

## DEPARTMENT OF CHEMISTRY

### LIST OF PUBLICATIONS OF FACULTY (LAST FIVE YEARS)

1. Microwave assisted synthesis of 2-amino-5-substituted-1,3,4-oxadiazoles and 2-amino-5-substituted-1,3,4-thiadiazoles, Harish Kumar, Rita Goyal, Sukhwinder Kaur and Anupama Parmar, Presented in "24<sup>th</sup> Indian Council of Chemists" held at Birla Institute Mesra, Ranchi (Jharkhand) on Dec. 16-18, 2005.
2. Lipase catalyzed microwave assisted regioselective synthesis of esters of Monosaccharides, Harish Kumar, Rita Goyal, Anupama Parmar and Sukhwinder Kaur, Presented in "9<sup>th</sup> Punjab Science Congress" held at Guru Nanak Dev Dental College & Research Institute, Sunam on Feb. 7-9, 2006.
3. Microwave Assisted Lipase Catalyzed Regioselective Esterification of Sorbitol in Organic Solvents, Harish Kumar\*, Anupama Parmar and Sukhwinder Kaur, Accepted for presentations at *Silver Jubilee Conference of Indian Council of Chemists to be held from 27<sup>th</sup> to 29<sup>th</sup> December 2006* at Birla college of Arts, Science and Commerce, Kalyan, Mumbai (MS).
4. Iron (III) Perchlorate Adsorbed on Alumina: A Novel Reagent for Organic Functional Group Transformations, Harish Kumar\* and Anupama Parmar, Accepted for presentations at *Silver Jubilee Conference of Indian Council of Chemists to be held from 27<sup>th</sup> to 29<sup>th</sup> December 2006* at Birla college of Arts, Science and Commerce, Kalyan, Mumbai (MS).
5. Hydrated Manganese Perchlorate: An Efficient Reagent for Trans-Esterification, Harish Kumar\* and Anupama Parmar, Presented in "10<sup>th</sup> Punjab Science Congress" held at DAV Institute of Engineering & Technology, Jalandhar on Feb. 7-9, 2007.
6. Lipase Catalyzed Esterification/Trans-Esterification For The Production of Chiral Drugs, Harish Kumar and Anupama Parmar, Presented in "10<sup>th</sup> Punjab Science Congress" held at DAV Institute of Engineering & Technology, Jalandhar on Feb. 7-9, 2007.
7. Lipase Catalyzed Microwave Assisted Regioselective Synthesis of Sugar Esters, Harish Kumar\*, Rita Goyal, Parmjit S., Panesar, Anupama Parmar<sup>1</sup> and Sukhwinder Kaur, Accepted at 9<sup>th</sup> International conference on Chemistry and its Role in Development held at University of Mansoura, on April 16-19, 2007, Egypt (2007).
8. Microwave assisted lipase catalyzed regioselective esterification of monosaccharides, Kumar H; Goyal R ; Panesar, P. S.; Parmar A ; Kaur S, Accepted at organic & physical chemistry conference 2007, 28 January - 2 February 2007 held at Adelaide, Australia (2007).
9. Bentonite Clay Supported Copper Perchlorate Catalyzed Synthesis of Hantzsch 1,4 – Dihydropyridines Under Dry Media, Harish Kumar, Balbir Kaur, Anupama Parmar and Saurabh Puri, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007). **[BEST POSTER AWARD]**
10. Isolation Of Dihydrotagetone From *Tagetes Minuta* Oil & Its Value Addition, Durga Shankar Bunkar, A.K Sinha, Harish Kumar and M. B. Bera, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).

