

	<p>MAUSUMI MUKHOPADHYAY Professor Department of Chemical Engineering Ph. D. IIT Bombay, 2007 M.Tech IIT Kharagpur, 1995 B.Tech Calcutta University, 1992 Phone no.: 91-261-2201645 E-mail: mmu@ched.svnit.ac.in mausumi_mukhopadhyay@yahoo.com</p>	<p>PROFESSIONAL UPDATES Visiting Scientist (May 2016-July 2016) Universität Duisburg-Essen, Germany Visiting Scholar (May 2017-July 2017) University of Idaho, USA</p>
<p>CURRENT RESEARCH</p> <ul style="list-style-type: none"> • Nanocomposite as Super Capacitor (Energy Storage) • Nanocomposite as Sensor/Biosensor and as Therapeutics • Nanocomposite as UF and NF Membrane 	<p>RESEARCH AREA</p> <ul style="list-style-type: none"> • Nanoconposites • Separation/Sorption/Remediation • Waste water treatment 	
<p>SPONSORED PROJECTS UNDERTAKEN</p> <ul style="list-style-type: none"> • BRNS (Completed, Investigator): Polymer blends nanocomposite membranes heavy metal removal from aqueous system. • DST (Completed, Investigator): Water analysis. • MHRD Thrust Area (Completed, Co-investigator): Metal removal by membrane separation • IEI –R & D (Completed, Investigator): Metal removal by biosorption 	<p>INDUSTRIAL PROJECTS UNDERTAKEN</p> <ul style="list-style-type: none"> • M/s. Vandana Tex Dyes, Ankleshwar: Cleaner production of dyestuff • KRIBHCO, SURAT: Removal of urea and ammonia 	
<p>POST GRADUATE THESIS SUPERVISION</p> <ul style="list-style-type: none"> • M.TECH STUDENT/S GUIDED:15/GUIDING: 01 (Including the one which won the Indian National Academy of Engineering-Innovative Student Projects Award – 2010). • PhD STUDENT/S: Degree Awarded 7, Ongoing: 3 	<p>PUBLICATIONS*: 123</p> <ul style="list-style-type: none"> • JOURNAL: 67 • CONFERENCE PROCEEDINGS: 56 • h-Index:18 	
<p>MEMBER OF TECHNICAL SOCIETIES</p> <ul style="list-style-type: none"> • AIChE (Senior Member) • Indian Institute of Chemical Engineers (LM) • Indian Society of Technical Education (LM) • Institute of Engineers India (AM) 	<p>PAPER PRESENTED: 46</p> <ul style="list-style-type: none"> • International Conference: 29 • National Conference: 17 	
<p>REVIEWED/ING TECHNICAL PAPERS IN INTERNATIONAL JOURNAL/S:43</p>		
<p>EXPERT LECTURES DELIVERED: 14; * LIST OF PUBLICATIONS ATTACHED</p>		
<p>AWARDED and ONGOING PhD and MASTER’S STUDENTS LIST</p>		

LIST OF PUBLICATIONS: PUBLISHED/ACCEPTED IN JOURNALS

2019

67. Sonia R. Lakhota, **Mausumi Mukhopadhyay** and Premlata Kumari, (2019). "Iron oxide (FeO) nanoparticles embedded thin-film nanocomposite nanofiltration (NF) membrane for water treatment" *Separation and Purification Technology*, 211, 98-107.

doi.10.1016/j.seppur.2018.09.034

66. Gourav Mishra and **Mausumi Mukhopadhyay** (2019), "TiO₂ decorated functionalized halloysite nanotubes (TiO₂@HNTs) and photocatalytic PVC membranes synthesis, characterization and its application in water treatment" *Scientific Reports- Nature*, 9 (1) 4345.

