

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

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**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 wastewater treatment, contaminant transport modeling, and solid waste management. She has been Working specifically on the removal of refractory organics / recalcitrant pollutants from stabilized leachate and textile wastewater by various advanced oxidation processes coupled with a biological system and biopolymer production from hydrocarbon-rich oily wastewater using a novel mixed bacterial consortium. Other studies include experimental investigation, and numerical modeling of contaminant transport through a saturated soil mass and the green synthesis of nanocatalysts for the removal of organics, heavy metals, and dyes. She has made significant contributions in each of these areas. She has published 84 articles in Scopus and Web of Science indexed journals with a total citation count of 3400 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 5 Ph.Ds., 75 M. Tech. and 17 B. Tech. projects in the field of Environmental Engineering. For the past 15 years, she has been in charge of the Environmental Engineering laboratory. She has been actively involved in the modernization of the Environmental Engineering laboratory and purchased equipment worth 2.6 crores to strengthen various research areas in the Environmental Engineering field under the plan fund. She has completed one DST-sponsored project (13.2 lakhs) under the Fast Track Research Proposal for Young Scientists funded by the Department of Science and Technology, Govt. Under this project, she procured the advanced equipment and software for the cost of 8 lakhs. 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.

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## CURRICULAM VITAE

**Name** : R. GANDHIMATHI  
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Field(s) of Specialization: : Environmental Engineering  
**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 8000 AGP	06.11.2011 to 11.03.2018
	Assistant Professor 7000 AGP	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	<b>9.71</b> (CGPA)	Environmental Engineering
M.E.	College of Engineering, Guindy.	Anna University	1999 - 2000	<b>8.96</b> (CGPA) (1 <sup>st</sup> Class with Distinction)	Environmental Engineering

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B.E.	Govt. College of Engineering, Salem.	Madras University	1994 - 1998	<b>76.10 %</b> (1 <sup>st</sup> Class with Distinction)	Civil Engineering
HSC	St. Mary's Hr. Sec. School, Salem.	State Board	1993 - 1994	<b>86.92 %</b>	Maths & Biology
SSLC	Sri Sarada Vidyalaya Hr. Sec School, Salem.	State Board	1991-1992	<b>84.80 %</b>	-

### 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

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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
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	Till Date

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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
<b>Convocation</b>			
Core committee member	Institution	June 2018	November 2020
Member, Convocation	Institution	June 2017	August 2017
Member, Convocation	Institution	June 2016	July 2016
<b>NBA</b>			
Secretary, Core Committee, NBA	Institution	March 2019	April 2019
Secretary, Core Committee, NBA	Institution	September 2019	October 2019
<b>Institute Day</b>			
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	-
<b>Director's Nominee</b>			
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
<b>Faculty In-charge</b> (Monitoring of drinking water quality and treated wastewater characteristics, NIT Campus)	Institution	October 2015	February 2019
<b>Warden</b>	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

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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
Lab In-charge	Environmental Engineering Laboratory	18-07-2007	Till Date
Co-Ordinator,	M. Tech. Environmental (Environmental Engineering)	01-06-2022	Till Date
B. Tech. Project Coordinator	Civil Engineering	January 2022	Till Date
<b>Class Committee / Chairperson</b>			
M. Tech. / I and II Semester	Transportation Engineering and Management	August 2021	Till Date
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
<b>Department Project Evaluation Committee / Member</b>			
M. Tech. / III – IV Semester	Environmental Engineering	September 2022	Till Date
		August 2021	May 2022
		August 2020	May 2021
		July 2019	May 2020

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		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
<b>Ph. D. Thesis Examiner</b>			
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	
<b>Doctoral Committee</b>			
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

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Member, Committee	Doctoral	School of Civil and Chemical Engineering. VIT University, Vellore	January 2017	Till date
Member, Committee	Doctoral	Government College of Technology, Coimbatore	2015	September 2020
Member, Committee	Doctoral	Anna University, Chennai	June 2015	Till date
Member, Committee	Doctoral	Anna University, Chennai	January 2015	Till date
DC member		Anna University, Coimbatore	August 2008	August 2015
<b>BoS</b>				
BoS Expert Member		K.S. Rangasamy College of Technology, Tiruchengode	October 2020	Till Date
BoS Expert Member		Adhiyamaan College of Engineering, Hosur	August 2014	July 2016
<b>Others</b>				
Subject Expert		ASCE Concrete Canoe Competition, VIT, Vellore	March 2021	
Mentor		Smart India Hackathon, 2018, MHRD (Nodal Centre: NIT, Tiruchirappalli)		
Single Member Expert: Rankings of Higher Education Institutions (HEIs)	AICTE Swachhata of Higher Education Institutions (HEIs)	1. Periyar College of Pharmaceutical Sciences for Girls, Tiruchirappalli 2. Periyar Maniammai Institute of Science & Technology, Thanjavur	August 2019	

### 6. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2021-22	World Scientist and University Rankings 2022: Placed No.1 in Civil Engineering (NIT), 28 in India (Total Citation: 4659)	AD Scientific Index ( <a href="https://www.adscientificindex.com">https://www.adscientificindex.com</a> )
2021-22	Life Fellow (LF 76, August 2021)	Institution of Public Health Engineers, India
2021-22	Life Fellow (001321, 12-06-2021)	Indian Water Works Association
2020-21	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	National Institute of Technology, Tiruchirappalli – 620 015.



