

# CURRICULUM VITAE

SURESH *SUNDARAMURTHY*, PhD  
(SURESH S.)

October 2024

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Gender: Male

Place of Birth: Puducherry (Pondicherry), India

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## EDUCATION AND WORK EXPERIENCE

**PhD** (Chemical Engineering), Indian Institute of Technology Roorkee, 2010

**M.E** (Chemical Engineering), Annamalai University Tamil Nadu, 2006

**B.Tech** (Chemical Engineering), Pondicherry Engineering College, Pondicherry University, 2004

**P.G. Diploma** (Industrial Safety) Annamalai University, Tamil Nadu (Distance Course), 2005

**Head of the Department**, MA-NIT Bhopal (April 2024-Present)

**Associate Professor**, MA-NIT Bhopal (December 2023-Present)

**Convenor & Faculty In-charge**: Central Research Facility, MA-NIT Bhopal (2019-Present)

**Head of the Department**, MA-NIT Bhopal (January 2019-October 2019)

**Departmental Coordinator**, MA-NIT Bhopal (July 2013-January 2016)

**Assistant Professor**, MA-NIT Bhopal (August 2010-December 2023)

**Postdoctoral Researcher**, Centre for Discovery & Innovation, CUNY USA (2017-2018)

**Visiting Faculty**, Asian Institute of Technology Thailand (January-May 2016)

**Visiting Fellow**, International Centre for Mater. Sci., JNCASR Bangalore (Dec. 2011-Feb. 2012)

**Research Fellow**, Indian Institute of Technology Kanpur (February-July 2007)

**Research Fellow**, Pollution Control & Energy Technol., Pondicherry University (June 2006-Jan. 2007)

## PATENTS, AWARDS, AND HONORS

- Indian Patent**: Silica-Titanium Dioxide doped Photocatalyst, and a Reactor Vessel for Effluent Treatment. Indian Patent No. 1599/MUM/2015 dated 18/04/2015 and Published on 21/10/2016 in The Patent Office Journal Issue No. 44/2016 (Applicant: MA-NIT Bhopal, Inventor: S. Suresh)
- Indian Patent**: Pyrolysis system for thermal decomposition of biomass (Inventors: Ajoy Debbarma & Suresh Sundaramurthy; Applicants: Rain Forest Research Institute, Jorhat (Assam) & Maulana Azad National Institute of Technology Bhopal), Design No. 375152-001 dated 25.01.2023.
- Indian Patent**: Edible coating composition and the method of preparation thereof (Inventors: Surinder Singh, Daijit Kaur, Suresh Sundaramurthy, Raj Kumar, Sushil Kumar Kansal; Applicants: Panjab University, India; and Maulana Azad-National Institute of Technology Bhopal). Application Number-202311010558, Filing Date-16/02/2023. Published; 26/2023 dated 30/06/2023
- Indian Patent**: Carbon Doped Silica-Nanostructured Cu/CuO catalyst for plasma conversion of CO<sub>2</sub> to CO. (Applicants: MA-NIT Bhopal & ONGC Energy Centre Trust, New Delhi, Inventors: Suresh Sundaramurthy, Sasikumar Chandrabalan, Jyoti Verma, Komal Singh, Ravi), Patent Application no. 20231101572, Filing Date-9/03/2023
- Indian Patent**: IoT device for measuring water pollutants Level. Sapana Madan, Suresh Sundaramurthy, T. Kumuthavalli, Meenakshi K, Ashish Kumar Ratha, Anju, Manasi Vyankatesh Ghamande, Jigneshkumar Amathalal Chauhan. Application No. 427239-001. Filing Date-16/08/2024
- Indian Patent**: A process to convert Necromass residual biomass to biochar using indigenously

- designed double barrel Pyrolysis device (Inventors: Ajoy Debbarma & S. Suresh)
7. **Indian Patent:** Novel plasma reactor for CO conversion. Under review (Applicant: MA-NIT Bhopal & OECT (ONGC Energy Centre) New Delhi, Inventors: S. Suresh and C. Sasikumar), 2022.
  8. **Indian Patent:** Wastewater treatment and Energy generation through MFC using Nanoelectrodes Under review (Applicant: MA-NIT Bhopal, Inventors: S. Suresh and Samatha Singh), 2022. Under process.
  9. **Technology synchronized & commercialization in progress:** “Liquid biofertilizer via aminoacid from cowdung and human hair” with Bhopal Municipal Corporation (Nagar Nigam).
  10. **Principal Advisor:** WTL-Clean & Renewable Energy Pvt Ltd (USA)
  11. **Fellow Member:** Society of Energy Engineers and Managers, India
  12. **Certified Renewable Energy Professional Preparatory Training:** Association of Energy Engineers (AEE), USA, 2017 (Preliminary)
  13. **SERB Indo-US Postdoctoral Research Fellowship:** Science and Engineering Research Board (SERB) and Indo-US Science and Technology Forum (IUSSTF), Department of Science and Technology, Government of India, Fulbright House, New Delhi, July 2016.
  14. **Bharat Excellence Award:** Friendship Forum, New Delhi, August 2016.
  15. **Best Poster award:** in the 103<sup>rd</sup> Indian Science Congress, University of Mysore, 3-7<sup>th</sup> January 2016.
  16. **4<sup>th</sup> IGCW-2015 award** in the Knowledge Community & Academic Research category: Industrial Green Chemistry World (IGCW 2015), organised by Green ChemisTree Foundation, Mumbai, India, December 2015.
  17. **Short term Visiting Faculty:** Ministry of Human Resource Development, Department of Higher Education, Government of India, August 2015.
  18. **IEI Young Engineers Award:** Institute of Engineers, Kolkata, India, August 2015.
  19. **Rashtriya Gaurav Award:** India International Friendship Society, New Delhi, 2015.
  20. **Award of Member:** National Innovation Club by Rashtrapati Bhavan-The President of India, New Delhi, March 2015.
  21. **Prof R C Singh Memorial Medal:** 28<sup>th</sup> Indian Engineering Congress, Institution of Engineers India (IEI), 2013.
  22. **Visiting Research Fellowship:** Jawaharlal Nehru Centre for Advanced Scientific Research, International Centre for Materials Science, Bangalore, Dec. 2011-Feb. 2012.
  23. **Young Scientist Award** by Government of Uttarakhand, 2009
  24. **Junior and Senior Research Fellowship:** Ministry of Human Resource Development (MHRD), Department of Education, Government of India, New Delhi, July 2007-July 2010.
  25. **Best Fielder in the cricket (sport club):** Association of Chemical Engineering Students, Pondicherry Engineering College, Puducherry, 2004.
  26. **Best Performer Award:** Association of Chemical Engineering Students, Pondicherry Engineering College, Puducherry, 2003-2004.
  27. **Winner-up Cricket Team Shield:** Pondicherry Region Zonal Level-Schools Games and Athletics Competitions (IV-Zone), conducted by Education Department, Government of Pondicherry, Puducherry, 1997-98.

### PROJECT FUNDING (RESEARCH<CONSULTANCY<OTHER)

1. R&D Project: Treatment of industrial wastewater using sequential batch reactor (SBR) - 45 Lacs, MHRD (Grant-Aid-Scheme), 2010-2012.
2. R&D Project: Extraction of fibres from raw sisal plants-15.45 Lacs, Handloom and Handicraft Rural Development Department, Government of Madhya Pradesh, 2011-2013.
3. R&D Project: Development of Novel separation Processes, MHRD-MANIT Bhopal-50 Lacs, 2011-2012.
4. R&D Project: Treatment of industrial wastewater using photocatalysis process, MPCST, MP Govt.-5.45 lacs, 2012-2015.
5. R&D Industrial Project: Treatment of brine sludge using combined adsorption-Electro-chemical methods, TEQIP & Grasim Industry, Nagda, Madhya Pradesh, 14.45 lacs, 2012-2015.
6. R&D Project: Machining and analysis of various parameters of nanocomposites prepared from industries wastes for various applications, MPCST, MP Govt, India-5 lacs, 2015-2017.

7. R&D Project: New carbon-based nanocomposites (biochar) from waste biomass and carbon cloth: Experimental and modelling studies to adsorption of H<sub>2</sub>S, HCHO from air, sensing of H<sub>2</sub>S and ammonia gases, and photo-oxidation/CO<sub>2</sub> reduction. SERB/IUSSTF, DST, 40000USD, 2016-2018.
8. R&D Project: Selective Conversion of CO<sub>2</sub> to CO using an Inexpensive Nano-porous carbon doped oxides through plasma/photocatalysis, ONGC Energy Centre, New Delhi-14.86 lacs (2016-2018).
9. R&D Industrial Consultancy Project: Adequacy and Performance Assessment of Existing Effluent Treatment Plant, GAIL (India) Limited, Madhya Pradesh-11.80 Lacs (January 2019-June 2019).
10. R&D Project: Process optimization indigenously developed catalysts in plasma assisted photo-catalytic reactor and regeneration of catalysts, ONGC Energy Centre, New Delhi-10.6375 Lacs (2019-2021).
11. R&D Project: Development of process and technology for value added products from segregated biocrude (in collaboration with Central Institute of Agricultural Engineering Bhopal), Ministry of Agriculture. (April 2019 to July-2022). 60 Lacs.
12. R&D Industrial Project: Water Quality monitoring and assessment of Central Effluent Treatment Plant (CETP), Indore, Madhya Pradesh-22 Lacs (2021-July 2022).
13. R&D Industrial Project: Strategic survey and assessment of air pollution in the non-attainment cities of Madhya Pradesh, India sponsored by M/s Center for Study of science, Technology and Policy, Bangalore-560094, Karnataka. 23.5 Lacs. 2021-2022.
14. R&D Project: Development and optimization of bio-char enriched super compost from forest necromass for enhanced soil carbon sequestration, MoES, India- 16.494 lacs collaboration with Rain Forest Research Institute, Jorhat, Assam (2018-May 2023).
15. R&D Consultancy Project: Environmental Monitoring of quality of Surface water, Ground water, Soil, Air & Noise around Mahakal Temple Ujjain at regular interval. Ujjain Smart City Limited. 29.4 Lacs. 2022-2023.
16. Consultancy work: Chemical analysis of biochar and dental materials. M/s Anant Urja Pvt Ltd, Bhopal. 0.1955 Lacs, 2019.
17. Consultancy work: Testing of iron bars, M/s Bansal Industries, Bhopal. 0.59 Lacs. 2023
18. Consultancy work: Chemical analysis of TMT Fe500, M/s NTPC Khargon. 0.385 Lacs. 2023
19. Consultancy work: Vetting of hydraulic design and drawings of various components. M/s LCC Project Ltd, Gujarat. 14.9624 Lacs. 2023
20. Consultancy work: Testing of wood waste to know ratio of carbon and oil. M/s GCM Carbon Pvt. Ltd, Raisen, Madhya Pradesh. 0.3 Lacs. February, 2024
21. Consultancy Project: Source Apportionment of PM<sub>2.5</sub> & PM<sub>10</sub> of Jabalpur City for Identification of Major Sources, Jabalpur Municipal Corporation under National Clean Air programme (NCAP) scheme, MoEF &CC, GoI-93.88 Lacs. 2022-2024. **Ongoing.**
22. Consultancy Project: Source Apportionment of PM<sub>2.5</sub> & PM<sub>10</sub> of Ujjain City for Identification of Major Sources, M.P. Pollution Control Board under National Clean Air programme (NCAP) scheme, MoEF &CC, GoI-68.73 Lacs. 2023-2025. **Ongoing.**
23. R&D Project: Development of Carbon Nanofiber Materials From Cow-Dung/Bio-Sludges for Smart Fabric Textile and Selective CO<sub>2</sub>/H<sub>2</sub> Energy Storage Applications (in collaboration with CSIR-AMPRI Bhopal). NTTM, Government of India. 77 Lacs. 2023-2025. **Ongoing.**
24. R&D Project: Identification and treatment study of heavy metals and chlorinated by-products using fish scale morphological changes with sedimentation analysis for Upper Lake of Bhopal. MPCST. 9.22 Lacs. 2023-2024. **Ongoing.**
25. R&D Project: Enhanced selective recovery of selenium and tellurium from copper anode slime using secondary mineral waste. 32 Lacs. 2024-2027. Ministry of Mines, Government of India. **Ongoing.**
26. R&D Project: Enhance Air Quality through Source Apportionment of PM<sub>2.5</sub> & PM<sub>10</sub> of Dewas City for Identification of Major Sources, Dewas Municipal Corporation under National Clean Air programme (NCAP) scheme, MoEF &CC, GoI-Rs.81,87,725 Lacs. 2024-2026. **Ongoing.**
27. R&D Project: Enhance Air Quality through Source Apportionment of PM<sub>2.5</sub> & PM<sub>10</sub> of Sagar City for Identification of Major Sources, Sagar Municipal Corporation under National Clean Air programme (NCAP) scheme, MoEF &CC, GoI-Rs.98.13,225 Lacs. 2024-2026. **Ongoing.**
28. R&D Project: Integrating Vastu and Sustainability in Indian Temple Architecture: A Synergy between Ancient Wisdom and Contemporary Modernism. Indian Council of Social Science Research, Govt. of India. Grant No. ICSSR-VB2024-1049. Rs.20,67,600. 2024-2025. **Ongoing.**

