

## ***Dr. Sarita Kalla***

### ***Assistant Professor***

*Department of Chemical Engineering*

*Sardar Vallabhbhai National Institute of Technology*

*Surat, Gujarat – 395007*

*Ph. No. – 9001345237, 0261-2201660*

*Email ID: sarita\_kalla@ched.svnit.ac.in*

*Personal Email ID: [sarita87mishra@gmail.com](mailto:sarita87mishra@gmail.com)*

*Google Scholar: <https://scholar.google.com/citations?user=mycDEjcAAAAJ&hl=en&oi=ao>*

## **Academic Qualifications**

- **2015 - 2019: Doctor of Philosophy (Ph.D.) - Chemical Engineering**  
Institute - Malaviya National Institute of Technology (MNIT), Jaipur, CGPA - 9.33
- **2015: Master of Technology (M.Tech.) - Process Modeling and Simulation**  
University - Aligarh Muslim University, Aligarh, Aggregate - 81.42 (Honours)
- **2008: Bachelor of Engineering (B.E.) - Chemical Engineering**  
University - University of Rajasthan, Jaipur, India, Aggregate - 80.02% (Honours)
- **2004: Diploma in Pharmacy (D. Pharmacy)**  
University - University of Rajasthan, Jaipur, India, Aggregate - 65.52%

## **Achievements**

- Appointed as an **Early Career Editorial Council Board (ECCB)** member for the Microporous and Mesoporous Materials Journal (SCIE, Elsevier Publications).
- Selected for the prestigious national award from the Indian Institute of Chemical Engineers (IChE), Kolkata, India in the field of Membrane Science.  
***IChE Award for the Year 2019:*** Prof. Shyamal Kanti Sanyal Memorial Award for the Best Ph.D. Thesis in the Area of Membranes Research with Significant Commercial Potential awarded by Indian Institute of Chemical Engineers (IChE), India. The award was presented to me during the 72nd Annual Session-cum-Indian Chemical Engineering Congress (CHEMCON 2019) held from 16-19, December, 2019 at Indian Institute of Technology Delhi (IITD), New Delhi.
- One of my research papers with undergraduate student, “Pragya Narayana Prasad, **Sarita Kalla**, Plant-microbial fuel cells - A bibliometric analysis, Process Biochemistry, Volume 111, Part 1, 2021, Pages 250-260. (**Impact Factor: 4.885**) has been selected for the “***IChE Award for the Year 2022: The Chemical Weekly Prize for Best Research Paper Published in a High Impact Factor International Journal by an Undergraduate Chemical Engineering Student – Second Prize***”. The prize was given to Ms. Pragya Narayana Prasad during CHEMCON 2022, jointly organized by HBTU, Kanpur and IChE-Kanpur Regional Centre during December 27-30, 2022.

- Mr. Appanu Sushvanth Reddy, one of my M.Tech students has been selected for “**IChE Awards for the Year 2022: Ambuja’s Young Researcher’s Awards for doing Post-Graduate Studies in India after GATE Examination**”. The award was presented to him during CHEMCON 2022, jointly organized by HBTU, Kanpur and IChE-Kanpur Regional Centre during December 27-30, 2022.
- **Research**, “Experimental and mathematical study of air gap membrane distillation for aqueous HCl azeotropic separation” published in *Journal of Chemical Technology & Biotechnology, Wiley Publications*, is among **the top 10% most downloaded paper** between January 2018 and December 2019.
- **Member of Board of Studies (BOS)** for Department of Petroleum Engineering, Bikaner Technical University (BTU), Bikaner, Rajasthan (From 2019 to August 2021).
- **Member of Board of Studies (BOS)** for Department of Chemical Engineering, Uka Tarasadia University (UTU), Bardoli, Surat, Gujarat (From September 2022 to Present).
- **All India First (1<sup>st</sup>) Rank** in the exam for the post of Lecturer - Chemical Engineering, Technical Education Department conducted by Rajasthan Public Service Commission (**RPSC**), Ajmer.
- **Certificate of Appreciation** for outstanding contribution, coordination and participation during the Global Student Solar Ambassadors Workshop organized globally to commemorate the 150<sup>th</sup> Birth Anniversary of Mahatma Gandhi in association with Indian Institute of Technology (IIT), Bombay.
- The **Department of Science and Technology (DST), Govt. of Rajasthan** has accepted a student project for financial assistance. The Project is on “**Removal of heavy metals from industrial processed water using Bio-sorbent**”.
- Qualified **GATE 2014** with **87.59 percentile** in Chemical Engineering Branch conducted by Indian Institute of Technology (IIT), Kharagpur on behalf of the Department of Education, Ministry of Human Resources Development (MHRD), Government of India.
- Qualified **GATE 2011** with **87.76 percentile** in Chemical Engineering Branch conducted by Indian Institute of Technology (IIT), Madras on behalf of the Department of Education, Ministry of Human Resources Development (MHRD), Government of India.
- **First rank** holder in M.Tech. Entrance Exam (Chemical Engineering) conducted by Aligarh Muslim University (AMU), Aligarh in 2010.
- **First rank** holder in M.Tech. Course (Specialization in Process Modeling and Simulation) with aggregate 81.42 (In consecutive three semesters).