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	(AY: 2019-20)	
2018-19	Top Three Contributors in terms of the number of Research Publications. Top Three Contributors in terms of the number of Research Citations. (CY: 2018, Department wise)	National Institute of Technology, Tiruchirappalli – 620 015.
2017-18	Top Three Contributors in terms of the number of Research Publications. Top Contributors in terms of the number of Research Citations. (CY: 2017, Department wise)	National Institute of Technology, Tiruchirappalli – 620 015.
2016-17	Top Three Contributors in terms of number of Research Publications (CY: 2016, Department wise)	National Institute of Technology, Tiruchirappalli – 620 015.
2013-14	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
2011-12	Included in Who's Who in the World 2012 (29 <sup>th</sup> Edition)	Marquis Who'sWho Publications, USA
2011-12	Elected as a corporate member in the Institution of Public Health Engineers (IPHE)	IPHE, Kolkata, India.
2008-09	Fast Track Research Proposal for Young Scientists	Department of Science and Technology, Govt. of India, New Delhi.
2009-10	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
2003-2006	MHRD, Ph. D. Fellowship	Indian Institute of Technology Madras, Chennai
1999-2000	Endowment Scholarships for the year 1996-97	University of Madras
1998-2008	MHRD, GATE Scholarship	College of Engineering Guindy, Anna University
1996-97	Best Student Award (For Securing 1 <sup>st</sup> Rank in 4 <sup>th</sup> Semester)	Civil Engineering Association, Salem District

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### 7. Details of Academic Work

#### (i). Curriculum Development

- B. Tech. Civil Engineering / Core Courses & Electives / 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). Projects guided at Postgraduate level

S. No.	Title of the Project	Name of the Student	Year
1.	Photocatalytic Degradation of Crystal Violet Dye from Aqueous Solution Using $TiO_2/Ti_3C_2$	Balamurukan R	2022
2.	Treatment of Domestic and Synthetic Wastewater by Constructed Wetlands- Microbial Fuel Cell (CW-MFC) System Using Natural Media	Pujala See Sai Vinay	2022
3.	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
4.	Glyphosate Removal from Wastewater by Sulphate Radical Based Advanced Oxidation Process	Yogendra Kumar Sahu	2022
5.	Machine Learning Based Model to Estimate Air Pollution Concentration Levels in Delhi's Atmosphere	Radheshyam Vishwakarma	2022

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6.	Pharmaceuticals and Personal Care Products (PPCPs): Occurrence, Fate, Transport and Modelling in Water Environment	Divyasree Raju	2021
7.	Removal of reactive orange-16 by thermal activated sulphate radical based advanced oxidation process Augmented by Fe-biochar	J Juliana	2021
8.	Particulate Matter Estimation over a Coastal Region Chennai, India Using Satellite AOD	Leenu Raju	2021
9.	Modelling of Groundwater Flow and Contaminant Transport Using Visual Mudflow Near Kullursandai Reservoir Area, Virudhunagar District	Mukesh Kumar K.	2021
10.	Parametric Optimization and Modeling of Crystal Violet Adsorption by Bottom Ash in a Fixed Bed Column	Revathy Suresh	2021
11.	Sulfate Radical Based Advanced Oxidation Process for Wastewater Treatment: Study, Mechanism and Optimization	Vundmatla Venkateswari	2021
12.	Optimization in Process Technologies for Wastewater Treatment Plant	Saurabh Tiwari	2021
13.	Removal of Rhodamine B from wastewater using an iron metal organic framework as a catalyst in fenton process	Afeena Gulam	2020
14.	Stabilized landfill leachate degradation by H <sub>2</sub> O <sub>2</sub> /Persulfate based Advanced Oxidation Process using natural Pyrite	Athira S	2020
15.	A small scale vertical subsurface flow constructed wetland for treatment of domestic wastewater	Balakrishnan S	2020
16.	Degradation of Acid Orange 7 from wastewater by ultrasonic assisted Fenton process using fly ash augmented magnetite	Feba Benny	2020
17.	Fate and transport of Cadmium in groundwater	Hasna M N	2020
18.	Effect of salinity and substrate concentration on Polyhydroxyalkanoates production from synthetic oily bilge water using mixed microbial consortium	Prasun Mitra	2020
19.	Removal of phenol by free and immobilized mixed culture of bacteria isolated from phenolic wastewater	Shweta Gomber	2020
20.	Polyhydroxyalkanoates Synthesis from Cassava Starch Wastewater Using Sequencing Batch Reactor	Athira K O	2019
21.	Organic acid-enhanced chitosan hydrogel beads (CHBs) for the removal of heavy metals from wastewater	Chittaluri Uday Kumar	2019
22.	An Integrated Electrochemical Adsorption System for Removal of Nitrate from Water	Jasna R S	2019
23.	Modeling of domestic scale electro dialysis system for desalination of brackish water	Rahul Kumar	2019
24.	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

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25.	Removal of heavy metal ions from industrial wastewater using pectin extracted from agricultural waste material	Narnepati Krishna Chaitanya	2019
26.	Simultaneous Recovery of Electricity and Purification of Wastewater using Microbial Fuel Cell (MFC) inoculated with Biocatalysts	Anuradha Dey	2018
27.	Stabilized Landfill Leachate Treatment by Zero Valent Aluminium-Acid System	Jismy Antony	2018
28.	A Novel Photoelectro-Peroxone process for the Decolorization and Degradation of Reactive Azo Dye In Aqueous Solution	Alphonsa C Joy	2018
29.	Decolourisation / Degradation of Dyes from Textile Wastewater with Peroxymonosulphate Oxidation catalyst by various activation methods	Meenu Thambi	2018
30.	Green Synthesis of Zinc Oxide Nano Particles and its application in treatment of Wastewater	Anjali	2018
31.	Polyhydroxyalkanoate production from Electrocoagulated Bilge Water using Sequential Batch Reactor System	Karthikeyan M	2018
32.	Combined Heterogeneous Electro-Fenton and Biological Process for the Treatment of Stabilized landfill leachate	Archa Baiju	2017
33.	Biodegradation of Textile Wastewater by Bacterial Fungal consortium	M. Anushya Devi	2017
34.	Biotransformation of Kitchen Refuse by Vermicomposting Using <i>Eisenia Fetida</i>	Kakimani Sree Lekha	2017
35.	Arsenic Removal by Heterogeneous Fenton Process Coupled with Microfiltration	Livin Pramod	2017
36.	Removal of Atrazine from Wastewater by Heterogenous Fenton/Photo-Fenton Process	Ashwini A Sen	2017
37.	Polyhydroxy Alkanoates (PHA) production from swine effluent using mixed microbial cultures (MMC)	Kumari Priyanka	2016
38.	Optimization of an integrated electrocoagulation / electro oxidation process using Fe as bipolar electrode for pulp and paper wastewater	Kirti Tamta	2016
39.	Removal of Copper (II) from Aqueous Water by bio-functional Magnetic Beads	G. Rajmohan	2016
40.	Synthesis and Characterization of Fe <sub>3</sub> O <sub>4</sub> nanoparticle coated with humic acid salt for malachite green dye removal from aqueous solution	J. Vigneshwar	2016
41.	Stabilized landfill leachate treatment by homogeneous and heterogeneous Fenton and Fenton like Process	K. Hasim Suhaib	2016
42.	Removal of Rhodamine B dye from aqueous solution by Electro Fenton process using Iron doped Mesoporous Silica as a Heterogeneous Catalyst	R. Jinisha	2015
43.	Utilization of Distillery wastewater as a no-cost nutritive medium for production of biosurfactants	Swagata Das	2015
44.	Removal of organics from bilge water by batch Electrocoagulation process and its optimization	Aswathy P	2015

