Dr. Selvaraju Narayanasamy

BIOCHEMICAL & ENVIRONMENTAL ENGINEERING LAB

Associate Professor
Department of Biosciences and Bioengineering (BSBE),
&
Adjunct Faculty
Centre for Sustainable Water Research
&
Jyoti and Bhupat Mehta School of Health Sciences and Technology
Indian Institute of Technology

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RESEARCH INTERESTS

- Environmental Bioremediation
- Advanced Oxidation Process
- Biodiesel Production and Optimisation
- Air pollution monitoring and Bioaerosol modelling
- Microfluidics and microreactors

PUBLICATIONS

- No. of Publications: 128
- Citations: 5496
- h-index: 42
- i10-Index: 99

SPONSORED PROJECTS

- Ongoing: 1
- Completed: 12

Ph.D. STUDENTS

- Ongoing: 12
- Completed: 19

EDUCATION

- Ph. D, Chemical Engineering, Indian Institute of Technology Madras, India (2005 to 2010).
- M. Tech, Chemical Engineering, A.C. College of Tech., Anna University, Chennai (2000 to 2002).
- B. Tech, Chemical Engineering, Annamalai University, Chidambaram (1996 to 2000).

PROFESSIONAL EXPERIENCE

- Working as an Associate Professor in the Department of Biosciences and Bioengineering, IIT Guwahati (25/09/2021 to present).
- Worked as an Assistant professor in the Department of Biosciences and Bioengineering, IIT Guwahati (24/04/2017 to 24/09/2021).
- Worked as an Assistant professor in the Department of Chemical Engineering, NIT Calicut (02/06/2010 to 21/04/2017).

HONOURS AND AWARDS

- Received **Research Concept Grand Challenge Award (RCGCA) 2022** from IIT Guwahati. The Award carries a grant of Rs 2 lakhs.
- Received for **Hiyoshi Think of Ecology Award 2016** (National Award) from Hiyoshi Corporation, Japan and Hiyoshi India Ecological Services Pvt. Ltd., India. The Award carries a grant Rs 25,000/, memento and a citation.
- Received **Kerala State Young Scientist Award 2014** by the Kerala State Council for Science, Technology and Environment (KSCSTE) for the year 2014. The Award carries a grant Rs 50,000/-, a start-up research grant **(Rs 50 Lakhs)** and travel support for a trip abroad to present the research work at a conference.
- Received total cash award of Rs. 7,50,000/- for publishing 50 articles in peer reviewed SCI Journals (SCI Journal).

ACHIEVEMENTS BY STUDENTS

- Ajith Kumar V (2023), Mohammed Askkar Deen F (2023), Jyoti Prakash Ray (2022), Sandhya S (2022), Harish Kumar (2021), and C. Ragavan (2021) were **awarded with the Prime Minister Research Fellowship (PMRF)** with a monthly stipend of **Rs. 70,000 - Rs. 80,000** and a research grant of **Rs. 2 Lakhs per year.**
- Jyoti Prakash Ray, Ajit Kumar, and C. Ragavan were **awarded a project by IIT Guwahati-DST NEGWEN-IEDC (2022)** with an annual funding of **INR 2.5 lakh.**
- Ms. Sandhya S. was awarded 3rd prize in the Open Category of the **New Generation Ideation Contest-2021, Hindustan Petroleum Green R&D Centre** with a **cash prize of Rs. 25,000/-**.
- Chandi Patra, Tasrin Shahnaz, and Harish Kumar were **awarded a project by IIT Guwahati-DST NEGWEN-IEDC (2021)** with an annual funding of **INR 2.5 lakh.**

DR. SELVARAJU NARAYANASAMY

ASSOCIATE PROFESSOR

OFFICIAL ADDRESS

Dr. Selvaraju Narayanasamy,
Associate Professor,
Biochemical & Environmental Engineering Lab,
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&
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CONTACT

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EDUCATION

PhD: Chemical Engineering
Indian Institute of Technology Madras, India
2005-2010

Master of Technology: Chemical Engineering
A.C. College of Technology, Anna University, Chennai, India
2000-2002

Bachelor of Technology: Chemical Engineering
Annamalai University, Chidambaram, India
1996-2000

PROFESSIONAL EXPERIENCE

25.09.2021 to till date
Working as **Associate Professor** in the Department of Biosciences and Bioengineering, IIT Guwahati.

24.04.2017 to 24.09.2021
Worked as **Assistant Professor** in the Department of Biosciences and Bioengineering, IIT Guwahati.

02.06.2010 to 21.04.2017
Worked as **Assistant Professor** in the Department of Chemical Engineering, NIT Calicut.

Oct-2009 to Apr-2010
Worked as a **Project Officer** in IIT Madras.

Jan-2002 to Dec-2004

Worked as **Lecturer** in the Department of Chemical Engineering (Affiliated to Anna University), Pallavan College of Engineering, Kanchipuram, Tamil Nadu, India.

RESEARCH EXPERTISE

- Environmental Bioremediation
- Microbial Biodiesel Production and Process Optimisation
- Advanced Oxidation Processes (Photochemical, Electrochemical Oxidation)
- Biofuel Production
- Bioaerosol
- Air Pollution Monitoring & Modelling
- Water Quality Model

HONOURS & AWARDS

- Received **Research Concept Grand Challenge Award (RCGCA) 2022** from IIT Guwahati. **The Award carries a grant of Rs 2 lakhs.**
- Received for **Hiyoshi Think of Ecology Award 2016 (National Award)** from Hiyoshi Corporation, Japan and Hiyoshi India Ecological Services Pvt. Ltd., India. **The Award carries a grant Rs 25,000/, memento and a citation.**
- Received **Kerala State Young Scientist Award 2014** by the Kerala State Council for Science, Technology and Environment (KSCSTE) for the year 2014. **The Award carries a grant Rs 50,000/-, a start-up research grant (Rs 50 Lakhs) and travel support for a trip abroad** to present the research work at a conference.
- **Total Cash Award of Rs 7,50,000** has been received for publishing **50 Articles in peer reviewed SCI Journals (SCI Journal).**
- Received **National Doctoral fellowship (NDF)** from AICTE since Jan 2006 to Jan 2009. NDF is the most prestigious and highly valued scholarships given by All India Council for Technical Education (AICTE) to the top 50 research scholars in India.

LIST OF SPONSORED PROJECT COMPLETED & ONGOING AS PI

S.no	Title	Cost in INR	Role	Agency
11.	Development of an integrated wastewater treatment and fuel production system using ceramic membranes and microchannel reactors.	68.92 Lakhs IITG share (Total:110.69)	Principal Investigator (**Ongoing**)	Department of Science & Technology
10.	Water filtration, Advanced-Oxidation and Capacitive deionization treatments for removal of emerging contaminants in water.	43.04 Lakhs IITG share (Total: 105.23)	Principal Investigator (**Completed**)	Department of Science & Technology
9.	Sustainable Production of Algal Biomass for Production of Biofuels. A Holistic Approach with Bioremediation & Economical Harvesting Technique.	2.40 Lakhs	Principal Investigator (**Completed**)	DBT-NECBH