## **Research Papers Published**

### **Paper Published in SCI /International Journals**

- Maheshkumar Prajapati, **Sarita Kalla**, Areti Sivaiah, “A CuBTC@PVDF-based super hydrophobic membrane for perfluoroheptanoic acid (PFHpA) rejection through membrane distillation”, *Process Safety and Environmental Protection*, Volume 194, Pages 152-163, February 2025. 2024. <https://doi.org/10.1016/j.psep.2024.11.107> (**Impact Factor: 6.9**)

- Ketan Maru, **Sarita Kalla**, Ritambhara Jangir, “Development of Polyoxometalate-loaded MOF for Heterogeneous Catalysis and Enhanced Dye Adsorption”, Dalton Transactions, Royal Society of Chemistry(RSC), 54, 298-317, 2025. <https://doi.org/10.1039/D4DT02645D> (**Impact Factor: 3.5**)
- Nilkumar Laxmanbhai Radadiya, Abhay Kumar, **Sarita Kalla**, “Micro-nanobubbles assisted fouling reduction in membrane distillation for desalination”, The Canadian Journal of Chemical Engineering, Wiley, 2024;1–9. DOI: 10.1002/cjce.25542. (**Impact Factor: 1.6**)
- Disha Gajipara, **Sarita Kalla**, Z.V.P. Murthy, “Desalination Performance evaluation of hBN@UiO-66 MOF Incorporated Hollow Fiber Membrane using Membrane Distillation”, ChemistrySelect, Wiley, 2024, 9, e202402088. <https://doi.org/10.1002/slct.202402088> 2024. (**Impact Factor: 1.9**)
- Ketan Maru, **Sarita Kalla**, Arup Kumar Ghosh, Ritambhara Jangir, “Efficient dye Extraction from Waste Water Using Indium-MOF-Immobilized Polyvinylidene Fluoride Membranes with Selective Filtration for Enhanced Remediation”, Langmuir, American Chemical Society (ACS), Vol. 40(15), 8144-8161, 2024. <https://doi.org/10.1021/acs.langmuir.4c00194>. (**Impact Factor: 3.9**)
- Maheshkumar Prajapati, Nidhi Pandey, **Sarita Kalla**, Sateesh Bandarud, Areti Sivaiah, “Synthesis and characterization of rhodamine derivative as a selective switch-on fluorescent sensor for Cu<sup>2+</sup> in aqueous PBS buffer and living cells”, Sensors & Diagnostics, Royal Society of Chemistry (RSC), 2024, 3, 412-420, <https://doi.org/10.1039/D3SD00291H>.
- Disha Gajipara, **Sarita Kalla**, Z.V.P. Murthy, “MIL-101(Cr) incorporated hollow fiber membrane for rubber wastewater treatment using membrane bioreactor”, Journal of Industrial and Engineering Chemistry, Elsevier, Vol. 134, 181-193, 2024. <https://doi.org/10.1016/j.jiec.2023.12.049> (Accepted) (**Impact Factor: 6.1**)
- Krish Chunilal Paradva Ritambhara Jangir, **Sarita Kalla**, “Green nanomaterials: Synthesis and applications in wastewater treatment”, Inorganic Chemistry Communications, Elsevier, Volume 158, Part 2, December 2023, 111584, <https://doi.org/10.1016/j.inoche.2023.111584> (**Impact Factor: 3.8**)
- Ketan Maru, **Sarita Kalla**, Arup Kumar Ghosh, Ritambhara Jangir, “Synthesis of Microcrystalline Indium (III)-MOF and Adsorptive and Selective Removal of Dyes”, Research on Chemical Intermediates, Springer, Vol. 50(1), 147-174, 2024, <https://doi.org/10.1007/s11164-023-05161-w> (**Impact Factor: 3.3**)
- Nikita Gupta, **Sarita Kalla**, Z.V.P. Murthy, “Effect of tetramethylurea (TMU) on polysulfone membrane performance for atrazine-containing wastewater treatment”, Journal of Polymer Materials, Prints Publication, 2023. Vol. 40, No. 3-4, 2023, 317-328. DOI : <https://doi.org/10.32381/JPM.2023.40.3-4.12> (**Impact Factor: 0.4**)
- Krish Chunilal Paradva, **Sarita Kalla**, “Nanopesticides: A Review on Current Research and Future Perspective”, ChemistrySelect, Wiley, Vol. 8 (26), e202300756, 2023. (**Impact Factor: 2.1**)
- Shubham Rahul Sawant, **Sarita Kalla**, Z.V.P. Murthy, “Nanomaterial-incorporated membrane distillation membranes”, Chemical Engineering and Technology, Wiley, 2023, 46: 1982-2006. <https://doi.org/10.1002/ceat.202300054> (**Impact Factor: 2.1**)