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45.	Treatment of grey water by adsorption process using Calcined layered double hydroxide as an adsorbent	U. Arul Sudhan	2015
46.	Treatment of Stabilized Leachate using Sulfate Radical based Advanced Oxidation Process	T. T. Asha	2015
47.	Monitoring and Analysis of Indoor Environmental Quality in NIT Trichy	Priyanka Verma	2015
48.	Treatment of Textile Wastewater by Combined Advanced Oxidation and Biological Process	P. S. Roshini	2015
49.	Treatment of Partially Stabilized Landfill Leachate by Fenton Oxidation in Batch and Continuous Modes	Sumithra Venugopal	2014
50.	Electrolytic Degradation of Reactive Black B in Aqueous Solution Using Two Dimensional and Three-Dimensional Electrode Reactor	S. Sowmiya	2014
51.	Experimental Investigation on Landfill Leachate Heavy Metal Attenuation in Biobarrier	Krupa J Thottappally	2014
52.	Assessment of Gaseous Pollutants and particulate Matter in the Ambient Air from the Heterogeneous Traffic near an Urban Highway	Sree Lekha Kumar	2014
53.	Oxidation and Mineralization of Magenta MB by persulfate Based Advanced Oxidation Process	K. Sarath	2014
54.	Immobilization of Cadmium by Cost- Effective Amendments in a Contaminated Soil	Venkatramana Adusupalle	2014
55.	Forecasting Air Quality Parameters Using Linear and Nonlinear Models	Abishek Anand	2013
56.	Removal of Water Turbidity by natural coagulants obtained from <i>Prosopis Juliflora</i> and <i>Cactus Opuntia</i>	C. Mithun	2013
57.	Removal of Magenta MB from aqueous solution by Fenton and Photo-Fenton Processes	Shilpa Xavier	2013
58.	Electro Fenton Removal of Salicylic Acid from aqueous solution in batch and continuous mode	Stephy Jaqeline George	2013
59.	Treatment of Stabilized Leachate by Peroxocoagulation Process	Devika Venu	2013
60.	Application of Vertical Subsurface Flow Constructed Wetland in the Treatment of Municipal Wastewater	Dwithiya Chandrashekar	2013
61.	Utilization of Textile and Domestic Waste Sludge as Brick Material	B. Shathika Sulthana Begum	2012
62.	Experimental Investigation of Cadmium Transport in Homogeneous Saturated Soil column and its Modeling	P. Rama Satya Kamesh	2012
63.	Treatment of Stabilized leachate by Electrocoagulation: An Investigation of the Effect of operational Parameters	Albin Babu	2012
64.	Decolourization / Biodegradation of Textile Azo dyes by <i>Bacillus sp.</i> and <i>Pseudomonas</i>	C. Ponnarasi	2012
65.	Behavior of chloride through a saturated soil mass: A Horizontal Column Experimental study	P. Umamaheshwararao	2011

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66.	Experimental and Modelling studies on batch and fixed bed adsorption of crystal violet from aqueous solution onto bottom ash	P. V. Nidheesh	2011
67.	Batch removal of basic dyes from aqueous solution by adsorption on Fly ash and Bottom ash: Equilibrium Isotherms and kinetic studies	V. Sindhu	2010
68.	Biosorption of Heavy metal ions from aqueous solution by water hyacinth	V. M. Arun	2009
69.	Characterization and Pretreatment of leachate from municipal solid waste open dumping site	N. Jegan Durai	2009
70.	Fixed film Biomethanation of Distillery Spent Wash	MD Muzahed	2009
71.	Extraction of Dyes using Liquid Emulsion Membrane	Preshobh	2009
72.	Anaerobic treatment of distillery spent wash – a study on upflow anaerobic fixed film reactor	M. Praveen Kumar	2008
73.	Co-digestion of vegetable and fruit waste using anaerobic digester	V. Subhashini Devi	2008
74.	Modeling of Leachate Migration from Open Dumping Site	R. Vignesh	2008
75.	Utilization of Industrial Welding Slag for the Production of Low-Cost Building Materials	S. Prateep Kumar	2008

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

S. No.	Title of the Project	Academic Year
1.	Potential Usage of Fruit Waste as a Coagulant in Water Treatment	2021- 2022
2.	Application of Fly Ash Augmented Magnetite as a Catalyst in Electro-Fenton Process for Dye Degradation	2019 - 2020
3.	Assessment and Modeling of Groundwater Contamination Around the Solid Waste Open Dumpsite at Ariyamangalam, Trichy	2018 - 2019
4.	Removal of Zinc ions from aqueous Solution using Raw and Acid Treated Orange Peels	2018 - 2019
5.	Adsorption of Pb <sup>2+</sup> and Cu <sup>2+</sup> ions from Aqueous Solutions Using Calcined Layered Double Hydroxide	2017 - 2018
6.	Stabilized Landfill Leachate Treatment by Fenton and Electro-Fenton Process Using Nanoscale catalyst	2016 - 2017
7.	Removal of Methylene Blue dye from Aqueous Solution Using Fly Ash Pellets	2015 - 2016
8.	Treatment of Grey water using batch Electrocoagulation Process	2014 - 2015
9.	Degradation of Rhodamine B by heterogeneous Fenton process using Bentonite Clay-Ferric Nitrate Catalyst	2013 - 2014
10.	Degradation of Magenta MB by heterogeneous Photo- Fenton process using Fly ash- Ferric Nitrate Catalyst	2013 - 2014
11.	Removal of Rhodamine B from aqueous solution using coconut coir pith as an adsorbent	2012 - 2013
12.	Treatment of Municipal Wastewater Incorporating <i>Moringa Oleifera</i> seed as a natural coagulant	2011 - 2012