8.	Benchtop Disinfection and Sanitization Unit for Virus similar to COVID-19.	3.87Lakhs	Principal Investigator (**Completed**)	Pyrotech work space
7.	Removal of Arsenic From Aqueous Solutions using Polyelectrolytes in Membrane Based System.	2.36 Lakhs	Principal Investigator (**Completed**)	Aqua Solution
6.	Sequestration of Hexavalent Chromium from Simulated and Electroplating Effluent using Novel Lignocellulosic Biosorbents.	5.00 Lakhs	Principal Investigator (**Completed**)	Indian Institute of Technology Guwahati (Startup Grant)
5.	Experimental and Numerical Investigation of Reactive Extraction and Phase Transfer Catalysis in a Microfluidic System.	50.00 Lakhs	Principal Investigator (**Completed**)	Kerala State Council for Science, Technology and Environment (KSCSTE)
4.	Investigation over the Experimental and Mathematical Modelling of Aerosols in Kozhikode District.	15.216 Lakhs	Principal Investigator (**Completed**)	Kerala State Council for Science, Technology and Environment (KSCSTE)
3.	Investigation over the Experimental and Mathematical Modelling of Novel Plant Based Biosorbents for the Sequestration of Hexavalent Chromium.	5.642 Lakhs	Principal Investigator (**Completed**)	Kerala State Council for Science, Technology and Environment (KSCSTE)
2.	Experimental & Deterministic Model Studies in Regeneration of Microbial Biosorbents after Heavy Metal Desorption.	8.82 Lakhs	Principal Investigator (**Completed**)	Department of Science & Technology
1.	Reaction in Two Immiscible Flows & Liquid-Liquid Extraction for Efficient Separation using Micro Channel.	5.00 Lakhs	Principal Investigator (**Completed**)	National Institute of Technology Calicut (Faculty Research Grant)

ACHIEVEMENTS BY STUDENTS

- **Mr. Ajithkumar V** and **Mr. Mohammed Askkar Deen F** was **awarded with the Prime Minister Research Fellowship (PMRF)** in 2023. PMRF fellowship comes with a monthly stipend of **Rs. 70,000 – Rs. 80,000** and a research grant of **Rs. 2 Lakhs per annum.**

- **Mr. Vishnu Priyan** received the **Best Presentation Award (First Place)** at the **Third International Conference on Waste, Energy and Environment – ICWEE-2023,** Sathyabama Institute of Science and Technology, Chennai.
- **Mr. Vishnu Priyan** received the **Best Presentation Award** at the **International Conference on CHEM-TECHNOVA-2023 (First Place)** at Harcourt Butler Technical University, Kanpur.
- **Mr. Vishnu Priyan** received the **Best Presentation Award** in the **National Conference on BIODRASILLENCE VT'23,** at Vel Tech High Tech Engineering College, Chennai.
- **Mr. Jeevanantham** received the **Best Presentation Award (Second Place)** at the **Third International Conference on Waste, Energy and Environment – ICWEE-2023,** Sathyabama Institute of Science and Technology, Chennai.
- **Mr. Harish Kumar** recieved **ACS Sponsored prize for Best Short Invited Talk award** in **International Hybrid Conference on Nano Structured Materials and Polymers (ICNP 2023).**
- **Mr. Jyoti Prakash Ray** was **awarded with the Prime Minister Research Fellowship (PMRF)** in 2022. PMRF fellowship comes with a monthly stipend of **Rs. 70,000 – Rs. 80,000** and a research grant of **Rs. 2 Lakhs per annum.**
- **Mr. Jyoti Prakash Ray (PI), Mr. Ajit Kumar, Mr. C. Ragavan awarded a project by IIT Guwahati-DST NEGWEN-IEDC (2022)** entitled "Green synthesis of Graphene Quantum Dots from (Agro) industrial waste biomass for photocatalytic degradation of organochlorine pesticides in North-East region of India: A sustainable approach" annual funding of **INR 2.5 lakh.**
- **Ms. Sandhya S**. **awarded with the Prime Minister Research Fellowship (PMRF)** in 2022. PMRF fellowship comes with a monthly stipend of **Rs. 70,000 – Rs. 80,000** and a research grant of **Rs. 2 Lakhs per annum.**
- **Ms. Sandhya S.** was **awarded 3rd prize** in the **Open Category of the New Generation Ideation Contest-2021**, organized by Hindustan Petroleum Green R&D Centre with a **cash prize of Rs. 25,000/-**.
- **Mr. Harish Kumar** was **awarded with the Prime Minister Research Fellowship (PMRF)** in 2021. PMRF fellowship comes with a monthly stipend of **Rs. 70,000 – Rs. 80,000** and a research grant of **Rs. 2 Lakhs per annum.**
- **Mr. C. Ragavan awarded with the Prime Minister Research Fellowship (PMRF)** in 2021. PMRF fellowship comes with a monthly stipend of **Rs. 70,000 – Rs. 80,000** and a research grant of **Rs. 2 Lakhs per annum.**
- **Mr. Chandi Patra (PI), Ms. Tasrin Shahnaz and Mr. Harish Kumar** were **awarded a project by IIT Guwahati-DST NEGWEN-IEDC (2022)** entitled "Cleaner production of porous carbon using Surgical/N95 masks for wastewater treatment: A circular economy approach" annual funding of **INR 2.5 lakh.**
- **Mr. Chandi Patra** was awarded the **second-best poster award** at the **Research and Industrial Conclave (RIC 2022)** held at the Indian Institute of Technology Guwahati, Guwahati, Assam, India with a **cash prize of Rs 1,500.**
- **Mr. Chandi Patra** was awarded the **best rapid presentation & poster award** at the **International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021)**, organized by CSIR-INDIA, CSIR-Indian Institute of Petroleum Dehradun and The Biotech Research Society-India (BRSI).
- **Ms. Tasrin Shahnaz and Mr. Vivek Sharma** were awarded the **Annual best paper award of 2020, by Elsevier** for the research article "Multivariate Optimisation of Cr (VI), Co (III) and Cu (II) adsorption onto Nanobentonite

incorporated Nanocellulose/Chitosan Aerogel using Response Surface Methodology", Journal of Water Process Engineering, 2020, https://doi.org/10.1016/j.jwpe.2020.101283 (Elsevier, SCI IF: 7.340).

- **Ms. Tasrin Shahnaz** was **awarded Best poster presentation award** at **International Conference on Nanoscience and Nanotechnology (Virtual Conference) SRM Institute of Science and Technology– ICONN, Feb 2021**.

LIST OF PhD STUDENTS (ONGOING)

S.no	Student Details		Research Topic	Institute
1.	**Name**	**Mr. Ragavan C**	Heterogenous Electro-Fenton process for the Degradation of Recalcitrant Pharmaceutical Pollutants: Modelling and Toxicity Studies	IIT Guwahati
	Date of Joining	July, 2020		
	Guide Name	Dr. Selvaraju Narayanasamy		
2.	**Name**	**Ms. Sandhya S**	Metabolic Engineering of Microbial Cell for Wax Ester Production	IIT Guwahati
	Date of Joining	July, 2020		
	Guide Name	Dr. Selvaraju Narayanasamy		
	Co-Guide Name	Prof. Senthilkumar S (IITG)		
3.	**Name**	**Mr. Harish Kumar R**	Adsorption of Wastewater Contaminants Using Metal-Organic Frameworks	IIT Guwahati
	Date of Joining	December, 2020		
	Guide Name	Dr. Selvaraju Narayanasamy		
4.	**Name**	**Mr. Jyoti Prakash Ray**	Hybrid sono-photocatalytic process for degradation and mineralisation of Contaminants of emerging concerns	IIT Guwahati
	Date of Joining	December, 2021		
	Guide Name	Dr. Selvaraju Narayanasamy		
5.	**Name**	**Ms. Jothika J**	Heterologous production of stable Laccase from a newly isolated strain for the bioremediation of emerging pollutants.	IIT Guwahati
	Date of Joining	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
6.	**Name**	**Mr. Jeevanantham S**	Synthesis and Fabrication of Biochar-based Electrode for Adsorption Combined Electrochemical Degradation of Contaminants of Emerging Concerns (CECs): Optimization and Ecotoxicological Studies	IIT Guwahati
	Date of Joining	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
	Co-Guide Name	Dr. R Prasanna Venkatesh (IITG)		
7.	**Name**	**Mr. Mohammed Askkar Deen F**	MXenes Nanocomposites as a sustainable catalyst for efficient aqueous pollutants sequestration	IIT Guwahati
	Date of Joining	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
8.	**Name**	**Mr. Ajithkumar V.**	Design of continuous reactor for bioremediation of textile effluent.	IIT Guwahati
	Date of Joining	December, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
	Co-Guide Name	Dr. Ankur Verma (IITBHU)		
9.	**Name**	**Ms. Anushka Singh**	Development of Integrated Process for co-cultivation of indigenous yeast and microalgae for biodiesel production and edible oil industrial wastewater treatment.	IIT Guwahati
	Date of Joining	July, 2023		
	Guide Name	Dr. Selvaraju Narayanasamy		
10.	**Name**	**Ms. Debanjana Ghosh**	Removal of endocrine disruptor from wastewater using biochar immobilized with microorganisms.	IIT Guwahati
	Date of Joining	July, 2023		
	Guide Name	Dr. Selvaraju Narayanasamy		