- Mukesh Purohit Narbheram, **Sarita Kalla**, Ritambhara Jangir, “A Comprehensive Review on Cu-Catalysed Aerobic Amine Oxidation to Imine”, ChemistrySelect, Wiley, Vol. 8 (20), e202300386, 2023. DOI: <https://doi.org/10.1002/slct.202300386> (**Impact Factor: 2.1**)
- Nikhil R. Mene, **Sarita Kalla**, Z.V.P. Murthy, “Recovery of Pure Water, Salicylic Acid Crystals, and Paracetamol using PVDF-MWCNT Membranes by Membrane Distillation-crystallization”, Journal of Polymer Materials, Prints Publication, Vol. 39, Issue 3/4, 2022, 307-323, <https://doi.org/10.32381/JPM.2022.39.3-4.9>. (**Impact Factor: 0.2**)
- Shubham Rahul Sawant, **Sarita Kalla**, Z.V.P. Murthy, “Enhanced properties of the PVDF membrane with carboxylated MWCNT and sodium alginate for membrane distillation”, Journal of Environmental Chemical Engineering, Elsevier, Volume-11, Issue-2, 109259, 2023. DOI: <https://doi.org/10.1016/j.jece.2022.109259>. (**Impact Factor: 7.7**)
- Pragya Narayana Prasad & **Sarita Kalla**, Numerical Investigation of Solar Flat Plate Collector using Different Working Fluids, International Journal of Ambient Energy, Taylor & Francis, 2022. DOI: 10.1080/01430750.2022.2128419. (**Scopus**)
- Ketan Maru, **Sarita Kalla**, Ritambhara Jangir, "MOF/POM hybrids as catalysts for organic transformations", Dalton Transactions, Royal Society of Chemistry (RSC), 2022, Volume 51, Issue 32: 11952-11986. DOI: 10.1039/D2DT01895K (**Impact Factor: 4.0**)
- Appanu Sushvanth Reddy, **Sarita Kalla**, Z.V.P. Murthy, “Biomimetic membranes: Advancements and applications- A Minireview”, Bioresource Technology Reports, Elsevier, Volume 18, 101047, 2022. (**Scopus**)
- **Sarita Kalla**, KmProttoy Shariar Piash, Oishi Sanyal, “Anti-fouling and anti-wetting membranes for membrane distillation”, Journal of Water Process Engineering, Elsevier, Volume 46, 102634, 2022. (**Impact Factor: 7.340**)
- Appanu Sushvanth Reddy, **Sarita Kalla**, Z.V.P. Murthy, “Nano-particles enhanced hydrophobic membranes: High-performance study for dye wastewater treatment using membrane distillation”, Journal of Water Process Engineering, Elsevier, Volume 46, 102610, April 2022. (**Impact Factor: 7.0**)
- Ketan Maru, **Sarita Kalla**, Ritambhara Jangir, “Dye Contaminated Waste Water Treatment through Metal-Organic Frameworks (MOFs) based Materials”, New Journal of Chemistry, Royal Society of Chemistry (RSC), Vol. 46, 3054-3072, 2022. (**Impact Factor: 3.3**)
- Pragya Narayana Prasad, **Sarita Kalla**, “Plant-microbial fuel cells - A bibliometric analysis”, Process Biochemistry, Elsevier, Volume 111, Part 1, 2021, Pages 250-260. (**Impact Factor: 4.4**)
- Appanu Sushvanth Reddy, **Sarita Kalla**, and Z.V.P. Murthy, “Textile wastewater treatment via membrane distillation”, Environmental Engineering Research, Korean Society of Environmental Engineers (KSEE), 2021; 27(5); 210228 doi: <https://doi.org/10.4491/eer.2021.228> (**Impact Factor: 3.5**)
- **Sarita Kalla**, “Use of membrane distillation for oily wastewater treatment – A review”, Journal of Environmental Chemical Engineering, Elsevier, Volume 9, Issue 1, February 2021, 104641. <https://doi.org/10.1016/j.jece.2020.104641> (**Impact Factor: 7.7**)

- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, Rakesh Baghel, “Separation of HCl/water mixture using air gap membrane distillation, Taguchi optimization and artificial neural network”, *Chemical Product and Process Modeling*, De Gruyter, Vol. 17, No. 2, 2022, pp. 137-152. <https://doi.org/10.1515/cppm-2020-0078>. **(Impact Factor: 0.95)**
- Rakesh Baghel, **Sarita Kalla**, Sushant Upadhyaya, S. P. Chaurasia and Kailash Singh, “CFD Modeling of Vacuum Membrane Distillation for Removal of Naphthol Blue Black Dye from Aqueous Solution using COMSOL Multiphysics” *Chemical Engineering Research and Design, Elsevier*, 158 (2020), 77–88. DOI: 10.1016/j.cherd.2020.03.016 **(Impact Factor: 3.9)**
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, “Principles and Advancements of Air Gap Membrane Distillation - A Review”, *Reviews in Chemical Engineering*, De Gruyter, Volume 35(8), pp. 817-859, 2018. doi: 10.1515/revce-2017-0112 **(Impact Factor: 4.7)**
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, Rakesh Baghel, “Experimental and mathematical study of air gap membrane distillation for aqueous HCl azeotropic separation”, *Journal of Chemical Technology & Biotechnology*, Wiley, 94, No. 1 (2019): 63-78. doi: 10.1002/jctb.5766. **(Impact Factor: 3.4) (One of the figures along with the affiliation of the paper has been selected as the cover page of the journal and also was among the top 10% most downloaded paper between January 2018 and December 2019)**
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, Rakesh Baghel, “Development of Heat and Mass Transfer Correlations and Recovery Calculation for HCl - Water Azeotropic Separation using Air Gap Membrane Distillation”, *Chemical Papers*, Springer, Volume 73, pp-2449-2460, 2019. doi: 10.1007/s11696-019-00795-w. **(Impact Factor: 2.2)**
- Rakesh Baghel, Sushant Upadhyaya, S. P. Chaurasia, Kailash Singh, and **Sarita Kalla**, “Optimization of process variables by the application of response surface methodology for naphthol blue black dye removal in vacuum membrane distillation”, *Journal of Cleaner Production*, Elsevier, Volume 199, pp. 900-915, 2018. doi: 10.1016/j.jclepro.2018.07.214. **(Impact Factor: 11.1)**
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, Rajeev Kumar Dohare and Madhu Agarwal, “A case study on separation of IPA-water mixture by extractive distillation using aspen plus” published in *International Journal of Advanced Technology and Engineering Exploration*, ACCENTS publisher, Volume 3(24), November, 2016. doi: 10.19101/IJATEE.2016.324004 **(Scopus)**
- Rakesh Baghel, **Sarita Kalla**, Sushant Upadhyaya, S.P. Chaurasia, Jitendra Kumar Singh, “Treatment of Sudan III Dye from wastewater using Vacuum Membrane Distillation” published in *International Journal of Basic Science and Applied Engineering Research*, vol.4(3), pp. 237-241, 2017.

### **Papers Published in International/National Conferences Proceedings**

- Shubham Rahul Sawant, **Sarita Kalla**, Z.V.P. Murthy, “Performance Study of Membrane Distillation Membrane for Salt Removal”, In: Roshan Dash, R., Mohapatro, S., Behera, M. (eds) *Pollution Control for Clean Environment—Volume 1. ICPCC 2023. Lecture Notes in Civil Engineering*, vol 415. Springer, Singapore. 2025. [https://doi.org/10.1007/978-981-97-7842-3\\_32](https://doi.org/10.1007/978-981-97-7842-3_32).
- Appanu Sushvanth Reddy, **Sarita Kalla**, Z.V.P. Murthy, “Simulation study of direct contact membrane distillation for the textile effluent treatment”, In: Manik, G., Kalia, S., Verma, O.P.,

Sharma, T.K. (eds) Recent Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering (LNME). Springer, Singapore, 2023. [https://doi.org/10.1007/978-981-19-2188-9\\_61](https://doi.org/10.1007/978-981-19-2188-9_61).