11. Application of Response Surface Methodology for Extraction of Jatropha Oil Using Three Phase Partition Technique, Omchand Singh, P. S. Panesar, Harish Kumar, M. B. Bera, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).
12. Biosurfactants: Sources & Applications, Deepshikha Hasija, Parmjit S. Panesar, Harish. Kumar and Manav B. Bera, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).
13. Solvent-Free Biginelli Cyclocondensation Reaction for Synthesis of Dihydropyrimidines, Surendra K. Nayak<sup>1</sup> and Harish Kumar, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).
14. Manganese Perchlorate Adsorbed on Alumina: A Novel Reagent for Organic Functional Group Transformations, Harish Kumar\*, Rita Goyal, Anupama Parmar and Jaspreet Kaur, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).
15. Microwave Assisted Synthesis 2-Amino-5-Substituted-1,3,4-Oxa/Thiadiazoles, Harish Kumar, Rita Goyal, Anupama Parmar and Sukhwinder Kaur, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering on March 29-30, 2007 at SLIET, Longowal (2007).
16. Synthesis of Substituted 1,2,3,4- Tetrahydropyrimidine-2-ones under Dry media, Harish Kumar\*, Balbir Kaur, Anupama Parmar and Saurabh Puri, Presented in "*11<sup>th</sup> Punjab Science Congress*" held at Thapar University, Patiala on Feb. 7-9, 2008. **[BEST POSTER AWARD]**.
17. Synthesis of 2-Aminothiazole, 2-mercaptobenzothiazole and 2-mercaptobenzimidazole derivatives as novel p53-transactivation inhibitors, Surandra Nayak, Harish Kumar\* and P. S. Panesar, Presented in "*11<sup>th</sup> Punjab Science Congress*" held at Thapar University, Patiala on Feb. 7-9, 2008.
18. Ultrasound Promoted Cu(ClO<sub>4</sub>)<sub>2</sub> Catalyzed Rapid Synthesis Of Substituted 1,2,3,4-Tetrahydropyrimidine-2-Ones & Hantzsch 1,4-Dihydropyridines In Dry Media, accepted for oral presentation at International Conference on Chemistry (Chem 05) from March 13-16, 2008 at Cairo University, Cairo, Egypt. (2008)
19. Copper (II) or Manganese (III) Perchlorates Adsorbed on Alumina: Novel Reagents for Organic Functional Group Transformations, Harish Kumar\*, ICTIE-08, Malaysia
20. Transition Metal Perchlorates as Efficient Catalysts for the synthesis of Substituted 1,2,3,4- Tetrahydropyrimidine-2-ones and Hantzsch 1,4-Dihydropyridines under Dry media, Presented at *27<sup>th</sup> Annual Conference of Indian Council of Chemists held from December 26-28* at Gurukul Kangri Vishwavidyalaya, Haridwar (2008).
21. *Pseudomonas putida*- PIG1: Fermentation, Isolation and Separation of Fluorescent Bio-pigments, Harish Kumar and Hemraj, S. N., Accepted for presentation at *27<sup>th</sup> Annual Conference of Indian Council of Chemists held from December 26-28* at Gurukul Kangri Vishwavidyalaya, Haridwar (2008).