	Co-Guide Name	Dr. Chandan Pal (IITG)		
11.	**Name**	**Ms. Aparna Singh**		
	Date of Joining	July, 2024		IIT Guwahati
	Guide Name	Dr. Selvaraju Narayanasamy		
12.	**Name**	**Ms. Rakshita Mehta**		
	Date of Joining	July, 2024		IIT Guwahati
	Guide Name	Dr. Selvaraju Narayanasamy		
	Co-Guide Name	Dr. Sreedeep S. (IITG)		

LIST OF PhD STUDENTS COMPLETED

S.no	Student Details		Research Topic	Institute
1.	**Name**	**Mr. Vishnu Priyan V**	Bio-remediation of Antibiotics and Emerging Contaminants (EC) from Wastewater using Plant Based Biosorbents	IIT Guwahati
	Date of Joining	July, 2019		
	Date of completion	May, 2024		
	Guide Name	Dr. Selvaraju Narayanasamy		
2.	**Name**	**Mr. Ajit Kumar**	Remediation of Persistent Organic Pollutants (POPs) from Simulated Wastewater using Biobased Adsorbents	IIT Guwahati
	Date of Joining	July, 2019		
	Date of completion	Aug, 2024		
	Guide Name	Dr. Selvaraju Narayanasamy		
15.	**Name**	**Dr. Tasrin Shahnaz**	Simultaneous Biosorption of Heavy Metals and Dye Mixture complemented by Kinetic and Thermodynamic Studies	IIT Guwahati
	Date of Joining	December, 2017		
	Date of completion	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
14.	**Name**	**Dr. Chandi Charan Patra**	Development of biomass-derived surface-modified carbon and polymer-based adsorbents for adsorptive elimination of organic and inorganic pollutants from aqueous setups	IIT Guwahati
	Date of Joining	July, 2017		
	Date of completion	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
13.	**Name**	**Dr. Shravan Kumar**	Hexavalent Chromium Removal from Aqueous Solutions using Novel Biosorbent.	IIT Guwahati
	Date of Joining	September,2017**(Joined to our lab)**		
	Date of completion	February, 2021		
	Guide	Dr. R. Prasanna Venkatesh (IITG)		
	Co-Guide	Dr. Selvaraju Narayanasamy		
12.	**Name**	**Dr. Abhishek Ajmani**	Biosorption of Hexavalent Chromium Cr (VI) from aqueous solutions by Novel Biosorbents.	IIT Guwahati
	Date of Joining	July, 2017 **(Joined to our lab)**		
	Date of completion	March, 2020		
	Guide	Dr. Selvaraju Narayanasamy		
11.	**Name**	**Dr. Eldho Abraham**	Experimental and Numerical Investigation on Liquid-Liquid	NIT Calicut
	Date of Joining	July, 2016		

	Date of completion	August 2020	reactive extraction in Microfluidic system	
	Guide	Dr. Selvaraju Narayanasamy		
	Co-Guide	Dr. Bhuvaneswari S (NITC)		
10.	**Name**	**Dr. Keerthi R**	Investigation over the Experimental and Mathematical modeling of Aerosols in Kozhikode District	NIT Calicut
	Date of Joining	December 2015		
	Date of completion	March 2020		
	Guide	Dr. Selvaraju Narayanasamy		
	Co-Guide	Dr. Lity Alen Varghese (NITC)		
9.	**Name**	**Dr. Saranya S**	Experimental and Mathematical Investigation of plant based biosorbents and microbes for the removal of Hexavalent Chromium from Aqueous Solutions	NIT Calicut
	Date of Joining	July, 2015		
	Date of completion	July, 2018		
	Guide	Dr. Selvaraju Narayanasamy		
	Co-Guide	Prof. Sivasubramanian V (NITC)		
8.	Name	**Dr. Aneesh V**	Role of Backstepping technique and the need of Simultaneous design and Control of Chemical Processes	NIT Calicut
	Date of Joining	July, 2014		
	Date of completion	August, 2018		
	Guide	Dr. Selvaraju Narayanasamy Dr.Ganesh Paramasivan (ISRO)		
7.	**Name**	**Dr. Nidhin Sreekumar**	Investigation of Lipid Production from Microalgae in Tubular PBR and Open Raceway Pond Reactor	NIT Calicut
	Date of Joining	December, 2013		
	Date of completion	February, 2018		
	Guide	Dr. Selvaraju Narayanasamy Dr.Ajit Haridas (CSIR-NIIST)		
6.	**Name**	**Dr. Nakkeeran E**	Experimental and Mathematical Modeling of Novel Plant based Biosorbents for the Separation of Hexavalent Chromium	NIT Calicut
	Date of Joining	December, 2013		
	Date of completion	February, 2018		
	Guide	Dr. Selvaraju Narayanasamy		
5.	**Name**	**Dr. Giri Nandagopal**	Experimental and Numerical Investigation on Liquid-Liquid Two Phase Flow Dynamics in Microfluidic System	NIT Calicut
	Date of Joining	July, 2013		
	Date of completion	April, 2017		
	Guide	Dr. Selvaraju Narayanasamy		
4.	**Name**	**Dr. Rangabhashiyam**	Sequestration of Hexavalent Chromium from Simulated and Electroplating Effluent using Novel Lignocellulosic Biosorbents	NIT Calicut
	Date of Joining	December, 2012		
	Date of completion	November, 2015		
	Guide	Dr. Selvaraju Narayanasamy		
3.	**Name**	**Dr. Vishnuganth**	Investigation of granular Activated Carbon supported TiO_2 composites for aqueous Carbofuran Removal in Photocatalytic Systems	NIT Calicut
	Date of Joining	July, 2012		
	Date of completion	September, 2016		
	Guide	Dr. Selvaraju Narayanasamy		
	Co-Guide	Dr. Mathava Kumar (IIT Madras)		

2.	**Name**	**Dr. Rahul Antony**	Experimental and Numerical Investigations over Liquid-Liquid Mass Transfer in Microchannel Devices	NIT Calicut
	Date of Joining	December, 2011		
	Date of completion	June, 2016		
	Guide	Dr. Selvaraju Narayanasamy		
1.	**Name**	**Dr. Anu**	A Holistic Approach and Coupled Receptor – Dispersion model in Air Quality Data Analysis	NIT Calicut
	Date of Joining	July, 2010		
	Date of completion	May, 2015		
	Guide	Dr. Selvaraju Narayanasamy		

