

RESUME

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4. Date of Birth: 12th March, 1980

5. Sex: Male

6. Educational Qualifications:

Ph. D. **Chemical Engineering**, S. V. National Institute of Technology, Surat, India.
Specialization in **Catalysis and Chemical Reaction Engineering**, 2010.

Ph. D. Thesis titled “*Syntheses, Characterization and Applications of Nano-Crystalline Zeolite Beta in Hydroisomerization reactions*”.

M. E. **Polymer Technology (Chemical Engineering)**, M. S. University of Baroda, Vadodara, India, 2004.

B. E. **Chemical Engineering**, Gujarat University, Ahmedabad, India, 2001.

PGDHRM Post Graduate Diploma **Human Resource Management**, IGNOU, 2010.

7. Experience:

- **21-12-2023** to till date at Maulana Azad National Institute of Technology, Bhopal (Madhya Pradesh), India. As a post of **Associate Professor** in Chemical Engineering Department.
- 31-05-2010 to 20-12-2023 at Maulana Azad National Institute of Technology, Bhopal (Madhya Pradesh), India. As a post of **Assistant Professor** in Chemical Engineering Department.
- 01-01-2005 to 30-06-2005 at S.V. National Institute of Technology, Surat 395 007. As a **Teaching Assistant** taught Computer Aided Design in Chemical Engg., Petroleum Refining and Petrochemicals, Chemical System Modeling at the under-graduate level.
- Handling of BTRS Micro-reactor (Autoclave Engineers Maked, USA), Fixed Bed Catalytic Reactor (Chemito Maked, India), Batch reactors (Parr Instruments, Autoclave Engineers Make). Can operate GC-Mass (GCMS- QP- 2010) (Shimadzu Make, Japan), Gas Chromatography. Can operate FTIR (Fourier Transform Infra Red)
- **Administrative work:** Head of Department (Since February, 2016 to 30th June, 2018), Hostel Warden (2012-13, 2013-14, 2014-15, 2020-.....), Committee Member of B. Tech. Admission Council (2014-15, 2020-2021), Departmental PG Coordinator (2012 to 2018)), Rajbhasha Hindi Committee Member (2012-13), Departmental TEQIP Coordinator (2011-2021), Departmental Faculty Training and Placement Officer (2010 – 2018), Departmental Exam Coordinator (2011-12; 2020-2021.....continuee), Anti-ragging committee member (2010 – 11, 2011-12, 2019-2020), In-charge of Departmental Purchase officer (2010 -), DPRC coordinator (2011-12; 2020-2021), Faculty Coordinator of Waste Management activity of Social Entrepreneurship, Swachhta & Rural Engagement Cell (SES-REC) (2020 - ...)

8. Papers Published in Journals:

- (1) Jamna Prasad Gujar, Yash Jaiswal, **Bharat Modhera**, “Catalytic Performance of Perovskites $\text{LaM}_{1-x}\text{Cu}_x\text{O}_3$ (M = Cr, Fe, Co) in the Production of Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone) from Glycerol”, **Materials Today: Proceedings (2023) (Online Published). (Elsevier Publisher)**.
- (2) Shilpa S. Selvan, Debabandya Mohapatra, Adinath Kate, Abhijit Kar, **Bharat Modhera**, “Mapping and Analysis of Volatomes from Pearl Millet (*Pennisetum glaucum* L.) Grains during Different Storage Conditions with Solid-Phase Microextraction-Gas Chromatography-Mass Spectroscopy”, **Cereal Chemistry (2023) (Online Published)**.

- (3) Rahul Yadav; Debabandya Mohapatra; Adinath Kate; Saroj Kumar Giri; **Bharat Modhera**, “Sequential Ultrasound-Microwave Assisted Extraction of Tuberose (*Polianthes Tuberosa* L.) Concrete: Effect of Processing Parameters on Yield, Volatile Metabolite Profiles, and Functional Groups”, **Biomass Conversion and Biorefinery** (2023) (Online Published).
- (4) Changchuk Lamo, P C Bargale, Sandip Gangil, Subir Chakraborty, M K Tripathi, Nachiket Kotwaliwale, **Bharat Modhera**, “High Crystalline Cellulose Extracted from Chickpea Husk using Alkali Treatment”, **Biomass Conversion and Biorefinery**, (Online Published -2022).
- (5) Shashank G. Gaikwad, Abhishek A. Pathak, Dhananjay R. Mote, Parag R. Gogate, Shivani Singh, **Bharat Modhera**, “Liquid–Liquid Equilibria of Ternary Mixtures containing Aniline + Toluene + Water at elevated temperatures: Measurements and correlation”, **Separation Science and Technology** 58(15-16) (2023) 2718 - 2725.
- (6) Priyanka Sakare, Saroj Kumar Giri, Debabandya Mohapatra, **Bharat Modhera**, V. Bhushana Babu, “Lac dye-based novel intelligent colorimetric indicator for real-time freshness monitoring of white button mushroom (*Agaricus bisporus*)”, **Postharvest Biology and Technology**, 206 (2023) 112552 - 112561.
- (7) Dharmesh J Machhi, **Bharat Modhera**, Parimal A. Parikh, “Catalytic cracking of low-density polyethylene dissolved in various solvents: product distribution and coking behaviour”, **Journal of Material Cycles and Waste Management**, 25 (2023) 3005 – 3020.
- (8) Adinath Kate, Shikha Tiwari, Jamna Prasad Gujar, **Bharat Modhera**, Manoj Kumar Tripathi, Hena Ray, Alokesh Ghosh, Debabandya Mohapatra, “Spotting of Volatile Signatures through GC-MS Analysis of Bacterial and Fungal Infections in Stored Potatoes (*Solanum tuberosum* L.)”, **Foods**, 12 (2023) 2083 - 2098.
- (9) Jamna Prasad Gujar, **Bharat Modhera**, “A Review on Catalytic Conversion of Biodiesel Derivative Glycerol to Bio-Olefins” **Materials Today: Proceedings**, 72 (2023) 2723 – 2730.
- (10) Debabandya Mohapatra, **Bharat Modhera**, Alokesh Ghosh, “Development of Electronic Nose for early spoilage detection of potato and onion during post-harvest storage”, **Journal of Materials NanoScience**, 9(2) (2022) 101 – 114.
- (11) Shikha Tiwari, Umang Goswami, Adinath Kate, **Bharat Modhera**, Manoj Kumar Tripathi, Debabandya Mohapatra, “Biological relevance of VOCs emanating from red onions infected with *Erwinia* (*Pectobacterium*) *carotovora* under different storage conditions”, **Postharvest Biology and Technology**, 184 (2022) 111761. (Total 13 pages).