22. Novel synthesis of Fused Ring Thiazolo-benzimidazoles as p53 Inhibitors, Surandra Nayak, Harish Kumar\* and P. S. Panesar, Presented at 27<sup>th</sup> Annual Conference of Indian Council of Chemists held from December 26-28 at Gurukul Kangri Vishwavidyalaya, Haridwar (2008).
23. Microwave assisted synthesis of Heterocyclic compounds using Inorganic salts as catalysts under Dry media, Saurabh Puri, Balbir Kaur, Anupama Parmar and Harish Kumar\*, presented at 1st Annual Conference on Recent Advances in Chemical & Environmental Sciences at M. M. Modi College, Patiala on January 16-17, **2009**.
24. Microwave assisted Lipase Catalyzed Regioselective Esterification of Sugars, Harish Kumar, Anupama Parmar, Sukhwinder Kaur, Presented at National Seminar on Recent trends in Chemistry at Punjabi University, Patiala on January 21-22, **2009**.
25. Isolation, Purification & Structure Elucidation of Bio-Surfactants from *Pseudomonas aeruginosa*, Deepshikha Hasija, Parmjit S. Panesar, Harish Kumar And Manav B. Bera, Presented at National Seminar on Recent trends in Chemistry at Punjabi University, Patiala on January 21-22, **2009**
26. Manganese Perchlorate Adsorbed on Silica: A Novel Reagent for Organic Functional Group Transformations, Anupama Parmar And Harish Kumar, Presented at National Seminar on Recent trends in Chemistry at Punjabi University, Patiala on January 21-22, **2009**.
27. Products and Processes in Organic Synthesis: A Green Approach, Harish Kumar, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering at Thapar University, Patiala on February 5-6, **2009**.
28. Synthesis of Hantzsch and Biginelli Compounds: A Green Approach, Saurabh Puri, Balbir Kaur, Anupama Parmar and Harish Kumar, Presented at National Symposium on Green Chemistry: Applications in Science & Engineering at Thapar University, Patiala on February 5-6, **2009**.
29. Ultrasound promoted Cu(ClO<sub>4</sub>)<sub>2</sub> Catalyzed Rapid Synthesis of Hantzsch and Biginelli Compounds, Saurabh Puri, Balbir Kaur, Anupama Parmar and Harish Kumar, Presented in "12<sup>th</sup> Punjab Science Congress" held at Punjab Agricultural University, Ludhiana on Feb. 7-9, 2009. **[BEST POSTER AWARD]**.
30. Transition Metal Perchlorates: Novel Reagents for Organic Functional 27 Group Transformations, Harish Kumar\*, Presented at National Symposium on Emerging Trends in Chemical Analysis & Synthesis (ETCAS-09) held at SLIAT, Longowal on March 12-13, **2009**.
31. Ultrasound-Promoted Copper Perchlorate Catalyzed von Pechmann Condensation: A Greener Approach, Saurabh Puri, Balbir Kaur and Harish Kumar\*, Presented at National Symposium on Emerging Trends in Chemical Analysis & Synthesis (ETCAS-09) held at SLIAT, Longowal on March 12-13, **2009**.
32. Synthesis and Molecular Modeling of Benzimidazoles as anti-apoptotic and antimicrobial agents, Surendra Kumar Nayak, P. S. Panesar and Harish Kumar, Presented at National Symposium on Emerging Trends in Chemical Analysis & Synthesis (ETCAS-09) held at SLIAT, Longowal on March 12-13, **2009**.
33. Optimization of Process Parameters for Epoxidation of Jatropha Oil (Jatropha Curcas) by Peracetic acid, Harish Kumar and Varun Kumar, Presented at

National Symposium on Emerging Trends in Chemical Analysis & Synthesis (ETCAS-09) held at SLIAT, Longowal on March 12-13, **2009**.

34. Biosorption of Cr(VI) and Ni(II) from aqueous solutions on groundnut shells by Garima Mahajan, Umesh garg and Dhiraj Sud, Biennial symposium on emerging trends in separation science and technology (SESTEC-2008), Delhi, 12-14, **2008**.
35. Studies on photodegradation of Malachite Green using TiO<sub>2</sub>/ZnO photocatalyst, Priti Bansal, Navneet Bhullar and Dhiraj Sud Biennial symposium on emerging trends in separation science and technology (SESTEC-2008), Delhi, 12-14, **2008**, **[BEST POSTER AWARD]**.
36. Comparative Evaluation of UV/Solar Light Induced Photodegradation of Azo Dye in Aqueous Solutions, Priti Bansal, Damanjit Singh and Dhiraj Sud, National Conference on Advanced Materials and Radiation Physics, organized by Department of Physics, SLIET, Longowal, 9-10 March, **2009**.
37. Photodegradation of Model Textile Dye by ZnO Catalyst and Solar or Ultraviolet Radiation, Priti Bansal, Damanjit Singh and Dhiraj Sud, National Symposium on Emerging Trends in Chemical Analysis & Synthesis, organized by Department of Chemistry, SLIET, Longowal, 12-13 March, **2009**.
38. Comparative studies on photocatalytic efficiency of ZnO and TiO<sub>2</sub> for degradation and mineralization of Acid Orange 7, Priti Bansal, Amit Dhir, Damanjit Singh and Dhiraj Sud, 61st Annual session of IChE on Green Technology & Sustainable Development, Panjab University, Chandigarh, 27-30 December, **2008**.
39. Novel TiO<sub>2</sub>/ZnO photocatalysts for environment remediation: Synthesis, characterization and their photocatalytic reactivity, Priti Bansal, Amit Dhir, Damanjit Singh and Dhiraj Sud, 2nd National Symposium on Analytical Sciences (NSAS), organized by Indian Society of Analytical Scientists-Delhi Chapter and IHBT-CSIR, Palampur (HP), 23-25 November **2008**.
40. UV light induced photocatalytic degradation of azo dye: comparison of performance of different photocatalysts Priti Bansal, Navneet Bhullar and Dhiraj Sud, 2nd National Symposium on Analytical Sciences (NSAS), organized by Indian Society of Analytical Scientists-Delhi Chapter and IHBT-CSIR, Palampur (HP), 23-25 November **2008**.
41. Photocatalytic degradation of azo dye and identification of reaction intermediates, Priti Bansal, Damanjit Singh and Dhiraj Sud, National Seminar on Recent Trends in Chemistry, organized by Department of Chemistry, Punjabi University Patiala, 21-22 January, **2009**.
42. Biosorption of Cr(VI) and Ni(II) from aqueous solutions on groundnut shells, Garima Mahajan, Umesh garg and Dhiraj Sud, Biennial symposium on emerging trends in separation science and technology (SESTEC-2008), Delhi, 12-14, **2008** **[BEST POSTER AWARD]**.
43. Contribution of analytical techniques for sequestering of heavy metal ions from aqueous solutions using various biosorbents in different forms, Garima Mahajan, Manjinder Pal Kaur and Dhiraj Sud, 2nd National symposium on Analytical Sciences and Technology Development, IHBT, Palampur, Nov. 23-25, **2008**.
44. There is no other Earth, Garima Mahajan, Tanuja Srivastava and Dhiraj Sud, International conference on climate change, biodiversity and food security in the south asian region, UNESCO, Chandigarh Nov. 3-4, **2008**.