29. Consultancy Project: Municipal Solid Waste Quantification, Composition and Characterization study at Ujjain. Ujjain Smart City Limited (USCL) under CITIIS 2.0 scheme. Rs. 18,43,750/- . September,2024 **Ongoing.**
30. Consultancy Project: Vetting of sewerage DPR for ward No. 1 to 60 of Gwalior City. Rs.. 17, 70,000/- . October, 2024. **Ongoing.**
31. R&D Project: Pilot plant for hydrogen generation from biomass char through steam gasification and its storage by nanocarbon integrated metal hydride composite (in collaboration with Central Institute of Agricultural Engineering Bhopal). Rs. 2.59 Crore. DST. Submitted. 2024
32. R&D Project: Synthesis of bio-derived high porous carbon-MOF composite for advanced hydrogen storage applications (in collaboration with Central Institute of Agricultural Engineering Bhopal). MNRE, Government of India. 1.0453 Crores. April, 2024. Submitted.
33. R&D Project: Advanced Numerical Modelling and Additive Manufacturing of Acoustic Metamaterials for Aeronautical Noise Reduction. Aeronautics Research & Development Board, DRDO. Submitted, 2024. Total budget: 95.97 Lakhs
34. R&D Project: Technical Textiles and Management Centre of Excellence, National Technical Textile Mission (NTTM), Ministry of Textile, Govt. of India. Total budget: 342.788 Lakhs. Submitted, 2024.
35. R&D Project: Development of lightweight greenhouse gas sensors for Atmospheric Science studies. ISRO. Rs. 19,75 Lacs. Submitted. August 2024
36. R&D Project: Pollution to Solution Integrated Carbon Capture and Utilization in the Cement Industry. Rs. 47,00,000. DST. Submitted.
37. R&D Project: Development of high energy Graphene/Borophene based Self-Powered Piezoelectric/Triboelectric Nanogenerator Integrated Energy Storage Devices (in collaboration with CSIR-AMPRI Bhopal). DST, Government of India. Rs.98,25,336/- . July 2024. Submitted.
38. R&D Project: Development of process and technological package for effective use of Agro-residues and Municipal Solid waste and with Coal in Thermal Power Plants. Rs.53,67,648/- Submitted to Central Power Research Institute. August 2024.
39. R&D Project: Development of a novel solar dryer based on Nano-enhanced Phase Change Material as thermal storage for agricultural-based food applications. Submitted to DST. Rs. 48,35,480/- October 2024.
40. R&D Project: Design of Emergent van der Waals Heterostructure for High performance and Flexible Optoelectronic Devices. Submitted to DST. Rs. 1,37,67,962/-October 2024.
41. R&D Project: Cost-effective process for energy production and energy saving materials from MSW waste plastic and pine litter. Submitted to NMHS, MoEF&CC. Rs. 137.54 Lacs. October, 2024

### **TEACHING AND RESEARCH GUIDANCE**

- Chemical Reaction Engineering, Process Dynamic and Control, Bio-energy Engineering, Biochemical Engineering, Bioprocess Engineering, Green Technology, Environment Pollution Control, Process Safety and Disaster Management, Advance Separation Processes.
- Supervisor and co-supervisor for about 250 (B.Tech students + project students); 66 M.Tech scholars and 08 PhD scholars

#### **List of Ph.D. Thesis topics:**

1. Rajesh Babu Katiyar, Optimization of Engineering & Process Parameter for Vermi-composting. Co-Supervisor: Dr. A.K. Sharma
2. Kamlu Ram Gota, Study of Photocatalytic degradation of Phenolic Wastewater
3. Saraswati Rana, Treatment of Phenolic and Textile wastewater by using Biological and Physicochemical Methods
4. Rajani Bharati, Synthesis of Nano-catalysts for Treatment of Petroleum Refinery Wastewater
5. Anuj Kumar Verma, Synthesis, characterization and application of fly ash based filler and pigment for paper industry. Co-Supervisor: Dr. Dinesh Mohta
6. Anshika Rani, Experimental and Computational investigation of hybrid single slope solar stills. Co-Supervisor: Dr. Anil Kumar
7. Samatha Singh, Development of low-cost microbial fuel cell for energy generation from wastewater

8. Satyam Mishra, Multicomponent adsorption of nitrate and associate ions from aqueous solution. Co-Supervisor: Dr. MS Chauchan
9. Abhishek Mathur, Development of graphene based nanocomposite for environmental application (in progress)
10. Rakesh Kumar Chand, Air Pollutions Modelling and their source appointment study in the Ujjain City. Co-Supervisor: Dr. A.K. Sharma (in progress)
11. Manoj Kumar Gandwane, Pollution abatement through membrane technology. Co-Supervisor: Dr. V.K. Bulasara (in progress)
12. Jyoti Verma, Policy Evaluation and Performance Assessment for Clean and Green Sustainable energy Practices (in progress)

**List of completed and Ongoing M.Tech. Thesis:**

S.No.	Name of students	Title of thesis	Year of Award	Name of Co-Supervisor
1.	Piyush Pratap Singh	Optimization of 1-2 Propane, diol using Box Behnken Design	2014	Dr C. Sumana, IICT Hyderabad
2.	Satyendra Singh	Kinetic study of esterification with ethylene glycol & acetic acid in presence of Para toluene sulphonic acid	2014	Dr. K. Yamuna Rani, IICT Hyderabad
3.	Shashank Tiwari	Simulation of postulated methanol pool fire in a nuclear fuel sub-assembly cleaning facility	2015	-
4.	Goldy Shah	Removal of petroleum hydrocarbon from different oily sludge by various treatment methods	2015	Prof. Amit Dubey
5.	Mona Sakena	Adsorption of phenol onto waste granular activated carbon from water purifier cartridge: Batch and Column study	2015	-
6.	Sanjay Singh	Simulation of different type of distillations columns for production of Methy-Tert-Butyl-Ether by using ASPEN Plus software	2015	-
7.	Anil Kumar	Photodegradation of phenol, catechol and hydroquinone pollutants from aqueous solution	2015	-
8.	Sharad Suryawanshi	Removal of zinc onto synthesised zeolite from aqueous solution	2015	Prof. A.K. Sharma
9.	Swati Rawat	Fly ash: A suitable material for warm based technology	2015	Prof. A.K. Sharma
10.	Shivali Sahota	Biological pre-treatment of water hyacinth for biogas production	2015	Dr. Khushali Meneria
11.	Mohit Jain	Preparation of rubber-sisal fibre nano composites	2015	Dr. M.K. Pradhan
12.	Khusboo Kumari	Hybrid anaerobic digester with MFC	2016	-
13.	Kuldeep Sahu	Design of RBC for degradation of wastewater	2016	-
14.	Snigdha Mandal	Design of controller for MFC and Pipeline corrosion system	2016	-
15.	Deepak Rangare	Synthesis of DMC additives by using carbon based nanocatalyst for fuel application	2016	Prof. Amit Dubey
16.	Ashwin Kumar	Design of controller for solar dryer	2016	-

17.	Krishna Kumar P	Modelling of Pyrolysis Process for Thermochemical Conversion of Human Hair to Biofuel	2016	Prof. Prashant Baredar
18.	M.K. Faheema	Inherent radiant heat exposure protection in a tank farm	2017	Dr. Bharat Modhera
19.	Neha Maheshwari	Preparation of ceramic membrane based on fly ash for oil-water emulsion separation	2017	Dr. C. Sasikumar
20.	Kunjan Junghare	Carbon sequestration followed by micro algae via biodiesel production	2017	Prof. Prashant Baredar
21.	Nikhil Kumar	Selective conversion of CO <sub>2</sub> to CO using an inexpensive nanoporous CeO <sub>2</sub> doped with SiO <sub>2</sub> through thermal/plasma photocatalysis	2017	Dr. C. Sasikumar
22.	Prashant Srivastava	Treatment of Dairy Wastewater through RBC	2018	Prof. A.K. Sharma
23.	Mayank Raguwanshi	Process optimization of CO <sub>2</sub> conversion through developed indigenously plasma assisted photocatalysts	2019	-
24.	Niteesh Singh	Removal of fluoride from drinking water by using adsorption process	2019	Prof. Mukul Kulshrestha
25.	Sanjeev Verma	Production of biogas from water hyacinth and parthenium hysterophorus	2019	Prof. Prashant Baredar
26.	Anoop Meleri	Optimization and process parameters of CO <sub>2</sub> conversion using Plasma assisted photocatalyst system	2020	-
27.	Preety Kumari	Biosynthesis catalysis for sonocatalytic technology	2020	-
28.	Sujit Das	Fractional distillate products and Value added chemicals from Biocrude	2020	-
29.	Saurabh Jain	Adsorption of Fluoride through water hyacinth adsorbents	2020	Prof. Mukul Kulshrestha
30.	Sandeep	Rheology properties of different liquid streams	2020	Dr. H.L. Tiwari
31.	Kapil Newar	Microreactor with Microbubble mechanism	2021	Dr. Rajeev Parmar
32.	Anjali Prasad	Adsorptive removal of Hexavalent Chromium by Cupric oxide-impregnated Sugarcane Bagasse	2022	Dr. Sunder Lal Pal
33.	Archa S Vasanthan	Column Adsorption study of Carbon dioxide using carbon aerogel prepared from waste tissue paper and polyvinyl alcohol	2022	Prof. MS. Chauhan
34.	Haroon Haridas	Adsorbent development is a solution for waste mattress disposal: characterisation and performance evaluation for sulphate ion adsorption	2022	Prof. MS. Chauhan
35.	Nihar	Adsorptive removal of Eriochrome Black T dye using Tin Oxide loaded walnut shell activated carbon	2022	Prof. MS. Chauhan
36.	Utkash Baranwal	Utilization of brewery spent grain into value added products through ultrasonic assisted extraction technique	2022	Prof.A.K. Sharma
37.	Sagar Tapdiya	Modelling and Simulation of multiple slope solar dryer	2022	Prof. Prashant Baredar
38.	Priya Singh	Biochemical characterization of phytochemicals from Eucalyptus and cinnamon plants	2022	Dr. Khushali Meneria
39.	Kajal Tiwari	Conversion of agrowaste residue into sodium silicate: Green Route towards pollution abatement	2023	Dr. H.S Kaur

40.	Meenu Singh	Preparation of Nano Scale Activated Corn Based Biosorbent For Efficient Removal of Hydroxychloroquine	2023	Dr. H.S Kaur
41.	Dr. Aiman Haider	A Comparative evaluate the remineralizing effect of dentifrices on eroded primary teeth enamel by two pediatric liquid medicaments through scanning electron microscope: An in-vitro study	2021	Dr. Babita Niranjana
42.	Dr. Priyanka Khadatkar	A Comparative evaluation of fluoride release and rechargeability in conventional GIC (Type II), pediatric GIC (Type IX), and Cention-N: An in-vitro study	2022	Dr. Babita Niranjana
43.	Dr. Pragya Kumari	Comparative evaluation of microleakage of two different types of restorative materials in primary and permanent posterior teeth: An invitro-study	2022	Dr. Arpana Bansal
44.	Dr. Jyoti Sarathe	Comparative evaluation of surface hardness and surface roughness of heat polymerized polymethyl methacrylate acrylic resin immersed in different disinfectant solution: An invitro-study	2022	Dr. G.S. Chandu
45.	Mohini	Utilization Of Waste Diaper, Paddy Straw And Saw Dust for Oyster Mushroom Cultivation: A Solution Towards Sustainable Development	2023	Dr. H.S Kaur
46.	Harisahmad	Adsorption of sulphide ion onto activated waste cloth from aqueous solution	2023	Dr. H.S Kaur
47.	Ayush Singh	Comparison of Different Models for Estimation of Monthly Solar Radiation at Bhopal, M.P. (India) Region	2023	Prof. Prashant Baredar
48.	Sheetal Mathur	Environmental impact assessment of carbon-based anode for sodium ion battery	2023	Prof. Prashant Baredar
49.	Aditya Kumar	Development of Bentonite based flat ceramic membrane for recovery of spent caustic from industrial green liquor of pulp and paper industry	2023	Prof. MS. Chauhan
50.	Sumit Sahu	Rick husk ash bricks stabilized with cowdung and fly ash: An eco-friendly alternative to burnt clay bricks	2023	Prof. MS. Chauhan
51.	Prakamya Tiwari	Emission inventory and quantification of air pollution load in Indore City	2023	Prof.A.K. Sharma
52.	Pranjal Parihar	Emission inventory and quantification of air pollution load in Ujjain City	2023	Prof.A.K. Sharma
53.	Prasoon Lodhi	Emission inventory and calculation of pollution load in Jabalpur City	2023	Prof.A.K. Sharma
54.	Rachana Devi	Evaluation and statistical analysis of indoor environmental quality parameters in MANIT campus, Bhopal (India)	2023	Prof.A.K. Sharma
55.	Saral Nigam	Spatial and temporal variation of NO <sub>x</sub> and SO <sub>x</sub> concentration in ambient air of Madhya Pradesh, India	2023	Prof.A.K. Sharma
56.	Nidhi Bhardwaj	Development of nano-PCM materials for thermal application	2023	Prof. M.M. Malik
57.	Praful Choudhary	Optimizing oyster mushroom cultivation for mitigating food and flora scraps	2024	Dr. H.S Kaur
58.	Kuldeep Yadav	Extraction of sodium silicate from agro waste used as coagulant	2024	Dr. H.S Kaur
59.	Shikha Shipra	Utilization of peanut hulls, disposable face masks, and wheat straw as substrate for Oyster Mushroom cultivation: A comparative analysis	2024	Dr. H.S Kaur