<https://doi.org/10.1038/s41598-019-40775-4>

65. Mehali J. Mehta, **Mausumi Mukhopadhyay** and R. A. Christian (2019). "Regeneration and reuse of magnesium oxide (MgO) nanocrystallites". *Separation Science and Technology*, 54 (2), 275-281.

doi.10.1080/01496395.2018.1541093

64. **Mausumi Mukhopadhyay**, Sonia R. Lakhota, A. K. Ghosh and R. C. Bindal (2019), "Removal of Arsenic from Aqueous media using Zeolite/Chitosan Nanocomposite Membrane" *Separation Science and Technology*, 54 (2), 282-288.

doi: 10.1080/01496395.2018.1459704

63. Dharmesh H. Sur and **Mausumi Mukhopadhyay** (2019), "Role of zinc oxide nanoparticles for effluent treatment using *Pseudomonas putida* and *Pseudomonas aureofaciens*" *Bioprocess and Biosystem Engineering*, 42, 187-198.

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61. Sonia R. Lakhota, **Mausumi Mukhopadhyay** and Premlata Kumari, (2018). "A short review: Surface modified nanocomposite membrane", *Separation and Purification Reviews*, 47, 288-305.

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doi:10.1016/j.jiec.2018.02.037

59. Sonia R. Lakhota, **Mausumi Mukhopadhyay** and Premlata Kumari, (2018), "Cerium oxide nanoparticles embedded thin-film nanocomposite nanofiltration membrane for water treatment", *Scientific Reports- Nature*, 8(1) 4976.

doi: 10.1038/s41598-018-23188-7 (www.nature.com/articles/s41598-018-23188-7)

58. Dharmesh H. Sur and **Mausumi Mukhopadhyay** (2018), "Process parametric study for COD removal of electroplating industry effluent", *3 Biotech*, 8 (2) 84.

57. Abhishek Kumar Singh and **Mausumi Mukhopadhyay** (2018). “Immobilization of lipase on carboxylic acid-modified silica nanoparticles for olive oil glycerolysis”, *Bioprocess and Biosystem Engineering*, 41, 115-127.
doi: 10.1007/s00449-017-1852-5

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56. Gourav Mishra and **Mausumi Mukhopadhyay** (2017), “Flux improvement, rejection, surface energy and antibacterial study with synthesized TiO₂-Mo.HNTs/PVC nanocomposite ultrafiltration membrane”, *New Journal of Chemistry*, 41,15049-15057.
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51. Preeti Dauthal and **Mausumi Mukhopadhyay** (2016), “Phyto-synthesis and structural characterization of catalytically active gold nanoparticles”, *3 Biotech*, 6, 1-9.
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50. Nishant Srivastava and **Mausumi Mukhopadhyay** (2016). “Green synthesis and structural characterization of CdO nanoparticles”, *Advanced Science Letters*, 22, 929-934.
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46. Nishant Srivastava and **Mausumi Mukhopadhyay** (2015). “Biosynthesis and Structural Characterization of Selenium Nanoparticles using *Gliocladium roseum*” *Journal of Cluster Science* , Article in Press

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44. Preeti Dauthal and **Mausumi Mukhopadhyay** (2015), “Agro-industrial waste mediated synthesis and characterization of gold and silver nanoparticles and their catalytic activity for 4-nitroaniline hydrogenation”. *Korean Journal of Chemical Engineering*. 32, 837-844, 2015.

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41. Nishant Srivastava and **Mausumi Mukhopadhyay** (2015). “*Ralstonia eutropha* (*Cupriavidus metallidurans*) mediated biosynthesis of gold nanoparticles and catalytic treatment of 2, 4 dichlorophenol”. *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 45, 238-247

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37. Dhiraj P. Daswat and **Mausumi Mukhopadhyay** (2014), "Effect of UV input on degradation of 4-chlorophenol by peroxy acetic acid" *The Arabian Journal for Science and Engineering*, 39, 5873-5881.

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35. **Mausumi Mukhopadhyay** and Dhiraj P. Daswat (2014), "Kinetic and mechanistic study of photochemical degradation of 4-chlorophenol using peroxy acetic acid (PAA)" *Desalination and Water Treatment*, 52, 5704-5714.

