidyalaya Hr. Sec School, Salem.	State Board	1991- 1992	**84.80 %**	-

3. Project Works

UG	:	Design and Estimation of Pre – Fabricated School Building.
PG	:	Flow and pressure equalization in water supply in multi-storied buildings.
Ph.D.	:	Solid Waste Leachate Characterization and Prediction of its Migration from open dumping site

Abstract (Ph. D. Thesis):

Large quantities of wastes from urban, municipal, and industrial sectors are generated worldwide. At present, most of these wastes find their way into the environment with little or no treatment especially in developing countries. Dumping of solid wastes in open sites or in low-lying areas results in contamination of both the surface and groundwater resources by leachate (highly polluting liquids formed from the decomposition of waste). In addition to the leachate generation induced by precipitation, the leachate is also produced as a result of biochemical processes that convert solid waste materials to liquid forms. Knowledge of flow, transport and fate of contaminant from open dumping site is required for assessing the potential impact on groundwater quality and to develop suitable mitigation strategies. The above-mentioned issues were dealt in this thesis through three phases.

In the first phase of research work, the solid waste characterization, evaluation of physical properties, chemical properties, and heavy metals concentration in the solid wastes and soil samples, the detailed analysis of leachate characteristics, and assessment of the ground water quality around the dumping site were carried out. For solid waste composition analysis, fresh solid waste samples were collected from the open dumping site located at Perungudi of Chennai city, Tamilnadu, India. The samples were segregated into different

categories and weighed individually. For contaminant evaluation of municipal solid waste and soil in the dumping site, depth wise samples were collected in the dumping site. Acid digests and water extracts of municipal solid waste fine fraction and soil samples were prepared and experiments were conducted to estimate the concentration of heavy metals. The presence of heavy metals (Pb, Cu, Zn, Mn, Cr, Cd and Ni) in soil sample indicates that there is appreciable contamination of the soil by leachate migration. It is also observed that the heavy metals such as copper, zinc and manganese are also present in the water extract prepared from solid waste fine fraction. The leachate coming out from the open dumping site depicts very high concentration of Total Dissolved Solids (TDS). In the open dumping site, the TDS concentration of old leachate varies from 2202 mg/l to 9518 mg/l whereas for the fresh leachate, the TDS concentration varies from 12,456 mg/l to 90,958 mg/l. The quality of groundwater around the dumping site was also found to be very much affected and the water samples had high concentrations of selected inorganic pollutants especially total dissolved solids.

In the second phase, the attenuation of heavy metals (Zn, Pb, Cd, Mn, Cr and Cu) present in the leachate on the fly ash 'C' barrier material has been investigated in detail. The leachate used for batch experimental study contains all the above heavy metals except chromium. Laboratory kinetic and isotherm studies were performed to determine the effect of contact time and optimum fly ash dosage on the adsorption. In addition to the batch experiments, column studies were also carried out to check the efficiency of the attenuation capacities of the barrier material, namely fly ash. The X-ray diffraction (XRD), Scanning electron microscopy (SEM) and Fourier transform infra-red (FTIR) spectroscopic techniques were utilized to identify the mineral phases, morphology, and the functional groups of fly ash material.

In the third phase, the groundwater flow and contaminant transport models were developed using Visual MODFLOW and MT3DMS to study the leachate transport through saturated medium and to predict the plume behaviour under different scenarios. This model has been effectively be used for predicting the leachate migration from open dumping site. The conceptual model of the system was derived from the information on geology, geo physical and geo hydrology of the study area. The effect of three different scenarios was studied to understand the stress on the system in the next ten years. Three different scenarios referred as namely (i) continuing the same quantity (rate) and concentration of leachate from dumping site (Scenario-I) (ii) there will be a yearly reduction of 500 mg/l of TDS for old dumping area (2006-2015) and a yearly increase of 5000 mg/l of TDS for new dumping area (2006 -2015) due to continuous disposal of solid waste (Scenario-II) and (iii) the TDS concentration will be reduced to zero level from 2008 onwards for old dumping area and 2010 onwards for new dumping area will be maintained (Scenario-III). The plume movement has been predicted for all these three scenarios up to the year 2015. From the leachate transport model, it has been observed that the TDS concentration predicted in the nearby well is very high when compared to the well which is located at more than 650 m from the dumping site for Scenario-I and Scenario-II. It is clear from the results of scenario-III that the concentration in the near-by well decreases rapidly when compared to the regions located at 650 m from the dumping site in East direction. Two alternatives were considered in this study to rehabilitate the area and to minimize the environmental problems due to pollutant movement. These measures include provision of single liner and provision of double liner at the bottom.

As a conclusion, the use of fly ash in landfill liners is recommended in order to increase the attenuation of heavy metals during leachate passage through the landfill containment systems. The developed flow and leachate transport model for leachate study arises from open dumping site can be effectively used for studying the pollutant migration in groundwater aquifer. The double liner prevents the movement of leachate completely from the landfill and also reduces the TDS concentration in the downstream side when compared to the single liner.

4. Academic/Administrative Responsibilities within the University

(i). **Institute Level**

Position	Department / Centre / Institution	From	To
Ranking Co-Ordinator	Institution	September 2022	Till Date
NEET Nodal Officer	Institution	February 2025	May 2025
Deputy Centre Superintendent / NEET 2025	Institution	May 2025	May 2025
Academic Reform committee (PG), Member	Institution	May 2024	Till Date
Member, Ranking and Analytics Committee	Institution	November 2021	Till Date
Member, National Education Policy Implementation Committee	Institution	February 2021	Till Date
Member, Accreditation Committee	Institution	September 2021	Till Date
Co-ordinator, cGanga (MoU with IITK)	Institution	January 2021	December 2021
Co-ordinator, Data Insight Team	Institution	March 2020	November 2021
Convener, Strategic Planning Group (SPG)	Institution	March 2020	Till Date
Nodal Officer, AISHE and AIU	Institution	January 2020	Till Date
Member, Strategic Planning Group (SPG)	Institution	April 2018	March 2020
Co-Ordinator, NIRF	Institution	November 2019	October 2021
Convener, NIRF Taskforce	Institution	April 2018	March 2020
Associate Dean (Academic)	Institution	December 2017	September 2020
Academic Reform committee, Member	Institution	January 2018	February 2021
Convocation			
Core committee member	Institution	June 2018	November 2020
Member, Convocation	Institution	June 2017	August 2017
Member, Convocation	Institution	June 2016	July 2016
NBA			
Secretary, Core Committee, NBA	Institution	March 2019	April 2019
Secretary, Core Committee, NBA	Institution	September 2019	October 2019
Institute Day			
Chairperson, Report on Achievements	Institution	March 2025	March 2025
Coordinator, Faculty Awards	Institution	April 2018	Till Date
Member, Institute Day 2022 (Report on Achievements)	Institution	April 2022	August 2021
Member, Institute Day 2021 (Report on Achievements)	Institution	April 2021	August 2021

Member, Institute Day 2020 (Report on Achievements)	Institution	March 2021	-
Convener, Institute Day 2019 (Report on Achievements)	Institution	April 2019	-
Member, Institute Day 2018 (Report on Achievements)	Institution	April 2018	-
Director's Nominee			
Renewal of SciVal` Tool for Library	Institution	August 2021	Till Date
AMC for lawns and gardens	Institution	July 2021	Till Date
AMC for water purifier systems	Institution	June 2021	Till Date
Faculty In-charge (Monitoring of drinking water quality and treated wastewater characteristics, NIT Campus)	Institution	October 2015	February 2019
Warden	OPAL Hostel (A, B, C west)	November 2015	February 2018
Member, Anti- Ragging Committee /	OPAL Hostel	July 2016	February 2018
Member, Committee for Installation of CCTV surveillance and firefighting systems	Institution	July 2017	May 2018
Certificate Verification / M. Tech. / Common Counseling	Institution	May 2015	-
Member, Biogas plant	Institution	September 2014	
Faculty Advisor, Leap Club	Institution	August 2012	November 2015
Stock verification officer (2009 -10, 2011-12, 2014-15)	Production Engineering	May 2015	-
		July 2009	-
Stock verification officer	Electrical Engineering	2013	2015
Member, Purchase Committee / Water Purifier	Institution	July 2009	March 2010

(ii). **Department Level (Civil Engineering)**

Position	Faculty / Department / Centre / Institution	From	To
Co-Ordinator	M. Tech. Environmental (Environmental Engineering)	01-06-2022	Till Date
Lab In-charge	Environmental Engineering Laboratory	18-07-2007	March 2024
B. Tech. Project Coordinator	Civil Engineering	January 2022	May 2022
DPEC / Chairperson			
M. Tech. / III and IV Semester	Construction Technology and Management	August 2024	Till Date
Class Committee / Chairperson			