- (12) Battula Kumara Raja, Nipun Mohindra, Umang Goswami, **Bharat Modhera**, “Conversion of Glycerol to Solketal using Heterogeneous Catalysts”, **Journal of The Institution of Engineers (India): Series E**, 103 (2022) 145 – 148.
- (13) Shikha Tiwari, Adinath Kate, Debabandya Mohapatra, Manoj Kumar Tripathi, Hena Ray, Amitava Akuli, Alokesh Ghosh, **Bharat Modhera**, “Volatile organic compounds (VOCs): Biomarkers for quality management of horticultural commodities during storage through e-sensing”, **Trends in Food Science & Technology**, 106 (2020) 417 – 433.
- (14) Jitendra Kumar, **Bharat Modhera**, “Influence of Quinoline on Performance FCC Catalyst and Additives for Cracking of *n*-Hexane”, **International Journal of Mechanical Engineering and Technology**, 9 (2018) 516 – 523.
- (15) Rupali Jha, **Bharat Modhera**, “Synthesis and Characterization of Nano-crystalline Silicoaluminophosphate’s from Non-aqueous Media”, **Materials Today: Proceedings**, 4 (2017) 4101 – 4107.
- (16) Shikha Gangil, Chanchal Mewar, Yashwant Parihar, Virendra Dhakar, **Bharat Modhera**, “Preparation of biodiesel by three step method followed purification by various silica sources”, **Materials Today: Proceedings**, 4 (2017) 3636 – 3641.
- (17) Rupali Jha, **Bharat Modhera**, “Thermal Gravimetric Analysis Study of Silicoaluminophosphate Synthesized from Non-aqueous Media for Solar Energy Storage Material”, **Materials Today: Proceedings**, 4 (2017) 774 – 778.
- (18) Shikha Gangil, Ranjana Singh, Priyanka Bhavate, Divya Bhagat, **Bharat Modhera**, “Evaluation of engine performance and emission with methyl ester of Karanja oil”, **Perspectives in Science**, 8 (2016) 241—243.
- (19) Rupali Jha, Rajnish Singh, **Bharat Modhera**, ”Synthesis and Characterization of SAPOs Nanomaterial from Aqueous and Non-aqueous Media”, **International Journal of Scientific & Engineering Research**, 6 (12) (2015) 53 – 56.
- (20) Shikha Gangil, Chanchal Mewar, Ramesh Kumar Singh, **Bharat Modhera**, “Influence of Acid Catalyst on Two Step Transesterification of Karanja Oil with High Free Fatty Acids”, **Biofuels**, 6 (5-6), (2015) 377-381.
- (21) Jitendra Kumar, Shikha Gangil, Rupali Jha, Lekhraj Malviya, **Bharat Modhera**, “Toxic Effects of Nanomaterials on Human Health”, chapter published in **Annual Technical Volume of Chemical Engineering Division Board, Vol.-1**, (2015), 60-64 (The Institution of Engineers (India), Kolkata, India Publisher).

- (22) Monika Vyas, **Bharat Modhera**, Anil Sharma, “BOD Approximation for Common Effluent Treatment Plant Using ANN”, **Asian Journal of Water, Environment and Pollution**, 12 (1) (2015) 81-89.
- (23) Jitendra Kumar, K. R. Gota, **Bharat Modhera**, “Influence of Pyrrole Concentration on Cracking Activity of n-Hexane in a Performance FCC Catalyst and Additives”, **APCBEE Procedia**, 9 (2014) 159-164.
- (24) Jitendra Kumar, Chanchal Mewar, Lekhraj Malviya, Rupali Jha, **Bharat Modhera**, “Behavior of Sulfur and Nitrogen Compounds in Different Process of Petroleum Refinery”, **International Journal of Applied Engineering Research**, 9 (4-special) (2014) 397-404.
- (25) Jitendra Kumar, Shikha Gangil, Chanchal Mewar, **Bharat Modhera**, “Need of Sustainable Development and Related Issues Pertaining to Process Industry”, **International Journal of Research in Engineering and Technology**, 3 (3-special) (2014) 746-748.
- (26) Jitendra Kumar, Rupali Jha, **Bharat Modhera**, “Applications of Zeolite with Additives in Petroleum Refinery”, **International Journal of Chemistry and Chemical Engineering**, 3 (2-special) (2013) 75-80.
- (27) Monika Vyas, **Bharat Modhera**, A. K. Sharma, “Neural Networks Approaches for Predicting COD Concentration during Effluent Treatment Process”, **International Journal of Management, IT and Engineering**, 2 (11) (2012) 1-10.
- (28) Ranajyoti Das, **Bharat Modhera**, “Synthesis of MCM-41 via different routes”, **International Journal of Marketing and Technology**, 1 (7) (2011) 150-171.
- (29) **Bharat Modhera**, Mousumi Chakraborty, Hari C. Bajaj, P. A. Parikh, “Influences of Mesoporosity Generation in ZSM-5 and Zeolite Beta on Catalytic Performance during n-Hexane Isomerization”, **Catalysis Letters**, 141 (2011) 1182-1190.
- (30) Monika Vyas, **Bharat Modhera**, A. K. Sharma, “Artificial Neural Network Based Model in Effluent Treatment Process”, **International Journal of Advanced Engineering Technology**, 2 (2) (2011) 271-275.
- (31) Monika Vyas, **Bharat Modhera**, Vivek Vyas, A. K. Sharma, “Performance Forecasting of Common Effluent Treatment Plant Parameters by Artificial Neural Network”, **ARPN Journal of Engineering and Applied Sciences**, 6 (1) (2011) 38-42.
- (32) **Bharat Modhera**, Mousumi Chakraborty, Hari C. Bajaj, P. A. Parikh, “Simultaneous n-Hexane Isomerization and Benzene Saturation over Pt/Nano-crystalline Zeolite Beta”, **Reaction Kinetics, Mechanisms and Catalysis**, 99 (2010) 421-429.

- (33) **Bharat Modhera**, Mousumi Chakraborty, Hari C. Bajaj, P. A. Parikh, “1-Hexene isomerization over Nano-crystalline Zeolite Beta: Effects of Metal and Carrier Gases on Catalytic Performance”, **Catalysis Letters**, 132 (2009) 168-173.
- (34) **Bharat Modhera**, Mousumi Chakraborty, P. A. Parikh, R. V. Jasra, “*n*-Hexane Hydro-isomerization over Nano-crystalline Zeolite Beta”, **Petroleum Science and Technology**, 27 (2009) 1196-1208.
- (35) **Bharat Modhera**, Mousumi Chakraborty, P. A. Parikh, R. V. Jasra, “Synthesis of Nano-crystalline Zeolite Beta: Effects of Crystallization Parameters”, **Crystal Research and Technology**, 44 (2009) 379-385.

9. Papers Presented:

- (1) Jamna Prasad, Yash Jaiswal, **Bharat Modhera**, “*Catalytic Performance of $LaM_{1-x}Cu_xO_3$ ($M = Co, Cr, Fe$) Perovskites in the Production of Diacetone alcohol from Glycerol*”, paper presented in the National Conference on “Advances in Chemical Engineering and Science (ACES-2023)”, during 31st March – 01st April, 2023, organized by Department of Chemical Engineering, Indian Institute of Science Education and Research Bhopal, Madhya Pradesh.
- (2) Jamna Prasad, **Bharat Modhera**, “*A Review on Catalytic Conversion of Biodiesel Derived Glycerol to Bio-Olefins*”, paper presented in the National Conference on “Advances in Chemical Engineering and Science (ACES-2022)”, during 25-26 March 2022, organized by Department of Chemical Engineering, Indian Institute of Science Education and Research Bhopal, Madhya Pradesh.
- (3) Jamna Prasad, **Bharat Modhera**, “*Sustainable Production of Solketal from Glycerol over Heterogeneous Catalysts*”, paper presented in the National Conference on “Recent Advances in Chemical Engineering Towards Sustainable Future (RACES – 2022), during 17 – 18, February, 2022 organized by Department of Chemical Engineering, S. V. National Institute of Technology, Surat in association with ICT-IOC Bhubaneswar, India.
- (4) Kaumik Gandhi, Mayank Pratapsingh Raghuwanshi, Bhagyashri Gaykwad, Kunal Yadav **Bharat Modhera**, “*Green Synthesis of Nickel and Nickel Oxide Nanoparticles by Chemical Reduction Method*”, paper presented in the 2nd International Symposium on “Modeling of Crystal Growth Processes and Devices (MCGPD – 2021), during 5 – 8, July 2021 organized by SSN Research Centre, SSN Institutions, Kalavakkam, Chennai, India.
- (5) B. Kumarraja, Nipun Mohindra, Umang Goswami, **Bharat Modhera**, “*Conversion of Glycerol to Solketal using Heterogeneous Catalysts*”, paper presented at

National Conference on “Advances in Chemical Engineering and Science (ACES-2020)”, on 28-29th February, 2020, at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.