60.	Prashant Sompura	Synthesis and characterization of activated carbon from palash tree barks and activated carbon/metal oxide composite for supercapacitor electrode	2024	Prof. M.M. Malik
61.	Om Prabhu Buddeker	Magnetite doped nanocellulose fiber and pyrolytic carbon based triboelectric nanogenerator	2024	Prof. M.M. Malik
62.	Anchal Mishra	Estimation of Emission inventory and windrose diagram for Jabalpur city	2024	Prof.A.K. Sharma
63.	Mayank Upadhyay	Study of Road dust generation in Ujjain City for air pollution load analysis	2024	Prof.A.K. Sharma

## DETAILS OF PUBLICATIONS

### *In Brief:*

<b>Patent published</b> <b>02+04</b>	<b>Book series</b> <b>07+10</b>	<b>Book chapter</b> <b>27+04</b>	<b>Journal</b> <b>120+08</b>	<b>Presentation/Proceedings</b> <b>77+02</b>	<b>Invited Talk</b> <b>54</b>
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A selection of recent journal publications, artistic productions, books, including book and report excerpts. See all publications in the database (Profile website: <https://manit.irins.org/profile/61748>) (<http://scholar.google.co.in/citations?user=WgcujRQAAAAAJ>) & (Researcher ID: <http://www.researcherid.com/rid/F-3102-2012>)

### SELECTED BOOKS/PROCEEDINGS

- Suresh S, Sundaramoorthy S, "Green Chemical Engineering: An introduction to Catalysis, Kinetics and Chemical processes", **CRC Press, Taylor & Francis Group**, (ISBN: 9781466558830), 1<sup>st</sup> Edition, pp. 1-530, **2015**.
- Suresh S, Keshav A. "Textbook of Separation Processes", **Studium Press (India) Pvt. Ltd** (ISBN: 978-93-80012-32-2), 1-459, **2012**.
- Suresh S., Anil Kumar, Ashish Shukla, Renu Singh, CM Krishna. Biofuels and Bioenergy, Springer Proceedings in Energy, **Springer International**, (ISBN: 978-3-319-47255-3), **2017**, pp 1-197.
- Suresh S, Sudhakar K., "Global Scenario in Environment and Energy", **BS Publisher (India), Pvt. Ltd**, (ISBN: 978-81-7800-286-6), 1-424, **2013**.
- Suresh S, Shrivastava M, Srivastava E., "Emerging trends in Agriculture, Horticulture and Environment Engineering" **Janparishad press and MANIT Bhopal** (ISBN: 978-93-5196-081-2), 1-302, **2014**.
- Suresh S, Tiwari, H.L., Jaiswal, R.K., "Hydraulics, Water Resources, Coastal and Environmental Engineering", **Excellent Publishing House Pvt. Ltd** (ISBN: 978-93-84935-04-7), 1-1432, Vol I and II, **2014**.
- Suresh S, Shrivastava M, Srivastava S., "Environmental Friendly Agriculture & Horticulture in planning of a smart city" **Saksham Publisher Pvt. Ltd** (ISBN: 978-93-5196-081-2), 1-202, **2015**.
- S Singh, Suresh Sundaramurthy, Alex O. Ibhaddon, Faisal Khan, S K Kansal, SK Mehta, Energy Materials: A Circular Economy Approach. **CRC Press, Taylor & Francis Group** ISBN: 9781003269779), 1-398, **March 2024**
- Suresh S, Sundaramoorthy S, "Green Chemical Engineering: An introduction to Catalysis, Kinetics and Chemical processes", **CRC Press, Taylor & Francis Group**, 2<sup>nd</sup> Edition, pp. 1-530, **2023**. (under review).
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## **DETAILS OF CONFERENCE PAPERS PRESENTED**

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8. Utkarsh Baranwal, S. Suresh, A.K. Sharma, State-of-art review on conversion of brewery solid Waste into value-added products. International Conference on Sustainable Technologies in Water Treatment and Desalination (STWTD-2022), Department of Chemical Engineering, National Institute of Technology Calicut, Kerala, India on 28-29<sup>th</sup> January **2022**
9. Nihar, S. Suresh, M.S. Chauhan, Carbon from walnut shell is an effective adsorbent for treatment of Eriochrome Black-T dye?. International Conference on Sustainable Technologies in Water Treatment and Desalination (STWTD-2022), Department of Chemical Engineering, National Institute of Technology Calicut, Kerala, India on 28-29<sup>th</sup> January **2022**
10. Anjali Prasad, S. Suresh, Sunder Lal Pal, Review on Metal Oxide catalysts for water splitting applications. SCHEMCON2021, MANIT-IISER Bhopal under IChE. October 22-23, **2021**.

11. Monika, Mamta Bhagat, Vishal Vilvas, Surinder Singh and S. Suresh, Column optimization of adsorption and evaluation of bed parameters-based on removal of arsenite ion using rice husk, International Conference on Recent development on Materials, Reliability, Safety and Environmental Issues, NIT Jalandhar, June 25-27, **2021**.
12. Satyam Mishra, S. Suresh, M.S. Chauhan, V. Subbaramaiah, G. Vijaylakshmi, Current State of Knowledge in Carbonaceous Materials adsorption of nitrates: A Review, International Conference on Recent Innovation in Cleaner Technologies. MNIT Jaipur, March 08-09, **2021**.
13. S Kumar, S Suresh, Synthesis of two dimensional material Tin oxides (SnO) and its properties, International Conference on Applied Catalysis & Chemical Engineering, April 8-10, **2019**, Dubai, UAE.
14. Madan S., N. Bariha, S. Kumar, S. Suresh, MgO particle decorated starch-based biopolymer and its application on coating, International conference on Multi-Disciplinary Approach towards Sustainable Development, 21-22 February **2019**, IIFM, Bhopal.
15. S. Madan, N. Bariha, S. Kumar, S. Suresh, Biopolymer composite preparation from starch with iron oxide binder, International conference on Multi-Disciplinary Approach towards Sustainable Development, 21-22 February **2019**, IIFM, Bhopal.
16. S Singh, S. Suresh, Electricity generation via Microbial Fuel Cell and synthesizing Polyaniline/Titanium Dioxide nano material for electrodes. 1<sup>st</sup> International Conference on Sustainable Energy and Environmental Challenges (SEEC - 2017), February 26-28<sup>th</sup>, **2017**, Centre of Innovative and Applied Bioprocessing, Mohali, India.
17. S Singh, S. Suresh, Production of nano silica particles from rice husk ash for the electrode coatings to improve the efficiency of MFC. 3<sup>rd</sup> International Conference on Bioenergy, Environment and Sustainable Technologies. 23-25<sup>th</sup> January **2017**. Arunai Engineering College, Tamil Nadu, India.
18. S Mondal, S. Suresh, S. Arisutha, Performance of Microbial fuel cell and its dynamic parameters control through MATLAB simulation. International Conference on Advances in dynamics, Vibration and Control (ICADVC2016), NIT Durgapur. February 25-27<sup>th</sup> **2016**.
19. P Baredar, **S Suresh**, A Kumar, P Krishnakumar, A Review on enhancement of biogas yield by pre-treatment and addition of additives. International Conference on Advances on Clean Energy Research. Chateau de Bangkok Hotel, Bangkok, *Thailand*, April 16-18, **2016**.
20. S. Suresh, Rajesh N, S. Arisutha, Rajesh Katiyar, AK Sharma, Utilizing Earthworm *Eisenia fetida* in Vermicomposting of Biogas slurry with mixed crop litter and cow dung, 27<sup>th</sup> Symposium of Malaysian Chemical Engineers, *Taylor's University, Malaysia*, 29-30 Oct, **2014**.
21. Utilization of mixed agricultural residues and cow dung into value-added products: A Case study, International Conference on Sustainable Energy & Environmental Protection, Univerza v Mariboru, *Maribor-Slovenia*, 20-23 August **2013**.
22. S Gupta, V Uday, AS Raghuvanshi, S Chowkshey, SN Das, **S Suresh\***, Simulation of Blow Molding Using ANSYS Polyflow, 4<sup>th</sup> International Conference on Environmental Science and Development, *Dubai, UAE*, Jan 19-20, **2013**.
23. S Suresh, SP Singh, VC Srivastava, IM Mishra, Adsorption of Aniline, Phenol, 4-Chlorophenol and 4-Nitrophenol Onto Granular Activated Carbon: Isotherm, Thermodynamics and Relationship with Solvatochromic Parameters (749f), 12 AIChE Annual Meeting, *Pittsburgh, PA, USA*, October 28-November 2, **2012**.
24. An Overview of Sustainable Power Development of Auroville Village. International Conference on Science, Technology and Social Science 2012. Universiti Teknologi MARA Pahang, *Malaysia*. Nov 20-22, **2012**.
25. S Suresh, S. Arisutha, Preparation of nanocelluloses from sisal plants (*Agave Sisalana*). Winter School on Chemistry and Physics of Materials, jointly organized by International Centre for Materials Science at Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore and Cambridge University, *UK* Dec 5-10, **2011**.
26. An overview of micro-algae: carbon sequestration and bio diesel in Indian scenario ICAE 2011 - International Conference on Applied Energy, *Perugia, Italy*. May 16-18, **2011**.
27. Catalytic desulphurization for the removal of sulfur compounds using chemical oxidative process. 5<sup>th</sup> International Conference on Environmental Science and Technology, American Academy of Sciences, Hilton Hotel, *Houston, Texas, USA*. July 12-16, **2010**.
28. S Suresh, VC Srivastava, IM Mishra, Studies on simultaneous adsorption of aniline and catechol onto granular activated carbon. International conference on Chemical Engineering and Biotechnology 'ChemBiotech' 09-10, *NUS, Singapore*. Jan 28-29, **2010**.