### Papers Presented in International/National Conferences

- Krish Chunilal Paradva, Smit Dharmendrabhai Kakadiya, **Sarita Kalla**, “Green Nanopesticides for Fungal Control: Synthesis and Comparative Analysis”, presented in International Conference on Environmental Challenges, Opportunities and Sustainable Solutions, IIT Guwahati, India during 9-11 December, 2024.
- Chinmayananda Sahu, Dhey Patel, Purusottam Tripathy, Z.V.P. Murthy, **Sarita Kalla**, “MOF membrane for dye removal through nanofiltration”, presented in International Conference on Environmental Science and Technology (ICEST-2024), SVNIT, Surat during 19-21 December 2024.
- Maheshkumar Prajapati, **Sarita Kalla**, Areti Sivaiah, “Synthesis and characterization of CuBTC MOF and small organic molecule and its applications”, presented a poster in International conference on Advances in Chemical and Applied Sciences for Sustainable Development (ACASSD-2024) organized by JECRC university, Jaipur on March 29-30, 2024.
- Shubham Rahul Sawant, **Sarita Kalla**, Z.V.P. Murthy, “Membrane fouling and performance study for salt removal using membrane distillation” presented in International Conference on Pollution Control for Clean Environment (ICPCCE-2023), IIT Bhubaneswar, during 15-16 December, 2023.
- **Sarita Kalla**, Ritambhara Jangir, Z.V.P. Murthy, “Green nanomaterials for colored wastewater treatment” presentation a poster in International congress on separation and purification-technology (ISPT), organized by Elsevier during 10-14 December, 2022.
- Appanu Sushvanth Reddy, **Sarita Kalla**, Z.V.P. Murthy, “Simulation study of direct contact membrane distillation for the textile effluent treatment”, presented at the Congress on Advances in Mechanical and Systems Engineering (CAMSE2021), NIT Jalandhar, July 17-19, 2021.
- Appanu Sushvanth Reddy, **Sarita Kalla**, Z.V.P. Murthy, "Modification of hydrophobic membranes using biomimicry for membrane distillation (MD) in wastewater treatment" presented in the Virtual International Conference on Chemical Sciences in Sustainable Technology and Development (IC2S2TD-2020), SVNIT, Surat, December 01-03, 2020.
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, “Mathematical Modeling of the Separation of HCl/Water Mixture using Argon Gap Membrane Distillation” presented in International Conference on *Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy (MMCITRE-2020)* organised by Department of Mathematics, Pandit Deendayal Petroleum University, Ahmedabad February 21-23, 2020.
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, Rakesh Baghel, “Taguchi Optimization Approach for Azeotropic Mixture Separation using Air Gap Membrane Distillation” accepted for oral presentation in 71<sup>st</sup> annual session of IChE *Chemcon'18* organised by Department of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, (India), December 27-30, 2018.

- **Sarita Kalla**, Rakesh Baghel, Sushant Upadhyaya, Kailash Singh, “Effects of Operating Parameters and Development of Heat Transfer Correlation in Air Gap Membrane Distillation for Azeotropic Mixture Separation”, accepted for oral presentation in *International Conference on Desalination (Inda-2018)* organised by NIT, Trichy and Indian Desalination Association (InDA) at Trichy, Tamil Nadu (India), April 20-21, 2018.
- **Sarita Kalla**, Sushant Upadhyaya, Kailash Singh, “Theoretical Assessment of the separation of HCl-Water azeotrope using Air-Gap Membrane Distillation”, presented in 69<sup>th</sup> annual session of IChE *Chemcon'16* organised by Chennai Regional Center of IChE and Department of Chemical Engineering, AC Tech., Anna University, Chennai (India), December 27-30, 2016.
- Rakesh Baghel, **Sarita Kalla**, Sushant Upadhyaya, S.P. Chaurasia. “Removal of Basic Red 9 Azo Dye by using Flat Sheet PVDF Membrane in Vacuum Membrane Distillation” accepted for oral presentation in 71<sup>st</sup> annual session of IChE Chemcon'18 organised by Department of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, (India), December 27-30, 2018.
- Aditya Anand, Abdul Quddoos, **Sarita Kalla**, “Removal of Methylene Blue from Aqueous Solution Using Mango Leaves”, presented at 67<sup>th</sup> annual session of IChE Chemcon'14, Punjab University, Chandigarh during December 27-30, 2014.

### **Book Chapter Publication**

- **Sarita Kalla**, Rakesh Baghel, Sushant Upadhyaya, Kailash Singh, “Membrane Distillation for Acidic Wastewater Treatment” in “Sustainable Water Treatment: Advances and Technological Interventions” Anirban Roy, Aidi Mullick, Siddhartha Moulik (Editor), Scrivener Publishing, Wiley (2022). (First published: 30 June 2022, <https://doi.org/10.1002/9781119480075.ch9>)
- Rakesh Baghel, **Sarita Kalla**, Sushant Upadhyaya and S. P. Chaurasia, “Demonstration of Long-Term Assessment on Performance of VMD for Textile Wastewater Treatment” in “Sustainable Water Treatment: Advances and Technological Interventions” Anirban Roy, Aidi Mullick, Siddhartha Moulik (Editor), Scrivener Publishing, Wiley (2022). (First published: 30 June 2022 <https://doi.org/10.1002/9781119480075.ch10>).
- Sushant Upadhyaya, Kailash Singh, S.P. Chaurasia, Rakesh Baghel and **Sarita Kalla**. “Vacuum Membrane Distillation for Water Desalination” in “Membrane Processes: Pervaporation, Vapor Permeation and Membrane Distillation for Industrial Scale Separations”. S. Sridhar, Siddhartha Moulik (Editors), Wiley (2018). (First published: 26 November 2018 <https://doi.org/10.1002/9781119418399.ch14> pp.399 – 430)

### **Research Projects**

- R & D Grant of the Institute (Rs. 9.75 Lacs) for “Study of air gap membrane distillation for seawater desalination using synthesized hydrophobic membrane and investigate the possibility of zero liquid discharge”, for 2 years (2020-2022).
- Startup/Innovation – **SolarPure**, grant (Rs. 7 Lacs) under the Startup Srujan Seed Support (S4) Programme from Gujarat Student Startup & Innovation Hub (i-Hub).