- (6) Nipun Mohindra, Battula Kumara Raja, Umang Goswami, **Bharat Modhera**, “*Synthesis of SAPO-34 Nanocrystals Using Different Silica Sources*”, paper presented at National Conference on “Advances in Chemical Engineering and Science (ACES-2020)”, on 28-29th February, 2020, at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
- (7) Umang Goswamy, Arham Javed, Guddu Kumar, Anshumali Jaiswal, **Bharat Modhera**, “*Conversion of Glycerol to Solketalover beta zeolite catalyst with absorbent*”, paper presented at National Conference on “Advances in Chemical Engineering and Science (ACES-2020)”, on 28-29th February, 2020, at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
- (8) Bhagyashri Gaikwad, **Bharat Modhera**, “Comparison Green Synthesis of Ni/NiO Nanoparticles by Chemical Reduction Method”, paper presented at 1st International Conference on “Crystal Engineering: From Molecule to Crystal (CE-FMC-2019)”, on 30 – 31st March, 2019, at Department of Chemistry, National Institute of Technology, Raipur, Chhattisgarh, India.
- (9) Abhishek Pathak, Pradyumna Kr Sasmal, **Bharat Modhera**, “Comparison study of Gravity Separator and Coalescer for Separation of Biodiesel and Glycerol”, paper presented at National Conference on “Advances in Chemical Engineering and Science (ACES-2019)”, on 07-08th March, 2019 at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
- (10) Rupali Jha, Gaurav Upadhyah, **Bharat Modhera**, “Novel Synthesis of High Temperature Resist Smart materials for Solar Energy Storage”, paper presented 1st International Conference on Advances in Nanomaterials and Devices for Energy and Environment (ICAN-2019), on 27-29th January, 2019 at Computational Nano Science & Technology Lab, ABV-Indian Institute of Information Technology and Management, Gwalior, Madhya Pradesh, India.
- (11) Rupali Jha, **Bharat Modhera**, “Novel Synthesis of High Temperature Resist Smart Zeotypes Materials for Sustainable Solar Energy Storage”, paper presented at India International Science Festival – 2018 on 05 – 06th October, 2018 at Lucknow, Uttar Pradesh, India.

- (12) Shikha Gangil, Virendra Singh Dhakar, Yashwant Parihar, Divya Bhagat, Priynaka Bhawate, **Bharat Modhera**, “Synthesis of Biodiesel from Karanja Oil Using Modified Mordenite as a Heterogeneous Catalyst”, paper presented at International Conference on “Biofuels and Bioenergy (**BICE-2016**)”, 23-25th Feb., 2016, at Maulana Azad National Institute of Technology, Bhopal, India.
- (13) Shikha Gangil, Divya Bhagat, Priyanka Bhavate, Ranjana Singh, Supriya Agrawal, **Bharat Modhera**, “Study on Physiochemical Properties of Biodiesel”, paper presented at 68th Annual Session of Indian Institute of Chemical Engineers **CHEMCON – 2015**, on 27 – 30th December, 2015 at Chemical Engineering Department, Indian Institute of Technology, Guwahati, India.
- (14) Shikha Gangil, Yashwant Parihar, Divya Bhagat, Priyanka Bhawate, Virendra Dhakar, **Bharat Modhera**, “Modification of Zeolite Catalysts and their Application in Biodiesel Production”, paper presented at 6th Annual Research Symposium in Chemical Engineering “Chemference- 2015”, on 05-06th December, 2015, organized by Indian Institute of Technology, Hyderabad, India.
- (15) Shikha Gangil, Yashwant Parihar, Virendra Dhakar, **Bharat Modhera**, “A Review on Effects of Catalysts in Biodiesel Production”, paper presented at National Seminar on “Recent Innovations in Advanced Materials (RIAM-2015)”, on 29th December, 2015, organized by CSIR-Advanced Materials and Processes Research (AMPRI) with Materials Research Society of India (MRSI), Bhopal Chapter and MP Council of Science and Technology (MPCOST), Bhopal.
- (16) **Bharat Modhera**, “Synthesis and Characterizations of SAPO-11 Material from Non-aqueous Media”, paper presented at National Seminar on “Recent Innovations in Advanced Materials (RIAM-2015)”, on 29th December, 2015, organized by CSIR-Advanced Materials and Processes Research (AMPRI) with Materials Research Society of India (MRSI), Bhopal Chapter and MP Council of Science and Technology (MPCOST), Bhopal.
- (17) Priti Yadav, Titiksha Joshi, **Bharat Modhera**, “Comparative Study of Catalytic and Non-catalytic Tyre Pyrolysis Oil in Diesel Engine Application: An overview”, paper presented at 4th National Convention of Hydrogen Energy and Advanced Materials (NCHEAM-2015), on 28-29th Nov., 2015, organized by Energy Centre, Maulana Azad National Institute of Technology, Bhopal, India with Chemistry Department, University of Kerala and Indian Association of Hydrogen Energy & Advanced Materials, India.
- (18) Rupali Jha, Vivek Jha, Nagesh Chalkhor, **Bharat Modhera**, “Organic Solar Cell: a Pioneering Technique to Enhance the Energy Production from Renewable Energy Sources”, paper presented at 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for**

Sustainable Development", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (19) Suraj Chauhan, Akshay Rajpoot, Vikram Yadav, Nagesh Chalkhor, **Bharat Modhera**, "Fuel Cell using Proton Preferential Membrane with Acid Doping", paper presented at 31st National Convention of Electrical Engineers & National Seminar on "**Renewable Energy and Green Technology for Sustainable Development**", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (20) Titiksha Joshi, Priti Yadav, **Bharat Modhera**, "A Review on Cleaner Alternative Liquid Fuels from Waste Tyre Pyrolysis as a Green Technology", paper presented at 31st National Convention of Electrical Engineers & National Seminar on "**Renewable Energy and Green Technology for Sustainable Development**", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (21) Shikha Gangil, Yashwant Parihar, Virendra Dhakar, Ranjana Singh, **Bharat Modhera**, "Recent Trends and Future Prospects of Biodiesel", paper presented at 31st National Convention of Electrical Engineers & National Seminar on "**Renewable Energy and Green Technology for Sustainable Development**", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (22) Shikha Gangil, Ranjana Singh, Priyanka Bhavate, Divya Bhagat, Supriya Agarwal, **Bharat Modhera**, "Comparative Study of Properties of Biodiesel Produced from Different Sources", paper presented at 31st National Convention of Electrical Engineers & National Seminar on "**Renewable Energy and Green Technology for Sustainable Development**", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (23) Kalpana Patidar, Shikha Gangil, **Bharat Modhera**, "Optimization of Biodiesel Production using Aspen Plus: A Review", paper presented at 31st National Convention of Electrical Engineers & National Seminar on "**Renewable Energy and Green Technology for Sustainable Development**", on 17-18th Oct., 2015, organized by The Institution of Engineers (India), MP State Centre, Bhopal and Maulana Azad National Institute of Technology, Bhopal, India.