LIST OF M. TECH STUDENTS

S.no	Student Details		Research Topic	Institute
11.	**Name**	**Ms. Juvairiya S**	Biopolymer-MOF composite for adsorptive removal of textile dyes.	IIT Guwahati
	Date of Joining	July, 2024		
	Date of completion	Ongoing		
	Guide Name	Dr. Selvaraju Narayanasamy		
10.	**Name**	**Ms. Pavithra P**	Influence of Urea and Bentonite co-doping with biochar on the adsorption of predominant textile dyes: Characterization and modeling studies	IIT Guwahati
	Date of Joining	July, 2023		
	Date of completion	July, 2024		
	Guide Name	Dr. Selvaraju Narayanasamy		
9.	**Name**	**Ms. Ghurupreya R**	Sequestration of Endocrine disruptor Bisphenol A from water by modified Chitosan and its eco-toxicological assessment via Phyto and Fish toxicity studies	IIT Guwahati
	Date of Joining	July, 2021		
	Date of completion	July, 2023		
	Guide Name	Dr. Selvaraju Narayanasamy		
8.	**Name**	**Mr. Nirvesh**	Facile preparation of chitosan/CMC beads for adsorptive removal of Congo Red: Sorbate-sorbent interaction and Phytotoxicity	IIT Guwahati
	Date of Joining	July, 2020		
	Date of completion	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
7.	**Name**	**Mr. Das Bedadeep**	Mitigating the levels of organic pollutant and non-steroidal anti-inflammatory drug in simulated wastewater using functionalized adsorbents	IIT Guwahati
	Date of Joining	July, 2020		
	Date of completion	July, 2022		
	Guide Name	Dr. Selvaraju Narayanasamy		
6.	**Name**	**Mr. Nitesh Kumar**	Synthesis of CMC/PPY Composite for the removal anionic pharmaceutical Ibuprofen from synthetic water	IIT Guwahati
	Date of Joining	July, 2019		
	Date of completion	July, 2021		
	Guide	Dr. Selvaraju Narayanasamy		
5.	**Name**	**Ms. Anjali J**	Adsorption of methylene blue using grass nanocellulose: Isotherm, kinetics, thermodynamics and phytotoxicity studies	IIT Guwahati
	Date of Joining	July, 2019		
	Date of completion	July, 2021		

	Guide	Dr. Selvaraju Narayanasamy		
4.	**Name**	**Mr. Rishabh Gupta**	Cationic surfactant modified acid-activated biomass for effective sequestration of anionic diazo dyes in single and binary systems and their phytotoxicity studies.	IIT Guwahati
	Date of Joining	July, 2018		
	Date of completion	July, 2020		
	Guide	Dr. Selvaraju Narayanasamy		
3.	**Name**	**Mr. Fazil SMM**	Synthesis of nano-cellulose/polypyrrole composite and its application in the adsorptive removal of Congo Red dye and Chromium in binary mixture.	IIT Guwahati
	Date of Joining	July, 2018		
	Date of completion	July, 2020		
	Guide	Dr. Selvaraju Narayanasamy		
2.	**Name**	**Mr. Medisetti Rajmohan Naidu**	Heavy metal adsorption using activated carbon and chitosan conjugates from aqueous solutions in batch and continuous column systems	IIT Guwahati
	Date of Joining	July, 2017		
	Date of completion	July, 2019		
	Guide	Prof. Kannan Pakshirajan		
	Co-Guide	Dr. Selvaraju Narayanasamy		
1.	**Name**	**Mr. Vivek Sharma**	Synthesis of Nanobentonite Impregnated Nanocellulose-Chitosan Based Aerogel and its application in removal of Hazardous Water Pollutants	IIT Guwahati
	Date of Joining	July, 2017		
	Date of completion	July, 2019		
	Guide	Dr. Selvaraju Narayanasamy		

LIST OF B. TECH STUDENTS

Sl. No.	Name of the student	Date of joining lab	Date of completion
8	**Mr. Aryan Singh**	July, 2023	July, 2024
7	**Mr. Satyam Shukla**	July, 2023	July, 2024
6	**Mr. Ayush Raj**	July, 2022	July, 2023
5	**Mr. Piyush B Prince**	July, 2021	July, 2022
4	**Mr. Murala Abhishek**	July, 2020	July, 2021
3	**Ms. Bhawana Benda**	July, 2020	July, 2021
2	**Mr. Das Bedadeep**	July, 2019	July, 2020
1	**Mr. Ayush Jain**	July, 2018	July, 2019

INTERNATIONAL JOURNAL PUBLICATIONS

Year 2024

128. Ragavan Chandrasekar, Pavithra Prakash, Debanjana Ghosh, and **Selvaraju Narayanasamy** (2024).. "Heteroatom doped biochar-aluminosilicate composite as a green alternative for the removal of hazardous dyes: Functional characterization and modeling studies." **Environmental Research**, 119579, https://doi.org/10.1016/j.envres.2024.119579 **(Elsevier; SCI IF 2024: 7.7)**

127. Rajendran, Harish Kumar, Mohammed Askkar Deen, Jyoti Prakash Ray, Anushka Singh, and **Selvaraju Narayanasamy** (2024).. "Harnessing the Chemical Functionality of Metal–Organic Frameworks Toward Removal of Aqueous Pollutants." **Langmuir**, 40, 8, 3963-3983, https://doi.org/10.1021/acs.langmuir.3c02668 **(ACS; SCI IF 2024: 3.7)**

126. Ragavan Chandrasekar, Mohammed Askkar Deen, **Selvaraju Narayanasamy** (2023). Performance analysis of hydrochar derived from catalytic hydrothermal carbonization in the multicomponent emerging contaminant systems: Selectivity and modeling studies. **Bioresource Technology,** *393,* 130018. https://doi.org/10.1016/j.biortech.2023.130018 **(Elsevier; SCI IF 2024: 9.7)**

Year 2023

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51. Vishnuganth, M.A., Remya, N., Kumar, M., **Selvaraju, N.**, 2017. Carbofuran removal in continuous-photocatalytic reactor: Reactor optimization, rate-constant determination and carbofuran degradation pathway analysis. **Journal of Environmental Science and Health, Part B** 52, 353–360. https://doi.org/10.1080/03601234.2017.1283141 **(Taylor & Francis; SCI IF 2024: 1.4)**

50. Aneesh, V., Antony, R., Nandagopal, M.S.G., Paramasivan, G., **Selvaraju, N.**, 2017. Resilient controller design availing recursive technique rooted Lyapunov function for a dynamic system. **Microsystem Technologies** 23, 187–198. https://doi.org/10.1007/s00542-015-2733-y **(Springer; SCI IF 2024: 1.6)**

Year 2016

49. Nandagopal, M.S.G., Nakkeeran, E., Venkatesh, R.P., **Selvaraju, N.**, 2016. Advance Microfluidic Approach over Conventional Batch and CTR for Improving the Efficiency of E-coli Cell Lysis by CuO Nanoparticles. **International Journal of Chemical Reactor Engineering** 15, 20160105. https://doi.org/10.1515/ijcre-2016-0105 **(DE GRUYTER; SCI IF 2024: 1.2)**

48. Giri Nandagopal, M.S., **Selvaraju, N.**, 2016. Prediction of Liquid–Liquid Flow Patterns in a Y-Junction Circular Microchannel Using Advanced Neural Network Techniques. **Industrial & Engineering Chemistry Research** 55, 11346–11362. https://doi.org/10.1021/acs.iecr.6b02438 **(ACS publications; SCI IF 2024: 3.8)**

47. Vishnuganth, M.A., Remya, N., Kumar, M., **Selvaraju, N.**, 2016. Photocatalytic degradation of carbofuran by TiO2-coated activated carbon: Model for kinetic, electrical energy per order and economic analysis. **Journal of Environmental Management** 181, 201–207. https://doi.org/10.1016/j.jenvman.2016.06.016 **(Elsevier; SCI IF 2024: 8.0)**