M. Tech. / I and II Semester	Transportation Engineering and Management	August 2021	June 2022
M. Tech. / I and II Semester	Transportation Engineering and Management	September 2020	June 2021
M. Tech. / II Semester	Structural Engineering	January 2020	July 2020
B. Tech. / III Semester	Civil Engineering	July 2019	December 2019
B. Tech. / III Semester	Civil Engineering	July 2018	December 2018
M. Tech. / I & II Semester	Construction Technology and Management	July 2017	May 2018
B. Tech. / VII & VIII Semester	Civil Engineering	July 2016	May 2017
B. Tech. / VI Semester	Civil Engineering	January 2016	May 2016
M. Tech. / II Semester	Transportation Engineering and Management	January 2014	May 2014
B. Tech. / III Semester	Civil Engineering	July 2013	December 2013
B. Tech. / VI Semester	Civil Engineering	January 2013	May 2013
B. Tech. / III Semester	Civil Engineering	July 2012	December 2012
Department Project Evaluation Committee / Member			
M. Tech. / III – IV Semester	Environmental Engineering	August 2024	Till Date
		August 2023	May 2024
		September 2022	May 2023
		August 2021	May 2022
		August 2020	May 2021
		July 2019	May 2020
		July 2018	May 2019
		July 2016	May 2017
		July 2015	May 2016
		July 2014	May 2015
		July 2013	May 2014
		July 2011	May 2012
		July 2010	May 2011
		July 2009	May 2010
		July 2008	May 2009
Member, Purchase Committee	Civil Engineering	January 2009	December 2011
Faculty in-charge, Work Load and Time Table Committee	Civil Engineering	July 2015	June 2016
		July 2014	June 2015
		July 2012	June 2013
		July 2010	July 2011
Coordinator, Faculty meetings	Civil Engineering	July 2007	June 2008

5. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Ph. D. Thesis Examiner			
Indian Examiner / Thesis Evaluation	School of Civil and Chemical Engineering. VIT University, Vellore	September 2020	February 2021
Member / Viva-voce Board	Thiagarajar College of Engineering, Madurai	February 2021	
Indian Examiner / Thesis Evaluation	Centre for Research, Anna University, Chennai	December 2020	
Indian Examiner / Thesis Evaluation	University College of Engineering, BIT Campus, Tiruchirappalli	December 2019	August 2020
Member / Viva-voce Board	Government College of Engineering, Theni	February 2020	
Indian Examiner / Thesis Evaluation	NITK, Surathkal	February 2020	
Member / Viva-voce Board	Anna University, Dindigul	January 2019	
Doctoral Committee			
Member, Doctoral Committee	Crescent Institute of Science and Technology, Chennai	February 2021	Till Date
Member, Doctoral Committee	Centre for Environmental Studies, Anna University	February 2021	Till Date
Member, Doctoral Committee	University College of Engineering, Anna University, Tiruchirappalli	January 2019	Till date
Member, Doctoral Committee	Alagappa Chettiar college of Engineering and Technology, Karaikudi	June 2018	Till date
Member, Doctoral Committee	School of Civil and Chemical Engineering. VIT University, Vellore	January 2017	Till date
Member, Doctoral Committee	Government College of Technology, Coimbatore	2015	September 2020
Member, Doctoral Committee	Anna University, Chennai	June 2015	Till date
Member, Doctoral Committee	Anna University, Chennai	January 2015	Till date
DC member	Anna University, Coimbatore	August 2008	August 2015
BoS			
BoS Expert Member	Puducherry Technological University	April 2025	Till Date
BoS Expert Member	K.S. Rangasamy College of Technology, Tiruchengode	October 2020	May 2023
BoS Expert Member	Adhiyamaan College of Engineering, Hosur	August 2014	July 2016
Others			
Subject Expert	ASCE Concrete Canoe Competition, VIT, Vellore	March 2021	

Mentor	Smart India Hackathon, 2018, MHRD (Nodal Centre: NIT, Tiruchirappalli)		
Single Member AICTE Expert: Swachhata Rankings of Higher Education Institutions (HEIs)	1. Periyar College of Pharmaceutical Sciences for Girls, Tiruchirapalli 2. Periyar Maniammai Institute of Science & Technology, Thanjavur	August 2019	

6. Awards, Associateships etc.

Name of the Award	Awarding Organization	Year of Award
Best Paper Award, International Conference on Environmental Science and Technology (ICEST)	NIT, Surat	2024
Research Scholarship for the B. Tech. Project titled "Interaction of Tetracycline with Microplastics in Aqueous Medium"	Dr. Ram and Thaila Ramanujam Foundations, USA	2024-25
World Scientist and University Rankings 2022: Placed No.1 in Civil Engineering (NIT), 28 in India (Total Citation: 4659)	AD Scientific Index (https://www.adscientificindex	2021-22
Life Fellow (LF 761, August 2021)	Institution of Public Health Engineers, India	2021-22
Life Fellow (001321, 12-06-2021)	Indian Water Works Association	2021-22
Fellow (F-1271993, 23-11-2020)	The Institution of Engineers (India)	2020-21
Best Performer in Teaching, Research and Institutional Development (Institute Level) under Associate Professor Category (AY: 2019-20)	National Institute of Technology, Tiruchirappalli	2020-21
Top Three Contributors in terms of number of Research Publications. Top Three Contributors in terms of number of Research Citations. (CY: 2018, Department wise)	National Institute of Technology, Tiruchirappalli	2018-19
Top Three Contributors in terms of number of Research Publications. Top Contributors in terms of number of Research Citations. (CY: 2017, Department wise)	National Institute of Technology, Tiruchirappalli	2017-18

Top Three Contributors in terms of number of Research Publications (CY: 2016, Department wise)	National Institute of Technology, Tiruchirappalli	2016-17
Listed in Top 5 Most Downloaded Articles in 2013, Desalination. P. V. Nidheesh and R. Gandhimathi (2012) Trends in Electro-Fenton process for Water and Wastewater Treatment: An overview, Desalination, 1–15	Desalination, Elsevier Publications	2013-14
Included in Who's Who in the World 2012 (29th Edition)	Marquis Who's Who Publications, USA	2011-12
Elected as corporate member in Institution of Public Health Engineers (IPHE)	IPHE, Kolkata, India.	2011-12
Fast Track Research Proposal for Young Scientists	Department of Science and Technology, Govt. of India, New Delhi.	2008-09
Top 10 Articles Published in the BioMedLib Domain Since my Publication for the paper "Mohan S, Gandhimathi R: Removal of heavy metal ions from municipal solid waste leachate using coal fly ash as an adsorbent. J Hazard Mater; 2009 Sep 30; 169(1-3):351-9".	BioMedLib Domain	2009-10
Endowment Scholarships for the year 1996-97	University of Madras	1999-2000
MHRD, GATE Scholarship	College of Engineering Guindy, Anna University, Chennai, India.	1998-2000

7. Details of Academic Work

(i). **Curriculum Development**

- B. Tech. Civil Engineering / Core Courses, Electives, Honors & Minor Courses / Environmental Engineering
- M. Tech. Environmental Engineering

(ii). **Courses taught at Postgraduate and Undergraduate levels**

B. Tech.

1. Environmental Engineering - I and II
2. Models for Air and Water Quality
3. Solid Waste Management Techniques
4. Environmental Impact Assessment
5. Basic Civil Engineering
6. Engineering Mechanics
7. Environmental Engineering Laboratory
8. Engineering Graphics
9. Computer Aided Engineering Graphics
10. Design and Drawing (Public Health)

M. Tech.

1. Groundwater Flow and Contaminant Transport through Porous Media
2. Modeling of Natural Systems
3. Environmental Process Chemistry and Microbiology
4. Solid and Hazardous Waste Management
5. Process Chemistry for Water and Wastewater Treatment
6. Contaminant Transport Modeling
7. Water and Air Quality Models
8. Transport of Water and Wastewater
9. Environmental Engineering and Microbiology Laboratory
10. Environmental Quality Measurements Laboratory
11. Environmental Engineering Processes Laboratory