29. Shuchi Mittal, Anviti Chaurasiya, Khushboo Kumari, S. Arisutha and **S Suresh\***, Bioconversion of temple/floral wastes using anaerobic digester, 4<sup>th</sup> National convention on hydrogen energy and advanced materials, 28-29<sup>th</sup> November **2015**. Organized by Energy Centre, MANIT Bhopal.
30. Khushboo Kumari, S. Arisutha and **S Suresh\***, A Current status of Integrated Anaerobic digester. 11<sup>th</sup> Annual session of students chemical engineering (SCHEMCON-2015), 12-13<sup>th</sup> September **2015**, MIT Academy of Engineering, Alandi, Pune, Maharashtra, India
31. S Singh, S Suresh Status of Technologies and feedstocks in India for biofuel production. Biofuels and Bioenergy: International conference and Exhibition, 23-25 February, **2016**, Jointly organized by Department of Chemical Engineering, MANIT Bhopal, India and WEENTECH, Coventry, UK.
32. A Rani, S Suresh, A Kumar, Review on microbial fuel cell energy enhancement using nanomaterials. Biofuels and Bioenergy: International conference and Exhibition, 23-25 February, **2016**, Jointly organized by Department of Chemical Engineering, MANIT Bhopal, India and WEENTECH, Coventry, UK
33. S Singh, S Suresh, Study on sustainable food waste treatment using microbial fuel cell technology. Environmental Friendly Agriculture and Horticulture in Planning of a Smart City”, Jointly organized by MANIT, Janparishad and SusTanCon (USA), Bhopal, Dec.12-14, **2015**
34. R Bharati, S Suresh, A Review on nanocatalysts from waste for production of biofuel-via-bioenergy. Biofuels and Bioenergy: International conference and Exhibition, 23-25 February, **2016**, Jointly organized by Department of Chemical Engineering, MANIT Bhopal, India and WEENTECH, Coventry, UK.
35. R Bharati, S Suresh, Green Synthesis of ZnO nanocatalyst with palash leaves Extract for Acenaphthylene degradation from petrochemical industrial wastewater. International Conference on Materials Science & Technology (ICMTech-2016), organised by International Association of Advanced Materials (IAAM), University of Delhi and VBRI Press, 01 - 04 March, **2016**.
36. A Rani, S Suresh, A Kumar, Performance analysis of different techniques for separation of sea water. 68<sup>th</sup> Annual session of Indian Institute of Chemical Engineers (CHEMCON2015), Organized by Department of Chemical Engineering, IIT Guwahati, 27-30<sup>th</sup> December **2015**.
37. R Bharati, S Suresh, Synthesis of ZnO/Palash flower extracts nanocatalyst for phenol degradation. ChEmference 2014, a two day national conference, organized by Department of Chemical Engineering, IIT Hyderabad, 5-6<sup>th</sup> December, **2015**.
38. R Bharati, S Suresh, Synthesis of ZnO based nanocatalyst with palash flower powder for degradation of phenol. International conference on Advances in Chemical Engineering (ICACE2015), organized by Department of Chemical Engineering, NITK, 20-22<sup>th</sup> December **2015**.
39. Abhinav, Sachin, S Suresh, Optimization of Engineering and Process Parameters for Electro-chemical treatment of textile wastewater. International conference on Advances in Chemical Engineering (ICACE2015), organized by Department of Chemical Engineering, NITK, 20-22<sup>th</sup> December **2015**.
40. S Suresh, S Prena, A Review of environmental impact of brine sludge from chloro-alkali Industry. Environmental Friendly Agriculture and Horticulture in Planning of a Smart City”, Jointly organized by MANIT, Janparishad and SusTanCon (USA), Bhopal, Dec.12-14, **2015**.
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42. S Sahota, S Suresh, K Maneria, Biological pretreatment of Water hyacinth (*Eichhornia crassipes*) for biofuel production. 1<sup>st</sup> International conference on “Recent Advances in Bio-energy research (ICRABR-2015) organized by SSS-NIRE, Kapurthala, Punjab, India, March 14-17, **2015**.
43. S Sahota, S Suresh, K Maneria, Recent advancement in biological pretreatment of lignocellulosic wastes and production of bioenergy. International Conference on Interdisciplinary Research in Engineering, Management, Pharmacy and Science, organized by SIRT, Bhopal during 19-22<sup>nd</sup> February **2015**.
44. S Rana, S Suresh, Fixed film reactor for wastewater treatment. 19<sup>th</sup> International conference on Hydraulics, Water Resources, Coastal and Environmental Engineering, Conference Souvenir, pp.150+xvii, Dec 18-20, **2014**.
45. Swati Rawat, S Suresh, AK Sharma, Fly ash: A suitable material for worm based technology. Proceeding of Emerging trends in Agriculture, Horticulture and Environment Engineering” Janparishad and MANIT Bhopal, **2014**, pp. 1-302.

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48. S Suresh, A Keshav, Recovery of picolinic acid from aqueous stream by reactive extraction, International conference on Advances in Chemical Engineering, Department of Chemical Engineering, National Institute of Technology Raipur, Chhattisgarh, India April 8-9, **2013**.
49. S Suresh, KR Gota, Study of Linear Low Density Polythene And Its Blend Using Mixed Culture Compost. International Conference, APA 2013 on “Polymers on the Frontiers of Science and Technology” under the auspices of European Polymer Federation (EPF) at Punjab University, Chandigarh on February 21-23, **2013**.
50. J Pandey, S Suresh, Application of surfactants to enhanced oil recovery from Petroleum Industry- A Review, *International Conference On Advances in Chemical Engineering (ACE-2013)*, Department of Chemical Engineering, IIT Roorkee, Feb 22 – 24, **2013**.
51. A Sharma, S Suresh, Wear and Frictional Properties of Sisal Fibre Reinforced Composite. *International Conference on Advances in Materials and Processing: Challenges and Opportunities*, Department of Metallurgical & Material Science, IIT Roorkee, Nov, 2-4, **2012**.
52. Preparation of green catalyst from industrial waste. *International Conference on Energy-Water-Waste Nexus for Environmental Management (ICEWWNEM-2012)* Department of Energy & Environmental Sciences, Ch. Devilal University, Sirsa, India January 28-30, **2012**.
53. S Suresh, Ravikant, Rana, Sequential batch reactor (SBR) treatment for industrial wastewater – A review. *International Conference on Recent Advances in Chemical Engineering and Technology RACET 2011*. Cochin, India. March 10-12, **2011**.
54. S Suresh, VC Srivastava, IM Mishra, Desorption and disposal study for Aniline-loaded Granular Activated Carbon. *International Conference on Separation Processes 2009*, organized by Department of Chemical Engineering, IT BHU, Varanasi, India. Oct. 20-22, **2009**.
55. S Suresh, VC Srivastava, IM Mishra, Adsorption isotherm and thermodynamics for removal of Catechol and Resorcinol onto Granular Activated Carbon. *International Conference on Separation Processes 2009*, organized by Department of Chemical Engineering, IT BHU, Varanasi, India. Oct. 20-22, **2009**.
56. S Suresh, VC Srivastava, IM Mishra, Study of various techniques of heat transfer augmentation. Recent Advances in Chemical Engineering (*RACE 2012*), Department of Chemical Technology, Maharashtra University, Jalgaon, 4<sup>th</sup> Feb, 2012.
57. S Suresh, K Teja, Synthesis and characterization of Na-Y zeolite from coal fly ash. *CHEMCON-2011* organized by IChE & M S Ramaiah Institute of Technology, Bangalore, India. Dec.27-30, **2011**.
58. S Suresh, C Sasikumar, Effect of attrition milling on slag cement. *All India seminar on Blended Cements in the Sustainable Development of Cement Industry* organized by Chemical Engineering Division Board, The Institution of Engineers (India), Madhya Pradesh State Centre, Nov. 26-27, **2011**.
59. S Rana, S Suresh, Production of electricity using low-cost biomass *Techfest*, Indian Institute of Technology, Bombay, India. Jan. **2011**.
60. S Suresh, P Rajesh, Removal of phenol by electro-coagulation: granular activated carbon as a enhancement factor. *63<sup>rd</sup> Annual Session of CHEMCON-2010* organized by IChE & Annamalai University, India. Dec.27-30, **2010**.
61. S Jain, S Suresh, Various Techniques of Brine Sludge Disposal/Bearing Wastewater. *Biochemcon2010*, Priyadarshini Institute of Engineering and Technology, Nagpur, India. Dec, 22-23, **2010**.
62. S Jain, Neeti Divya, S Suresh, Preparation of green catalysis for application of various treatment processes. *Green Chem 2010*, Department of Chemistry, Vikramajit singh sanatan dharam college, Kanpur. Oct 22-23, **2010**.
63. S Suresh, VC Srivastava, IM Mishra, Equilibrium modeling of binary adsorption of aniline and catechol onto granular activated carbon. *ChEmference 2010*, Indian Institute of Technology Kanpur. July 13-14, **2010**.
64. S Suresh, VC Srivastava, IM Mishra, Application of sequential batch reactor (SBR) for the wastewater treatment: A review. *National Symposium on Reaction Engineering (NSRE-2010)*, National Institute of Technology Raipur, Chhattisgarh, India. Jan 22-23, **2010**.

65. S Suresh, VC Srivastava, IM Mishra, Greenhouse gas reduction and carbon trading opportunity in polymer industries. *National Symposium on Reaction Engineering (NSRE-2010)*, National Institute of Technology Raipur, Chhattisgarh, India, Jan 22-23, **2010**.
66. S Suresh, VC Srivastava, IM Mishra, Application of polymeric adsorbents for removal of petrochemical compounds from wastewater: a short review *National Symposium on Reaction Engineering (NSRE-2010)*, National Institute of Technology Raipur, Chhattisgarh, India Jan 22-23, **2010**.
67. S Suresh, A Keshav, Kinetics of reactive extraction of propionic acid using mechanically agitated contactor. *National Symposium on Reaction Engineering (NSRE-2010)*, National Institute of Technology Raipur, Chhattisgarh, India, Jan 22-23, **2010**.
68. Hydro electric energy: Indian scenario. Bangalore. July, **2009**.
69. S Suresh, VC Srivastava, IM Mishra, Adsorption isotherm and thermodynamics for removal of Aniline onto Granular Activated Carbon. *62<sup>nd</sup> Annual Session of CHEMCON-2009* organized by IChE & Andhra University, India. Dec.27-30, **2009**.
70. S Suresh, VC Srivastava, IM Mishra, Kinetic study on removal of Phenol and 4-Chlorophenol by Granular Activated Carbon *62<sup>nd</sup> Annual Session of CHEMCON-2009* organized by IChE & Andhra University, India. Dec.27-30, **2009**.
71. S Suresh, VC Srivastava, IM Mishra, Modelling of binary adsorption of Aniline and Phenol onto granular activated carbon *4<sup>th</sup> Uttarakhand state Council for Science and Technology (UCOST)*, Pantnagar, Uttarakhand, India. Nov. 10-12, **2009**.
72. S Suresh, VC Srivastava, IM Mishra, Kinetic study on removal of catechol (C) and resorcinol (R) by Granular Activated Carbon (GAC), *4<sup>th</sup> Uttarakhand state Council for Science and Technology (UCOST)*, Pantnagar, Uttarakhand, India. Nov. 10-12, **2009**.
73. S Suresh, VC Srivastava, IM Mishra, A review of variables affecting the oxygen transfer rate (OTR)/ $k_{L,a}$  in bioreactors. *ACHEM E 2009*, organized by Department of Chemical Engineering, Thapar University of Engineering & Technology Patiala, India. Feb 27-28, **2009**.
74. S Suresh, VC Srivastava, IM Mishra, Modeling of bioreactor for the production of L-glutamic acid using *Corynebacterium glutamicum* fermentation. *61<sup>st</sup> Annual Session of IChE & CHEMCON-2008*, Chandigarh, India. Dec. 27-30, **2008**.
75. S Suresh, VC Srivastava, IM Mishra, Comparison of techniques for the determination of the OTR/ $k_{L,a}$  in bioreactors. *61<sup>st</sup> Annual Session of IChE & CHEMCON-2008*, Chandigarh, India. Dec. 27-30, **2008**.
76. S Suresh, VC Srivastava, IM Mishra, Novel (Shaken) Bioreactors: Application to Biotechnology and Chemical Engineering. "*Recent Advances in Chemical Engineering Operation and Process in Chemical and Allied industries*" on organized by Guru Ghasidas University, Bilaspur, Chhattisgarh, India. Feb.5-6, **2008**.

#### **CONTINUING EDUCATION PROGRAMS/CONFERENCE ORGANIZED**

1. Coordinator, GIAN course on "Water-Food-Energy-Environment-Health Nexus for Sustainable Development Goals", October 21-26, 2024, sponsored by MoE, GoI.
2. Organizing secretary, Students Symposium on "Recent Advancement in Chemical Technology and Research" (REACTOR 2024), April 6-7, 2024, in association with ChESA & IChE students chapter, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
3. International Water Conference for Sustainable Development Goals (IWCS DG-2024), March 22-23, 2024. Jointly organized by Department of Civil and Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
4. International Conference on Polymer Materials and Advanced Technology (PMAT-2024), 21<sup>th</sup>–23<sup>rd</sup> February 2025. Jointly organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology & CIPET Bhopal, India.
5. STTP on Air Pollution: Monitoring, Modelling and Decision Making. 5<sup>th</sup>–8<sup>th</sup> June 2024. Jointly organized by Department of Civil and Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
6. STTP of Hands-on-Training in Polymers and Technology for Teachers and Researchers, 16<sup>th</sup>–20<sup>th</sup> November 2024. Jointly organized by Department of Chemical Engineering, Maulana Azad National Institute of Technology & CIPET Bhopal, India.
7. Coordinator, S Suresh, Ashish K Pradhan, D Anjali, Vinita Mahindra, Sarika Verma. One day workshop on "In-depth insights of Intellectual Property Rights" under Azadi Ka Amrit Mahotsav