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45. Padmanaban, V.C., Giri Nandagopal, M.S., Madhangi Priyadharshini, G., Maheswari, N., Janani Sree, G., **Selvaraju, N.**, 2016. Advanced approach for degradation of recalcitrant by nanophotocatalysis using nanocomposites and their future perspectives. **International Journal of Environmental Science and Technology** 13, 1591–1606. https://doi.org/10.1007/s13762-016-1000-9 **(Springer; SCI IF 2023: 3.0)**

44. Aneesh, V., Antony, R., Paramasivan, G., **Selvaraju, N.**, 2016. Distillation technology and need of simultaneous design and control: A review. **Chemical Engineering and Processing - Process Intensification** 104, 219–242. https://doi.org/10.1016/j.cep.2016.03.016 **(Elsevier; SCI IF 2024: 3.8)**

43. Sreekumar, N., Giri Nandagopal, M.S., Vasudevan, A., Antony, R., **Selvaraju, N**., 2016. Marine microalgal culturing in open pond systems for biodiesel production—Critical parameters. **Journal of Renewable and Sustainable Energy** 8, 023105. https://doi.org/10.1063/1.4945574 **(SCI IF 2024: 1.9)**

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40. Nandagopal, G.M.S., Antony, R., Rakesh, A.K.O., **Selvaraju, N**., 2016. Conservative Level Set Simulation of Droplet Formation in a Circular T and Y Junction Microchannel. **Journal of Scientific and industrial Research** 75(12), 730-734. http://nopr.niscair.res.in/handle/123456789/38164 **(NISCAIR; SCI IF 2024: 0.555)**

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36. Rangabhashiyam, S., Suganya, E., Lity, A.V., **Selvaraju, N**., 2016. Equilibrium and kinetics studies of hexavalent chromium biosorption on a novel green macroalgae Enteromorpha sp. **Research on Chemical Intermediates** 42, 1275–1294. https://doi.org/10.1007/s11164-015-2085-3 **(Springer; SCI IF 2024: 2.8)**

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33. Nandagopal, M.S.G., Antony, R., **Selvaraju, N.**, 2016. Comparative study of liquid–liquid extraction in miniaturized channels over other conventional extraction methods. **Microsystem Technologies** 22, 349–356. https://doi.org/10.1007/s00542-014-2391-5 **(Springer; SCI IF 2023: 1.6)**

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31. Antony, R., Nandagopal, G.M.S., Rangabhashiyam, S., Anu, N., **Selvaraju, N.**, 2015. Numerical investigation of stratified flow-parallel reaction microchannel system: A deterministic approach. **Indian Journal of Chemical Technology** 22(5), 258-263. http://nopr.niscair.res.in/handle/123456789/33528 **(NISCAIR; SCI IF 2024: 0.5)**

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28. Rangabhashiyam, S., **Selvaraju, N.**, 2015. Adsorptive remediation of hexavalent chromium from synthetic wastewater by a natural and ZnCl2 activated Sterculia guttata shell. **Journal of Molecular Liquids** 207, 39–49. https://doi.org/10.1016/j.molliq.2015.03.018 **(Elsevier; SCI IF 2024: 5.3)**

27. Anu, N., Rangabhashiyam, S., Antony, R., **Selvaraju, N.**, 2015. Optimization of wind speed on dispersion of pollutants using coupled receptor and dispersion model. **Sadhana** 40, 1657–1666. https://doi.org/10.1007/s12046-015-0396-0 **(Springer, SCI IF 2024: 1.4)**

26. Rangabhashiyam, S., Nakkeeran, E., Anu, N., **Selvaraju, N.**, 2015. Biosorption potential of a novel powder, prepared from Ficus auriculata leaves, for sequestration of hexavalent chromium from aqueous solutions. **Research on Chemical Intermediates** 41, 8405–8424. https://doi.org/10.1007/s11164-014-1900-6 **(Springer; SCI IF 2024: 2.8)**

25. Asha, R.C., Vishnuganth, M.A., Remya, N., **Selvaraju, N.**, Kumar, M., 2015. Livestock Wastewater Treatment in Batch and Continuous Photocatalytic Systems: Performance and Economic Analyses. **Water, Air, & Soil Pollution** 226, 132. https://doi.org/10.1007/s11270-015-2396-4 **(Springer; SCI IF 2019: 1.9)**

24. Suganya, E., Rangabhashiyam, S., Varghese, L.A., **Selvaraju, N.**, 2015. Dynamic adsorption modeling study using a modified Redilch-Peterson isotherm model. **Journal of Scientific and industrial Research** Vol.74(06), 358-361. http://14.139.47.15/handle/123456789/31609 **(NISCAIR; SCI IF 2024: 0.555)**

23. Anu, N., Nandagopal, M.S.G., Aneesh, V., **Selvaraju, N.**, 2015. Coupled Receptor-Dispersion model evaluation for the assessment of area source emission rate. **Journal of Scientific and industrial Research** Vol.74(05), 296-301. http://nopr.niscair.res.in/handle/123456789/31450 **(NISCAIR; SCI IF 2024: 0.555)**

22. Giri Nandagopal, M.S., Antony, R., Sreekumar, N., **Selvaraju, N.**, 2015. Experimental Exploration on Degradation of Orange G 16 an Azo Dye by Novel Pseudoalteromonas sp. and Its Enzyme Activity. **Arabian Journal for Science and Engineering** 40, 1005–1013. https://doi.org/10.1007/s13369-015-1581-5 **(Springer; SCI IF 2024: 2.6)**

21. Vishnuganth, M.A., Rangabhashiyam, S., Remya, N., Kumar, M., **Selvaraju, N.**, 2015. Optimization of GAC supported TiO_2 photocatalytic process for competent carbofuran removal from an aqueous system. **Journal of Scientific and industrial Research** 74(04), 225-231. http://nopr.niscair.res.in/handle/123456789/31318 **(NISCAIR; SCI IF 2024: 0.555)**

20. Anu N., Rangabhashiyam S., Rahul Antony, **Selvaraju N.**, 2015. Evaluation of optimization methods for solving the receptor model for chemical mass balance. **Journal of the Serbian Chemical Society** 80, 253–264. https://doi.org/10.2298/JSC131124052A **(SCI IF 2024: 1.0)**

19. Rangabhashiyam, S., **Selvaraju, N.**, 2015. Evaluation of the biosorption potential of a novel Caryota urens inflorescence waste biomass for the removal of hexavalent chromium from aqueous solutions. **Journal of the Taiwan Institute of Chemical Engineers** 47, 59–70. https://doi.org/10.1016/j.jtice.2014.09.034 **(Elsevier; SCI IF 2024: 5.5)**

Year 2014

18. Giri Nandagopal, M.S., Antony, R., Rangabhashiyam, S., Sreekumar, N., **Selvaraju, N.**, 2014. Overview of microneedle system: a third-generation transdermal drug delivery approach. **Microsystem Technologies** 20, 1249–1272. https://doi.org/10.1007/s00542-014-2233-5 **(Springer; SCI IF 2024: 1.6)**

17. Antony, R., Giri Nandagopal, M.S., Sreekumar, N., **Selvaraju, N.**, 2014. Detection principles and development of microfluidic sensors in the last decade. **Microsystem Technologies** 20, 1051–1061. https://doi.org/10.1007/s00542-014-2165-0 **(Springer; SCI IF 2024: 1.6)**

16. Antony, R., Nandagopal, M.S.G., Sreekumar, N., Rangabhashiyam, S., **Selvaraju, N.**, 2014. Liquid-liquid Slug Flow in a Microchannel Reactor and its Mass Transfer Properties - A Review. **Bulletin of Chemical Reaction Engineering & Catalysis** 9, 207–223. https://doi.org/10.9767/bcrec.9.3.6977.207-223 **(Scopus indexed Journal)**