(iii). **Establishment of New Lab Facilities**

S. No.	Year	Laboratory
1.	2018-2024	Advanced Instrumentation Facility / Process Reactors
2.	2016-2017	Environmental Modeling Laboratory
3.	2014-2016	Environmental Instrumentation Laboratory
4.	2013-2014	Environmental Microbiology Laboratory
5.	2013-2014	Environmental Analysis Laboratory
6.	2008-2018	Environmental Engineering Processes Laboratory / Process Reactors

(iv). **Lab Manual**

S. No.	Programme	Title
1	B. Tech. / Civil Engineering	Environmental Engineering Laboratory
2	M. Tech. / Environmental Engineering	Environmental Quality Measurements Laboratory
3	M. Tech. / Environmental Engineering	Environmental Engineering Processes Laboratory

(v). **Projects guided at Postgraduate level**

S. No.	Title of the Project	Name of the Student	Year
1.	Assessment of Perfluoroalkyl Substances Contamination, and Risk Assessment in Water Sources: A Comprehensive Approach to Detection and Analysis	Mohd Bashir	2025
2.	Fate and Transport of Pharmaceuticals in the Groundwater	Prajakta Prakash Dayare	2025
3.	Advanced Oxidation Process Coupled with Biological Process for the Degradation of Pollutants in Paper and Pulp Industry Wastewater	Saloni Agarwal	2025
4.	Efficient Degradation of Rhodamine B from Aqueous Solution using Iron and Sulfur Co-doped Graphitic Carbon Nitride as a Heterogeneous Catalyst	Bosmiya Hinal Anilbhai	2025

5.	Stabilized Leachate Treatment by Graphite Graphite E-Peroxone System: Performance Evaluation and Cost Benefit Analysis	Ayush Yadav	2025
6.	Removal of Ibuprofen from Aqueous Solution by Adsorption using NU-1000 Metal Organic Framework	Liviya Saji	2024
7.	Degradation of Tetracycline through Sulfate-Based Advanced Oxidation Process Utilizing Fly Ash-Magnetite Composite	Ishika Dey	2024
8.	Predictive modelling of leachate transport in biomining environment: A machine learning Approach	Suryawanshi Hemlata Dilip	2024
9.	Modelling the dynamics of contaminant transformation and degradation in constructed wetlands	Rohit Kumar	2024
10.	A Sulfate Radical Based Advanced Oxidation System using FeAl-LDH Loaded on Biochar for Treatment of Textile Dye bath Wastewater	Jyoti Pandey	2024
11.	Synthesizing a Bioengineered Composite Immobilizing with Leachate Isolated Bacterial Species for Degradation of Microplastics	Vishesh Mishra	2023
12.	Treatment of Stabilized Leachate using Modified Biochar Supported Iron Sulphides /Oxides in Electro-Fenton Process	Ayush Panwar	2023
13.	Effect of Sugarcane Bagasse as an External Carbon Source in Constructed Wetland for Sewage Treatment	Swathi Priya P	2023
14.	Treatment and Energy Recovery from Landfill Leachate Using Membrane Bioreactor and Microbial Fuel Cell Coupled System	Somnath Pal	2023
15.	Copper ferrite catalyst for the degradation of reactive black dye using heterogeneous photo Fenton process	Parmar Niyati Maheshbhai	2023
16.	Photocatalytic Degradation of Crystal Violet Dye from Aqueous Solution Using TiO_2/Ti_3C_2	Balamurukan R	2022
17.	Treatment of Domestic and Synthetic Wastewater by Constructed Wetlands- Microbial Fuel Cell (CW-MFC) System Using Natural Media	Pujala See Sai Vinay	2022
18.	Mxene Augmented Copper Ferrite ($CuFe_2O_4/Ti_3C_2$) Catalyst for Treatment of Stabilized Landfill Leachate by Sulfate Radical Based Advanced Oxidation Process	Siva Sankari J	2022
19.	Glyphosate Removal from Wastewater by Sulphate Radical Based Advanced Oxidation Process	Yogendra Kumar Sahu	2022
20.	Machine Learning Based Model to Estimate Air Pollution Concentration Levels in Delhi's Atmosphere	Radheshyam Vishwakarma	2022
21.	Pharmaceuticals and Personal Care Products (PPCPs): Occurrence, Fate, Transport and Modelling in Water Environment	Divyasree Raju	2021

22.	Removal of reactive orange-16 by thermal activated sulphate radical based advanced oxidation process Augmented by Fe-biochar	J Juliana	2021
23.	Particulate Matter Estimation over a Coastal Region Chennai, India Using Satellite AOD	Leenu Raju	2021
24.	Modelling of Groundwater Flow and Contaminant Transport Using Visual Mudflow Near Kullursandai Reservoir Area, Virudhunagar District	Mukesh Kumar K.	2021
25.	Parametric Optimization and Modeling of Crystal Violet Adsorption by Bottom Ash in a Fixed Bed Column	Revathy Suresh	2021
26.	Sulfate Radical Based Advanced Oxidation Process for Wastewater Treatment: Study, Mechanism and Optimization	Vundmatla Venkateswari	2021
27.	Optimization in Process Technologies for Wastewater Treatment Plant	Saurabh Tiwari	2021
28.	Removal of Rhodamine B from wastewater using an iron metal organic framework as a catalyst in fenton process	Afeena Gulam	2020
29.	Stabilized landfill leachate degradation by H_2O_2/Persulfate based Advanced Oxidation Process using natural Pyrite	Athira S	2020
30.	A small scale vertical subsurface flow constructed wetland for treatment of domestic wastewater	Balakrishnan S	2020
31.	Degradation of Acid Orange 7 from wastewater by ultrasonic assisted Fenton process using fly ash augmented magnetite	Feba Benny	2020
32.	Fate and transport of Cadmium in groundwater	Hasna M N	2020
33.	Effect of salinity and substrate concentration on Polyhydroxyalkanoates production from synthetic oily bilge water using mixed microbial consortium	Prasun Mitra	2020
34.	Removal of phenol by free and immobilized mixed culture of bacteria isolated from phenolic wastewater	Shweta Gomber	2020
35.	Polyhydroxyalkanoates Synthesis from Cassava Starch Wastewater Using Sequencing Batch Reactor	Athira K O	2019
36.	Organic acid-enhanced chitosan hydrogel beads (CHBs) for the removal of heavy metals from wastewater	Chittaluri Uday Kumar	2019
37.	An Integrated Electrochemical Adsorption System for Removal of Nitrate from Water	Jasna R S	2019
38.	Modeling of domestic scale electro dialysis system for desalination of brackish water	Rahul Kumar	2019
39.	Comparison of Fenton and ultrasonic assisted Fenton process for the removal of Acid Blue 15 dye from aqueous solution using green synthesized magnetite nanoparticles	Lekshmi V Prakash	2019
40.	Removal of heavy metal ions from industrial wastewater using pectin extracted from agricultural waste material	Narnepati Krishna Chaitanya	2019
41.	Simultaneous Recovery of Electricity and Purification of Wastewater using Microbial Fuel Cell (MFC) inoculated with Biocatalysts	Anuradha Dey	2018

42.	Stabilized Landfill Leachate Treatment by Zero Valent Aluminium-Acid System	Jismy Antony	2018
43.	A Novel Photoelectro-Peroxone process for the Decolorization and Degradation of Reactive Azo Dye In Aqueous Solution	Alphonsa C Joy	2018
44.	Decolourisation / Degradation of Dyes from Textile Wastewater with Peroxymonosulphate Oxidation catalyst by various activation methods	Meenu Thambi	2018
45.	Green Synthesis of Zinc Oxide Nano Particles and its application in treatment of Wastewater	Anjali	2018
46.	Polyhydroxyalkanoate production from Electrocoagulated Bilge Water using Sequential Batch Reactor System	Karthikeyan M	2018
47.	Combined Heterogeneous Electro-Fenton and Biological Process for the Treatment of Stabilized landfill leachate	Archa Baiju	2017
48.	Biodegradation of Textile Wastewater by Bacterial Fungal consortium	M. Anushya Devi	2017
49.	Biotransformation of Kitchen Refuse by Vermicomposting Using *Eisenia Fetida*	Kakimani Sree Lekha	2017
50.	Arsenic Removal by Heterogeneous Fenton Process Coupled with Microfiltration	Livin Pramod	2017
51.	Removal of Atrazine from Wastewater by Heterogenous Fenton/Photo-Fenton Process	Ashwini A Sen	2017
52.	Polyhydroxy Alkanoates (PHA) production from swine effluent using mixed microbial cultures (MMC)	Kumari Priyanka	2016
53.	Optimization of an integrated electrocoagulation / electro oxidation process using Fe as bipolar electrode for pulp and paper wastewater	Kirti Tamta	2016
54.	Removal of Copper (II) from Aqueous Water by bio-functional Magnetic Beads	G. Rajmohan	2016
55.	Synthesis and Characterization of Fe_3O_4 nanoparticle coated with humic acid salt for malachite green dye removal from aqueous solution	J. Vigneshwar	2016
56.	Stabilized landfill leachate treatment by homogeneous and heterogeneous Fenton and Fenton like Process	K. Hasim Suhaib	2016
57.	Removal of Rhodamine B dye from aqueous solution by Electro Fenton process using Iron doped Mesoporous Silica as a Heterogeneous Catalyst	R. Jinisha	2015
58.	Utilization of Distillery wastewater as a no-cost nutritive medium for production of biosurfactants	Swagata Das	2015
59.	Removal of organics from bilge water by batch Electrocoagulation process and its optimization	Aswathy P	2015
60.	Treatment of grey water by adsorption process using Calcined layered double hydroxide as an adsorbent	U. Arul Sudhan	2015
61.	Treatment of Stabilized Leachate using Sulfate Radical based Advanced Oxidation Process	T. T. Asha	2015
62.	Monitoring and Analysis of Indoor Environmental Quality in NIT Trichy	Priyanka Verma	2015
63.	Treatment of Textile Wastewater by Combined Advanced Oxidation and Biological Process	P. S. Roshini	2015