- campaign-celebration of “Rashtriya Boudhik Sampada Mahotsav” organized by MANIT Bhopal and CSIR-AMPRI Bhopal, 29<sup>th</sup> July 2023.
8. Coordinator, GIAN course on “Biocomposite and Innovative materials”, January 25-29, 2022, sponsored by MHRD, GoI.
  9. SCHEMCON2021 on “Globally Advancement in Technology for Environment 2021 (GATE 2021)”, October 22-23, 2021, Organized by Department of Chemical Engineering, MANIT & IISER Bhopal, sponsored by IChE Kolkata.
  10. National Conference on “Recent Research on Biomass to Biofuels” December 28-30, 2020, Organize by Energy Centre & Department of Chemical Engineering, MANIT Bhopal.
  11. Coordinator, STTP on Advanced Methods of Materials Characterisation and Surface analysis (AMCSA2021) organized by Chemical Engineering Department, MANIT Bhopal during Feb.27-03 March, 2021.
  12. Coordinator, International webinar on “CO<sub>2</sub> Reduction Processes for Future Energy Development” (CO<sub>2</sub>-RPFED 2020), 23-24<sup>th</sup> October 2020, sponsored by ONGC-Energy Centre Trust, New Delhi in association with ChESA & IChE students chapter, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  13. Coordinator, STTP on Challenges and Opportunities in Designing Nanoarchitectonics of Nanoporous Carbon Materials for Industrial Applications (NANCM2020) organized by Materials & Metallurgical Engineering Department, MANIT Bhopal during 16<sup>th</sup> -20<sup>th</sup> September, 2020.
  14. Organizing secretary, Students Symposium on “Recent Advancement in Chemical Technology and Research” (REACTOR 2020), February 27-29, 2020, sponsored by TEQIP-III in the aegis of Institute Diamond Jubilee Celebration in association with ChESA & IChE students chapter n, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  15. Coordinator, Short-term training program on “Recent Advancement in Chemical Engineering and Material Sciences (RACEMS 2019)”, 25<sup>th</sup>-29<sup>th</sup> December, 2019, self-sponsored, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  16. Conference chair & Coordinator: Biofuels and Bioenergy: International conference and Exhibition, 23-25 February, 2016, Jointly organized by Department of Chemical Engineering, MANIT Bhopal, India and WEENTECH, Coventry, UK.
  17. Organizing Secretary, 3<sup>rd</sup> International Conference on “Environmental Friendly Agriculture and Horticulture in Planning of a Smart City”, MANIT, Janparishad and SusTanCon (USA), Bhopal, Dec.12-14, 2015.
  18. Joint organizing secretary, 4<sup>th</sup> National Convention on Hydrogen Energy and Advanced Materials, November 28-29, 2015, MANIT Bhopal in association with University of Kerala.
  19. Coordinator, International Yoga day workshop, June 21, 2015.
  20. Joint organizing secretary, International Conference on “Hydraulics, Water Resources, Coastal and Environmental Engineering”, MANIT Bhopal, Dec.18-20, 2014.
  21. Organizing secretary, International Conference on “Emerging trends on Agriculture, Horticulture and Environmental Engineering”, MANIT and Janparishad, Bhopal, Nov.8-10, 2014.
  22. Coordinator, Short-term training program on “Green Chemistry and Engineering: Past, Present and Future”, 30<sup>th</sup> July-4<sup>th</sup> June, 2014, sponsored by TEQIP-II, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  23. Coordinator, Short-term training program on “Bio-energy conversion technologies”, 24-28 December, 2013, sponsored by TEQIP-II, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  24. Program convenor, 1<sup>st</sup> International Conference on “Global Scenario in Environment and Energy” (ICGSE<sup>2</sup> 2013) sponsored by TEQIP-II, MANIT Bhopal, March14-16, 2013.
  25. Coordinator, Short-term course on “Green Catalysis For Industrial Applications”, 07-11 May, 2012, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
  26. Coordinator, Two weeks Workshop on “Heat Transfer”, Nov’ 29-Dec’ 10, 2011, Under the National Mission on Education through ICT (MHRD, Govt. of India) & IIT Bombay.
  27. Coordinator, Short-term course on “Recent Trends in Industrial Pollution and Energy Management”, 09-13 May, 2011, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.



## ANY OTHER RELEVANT ON ACADEMIC STANDING

### SKILLS AND DEVELOPMENT

1. Strong knowledge and research experience in heterogeneous catalysis and electrocatalysis, proficient in preparation, characterization and evaluation of heterogeneous catalysts;
2. Strong background in *in-situ* fabrication and characterization of carbon based nano-particles/nanomaterials;
3. Laboratory developed: Momentum and Mass Transfer graduate Lab, Mechanical & Advanced Material Technology Operation graduate Lab, Green Catalysis and Process Technology Research Lab, Analytical and Simulation Lab, Biochemical and Bioenergy Engineering Research Lab, Industrial Pollution Abatement Research Lab.
4. Familiar with HPLC-MS, TLC, GC-MS, FT-IR, AAS, ICP, UV-vis, XRD, XPS, TPR/TPD, BET, Particle size analyzer, TGA-DSC, SEM-EDAX, TEM, AFM, Raman spectra and CHNS analyzer techniques.
5. Excellent abilities in manipulating computers; C++, MATLAB, ASPEN PLUS, MINITAB
6. **Internship Certificate Course** on Process Safety and Environment (Air, Water and Solid) – Fundamentals and Management, April 10<sup>th</sup>-March 30<sup>th</sup> 2021, Indian Chemical Society, Kolkata.
7. **Technical Skill Certificate Course** on International Waste to Energy, October 18<sup>th</sup>-November 1<sup>st</sup> 2022, Zhejiang University, China.
8. **Certificate course** on Hazardous Waste Management Training, CCNY, CUNY, New York, USA, Office of Environmental Health and Occupational Safety (EHOS), 4<sup>th</sup> April, 2017.
9. **Certificate course** on Laboratory Certificate of Fitness Training, CCNY, CUNY, New York, USA, Office of Environmental Health and Occupational Safety (EHOS), 5<sup>th</sup> April, 2017.
10. **Certificate course** on OSHA Laboratory Safety Standards Training, CCNY, CUNY, New York, USA, Office of Environmental Health and Occupational Safety (EHOS), 21<sup>st</sup> February 2017.
11. **Training of Trainers Program** on Urban Climate Change Adaptation and Resilience, Asian Institute of Technology Thailand organized by USAID Adapt Asia-Pacific and AIT, March 7-11, 2016.
12. **Certificate course** on Solving challenges of chemistry through analysis, Indian Institute of Technology Kanpur, May 2007 to June 2007.
13. **Industrial Training** at Indo-Gulf Fertilizers Ltd., (Aditya Birla group) Jagdishpur (U.P.), India, March-2007 to April 2007.
14. **Industrial Training** at SKOL Breweries Pvt Ltd, Puducherry, India, June – 2003.
15. **Certificate course** on Advanced Diploma in Computer Application, CSC Education, Puducherry, 2001.
16. **Certificate course** on Typewriting (Grade Level), Board of Tamil Nadu, India, 1999.
17. Excellent interpersonal and communication skills.
18. Good abilities in search, tidying up and writing literatures for research including both English and Tamil documents.

### OTHER PROFESSIONAL EXPERIENCES

- **International Expert/Reviewer:** 5-Year assessment of research chair for the National Research Foundation: Prof VI Okudoh, (Boipelo Setshedi, University of Cape Town, South Africa), March 2024
- **AICTE Expert:** scrutiny of documents and to assess infrastructure facilities of the institutions, March 2024-till date Review Editor for
- **Associate Editor:** Bioenergy and Biofuels-Frontiers in Energy Research, April 2024-till date
- **Editorial Board Member:** Nature Scientific Reports Journal, September 2024 to till date
- **Convenor & Faculty In-charge:** Central Research Facility, MANIT Bhopal, 2019-till date.

- **Coordinator:** IChE Students Chapter at MANIT Bhopal, Indian Institute of Chemical Engineers (IChE), Kolkata, 2019-till date.
- **Expert/Chairperson in the Chemical Engineering Division:** Evaluation of research projects/works at 39<sup>th</sup> M.P. Young Scientist Congress & Science Festival, February 21-23, 2024 organized by MPCST Bhopal & Hosted by MITS Gwalior.
- **Third Party Auditor/Technical Expert:** Legacy waste dumpsite remediation, urban administration and development (UAD) Bhopal, December 2023-till date.
- **Technical Expert:** Inspection of scientific machines, Madhya Pradesh Cooperative Dairy Federation Limited (MPCDF), Bhopal, November 2023-till date.
- **Expert Member:** National Clean Air Programme (NCAP), Ministry of Environment, Forest & Climate Change, Government of India, August 2021-till date.
- **Guest Editor of Special issues:** “Challenges in managing groundwater resources and human health risk assessment of emerging groundwater contaminations”. **Springer:** Environmental Science and Pollution Research & “Biomass-related Carbon Capture”. **Elsevier (ScienceDirect):** Carbon Capture Science & Technology.
- **International Expert/Reviewer:** 5-Year assessment of research chair for the National Research Foundation: Prof EWJ Van Steen, (University of Cape Town, South Africa), 2022
- **External Member in Board of Studies (BOS)** in Petrochemical Department, UIT-RGPV, Bhopal, August 2023
- **Minor degree Expert,** Petrochemical Department, UIT-RGPV, Bhopal, September 2023
- **MANIT Appreciation letter:** Recognition of participation in the discussions and contribution in designing the implementation strategy for the recommendations of Prof. Dhande Committee for aiming MANIT Bhopal to achieve Center of Academic Excellence.
- **Technical Committee:** 8<sup>th</sup> International Conference on Advances on Clean Energy Research (ICACER 2023), **Barcelona, Spain, Technical Co-Sponsor: Universitat Politècnica de Catalunya BarcelonaTech (UPC), Spain, 28-30 April 2023.** <http://www.icacer.com>
- **Invited Speaker:** 2<sup>nd</sup> International Conference on Renewable and Sustainable energy conference, Crowne Plaza Rome - St. Peter's, an IHG Hotel, Rome, Italy March 13-15, 2023. <https://www.albedomeetings.com/2023/renewablemeet>
- **Session Chair:** International Conference on Advances in Chemical and Materials Sciences (ACMS-2022), Organized by Indian Institute of Chemical Engineers Kolkata, February 24-26, 2022
- **Organizer & Moderator,** International invited talk on “Soft Composite materials for biomedical applications”. Prof. Vinu Unnikrishnan, West Texas A&M University, USA at 3<sup>rd</sup> October, 2020
- **Organizer & Moderator,** Dr. S. Sakthivel, Assistant General Manager, Technology Group, TATA Consulting Engineers Ltd. Mumbai, India on “Process Engineering Methodology” at 31<sup>st</sup> October, 2020.
- **Organizer & Moderator,** Academia-Industry Interaction on “Entrepreneurship and start-up, Opportunities in Carbon and Allied Industry” organised by ChESA & IChE-MANIT Students Chapter, Department of Chemical Engineering, MANIT Bhopal, 9<sup>th</sup> December 2022.
- **Organizer & Moderator,** “Felicitation of GATE2023 rankers” organised by ChESA & IChE-MANIT Students Chapter, Department of Chemical Engineering, MANIT Bhopal, 20<sup>th</sup> March 2023.
- **National Scientific Committee:** Third International Conference on Advances in Materials Science 2022 Dr. Vithalrao Vikhe Patil College of Engineering, Ahmednagar, State-Maharashtra, India, 8-9 December, 2022
- **Board of Studies Expert,** Sai Sathya University, Sehore, February 2022-till.
- **B.Tech students Examiner:** LNCT Bhopal, May 2022
- **PhD thesis Examiner,** Anna University, Villupuram Campus, Tamil Nadu, 15<sup>th</sup> June, 2022.
- **PhD thesis Examiner,** VFSTR University, Vadlamudi, Andhra Pradesh, 2<sup>nd</sup> May, 2022.
- **PhD thesis Examiner,** Anna University, Trichy Campus, Tamil Nadu, 05<sup>th</sup> April, 2022.
- **PhD thesis Examiner,** Anna University, Trichy Campus, Tamil Nadu, 30<sup>th</sup> August, 2021.