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30. Swati Sharma, **Mausumi Mukhopadhyay** and Z. V. P. Murthy (2013), "Investigation of UV assisted chlorophenol congeners' degradation by organic oxidant *p*-nitrobenzoic acid in basic media," *Water Science and Technology*, 67, 2418-2427.

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29. **Mausumi Mukhopadhyay** and Dhiraj P. Daswat (2013), "Photochemical degradation of 4-chlorophenol in aqueous phase using peroxy acetic acid (PAA)" *Water Science & Technology*, 67, 440-445.

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25. Vishal Jadav, **Mausumi Mukhopadhyay**, Z.V.P. Murthy (2012), Separation of methanol from methanol-toluene mixtures using polydimethylsiloxane hydrophobic membrane, *Journal of Polymer Materials*, 29, 301-308.

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23. Vishal Jadav, **Mausumi Mukhopadhyay** and Z. V. P. Murthy (2012), “Comparative study of separation of acetonitrile from aqueous solutions by pervaporation using different membranes”, *Separation Science and Technology*, 47, 2299-2304.
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16. **Mausumi Mukhopadhyay**, T. Kaur and R. Khanna (2012). "Fixed bed and reduced lumped diffusion model parameter estimation of copper biosorption using *Aspergillus niger* biomass". *The Canadian Journal of Chemical Engineering*, 90, 1011-1016.
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PUBLISHED in CONFERENCE PROCEEDINGS

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56. *Manu Saji Samuel, Chirag Mevada and Mausumi Mukhopadhyay (2019), "Chemically activated hydrophilic carbon cloth as an electrode material for energy storage device" Presented in American Association for Advances in Functional Material (AAAFM), University of Los Angeles, USA, 19th-22 August, 2019, pp 31.*
55. *Chirag Mevada and Mausumi Mukhopadhyay (2019), "Electrochemical investigation of hydrous ruthenium oxide as an electrode material for energy storage device", Poster Presented in, International Conference on Recent Trends in Nanomaterials for Clean Energy (ICRTNCE-2019) organized by Department of Applied Physics, SVNIT, Surat during 16th-17th February, 2019*
54. *Neha Bhatt and Mausumi Mukhopadhyay (2019), "Photocatalytic Activity of Synthesized PVC/ZnO Nanocomposite Membrane", Poster Presented in Indo German Joint Scientific Workshop on Membranes for Water and Energy CSIR-Central Salt and Marine Chemicals Research Institute, Bhavnagar, Gujarat, India during 18th-20th February, 2019, Article ID: MW-0036.*

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52. *Sonia R. Lakhotia, Mausumi Mukhopadhyay and Premlata Kumari (2018), "Self cleaning cerium oxide-TFN NF membrane for water treatment", IWA Regional Membrane Technology Conference (IWA-RMTC 2018, Vadodara, Gujarat, India.*
51. *Mausumi Mukhopadhyay, Niraj Kulkarni, Preeti Dauthal (2018), "Optimization and Green synthesis (Delonix regia mediated) of zero valent iron nanoparticles" AIChE 2018, Annual Meeting, Pittsburg, USA.*

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49. Dharmesh H. Sur and **Mausumi Mukhopadhyay** (2017), “Biotechnological application of three phase fluidized bed for Cod reduction”, Abstract Published in Proceeding of International Conference on Emerging Trend in Biotechnology for Water Conversion (ETBWC-2017), NEERI, Nagpur, India. Abstract ID: NB144, pp. 360.

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26. Kumar, A. and **Mukhopadhyay, M.** (2008). “*Treatment of fertilizer industry waste water – A theoretical approach*”, Published in the proceedings of National Conference on sustainable Urban Environment: Issues and Management Strategies (SUIEMS), Department of Civil Engineering, SVNIT, Surat, pp. 111-116..

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7. Rai, S. and **Mukhopadhyay, M.** (2002). "Rating calculation of compact heat exchanger using 'C'". *Published in Proceeding of 55th Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2002), Osmania University, Hyderabad, India. 133.*

6. **Mukhopadhyay, M., Murthy, Z.V.P. and Sadhu, A. (2001).** “Biofiltration design and scale up”. Published in *Proceeding of International Conference on Industrial Pollution And Control Technologies, ICIPACT –2001, Centre For Environment, Institute of Post Graduate Studies And Research, JNTU, Hyderabad, India.* 18 (ABN 039).