64.	Treatment of Partially Stabilized Landfill Leachate by Fenton Oxidation in Batch and Continuous Modes	Sumithra Venugopal	2014
65.	Electrolytic Degradation of Reactive Black B in Aqueous Solution Using Two Dimensional and Three-Dimensional Electrode Reactor	S. Sowmiya	2014
66.	Experimental Investigation on Landfill Leachate Heavy Metal Attenuation in Biobarrier	Krupa J Thottappally	2014
67.	Assessment of Gaseous Pollutants and particulate Matter in the Ambient Air from the Heterogeneous Traffic near an Urban Highway	Sree Lekha Kumar	2014
68.	Oxidation and Mineralization of Magenta MB by persulfate Based Advanced Oxidation Process	K. Sarath	2014
69.	Immobilization of Cadmium by Cost- Effective Amendments in a Contaminated Soil	Venkatramana Adusupalle	2014
70.	Forecasting Air Quality Parameters Using Linear and Nonlinear Models	Abishek Anand	2013
71.	Removal of Water Turbidity by natural coagulants obtained from *Prosopis Juliflora and Cactus Opuntia*	C. Mithun	2013
72.	Removal of Magenta MB from aqueous solution by Fenton and Photo-Fenton Processes	Shilpa Xavier	2013
73.	Electro Fenton Removal of Salicylic Acid from aqueous solution in batch and continuous mode	Stephy Jaqeline George	2013
74.	Treatment of Stabilized Leachate by Peroxicoagulation Process	Devika Venu	2013
75.	Application of Vertical Subsurface Flow Constructed Wetland in the Treatment of Municipal Wastewater	Dwithiya Chandrashekar	2013
76.	Utilization of Textile and Domestic Waste Sludge as Brick Material	B. Shathika Sulthana Begum	2012
77.	Experimental Investigation of Cadmium Transport in Homogeneous Saturated Soil column and its Modeling	P. Rama Satya Kamesh	2012
78.	Treatment of Stabilized leachate by Electrocoagulation: An Investigation of the Effect of operational Parameters	Albin Babu	2012
79.	Decolourization / Biodegradation of Textile Azo dyes by *Bacillus sp. and Pseudomonas*	C. Ponnarasi	2012
80.	Behavior of chloride through a saturated soil mass: A Horizontal Column Experimental study	P. Umamaheshwararao	2011
81.	Experimental and Modelling studies on batch and fixed bed adsorption of crystal violet from aqueous solution onto bottom ash	P. V. Nidheesh	2011
82.	Batch removal of basic dyes from aqueous solution by adsorption on Fly ash and Bottom ash: Equilibrium Isotherms and kinetic studies	V. Sindhu	2010
83.	Biosorption of Heavy metal ions from aqueous solution by water hyacinth	V. M. Arun	2009
84.	Characterization and Pretreatment of leachate from municipal solid waste open dumping site	N. Jegan Durai	2009
85.	Fixed film Biomethanation of Distillery Spent Wash	MD Muzahed	2009

86.	Extraction of Dyes using Liquid Emulsion Membrane	Preshobh	2009
87.	Anaerobic treatment of distillery spent wash – a study on upflow anaerobic fixed film reactor	M. Praveen Kumar	2008
88.	Co-digestion of vegetable and fruit waste using anaerobic digester	V. Subhashini Devi	2008
89.	Modeling of Leachate Migration from Open Dumping Site	R. Vignesh	2008
90.	Utilization of Industrial Welding Slag for the Production of Low-Cost Building Materials	S. Prateep Kumar	2008

(vi). **Projects guided at undergraduate level**

S. No.	Title of the Project	Academic Year
1.	Interaction of Tetracycline with Microplastics in Aqueous Medium	2024-2025
2.	Prediction of Heavy Metal Contamination Using Machine Learning Algorithms in the Middle Ganga Basin	2022- 2023
3.	Potential Usage of Fruit Waste as a Coagulant in Water Treatment	2021- 2022
4.	Application of Fly Ash Augmented Magnetite as a Catalyst in Electro-Fenton Process for Dye Degradation	2019 - 2020
5.	Assessment and Modeling of Groundwater Contamination Around the Solid Waste Open Dumpsite at Ariyamangalam, Trichy	2018 - 2019
6.	Removal of Zinc ions from aqueous Solution using Raw and Acid Treated Orange Peels	2018 - 2019
7.	Adsorption of Pb^{2+} and Cu^{2+} ions from Aqueous Solutions Using Calcined Layered Double Hydroxide	2017 - 2018
8.	Stabilized Landfill Leachate Treatment by Fenton and Electro-Fenton Process Using Nanoscale catalyst	2016 - 2017
9.	Removal of Methylene Blue dye from Aqueous Solution Using Fly Ash Pellets	2015 - 2016
10.	Treatment of Grey water using batch Electrocoagulation Process	2014 - 2015
11.	Degradation of Rhodamine B by heterogeneous Fenton process using Bentonite Clay-Ferric Nitrate Catalyst	2013 - 2014
12.	Degradation of Magenta MB by heterogeneous Photo - Fenton process using Fly ash- Ferric Nitrate Catalyst	2013 - 2014
13.	Removal of Rhodamine B from aqueous solution using coconut coir pith as an adsorbent	2012 - 2013
14.	Treatment of Municipal Wastewater Incorporating *Moringa Oleifera* seed as a natural coagulant	2011 - 2012
15.	Utilization of Refuse concrete Material for COD removal from Domestic Wastewater	2010 - 2011
16.	A column study on Cu (II) Removal from aqueous solution using water Hyacinth (Eichornia Crassipes) Biomass	2009 - 2010
17.	Comparitive adsorptive studies for the removal of Malachite Green dye from aqueous solution using different low-cost adsorbent	2008 - 2009
18.	Extraction of Dye using Liquid Emulsion Membrane	2007 - 2008
19.	Design of Wastewater Treatment Units for NIT Campus	2006 - 2007

(vii). **Other contribution(s)**

a. Instruments purchased through plan fund, TEQIP Phase I, and Phase II: **3.00 crores**
b. Instruments purchased through DST Project: **8 lakhs**

List of Equipment purchased under Project

S. No.	Name of the Equipment	Cost of the Equipment (Rs.)
	FAST TRACK Project	
1.	Visual MODFLOW Software (PC with printer)	2,07,958
2.	Ion Selective Electrodes (Fluoride, Chloride and ORP)	1,47,544
3.	Spectrophotometer	2,41,425
4.	Kjeldahl Digestion unit	92, 216

8. Details of Major R&D Projects

Title of Project	Funding Agency & Amount	Role	Duration		Status
			From	To	Ongoing / Completed
Modeling of Leachate Migration from Open Dumping Site	DST / 13.2 Lakhs	PI	14-01-2009	14-01-2012	Completed
Production of PHA from oily industrial wastes by immobilized bacterial consortium	DST-SERB under TARE Scheme / 18.30 Lakhs	Mentor / Co-PI	18-10-2019	17-10-2022	Completed
Comprehensive Groundwater Pollution Study in and around Rasipalayam Area, Sulur Taluk of Coimbatore District	TNPCB 9.971 Lakhs	PI	19-10-2022	17-10-2023	Completed

