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<p><b>RESEARCH AREA</b></p> <ul style="list-style-type: none"> <li>• Nanoparticles characterization and its applications</li> <li>• Separation (membrane)/Sorption/ bioseparation</li> <li>• Environmental Engineering</li> <li>• Waste water treatment</li> </ul>	<p><b>CURRENT RESEARCH</b></p> <ul style="list-style-type: none"> <li>• Biomass conversion</li> <li>• Nanomaterials for water/waste water</li> <li>• Polymer Nanocomposite membrane</li> <li>• Degradation of organics by oxidation for effluent water treatment</li> </ul>	
<p><b>SPONSORED PROJECTS UNDERTAKEN</b></p> <ul style="list-style-type: none"> <li>• BRNS (ONGOING, Investigator): Polymer blend nanocomposite membranes heavy metal removal from aqueous system.</li> <li>• DST (ONGOING, Investigator): Water analysis.</li> <li>• MHRD Thrust Area (Completed, Co-investigator): Metal removal by membrane separation</li> <li>• IEI –R &amp; D (Completed, Investigator): Metal removal by biosorption</li> </ul>	<p><b>INDUSTRIAL PROJECTS UNDERTAKEN</b></p> <ul style="list-style-type: none"> <li>• M/s. Vandana Tex Dyes, Ankleshwar: Cleaner production of dyestuff intermediate Fast Bordeaux GP Base to reduce quantity and improve quality of effluent</li> <li>• KRIBHCO, SURAT:Removal of urea and ammonia from ammoniacal wastewater</li> </ul>	
<p><b>POST GRADUATE THESIS SUPERVISION</b></p> <ul style="list-style-type: none"> <li>• M.TECH STUDENT/S GUIDED: 5 (Including the one which Won the Indian National Academy of Engineering-Innovative Student Projects Award – 2010) ONGOING: 3.</li> <li>• PhD STUDENT/S ONGOING: 5; JRF: 1; Project Assistant: 1.</li> </ul>	<p><b>PUBLICATIONS*: 45</b></p> <ul style="list-style-type: none"> <li>• JOURNAL:17; International Journal: 10 ; National Journal: 7</li> <li>• CONFERENCE PROCEEDINGS: 27; International: 11; National: 16</li> <li>• EDITED BOOK/ PROCEEDINGS- 1</li> </ul>	
<p><b>MEMBER OF TECHNICAL SOCIETIES</b></p> <ul style="list-style-type: none"> <li>• Indian Institute of Chemical Engineers (LM)</li> <li>• Indian Society of Technical Education (LM)</li> <li>• Institute of Engineers India (AM)</li> </ul>	<p><b>PAPER PRESENTED: 16</b></p> <ul style="list-style-type: none"> <li>• International Conference: 8</li> <li>• National Conference: 8</li> </ul> <p><b>EXPERT LECTURE DELIVERED: 8</b></p>	
<p>* LIST OF PUBLICATIONS ATTACHED</p>		

## LIST OF PUBLICATIONS

### International Journal

1. **Mausumi Mukhopadhyay**, T. Kaur and R. Khanna (2011). "Fixed Bed and Reduced Lumped Diffusion Model Parameter Estimation of Copper Biosorption using *Aspergillus niger* Biomass". The Canadian Journal of Chemical Engineering, (Paper Accepted- April 2011). ([http:// onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)/939-019X](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)/939-019X))
2. **Mausumi Mukhopadhyay** and Rashmita Patel (2011). "Cleaner Production Assessment of Fast Bordeaux GP Base". Organic Chemistry International, (Paper Accepted- April 2011). (<http://www.hindawai.com>).
3. Swati Sharma, **Mausumi Mukhopadhyay** and Z. V. P. Murthy (2011), "Rate Parameter Estimation for 4-Chlorophenol Degradation by UV and Organic Oxidants", (Paper Accepted- March 2011). ([http:// sciencedirect.com/science/journal](http://sciencedirect.com/science/journal))
4. **Mausumi Mukhopadhyay**, S. B. Noronha and G. K. Suraishkumar (2010). "A Review on Experimental Studies of Biosorption of Heavy Metals by *Aspergillus niger*". The Canadian Journal of Chemical Engineering, (Paper Accepted- August 2010). ([http:// onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)/939-019X](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)/939-019X))
5. Mehali J. Mehta, R. A. Christian, N. J. Mistry and **Mausumi Mukhopadhyay** (2010). "Plasma Gasification: A Waste Treatment Technology". The IUP Journal of Chemical Engineering, 2, 43-53. ([www.iupindia.in](http://www.iupindia.in))
6. Swati Sharma, **Mausumi Mukhopadhyay**, Z.V.P. Murthy (2010). "Degradation of 4-Chlorophenol in Waste Water by Organic Oxidants". Industrial and Engineering Chemistry Research, 49, 3094-3098. ([http:// pubs.acs.org/journal/iecred](http://pubs.acs.org/journal/iecred))
7. **Mausumi Mukhopadhyay** (2009). Removal of Violet 5BN Dye from Textile Wastewater- Comparison of Different Methods, The ICFAI University Journal of Chemistry, 2, 31-37. ([www.iupindia.org](http://www.iupindia.org))
8. **Mausumi Mukhopadhyay** (2008) "Role of Surface Properties during Biosorption of Copper by Pretreated *A. niger* Biomass". Colloids and Surfaces A: Physicochemical and Engineering Aspects Journal. 329, 95-99. ([http:// sciencedirect.com/science/journal/500844](http://sciencedirect.com/science/journal/500844))
9. **Mausumi Mukhopadhyay**, S. B. Noronha and G. K. Suraishkumar (2008). "Copper Biosorption in a Column of Pretreated *A. niger* Biomass". Chemical Engineering Journal 144, 386-390. ([http:// sciencedirect.com/science/journal/13858947](http://sciencedirect.com/science/journal/13858947)) (Cited in 1 Journal paper)
10. **Mausumi Mukhopadhyay**, S. B. Noronha and G. K. Suraishkumar (2007). "Kinetic Modeling for the Biosorption of Copper by Pretreated *A. niger* Biomass". Bioresource Technology Journal. 98, 1781-1787. ([http:// sciencedirect.com/science/journal/09608524](http://sciencedirect.com/science/journal/09608524)) (Cited in 25 Journal papers)