- **PhD thesis Examiner**, VFSTR University, Vadlamudi, Andra Pradesh, 11<sup>th</sup> May, 2021.
- **International Expert Member**: Annual Evaluation of Academic and Research Report at School of Chemical and Biological Engineering, Seoul National University, South Korea January, 2021.
- **Conference session chair & technical advisory committee**: International Conference on Recent Innovation in Cleaner Technologies, 8-9<sup>th</sup>, March 2021, MNIT Jaipur.
- **Expert Member**: Screening-cum-Technical committee, M.P.PCB Bhopal, February, 2020-till date.
- **Advisory Committee**: STTP on Process Modelling & Simulation of Micro and Macro (Steady State & Dynamic) Models, 17-22<sup>nd</sup> February 2020 organised by Rajiv Gandhi Proudhyogiki Vishwavidyalaya under TEQIP-III, Bhopal.
- **Technical Committee**: 4<sup>th</sup> International Conference on Advances on Clean Energy Research, April 5-7, 2019, hosted by the University of Coimbra, Portugal.
- **Technical Committee & session chair**: National Conference on Advances in Chemical Engineering and Science, March 7-8, 2019, hosted by the Department of Chemical Engineering, Indian Institute of Science Education and Research Bhopal.
- **Technical Committee**: 2<sup>nd</sup> International Conference on New Energy and Environment Engineering, May 3-5, 2019, hosted by the Nanyang Technological University, Singapore.
- **Expert Member**: Selection committee of SRF under sponsored project at CIAE Bhopal, 27<sup>th</sup> May, 2019.
- **Catalysts Committee**: International Conference on Applied Catalysis & Chemical Engineering, April 8-10, 2019, Dubai, UAE.
- **Technical Committee**: 3<sup>rd</sup> International Conference on Advances on Clean Energy Research, April 6-8, 2018, hosted by the Barcelona, Spain.
- **National Technical Committee**: Global Conference on Renewable Energy, 19-21<sup>st</sup> October 2015, organized by Department of Mechanical Engineering, NIT Patna, India and WEENTECH, Coventry, UK.
- **International Technical Committee**: International Seminar on Renewable Energy and Sustainable Development, 15-17<sup>th</sup> June 2015, organized by College of Science and Technology, Royal University of Bhutan, Bhutan and WEENTECH, Coventry, UK.
- **Editor/Associate Editor**: Int. J. Frontier Technol., Int. J. Chem. Res., Int. J. Knowledge Eng., Int. J. Frontier Technol., Academic Journals Online. J. Ecol. Environ. Sci., Int. J. Chem. Technol. Res.
- **Peer Reviewer**: ACS Applied Bio Materials, Chem. Eng. J, Ind. Eng. Chem. Res., J. Hazard. Mater, CLEAN - Soil, Air, Water, Can. J. Chem. Eng., Bioremed. J, Braz. J. Chem.Eng., Int. J. Environ. Res., J. Ind. Eng. Chem., Sep. Sci. Tech., Chem. Eng. Commun., J. Integrative Environ.Sci., Exp. Therm. Fluid Sci., J. Inst. Eng. (India): Series E, Adsorp., Int. J. Chem. Res., Environ. Eng. Manage. J., International Energy Journal, Indian Society of Agricultural Engineers, Journal of Materials Science: Materials in Electronics, Regional Energy Resources Information Center, Asian Institute of Technology and other reputed Journals.
- **Expert member**: Faculty promotion/CAS scheme at Ujjain Engineering College, April 2018.
- **PhD thesis Examiner**, Anna University, Chennai, Tamil Nadu, September, 2018.
- **External Examiner**: MTech theses at NIT Raipur, Chhattisgarh, India, June, 2016.
- **Board of Studies Expert**, Sai Sathya University, Sehore, India. 2015-2017, 2019-2021.
- **Student Project Examiner**, Indian Institute of Industrial Engineering, Mumbai, India, 2016.
- **Technical Committee Member**: International Conference on “Environment and Agriculture in the UN Sustainable Development Goals” organized by Janparishad, MANIT, JMBVSS and SusTranCon (USA), and will be held in Bhopal (India) on 17-19<sup>th</sup> December, 2016.
- **Advisory Committee Member**: National Seminar On “Green Techno–economical approaches in development of Smart City: Role of Science & Technology” organized by Department of Chemical Engineering, Indore Institute of Science & Technology, Indore, India, 17–18<sup>th</sup> November, 2016.

- **Advisory Committee Member:** National Workshop On “Advances on Waste Valorization: New Horizons for Sustainable Society” organized by Department of Chemical Engineering, Indore Institute of Science & Technology, Indore, India, October 21-22<sup>nd</sup>, 2016.
- **Event Judge:** ANVESHAN-Solid Waste Management model presentation, Technosearch 2K16 and PURGE in association with Bhopal Municipal Corporation, M.P, India, October 21-22<sup>nd</sup> 2016.
- **Advisory Board Member:** National Conference on “Bioresources as a key to value added products” organized by Department of Biotechnology, Institute of Engineering & Technology, Mangalayatan University, Aligarh, UP, India, April 29-30<sup>th</sup> 2016.
- **Technical Committee Member:** International Conference on Advances on Clean Energy Research, Bangkok, Thailand, April 16-18<sup>th</sup> 2016.
- **Editor,** International Journal of Frontier in Technology (MANIT Journal), May 2014-Jan 2017.
- **Institute level solid waste management committee member,** December 2014 onwards. Solid waste management through urban development, national green tribunal.
- **Warden,** New Hostel (Energy Centre), MANIT Bhopal, July 2012-July 2013.
- **Warden,** Hostel No.8, MANIT Bhopal, July 2013-July 2014.
- **In-charge Head in launching academic programme–M.Tech. (Chemical Process Design), B.Tech syllabus committee member,** MANIT, Bhopal, India. (28<sup>th</sup> senate meeting approved, 2012)
- **BOS Coordinator & Convenor:** Approved senate (36<sup>th</sup> senate meeting Item S-27.2017-1-5.3) vide official order ((No. Admi/18-19/1224 dated 25/03/2019) changed name of M.Tech course title (M.Tech in Chemical Engineering).
- **Annual Report faculty coordinator,** Department of Chemical Engineering, MANIT, Bhopal, India, June 2019-June 2021.
- **DRPC Coordinator,** Faculty Convener, Chemical Engineering Association and IICHe students chapter coordinator, Departmental Infrastructure coordinator, Departmental library coordinator, B.Tech project coordinator, Board of Studies (BOS) member, Examination coordinator, Convocation coordinator, Department of Chemical Engineering, MANIT, Bhopal, India.
- **CAD laboratory:** Computers with all latest facilities designed from R & D project.
- **Industrial Pollution Abatement and Mass Transfer laboratories** faculty In-charge and its manual framed, Department of Chemical Engineering, MANIT, Bhopal, India.
- **Heat transfer laboratory: Experimental conducting in-charge,** Department of Chemical Engineering, MANIT, Bhopal, India.
- **Observer** for various National levels Examination JEE, NET (UGC), 21<sup>st</sup> National Children Science Congress, MPCST Bhopal, India.
- **External examiner** at Ujjain Engineering College, Ujjain, M.P, MITS, Gwalior, M.P, IPS Academy, Indore, M.P, SAMRAT Ashok Technological Institute, Vidisha, M. P, India, LNCT, Bhopal, Sai Sathya University, Sehore, Indian Institute of Industrial Engineering, Mumbai, India.
- **Subject expert** at LNCT, Bhopal, M.P., for faculty recruitment, 2015.
- **Technical Committee:** International Conference on Green Computing and Technology, Organized by the SIES Graduate School of Technology, September 05 -06, 2013, Navi Mumbai.
- **Organizing Committee:** Third IFIP International Conference on Bioinformatics, Organized by Department of Mathematics, MANIT Bhopal, September 23 -26, 2013.
- **Organizing Committee:** 1<sup>st</sup> International Conference on Mechanical Engineering: Emerging trends for sustainability, Organized by Department of Mechanical Engineering, MANIT Bhopal, January 29-31, 2014.
- **Executive Member-**Association of Chemical Engineering Students, 2003-2004, Pondicherry Engineering College (PEC), Puducherry, India.

- **Head-Engineering Advising committee-** J-O-U-R-N-E-Y-Multipurpose Social Service & Society Development Centre, 2006-2008, Puducherry, India.

#### **PUBLICATION INTENDED FOR PROFESSIONAL COMMUNITIES**

1. Suresh S, Tiwari, H.L., Mittal, S.K., Desmukh T.S., Sharma, A.K., Jaiswal, R.K., 19<sup>th</sup> International conference on Hydraulics, Water Resources, Coastal and Environmental Engineering, Conference Souvenir, pp.150+xvii, Dec 18-20, 2014.
2. Suresh S, Industrial Pollution Abatement and Mass Transfer laboratories manual framed, Department of Chemical Engineering, MANIT, Bhopal, India.
3. Suresh S, Fuel Processing and Technology laboratory manual framed, Department of Chemical Engineering, MANIT, Bhopal, India.
4. Suresh S, Modelling and Simulation laboratory manual framed, Department of Chemical Engineering, MANIT, Bhopal, India.

#### **PUBLICATION INTENDED FOR THE PUBLIC LINKED TO THE APPLICANT'S RESEARCH**

1. Suresh S, Abbasi S A, Gajalakshmi S, Nothing fancy, two aquatic plants do the trick, *The Hindu and Dinamalar* (India's National Newspaper), Wednesday, Jun 14, 2006.
2. Suresh S, Abbasi S A, Technology for wastewater treatment, *Technology Scan-TECH MONITOR, A National Magazine*, July-Aug, 2006: 9-10.
3. Suresh S, Laboratory scale biogas technology, *The Patika* (India's National Newspaper), Saturday, Sep 15, 2012
4. Suresh S, Demonstration of Laboratory scale biogas technology, Telecasted on *Doordarshan National TV*, Saturday, Sep 15, 2012.
5. Suresh S, Krishnakumar, Baredar, P, About curious on amino acids from hair waste, *The Patika* (India's National Newspaper), Saturday, Feb 14, 2021

#### **PUBLIC ARTISTIC AND DESIGN ACTIVITIES**

1. Rana G, Suresh S, Adsorption column model for water treatment by using activated campus waste, *Student Technosearch*, MANIT Bhopal, India, March 2011.
2. Ravi Tripathi, Suresh S. Production of electricity using low-cost biomass, *Techfest*, Indian Institute of Technology, Bombay, India. Jan. 2011.
3. Sachin, Rai, Electrochemical treatment model, presented at International conference on Advances in Chemical Engineering (ICACE2015), organized by Department of Chemical Engineering, NITK, 20-22<sup>th</sup> December 2015.
4. Suresh S, Arisutha S. Modeling and parameter optimization of biogas production from sisal leaf residue, palash leaf litter and bamboo chips, 103<sup>rd</sup> Indian Science Congress 2016, Indian Science Congress Association and University of Mysore, Mysore from 3-7 January 2016.

#### **AUDIOVISUAL MATERIAL, ICT SOFTWARE**

Suresh S, Heat Transfer course material presentation taught under the National Mission on Education through ICT (MHRD, Govt. of India) & IIT Bombay, Nov' 29-Dec' 10, 2011.

#### **INVITED TALKS**

1. Waste-to-Wealth: Lab models, Products, and Technologies, National Institute of Technical Teachers' Training & Research (NITTTR), Bhopal, 26<sup>th</sup> September 2024.
2. Chemical Engineering Concepts, Operations and Processes. Govt. Polytechnic College, Rajgarh, 25<sup>th</sup> September 2024
3. Chemical Engineering Concepts and Approaches, Petrochemical Engineering UIT-RGPV, Bhopal, 18<sup>th</sup> April, 2024
4. Empowering the Future: Harnessing Novel Catalysts and Clean Technologies for Green Hydrogen Production. International conference on catalysis for clean energy technologies and sustainable development, Punjab University, 5<sup>th</sup> April 2024
5. Advancing Sustainable Materials: Innovations in Energy Production and Storage. National Conference on Biotechnological Advancements for Sustainable Environment. organized by School of Biotechnology and Chemical Engineering, Vel Tech High Tech Dr. Rangarajan Dr.