9. Number of Ph. D. s guided

Name of the Ph. D. Scholar	Title of Ph. D. Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award
Sree Lekshmi G S	Bench Scale Application of Various AOPs for removal of recalcitrant pollutants from textile wastewater: Performance Comparison and Cost Analysis	Supervisor	Ongoing
Shathika Sulthana Begum B 403122052	Utilization of Ferric Oxide Nanoparticles for the treatment of paper and pulp industry wastewater	Supervisor	Ongoing
Bivin Ebenezer S 403122003 PMRF	Visible Light driven Carbon Dot - Decorated Graphitic Carbon Nitride Composite based Photocatalytic membrane	Supervisor	Ongoing

	Process for the degradation of PPCPs in Wastewater		
Raju M 403121004	A Dual-stage approach for microplastics and organics removal from stabilized leachate	Supervisor	Ongoing
Preethi V 403118003	Highly efficacious oil-water separation process by Iron-based meshes and by facile stacking of the Iron powder waste	Co-Supervisor	July 2024 (22-07-2024)
S.V. Niveditha 403116003	Mineralization of Stabilized Landfill Leachate using Iron and Aluminium based Heterogeneous Catalysts	Supervisor	April 2021 (09-04-2021)
V. Uma 403114057	Organic Removal and Extraction of Biopolymer from Oily Bilge Water using Ozone Assisted Biosystem	Supervisor	February 2021 (18-02-2021)
K. Soundaranayaki 403912051	Removal of Nitrogen and Organics from Domestic Wastewater using Agro-Waste Media In Vertical Flow Constructed Wetlands	Supervisor	September 2020 (14-09-2020)
P. V. Nidheesh 403111004	Treatment of Textile Wastewater by Electrolytically Generated Fenton Reagents Using Graphite Electrodes	Supervisor	July 2014 (23-07-2014)
S. Kanmani 403109051	Investigation of Leachate Migration and its mitigation using Biobarrier: Simulation and Experiments	Supervisor	July 2014 (14-07-2014)

10. Refereed Journals

1. Ebenezer, S.B., **Gandhimathi, R.,** Nidheesh, P.V. **(2025)** Pharmaceutical and personal care product residues in Indian sewage: A review on its detection, monitoring and treatment strategies. Journal of Water Process Engineering, 75, 107883.
2. Raju, M., **Gandhimathi, R. (2025)** From trash to tap: assessment of microplastics contamination in leachate and groundwater. Environmental Earth Sciences, 84(9), 237.
3. Nidheesh, P.V., Oladipo, A.A., Gandhimathi, R., Mohan, S.V. **(2024)** Advanced techniques in leachate management. Process Safety and Environmental Protection, 186, 224–227.
4. John, J., **Gandhimathi, R.,** Sillanpää, M., Chellam, P.V. **(2024)** FeO-functionalised biochar for persulphate systems towards the removal of Remazol Brilliant Orange 3R: machine learning–based approach and toxicity analysis. Biomass Conversion and Biorefinery, 14(9), 10319–10334.
5. Preethi, V., Ramesh, S.T., **Gandhimathi, R. (2024)** Highly Efficacious Oil–Water Separation by Facile Stacking of the Iron Powder Waste. Water, Air, and Soil Pollution, 235(2), 149.
6. Raju, M., **Gandhimathi, R.,** Nidheesh, P.V. **(2023)** The cause, fate and effect of microplastics in freshwater ecosystem: Ways to overcome the challenge. Journal of Water Process Engineering, 55, 104199.

7. Sangeetha, A., Gandhimathi, R., Nidheesh, P.V. **(2023)** Treatment of stabilized landfill leachate using pyrite-activated persulfate oxidation process. Process Safety and Environmental Protection, 171, 413–422.
8. Kanmani, S., and **R. Gandhimathi (2023)** Leachate transport phenomenon on groundwater quality: modeling usingmodflow and MT3DMS tools. Global Nest Journal, 25(3), pp. 44–55
9. Laiju, A. R., **Gandhimathi, R.**, Nidheesh, P.V. **(2023)** Removal of pharmaceutical and personal care products in landfill leachate treatment process. Current Opinion in Environmental Science and Health, 31, 100434.
10. Preethi, V., Nair, S., Ramesh, S.T., **Gandhimathi, R. (2023)** Exploration of the performance of iron-based superhydrophilic meshes for oil-water separation. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 58(9), 793–804.
11. D. Parashar and **R. Gandhimathi (2022)** Zinc Ions adsorption from aqueous solution using raw and acid-modified orange peels: Kinetics, Isotherm, Thermodynamics, and Adsorption mechanism. Water, Air, and Soil Pollution, 233(10), 400.
12. L. Raju, **R. Gandhimathi**, A. Mathew, and S. T. Ramesh (2022) Spatio-temporal modelling of particulate matter concentrations using satellite derived aerosol optical depth over coastal region of Chennai in India. Ecological Informatics, 69, 101681.
13. K. B. Divya, S. T. Ramesh, A. Lavanya, and **R. Gandhimathi** (2022) Recovery of phosphate as hydroxyapatite by fluidized bed homogeneous crystallization technique. Environmental Science and Pollution Research, 29(30), 46214–46225.
14. T. T. Ajith Kumar, N. Mech, S. T. Ramesh and **R. Gandhimathi** (2022) Evaluation of composite briquettes from dry leaves in energy applications for agrarian communities in India. Journal of Cleaner Production, 350, 131312.
15. G. V. Koulini, A. R. Laiju, S. T. Ramesh, **R. Gandhimathi** and P. V. Nidheesh (2022) Effective degradation of azo dye from textile wastewater by electro-peroxone process. Chemosphere, 289, 133152.
16. Saranya, S. T. Ramesh, and **R. Gandhimathi** (2022) Coagulation performance evaluation of alginate as a natural coagulant for the treatment of turbid water. Water Practice and Technology, 17(1), 395–404.
17. L. V. Prakash, A. Gopinath, **R. Gandhimathi**, S. T. Ramesh, and P. V. Nidheesh (2021) Ultrasound aided heterogeneous Fenton degradation of Acid Blue 15 over green synthesized magnetite nanoparticles. Separation and Purification Technology, 266, 118230.
18. L. Pramod, A. Lavanya, **R. Gandhimathi**, **S. T. Ramesh**, and P. V. Nidheesh, (2020) Heterogeneous Fenton process coupled with microfiltration for the treatment of water with higher arsenic content. Chemical Engineering Communications, 207(12), 1646–1657.
19. S. Jasna, **R. Gandhimathi**, A. Lavanya and S.T. Ramesh (2020) An integrated electrochemical-adsorption system for removal of nitrate from water. Journal of Environmental Chemical Engineering, 8, 104387.
20. A. C. Joy, **R. Gandhimathi**, S. V. Niveditha, S. T. Ramesh, P. V. Nidheesh (2020) Photoelectro-peroxone process for the degradation of reactive azo dye in aqueous solution. Separation Science and Technology (Philadelphia), 55(14) 2550–2559.
21. V. Uma and **R. Gandhimathi** (2020) Effectiveness of ozone pretreatment on bioconversion of oily bilge water into biopolymer. Journal of Water Process Engineering, 36, 101275.