## Process/Product Patents Granted with details

Sr. No.	Title of Patent/IPR	Type of IPR	Registration No.	Patent No.	Patent Office	Date of Patent Grant
1.	A metal-organic framework incorporated hollow fiber membrane for rubber processing wastewater treatment	Product/ Process	202321041180	549292	The Patent Office, Government of India	30/08/2024
2.	DES Encapsulated MIL – 101(Cr)/PVDF mixed matrix membrane for dye degradation from industrial wastewater	Product/ Process	202321045898	551432	The Patent Office, Government of India	30/09/2024
3.	Indium(III)-based MOF and Synthetic Strategies thereof and adsorptive removal of dyes	Product/ Process	202321038682	554308	The Patent Office, Government of India	13/11/2024
4.	A microwave - based method for synthesis of indium (III)- based MOF	Product/ Process	202321040214	555545	The Patent Office, Government of India	29/11/2024

## Design Registration Granted with details

- Amol V. Sonawane, Dr. Sarita Kalla, Dr. C. M. Patel, Dr. Z. V. P. Murthy (2021), “MBR-Flat Sheet Module”, No. 341280-001, Granted in March 2022.
- Amol V. Sonawane, Dr. Sarita Kalla, Dr. Z. V. P. Murthy (2022), “Direct contact membrane distillation module for desalination” No. 360754-001, Granted in April 2022.
- Nishi Mehta, Dr. Pallvita Yadav, Dr. Sarita Kalla (2022), “Sanitary Patch” No. 362650-001, granted in June 2022.

## Patents filed with details

Sr. No.	Title of Patent/IPR	Type of IPR	Registration No.	Date of Filing
1.	An electron-rich triazine-based covalent organic framework method of synthesis and use thereof	Product/ Process	202521003202	14/01/2025

## Membership of Professional Societies

- Society for Materials Chemistry - SMC India, LM - 2283
- Member of American Chemical Society (ACS) - 2024
- Life Member of Indian Society for Technical Education (ISTE), LM - 135312.



- Associate Member of the Institution of Engineers (India) (IE), AM - 1985623
- Associate Member of Indian Institute of Chemical Engineers (IICChE), LAM - 46237
- Life Member of Indian Desalination Association (InDA), LM – 401.

### **Ph.D. Supervision (Ongoing)**

- Mr. Aamirbhai Vhora, Year 2024  
Supervisors: Dr. Sarita Kalla and Dr. Ritambhara Jangir
- Ms. Shalinee Gupta, Year 2024  
Supervisors: Dr. Sarita Kalla and Dr. Z. V. P. Murthy
- Mr. Purusottam Tripathy, Year 2023  
Supervisors: Dr. Sarita Kalla and Dr. Harshad Vijay Kulkarni (IIT Mandi)
- Ms. Divya, Year 2023  
Supervisors: Dr. Ritambhara Jangir and Dr. Sarita Kalla
- Mr. Ketan Maru, Year 2021  
Supervisors: Dr. Ritambhara Jangir and Dr. Sarita Kalla
- Mr. Mahesh Kumar Prajapati, Year 2021  
Supervisors: Dr. Areti Siviah and Dr. Sarita Kalla

### **M.Tech. Dissertation Guided**

Ongoing (01):

- Mr. Kishan Patel, Year: 2024-2026  
Supervisors: Dr. Z. V. P. Murthy, Professor (HAG), and Dr. Sarita Kalla
- Mr. Ronit Bardoliya, Year: 2023-2025  
Supervisors: Dr. Z. V. P. Murthy, Professor (HAG), and Dr. Sarita Kalla

Completed (03):

- Mr. A. Sushvanth Reddy, Year: 2019-2021  
Supervisors: Dr. Z. V. P. Murthy, Professor (HAG), and Dr. Sarita Kalla  
Title: Mathematical modelling and experimental study of direct contact membrane distillation for textile effluent treatment
- Mr. Shubham Rahul Sawant, Year: 2020-2022  
Supervisors: Dr. Z. V. P. Murthy, Professor (HAG), and Dr. Sarita Kalla  
Title: Taguchi optimization study for desalination using nanomaterial enhanced polymeric membrane via membrane distillation
- Ms. Disha Gajipara, Year: 2021-2023  
Supervisors: Dr. Z. V. P. Murthy, Professor (HAG), and Dr. Sarita Kalla  
Title: Wastewater treatment by metal-organic framework (MOF) incorporated hollow fiber membrane

