

CV

1. **Name** : Dr. Rohidas Gangaram Bhoi,
2. **Department** : Chemical Engineering
3. **Institution** : Malaviya National Institute of Technology, Jaipur, India
4. **Specialization** : Biofuels, Pyrolysis, Sewage Sludge Management, Solid Waste Management, Process Intensification
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(M)+919833232946, +919549650483
6. **Date of Birth** : 06-Dec-1979
7. **Gender** : Male

8. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/ Institution	% of marks
1	BE	2003	Chemical Engineering	Pune University	66.66
2	Ph. D.	2016	Chemical Engineering	IIT Bombay	--
PhD Thesis Title: Process Development Studies for Biodiesel Synthesis					

9. Ph.D Dissertations Supervised

S. No.	Title	Role	Student Details	Status
1	Sustainable thermo-catalytic pyrolysis of waste plastic to liquid fuel	Supervisor	Mr. Prathwiraj Meena (2019RCH9157)	Ongoing
2	Sustainable green techniques for enhanced bio-oil extraction from waste biomass (algae and waste flowers)	Co-supervisor	Ms. Surabhi Singh (2019RCH9026)	Ongoing

10. Professional experience (Research/ Teaching).

S. No.	Positions held	Name of Employer	From	To
1	Assistant Professor	MNIT Jaipur	Mar-2019	Till date
2	Sr. Technical Superintendent	IIT Bombay	Jan-2019	Mar-2019
3	Technical Superintendent	IIT Bombay	Dec-2015	Dec-2018
4	Jr. Technical Superintendent	IIT Bombay	Sept-2006	Nov-2015
5	Technical Assistant	IIT Bombay	Oct-2004	Aug-2006
6	Production Officer	Innovassynth Technologies(I) Ltd Khopoli	Sept-2003	Oct-2004

11. Details of Sponsored Project / Consultancy

S. No	Title	Cost in Lakh	Start Date	End Date	Role	Agency
1.	Study on safety practices followed in hexane industry	5.15	2024	2024	PI	BIS
2.	To provide inputs for development of test method for determination of wide-range FAME (C8 & above) as total FAME content in Aviation Turbine Fuels containing synthesized hydrocarbons using High Performance Liquid Chromatography (HPLC).	6.69	2024	2024	Co-PI	BIS
3.	Assessment of bio-methanation potential for the state of Rajasthan	8.05	2023	2026	Co-PI	Jauipur, Muni. Corpo.
4.	Third party assessment of legacy waste remediation at Keer Khera Sanganer Dumpsite	7.0	2023	On-going	Co-PI	Bhilwara Muni. Corpo.
5.	Research Study of Udaipur Smart City Infrastructure Projects of under SAAR Compendium 2.0.	4.80	2023	2024	Co-PI	Udaipur Smart City - Udaipur.
6.	Generation of boiling point data of H ₃ PO ₃ at different pressures	1.18	2023	2023	PI	Industry
7.	VLE data generation for 2-methyl anisole and phenol system	0.82	2023	2023	PI	Industry
8.	Utilization of Plastic waste for sustainable construction	0.59	2023	2023	Co-PI	Industry
9.	Trial runs for pyrolysis of plastics	0.59	2021	2021	PI	Industry
10.	Feasibility of natural zeolites for separation of O ₂ from air using the concept of pressure swing adsorption	1.84	2021	2022	PI	MNIT

12. International Journal Publications

- Katiyar, J.; **Bhoi, R.G.**; Saharan, V.K. Improved degradation of oseltamivir phosphate, an antiviral drug, through hydrodynamic cavitation based hybrid advanced oxidation processes: an insight into geometrical parameter optimization, *Chemical Engineering and Processing - Process Intensification* (Elsevier), 2024, 200, 109796, DOI: 10.1016/j.cep.2024.109796
- Meena, P.; Singh, S.; Sharma, M.; Saharan, V.K.; George, S.; **Bhoi, R.** Enhanced oil yield by catalytic pyrolysis of thermoplastics using cost-effective spent FCC and BaCO₃ and its valorization to gasoline and diesel grade fuel via fractionation, *Korean Journal of Chemical Engineering* (Springer), 2023, 40, 1-21, DOI: 10.1007/s11814-024-00041-4
- Meena, P.; Singh, S.; Sharma, N.; Saharan, V.K.; George, S.; **Bhoi, R.** Performance, combustion and emission characteristics of bio-oil produced by in-situ catalytic pyrolysis of polypropylene using spent FCC, *Environmental Science and Pollution Research* (Springer), 2023. DOI: 10.1007/s11356-023-30786-0.
- Singh, S.; Meena, P.; Bhoi, R.; Saharan, V.K.; George, S. Optimization of bio-oil extraction from Chlorella biomass via a green approach to obtain algal-based Di-ethyl phthalate, *Environmental Science and Pollution Research* (Springer), 2023 DOI: 10.1007/s11356-023-30866-1.
- Asopa, R. P; Bhoi, R.; Saharan, V. K. Valorization of glycerol into value-added products: A comprehensive review on biochemical route. *Bioresource Technology Reports*, 2022, 20, 101290, DOI: 10.1016/j.biteb.2022.101290.