5. **Lad, V. N., Mukhopadhyay, M. and Murthy, Z. V. P. (2001).** “Vermicomposting- An effective method for solid waste management”. Published in *Proceeding of International Conference on Industrial Pollution And Control Technologies, ICIPACT –2001, Centre For Environment, Institute of Post Graduate Studies And Research, JNTU, Hyderabad, India.* 38 (ABN-094).

4. **Mukhopadhyay, M and Murthy, Z. V. P. (2001).** “Computer- aided design of cost-effective azeotropic distillation column sequencing”. Published in *Proceeding of 54th Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2001), Central Leather Research Institute, Adyar, Chennai, India.* 67.

3. **Mukhopadhyay, M, Shaikh, B. and Sutariya, H. (2000).** “Computerized calculations for optimum vapor pipe sizing”. Published in *Proceeding of 53th Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2000), Calcutta Regional Center, Indian Institute of Chemical Engineers, Kolkata, India.* 41.

2. **Mukhopadhyay, M., Shaikh, B. and Subarhmanyam, N. (1999).** “Computerized rating of air cooled heat exchanger”. Published in *Proceeding of 52th Annual Session of Indian Institute of Chemical Engineers (CHEMCON 1999), Chandigarh Regional Center, Indian Institute of Chemical Engineers, Chandigarh, India.* 197.

1. **Mukhopadhyay, M., Tarafdar, R. N., Basu, J. K., Ghar, R. N. and Biswas, A. K. (1994).** “Determination of physical and chemical solubility of CO₂ in amine blends of MEA and AMP using N₂O analogy”. Published in *Proceeding of 47th Annual Session of Indian Institute of Chemical Engineers (CHEMCON 1994), Kharagpur Regional Center, Indian Institute of Chemical Engineers, Kharagpur, India.* 135.

Graduate Students

A. PhD: 7 Degree awarded and 3 Ongoing

10. Mr. Nilesh S. Dumore: (2017-201e): Nanocomposite as Biosensor.

9. Mr. Chirag Chamanlal Mevada: (2017-201b): Study of RuO₂ Nanocomposite as Supercapacitors.

8. Ms. Lakhotia Sonia Rajendra Prasad: (2014-201a): Preparation and characterization of thin-film nanocomposite (TFN) membrane and its application for water treatment.

7. Mr. Gaurav Mishra: 2019 July: Performance evaluation of mixed matrix HNTs-NPs-PVC UF Membrane.

6. Mr. Dharmesh H Sur: 2019 April: Study of inverse three-phase fluidized bed bioreactor in batch mode.

5. Dr. Mehali Mehta: 2017 October: Adsorptive study on Dye removal by synthesized MgO nanocrystallites. (Co-Supervisor: **Dr. R. A. Christian and Dr. N. J. Mistry**)

4. Dr. Preeti Dauthal: 2016 October: Plant mediated synthesis of noble metal nanoparticles and their applications.

3. Dr. Nishant Srivastava: 2014 November: Biosynthesized nanoparticles for environmental applications.

2. Dr. Abhishek Kumar Singh: 2014 January: Studies of immobilized lipase from *Candida* sp. and its activity study for glycerides production.