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13.	Utilization of Refuse concrete Material for COD removal from Domestic Wastewater	2010 - 2011
14.	A column study on Cu (II) Removal from aqueous solution using water Hyacinth (Eichornia Crassipes) Biomass	2009 - 2010
15.	Comparitive adsorptive studies for the removal of Malachite Green dye from aqueous solution using different low-cost adsorbent	2008 - 2009
16.	Extraction of Dye using Liquid Emulsion Membrane	2007 - 2008
17.	Design of Wastewater Treatment Units for NIT Campus	2006 - 2007

(v). **Other contribution(s)**

- a. Manuals are developed for Environmental Engineering Laboratory
- b. Three new experiments have been added in the Environmental Microbiology and Engineering Laboratory for M.Tech. Environmental Engineering.
- c. Instruments purchased through plan fund, TEQIP Phase I, and Phase II: **2.5 crores**
- d. Instruments purchased through DST Project: **8 lakhs**

**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 / <b>13.2 Lakhs</b>	PI	14-01-2009	14-01-2012	Completed
Production of PHA from oily industrial wastes by immobilized bacterial consortium	DST-SERB under TARE Scheme / <b>18.30 Lakhs</b>	Ment or / Co-PI	18-10-2019	17-10-2021	Ongoing

**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
S.V. Niveditha 403116003	Mineralization of Stabilized Landfill Leachate using Iron and Aluminium based Heterogeneous Catalysts	Supervisor	April 2021 <b>(09-04-2021)</b>
V. Uma 403114057	Organic Removal and Extraction of Biopolymer from Oily Bilge Water using Ozone Assisted Biosystem	Supervisor	February 2021 <b>(18-02-2021)</b>
K. Soundaranayaki 403912051	Removal of Nitrogen and Organics from Domestic Wastewater using Agro-Waste Media In Vertical Flow Constructed Wetlands	Supervisor	September 2020 <b>(14-09-2020)</b>
P. V. Nidheesh 403111004	Treatment of Textile Wastewater by Electrolytically Generated Fenton Reagents Using Graphite Electrodes	Supervisor	July 2014 <b>(23-07-2014)</b>

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S. Kanmani 403109051	Investigation of Leachate Migration and its mitigation using Biobarrier: Simulation and Experiments	Supervisor	July 2014 (14-07-2014)
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### 10. Refereed Journals

1. 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.
2. Juliana John, **R. Gandhimathi**, Mika Sillanpää and Padmanaban Velayudhaperumal Chellam (2022) Fe<sub>3</sub>O<sub>4</sub>-functionalised biochar for persulphate systems towards the removal of Remazol Brilliant Orange 3R: machine learning-based approach and toxicity analysis. *Biomass Conversion and Biorefinery*, <https://doi.org/10.1007/s13399-022-03056-1>.
3. 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.
4. 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.
5. 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.
6. 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
7. P. 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.
8. 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.
9. 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.
10. R. 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.
11. 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.
12. 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.
13. 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.



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14. 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.
15. S. V. Niveditha and **R. Gandhimathi** (2020) Flyash augmented  $\text{Fe}_3\text{O}_4$  as a heterogeneous catalyst for degradation of stabilized landfill leachate in Fenton process. *Chemosphere*, 242, 125189.
16. T. 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.
17. 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.
18. S. V. Niveditha and **R. Gandhimathi** (2020) Mineralization of stabilized landfill leachate by heterogeneous Fenton process with RSM optimization. *Separation Science and Technology*.
19. 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.
20. 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.
21. V. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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:

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- Mineralization and toxicity analysis. *Journal of Hazardous, Toxic, and Radioactive Waste*, ASCE, 04017016, 1-8.
29. T. T. Asha, R. **Gandhimathi**, S. T. Ramesh and P.V. Nidheesh (2017) Treatment of Stabilized Leachate by Ferrous Activated Persulfate Oxidative System. *Journal of Hazardous, Toxic, and Radioactive Waste*, ASCE, 04016012.
  30. 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.
  31. 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.
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  34. 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.
  35. 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.
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  38. 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.
  39. 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.
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  41. P. V. Nidheesh and R. **Gandhimathi** (2015) Textile Wastewater Treatment by Electro-Fenton Process in Batch and Continuous Modes. *Journal of Hazardous, Toxic, and Radioactive Waste*, ASCE, 19, 04014038.
  42. R. **Gandhimathi**, A. Babu, P. V. Nidheesh, S. T. Ramesh and T. S. Anantha Singh (2015) Laboratory Study on Leachate Treatment by Electrocoagulation Using Fly Ash and Bottom

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- Ash as Supporting Electrolytes. *Journal of Hazardous, Toxic, and Radioactive Waste*, **ASCE**, **19**, 04014033.
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  44. 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.
  45. S. Xavier, **R. Gandhimathi**, P. V. Nidheesh and S.T. Ramesh (2015) Comparison of homogeneous and heterogeneous Fenton processes for the removal of reactive dye magenta MB from aqueous solution. *Desalination and water treatment*, **53** (1), 109- 118.
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  54. C. K. Geethamani, S. T. Ramesh, **R. Gandhimathi**, P.V. Nidheesh (2014) Alkali- treated fly ash for the removal of fluoride from aqueous solutions. *Desalination and Water Treatment*, **52** (19-21), 3466-3476.
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86. S. Mohan, **R. Gandhimathi**, and G. Sreelakshmi (2007) Isotherm Studies for Heavy Metal Adsorption on Rice Husk. *Asian Journal of Water, Environment and Pollution*, **5**, 71-78.