15. Antony, R., Nandagopal, M.S.G., Rangabhashiyam, S., **Selvaraju, N.**, 2014. Probabilistic Neural Network prediction of liquid- liquid two phase flows in a circular microchannel. **Journal of Scientific and industrial Research** 73(08), 525-529. http://nopr.niscair.res.in/handle/123456789/29196 **(NISCAIR; SCI IF 2024: 0.555)**

14. Rangabhashiyam, S., Suganya, E., **Selvaraju, N.**, Varghese, L.A., 2014. Significance of exploiting non-living biomaterials for the biosorption of wastewater pollutants. **World Journal of Microbiology and Biotechnology** 30, 1669–1689. https://doi.org/10.1007/s11274-014-1599-y **(Springer; SCI IF 2023: 4.0)**

13. Giri Nandagopal, M.S., Antony, R., Rangabhashiyam, S. and **Selvaraju, N.**, 2014. Advance approach on environmental assessment and monitoring. **Research Journal of Chemistry and Environment** 18(7), 78-90. **(SCI IF 2024: 0.141)**

12. Rangabhashiyam, S., Anu, N., Giri, N.M.S., **Selvaraju, N.**, 2014. A Novel approach of the modified BET Isotherm towards continuous column study. **Journal of Scientific and industrial Research** 73(07), 489-494. http://nopr.niscair.res.in/handle/123456789/29008 **(NISCAIR; SCI IF 2024: 0.555)**

11. Rangabhashiyam, S., Anu, N. and **Selvaraju, N.**, 2014. Equilibrium and kinetic modeling of chromium (VI) removal from aqueous solution by a novel biosorbent. **Research Journal of Chemistry and Environment**, 18(4), 30-36. **(SCI IF 2024: 0.141)**

10. Rangabhashiyam, S., Anu, N., Giri Nandagopal, M.S., **Selvaraju, N.**, 2014. Relevance of isotherm models in biosorption of pollutants by agricultural byproducts. **Journal of Environmental Chemical Engineering** 2, 398–414. https://doi.org/10.1016/j.jece.2014.01.014 **(Elsevier; SCI IF 2024: 7.4)**

Year 2013

9. Selvaraju, N., Pushpavanam, S., Anu, N., 2013. A holistic approach combining factor analysis, positive matrix factorization, and chemical mass balance applied to receptor modeling. **Environmental Monitoring and Assessment** 185, 10115–10129. https://doi.org/10.1007/s10661-013-3317-x **(Springer; SCI IF 2024: 2.9)**

8. Rangabhashiyam, S., Anu, N., **Selvaraju, N.**, 2013. Sequestration of dye from textile industry wastewater using agricultural waste products as adsorbents. **Journal of Environmental Chemical Engineering** 1, 629–641. https://doi.org/10.1016/j.jece.2013.07.014 **(Elsevier; SCI IF 2024: 7.4)**

7. Rangabhashiyam, S., Anu, N. and **Selvaraju, N.,** 2013. Biosorption of heavy metals using low cost agricultural by products. **Research Journal of Chemistry and Environment**, *17*(11), 112-123.

6. Anu, N., Rangabhashiyam, S., **Selvaraju, N.**, Pushpavanam, S., 2013. A Holistic approach Combining Factor Analysis, Positive Matrix Factorization and UNMIX Applied to Receptor Modeling. **Journal of Scientific and industrial Research** Vol.72(12), 754-759. http://nopr.niscair.res.in/handle/123456789/24479 **(NISCAIR; SCI IF 2024: 0.555)**

5. Rangabhashiyam, S., Anu, N. and **Selvaraju, N.**, 2013. The significance of fungal laccase in textile Dye degradation—a review. **Research Journal of Chemistry and Environment**

Before Year 2013

4. Ashir, A., Sivasubramanian, V., Haribabu, K. and **Selvaraju, N.**, 2011. Mathematical Model using Statistical Design of Experiments for the Determination of Minimum Fluidization Velocity in Inverse Fluidized Bed Bioreactor with Non-Newtonian Fluids. **Research Journal of Chemistry and Environment** Vol, 15, p.2.

3. Venkatesh, R.P., Bhaskar, M., Sakthivel, S., **Selvaraju, N.**, Velan, M., 2010. Pilot Plant Studies on Accelerated Deactivation of Commercial Hydrotreating Catalyst. **Petroleum Science and Technology** 28, 93–102. https://doi.org/10.1080/10916460903066478 **(Taylor & Francis; SCI Impact Factor 2024: 1.3)**

2. **Selvaraju, N.**, Pushpavanam, S., 2010. Refining emission rate estimates using a coupled receptor–dispersion modeling approach. **Atmospheric Environment** 44, 3935–3941. https://doi.org/10.1016/j.atmosenv.2010.07.011 **(Elsevier; SCI Impact Factor 2024: 4.2)**

1. **Selvaraju, N**., Pushpavanam, S., 2009. Adsorption characteristics on sand and brick beds. **Chemical Engineering Journal** 147, 130–138. https://doi.org/10.1016/j.cej.2008.06.040 **(Elsevier; SCI Impact Factor 2024: 13.3)**

PATENTS

S.no	Patent Title	Authors	Patent No/ Application No	Status
1.	Disinfectant Tunnel	Puneet Talesara, Aditya Kochar, Senthilmurugan Subbiah, **Selvaraju Narayanasamy**, Rohan Sharma	Indian Patent Application No **202011030617**	**Applied**
2.	A Smart Conveyor System for Disinfecting Belongings & Hands and Predicting Viral Infections	Puneet Talesara, Harish Vyas, Senthilmurugan Subbiah, **Selvaraju Narayanasamy**	Indian Patent Application No **202011027891**	**Applied**
3.	A Smart Check-in System and Method for Disinfecting Hands & Belongings and Predicting Viral Infections	Puneet Talesara, Harish Vyas, Senthilmurugan Subbiah, **Selvaraju Narayanasamy**	Indian Patent Application No **202011024053**	**Applied**
4.	Cyperus rotundus as a new cellulose source for remediation of Basic fuchsine dye: A static and flow adsorptive approach	Tasrin Shahnaz, **Selvaraju Narayanasamy**	Indian Patent Application No **2022032220000101**	**Applied**

Professional Affiliations

1. Editorial Board Member of **Scientific Reports (Nature)** **(SCI IF: 4.379)**
2. Academic Editor of **Adsorption Science & Technology (Hindawi)** **(SCI IF: 4.232)**
3. Academic Editor of **International Journal of Chemical Engineering (Hindawi)** **(SCI IF: 1.61)**
4. Guest Editor for a Special issue "**Advanced functional materials and state of the art technologies for water remediation (AFMSATWR' 22)**" in **Environmental Science and Pollution Research (Springer)** **(SCI IF: 5.190)**
5. Guest Editor for a Special issue "**Biochemical Biomass Conversion to Bio-Butanol**" in **Biomass Conversion and Biorefinery (Springer)** **(SCI IF: 4.987)**
6. Guest Editor for Special issue on "**Trends in Chemical, Environmental and Energy Technologies for Sustainability (TCEETS-2024)**" in **Environmental Science and Pollution Research (Springer)** **(SCI IF: 5.190)**

7. Guest Editor for Special issue on "**Strategic engineering and functional mechanism elucidation of advanced materials in adsorption and catalysis for detoxification of contaminated water matrices**" in **Environmental Research (Elsevier) (SCI IF: 8.3)**