- (24) Rupali Jha, Jitendra Kumar, Shikha Gangil, Chanchal Mewar, Lekhraj Malviya, **Bharat Modhera**, "A Review on Research Development and Future Approach of Organic Solar Cell", paper presented at 67th Annual Session of Indian Institute of

Chemical Engineers **CHEMCON – 2014**, on 27 – 30th December, 2014 at Dr. S. S. B. University Institute of Chemical Engineering & Technology, Punjab University, Chandigarh, India

- (25) Rupali Jha, Chanchal Mewar, Jitendra Kumar, Lekhraj Malviya, Shikha Gangil, **Bharat Modhera**, “Effectiveness of Rice Husk and Waste Tea Granules for Removal of Phenol from Aqueous Solution”, paper presented at **International Conference on Environment and Energy (ICEE-2014)**, 15-17th December, 2014, at Jawaharlal Nehru Technological University, Hyderabad, T. S., India.
- (26) Chanchal Mewar, Rupali Jha, Jitendra Kumar, Lekhraj Malviya, Shikha Gangil, **Bharat Modhera**, “Evaluation of Heat Transfer Efficiency by Coiled Flow Inverted Heat Exchanger”, paper presented at **International Conference on Environment and Energy (ICEE-2014)**, 15-17th December, 2014, at Jawaharlal Nehru Technological University, Hyderabad, T. S., India.
- (27) Shikha Gangil, Chanchal Mewar, Ramesh Singh, Vinayak Shankar, Devashesh Sagar, **Bharat Modhera**, “Study of Different Zeolites as a Catalyst in the Transesterification of Neem and Karanja Oil based Biodiesel Production”, paper presented at **International Conference on Environment and Energy (ICEE-2014)**, 15-17th December, 2014, at Jawaharlal Nehru Technological University, Hyderabad, T. S., India.
- (28) Jitendra Kumar, Lekhraj Malviya, Rupali Jha, Chanchal Mewar, **Bharat Modhera**, “Influence of Catalyst Composition and Catalytic Activity of Nitrogen Compounds: Fluid Catalytic Cracking Process”, paper presented at **International Conference on Environment and Energy (ICEE-2014)**, 15-17th December, 2014, at Jawaharlal Nehru Technological University, Hyderabad, T. S., India.
- (29) Monika Vyas, **Bharat Modhera**, “A framework to Predict Process Variables from CETP using ANN”, paper presented at **International Conference on Environment and Energy (ICEE-2014)**, 15-17th December, 2014, at Jawaharlal Nehru Technological University, Hyderabad, T. S., India.
- (30) Rupali Jha, Ankit Khandelwal, Anekant Jain, Ankit Kadam, Bharat Modhera, “Performance of Bi-functional Catalysts in Hydroisomerization of Higher Carbon Atoms in Petroleum”, paper presented at **SCHEMCON – 2014**, on 26 – 27th April, 2014 at Department of Chemical Engineering, Haldia, West Bengal, India.
- (31) Rupali Jha, Vivek Jha, Jitendra Kumar, Chanchal Mewar, Lekhraj Malviya, Bharat Modhera, “Advances of Nanotechnology in Medical Science”, paper presented at **IXth National Conference on Current Trends and Future Challenges in Environmental Sciences, Biotechnology, Aysush & Human Welfare and**

Sustainable Development, on 26 – 27th April, 2014 at Department of Botany and Biotechnology, Government New Science College, Rewa (M. P.), India.

- (32) Jitendra Kumar, K. R. Gota, **Bharat Modhera**, “Influence of Pyrrole Concentration on Cracking Activity of n-Hexane in a Performance FCC Catalyst and Additives”, paper presented at **5th International Conference on Chemical, Biological and Environmental Engineering (ICBEE - 2013)**, 16-18 October, 2013, at New Delhi, India.
- (33) Jitendra Kumar, Chanchal Mewar, Lekhraj Malviya, Rupali Jha, **Bharat Modhera**, “Behavior of Sulfur and Nitrogen Compounds in Different Process of Petroleum Refinery”, Paper presented at **International Journal of Applied Engineering Research**, 9 (4-special) (2014) 397-404.
- (34) Jitendra Kumar, Shikha Gangil, Chanchal Mewar, **Bharat Modhera**, “Need of Sustainable Development and Related Issues Pertaining to Process Industry”, Paper presented at **National Conference on “Recent Innovations in Engineering and Technology” (NCRIET - 2014)**, 03 – 04th May, 2014, at B. K. Institute of Technology, Karnataka, India.
- (35) Jitendra Kumar, Chanchal Mewar, Lekhraj Malviya, **Bharat Modhera**, “Performance of Nano-Crystalline H-ZSM-5 as Additive in FCC Catalyst: A Review”, Paper presented at **National Conference on “Recent Innovations in Engineering and Technology” (NCRIET - 2014)**, 03 – 04th May, 2014, at B. K. Institute of Technology, Karnataka, India.
- (36) Jitendra Kumar, Rupali Jha, **Bharat Modhera**, “Applications of Zeolite with Additives in Petroleum Refinery”, **International Journal of Chemistry and Chemical Engineering**, 3 (2-special) (2013) 75-80.
- (37) Jitendra Kumar, Shikha Gangil, Lekhraj Malviya, Rupali Jha, **Bharat Modhera**, “Toxic Effects of Nanomaterials on Human Health”, paper presented at All India Seminar on **“Recent Advances in Biotechnology and Human Health Care (RABHHC-2014)”**, 29-30th March, 2014, at Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- (38) Rupali Jha, Jitendra Kumar, **Bharat Modhera**, “Non-Conventional Agriculture Low Cost waste as Adsorbents for Removal of Phenolic Compounds from Aqueous Solution”, paper presented at **“National level seminar on Advances in Wastewater Treatment and Reuse”**, on 27-28th September, 2013, at Department of Chemical Engineering, Samrat Ashok Technological Institute, Vidisha (M. P.), India.

- (39) Jitendra Kumar, Satyendra, **Bharat Modhera**, “Fuels from Bio-waste (A review paper)”, paper presented at “**VIIIth National Conference on Biodiversity conservation, biotechnology and environmental management research**”, on 19 - 20th April, 2013 at Government New Science College, Rewa (M. P.), India.
- (40) Jitendra Kumar, **Bharat Modhera**, “Polymer Coating in Steel: Old and New Techniques (A review paper)”, paper presented at all India Seminar on “**Recent Advances in Polymer Science and Technology (PST-2013)**”, 05-06 January, 2013 at Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- (41) Jitendra Kumar, K. R. Gota, **Bharat Modhera**, “Influence of Concentration of Nitrogen compound on cracking activity of n-hexane in a performance FCC catalyst and additives”, paper present at **CHEMCON-2012**, 28-30 December, 2012, at Department of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.
- (42) K. R. Gota, **Bharat Modhera**, “Effect of Nano-crystal Catalyst on Isomerization Reaction”, paper presented at National Seminar on Role of Chemistry for Improvement in Quality of Human Life (**ChemQHL-2012**), 17-18 March, 2012, at Department of Chemistry, Ujjain Engineering College, Ujjain (M. P.), India.
- (43) Monika Vyas, **Bharat Modhera**, A. K. Sharma, “A Model to Forecast Parameter of Effluent Treatment Plant using ANN”, paper presented at International Conference on Concurrent Techno and Enviro Search (Search and Research Youth Congress 2010) (**SARYC-10**), 4-5 December, 2010, Bhopal (M. P.), India.
- (44) Monika Vyas, **Bharat Modhera**, A. K. Sharma, “Prediction of Common Effluent Treatment Plant Parameter using Artificial Neural Networks”, poster presented at International Congress of Environmental Research (**ICER-10**), 16-18 September, 2010, University of Mauritius, Reduit, Mauritius.
- (45) **Bharat Modhera**, Mousumi Chakraborty, Hari. C. Bajaj, Parimal A. Parikh, “Effects of Platinum Metal on 1-Hexene Catalytic Isomerization over Nano-crystalline Zeolite Beta”, poster presented at 16th International Zeolite Conference joint with the 7th International Mesosstructured Materials Symposium (**IZC-IMMS-2010**), 4-9 July, 2010, Sorrento, Italy.
- (46) **Bharat Modhera**, Mousumi Chakraborty, Hari. C. Bajaj, Parimal A. Parikh, “Effect of Reaction Temperature on Simultaneous *n*-Hexane Isomerization and Benzene Saturation”, paper presented at **XXIV – Gujarat Science Congress 2010**, 21st March, 2010, Gujarat University, Ahmedabad, India.
- (47) **Bharat Modhera**, Mousumi Chakraborty, H. C. Bajaj, P. A. Parikh, “Synthesis of Nanocrystalline Zeolite Beta and Catalytic Isomerization of *n*-Hexane over Pt/H-

Beta Catalyst”, paper presented at **CHEMCON-2009**, 27-30 December, 2009, Andhra University, Visakhapatnam, India.