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# National Institute of Technology, Tiruchirappalli:

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1. **R. Gandhimathi**, S. T. Ramesh, V. Sindhu and P. V. Nidheesh (2014) Removal Characteristics of Basic Dyes from Aqueous Solution by Fly Ash in Single and Tertiary Systems. *Journal of Scientific & Industrial Research*, 73 (4), 267-272.
2. **R. Gandhimathi**, S.T. Ramesh, Anubhav Yadu and K. S. Bharathi (2013) Fixed Bed Column Study for Cu (II) Removal from Aqueous Solution Using Water Hyacinth (*Eichornia Crassipes*) Biomass. *Journal of Environmental Science and Engineering*, 55, 283-289.
3. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi** (2009) Pilot Plant Study on Combined Treatment of Kitchen Refuse and Domestic Sewage by Anaerobic Digestion. *Nature Environment and Pollution Technology*, 8, 157-160.
4. S.T. Ramesh, S. Mohan, and **R. Gandhimathi** (2008) Environmental Impact Assessment using Rapid Impact Assessment Matrix (RIAM) for Open dumping site, Chennai, India, *Journal of Indian Association of Environmental management*, 35, 149-156.
5. S.T. Ramesh, **R. Gandhimathi**, and M. Vinoth (2008) Cement Kiln Dust Based Low-Cost Adsorbents for COD Removal from Domestic Wastewater. *Environmental Pollution Control Journal*, 11, 53-57.
6. **R. Gandhimathi**, S.T. Ramesh, and E. Arun Praveeth (2008) Adsorptive removal of copper from aqueous solution onto Raw Rice Husk: Kinetics and isotherms. *Nature Environment and pollution Technology*, 4, 763-768.
7. S.T. Ramesh, S. Jayanthi, and **R. Gandhimathi** (2008) A Study on Problems of Management of Bio Medical Wastes and their Remedial Measures. *Journal of Industrial Pollution Control*, 24, 145-148.
8. S.T. Ramesh, S. Jayanthi, and **R. Gandhimathi** (2008) Feasibility Study on Anaerobic Digestion of Garbage using Lime Pretreatment. *Journal of Industrial Pollution Control*, 24, 123-128.

## 12. Conferences

### International Conferences

1. **S. T. Ramesh and R. Gandhimathi**, "An Energy recovery from kitchen refuse" Proc. International workshop on Environment & Energy, Periyar Maniammai college for women, Vallam, Tanjore, 1-3 November 2001, pp. 43.
2. S.T. Ramesh, S. Jayanthi, and **R. Gandhimathi** and P. Jayanthi., "Biomass as Energy source – Energy recovery from water hyacinth by Anaerobic Digestion" Proc. International conference on New Millennium – Alternative Energy Solutions for Sustainable Development, P.S.G College of Technology, Coimbatore, 9 – 11 January 2003, pp. 468-473.
3. S. Mohan, **R. Gandhimathi**, B. K. Bindhu and K. Shibu "Environmental Impact assessment for domestic solid waste landfill projects" Proc. National / International seminar on EIA studies- planning perspectives, Department of Geography, Osmania University, Hyderabad, 21-22 March 2005, pp. 29.
4. S. Mohan, S.T. Ramesh and **R. Gandhimathi**, "Environmental Impact assessment of a solid waste dumping site" Proc. National / International seminar on EIA studies- planning perspectives, Department of Geography, Osmania University, Hyderabad, 21-22 March 2005, pp. 41.
5. **R. Gandhimathi**, S. Mohan, and G. Sreelakshmi. Impacts on ground water quality due to open dumping of municipal solid waste. *International Conference on Environmental Management (ICEM-2005)*, JNTU, Hyderabad, October 2005, pp. 71-76.

# National Institute of Technology, Tiruchirappalli:

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6. **R. Gandhimathi** and S. Mohan. Assessment and analysis of heavy metal in municipal solid waste dumping site – A case study. *International Congress of Chemistry and Environment (ICCE-2005)*, Indore, December 2005, pp. 407-410.
7. P. V. Nidheesh and **R. Gandhimathi**, “Fixed Bed Column Study for the Removal of Crystal Violet from Aqueous Solution by Bottom Ash”, Proceedings of International Conference on Sustainable Water Resource Management and Treatment Technologies, NEERI, Nagpur, 19-21, January 2011, pp.670-680.
8. S. Kanmani and **R. Gandhimathi**, “The Assessment of the Effect of Dumping Site leachate on Groundwater Quality”, Proceedings of International Conference on Sustainable Water Resource Management and Treatment Technologies, NEERI, Nagpur, 19-21, January 2011, pp.837-843.
9. P. V. Nidheesh, **R. Gandhimathi** and S. T. Ramesh “Use of Mass Transfer Models for Prediction of Crystal Violet Adsorption Efficiency of Bottom Ash In Fixed-Bed System”, Proceedings of International Conference on Mathematical Modelling and Applications to Industrial Problems, NIT Calicut, Kozhikode, 28-31, March 2011, pp. 39.
10. P. V. Nidheesh and **R. Gandhimathi**, “Removal of Rhodamine B from Aqueous Solution by Electro-Fenton Process”, Proceedings of 2<sup>nd</sup> International Conference on Advanced Oxidation Processes, School of Environmental Studies, M.G. University Kottayam, 5-8 October 2012, pp. 221.
11. **R. Gandhimathi**, “Stabilized leachate treatment by electrochemical process” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.17.
12. P.V. Nidheesh, Shilpa Xavier and **R. Gandhimathi**, “Fenton catalytic activity of magnetite in the presence of UV light and electricity for the removal of dyes from aqueous solution” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.19.
13. P. Aswathy and **R. Gandhimathi**, “Removal of organics from bilge water using batch electrocoagulation and its optimization” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.28.
14. T. T. Asha and **R. Gandhimathi**, “Treatment of stabilized leachate by a sulpahte radical based advanced oxidation process” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.29.
15. P. S. Roshini and **R. Gandhimathi**, “Treatment of Textile wastewater by combined advanced oxidation and biological process” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.30.
16. R. Jinisha, **R. Gandhimathi** and S. Velmathi “Fe-SBA-15 as a heterogeneous catalyst for the removal of Rhodamine B using electro Fenton process” Proceedings of Indo-French Workshop on Sustainable Water Purification Technologies, Central Electro Chemical Research Institute, Karaikudi, India, 11-13 February 2015, pp.31.
17. V. Uma and **R. Gandhimathi** “Biopolymer production from oily bilge water using mixed bacterial culture”, Proceedings of the Fourth International symposium on Advances in Sustainable polymers, Centre of Excellence in sustainable polymers, Department of Chemical Engineering, IIT Guwahati, and polymer processing academy, India, January 8-11, 2018.
18. V. Uma, **R. Gandhimathi** and S. Karthikeyan, “Isolation and Characterization of polyhydroxyalkanoates producing microorganism from native oil contaminated soil”, 7<sup>th</sup>

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international conference on Technology Development on Agriculture, Energy, Environmental Engineering for Green World' (ICTDAEEGW'18), Vivekananda College of Engineering for Women, Tiruchengode, Tamilnadu, February 20-21, 2018.