6. Khan, A.; Bhoi, R.; Saharan, V. K.; George, S. Green calcium-based photocatalyst derived from waste marble powder for environmental sustainability: A review on synthesis and application in photocatalysis. *Environmental Science and Pollution Research* (Springer), 2022, 1, 1-27. DOI: 10.1007/s11356-022-20941-4.
7. Singh, S.; Meena, P.; Saharan, V. K.; Bhoi, R.; George, S. Enhanced lipid recovery from chlorella sp. Biomass by green approach-A combination of ultrasonication and homogenization pre-treatment techniques (hybrid method) using aqueous deep eutectic solvents. *Materials Today: Proceeding*, 2022, 57, 179-186.
8. George, S.; Bhoi, R.; Saharan, V. K. Green biomaterial Hydroxyapatite derived from Waste marble powder for applications in Water Defluoridation: Comparative study on materials synthesized by different processing routes. *Materials Today: Proceeding*, 2022, 57, 57-64. DOI: 10.1016/j.matpr.2022.01.331.
9. Khan, A.; Bhoi, R.; Saharan, V. K.; George, S. Synthesis of titanium doped hydroxyapatite using waste marble powder for the degradation of Congo Red dye in wastewater. *Materials Today: Proceeding*, 2022, 57, 1645-1653. DOI: 10.1016/j.matpr.2021.12.251.
10. Khursheed, B. A.; Saeikh, Z. H.; Bhoi, R.; Ahmad, E. Co-pyrolysis of biomass and plastic wastes: A review on reactants synergy, catalyst impact, process parameter, hydrocarbon fuel potential, COVID-19. *Journal of Environmental Chemical Engineering*, 2021, 9, 106436. DOI: 10.1016/j.jece.2021.106436.
11. Unnarkat, A.; Namdeo, A.; Bhoi, R. Bimetallic catalyzed decomposition of hydrogen peroxide – kinetics, effect of support and reaction medium. *Materials Today: Proceeding*, 2021, 45, 5183-5189. DOI: 10.1016/j.matpr.2021.01.702.
12. Bhoi, R.; Mahajani, S. Investigation of Spontaneous Emulsion and its Implications in Biodiesel Synthesis. *Reaction Chemistry & Engineering*, 2018, 3, 171-181. DOI: 10.1039/c7re00205j.
13. Bhoi, R.; Singh, D.; Mahajani, S. Investigation of mass transfer limitations in simultaneous esterification and transesterification reaction using heterogeneous catalyst. *Reaction Chemistry & Engineering*, 2017, 2, 740-753. DOI: 10.1039/c6re00218h.
14. Singh, D.; Bhoi, R.; Ganesh, A.; Mahajani, S. Synthesis of Biodiesel from Vegetable Oil Using Supported Metal Oxide Catalysts. *Energy Fuels*, 2014, 28, 2743-2753. DOI: 10.1021/ef500045x.
15. Bhoi, R.; Sen, N.; Singh, K.K.; Mahajani, S.M.; Shenoy, K.T.; Rao, H.; Ghosh, S.K. Transesterification of Sunflower Oil in Microreactors. *International Journal of Chemical Reactor Engineering*, 2014, 12(1), 1-16. DOI: 10.1515/ijcre-2013-0105.
16. Jayakumar J.S.; Mahajani, S. M.; Mandal, J.C.; Vijayan, P.K.; Bhoi, R. Experimental and CFD estimation of heat transfer in helically coiled heat exchangers. *Chemical Engineering Research and Design*, 2008, 86, 221-232. DOI: 10.1016/j.cherd.2007.10.021.