1. Dr. Swati Sharma: 2014 January: Degradation of chlorophenols from wastewaters. (Co-Supervisor: **Dr. Z.V.P. Murthy**)

B. M.Tech: 15 Degree Awarded and 1 Ongoing

- 16. Mr. Jahagirdar Srinivas Narendra: 2019-2020:** Enhanced antifouling performance of Membrane
- 15. Mr. Manu Saji: 2018-2019:** Nanocomposite and its surface property
- 14. Ms. Neha: 2017-2018:** PVC/ZnO Nanocomposite ultrafiltration membrane: synthesis, characterization and applications.
- 13. Ms. Parvathy S Chandran: 2016-2017:** Synthesis, Characterization and applications of SnO₂ nanoparticles.
- 12. Mr. Parikshit Saha: 2015-2016:** Scale up study of biosynthesized nanoparticles.
- 11. Mr. Niraj Jayant Kulkarni: 2014-2015:** Nanocatalyzed conversion of agricultural waste.
- 10. Mr. Bhavik B. Vyas: 2011-2012:** Removal of heavy metal ions from synthetic water using zero valent Ni nanoparticles.
- 9. Mr. Rahul R. Pathade: 2011-2012:** Photocatalytic Degradation of 2, 4-Dichlorophenol Using Magnetic Nanoparticles.
- 8. Mr. Dhiraj P. Daswat: 2010-2011:** Degradation of 4-Chlorophenols by UV assisted organic oxidants.
- 7. Ms. Dipti Patil: 2010-2011:** Study of particle-surface dynamics of polymer blend nanocomposite membranes.
- 6. Mr. Nilesh S. Dumore: 2010-2011:** Synthesis of immobilized lipase and its activity study.
- 5. Ms. Swati Sharma: 2009-2010:** Degradation of 4-chlorophenol in wastewater by organic oxidants. (Co-Supervisor: **Dr. Z. V. P. Murthy**)
- 4. Mr. Gaurav Singh: 2009-2010:** Optimization of liquid-liquid extraction process using stochastic algorithm.
- 3. Mr. Vishal Jadav: 2008-2009:** Organic separation by pervaporation. (Co-Supervisor: **Dr. Z. V. P. Murthy**)
- 2. Mr. Anil Kumar: 2007-2008:** Ammonia removal from fertilizer industry wastewater.
- 1. Ms. Rashmita D. Patel: 2006-2007:** Cleaner production in chemical industry -*Case Study*

Reviewed/reviewing technical papers for the following Journals: 43

1. **Applied Biochemistry and Biotechnology** (Springer) (SCI/SCIE Journal)
2. **Bioresource Technology** (Elsevier Scientific Publication, UK) SCIE Journal)
3. **Catalysis Communications** (Elsevier Scientific Publication) (SCI/SCIE Journal)
4. **Chemosphere** (Elsevier Scientific Publication) (SCI/SCIE Journal)
5. **Chemical Engineering Journal** (Elsevier Scientific Publication, Switzerland) (SCI/SCIE Journal)
6. **Chemical Industry & Chemical Engineering Quarterly** (Association of Chemical Engineers, Serbia) (SCIE Journal)
7. **Colloids and Surface A: Physicochemical and Engineering Aspects** (Elsevier Scientific Publication) (SCI/SCIE Journal)
8. **Desalination** (Elsevier Scientific Publication, The Netherlands) (SCI/SCIE Journal)
9. **Desalination and Water Treatment** (Desalination Publications, USA) (SCIE Journal)
10. **Environmental Science and Technology** (American Chemical Society, USA) (SCI/SCIE Journal)
11. **Environmental Technology** (Taylor & Francis Group Publication, UK) (SCI/SCIE Journal)

12. **Industrial & Engineering Chemistry Research** (American Chemical Society, USA) (SCI/SCIE Journal)
13. **International Journal of Food Science and Technology** (Wiley) (SCI/SCIE Journal)
14. **Letters of Applied Microbiology** (Wiley) (SCI/SCIE Journal)
15. **Material Science and Engineering C** (Elsevier Scientific Publication) (SCI/SCIE Journal)
16. **Nano Letter**(American Chemical Society, USA) (SCI/SCIE Journal)
17. **Powder Technology** (Elsevier Scientific Publication, Switzerland) (SCI/SCIE Journal)
18. **Research on Chemical Intermediates** (Springer) (SCI/SCIE Journal)
19. **RSC Advances** (Royal Society of Chemistry, UK) (SCI/SCIE Journal)
20. **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy** (Elsevier Scientific Publication, Switzerland) (SCI/SCIE Journal)
21. **Applied Nanoscience** (Springer)
22. **The Institution of Engineers (India) Journal**