19. K. Soundaranayaki, and **R. Gandhimathi**, A study on the treatment of domestic wastewater in a VFCWs in Batch mode, Proc. of International Conference on Energy, Environment and Industrial Safety (ICEEIS), SALVATIO18, A.C Tech, Anna University, Chennai, February 22-23, 2018 (**Best paper award**).
20. V. Rajesh Kumar and **R. Gandhimathi**, "*Removal of Glyphosate from Water by Heterogeneous Fenton Like Process Catalyzed with Nano-scale Iron Manganese binary loaded Zeolite (NIMZ)*" 3<sup>rd</sup> International Conference on Sustainable Energy and Environmental Challenges (3<sup>rd</sup> SEEC), December 18-21, 2018, IIT Roorkee, India.
21. V. Rajesh Kumar and **R. Gandhimathi**, "*An Extended analysis on catalyst reusability and degradation pathway determination for Glyphosate removal by heterogeneous Fenton process*" 4<sup>th</sup> International Conference on Sustainable Energy and Environmental Challenges (4<sup>th</sup> SEEC), November 27-29, 2019, CSIR-NEERI, Nagpur, India.

### National Conferences

1. **R. Gandhimathi**, "Proc. ISTE short-term course on "Computational Methods in Civil Engineering" Department of Civil Engineering, Kongu Engineering College, Erode, 09 – 22 November 2000, pp. 2.1 –2.13
2. S.T. Ramesh, **R. Gandhimathi** and S. Jayanthi, "Feasibility study on anaerobic digestion of Garbage using Lime pretreatment" Proc. National conference on Control of industrial pollution & Environmental Degradation, PSG College of Technology, Coimbatore, 14 - 15 September 2001, pp. 354-357.
3. S.T. Ramesh, **R. Gandhimathi** and S. Jayanthi, "An Energy recovery from water hyacinth by anaerobic decomposition" Proc. National conference on pollution: Impact & emerging Remedial measures" at Gramin polytechnic Nanded, Maharashtra, 25-26 November 2001, pp. 12-14.
4. S.T. Ramesh, **R. Gandhimathi** and S. Jayanthi, "Adsorption studies on Lead removal using the activated carbon prepared from glauca benth fruit" Proc. National conference on pollution: Impact & emerging Remedial measures" at Gramin polytechnic Nanded, Maharashtra, 25-26 November 2001, pp. 93-95.
5. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi**, "Integrated Rural – Urban Energy Planning" Proc. XVI Indian Engineering Congress National seminar on rural development for a Healthy Rural – Urban interface at Indian Institute of Technology, Kharagpur, December 1-4, 2001, pp. 26-30.
6. P. Murthi, S.T. Ramesh and **R. Gandhimathi**, "Globalization – An overview" Proc. Seminar on Technology Management, Kongu Engineering College, 3 – 5 January 2002, pp. 122-124.
7. S.T. Ramesh, **R. Gandhimathi** and S. Jayanthi, "Hazardous Waste Management" Proc. National Conference on "Pollution Control and Industrial Ecology" at Thiagarajar College of Engineering, Madurai, February 27-28, 2002, pp. 22-26.
8. S.T. Ramesh, **R. Gandhimathi** and P. Murthi, "GIS Applications" Proc. National Conference on "Pollution Control and Industrial Ecology" at Thiagarajar College of Engineering, Madurai, February 27-28, 2002, pp. 138-142.
9. S.T. Ramesh, **R. Gandhimathi** and P. Murthi, "Environmental Audit" Proc. National Conference on "Pollution Control and Industrial Ecology" at Thiagarajar College of Engineering, Madurai, 27-28 February, 2002, pp. 135-137.



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10. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi**, "Rain Water harvesting" Proc. National Conference on "Modern Trends in Water Resources Development and Environmental Management", Vellore Institute of Technology, Deemed University, Vellore, 7-8 March 2002, pp. B-1 to B-6.
11. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi**, "Artificial Recharge of Ground Water" Proc. National Conference on "Modern Trends in Water Resources Development and Environmental Management" at Vellore Institute of Technology, Deemed University, Vellore, 7-8 March 2002, pp. B-26 to B-29.
12. S.T. Ramesh, **R. Gandhimathi** and P. Murthi, "GIS Applications" Proc. National Seminar on "Water Resources Systems Planning and Management", Department of Civil Engineering, Annamalai University, Chidambaram, 7-8 March 2002, pp. E-20 to E-27.
13. S.T. Ramesh, S. Karthikeyan and **R. Gandhimathi**, "Fight Against Water Pollution – A Case Study on Conservation and Reuse of Waste Water in Kongu Campus" Proc. National Seminar on "Civil Engineering Strategies in the making of India a Global Giant", Crescent Engineering College, Chennai, 2-3 October 2002, pp. 119 to 123.
14. S.T. Ramesh, **R. Gandhimathi** and S. Jayanthi, "Municipal Solid Waste Management in Erode City" Proc. 20<sup>th</sup> National convention of IPHE on "Environmental Engineering", GITAM Engineering College, Visakhapatnam, 22 –24 August 2002, pp. 75.
15. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi**, "Biomedical Waste Management in Erode Government Hospital" Proc. 20<sup>th</sup> National convention of IPHE on "Environmental Engineering", GITAM Engineering College, Visakhapatnam, 22 –24 August 2002, pp. 76-84.
16. S.T. Ramesh, S. Karthikeyan and **R. Gandhimathi**, "To prevent ground water pollution by recycling & reuse of domestic waste water" Proc. National seminar on "Ground water management & rural development", Anjuman Engineering College, 9 –10 October 2002, pp. 46-51.
17. S.T. Ramesh, S. Jayanthi and **R. Gandhimathi**, "Recharge of Ground water by Artificial methods" Proc. National seminar on "Ground water management & rural development", Anjuman Engineering College, 9 –10 October 2002, pp. 87-91.
18. **Gandhimathi, R.**, "Lead removal using the activated carbon prepared from Leucanena Glauca Benth by Adsorption technique" Proc. National conference on "Hydro chemical, Bio chemical studies and environmental pollution" Department of Chemistry, Maulana Azad College, 19-20 August 2002.
19. **Gandhimathi, R.**, "Disposal of Garbage by Anaerobic decomposition" Proc. National conference "Hydro chemical, Bio chemical studies and environmental pollution", Department of Chemistry, Maulana Azad College, 19-20 August 2002.
20. **R. Gandhimathi**, K. Thanasekaran and S. T. Ramesh, "Flow and Pressure Equalization in Water Supply in Multistoried Buildings" Proc. Conference on Hydraulics, Water Resources & Ocean Engineering, HYDRO-2002, IIT Bombay, 16 – 17 December 2002, pp. 478-483.
21. S. Mohan, S. N. Bhargav and **R. Gandhimathi**, "Study of Leachate migration using a Mathematical Model- A Case Study " Proc. workshop on Sustainable Landfill management, Centre of Environmental Studies, Anna University, Chennai – 600 025 on December 3 – 5,2003, pp. 345-353.
22. S.T. Ramesh and **R. Gandhimathi**, "Current Environmental Issues" Proc. Faculty development programme on Enhancing the quality of education and imparting for teachers in technical institutions in Tamilnadu, Kongu Engineering College, Perundurai, Erode, 31 May – 5 June 2004, pp. 8-24.