- (48) **Bharat Modhera**, Mousumi Chakraborty, P. A. Parikh, R. V. Jasra, “Effect of crystallization temperature on the synthesis of nano-crystalline zeolite beta”, paper presented at **XXII – Gujarat Science Congress 2008**, 9th March, 2008, Bhavnagar University, Gujarat, India.
- (49) **Bharat Modhera**, Mousumi Chakraborty, P. A. Parikh, “Nano-Crystalline beta zeolite catalyzed isomerization of lower straight chain paraffins”, poster presented at 6th International Symposium on Catalysis in Multiphase Reactors (**CAMURE-6**) and 5th International Symposium on Multifunctional Reactors (**ISMR-5**), 14-17 January, 2007, NCL, Pune, India.
- (50) **Bharat Modhera**, Mousumi Chakraborty, P. A. Parikh, “Recent Developments in Catalytic isomerization of lower straight chain paraffins”, poster presented at 5th International Symposium on Fuels and Lubricants – 2006 (**ISFL-2006**), 7-10 March, 2006, New Delhi, India.

10. Book Published:

- (1) Proceeding on Recent Advances of Biotechnology & Human Health Care, Edited by Rahul Shrivastava, **Bharat Modhera**. All India Seminar, The Institution of Engineers (India), MPSC, Bhopal, march 29-30 2014. Published from LAP Lambert Academic Publishing, Germany. **ISBN: 978-3-330-04123-3**. (2017).

11. Book Chapters Published:

- (1) Manoj Kumar Tripathi, C. Nickhil, Adinath Kate, Rahul M. Srivstva, Debabandya Mohapatra, Rajpal S. Jadam, Ajay Yadav, **Bharat Modhera**, “Biosensor: Fundamentals, biomolecular component, and applications”, (Chapter – 24) in **Advances in Biomedical Polymers and Composites (ISBN – 978-0-323-88524-9)**. Edited by Kunal Pal, Sarika Verma, Pallab Datta, Ananya Barui, S. A. R. Hashmi, Avanish Kumar Srivastava, (2022) – 617 – 634, **Published by Elsevier Publications**.
- (2) Amit Kumar Sharma, Ravi K. Dwivedi, **Bharat Modhera**, “A Review of Operating Parameters, Pre-Treatment Process and Digester Design Effect on Biogas Production in Anaerobic Digestion”, (Chapter – 19) in **Biomethane through Resource Circularity: Research, Technology and Practices (ISBN - 9781032069005)**, Edited by - Sadhan Kumar Ghosh, Michael Nelles, H.N. Chanakya, Debendra Chandra Baruah, (2022) – 197 - 206 , **Published by Taylor & Francis Group (CRC Press)**.

- (3) Rupali Jha, Shipra Dwivedi, **Bharat Modhera**, “Measurement and Practices for Hazardous Waste Management”, (Chapter – 4) in **Hazardous Waste Management: An overview of Advanced and Cost Effective Solutions (ISBN – 9780128243442)**, Edited by Deepak Yadav, Pradeep Kumar, Pradeep Singh, Daniel A. Vallero (2021), pp – 89 -115, **Published by Elsevier Publications**.

- (4) Shikha Gangil, Virendra Singh Dhakar, Yashwant Parihar, Divya Bhagat, Priynaka Bhawate, **Bharat Modhera**, “Synthesis of Biodiesel from Karanja Oil Using Modified Mordenite as a Heterogeneous Catalyst”, In: S. Suresh, Anil Kumar, Ashish Shukla, Renu Singh, C. M. Krishna (Eds.) **Biofuels and Bioenergy (BICE-2016)**. International Conference, Bhopal, 23-25th Feb., 2016. Springer Proceedings in Energy, **Springer, (ISBN: 9783319472577)**, (2017), pp. 15 – 24.

- (5) Priti Yadav, Titiksha Joshi, **Bharat Modhera**, “Comparative Study of Catalytic and Non-catalytic Tyre Pyrolysis Oil in Diesel Engine Application: An overview”, chapter published in Proceeding of 4th National Convention of Hydrogen Energy and Advanced Materials (NCHEAM-2015), **(ISBN: 9789352300853)**, (2015), pp. 73-77.

- (6) Shikha Gangil, Ranjana Singh, Priyanka Bhavate, Divya Bhagat, Supriya Agarwal, **Bharat Modhera**, “Comparative Study of Properties of Biodiesel Produced from Different Sources”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” **(ISBN: 9789383635955)**, (2015), pp. 237-242.

- (7) Kalpana Patidar, Shikha Gangil, **Bharat Modhera**, “Optimization of Biodiesel Production using Aspen Plus: A Review”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” **(ISBN: 9789383635955)**, (2015), pp. 233-236.

- (8) Shikha Gangil, Yashwant Parihar, Virendra Dhakar, Ranjana Singh, **Bharat Modhera**, “Recent Trends and Future Prospects of Biodiesel”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” **(ISBN: 9789383635955)**, (2015), pp. 226-232.

- (9) Titiksha Joshi, Priti Yadav, **Bharat Modhera**, “A Review on Cleaner Alternative Liquid Fuels from Waste Tyre Pyrolysis as a Green Technology”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” **(ISBN: 9789383635955)**, (2015), pp. 209-216.

- (10) Suraj Chauhan, Akshay Rajpoot, Vikram Yadav, Nagesh Chalkhor, **Bharat Modhera**, “Fuel Cell using Proton Preferential Membrane with Acid Doping”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” (ISBN: 9789383635955), (2015), pp. 184-188.
- (11) Rupali Jha, Vivek Jha, Nagesh Chalkhor, **Bharat Modhera**, “Organic Solar Cell: a Pioneering Technique to Enhance the Energy Production from Renewable Energy Sources”, chapter published in Proceeding of 31st National Convention of Electrical Engineers & National Seminar on “**Renewable Energy and Green Technology for Sustainable Development**” (ISBN: 9789383635955), (2015), pp. 102-108.
- (12) **Bharat Modhera**, “Advances of Nanotechnology in Medical Science”, chapter published in “**Current Trends and Future Challenges in Biotechnology and Biomedicine for Human Welfare and Sustainable Development** (ISBN: 9788192806365)”, Part - II, (2014), pp. 73 - 80.
- (13) **Bharat Modhera**, “Advanced Biotechnology Processes for Waste Treatments”, chapter published in “**Current Trends and Future Challenges in Biotechnology and Biomedicine for Human Welfare and Sustainable Development** (ISBN: 9788192806365)”, Part - II, (2014), pp. 36 - 40.
- (14) Shikha Gangil, Chanchal Mewar, Rupali Jha, Jitendra Kumar, Lekhraj Malviya, **Bharat Modhera**, “Performance of 13X Zeolite for Volatile Organic Compound Adsorption by Pressure Swing Adsorption”, in **Proceedings of the International Conference on Advances in Chemical Engineering and Technology (ICACE - 2014)** (ISBN - 9789351072843), Edited by - Dr. K. B. Radhakrishnan, (2014) 41- 44, **Published by Elsevier**.
- (15) Jitendra Kumar, Satyender, **Bharat Modhera**, “Preparation of Fuels from Bio and Plastic Waste: A review”, chapter published in “**Recent Advances in Environmental Management & Biotechnology** (ISBN: 9788192806327)”, Vol.-III, (2013), pp. 97-105.
- (16) **Bharat Modhera**, “Biotechnology: Future Technology of Petroleum Refinery”, chapter published in “**Recent Advances in Biotechnology** (ISBN: 9788192806310)”, Vol.-II, (2013), pp. 85-92.