## Invited Talks/Lectures Delivered

- Invited lecture on “Nanopesticides for sustainable agricultural applications” during one-week online Short-Term Training Program (STTP) on “Emerging Trends in Agro-Tech and Food Processing Towards Greener Future”, March 03-07, 2025 at SVNIT, Surat.
- **Session co-chair**, “International Conference on Environmental Science and Technology (ICEST-2024)”, organized by SVNIT, Surat during 19-21 December 2024.
- **Expert talk** delivered at Department of Chemical Engineering, Marwadi University, Rajkot on March 18, 2024.
- Invited speaker in the International conference on “**Enhancement and Innovations in Exploring Engineering**” held on April 08, 2023 at Government Polytechnic College, Barmer, Rajasthan.
- Keynote speaker in the workshop on Integrated and Hybrid Remediation Techniques for Wastewater Treatment organized as part of Research Project titles “**AI, IoT and Digital Technologies for Future Sustainable Smart Cities**” held on December 30, 2022 at Parul University jointly with L&T-S&L, NASSCOM, NIRVEDHA-Tech.
- Invited lecture on “**MOF Based Membranes for Membrane Distillation Process**” during one-week online Short-Term Training Program (STTP) on “**Organic-Inorganic Hybrid Materials (OIHM-2021)**”, October 04-08, 2021 at SVNIT, Surat.
- Deliver an expert lecture on 15 March, 2021 at International level organized by **Institution of Mechanical Engineers, University of Sri Jayawardenepura, Srilanka**.
- Session Chair, “**International Conference on Advances in Sustainable Research for Energy and Environmental Management (ASREEM-2021)**” organized by Department of Chemical Engineering, SVNIT, Surat, August 06- 08, 2021.
- Session Chair, “**International conference on Advances in Chemistry and Chemical Engineering 2021**” organized by Department of Chemical Engineering, SVNIT, Surat, April 16-17, 2021.
- Keynote speaker, “**International Conference on Engineering and Technology: Smart Engineering**”, on “**Application of membrane distillation for oily wastewater treatment: opportunities challenges and future research direction**”, at Parul University, Vadodara, November 6-7, 2020.
- Session Chair, “**International Conference on Engineering and Technology: Smart Engineering, organized**” by Parul University, Vadodara, November 7, 2020.
- Invited lecture on “**Inherent Safety**” during TEQIP III sponsored one-week Short-Term Training Program (STTP) on “**Occupational Safety and Health Management – Special Emphasis on Covid-19**”, September 21-25, 2020 at SVNIT, Surat.
- Invited lecture on “**AGMD Experimentation and Numerical modeling**”, during Summer Internship Program (SIP) under TEQIP III on “**Computational Techniques, Polymeric**”

*Membrane Fabrication, Wear and Friction of Materials*”, June 3–7, 2019 organized by Department of Chemical Engineering, MNIT, Jaipur.

### **National/International Conference Organised**

- Worked as organizing secretary for National Conference on, “Progress, Prosperity, Preservation-Sustainably Forever” on 22<sup>nd</sup> March 2025 at SVNIT, Surat.
- Worked as chairman for organizing International Conference on, “Recent Trends in Engineering and Sciences - अभियांत्रिकी और विज्ञान में नव प्रवृत्तियों” (RTES – 2025)” in Hindi Language from 14th-15th February 2025 at SVNIT, Surat.
- Worked as chairman for organizing International Conference on “Recent Trends in Engineering and Sciences - अभियांत्रिकी और विज्ञान में नव प्रवृत्तियों” (RTES – 2023)” in Hindi Language from 2nd-3rd May 2023 at SVNIT, Surat.

### **Short Term Courses/ FDP/Workshop Organised**

- Worked as coordinator for organizing one-week Short-Term Training Program (STTP) on, “Emerging Trends in Agro-Tech and Food Processing Towards Greener Future”, March 03-07, 2025 at SVNIT, Surat.
- Worked as coordinator for organizing one-week faculty development program for newly joined faculty members of the SVNIT on “Education and Institutional Development” (EDID-2024), 15th – 21st May, 2024 at SVNIT, Surat.
- Worked as coordinator for organizing ten days **NAIP** (National Academic Immersion Program) program for MIT-WPU Pune university students, March 12th – 21st, 2024 at SVNIT, Surat.
- Worked as coordinator for organizing one-day workshop on, “**हिंदी कार्यशाला**”, March 13, 2024 at SVNIT, Surat.
- Worked as coordinator for organizing one-week Short-Term Training Program (STTP) on, “**MATLAB and Its Applications in Engineering and Research (MATER-2024)**”, January 08-12, 2024 at SVNIT, Surat.
- Worked as coordinator for organizing one-day workshop on, “**Fire Safety**” during 28<sup>th</sup> October 2023 at SVNIT, Surat.
- Worked as Coordinator for organizing two-day workshop on, “**राजभाषा में शोध पत्र लेखन**” during 2nd – 3rd March 2023 at SVNIT, Surat.
- Worked as coordinator for organizing one-week workshop on, “**Hands-on Training on High-end Scientific Equipments (HTHSE 2022)**” 28<sup>th</sup> November – 02<sup>nd</sup> December, 2022 at SVNIT, Surat.
- Worked as coordinator for organizing one-week Short-Term Training Program (STTP) on,

“**MATLAB and Its Applications in Engineering and Research (MATER-2022)**”, September 26-30, 2022 at SVNIT, Surat.

- Worked as coordinator for organizing a one-week high-end online workshop on, “***Application of Statistical Tools and Modelling in Engineering and Science,***” funded by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India under Accelerate Vigyan Scheme, March 07-13, 2022 at SVNIT, Surat.
- Worked as coordinator for organizing one-week workshop on, “***Computational Analysis on Mechanical and Chemical Processes using Ansys***”, July 12-16, 2021 at SVNIT, Surat.
- Worked as coordinator for organizing one-week Short-Term Training Program (STTP) on, “***Occupational Safety and Health Management – Special Emphasis on Covid-19***”, Under TEQIP-III from, September 21-25, 2020 at SVNIT, Surat.
- Worked as coordinator for organizing one-week Short-Term Training Program (STTP) on, “***MATLAB and Its Applications in Engineering and Computational Research***”, Under TEQIP-III from February 17-21, 2020 at SVNIT, Surat.
- Worked as coordinator for organizing, “***Student Solar Ambassador (SSA) Workshop - 2019***” for celebrating 150<sup>th</sup> Birth anniversary of Mahatma Gandhi on 5 October, 2019 at Govt. Polytechnic College, Barmer, in association with Indian Institute of Technology (IIT), Bombay.