ADMINISTRATIVE RESPONSIBILITIES

A. Institute Level

S. No.	Details
1.	Warden in Siang Hostel, IIT Guwahati (01.07.2021 to 30.06.2024)
2.	Faculty Co-convenor for Research & Industrial Conclave 2021
3.	Associate Warden in Siang Hostel, IIT Guwahati (04.04.2019 to 30.06.2021)
4.	Coordinator of Silver Jubilee Celebration of IITG from Department of BSBE (September 2018-2019)
5.	Institute Representative (IR) for GATE-JAM 2018, 2019, 2020, 2021, and 2022
6.	Member of Joint Admission Committee for International Joint Master of Technology Degree in Food Science and Technology (IMDFST)

B. Department Level (Department of Biosciences and Bioengineering, IIT Guwahati)

1. DPPC Member (October 2022 to Ongoing)
2. DPPC Secretary (October 2021 to September 2022)
3. Department Retreat coordinator (September 2020 to September 2022)
4. Department Internship coordinator (September 2020 to September 2022)
5. DFAC- Department coordinator (November 2017 to September 2019)
6. TEQIP- Department coordinator (November 2017 to September 2020)
7. Coordinator – MTech courses curriculum revision
8. Member of DPPC committee (September 2020 to September 2021)
9. Joint-PhD programme coordinator (September 2020 to September 2022)
10. Member of CWWEC (September 2020 to September 2022)
11. Member of New BSBE Building and Dept. Space committee (September 2020 to September 2022)
12. Member of II&SI committee (September 2020 to September 2022)
13. Member of R&D IRDC committee (September 2020 to September 2022)
14. Faculty Advisor of MTech (2018 Batch)

UNDERGRADUATE COURSES TAUGHT

Course	Institution	Year
Bio-thermodynamics (BT 202)	IIT Guwahati	2021
Bio-reaction Engineering (BT 209)	IIT Guwahati	2021
Transport Phenomenon in Bioprocess (BT 208)	IIT Guwahati	2022
Chemical Reaction Engineering (CL208)	IIT Guwahati	2019
Chemical Engineering Thermodynamics (CL203)	IIT Guwahati	2018
Mass Transfer (CL205)	IIT Guwahati	2017
Environmental Biotechnology (BT 416)	IIT Guwahati	2017
Process Modelling & Simulation (CH 4027D)	NIT Calicut	2010-17
Chemical Process Optimization (CH4003D)	NIT Calicut	2010-17
Mathematical Methods in Chemical Engineering (CH 4029D)	NIT Calicut	2010-17
Computer Applications in Chemical Engineering (CH4002D)	NIT Calicut	2010-17

POST GRADUATE COURSES TAUGHT

Course	Institution	Year
Metabolic Engineering (BT 523)	IIT Guwahati	2021
Biological Wastewater Treatment (CH6025D)	NIT Calicut	2014-17
Advanced Process Modelling & Simulation (CH6004D)	NIT Calicut	2014-17

INTERNATIONAL CONFERENCES

16. Jyoti Prakash Ray, **Selvaraju N** and Prasanna Venkatesh R "Graphitic carbon nitride - 2 – aminobenzonitrile/Indium vanadate heterojunction, as a promising candidate for photocatalytic degradation of emerging contaminants: Facile synthesis and characterization for assessment of photocatalytic abilities" presented (Oral Presentation) in the **International Conference CHEM-TECHNOVA 2023** (Harcourt Butler Technical University, Kanpur), **26th-27th May 2023**

15. Vishnu Priyan V, and **Selvaraju N** " Engineered Nanopolysaccharides for the sequestration of Endocrine disruptor from water systems and its Ecotoxicological Assessment via Phyto and Fish Toxicity studies" presented (Oral Presentation) in the

3rd International Conference on Waste, Energy and Environment – ICWEE-2023 at Sathyabama Institute of Science and Technology, Chennai, **5th-7th July 2023.**

14. Vishnu Priyan V, and **Selvaraju N** "Sequestration of Micropollutants by Oxidant-Modified Biochar prepared from Sawdust: Insights into Mechanism and Toxicity studies" presented (Oral Presentation)) in the International Conference on **CHEM-TECHNOVA 2023,** Harcourt Butler Technical University, Kanpur**, 26th-27th May 2023.**

13. Jeevanantham S, **Selvaraju N** and Prasanna Venkatesh R "Sequestration of Ce (III) ions using Phosphoric acid Activated Biochar: Experimental & Modelling Studies" presented (Oral Presentation) at the **3rd International Conference on Waste, Energy and Environment – ICWEE-2023** (Sathyabama Institute of Science and Technology, Chennai), **5th-7th July 2023**.

12. Jeevanantham S, **Selvaraju N** and Prasanna Venkatesh R "Adsorption enhancement of Cerium from aqueous solution using surface modified Biochar" presented (Oral Presentation) in the **International Conference CHEM-TECHNOVA 2023 (**Harcourt Butler Technical University, Kanpur), **26th-27th May 2023**

11. Harish Kumar R, **Selvaraju Narayanasamy**, "Nanoporous Zr based Metal-Organic Framework Adsorbent for the Removal of Direct Blue-6 and Assessment f Phytotoxicity". **International Hybrid Conference on Nano Structured Materials and Polymers** (ICNP 2023) (Mahatma Gandhi University, Kottayam, Kerala, India). **May 12-14, 2023**

10. A. Kumar, C. Patra, **N. Selvaraju** "Effect of magnetization on activated carbon for the remediation of antibiotics from aqueous solution" **International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health** (BRE3CH-2021), CSIR-Indian Institute of Petroleum Dehradun (Uttarakhand), India, **01-04 December, 2021**.

9. C. Patra, A. Kumar, **N. Selvaraju** "Polypyrrole doped acid activated carbon for efficient removal of emerging antibiotic contaminant from simulated wastewater setups" **International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health** (BRE3CH-2021), CSIR-Indian Institute of Petroleum Dehradun (Uttarakhand), India, **01-04 December, 2021**.

8. M.M.S Fazil, T. Shahnaz, **N. Selvaraju** "Preparation and Characterisation of Nanocellulose/Polypyrrole composites and its application in antibiotic removal in wastewater" **International Conference on Bioprocess for Sustainable Environment and Energy** (ICBSEE 2020), NIT Rourkela (Odisha), **05-07 March, 2020**.

7. M.A.Vishnuganth, **N. Selvaraju**, Mathava Kumar "Continuous-mode Photocatalysis Reactor Operation for livestock Wastewater Treatment" Abstract accepted in **International Symposium on Integrated Water Resources Management** (IWRM - 2014), Centre for Water Resources Development and Management, Kozikhode, Kerala, **19-21 February, 2014.**

6. Anu N, A. Vinod M, J. Ahammed A.P, **N. Selvaraju**, and Suganya E "Comparison of CMB and UNMIX Receptor Model in Source Apportionment of PM2.5 Data "**International Conference on Advances in Chemical Engineering** (ICACE-2013), NIT Raipur, **05-06 April, 2013**.

5. Anu N, Arun K. T.M., Jaseel M.V., **N. Selvaraju**, Suganya E " Estimations of Source Contribution using PMF and UNMIX analysis of PM2.5 Data " **International Conference on Advances in Chemical Engineering** (ICACE-2013), NIT Raipur, **05-06 April, 2013**.

4. R.K. Sikarwar, **N. Selvaraju,** S.Choudhury, V. M. Tripathi , A.Ranjan "Optimization of the properties of a Microbial fuel cell by Dynamic Modelling" **International Conference on Advances in Chemical Engineering** (ICACE-2013), NIT Raipur, **05-06 April, 2013**.

3. S. Choudhury, **N. Selvaraju**, R. K. Sikarwar, A. Ranjan, "Dynamic Modeling and Simulation of Microfludic Fuel cell using COMSOL Multiphysics" **International Conference on Advances in Chemical Engineering** (ICACE-2013), NIT Raipur, **05-06 April, 2013**.