12. Organizing STTP/Workshops/Seminars/Techfests:

- **Coordinator** of Workshop on “**Vigilance Awareness Week - 2022**” with the theme “*Corruption Free India for a Developed Nation*”, 31st October, 2022 to 06th November, 2022, at Maulana Azad National Institute of Technology, Bhopal, India.
- **Organizing Secretary** of National Conference on “**Recent Innovations in Chemical Engineering (RICE - 2021)**”, 08th – 09th February, 2021, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Organizing Secretary** of National Conference on “**Emerging Science and Technologies for Energy and Environment Management (ESTEEM - 2021)**”, 21st – 22nd January, 2021, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Coordinator** of Short Term Training Programme on “**Synthesis and Characterization of Advanced Materials (SCAM – 2020)**”, 02nd – 06th November, 2020, at Department of Chemical Engineering and Department of Materials & Metallurgical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Organizing Secretary** of All India Seminar on “**Waste to Energy Technology (WTET - 2019)**”, 23 – 24th November, 2019 under the aegis of Chemical Engineering Division at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- **Coordinator** of Short Term Training Programme on “**Advanced Techniques for Novel Material Synthesis and its Characterizations**”, 04 – 08th November, 2019, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Coordinator** of Short Term Training Programme on “**Hands on Chemical Simulator ASPEN/HYSYS**”, 23 – 27th September, 2019, at Department of Petrochemical Engineering, Samrat Ashok Technological Institute (Engineering Collge), Vidisha, Madhya Pradesh, India.
- **Coordinator** of Short Term Training Programme on “**Frontiers of Materials Science and Technology**”, 2 – 6th May, 2016, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Coordinator** of Ten Days workshop on “**English Learning Programme**”, 04 – 13th February, 2015 at SC/ST Cell, Maulana Azad National Institute of Technology, Bhopal, India (Funded by SCSP & TSP Scheme Plan Programme).

- **Coordinator** of Two Days Training Programme on “**Disaster Management Policy**”, 16-17, January, 2015 at SC/ST Cell, Maulana Azad National Institute of Technology, Bhopal, India (Funded by SCSP & TSP Scheme Plan Programme).
- **Coordinator** of All India Seminar on “**Recent Trends of Nanotechnology in Environmental and Biological Applications (RTNEBA - 2014)**”, 22 – 23 November, 2014 at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- **Coordinator** of Short Term Training Programme on “**Synthesis, Characterization and Applications of Biomaterials**”, 25 – 29th June, 2014, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Coordinator** of All India Seminar on “**Recent Advances in Biotechnology and Human Health Care (RABHHC-2014)**”, 29 - 30 March, 2014 at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- **Coordinator** of Short Term Training Programme on “**Advanced Tools for Material Characterizations**”, 01-05 April, 2013, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Convener** of All India Seminar on “**Recent Advances in Polymer Science and Technology (PST-2013)**”, 05-06 January, 2013 at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- **Techfest Coordinator** entitled “**Chemicarnival-2011**”, 15-16 October, 2011 at Maulana Azad National Institute of Technology, Bhopal, India.
- **Coordinator** for Short term course entitled “**Recent Trends in Industrial Pollution and Energy Management**”, 9-13 May, 2011, at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Organizing Secretary** for State-level technical paper presentation event, **PGCHEMEET-2005**, 29-30 October, 2005, at Department of Chemical Engineering, S.V. National Institute of Technology, Surat, India.

13. Awards:

- **First Position Award** (Certificate and Rs.25,000/-cash) in the category of Chemical/Plastic Engineering for Project presented on “Bend Tube Distillation Column” at Three Days’ National Exhibition and Symposium on “**Innovative and Futuristic Approaches in Science and Technology (iFAST - 2015)**”, 26 – 28th February, 2015 organized by M. P. Council of Science and Technology and Maulana Azad National Institute of Technology, Bhopal.
- **Senior Research Fellowship** (SRF) Award for Ph. D. fellowship in 2008 from Council of Scientific and Industrial Research (**CSIR**), New Delhi, India.
- **Ambuja’s Young Researcher’s Awards** for Doing Post-Graduate Studies in India after GATE Examination for the Year 2005 of Indian Institute of Chemical Engineers (**IIChE**), India.
- “**Bharat Vikas Award**” (November - 2017) by Institute of Self Reliance at Bhubhaneshwar.
- “**Outstanding Scientist Award**” in Chemical Engineering received on 11th August, 2018 from Venus International Foundation on at Chennai.

14. Details of Invite talks/Expert lecture delivered:

- (1) **Expert Lecture** on “*Advances in Reactive Distillation for Sustainability*”, on 24th February, 2023 at Department of Chemical Engineering, Vishwakarma Government Engineering College, Chandkheda, Ahmedabad, India.
- (2) **Expert Lecture** on “*Advanced Material (Catalysts) Synthesis, Characterizations and their Industrial Applications*”, at **Bimonthly Webinar Program** of Chemical Engineering Division on 18th June, 2022, organized by Chemical Engineering Division of IEI, Tripura State Centre.
- (3) **Expert Lecture** on “*Advanced Materials Synthesis, Characterizations and their Applications*”, at AICTE-ISTE sponsored an online one week short term training program on “**Research for Sustainable Progress**”, 16th – 22nd December, 2021 organized by Department of Chemical Engineering, L. D. College of Engineering, Ahmedabad, under the aegis of Commissionerate of Technical Education, Gandhinagar, Gujarat, India.
- (4) **Expert Lecture** on “*Synthesis of Advanced Catalysts and their Applications in Refinery*”, at online Training on “**Challenges and Emerging Trends in Catalysis**”, on 04th September, 2021 organized by Department of Chemical Engineering,

Vishwakarma Government Engineering College, Chandkheda, Ahmedabad, India under the banner of the Institution of Engineers India (IEI).

- (5) **Expert Lecture** on “*Fundamental of Fourier Transform Infrared (FTIR) and its Theory*”, at Short Term Training Programme on “**Synthesis and Characterization of Advanced Materials (SCAM – 2020)**”, 02nd – 06th November, 2020, organized by Department of Chemical Engineering and Department of Materials & Metallurgical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

- (6) **Expert Lecture** on “*Performance Prediction of CETP by ANN*”, at Faculty Development Programme (FDP) on “**ANN and its Utilization in Modeling and Simulation**”, 13th – 17th January, 2020, organized by Department of Petrochemical Engineering, University Institute of Technology - Rajiv Gandhi Proudhyogiki Vishwavidyalaya (UIT-RGPV), Bhopal, India.

- (7) **Expert Lecture** on “*Effective Writing Tools Understanding and Working with Reference Formats*”, at workshop on “**Scientific and Technological Writing Skills (STWS)**”, 16 – 20th December, 2019, organized by Department of Materials and Metallurgical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

- (8) Expert lecture delivered on “*Advanced Techniques for Waste to Energy Technology*”, at All India Seminar on “**Waste to Energy Technology**” (WTET - 2019)”, 23 – 24th November, 2019 organized by Chemical Engineering Division at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.

- (9) **Expert Lecture** on “*Material Characterization by Fourier Transform Infrared Spectroscopy (FTIR)*”, at Short Term Training Programme on “**Advanced Techniques for Novel Material Synthesis and its Characterizations**”, 04 – 08th November, 2019, organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

- (10) **Expert Lecture** on “*Simulation of Bubble Point & Dew Point in ASPEN PLUS*”, at Short Term Training Programme on “**Hands on Chemical Simulator ASPEN/HYSYS**”, 23 – 27th September, 2019, organized by Department of Petrochemical Engineering, Samrat Ashok Technological Institute (Engineering Collge), Vidisha, Madhya Pradesh, India.