13. Publications in National and International Conferences

1. Meena, P.; Singh, S.; Saharan, V. K.; George, S.; Bhoi, R. Efficient conversion of plastic waste to fuel oil through catalytic pyrolysis process. 9th International Conference Environment and Renewable Energy (ICERE2023) to be held at Hanoi, Vietnam during 24-26 Feb 2023. Paper Accepted.
2. Meena, P.; Bhoi, R. Pyrolysis of Plastic Waste for the Production of Fuel Oil. International Conference on Recent Innovations in Cleaner Technologies (RICT2021) held at MNIT Jaipur during 8-9 March, 2021.

3. Meena, P.; Singh, S.; Saharan, V.K.; George, S.; Bhoi, R. Comparative Study of TGA Kinetic Data for LDPE and PET Plastics using Model- fitting and Model-free Methods. International Symposium on Materials of the Millennium: Emerging Trends and Future Prospects held at PDEU Gandhinagar during 19-21 November, 2021.
4. Bhoi, R.; Mahajani, S. Effect of Agitation Intensity and Emulsification on Transesterification of Sunflower Oil to Produce Biodiesel. 23rd International Symposium on Chemical Reaction Engineering (ISCRE) held at Bangkok (Thailand), during 7-10 September 2014.
5. Bhoi, R.; Singh, D.; Gupta, P. D.; Ganesh, A.; Mahajani, S. Synthesis of Biodiesel in Continuous Packed Bed Reactor Using ZnO/ZSM-5 as a Heterogeneous Catalyst. 22nd International Symposium on Chemical Reaction Engineering (ISCRE) held at Maastricht, The Netherlands during 2-5 September 2012.
6. Bhoi, R.; Sen, N.; Singh, K. K.; Shenoy, K. T.; Rao, H.; Mahajani, S. Biodiesel Synthesis By Methanolysis Of Sunflower Oil In Microchannel Reactor. International Workshop on Continuous & Intensified Processes held at NCL Pune during 19-20 December 2011.

14. Book Chapters

1. Verma, N.; Sonal, Bhoi, R. Innovative Graphene Thermoelectric Nanomaterials for Production and Conversion of Green Energy. In M. R. Goyal, S. Kulkarni (Eds), Advances in Green and Sustainable Nanomaterials: Applications in Energy, Biomedicine, Agriculture, and Environmental Science. In production.
2. Bhoi, R.; Saharan, V. K.; George, S.; Sonal. Sustainability of catalytic process for biomass conversion- Recent trends and prospects. In K. K. Pant; S. K. Gupta; E. Ahmad (Eds), Catalysis for Clean Energy and Environmental Sustainability-Biomass Conversion, and Green Chemistry, (Volume-I, 237-272), 2021, Springer Nature.
3. Sonal; Saharan, V. K.; George, S.; Bhoi, R.; Pant, K.K. Recent advancement on catalyst development and kinetics for synthesis gas conversion into liquid fuel. In K. K. Pant; S. K. Gupta; E. Ahmad (Eds), Catalysis for Clean Energy and Environmental Sustainability-Petrochemicals, and Refining Processes, (Volume-II, 459-501), 2021, Springer Nature.
4. Katiyar, J.; Bargole, S.; George, S.; Bhoi, R.; Saharan, V. K. Advanced Technologies for waste-water treatment: New Trends. In B. A. Bhanvase; S. H. Sonawane; V. B. Pawade; A. B. Pandit (Eds), Handbook of Nano-materials for Wastewater Treatment: Fundamentals and Scale up Issues (85-133), 2021, Elsevier.
5. Bargole, S.; Bhoi, R.; George, S.; Saharan, V. K. Valorization of waste cooking oil (WCO) into biodiesel using acoustic and hydrodynamic cavitation. In A. Khan; M. Jawaid; A. Pizzi; N. Azum; A. M. Asiri; I. M. Isa (Eds), Advanced Technology for the Conversion of Waste into Fuels and Chemicals: Biological process (Volume-I, 231-272), 2021, Elsevier

15. M. Tech Dissertations Guided

S. No.	Title	Student Details	Year	Status
1	Biomass Pretreatment and its Valorization to Valuable Products	Ms. Muskaan Lahariya (2020PCH5134)	2022	Completed
2	Kinetic study of anaerobic biodegradation of organic pollutants	Priyadarshni Porwal (2021pch5072)	2023	Completed