## **Journal Reviewer**

- Chemical Engineering & Technology (Wiley Publisher, SCIE indexed)
- Environmental Science: Water Research & Technology (SCIE, Royal Society of Chemistry)
- Separation and Purification Technology (Elsevier Publisher, SCIE indexed)
- Cleaner Energy and Technology (Elsevier Publisher, Scopus)
- Materials Today Communications (Elsevier Publisher, SCIE indexed)
- Environmental Engineering Research (Korean Society of Environmental Engineers, SCIE)
- Biomass Conversion and Biorefinery (Springer, SCIE indexed)
- Journal of Environmental Chemical Engineering (Elsevier Publisher, SCIE indexed)
- Reviews in Environmental Science and Bio/Technology (Springer Publisher, SCIE Indexed)
- Ecological Indicators (Elsevier Publisher, SCI indexed)
- Journal of Applied Polymer Science (Wiley Publisher, SCI indexed)
- Journal of Materials Today: Proceedings (Elsevier Publisher, Scopus)
- Processes (MDPI, SCIE indexed)
- Membranes (MDPI, SCIE indexed)
- Sustainability (MDPI, SCIE indexed)
- Qualified reviewer of ACS publishers by completing the ACS Reviewer Lab Course.

## **Technical Program Committee Member**

- Member of Technical Program Committee for ***International Conference on Intelligent Energy Management in Smart Cities (ICIEMSC – 2024)***, 03-04 April 2024.

- Worked as reviewer in **5<sup>th</sup> Euro-Mediterranean conference on environmental integration.**
- Worked as primary evaluator in ‘**Toycathon 2021**’ conducted by the Ministry of Education Innovation Cell, Government of India and AICTE, New Delhi.
- Member of National Scientific Committee and Reviewer for **2nd International Conference on Advances in Material Science 2021**, 16-17 November, 2021.
- Member of Technical Program Committee for **International Conference on Sustainable Development Goals and Gender Perspective (ICS DGAGP)**, 25-26 October 2021.
- Member of Technical Program Committee for **International Conference on Intelligent Energy Management in Smart Cities (ICIEMSC – 2021)**, 25-26 November 2021.
- Member of organizing Committee for **International Conference on Water Desalination, Treatment & Management & Annual Congress of InDA (InDACON - 2021)**, 19-20 March, 2021.
- Member of National Advisory Committee for **International Conference On Advances in Chemical, Biological and Environmental Engineering (ICACBEE-2021)**, 23-24 April, 2021.

### **Professional Activities**

- Co-coordinator of media cell SVNIT.
- Member secretary of the Departmental Academic Advisory Committee (DAAC).
- Co-chairman of Mindbend (2023-2025).
- Member of Hindi Bhasha Rajprakosth (Hindi Cell), SVNIT.
- Member of the Institute Horticulture and Gardening Committee, SVNIT.
- Worked as Co-Chairman of Chemical Engineering Society (CHES), SVNIT.
- Member of Institute level Anti-ragging Squad, SVNIT.
- Member of Hostel Level Anti-Ragging Squad, SVNIT.
- Member of Central Hostel Disciplinary Committee, SVNIT.
- Member of department NBA committee.
- An article is published in Chemical Engineering Society, SVNIT Annual magazine, “Emanate-Eulogizing Chemical Engineering,” titled “Green Chemistry and Sustainable Development” October 2021.
- Chairman of Departmental Club named Greenolution, SVNIT.
- Co-chairman of council of cultural secretary of SVNIT.
- Worked as Warden, Mother Teresa Bhavan (Girls Hostel), SVNIT.
- External Member of the Advisory Board meeting for Chemical Engineering Department of Chhotubhai GopalBhai Patel Institute of Technology (CGPIT), Uka Tarsadia University, Surat held on 25 January 2020.
- Worked as Nodal officer, REEP-2018 at Govt. Polytechnic College, Barmer.

## **Short Term Courses/ FDP/Workshop/National Symposium Attended:**

- Attended a one-week Capacity Building Workshop on Science Communication of STEM Faculty under Malaviya Mission Teacher Training Programme (MMTTP), Ministry of Education, GoI organized by Indian Institute of Technology Hyderabad in association with Indian National Young Academy of Science (INYAS), New Delhi held during March 1-5, 2025 at IIT Hyderabad.
- Attended a one-week Faculty Development Program (FDP) on, “Integrating Synergism among Chemical Processes and Technologies for Sustainable Development” organized by SVNIT, Surat under AICTE Training and Learning Academy (ATAL) program, 10 - 15 February, 2025.
- Attended four-days Faculty Development Programme on “**Recent Pedagogies for Better Learning**” during 22 July, 2024 - 25 July, 2024 conducted by SVNIT, Surat.
- Attended one-week Faculty Development Programme (Master Trainers’) on “**Cyber-Attacks and Defense**” conducted by C-DAC, NOIDA from 2nd January, 2024 – 6th January, 2024 under Cyber Gyan Project, supported by Ministry of Electronics and Information Technology, Government of India.
- Attended a one-week online Faculty Development Program (FDP) on “**R Programming**” organized by National Institute of Technical Teachers' Training and Research, Kolkata from 9th October - 13th October, 2023.
- Attended a one-week short term course (STC) on “**Process Modelling, Simulation, Control and Optimization (PMSCO-2023)**” organized by Department of Chemical Engineering, NIT Jalandhar, 23 March – March 27, 2023.
- Attended a one-week online Faculty Development Program in association with AICTE on, “**New & Emerging Technology using Simulation tools**” organized by the ARK Infosolutions Pvt. Ltd. and Ansys Software Pvt. Ltd., 28 June - 02 July, 2021.
- Attended a one-week Faculty Development Program (FDP) on, “**Novel Materials**” organized by Indian Institute of Technology, Bhilai under AICTE Training and Learning Academy (ATAL) program, 05 July - 09 July, 2021.
- Completed *Journal Citation Reports (JCR) certification series-2021*, organized by Clarivate.
- Attended a one-week Faculty Development Program (FDP) on, “**Green Technology Towards Sustainable Future**” organized by the Department of Chemical Engineering, S.V. National Institute of Technology, Surat, under AICTE Training and Learning Academy (ATAL) program, 26 October - 30 October 2020.
- Attended a two-week Online Faculty Development Programme on “**ICT Tools for Teaching, Learning Process and Institute**” jointly organized by Electronics and ICT Academies held from 10<sup>th</sup> - 21<sup>st</sup> August, 2020 under the “Scheme of financial assistance for setting up of Electronics and ICT Academies” of the Ministry of Electronics and Information Technology (MeitY), Government of India.