- (11) **Expert Lecture** on “*Simulation of Chemical Reaction in ASPEN PLUS*”, at Short Term Training Programme on “**Hands on Chemical Simulator ASPEN/HYSYS**”, 23 – 27th September, 2019, organized by Department of Petrochemical Engineering, Samrat Ashok Technological Institute (Engineering Collge), Vidisha, Madhya Pradesh, India.

- (12) **Expert Lecture** on “*Simulation of Distillation Column in ASPEN*”, at Short Term Training Programme on “**Hands on Chemical Simulator ASPEN/HYSYS**”, 23 – 27th September, 2019, organized by Department of Petrochemical Engineering, Samrat Ashok Technological Institute (Engineering Collge), Vidisha, Madhya Pradesh, India.
- (13) Invited talk delivered on “*Waste to Energy*”, at Short Term Training Programme on “**Experimental Methods in Environmental Engineering: Testing and Analysis (August 19 – 23, 2019)**”, on 20th August, 2019 at Department of Civil Engineering, Government Engineering College, Banswara, Rajasthan, India.
- (14) Invited talk delivered on “*Evaluation and Analysis of Karanja Oil based Biodiesel Production by New Methods*”, at **National Conference on “Advances in Chemical Engineering and Science (ACES-2019)”**, on 07-08th March, 2019 at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
- (15) Invited talk delivered on “*Advance analytical techniques for food and toxin analysis*”, at 21 days Training programme on “**Synergistic approaches for bioprocessing of foods and by-products for nutritional and industrial use**” during 31 Aug 2018 to 20 Sep 2018 at Central Institute of Agricultural Engineering (CIAE) Bhopal, Madhya Pradesh, India.
- (16) Invited talk delivered on “*Synthesis and Characterization of SAPOs Nanomaterial from Aqueous and Non-aqueous media*”, at **World Congress on Microscopy: Instrumentation, Techniques and Applications in Life Sciences and Materials Sciences (WCM-2015)**, 09 – 11 October, 2015, organized International Unit on Macromolecular Science and Engineering (IUMSE), Mahatma Gandhi University, Kottayam, Kerala, India.
- (17) Invited talk delivered on “*Flow / Vortex Induced Vibrations in Process Industries*”, at All India Seminar on “**Vibration Fault Diagnosis and its Mitigation in Large Rotating Machines**”, 21 - 22 March, 2015 jointly organized by The Institution of Engineers (India), M. P. State Centre, Bhopal, India and Abilities Educare Foundation, Bhopal, India.
- (18) **Expert Lecture** on “Prevention Methods for Industrial Fire or Explosions”, at two days Training Programme on “**Disaster Management Policy**”, 16 – 17th January, 2015, organized by SC/ST Cell, Maulana Azad National Institute of Technology, Bhopal, India.
- (19) **Expert Lecture** on “*Pinch Technology – one of Green Technology*”, at Short Term Training Programme on “**Green Chemistry and Engineering: Past, Present**”

and Future", 30th June – 04th July, 2014, organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

- (20) **Expert Lecture** on "Applications of Biomaterials in Chemical Engineering", at Short Term Training Programme on "**Synthesis, Characterization and Applications of Biomaterials**", 25 – 29th June, 2014, organized by Department of Chemical Engineering, Department of MSME, Department of Biological Science and Engg., Maulana Azad National Institute of Technology, Bhopal, India.
- (21) Invited talk delivered on "*Advanced Biotechnology Processes for Waste Treatments*", at **IXth National Conference on Current Trends and Future Challenges in Environmental Sciences, Biotechnology, Aysush & Human Welfare and Sustainable Development**, on 26 – 27th April, 2014 at Department of Botany and Biotechnology, Government New Science College, Rewa (M. P.), India.
- (22) Invited talk delivered on "Biotechnology applications for Human Health care", at All India Seminar on "**Recent Advances in Biotechnology and Human Health Care (RABHHC-2014)**", 29 - 30 March, 2014 at The Institution of Engineers (India), M. P. State Centre, Bhopal, India.
- (23) Expert lecture delivered on, "*Advanced Waste Water Treatment*", at "**National level seminar on Advances in Wastewater Treatment and Reuse**", on 27-28th September, 2013, at Department of Chemical Engineering, Samrat Ashok Technological Institute, Vidisha (M. P.), India.
- (24) Invited talk delivered on "*Biotechnology – Future Technology for Petroleum Refinery*", at "**VIIIth National Conference on Biodiversity conservation, biotechnology and environmental management research**", on 19 -20th April, 2013 at Government New Science College, Rewa (M. P.), India.
- (25) Expert lecture delivered on "*Characterization of Solid Catalysts*", at Short Term Training Programme on "**Advanced Tools for Material Characterizations**", during 01 - 05th April, 2013 at Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

15. Projects:

Sr. No.	Project Title	Funding Agency	Duration	Amount, Rs.	Status
1.	Removal of Phenol And Its Derivative Compounds From Waste Water By Using Non-Conventional Low Cost Adsorbents	The Institution of Engineers (India), Kolkata	2015 - 2016	10,000.00	Completed
2.	Production, analysis and evaluation of biodiesel from neem and karanja oil blends	The Institution of Engineers (India), Kolkata	2015 - 2016	40,000.00	Completed
3.	Effect of Nitrogen Compound on FCC Catalyst	TEQIP-II	2012-2014	24,00,000.00	Completed
4.	Development of Electronic Sensing System for Safe Management of Potato, Onion, and Tomato in Storage	National Agricultural Scheme Fund, New Delhi	2018-2022	Total: 2.23Cr MANIT: 32.30 Lakh	Completed
5.	Design and Development of Ultrasonic Transducer	ISRO, Bengaluru	2022 - 2023	20,50,000.00	Ongoing

16. Membership of Technical Society, Association, Institution etc.:

- Life Member of Catalysis Society of India (CSI).
- Life Member of Indian Desalination Association (IDA). Membership No.: LM-532
- Senior Member of Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEEs). Member No.: 100845
- Life Member of Indian Society for Technical Education (ISTE). Membership No.: 83954
- Member of the Institution of Engineers (India) (IEI). Membership No.: M-1737990.
- Life Time Associate Member of the Indian Institute of Chemical Engineers (IChE). Membership No.: LAM 31363.
- Member of Indian Association for Hydrogen Energy and Advanced Materials (IAHEAM).

17. Other Activities:

- **Executive Committee Member** (Chemical Engineering Division) of **The Institution of Engineers (India)**, M.P. State Centre, Bhopal for the sessions 2022-23 & 2023-24.
- **Expert Member (Chemistry) of the Board of Studies**, at **The Bhopal School of Social Sciences**, Bhopal for B. Sc. and M.Sc. courses for 2022 – 2025.
- **Elected as Chairman of Bhopal Regional Centre, Indian Institute of Chemical Engineers (IIChE) for session of 2022 – 2024.**
- **Session Chair** in International Conference on “Advances in Chemical and Environmental Engineering (ACEE – 2021)”, on 16 – 17th December, 2021 organized by Department of Chemical Engineering, National Institute of Technology, Raipur, India.
- **Session Chair** in The 17th Annual Session of Students’ Chemical Engineering Congress (SCHEMCON-2021)”, on 22nd – 23rd October, 2021 organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal and Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, India.
- **Session Chair** in Virtual International Conference on “Advances in Sustainable Research for Energy & Environment Management (ASREEM – 2021)”, on 06 – 07th August, 2021 organized by Department of Chemical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat, India.
- **Session Chair** in Virtual International Conference on “Advances in Chemistry and Chemical Engineering (ACCE-2021)”, on 16 – 17th April, 2021 organized by Department of Chemical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat, India.
- **Session Chair** in two days National Conference on “Recent Innovations in Chemical Engineering (RICE-2021)”, on 08 – 09th February, 2021 organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India.
- **Session Chair** in two days National Conference on “Emerging Science and Technologies for Energy and Environment Management (ESTEEM – 2021)”, on 21st – 22nd January, 2021 organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India.