- Sakunthala Engineering College, Avadi, Chennai, sponsored by Science and Engineering Research Board (SERB), DST New Delhi. 4<sup>th</sup> April, 2024
6. AI/ML-Assisted Technology: Future Vision in Chemical Engineering. eSTC-Future Prospects in Chemical Engineering: AI/ML, Microfluidics, Bioprocess Engineering, Green Technology (FPCE-2024), Chemical Engineering Department, NIT Hamirpur, 3<sup>rd</sup> April 2024.
  7. Wastewater/Sludge treatment and Resource recovery: Current trends, Challenges and Potential solutions. ATAL-AICTE FDP on Treat Water and Save Environment: Recent Trends and Advancement in Treatment of Effluent Water, IPS Academy, Indore, 7<sup>th</sup> March, 2024
  8. Engineering solution for a sustainable world (Vision India 2047-Viksit Bharat), World Engineering Day 2024 celebration at The Institution of Engineering (India), MP State Centre, Bhopal. Date of talk: 4<sup>th</sup> March 2024
  9. Indigenous ChemTech innovation (Transformation India 2047): National Science Day-2024, Department of Biosciences & Incubation Centre, Barkatullah University, 28<sup>th</sup> February 2024
  10. Energy Transition, Decarbonisation and Environmental Sustainability. ATAL-AICTE FDP on Clean Energy Technologies for Sustainable Development, School of Energy & Environment Management, RGPV Bhopal , 12<sup>th</sup> February, 2024
  11. Photocatalysts and Degradation: Central Effluent Treatment Plant. Sustainable solutions to the Industrial water Management, The Institution of Engineering (India), MP State Centre, Bhopal Date of talk: 6<sup>th</sup> February 2024
  12. Understanding HPLC/GC-MS analysis methods: Key Principles and Applications. eSTC-Principles of Analytical Instruments for Chemical and Environmental Engineers, Chemical Engineering Department, NIT Hamirpur, 19<sup>th</sup> January 2024.
  13. Green Energy Technologies for achieving carbon neutrality, Department of Green Energy Technology, Pondicherry University, 12<sup>th</sup> January 2024.
  14. Green Sustainable Materials from waste biomass for different Applications, Department of Mechanical Engineering, VFSTR University, Vadlamudi, Andra Pradesh, 2<sup>nd</sup> January 2024.
  15. Bio-composite and innovative materials: Recent advancement and Challenges, Department of Mechanical Engineering, VFSTR University, Vadlamudi, Andra Pradesh, 24<sup>th</sup> April 2023.
  16. Microbial Fuel Cell for Hydrogen Production, Department of Chemical Engineering, VFSTR University, Vadlamudi, Andra Pradesh, 25<sup>th</sup> April 2023.
  17. Green Technologies and Processes for achieving carbon neutrality. National Workshop on “Carbon neutrality for sustainable development: Challenges and Advances” 13<sup>th</sup> March 2023 organized by IPS Academy Institute of Engineering & Science, Indore sponsored by Science and Engineering Research Board (SERB), DST New Delhi.
  18. Waste-to-energy conversion technology and process design-via-Industrial Practices. ATAL faculty development Program on “Waste to Wealth: Emerging Trends in Green Energy for Sustainable Development, School of Biotechnology and Chemical Engineering, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Avadi, Chennai. 10<sup>th</sup> December, 2022.
  19. Decarbonization and Energy transition: Driving force for Green Hydrogen, 26<sup>th</sup> Regional Conference of Orissa Chemical Society & 7<sup>th</sup> National Conference on “Recent Advancement in Materials Sciences”, Department of Chemistry, Veer Surendra Sai University of Technology, Sambalpur, Odisha, 18<sup>th</sup> November, 2022.
  20. Integrated Water Management Model for Coastal Resilient City for Hydro-Meteorological Hazards, Expert Lecture at AICTE-FDP “Disaster Risk Management (6-11 December, 2021), Anna University, Trichy campus (8/12/2021)
  21. Successful Journey & Sequence A Research Project Proposal, Petrochemical Engineering UIT-RGPV, Bhopal, 13<sup>th</sup> November, 2021
  22. Plasma catalysis: a feasible solution for carbon dioxide valorization? at FDP “Carbon dioxide as a working fluid for future energy requirements (25-29 October, 2021) , NIT Andhra Pradesh (28/10/2020)
  23. Metal oxide based materials for energy application, Short Term Training Programme (Synthesis, Characterization and performance of Advanced materials) from April 26<sup>th</sup>-May 01, 2021, MANIT Bhopal. 13<sup>th</sup> May 2021.

24. **Biomass energy conversion technology via value added products and chemicals, AICTE sponsored Short Term Training Programme (Energy (Non-Conventional Sources of Energy) from April 26<sup>th</sup>-May 01, 2021, Beant College of Engineering & Technology, Gurdaspur, Panjab. 27<sup>th</sup> April 2021.**
25. Photocatalysts and Degradation, TEQIP sponsored STTP on Inter Disciplinary Aspects of Nanotechnology, School of Nanotechnology-RGPV Bhopal, 23-25 March 2021.
26. Technical skills perspectives for Teachers, Scientists and Scholars, AICTE-ISTE sponsored STTP on theme “The Impact of Faculty Development on Teaching Skills and research scholars for Technical Perspectives, Sri Satya Sai University of Technology and Medical Science, Sehore, 10<sup>th</sup> March 2021.
27. Chemical Reaction Engineering Concept in Central Effluent Treatment Plant, AICTE sponsored Short Term Training Programme (Energy and Environmental Pollution) from 01<sup>st</sup> March-6<sup>th</sup> March 2021, Beant College of Engineering & Technology, Gurdaspur, Panjab. 03<sup>rd</sup> March 2021.
28. Practical HPLC Methodology and Applications. Expert Lecture at Advanced Methods of Material Characterization and Surface Analysis (AMCSA-2021), MANIT Bhopal 28<sup>th</sup> Feb 2021.
29. Teaching Experimental Design Using a GC-MS Analysis. Expert Lecture at Advanced Methods of Material Characterization and Surface Analysis (AMCSA-2021), MANIT Bhopal 28<sup>th</sup> Feb 2021.
30. Low Cost Catalysis, Kinetics & Reactor Modelling: Discussion towards reduction of CO<sub>2</sub>, H<sub>2</sub>S and CH<sub>2</sub>O. Expert Lecture at International Webinar on “CO<sub>2</sub> Reduction processes for future energy development” (CO<sub>2</sub>-RPFED 2020), MANIT Bhopal (24/10/2020)
31. Mesoporous Materials: Concept to Prototype Applications. “Challenges and opportunities in designing Nanoarchitectonics of Nanoporous carbon materials for industrial application (NANCM– 2020)” MME., Dept. (19/09/2020)
32. Process Calculation and advances in refinery operations, UIT-RGPV Bhopal on 19<sup>th</sup> October 2020
33. Synthesis of Mesoporous Material and Applications, Expert Lecture at Online FDP on “Nanotechnology and Nanomaterials for Interdisciplinary Applications (NNIA– 2020)” Mech., Dept. (30/07/2020)
34. Chemical and Bio-Reaction Engineering: A Perspective, 13<sup>th</sup> June 2020, hosted by Department of Biotechnology and Chemical Engineering, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai Tamilnadu.
35. Fundamentals and Application of Radiation Heat transfer, 9<sup>th</sup> December 2019, hosted by the Automotive Engineering Centre, Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia.
36. Chemical Engineering & Technology Industrial Application, 30<sup>th</sup> November 2019, hosted by School of Engineering of Sri Satya Sai University of Technology & Medical Sciences, Sehore.
37. N-Tanks in series model applied for wastewater treatment, National Conference on Advances in Chemical Engineering and Science, March 7-8, 2019, hosted by the Department of Chemical Engineering, Indian Institute of Science Education and Research Bhopal.
38. Sludge-to-Energy Technologies, International workshop on Advances in Energy and Environmental Sciences for Sustainable Development, Rabindranath Tagore University, Bhopal, September 27-28, 2018.
39. Design of reactors using MATLAB, ASPEN PLUS and CFD TOOLS: A Fundamental View, Modeling using Computational Fluid Dynamics and Matlab (MCFDM-2016)”, Department of Chemical Engineering, NIT Raipur, India, 27<sup>th</sup> June – 1<sup>st</sup> July, 2016.
40. Water Treatment by Adsorption and coagulation process, Environmental Engineering and Management, Asian Institute of Technology, Thailand, 19<sup>th</sup> April 2016.
41. Modeling and parameter optimization of biogas production from sial leaf residue, palash leaf litter and bamboo chips, 103<sup>rd</sup> Indian Science Congress 2016, Indian Science Congress Association and University of Mysore, India, 3-7<sup>th</sup> January 2016.
42. Methane sensing nanomaterials-From Concept to Prototype. STTP on “Nano-manufacturing and nanotechnology organized by Department of Mechanical Engineering, MANIT Bhopal during 21-25<sup>th</sup> December 2015.

43. Grassroots Renewable Innovation in Green Technologies. National Workshop on Breakthrough Energy Technologies and Challenges for Sustainable Development” 29-30, October 2015, Indore Institute of Science & Technology, Indore, India.
44. Process Innovation and Patenting of Photoreactor Technology, Short term course “Role of New Product Development and Intellectual Property Rights in Global Competitiveness”, 14-18, October 2015, Department of Mechanical Engineering, MANIT Bhopal.
45. Green Technology- A Chemical Engineering Perspectives, 48<sup>th</sup> Engineers Day, on the theme of “Engineering Challenges for Knowledge Era”, IEI (India), MP state centre, 15th Sep’ 2015.
46. Green Technology for Sustainable Environment”, Green Chemistry and Engineering for Sustainable Environment, Institute of Engineering and Science, IPS Academy, Indore M.P., 21-22 August 2014.
47. Searching for Suitable Green Technologies to Sustainable Environment, 2<sup>nd</sup> International Conference on Emerging Trends in Agriculture, Horticulture and Environmental Engineering, Noor-Us-Sabah, Bhopal, 15-17 November 2014.
48. Utilization of Agricultural Residues (Waste-to-Energy). International conference on Sustainable Agriculture, Horticulture & Environmental Development, a Global Concern, Janparishad, Bhopal, 21-23, Feb. 2014.
49. Biochemical Conversion of Agricultural Residues. International conference on Sustainable Agriculture, Horticulture & Environmental Development, a Global Concern, Janparishad, Bhopal, 21-23, Feb. 2014.
50. Biomass to biofuel. TEQIP sponsored Short-term training program on “Bio-energy conversion technologies”, Department of Chemical Engineering, MANIT, 24-28 December, 2013.
51. Separation of ammonia from fertilizer effluent using hollow fibre membrane technology. TEQIP sponsored faculty development program on “Reverse Osmosis - Principle and Applications”, Department of Chemical Engineering, PEC Puducherry, June17-21, 2013.
52. Modeling the performance of the anaerobic digester systems for biogas energy production. “Two days workshop on Emerging technologies for conversion of biomass to biofuels”, Department of Energy, MANIT Bhopal, 22-23, Sep’ 2012.
53. Treatment of industrial wastewater using sequential batch reactor: A preliminary study, 3<sup>rd</sup> National Conference on “Urban & Industrial Waste Management 2012, June 29, 2012, Ahmedabad, India
54. Catalytic Conversion of Plastic Waste to Fuels, in the short term course on” Green Catalysis For Industrial Applications”, 07-11 May, 2012, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
55. Zeolites synthesis and its application as adsorbent, in the short term course on” Green Catalysis For Industrial Applications”, 07-11 May, 2012, Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal, India.
56. Production of bio-diesel by using micro–algae: challenges and Future Prospects. Short term course on Recent trends in Industrial Pollution and Energy Management, MANIT Bhopal, 09-13<sup>th</sup> May, 2011.
57. Micro–Algae as a source of Bio diesel: Challenges and Future Prospects. Institution of Engineers (IE), Bhopal, India. Jan. 8-9, 2011.

#### **COURSES ATTENDED/TRAINING**

1. Bureau of Indian Standards (BIS) Annual Convention for MoU Partners for Chemical Engineering Discipline, Dharamshala, H.P. 23-24 Aug 2024.
2. CPCB sponsored raining programme on Soil Pollutants Impact Assessment and Remediation of Contaminated Sites” organized at ICAR-Indian Institute of Soil Science, Bhopal, 23-25 May, 2023.
3. 91<sup>st</sup> ACS Colloid & Surface Science Symposium, The City College of New York, Jul 9-12, 2017.
4. Seminar on “Nanostructured and Nanocomposite Polymer Films and Membranes” delivered by Prof. Stephen Martin, Virginia Tech, organized by Department of Chemical Engineering, CCNY, CUNY, New York, USA, 8<sup>th</sup> May 2017.
5. Seminar on “Advanced rheology measurements for hydrates and CMP slurries” delivered by Prof. Matthew Liberatore, University of Toledo, organized by Department of Chemical Engineering, CCNY, CUNY, New York, USA, 1<sup>st</sup> May 2017.