### National Journal

11. Vekariya, A. C., Lakhani, A. J. and Mukhopadhyay, M. (2005). "Bio-diesel production by using waste vegetable oil". Offshore World, 3 (1), 69-72.
12. Grace, T. A. and Mukhopadhyay, M. (2003). "Object Oriented Distillation Column". Chemical Engineering World, 38 (12), 167-169.

13. Garg, S and Mukhopadhyay, M. (2002). "Biodegradation of PTA Waste Stream: A Case Study". Chemical Weekly, September 10, 179-184.
14. Ghori, H. L. and Mukhopadhyay, M. (2005). "Food from Waste". Beverage & Food World, 32 (12), 32-34.
15. Mukhopadhyay, Mausumi. (2004). "Reverse Micellar Separation of Protein". Chemical Engineering World, 39 (3), 81-83.
16. Mukhopadhyay, Mausumi. (2002). "Biofiltration: A Case Study". Chemical Industry Digest, May-June, 88-92.
17. Mukhopadhyay, M and Murthy, Z. V. P. (2002). "Ultrafiltration, Assuming Importance in Biotechnology". Chemical Engineering World, April, 61-63.

### **Published in International Conference Proceeding**

1. Mukhopadhyay, M., Kaur, T and Khanna, R. (2009). "Continuous column modeling of copper biosorption using pretreated *Aspergillus niger* biomass". AIChE 2009 Annual Meeting, Nashville, USA, 311.
2. Mukhopadhyay, M., Noronha, S. B. and Suraishkumar, G. K. (2006). "Copper removal from industrial wastes". Proceeding of the International Workshop on RD Frontiers in Water and Wastewater Management, NEERI, Nagpur, India, 593-602.
3. Mukhopadhyay, M., Noronha, S. B. and Suraishkumar, G. K. "Copper removal from wastewater by biosorption". Published in 2006 Spring National Meeting and the World Congress on particle Technology-5 Proceeding, Orlando, FL, USA, AIChE. 2006.
4. Mukhopadhyay, M., (2006). "Thermodynamic characterization of copper biosorption process by pretreated *A. niger* biomass". AIChE 2006 Annual Meeting, San Francisco, USA.
5. Mukhopadhyay, M. (2006). "System parameters evaluation of a copper biosorption process assisted with artificial neural network". Proceeding of the International Workshop on Neural Network and Genetic Algorithm in Material Science and Engineering, BESU, Shibpur, India, 346-355.
6. Patel, A., Jadav, V. and Mukhopadhyay, M. (2006). "Removal of C4G and 5BN dyes by Bagasse from Textile Effluent". Proceeding of the International Workshop on RD Frontiers in Water and Wastewater Management, NEERI, Nagpur, India, 648-657.
7. Patel, A., Jadav, V. and Mukhopadhyay, M. "Potential Utilization of Sugar Industry Waste for Removal of Color from Textile Industry Effluent". Published in World Water and Resources Congress-2006 Proceeding, Omaha, Nebraska, USA, ASCE. 2006.
8. Vekariya, A. C., Lakhani, A. J. and Mukhopadhyay, M. (2006). "Green Chemicals for Process Industries". Proceeding of the 2<sup>nd</sup> International Symposium on Green/Sustainable Chemistry, University of Delhi, Delhi, India. 83.
9. Vaddadi, J. S., Pavitra, G. and Mukhopadhyay, M. (2006). "Comparison of different methods used for removal of violet 5bn dye from textile effluent-experimental study". Proceeding of the International Symposium on Desalination and Water Purification: Water resources and Management, MNIT, Jaipur, India. 107.
10. 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).
11. 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