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

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23. S.T. Ramesh, S. Mohan and **R. Gandhimathi**, "Engineering interventions to reduce Environmental stresses" Proc. National workshop on Environmental Science and Engineering (Sponsored by MoEF), Bannari Amman Institute of technology, Sayamangalam, Erode, 22 - 24 July 2004.
24. S.T. Ramesh, S. Mohan and **R. Gandhimathi**, "Tools for Environmental Management" Proc. National workshop on Environmental Science and Engineering (Sponsored by MoEF), Bannari Amman Institute of technology, Sayamangalam, Erode, 22 - 24 July 2004.
25. S.T. Ramesh, S. Mohan and **R. Gandhimathi**, "Pollution control acts and regulations in India" Proc. National workshop on Environmental Science and Engineering (Sponsored by MoEF), Bannari Amman Institute of technology, Sayamangalam, Erode, 22 - 24 July 2004.
26. S. Mohan, S.T. Ramesh and **R. Gandhimathi**, "Waste management in Health care Facilities- A Review" Proc. National conference on Solid and Hazardous waste Management problems and Solutions, conducted by International development centre foundation, New Delhi, April 28-29, 2005, pp. 102-110.
27. S.T. Ramesh, S. Mohan and **R. Gandhimathi**, "E-Waste: The new waste crisis" Proc. National workshop on Management of contemporary environmental issues for sustainable development, K.S.R College of Technology, Tiruchengode, 21<sup>st</sup> September 2006.
28. S.T. Ramesh and **R. Gandhimathi**, "Plastic waste management in construction: Technological issues", Proc. National seminar on recycling of waste materials in concrete, Kongu Engineering College, Perundurai, Erode, 16-17 August 2007, pp. 96-106.
29. S.T. Ramesh and **R. Gandhimathi**, "Utilization of residues from municipal waste incineration", Proc. National seminar on recycling of waste materials in concrete, Kongu Engineering College, Perundurai, Erode, 16-17 August 2007, pp. 107-115.
30. Preshobh and **R. Gandhimathi**, "Removal of Malachite Green Dye Using Liquid Emulsion Membrane", Proceedings of Student Symposium on "Research in Civil Engineering", Department of Civil Engineering, Indian Institute of Technology Madras, Chennai, 5-6 March, 2009, pp.7-8.
31. P. V. Nidheesh, **R. Gandhimathi** and S. T. Ramesh, "Use of Mass transfer model for prediction of crystal violet adsorption efficiency of bottom ash in fixed bed system", Proceedings of National Conference on Biological Wastewater Treatment Towards Green Environment, Department of Chemical Engineering, NIT Calicut, Kozhikode, 28-29, January, 2011, pp.35-36.
32. K. S. Bharathi, S. T. Ramesh and **R. Gandhimathi** "Evaluation of timber residue as a novel non- conventional low-cost adsorbent for removal of copper and zinc from aqueous solution", Proceedings of National Conference on Biological Wastewater Treatment Towards Green Environment, Department of Chemical Engineering, NIT Calicut, Kozhikode, 28-29, January, 2011, pp.24-25.
33. P. V. Nidheesh and **R. Gandhimathi**, "Reichenberg Analysis of Crystal Violet Adsorption onto Bottom Ash" Proceedings of National Conference on Emerging Technologies, Anna University of Technology, Tirunelveli, 6, May, 2011.
34. P. V. Nidheesh, **R. Gandhimathi**, S. T. Ramesh and T. S. Anatha Singh, "Adsorption of Methylene Blue by Bottom Ash- Kinetics and Equilibrium Studies", Proceedings of National Conference on Environmental Challenges Towards Sustainability, Government College of Technology, Coimbatore, 24-25 March 2011, pp. 74.
35. T. S. Anantha Singh, S. Kanmani, P.V. Nidheesh, K. S. Bharathi, **R. Gandhimathi**, and S. T. Ramesh," Rapid Environmental Impact Assessment Tool for the open dumping site, Ariyamangalam, Trichy, Tamilnadu, Proceedings of National Conference on Environmental Challenges Towards Sustainability, Government College of Technology, Coimbatore, 24-25 March 2011.