6. Seminar on “Fluid Catalytic Cracking— Challenges and Opportunities for Catalyst Design” delivered by Dr. Lucas Dorazio, BASF Corporation, organized by Department of Chemical Engineering, CCNY, CUNY, New York, USA, 3<sup>rd</sup> April 2017.
7. Seminar on “Building Better Biofilms: Chemical Interactions and Structure-Function Relationships in Bacterial Communities” delivered by Prof. Allon Hochbaum, University of California, Irvine, organized by Department of Chemical Engineering, CCNY, CUNY, New York, USA, 27<sup>th</sup> March 2017.
8. Seminar on “Controlling Catalysis with Visible Light” delivered by Prof. Tomislav Rovis, Columbia University, organized by Department of Chemistry and Biochemistry, CCNY, CUNY, New York, USA, 20<sup>th</sup> March 2017.
9. Seminar on “Development of Experiment and Theory to Detect, Predict, and Visualize Ligand Phase Separation on Metal Nanoparticles” delivered by Prof. David Green, University of Virginia, organized by Department of Chemical Engineering, CCNY, CUNY, New York, USA, 27<sup>th</sup> February 2017.
10. Seminar on “Collaboration for Innovation” AIT Solutions, Thailand, 12-13<sup>th</sup> May 2016.
11. Seminar on “Water Environment Engineering in China: Creative innovation towards the future” delivered by Prof. Xiaochang Wang, School of Environment & Municipal Engineering, Xian University of Architecture & Technology, China, organized by Environmental Engineering and Management, Asian Institute of Technology (AIT), Thailand, 17<sup>th</sup> March 2016.
12. Training program on “Urban Climate Change Adaptation and Resilience” organized by AECOM, East-West Centre, and the Asian Institute of Technology Thailand, 7-11<sup>th</sup> March 2016.
13. Seminar on “Advanced Technology and Innovation for sanitation: solar toilets and safe effluent reuse by UV by Prof. Karl G. Linden, University of Colorado at Asian Institute of Technology (AIT), Thailand, 10<sup>th</sup> March 2016.
14. Seminar on “Biomass supply chain sustainability in India” delivered by Prof. Sadhan Kumar Ghosh, University of Jadhavpur, Kolkata, India, organized by Asian Institute of Technology (AIT), Thailand, 8<sup>th</sup> March 2016.
15. Seminar on “Using DNA to conserve and protect Tropical Forest” delivered by Prof. Andrew Lowe, Professor and Director, Centre for conservation Science & Technology, University of Adelaide, Australia, organized by Energy Engineering Field, Asian Institute of Technology (AIT), Thailand, 1<sup>st</sup> March 2016.
16. Seminar on “Hazard risks” delivered by Dr. Indrajit Pal, Disaster Preparedness, Mitigation and Management division, organized by Energy Engineering Field, Asian Institute of Technology (AIT), Thailand, 13<sup>th</sup> February 2016.
17. Seminar on “Why Fukushima-1 accident happened?” delivered by Dr. Noritaka Yusa, Associate Professor, Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, organized by Energy Engineering Field, Asian Institute of Technology (AIT), Thailand, 23<sup>rd</sup> February 2016.
18. Seminar on “Electricity Access in Developing World” delivered by Dr. Govinda R. Timilsina, Senior Research Economist, World Bank, organized by Energy Engineering Field, Asian Institute of Technology (AIT), Thailand, 9<sup>th</sup> February 2016.
19. 103<sup>rd</sup> Indian Science Congress, University of Mysore, 3-7<sup>th</sup> January 2016.
20. 4<sup>th</sup> IGCW Two day Symposium on Industrial Green Chemistry World (IGCW 2015), organised by Green ChemisTree Foundation, Mumbai during 3-4<sup>th</sup> December, 2015.
21. Seminar on “Research on CO<sub>2</sub> to Methanol”, organized by ONGC, New Delhi, during 29<sup>th</sup> September 2015.
22. International conference on Sustainable Agriculture, Horticulture & Environmental Development, a Global Concern, 21-23, Feb. 2014, Janparishad, Bhopal.
23. TEQIP sponsored short term training program on “Recent advances in Renewable Energy Systems” 21-25<sup>th</sup> October, 2013, Department of Energy, MANIT Bhopal
24. TEQIP sponsored faculty development program on “Reverse Osmosis - Principle and Applications” June 17-21, 2013, Department of Chemical Engineering, PEC Puducherry
25. AICTE sponsored faculty development program on “Computational techniques and its applications in Engineering research” May 27- June 7, 2013, Department of Mechanical Engineering, PEC Puducherry, India.
26. TEQIP sponsored faculty development program on “Green Manufacturing and Material Processing” June 10-14, 2013, Department of Mechanical Engineering, PEC Puducherry

27. Two days National Workshop on “Recent Trends in Renewable Energy”, 09-10, Nov, 2012, Department of Mechanical Engineering, MANIT Bhopal.
28. Two days National seminar on “Energy, Environmental and Sustainability”, 1-2 March, 2012, Department of Energy, MANIT Bhopal.
29. Two days Workshop on “Writing Effective Conference Papers”, 18-19 Feb. 2012, Under MHRD, Govt. of India & IIT Bombay, MANIT Bhopal.
30. ISTE Workshop for Coordinators On Heat Transfer, Under the National Mission on Education through ICT (MHRD, Govt. of India), IIT Bombay, Sep 12-16, 2011
31. Green technology towards low carbon society, MANIT, Bhopal, March 30, 2011
32. Cleaner technology, short-term course, CPCB-IIT Roorkee, Feb., 23-25, 2011.
33. National conference on genomics: Tool for Bioprospecting, Department of Bioinformatics, MANIT, Bhopal, Nov 20-21, 2010.
34. International conference and exhibition on Oil and Gas, Petrotech2010, ONGC, New Delhi, Oct 31-Nov 03, 2010.
35. Science and Technology for Sustainable Development of India, Department of Electrical Engineering, MANIT, Bhopal, Aug 13-14, 2010.
36. Use of sophisticated instruments like GC-MS/GC, HPLC, CHNS, AOX analyzer, CPCB and IIT Roorkee, Feb 15-19, 2010.
37. Safety, Health and Environment Management in Hydrocarbon Industry, Petroleum Federation of India, Petrotech Society and IIT Roorkee, Jan 22-24, 2008.
38. Pollution Control Techniques for Distillery Waste, CPCB and IIT Roorkee, March 3-5, 2008.
39. Hazardous Waste, Batteries Waste and E-Waste Management, CPCB and IIT Roorkee, Nov 13-15, 2008.
40. Computational Fluid Dynamic, QIP Short term course. AICTE and IIT Roorkee, June 16-27, 2008.
41. Environment, Health and Safety Management in Process Industries, CPCB and IIT Roorkee, Oct 20-22, 2008.
42. Recent Trends in Environmental Management Strategies in Petroleum, Petrochemical and Fertilizer Industries, CPCB and IIT Roorkee, Feb 11-13, 2008.
43. Municipal Solid Waste-Planning, Collection, Handling and Disposal, IIT Roorkee, Dec 4-8, 2007.
44. National Science Day celebrations “Nurture Nature for our future”, organized by Pondicherry University, Puducherry, India, 28<sup>th</sup> February, 2006.
45. National level Technical symposium “INChES 2006” organized by IChE, Department of Chemical Engineering, Annamalai university, Tamil Nadu, April, 2006.
46. National Seminal on “Protein Engineering” (NSPE), organized by Department of Chemical Engineering, Annamalai university, Tamil Nadu, 7-8<sup>th</sup> March, 2005.
47. UGC Refresher course on Industrial Biotechnology, University Grant Commission and Annamalai University, Nov 3-27, 2004.
48. Workshop on “Energy Management” organized by Indian Institute of Chemical Engineers (IChE), Pondicherry Regional Chapter (PRC) and Department of Chemical Engineering, Pondicherry Engineering College, Puducherry, India, 8<sup>th</sup> February 2003.
49. National Seminar on “Clean & Sustainable Technology”, organized by IChE – PRC and Department of Chemical Engineering, Pondicherry Engineering College, Hotel Annamalai International, Puducherry, India, 10<sup>th</sup>-11<sup>th</sup> October, 2003.
50. National Level Students Technical Symposium “Tie lines 2002”, organized by Department of Chemical Engineering, Pondicherry Engineering College, Puducherry, India, 2002.

### **INDUSTRIAL/FIELD VISITS**

1. Navin Fluorine International Ltd, Dewas-Madhya Pradesh, 2024
2. Hindustan Electrode Graphite Ltd, Mandideep-Madhya Pradesh, 2023
3. Central Effluent Treatment Plants, Indore-Madhya Pradesh, 2020
4. Gas Authority of India Limited (GAIL), Vijayapur-Madhya Pradesh, 2019
5. New York Wastewater Treatment Plant, USA, 2018
6. The King’s Royally Initiated Laem Phak Bia Environmental Research and Development Project, 25<sup>th</sup> March 2016.
7. AIT Wastewater treatment plant. Thailand, 23<sup>rd</sup> March 2016.
8. Cho Heng Rice Vemicelli Co Ltd. Thailand, 18<sup>th</sup> March 2016.

9. Akkhie Prakarn Co., Ltd. Thailand, 15<sup>th</sup> March 2016.
10. Banwa-Hi Tech Industrial Estate wastewater Treatment plant, Thailand, 15<sup>th</sup> February 2016.
11. Nonthaburi Municipality, Nonthaburi Province, Thailand, 11<sup>th</sup> February 2016.
12. Bhopal Municipal Corporation, Bhopal, M.P., India, 2015.
13. Pilot scale gasifier plant, near Law college, Bhopal, M.P., India, 2014.
14. Pilot scale Biogas plant (10m<sup>3</sup>/45m<sup>3</sup>), Sharda Vihar school campus, Bhopal, M.P., India, 2014.
15. Central Institute of Agricultural Engineering, New Delhi, 2014.
16. Ordnance Factory, Itarsi, M.P., India, 2014.
17. Central Institute of Polymer Engineering & Technology, Bhopal, M.P., India, 2014.
18. SOM Distillery Industry, Bhopal, M.P, India, 2013, 2021
19. Lupin & Lupin Pharmaceutical Industry, Bhopal, M.P., India, 2013.
20. Pollution Control Board, Bhopal, M.P., India, 2013.
21. Grasim Industry, Nagda, M.P., India, 2013.
22. Solid waste dumping yard, Banpura, Bhopal, M.P., India, 2013.
23. Pilot scale gasifier plant, Manna Village, Bhopal, M.P., India, 2012.
24. Agrawal Paper Mill and Agro Industry, Vidhisa, M.P., India, 2011.
25. Modi Sugar Industry, UP, India, 2009.
26. Municipal Wastewater Treatment Plant, Haridwar, Uttarakhand, India, 2009.
27. Central Pollution Control Board, New Delhi, India, 2009.
28. Engineers India Limited, New Delhi, India, 2009.
29. Indo-Gulf Fertilizers Ltd., (Aditya Birla group) Jagdishpur (U.P.), India, 2007.
30. Hindustan Lever Limited, Vadamangalam, Puducherry, India, 2004.
31. Shashan and Chemfab chemicals Industries, Kalapet, Puducherry, India, 2004.
32. Anglo-French Textile Industry, Puducherry, India, 2004.
33. Sica Breweries, Puducherry, India, 2003.
34. Leather/Biofiber Industry, Karaikal, Puducherry, India, 2003.
35. Henkel India Ltd, Karaikal, Puducherry, India, 2003.
36. Grasim Cements Industry, Ariyalur, Tamil Nadu, India, 2003.
37. Pondicherry Co-operate Sugar Mill Ltd, Lingareddipalayam, Puducherry, 2003.
38. Jyothy laboratories Ltd, Puducherry, 2003.
39. Caplin Point Laboratories Ltd, Puducherry, 2002.
40. Chennai Petroleum Corporation Limited, Chennai, India, 2002.

## RESEARCH INTERESTS

New sorbents & Catalysts, Reactor Design, Environmental Biotechnology, Wastewater Treatment, Waste-to-Energy, Nanoengineered Materials, Biofuels and Intermediates from CO<sub>2</sub> and Biomasses, Green Hydrogen, Decarbonization and Energy Transition, Technical Textiles, Gas separation, Air Pollution Abatement, Sensing of toxic gases, Process Safety & Disaster Management

## TEACHING INTERESTS

- Chemical Reaction Engineering
- Momentum, Heat and Mass Transfers
- Process Control and its dynamics
- Transport Phenomena
- Process Modelling and Simulation
- Environmental Pollution Control and Process Safety
- Water Quality and Management
- Bio-energy Engineering
- Biochemical/Bioprocess Engineering
- Advance Separation Processes
- Polymer Technology
- Fuel Processing and Technology
- Trends in Healthcare and Technology
- CFD Multiphase reactors/Industrial catalysis

- Green Chemistry and Clean Production Technology
- Advance Analytical Techniques
- Advance Materials characterization Techniques

#### **PROFESSIONAL ASSOCIATIONS**

- Society of Energy Engineers & Managers (Life Fellow: F-219317421001)
- The Institution of Engineers (India) (Life Fellow: F-1305057)
- Indian Institute of Chemical Engineers (LM-33054)
- Solar Energy Society of India (LM 1723)
- Indian Society for Technical Education (LM 79801)
- Chemical Research Society of India (LM 1648)
- Catalysis Society of India (LM 283)
- Indian Water Resources Society (LM 107219)
- International Congress of Chemistry and Environment (LF/S-48)
- The Biotech Research Society (LM 1292)
- Materials Research Society of India (LMB2409)
- The Indian Science Congress Association (L26682)
- Indian Water Works Association ((LM 8224)
- Institution of Public Health Engineers (LM 1629)
- Indian Society of Hydraulics (LM 1119)
- Biogas Forum India (LM 397)
- Indian Institution of Industrial Engineering (SM 10874)
- American Chemical Society (SM 5678412300)
- American Institute of Chemical Engineers (SM 9900154227)
- Indian Carbon Society (LM 601)
- Indian Society of Remote Sensing (LM 6265)