16. Invited Lectures Delivered /Professional Recognition

Sr. No	Name of Award	Awarding agency	Year
1.	Keynote speaker	2 nd Hybrid Mode International Conference on Green Technologies for Sustainable Development – 2.0 (2024)	2024
2.	Session Chair	2 nd Hybrid Mode International Conference on Green Technologies for Sustainable Development – 2.0	2024
3.	Session Chair	International Conference on Water Desalination, Treatment and Management (InDAICON2021)	2021
4.	Resource Person	ATAL Academy Online FDP on Green Technology	2021
5.	Primary Evaluator	AICTE's Toycathon 2021	2021
6.	Resource Person	National level FDP on Advances in Fluid Heat and Mass Transfer organised by SVIT, Nashik	2021
7.	Resource Person	ATAL FDP on Environment, Energy, Health and Safety: Trends and Industrial Aspects (FDP ID-893)	2021
8.	Resource Person	AICTE-ISTE sponsored FDP on Computer Aided Software for Process Intensification	2021

17. Course/Workshop/ FDP/STP organized

1. Short Term Course on "Process Simulators for Chemical Engineering Applications" at Malaviya National Institute of Technology, Jaipur, India from 06-03-2024 to 10-04-2024.
2. Short Term Course on "Process Simulators for Chemical Engineering Applications" at Malaviya National Institute of Technology, Jaipur, India from 13-01-2022 to 17-01-2022.
3. Short Term Course on "Basic Principles of DFT Calculations & Molecular Dynamics Simulations" at Malaviya National Institute of Technology, Jaipur, India from 23-11-2020 to 27-11-2020.
4. Short Term Course on "Analysis and Interpretation of Data resulted from Materials Characterization" at Malaviya National Institute of Technology, Jaipur, India from 26-10-2020 to 30-10-2020.
5. Short Term Course on "Process Simulators for Chemical Engineering Applications" at Malaviya National Institute of Technology, Jaipur, India from 25-09-2020 to 29-09-2020.
6. Organized an online poster presentation for outgoing MTech students of MNIT Jaipur on 14-July-2020.
7. Short Term Course on "Fuel Cell: Fundamentals and Applications" at Malaviya National Institute of Technology, Jaipur, India from 27-01-2020 to 31-01-2020.
8. Workshop on "CFD using OpenFOAM" at Malaviya National Institute of Technology, Jaipur, India from 10-08-2019 to 14-08-2019.
9. Workshop on "Fundamental Design and Simulation of Distillation Column" at Malaviya National Institute of Technology, Jaipur, India from 07-05-2019 to 11-05-2019.
10. Organized 2 day industrial visit for UG students to RCF Mumbai and IIT Bombay during 7 – 8 May, 2019.
11. National Seminar on "Digital Solutions in the Process Industries" at IIT Bombay, Mumbai, India from 16-03-2019 to 16-03-2019.
12. National Seminar on "Chemicals from Indigenous Coal: Opportunities and Challenges" at IIT Bombay, Mumbai, India from 24-02-2018 to 24-02-2018.

18. List of Subjects Taught

1. Mass Transfer-II (UG Level) in academic year 2019-20
2. Mechanical Design of Process Equipments (UG Level) in academic year 2019-20, 2020-21, 2021-22, 2022-23.
3. Process Engineering and Plant Design (UG Level) in academic year 2019-20, 2020-21
4. Advanced Process Control(UG Level) in academic year 2021-22
5. Chemical Process Calculations (UG Level) in academic year 2022-23
6. Chemical Engineering Thermodynamics-II (UG Level) in academic year 2023-24
7. Introduction to Plastic Material (UG Level) in academic year 2023-24

19. Membership of International/National societies

1. Life member of Indian Institute of Chemical Engineers (IChE)
2. Life Member of Indian Desalination association (InDA)

20. Short Term/ Refresher Courses Attended

1. Attended a faculty development programme (FDP) on “Effective Teaching” organized by Dept. of Management Studies & Electrical Engg, MNIT Jaipur (March 27-28, 2019).
2. Participated in Faculty Development Program on “Curriculum Implementation” conducted by NITTTR Chandigarh during 14-18 Sept, 2019 at MNIT Jaipur.
3. Participated on the workshop on “Entrepreneurship, Innovation and Incubation” organized by IIT Bombay (08-12 July, 2019).

21. Expertise in Software

1. Aspen Plus/ Hysis,
2. ImageJ,
3. HINT
4. MATLAB

22. Expertise in analytical techniques

1. HPLC
2. GC
3. Bomb calorimeter
4. BET surface area analyser
5. UV Spectrophotometer