### **Published in National Conference Proceeding**

12. 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..
13. Kumar, A. and Mukhopadhyay, M. Das, A. K. and Mandal, D. K. (2008). "Treatment of ammoniacal wastewater", Published in the proceedings of National Conference on Emerging Trends in Chemical Engineering (ETCE-08), Department of Chemical Engineering, SVNIT, Surat, pp. 68-71.
14. Kumar, A. and Mukhopadhyay, M. (2007). "Fertilizer effluents: Its problem and solution", Published in the proceedings of International Conference on Environmental Management: Scenario and Strategies to 2020 (EMASS), Department of Chemical Engineering, Ujjain Engineering College, Ujjain, pp. 235-241.
15. Rashmita, D. P., Mukhopadhyay, M and Upasani, C. B. (2007). "Energy efficient cost effective cleaner production of Fast Bordeaux GP base- a dye intermediate". To be published in Proceedings of All India Seminar on Energy, Environment & Economics, EEE 2007, November 3<sup>rd</sup> - 4<sup>th</sup>, 2007, National Institute of Technology, Rourkela, Orissa, India.
16. Vekariya, A. C., Lakhani, A. J. and Mukhopadhyay, M. (2005). "Waste vegetable oil as a potential source of bio-diesel". Published in Proceeding of 58<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2005), IIT Delhi, Delhi, India. 1, 387.
17. Patel, A., Jadav, V. and Mukhopadhyay, M. (2005). "Dehumidification of Psyllium husk- a preliminary study". Published in Proceeding of 58<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2005), IIT Delhi, Delhi, India. 2, 19.
18. Mukhopadhyay, M. (2004). "Minimization of makeup entrainer volume in azeotropic distillation using MATLAB". Published in Proceeding of 57<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2004), Hotel Hyatt, Mumbai, India. 11-4.
19. Garg, S., Ghorl, H. L. and Mukhopadhyay, M. (2003). "Pilot plant study of PTA waste water by UASB Reactor". Published in Proceeding of 56<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2003), Regional Research Laboratory, Bhubaneswar, India. 79.
20. Reddy, G. V. and Mukhopadhyay, M. (2003). "Activated sludge process". Published in Proceeding of 56<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2003), Regional Research Laboratory, Bhubaneswar, India. 283.
21. Mukhopadhyay, M. (2002). "Simulation of pressure swing distillation by Aspen Plus". Published in Proceeding of 55<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2002), Osmania University, Hyderabad, India. 68.
22. Grace, T. A. and Mukhopadhyay, M. (2002). "Design of heat exchanger using SQL\*Plus". Published in Proceeding of 55<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2002), Osmania University, Hyderabad, India. 74.
23. Rai, S. and Mukhopadhyay, M. (2002). "Rating calculation of compact heat exchanger using 'C'". Published in Proceeding of 55<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2002), Osmania University, Hyderabad, India. 133.

24. Mukhopadhyay, M and Murthy, Z. V. P. (2001). "Computer- aided design of cost-effective azeotropic distillation column sequencing". Published in Proceeding of 54<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2001), Central Leather Research Institute, Adyar, Chennai, India. 67.
25. Mukhopadhyay, M, Shaikh, B. and Sutariya, H. (2000). "Computerized calculations for optimum vapor pipe sizing". Published in Proceeding of 53<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2000), Calcutta Regional Center, Indian Institute of Chemical Engineers, Kolkata, India. 41.
26. Mukhopadhyay, M., Shaikh, B. and Subarhmanyam, N. (1999). "Cmputerized rating of air cooled heat exchanger". Published in Proceeding of 52<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 1999), Chandigarh Regional Center, Indian Institute of Chemical Engineers, Chandigarh, India. 197.
27. Mukhopadhyay, M., Tarafdar, R. N., Basu, J. K., Ghar, R. N. and Biswas, A. K. (1994). "Determination of physical and chemical solubilities of CO<sub>2</sub> in amine blends of MEA and AMP using N<sub>2</sub>O analogy". Published in Proceeding of 47<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 1994), Kharagpur Regional Center, Indian Institute of Chemical Engineers, Kharagpur, India. 135.

#### **EDITED BOOK/PROCEEDINGS**

1. Edited Conference proceedings on "Emerging Trends in Chemical Engineering", 7<sup>th</sup> -8<sup>th</sup> May, 2008, Department of Chemical Engineering, SVNIT, Suart.