# National Institute of Technology, Tiruchirappalli:

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36. S. T. Ramesh, **R. Gandhimathi**, and P.V. Nidheesh, Recent advances and problems associated with the use of geosynthetics in containment approach in landfill management facilities, Proceedings of National Conference on Advances in Engineering geology and Geotechnical Engineering, Government College of Engineering, Kannur, 29 – 30, March 2011, pp. 61-67.
37. P. V. Nidheesh and **R. Gandhimathi**, “Review, Analysis and Validation on pH dependence of Fenton Processes”, Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 33.
38. Devika Venu and **R. Gandhimathi**, “Removal of COD from landfill leachate by peroxicoagulation process”, Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 54.
39. Stephy Jacqueline George and **R. Gandhimathi**, “Removal of salicylic acid from aqueous solution by electro Fenton process” Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 19.
40. Shilpa Xavier and **R. Gandhimathi**, “Removal of Magenta MB by Fenton process” Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 25.
41. C. Dwithiya and **R. Gandhimathi**, “Municipal Wastewater Treatment by Subsurface Vertical Flow Constructed Wetland” Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 58
42. C. Mithun and **R. Gandhimathi**, “Use of Prosopis Juliflora Seed as a Natural Coagulant in Treatment of Turbid Water” Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 36.
43. Abhishek Anand and **R. Gandhimathi**, “Forecasting Air Quality Parameters Using Artificial Neural Network Modelling” Proc. National level Techosium, SELECT – X3 (Seminar on Electrochemical and Chemical Technology), Central Electrochemical Research Institute (CECRI), Karaikudi, 15-16, February 2013, pp. 29.
44. Sree Lekha S Kumar and **R. Gandhimathi**, “Assessment of air quality at NIT campus using bio monitors by air pollution tolerance index (APTI) approach” Proc. 1<sup>st</sup> National level conference on energy and environment, Department of chemical Engineering, A. C. Tech., Anna University, India, 20-22, February 2014, pp. 37.
45. P. V. Nidheesh and **R. Gandhimathi**, “Graphite-Graphite Electro Fenton Process for Dye Removal: Advantages, Implementation Problems and Remedial Solutions” Proc. National conference on Furthering Aspirations in Civil Engineering, Government College of Engineering Kannur, 26-27, June 2014, pp. 145-148.
46. V. Uma and **R. Gandhimathi**, “Polyhydroxyalkanoates (PHA) Production from Oily Bilge Water Using Mixed Culture in Sequencing Batch Reactor (SBR)” Proc. National Conference on Energy and Environment, organized jointly by IIT Madras and CODDISSIA, Coimbatore, 16-17, September 2016.
47. Sree Lekha S Kumar, **R. Gandhimathi** and S. V. Niveditha, “Air Quality Assessment in the Heterogeneous Traffic Near an Urban Highway” Proc. National Conference on Energy and Environment, organized jointly by IIT Madras and CODDISSIA, Coimbatore, 16-17, September 2016.

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48. K.S. Hasim, B. Archa, and **R. Gandhimathi**, "Stabilized landfill leachate treatment by Heterogeneous Fenton and Fenton-like process" Proc. National Conference on Energy and Environment, organized jointly by IIT Madras and CODDISSIA, Coimbatore, 16-17, September 2016.
49. Kirti Tamta, A. S. Ashwini, and **R. Gandhimadhi**, "Optimization of an Integrated Electrocoagulation/Electrooxidation Using Fe as Bipolar Electrode for Pulp and Paper Wastewater" Proc. National Conference on Energy and Environment, organized jointly by IIT Madras and CODDISSIA, Coimbatore, 16-17, September 2016.
50. M. Anushya Devi and **R. Gandhimathi**, "Biodegradation of Textile Wastewater by Immobilized Bacterial-Fungal Consortium" Proc. National Conference on Innovations & Future Perspectives of Nanotechnology" IFPN'2017, Government College of Technology, Coimbatore, 10<sup>th</sup> March 2017.

### 13. Research Papers published in Books

1. P. V. Nidheesh, **R. Gandhimathi** and S. T. Ramesh "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. **Macmillan Publishers India Ltd., 2012.**
2. S. Kanmani and R. Gandhimathi, Investigation of Physicochemical Characteristics and Heavy Metal Distribution Profile in Groundwater System Around the Open Dump Site, pp. 197-224. In Marco Ragazzi (eds.) Sewage and Landfill Leachate: Assessment and Remediation of Environmental Hazards. Apple Academic Press 2016

### 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.

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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, 17<sup>th</sup> – 19<sup>th</sup> 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 (INDUSFEW)”** 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.

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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, 29<sup>th</sup> August to 3<sup>rd</sup> 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

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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 Environmental 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 <sub>3</sub> O <sub>4</sub> 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.

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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 Water Conservation Measures – Challenges for their Ecofriendly Adoption"	Agricultural Engineering College and Research Institute, Kumulur, Tiruchirappalli, July 19, 2017.
23.	Constructed Wetlands for Wastewater Treatment	Webinar on "Climate Change and Sustainability"	Department of Civil Engineering, Vidyavardhaka College of Engineering, Mysuru, June 4, 2020.
24.	Stabilized Landfill Leachate Treatment by Advanced Oxidation Process	Webinar	Department of Civil Engineering, Francis Xavier Engineering College, July 30, 2020.
25.	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
26.	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.
27.	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
28.	Effective Documentation: Accreditation Process	AICTE MARGDARSHAN Sponsored One week workshop on Quality assurance in Technical & Higher Educational	Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli, July 19-23, 2021



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		Institutions and Interpretation of requirements of NBA Accreditation	
29.	Accelerating urban action for a carbon-free world	World Habitat Day	IEI Tiruchirappalli Local Centre, Tiruchirappalli, 4 <sup>th</sup> October 2021
30.	Accelerating urban action for a carbon-free world	World Habitat Day	IEI Kalpakkam Local Centre, Tiruchirappalli, 7 <sup>th</sup> January 2022

## 17. Reviewer for Journals

- Applied Water Science (Springer)
- Arabian Journal of Chemistry (Elsevier)
- 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)
- The Korean Journal of Chemical Engineering

## 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)	Chartered 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

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9.	The Indian Society for Technical Education	LM -55428 / 2008
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### 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, Tamilnadu Water Investment Company limited, Chennai	October 2019
3.	Performannce 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 habitation in Ramanathapuram, Sivagangai and Pudukottai districts-corrosive nature of soil	September 2007 to November 2007

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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

### List of Equipment purchased under Project

S. No.	Name of the Equipment	Cost of the Equipment (Rs.)
<b>FAST TRACK Project</b>		
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

S. No.	Mode of Fund	Value (Rs.)
1.	Plan Fund and TEQIP	24989659
2.	DST Project	689143
<b>Total (Rs.)</b>		<b>25678802</b>
<b>Rupees Two Crores Fifty-Six Lakhs Seventy-Eight Thousand Eight Hundred and Two Only</b>		

**Dr. R. Gandhimathi**