- Attended a one-week Faculty Development Program (FDP) on, “**Design of Experiment & Artificial Neural Network**” organized by the Department of Chemical Engineering, S.V. National Institute of Technology, Surat, under AICTE Training and Learning Academy (ATAL) program, 4 - 8 November 2019.
- Attended a one-week training program on, “**3D Printing & Robotics**” conducted by Center for Electronic Governance (CEG), Jaipur, 4 February – 8 February, 2019.
- Attended a two-week Short-Term Training Program (STTP) on, “**Induction Training Program**”, conducted by Teachers Training Centre (TTC) and Learning Resources Development Center (LRDC), Department of Technical Education, Jodhpur, 25 June - 6 July 2018.
- Attended a Five Days Short-Term Course (STC) on, “**Membrane Processes for Water Purification and Reject Management**”, organized by the Department of Chemical Engineering, Malaviya National Institute of Technology (MNIT), Jaipur, under TEQIP-III, September 2017.
- Attended a stakeholder’s workshop on, “**Community Water Purification Plants in Quality Affected Habitations of Rajasthan: Issues, Challenges & Way Forward**”, organized by the Department of Civil Engineering and Chemical Engineering, Malaviya National Institute of Technology (MNIT), Jaipur during 27<sup>th</sup> July 2017.
- Attended a Five Days training program on, “**Field Emission Scanning Electron Microscopy (FE-SEM)**” organized by Materials Research Center, Malaviya National Institute of Technology (MNIT), Jaipur, 28 March - 1 April 2017.
- Attended a National Symposium on, “**Water Purification & Reject Management (WPRM-2016)**”, organized by Department of Chemical Engineering, Malaviya National Institute of Technology (MNIT), Jaipur in association with WWSO, PHED Rajasthan, Indian Desalination Association (InDA) & Jaipur Regional Center of IChE on 12<sup>th</sup> November 2016.
- Attended a Three Days workshop on, “**Nature-Inspired Optimization**”, organized by Department of Electronics & Communication Engineering, Malaviya National Institute of Technology (MNIT), under the purview of TEQIP, 21<sup>st</sup> – 23<sup>rd</sup> October 2016.
- Attended a one-day workshop on, “**Technical Manuscript Preparation with LaTeX**”, organized by Department of Electronics & Communication Engineering, Malaviya National Institute of Technology (MNIT), Jaipur, 19<sup>th</sup> September 2015.
- Attended a Seven Day’s Short-term training program (STTP) on, “**Writing Research Paper using LaTeX**”, organized by the Department of Physics, Mathematics and Computer Science, Govt. Women Engineering College, Ajmer, under TEQIP- II, October 2015.

- Attended a Two Day's National Workshop on “**Process Modeling and Simulation**” organized by Aligarh Muslim University (AMU), under TEQIP-II, March 2013.
- Attended a Seven Day's Short-Term Course (STC) for Faculty Development Program (FDP) on “**Application of MATLAB in Engineering**” organized by Malaviya National Institute of Technology (MNIT), under TEQIP-II, September 2013.

## **Professional Experience**

- **September 25, 2023 – Present: Assistant Professor (Grade-I)**, Department of Chemical Engineering, S.V. National Institute of Technology, Surat, Gujarat.
- **October 16, 2019 – September 25, 2023: Assistant Professor (Grade-II)**, Department of Chemical Engineering, S.V. National Institute of Technology, Surat, Gujarat.
- **January 2018 - October 12, 2019: Lecturer and in-charge Head**, Department of Chemical Engineering, Govt. Polytechnic College, Barmer, Rajasthan (Technical Education Department, Govt. of Rajasthan).  
**Courses Taught:** Heat Transfer, Chemical reaction Engineering-I, Fluid Mechanics, Mechanical Operation.

### **Responsibilities:**

- Administrative responsibilities to lead, manage and develop the department.
- Subjects distribution, classes time table compilation, conduction of examination, classes & attendance monitoring, propose regular updates in syllabus to board of academic council, setting up a panel for external and internal paper setters.
- **August 2008 - July 2010: Lecturer**, Department of Chemical Engineering, Jaipur National University, Rajasthan, India.  
**Courses Taught:** Heat Transfer, Chemical Reaction Engineering and Fluid Mechanics.

## **Projects**

### **Doctoral Work:**

**Title:** Mathematical Modeling and Experimental Study of Air Gap Membrane Distillation for Separation of HCl/Water Azeotrope.

**Supervisors:** Dr. Sushant Upadhyaya (Associate Professor, MNIT, Jaipur) and Dr. Kailash Singh (Professor, MNIT, Jaipur)

### **Master Course Project - 1**

**Title:** Optimization of Thermal Cracker using Linear Programming.

**Duration:** Six Months (with studies during third semester)

**Supervisor:** Prof. (Dr.) Mohammad Idrees (Professor, AMU, Aligarh) and Dr. Syed Akhlaq Ahmad (Associate Professor, AMU, Aligarh)

### **Project – 2 (Dissertation)**

**Title:** Dynamic Modeling and Simulation of Pressure Swing Adsorption Column



**Duration:** Six Months (with studies during fourth semester)

**Supervisor:** Dr. Syed Akhlaq Ahmad (Associate Professor, AMU, Aligarh)

### **Technical Skills**

- Programming Languages: MATLAB
- Simulation Software: Aspen plus, Minitab, ImageJ©, COMSOL Multiphysics©
- LATEX, Dia Software, OriginPro, draw.io

**Languages:** English (Spoken and Written) - Good, Hindi - Fluent, Marwadi (Regional Language)

**Dr. Sarita Kalla**