- **Session Co-Chair** in Webinar entitled, “Biotechnology”, on 05th February, 2021 organized by Govt. Madhav Sadashivrao Golvalkar College, Rewa, Madhya Pradesh, India.
- **Nodal Officer (Resource Person)** for Vigyan Jyoti Project at Jawahar Navodaya Vidyalaya, Shamshabad District, Vidisha (since 05th March, 2020). This project envisages to promote participation of girls in STEM areas.
- **Session Chair** in at National Conference on “Advances in Chemical Engineering and Science (ACES-2019)”, on 07-08th March, 2019 at Department of Chemical Engineering, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
- **Act as Honorary Secretary of Madhya Pradesh State Centre, Institution of Engineers (India), Bhopal, for session of 2017 -2019.**
- **Judge** for Young Scientist Award presentation in Chemical Engineering at 17th Chhattisgarh Young Scientist Congress on 28th February – 01st March, 2019 (sponsored by Chhattisgarh Council of Science and Technology) at **Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, India.**
- **Session Chair** in “**International Conference on Biofuels and Bioenergy** on 23-25th February, 2016 at Department of Chemical & Energy Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- **Chairperson** in Technical session on “Microscopy for Nano-IV”, at **World Congress on Microscopy: Instrumentation, Techniques and Applications in Life Sciences and Materials Sciences (WCM-2015)**, 09 – 11 October, 2015, organized International Unit on Macromolecular Science and Engineering (IUMSE), Mahatma Gandhi University, Kottayam, Kerala, India.
- **Editor Board Member of**
 - “International Journal of Chemical Engineering and Processing” of Journals Pub, New Delhi, India.
 - “Octa Journal of Biosciences” of Scientific Planet Society (SPS), Dehradun-248001 India.
 - “International Journal of Chemical Processing Design and Systems” of Journals Pub, New Delhi, India.

- “Chemical Engineering: An International Journal” of AIRCC Publishing Corporation, Tamil Nadu, India.
- “Journal of Catalysts & Catalysis” of STM Journals, Consortium E-Learning Network Pvt. Ltd. (CELNET), India.
- “Trends in Chemical Engineering” of STM Journals, Consortium E-Learning Network Pvt. Ltd. (CELNET), India.
- “Chemical & Materials Engineering” of Horizon Research Publishing, USA.
- “Chemical Engineering & Science” of Science & Education Publishing

▪ **Reviewer of**

- “Trends in Food Science and Technology”, of Sciencedirect, Elsevier Publisher.
- “Catalysis Today”, of Sciencedirect, Elsevier Publisher.
- “Environmental Technology and Innovation”, of Sciencedirect, Elsevier Publisher.
- “Indian Journal of Chemistry, Sec A” of Council of Scientific and Industrial Research (India), Indian National Science Academy, NISCAIR Publications.
- “Chemical Engineering & Science” of Science & Education Publishing.
- “International Journal of Oil, Gas and Coal Engineering” of **Science Publishing Group**.
- “Science Journal of Energy Engineering” of **Science Publishing Group**.

- **Executive Committee Member** (Chemical Engineering) of **Institution of Engineers (India)**, M.P. State Centre, Bhopal for the sessions 2013-14 & 2014-15 and 2015-16 & 2016-17.
- **Session Chair** in “**International Conference on Global Scenario in Environment and Energy (ICGSE² - 2013)**” on 14-16th March, 2013 at Department of Chemical & Energy Engineering, Maulana Azad National Institute of Technology, Bhopal, India.

- Member of **Chairperson** of Young Scientist Award Selection Committee at “**VIIIth National Conference on Biodiversity conservation, biotechnology and environmental management research**”, on 19 -20th April, 2013 at Government New Science College, Rewa (M. P.), India.

18. Ph. D. Student Guided:	Ph. D. Completed	:	04
	Ph. D. Continues	:	01

Detail of Ph. D. Thesis

Sr. No.	Student Name	Thesis Title	Supervisor / Co-supervisor	Registration Year	Submission Year	Degree Year
1.	Ms. Monika Vyas	Modelling and performance prediction of common effluent treatment plant using artificial neural network	Co-supervisor	2008	2012	March, 2013
2.	Ms. Rupali Jha	Synthesis, characterizations and application of SAPO-11 for hydroisomerization of <i>n</i> -Hexadecane	supervisor	2013	Feb., 2018	December, 2018
3.	Ms. Shikha Gangil	Evaluation and Analysis of karanja oil based biodiesel production via various modified catalysts	supervisor	2014	Jan., 2019	July, 2019
4.	Mr. Jitendra Kumar	Influence of nitrogen compounds on the performance of FCC catalysts and additives	supervisor	2012	Jan., 2019	March, 2020
5.	Mr. Jamna Prasad Gujar	Value added products from Glycerol	supervisor	2020	Continues..	

19. M. Tech. Student Guided: Completed : 21
Continues : 01

Detail of M. Tech. Thesis

Sr. No.	Student Name	Dissertation Title	Degree Year
1.	Ms. Shivani Singh	Extraction of PAP and Aniline from Aqueous solutions and packed column studies	2014
2.	Ms. Chanchal Mewar	Comparative experimental study between two and three steps method for biodiesel production from karanja oil	2015
3.	Mr. Lekhraj Malviya	Chlorine gas dispersion in chemical process industries using computational fluid dynamics tool ANSYS fluent	2015
4.	Ms. Titiksha Joshi	Alternative Fuel recovery from motorcycle waste tyre by thermal and catalytic pyrolysis	2016
5.	Mr. Nagesh Chalkhor	Simulation of toxic gas (sulfur dioxide) dispersion using CFD model (ANSYS)	2016
6.	Mr. Harsh Sharma	Removal of (Chromium) from waste water by using rice husk and corn husk	2016
7.	Ms. Kalpana Patidar	Optimization of biodiesel production process by using ANSYS PLUS software	2016
8.	Mr. Rajnish Kumar Singh	Hydroisomerization of long chain alkane on SAPOs by using high pressure micro catalytic reactor	2016
9.	Ms. Priti Yadav	Preparation and characterization of activated carbon from chemical activation of waste tyres	2016
10.	Ms. Sapna Sarkar	Refining of tyre pyrolytic oil by distillation and desulfurization processes	2017
11.	Mr. Jamna Prasad Gujar	Simulation of ammonia gas dispersion in chemical process industries using CFD model (ANSYS)	2017
12.	Mr. Shanmukh Srinivas	Recovery of Nickel from spent catalyst using hydrometallurgical method	2017
13.	Ms. Faheema M. K.	Inherent radiant heat exposure protection in a tank farm	2017
14.	Ms. Aditi Tiwari	Hazard analysis of a hydrogenation reactor in pharmaceutical industry using FMEA	2018
15.	Mr. Abhishek Mathur	Hydroisomerization of long chain alkane on SAPOs	2018
16.	Mr. Sandeep Dhakar	Conversion of glycerol into lactic acid using copper nanoparticles as a catalyst	2018
17.	Ms. Bhagyashri Gaikwad	Hydroconversion of n-Hexadecane over bi-functional catalysts to improve fuel quality	2019
18.	Mr. Kaumik Gandhi	Reduction of utilities for industrial multiple effect evaporator using heat integration	2019
19.	Mr. Abhishek Pathak	Process intensification for synthesis of Tertiary butyl phenols	2020
20.	Mr. Battula Kumar Raja	Conversion of glycerol to Solketal using Heterogeneous catalysts	2020
21.	Mr. Amit Kumar Sharma (Mechanical	Design and Testing of a small scale solar assisted anaerobic digester for Biodegradable waste	2020

	Engg Dept)		
22.	Mr. Sourabh Chouhan	Removal of Lead by Silica sources	Continuee..

Place:

Date:

Dr. Bharatkumar Modhera