22. J. Antony, S. V. Niveditha, **R. Gandhimathi**, S. T. Ramesh and P. V. Nidheesh (2020) Stabilized landfill leachate treatment by zero valent aluminium-acid system combined with hydrogen peroxide and persulfate based advanced oxidation process. Waste Management, 106, 1-11.
23. V. Preethi, S. T. Ramesh, **R. Gandhimathi** and P. V. Nidheesh (2020) Optimization of batch electrocoagulation process using Box-Behnken experimental design for the treatment of crude vegetable oil refinery wastewater. Journal of Dispersion Science and Technology, 41(4), 592–599.
24. V. Niveditha and **R. Gandhimathi** (2020) Flyash augmented Fe_3O_4 as a heterogeneous catalyst for degradation of stabilized landfill leachate in Fenton process. Chemosphere, 242, 125189.
25. Sravanth, **S. T. Ramesh, R. Gandhimathi** and P. V. Nidheesh (2020) Continuous treatability of oily wastewater from locomotive wash facilities by electrocoagulation", Separation Science and Technology, 55 (3), 583–589.
26. K. Soundaranayaki, and **R.** Gandhimathi (2020) Enhancing the nitrogen removal of vertical flow constructed wetland by using organic media. Desalination and Water Treatment, 2020, 175, 125–140.
27. V. Niveditha and **R. Gandhimathi** (2020) Mineralization of stabilized landfill leachate by heterogeneous Fenton process with RSM optimization. Separation Science and Technology.
28. S. Jayashree, S. T. Ramesh**, R. Gandhimathi**, and P. V. Nidheesh (2019) Wastewater Treatment by Microbial Fuel Cell Coupled with Peroxicoagulation Process. Clean Technologies and Environmental Policy, 21(10) 2033–2045.
29. K. Soundaranayaki, and **R. Gandhimathi** (2019) Performance of various media in vertical flow constructed wetland for the treatment of domestic wastewater. Desalination and Water Treatment, 146, 57 - 67.
30. Uma and **R. Gandhimathi** (2019) Organic removal and synthesis of biopolymer from synthetic oily bilge water using the novel mixed bacterial consortium. Bioresource Technology, 273, 169-176.
31. T. Sruthi, **R. Gandhimathi,** S. T. Ramesh and P. V. Nidheesh **(2018)** Stabilized landfill leachate treatment using heterogeneous Fenton and electro-Fenton processes. Chemosphere, 210, 38-43.
32. R. Jinisha, **R. Gandhimathi,** S. T. Ramesh, P. V. Nidheesh and S. Velmathi **(2018)** Removal of rhodamine B dye from aqueous solution by electro-Fenton process using iron-doped mesoporous silica as a heterogeneous catalyst. Chemosphere, 200, 446-454.
33. P. V. Nidheesh, J. Khatri, T. S. Anantha Singh, **R. Gandhimathi**, and S. T. Ramesh (2018) Review of zero-valent aluminium-based water and wastewater treatment methods. Chemosphere, 200, 621–631.
34. A. Baiju, **R. Gandhimathi,** S. T. Ramesh and P. V. Nidheesh (2018) Combined Heterogeneous Electro-Fenton and Biological Process for the Treatment of Stabilized Landfill Leachate. Journal of Environmental Management, 210, 328 - 337.
35. S. Dhivya, S. T. Ramesh, **R. Gandhimathi** and P. V. Nidheesh **(**2017) Performance of Natural Coagulant Extracted from Plantago ovata Seed for the Treatment of Turbid Water, *Water, Air, & Soil Pollution*, 228 (11) 423.

36. S. S. Mithra, S. T. Ramesh, **R. Gandhimathi**, P.V. Nidheesh (2017) Studies on the removal of phosphate from water by electrocoagulation with aluminium plate electrodes, Environmental Engineering and Management Journal, 16(10) 2293-2302.
37. P. S. Roshini, **R. Gandhimathi,** S. T. Ramesh and P. V. Nidheesh **(**2017) Combined electro-Fenton and biological processes for the treatment of industrial textile effluent: Mineralization and toxicity analysis. Journal of Hazardous, Toxic, and Radioactive Waste, ASCE, 04017016, 1-8.
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39. P. V. Nidheesh, Praveen Thomas, Kishore A. Nair, Jones Joju, P. Aswathy, R. Jinisha, George K. Varghese and **R. Gandhimathi (2017)** Potential Use of Hibiscus Rosa-Sinensis Leaf Extract for the Destabilization of Turbid Water**.** *Water, Air, & Soil Pollution*, 228 (1) 51.
40. S. Sowmiya, **R. Gandhimathi**, S. T. Ramesh and P. V. Nidheesh (2016) Granular activated carbon as a particle electrode in three-dimensional electrochemical treatment of Reactive Black B from aqueous solution, Environmental Progress & sustainable Energy, **35**, 1616-1622.
41. Krupa, J., **Gandhimathi, R.**, Ramesh, S., Nidheesh, P., and Singh, T. (2016) Investigation of Biobarrier for Leachate Containment through Batch and Continuous Flow Studies. *J. Environ. Eng.,* ASCE, 142, C4015006:1-8.
42. D. Venu, **R. Gandhimathi,** P.V. Nidheesh and S.T. Ramesh (2016) Effect of Solution pH on Leachate Treatment Mechanism of Peroxicoagulation Process. *Journal of Hazardous, Toxic, and Radioactive Waste*, ASCE, 20, 06016001:1-4.
43. S. Xavier, **R. Gandhimathi**, P. V. Nidheesh and S.T. Ramesh (2016**)** Comparative removal of Magenta MB from aqueous solution by homogeneous and heterogeneous Photo-Fenton processes. *Desalination and water treatment,* 57 (27), 12832-12841.
44. C. Venu, S. T. Ramesh, **R. Gandhimathi**, and P. V. Nidheesh (2016) Investigation on the working performance of partitionable-space enhanced coagulation reactor. *Separation Science and Technology*, 51, 1220–1226.
45. S. T. Ramesh, R. Gandhimathi, J. Hamoneth Joesun, and P. V. Nidheesh, (2016) Low Cost Biosorbent 'Cyperus Rotundus' for Removal of Cu(II) and Zn(II) from Aqueous Solution with Acid and Alkali Treatments: Kinetic and Equilibrium Studies. Advanced Porous Materials, 3, 1–8.
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47. P. Aswathy, **R. Gandhimathi**, S. T. Ramesh and P.V. Nidheesh (2016) Removal of organics from bilge water by batch electrocoagulation process. *Separation and Purification Technology,* **159**, 108-115.
48. K. Sarath, **R. Gandhimathi**, S.T. Ramesh and P.V. Nidheesh (2016) Removal of reactive magenta-MB from aqueous solution by persulphate-based advanced oxidation process. *Desalination and Water Treatment,* 57, 11872-11878.
49. K. Senthil Kumar, **R. Gandhimathi** and K. Baskar (2016) Assessment of Heavy Metals in Leachate of Concrete Made with E-Waste Plastic. *Advances in Civil Engineering Materials, ASTM*, **5**, 256-262.

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52. P. V. Nidheesh and **R. Gandhimathi (2015)** Electro Fenton oxidation for the Removal of Rhodamine B from Aqueous Solution in a Bubble Column Reactor under Continuous Mode. *Desalination and Water Treatment,* 55, 263–271.
53. S. Neupane, S. T. Ramesh, **R. Gandhimathi** and P. V. Nidheesh (2015). Pineapple Leaf (Ananas Comosus) Powder as a Biosorbent for Removal of Crystal Violet from Aqueous Solution. Desalination and Water Treatment, 54 (7), 2041 -2054.
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55. S. J. George, **R. Gandhimathi**, P. V. Nidheesh and S.T. Ramesh (2014) Electro Fenton oxidation of salicylic acid from aqueous solution: Batch studies and degradation pathway. *Clean- Soil, Air, Water,* 42, 1–11.
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59. S. Kanmani, **R. Gandhimathi** and K. Muthukkumaran **(2014)** Bioclogging in porous media: influence inreduction of hydraulic conductivity and organic contaminants during synthetic leachate permeation. *Journal of Environmental Health Science & Engineering*, 12:126.
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61. P. V. Nidheesh and **R. Gandhimathi (2014)** Effect of solution pH on the performance of three electrolytic advanced oxidation processes for the treatment of textile wastewater and sludge characteristics. *RSC Advances,* **4**, 27946–27954.
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64. P. V. Nidheesh and **R. Gandhimathi (2014)** Comparative removal of Rhodamine B from aqueous solution by electro Fenton and electro Fenton like processes. *Clean- Soil, Air, Water*, **42**, 779–784.