2. Ashir, V. Sivasubramanian, K. Haribabu, **N. Selvaraju**, "Mathematical Model using Statistical Design of Experiments for the Determination of Minimum Fluidization Velocity in Inverse Fluidized Bed Bioreactor with Non-Newtonian Fluids" **5th International Congress of Chemistry and Environment** (ICCE-2011), Port Dickson, Malaysia, **27-29 May, 2011**.

1. Anu, **N. Selvaraju,** V. Sivasubramanian, "Estimation of wind velocities using coupled receptor and dispersion model approach" **International Conferences on Recent Advances in Chemical Engineering and Technology** (RACET-2011), IIChE Kochi Regional Centre, Kochi, **10-12, March 2011**.

NATIONAL CONFERENCES

15. Vishnu Priyan V, and **Selvaraju N** " Sequestration of Micropollutants by Oxidant-Modified Biochar prepared from Sawdust: Insights into Mechanism and Toxicity studies" presented (Poster Presentation) and received Best Poster Presentation Award (**2nd place**) in the **Research & Industrial Conclave – Integration' 2023,** IIT Guwahati, Assam, **14th-16th May 2023.**

14. Vishnu Priyan V, and **Selvaraju N** "Sequestration of Endocrine disruptor Bisphenol A from water by modified Hydrophobic Chitosan and its ecotoxicological assessment via Phyto and Fish Toxicity studies" presented (Oral Presentation)) in the National Conference on **BIODRASILLENCE VT'23,** Vel Tech High Tech Engineering College, Chennai, **27th-28th April 2023.**

13. C. Patra, A. Kumar, **N. Selvaraju** "Surface porosity modified biopolymer for enhanced sequestration of dye from simulated water", REFLUX 2019, IIT Guwahati (Assam), **28-29 September, 2019**.

12. T. Shahnaz, M.M.S Fazil, **N. Selvaraju** "Facile preparation of nanocellulose embedded polypyrrole composite for bromophenol blue and direct blue 6 removal: unary and binary process optimisation and seed toxicity", REFLUX 2019, IIT Guwahati (Assam), **28-29 September, 2019**.

11. R. Gupta, D. Bedadeep, **N. Selvaraju** "Cationic Surfactant modified acid activated biomass for effective sequestration of anionic diazo dyes.", WATER 2020, IIT Guwahati (Assam), **23-25 January, 2020**.

10. T. Shahnaz, V. Vishnu Priyan, **N. Selvaraju** "Optimisation of Cr (VI), Co (III) and Cu (II) adsorption onto synthesized Nanobentonite incorporated Nanocellulose/Chitosan Aerogel using Central Composite Design", WATER 2020, IIT Guwahati (Assam), **23-25 January, 2020**.

9. S. M. M. Fazil, T. Shahnaz, **N. Selvaraju** "Synthesis of Nanocellulose Embedded Polypyrrole composite and its application in the removal of Congo red and Chromium", WATER 2020, IIT Guwahati (Assam), **23-25 January, 2020**.

8. Anu N., **N. Selvaraju** "Source apportionment using receptor model: comparison of receptor model by optimization techniques using genetic algorithm and receptor model tool box" **Indian Chemical Engineering Congress**, CHEMCON 2012, NIT Jalandhar, **27-30 December, 2012**.

7. Amit Ranjan, S. Ramanathan, **N. Selvaraju** "Experimental determination of non-uniformity in microwave heating of food, by in situ temperature measurement" **Indian Chemical Engineering Congress**, CHEMCON 2012, NIT Jalandhar, **27-30 December, 2012**.

6. A. Seenivasan, **N. Selvaraju**,'"Biohydrogen: An effective alternate to fossil fuel", **Recent Trends in Alternate Energy** (RTAE-2011), NITC, Kozhikode, **09-10 June, 2011**.

5. S. Pushpavanam, **N. Selvaraju,** " Modeling approaches in Environmental Engineering", **Biological Wastewater Treatment towards Green Environment** (BWTGE-2011), NITC, Kozhikode, **09-10 June, 2011**.

4. K.Haribabu, **N. Selvaraju**, V.Sivasubramanian 'Hysteresis Phenomena in an Inverse Fluidized Bed Reactor', **Indian Chemical Engineering Congress**, CHEMCON 2010, Annamalai University, Tamil Naidu, **28-30 December, 2010**.

3. N.Selvaraju, Srinivasan R., Senthil Raja S., and Kubendran T.R., "Viscosity and Density of Binary and Ternary Mixtures for Methanol, Toluene and 1,4 Dioxane", **Indian Chemical Engineering Congress**, CHEMCON 2002, IIChE, Hydrabad, **19-22 December, 2002**.

2. Ravi G., **N.Selvaraju**, Kubendran T.R. and Rajendran M. "Salt Effect on Enthalpy of Mixing of Methanol-Benzene at 303.15K" **Indian Chemical Engineering Congress**, CHEMCON 2001, Chennai, **19-22 December, 2001**.

1. Srinivasan, R., **N.Selvaraju**, Kubendran T.R., "Viscosity and Density of Binary and Ternary Mixtures for Benzene, 1,4 Dioxane and 2-Propanol", **Indian Chemical Engineering Congress**, CHEMCON 2001, Chennai, **19-22 December, 2001**.

GIAN COURSES ORGANIZED

Coordinator of the 5 days Programme on "Multidimensional Engineering Approaches for Resolving Complex Environmental Issues ", December 19-23, 2016 **(Sponsored by MHRD).**

INTERNATIONAL WORKSHOP ORGANIZED

S.no	Workshop Title	Duration	Sponsors

2.	Empowerment And Autonomy of Women Through A Bio-Based Circular Economy Design: Resource Recovery From Waste	July 22-July 26, 2019 (5 Days)	• IHE Delft • TMT • NUFFIC • IIT Guwahati
1.	Advanced Mathematical Approaches in Chemical and Environmental Engineering Using MATLAB and Simulink	February 28 - March 1, 2015 (5 Days)	• TEQIP II

NATIONAL WORKSHOP ORGANIZED

S.no	Workshop Title	Duration	Sponsors
3.	Computational Modeling and Simulation for Bioengineering Applications	June 9, 2018 (1 day)	• DBT
2.	Advanced Optimization Techniques in Chemical Process industries	April 18 - 19, 2015 (2 days)	• TEQIP II
1.	Advanced Mathematical Approaches in Chemical and Environmental Engineering Using Matlab and Simulink	February 28 - March 1, 2015 (2 days)	• TEQIP II

NATIONAL CONFERENCES ORGANIZED

S.no	Conference Title	Duration	Sponsors
2.	Recent Trends in Alternate Energy	June 9-10, 2011 (2 Days)	• MNRE • CSIR • DRDO • KSCSTE
1.	Biological wastewater Treatment towards Green Environment	January 28-29, 2011 (2 Days)	• DST • CSIR • DBT

FACULTY DEVELOPMENT PROGRAMME ORGANIZED

S.no	Programme Title	Duration	Sponsors

5.	Theory and Applications of Adsorption Processes	June 27-July 2, 2016 (6 days)	• MHRD • KSCSTE • TEQIP II
4.	Novel Separation Technologies	June 14-June 19, 2015 (6 days)	• MHRD • AICTE • TEQIP II
3.	Recent Research Trends in Chemical and Environmental Engineering	May 27-May 31, 2013 (5 days)	• MHRD • AICTE • TEQIP II
2.	Modeling and Simulation in Chemical and Environmental Engineering	May 28-June 2, 2012 (5 days)	• MHRD • AICTE
1.	Computer Applications in Chemical and Biological Engineering	June 13-18, 2011 (6 days)	• MHRD • AICTE