65. P. V. Nidheesh and **R. Gandhimathi (2014)** Removal of Rhodamine B from aqueous solution using graphite–graphite electro-Fenton system. *Desalination and Water Treatment*, **52** 1872–1877.
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3.	Investigation of Physicochemical Characteristics and Heavy Metal Distribution Profile in Groundwater System Around the Open Dump Site, pp. 197-224. In Marco Ragazzi (eds.)	Kanmani S and **Gandhimathi R**	Apple Academic Press	2016

	Sewage and Landfill Leachate: Assessment and Remediation of Environmental Hazards			
4.	Use of Yoon Nelson and Mass Transfer Models for Prediction of Crystal Violet Adsorption Efficiency of Bottom Ash in Fixed-Bed System. pp. 511-521. In M.J. Jacob and S. Panda (eds.) Mathematical Modelling and Applications to Industrial Problems	P. V. Nidheesh, **Gandhimathi R**, and Ramesh. S. T.	Macmillan Advanced Research Series	2012

14. List of Short –Term Courses, seminars, workshop Etc. Participated

1. ISTE short term course on **"Computational Methods in Civil Engineering"** conducted by Department of Civil Engineering, Kongu Engineering College, Perundurai, November 9-22, 2000.
2. Attended **"ZEAL leadership course on personality development"** conducted by Institute of personality Development cell, Chennai at Kongu Engineering College, Perundurai, August 2000 - December 2000.
3. National conference on **"Control of Industrial Pollution and Environmental Degradation"** conducted by Department Civil Engineering, PSG college of Technology, Coimbatore, September 14-15, 2001.
4. One-day training programme on **"Quality system Awareness" for ISO –9001:2000**" Conducted by Zandig TQM solutions, Bangalore at Kongu Engineering College, Perundurai on 02.11.2001.
5. Short-term course on **"Laboratory Centered Instruction in Environmental Engineering"** conducted by Technical Teachers Training Institute, Taramani from 21.10.2002 to 01.11.2002.
6. Two days training programme on **"Human values in Technical Education"** Conducted by Kongu Engineering College, Perundurai, 3- 4, June 2002.
7. National Seminar on **"Civil Engineering strategies in the Making of India a Global Giant CESMIGG-2002"**, Department Civil Engineering, Crescent Engineering College, Chennai, October 3-4, 2002.
8. National workshop on **"Incineration and Solid waste management- NWISWM-2005"** conducted by Department Civil Engineering, Indian Institute of Technology Madras, Chennai, April 29-30, 2005.
9. Seminar on **"Water Quality monitoring by Rapid methods"** organized by Swan Environmental (P) Ltd, at Hotel Savera, Chennai on May 9, 2005.
10. National conference on **"Advances in Water Engineering for Sustainable Development-NCAWESD-2005"** conducted by Department Civil Engineering, Indian Institute of Technology Madras, Chennai, May 16-17, 2005.
11. National Workshop on **"Assessment of current & Futuristic Water quality standards in India"**, conducted by National Environmental Research Institute Nagpur at CLRI, Chennai, May 25-26, 2005.
12. National conference on **"City of Tomorrow "**, organized by Goethe Institute-Max Muller Bhavan, Chennai, 17th – 19th November 2005.

13. Workshop on **"Finite Element Methods for Engineers "**, organized by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, February 1-2, 2007.
14. Course on **"Hazardous Waste Management"** organized by EWRE Division, Department Civil Engineering, Indian Institute of Technology Madras, Chennai, June 25-29, 2007.
15. Course on **"Environmental Impact Assessment"** organized by EWRE Division, Department Civil Engineering, Indian Institute of Technology Madras, Chennai, July 16-20, 2007.
16. Induction training Programme on **"Instructional Design and Delivery System"** conducted by National Institute of Technical Teachers Training and Research, Chennai, January 5-10, 2009.
17. National seminar on **"Open Dumping of Solid Waste & Its Environmental Hazards""** conducted by National Institute of Technical Teachers Training and Research, Chennai on 20.04.2010.
18. Short Term training Programme on **"Environmental Chemodynamics"** Organised by Department of Chemical & Civil Engineering, IIT Madras, Chennai, January 17-22, 2011.
19. Indo – US workshop on **"Forensic Engineering (INDUSFE**W)" organized by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, December 15-17, 2010.
20. Workshop on **"Introduction to Forensic Engineering and failure analysis"**, Department of Civil Engineering, National Institute of Technology, Tiruchirappalli and Department of Civil and Environmental Engineering, University of North Carolina at Charlotte, USA, January 9-13, 2012.
21. Two-day Faculty Orientation Programme on **"Class Room Management & Communication"** organized by National Institute of Technology, Tiruchirappalli, October 5-6, 2012.
22. ISTE workshop on **"Environmental Studies"** conducted by IIT Bombay at National Institute of Technology, Tiruchirappalli, June 2-12, 2000.
23. TEQIP –II sponsored **"Conclave on Academic Reforms (CAR 2015)"** organized by National Institute of Technology, Tiruchirappalli, April 28-29, 2015.
24. One-day research colloquium on **"Environmental and Water Resources Engineering"** organized by Rajiv Gandhi Institute of Technology, Kottayam, Kerala, October 22, 2016.
25. One-day Interactive Workshop on **"Engineering Interventions on Soil and Water Conservation Measures – Challenges for their Ecofriendly Adoption**", organized by Agricultural Engineering College and Research Institute, Kumulur, Tiruchirappalli, July 19, 2017.
26. TEQIP Sponsored Workshop on "**Capacity Building of Women Managers in Higher Education"**, organized by National Institute of Technology, Tiruchirappalli, December 4-9, 2017.

15. List of Short –Term Courses, seminars, workshop Etc. Organized

1. Short term course on **"Recent Advancements in Environmental Engineering"** conducted by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, February 19-23, 2007.
2. Short term course on **"Groundwater Contamination and Transport Modeling"** conducted by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, October 25-26, 2013.

3. Workshop on **"Cleaner Technologies for Water and Wastewater**" conducted by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, November 12-13, 2013.
4. Workshop on **"ISO 14001:2004"** conducted by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, February 24-28, 2014.
5. Short term course on **"Challenges, Emerging Trends and Recent Initiatives in Environmental Engineering""** conducted by Department of Civil Engineering, National Institute of Technology, Tiruchirappalli, 29th August to 3rd September 2016.
6. Workshop on **"Capacity Building of Women Faculty in Higher Education"** conducted by National Institute of Technology, Tiruchirappalli, December 9-13, 2019.

16. Invited Lectures

Sl. No	Name of the topic	Programme	College
1.	QUAL2K- A Modeling Framework for Simulating River and Stream Water Quality	Short term Course On "Water Quality Modeling"	Department of Civil Engineering, Indian Institute of Technology Madras, February 28, 2006.
2.	RIAM - an Environmental Impact Assessment Tool	Training Programme on "Environmental Impact Assessment"	Department of Civil Engineering, Indian Institute of Technology Madras, March 21, 2006.
3.	Rapid Impact Assessment Matrix	Training Programme on "Environmental Impact Assessment"	Tamil Nadu Pollution Control Board, Chennai, August 18, 2006.
4.	Environmental Impact Assessment	Workshop on "Environment and Hygiene"	Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli, December 9, 2006.
5.	RIAM and its Application	Training Programme on "Environmental Impact Assessment"	Tamil Nadu Pollution Control Board, Chennai, March 28, 2007.
6.	Rapid Impact Assessment Matrix – A new tool for EIA Case study of a Sanitary Landfill	Training Programme on "Environmental Impact Assessment	Department of Civil Engineering, IIT Madras, Chennai, 16-20, July 2007
7.	Improper dumping of MSW and its impacts on environment – Perungudi Case Study	National Seminar on "Open Dumping of Solid Waste & Its Environmental Hazards"	Centre for Envrionmental Management, NITTTR, Chennai, April 20, 2010.
8.	Disposal of Solid Waste and its impacts on environment – Perungudi Case Study	National workshop on "Recent trends in Solid Waste Management System"	Department of Civil Engineering, V. R. S. College of Engineering and Technology, Villupuram, August 10, 2010.
9.	Advanced Wastewater Treatment: Removal of Nitrogen and Phosphorous from Wastewater	National Seminar on "Sustainable Wastewater Treatment and Reuse"	Department of Civil Engineering, Kongu Engineering College, Erode, March 11, 2011

10.	Improper dumping of municipal solid waste and its impacts on environment – A case study	-	The Institution of Engineers (India), Tiruchirappalli Local Centre, BHEL, August 23, 2011
11.	Occupational Health Hazards in Industry Operation	Training programme for the operators of ETP/ CETP/STP	TNPCB, Trichy, March 13, 2012.
12.	Municipal solid waste composting: biological processing	DRDO Sponsored Workshop on Integrated Solid Waste Management	Sri Krishna College of Technology, Coimbatore, March 28, 2012.
13.	Contaminant Transport Modeling	TEQIP Sponsored FDP on "Advanced Treatment Technologies for Water and Wastewater"	Government College of Engineering, Coimbatore, March 23, 2013.
14.	Stabilized leachate treatment by electrochemical process	Indo-French Workshop on Sustainable Water Purification Technologies	Central Electro Chemical Research Institute, Karaikudi, India, February 13, 2015
15.	Degradation of Dyes by Electro Fenton Process	-	Department of Chemistry, National Institute of Technology, Tiruchirappalli.
16.	Stabilized Leachate Treatment by Electro Chemical Process	Seminar on "Cost Effective effluent treatment systems"	The Institution of Engineers (India), Tiruchirappalli Local Centre, November 21, 2016
17.	Removal of Organic Pollutant from Textile Wastewater using Fe_3O_4 Nano particles as a Heterogeneous Electro Fenton Catalyst	Workshop on "Nano materials for Energy and Environment"	Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli, June 16, 2016.
18.	Models for Leachate Contaminant Movement in Groundwater	QIP Short term training programme on "Environmental System Modeling"	Department of Civil Engineering, Indian Institute of Technology Madras, October 6, 2016.
19.	Electrochemical Based Advanced Oxidation Process for Wastewater Treatment	Research Colloquium on "Environmental and Water Resources Engineering"	Rajiv Gandhi Institute of Technology, Kottayam, Kerala, October 22, 2016.
20.	Advanced Wastewater Treatment: Removal of Nitrogen and Phosphorous from Wastewater	-	Department of Civil Engineering, Vellore Institute of Technology, November 9, 2016.
21.	Application of Nano catalyst in wastewater treatment	Faculty Development Programme on "Environmental Management & Analytical Instrumentation Techniques using Nanotechnology"	Department of Civil Engineering, Government College of Technology, Coimbatore, February 16, 2017.
22.	Leachate Migration from open dumping site & Sea Water Intrusion	One-day Interactive Workshop on "Engineering Interventions on Soil and	Agricultural Engineering College and Research

		Water Conservation Measures – Challenges for their Ecofriendly Adoption"	Institute, Kumulur, Tiruchirappalli, July 19, 2017.
23.	Leachate Migration and its Impact on Groundwater Quality	One Day National Level Seminar on "Leachate Migration and its Impact on Groundwater Quality"	Department of Civil Engineering, Kongunadu College of Engineering & Technology, Namakkal, September 13, 2019.
24.	Constructed Wetlands for Wastewater Treatment	Webinar on "Climate Change and Sustainability"	Department of Civil Engineering, Vidyavardhaka College of Engineering, Mysuru, June 4, 2020.
25.	Stabilized Landfill Leachate Treatment by Advanced Oxidation Process	Webinar	Department of Civil Engineering, Francis Xavier Engineering College, July 30, 2020.
26.	Principles of sustainable engineering	AICTE sponsored short term training programme, "Conservation of Energy and Environment through Sustainable Engineering" (Phase I)	Department of Civil Engineering, Mepco Schlenk Engineering College, Sivakasi, Tamilnadu, January 4, 2021
27.	Leachate Management	TEQIP III Sponsored One Week FDP on Recent Trends in Waste Management	Department of Civil Engineering, Government College of Technology, Coimbatore, January 7, 2021.
28.	Sustainable Wastewater Treatment: Constructed Wetlands	AICTE sponsored short term training programme, "Conservation of Energy and Environment through Sustainable Engineering" (Phase II)	Department of Civil Engineering, Mepco Schlenk Engineering College, Sivakasi, Tamilnadu, February 1, 2021
29.	Effective Documentation: Accreditation Process	AICTE MARGDARSHAN Sponsored One week workshop on Quality assurance in Technical & Higher Educational Institutions and Interpretation of requirements of NBA Accreditation	Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli, July 19-23, 2021
30.	Accelerating urban action for a carbon-free world	World Habitat Day	IEI Tiruchirappalli Local Centre, Tiruchirappalli, 4th October 2021
31.	Accelerating urban action for a carbon-free world	World Habitat Day	IEI Kalpakkam Local Centre, Tiruchirappalli, 7th January 2022
32.	Removal of Persistent Organic Pollutants by Various Advanced Oxidation Processes	Six-day online FDP on "Application of Remote Sensing and GIS for	Department of Civil Engineering, Vel Tech University, Chennai, May 25, 2022

		Groundwater Management Studies"	
33.	Electro Chemical Technologies for Wastewater Treatment	FDP on "Disruptive Sustainable Innovations in Wastewater Treatment: A Way Forward"	Department of Civil Engineering, Vel Tech University, Chennai, December 18, 2024.
34.	Groundwater Modeling and Contaminant Transport Through Porous Media	ATAL FDP on "Recent Trends on Sustainable Practices of Water Management and Soil Conservation	Department of Civil Engineering, Meenakshi College of Engineering, Chennai, June 23-28, 2025

17. Reviewer for Journals

- CLEAN - Soil, Air, Water (Wiley)
- Chemosphere (Elsevier)
- Desalination (Elsevier)
- Desalination and Water Treatment (Taylor and Francis)
- Environmental Science and Pollution Research (Springer)
- Environmental Technology (Taylor and Francis)
- Journal of Environmental Chemical Engineering (Elsevier)
- Journal of Environmental Management (Elsevier)
- Journal of Hazardous Materials (Elsevier)
- Journal of Industrial and Engineering Chemistry (Elsevier)
- Separation and Purification Technology (Elsevier)
- Separation Science and Technology (Taylor and Francis)
- Journal of Environmental Engineering (ASCE)
- Journal of Hazardous Toxic and Radioactive Waste (ASCE)
- Environmental Progress
- Environmental Science and Technology (ACS)

18. Membership in professional Societies

S. No.	Name of the body / organization	Member / Fellow
1.	Institution of Public Health Engineers, India	LF 761 / August 2021
		LAM-762 / 2011
2.	Indian Water Works Association	LF-001321 / June 2021
		LM-6926 / 2011
3.	The Institution of Engineers (India)	F-1271993 / November 2020
		M1393221 / 2009
4.	The Institution of Engineers (India)	Charted Engineer India (F1271993)
5.	The International Water Association	ID: 1613566; Valid upto 26/08/2022
6.	Indian Geotechnical Society	LM 3658 / 2013
7.	Indian Water Resources Society	LM- 11-7323 / 2011
8.	Indian Society of Geomatics	L-1361
9.	The Indian Society for Technical Education	LM -55428 / 2008

19. Major Consultancy Activities (NITT)

Sl. No.	Name of the Work	Period
1.	Characteristics of water (Drinking and construction purpose), Wastewater characteristics and Soil Analysis	November 2008 to till date
2.	Water Quality Assessment in the smart city ABD area – Tiruchirappalli Corporation, Tamil Nādu Water Investment Company limited, Chennai	October 2019
3.	Performance Analysis of Effluent Treatment plants and sewage treatment plant, Centre for Energy, Environment and Productivity (CEEP), Chennai.	December 2018 to January 2019
4.	Water Quality Assessment of Kathiramangalam Village, The District Collector, Thanjavur	November 2017
5.	Proposal for wastewater treatment unit along the Amaravathi River basin, Municipal Administration and water Supply Department, Karur	August 2017 to November 2017
6.	Performance of ETPs, Central workshop, Southern Railway, Tiruchirappalli	July 2017 to August 2017
7.	Water and Sludge characteristics of Thirumakottai Gas Turbine Power Station (TKGTPS), Tamilnadu Generation and Distribution Corporation Ltd.	November 2016 to June 2017
8.	Performance of Effluent Treatment Plant, Sriranganatha Swamy temple, Srirangam	February 2016 to May 2016
9.	Chemical analysis of Soil samples, Thoothukudi City Municipal Corporation	September 2015 to February 2016
10.	Water quality study of cooling water system and the Suggestions / proposals to meet the water quality requirement for seamless steel tube plant, Bharat heavy electrical limited, Trichy	November 2011 to January 2012
11.	Municipal solid waste composition study for different municipalities	November 2011 to January 2012
12.	Testing of soil sample for pollution Measurement: AGNIYAR/ AMBULIYAR and SOUTH VELLAR River Basins, Environmental Cell Division, PWD, Coimbatore	March 2009
13.	Testing of soil sample for corrosive nature Ramnad CWSS -package IV (Pudukottai)	February 2008 to March 2008
14.	Testing of soil sample for corrosive nature Ramnad CWSS -package IV (Devakottai)	February 2008 to March 2008
15.	Soil investigation for the implementation of CWSS to Ramnad and other 4 municipalities 11 town panchayats and 3163 rural habitation in Ramanathapuram, Sivagangai and Pudukottai district-package VII-corrosive nature of soil	August 2007 to November 2007
16.	Soil investigation for the implementation of CWSS to 5 municipalities 11 town panchayats and 3163 rural	September 2007 to November 2007

	habitation in Ramanathapuram, Sivagangai and Pudukottai districts-corrosive nature of soil	
17.	Pollution measurement on Dummy Insulators installed on various 400 KV Transmission Lines under Neyveli TLM Hub	June 2007 to March 2008
18.	Construction of storm water drain-Third party inspection, Tiruchirappalli City Corporation	December 2007

Dr. R. Gandhimathi