45. Comparison between various Bio-sorbent for the removal of Zn (II) from aqueous solutions using response surface methodology, Umesh Garg and Dhiraj Sud, National Symposium on Emerging Trends in Chemical Analysis & Synthesis, organized by Department of Chemistry, SLIET, Longowal, 12-13 March, **2009**.
46. Biosorption of Cr(VI) and Ni(II) from aqueous solutions on groundnut shells, Garima Mahajan, Umesh Garg and Dhiraj Sud Biennial symposium on emerging trends in separation science and technology (SESTEC-2008), Delhi, 12-14, **2008**.
47. Studies on photodegradation of Malachite Green using TiO<sub>2</sub>/ZnO photocatalyst, Preeti Bansal, Navneet Bhullar and Dhiraj Sud, Biennial symposium on emerging trends in separation science and technology (SESTEC-2008), Delhi, 12-14, **2008**.
48. Removal of Cadmium from aqueous solutions by various agricultural waste materials, G.K. Jawa, Umesh K. Garg, M.P. Kaur and Dhiraj Sud, International Conference on analysis of Emerging contaminants in the Environment-EmCon, York, U.K., **2007**
49. Studies on UV/ Solar light induced photodegradation of 2,4-DCP and optimization of process parameters, Dhiraj Sud, S.K. Kansal, Manohar Singh, International Conference on analysis of Emerging contaminants in the Environment-EmCon, York, U.K., **2007**
50. Environmentally harmonious clean technology for green chemistry: photocatalysis, Preeti Bansal, M.P. Kaur, Dhiraj Sud, National Symposium on Green Chemistry-Applications in Science & Engineering, SLIET, Longowal **2007**.
51. Removal of Hexavalent Chromium from aqueous solutions by adsorption on treated sugarcane bagasse using RSM, Umesh K. Garg and Dhiraj Sud, National Symposium on Green Chemistry-Applications in Science & Engineering, SLIET, Longowal. **2007**
52. UV light induced degradation of Methylene Blue using various photocatalysts, M. P. Kaur, S.K. Kansal, M. Singh and D. Sud, National Conference on Recent trends in Chemistry-Trends and Perspectives, SLIET, Longowal, **2006**.
53. Photocatalytic degradation of azo dye and identification of reaction intermediates. National Seminar on Recent Trends in chemistry (NSRTC 09) Punjabi University, Patiala, Jan 21-22, **2009**.
54. Comparative studies on photocatalytic efficiency of ZnO and TiO<sub>2</sub> for degradation and mineralization of Acid Orange 7. 61st Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2008) Panjab University, Chandigarh, Dec. 27-30, **2008**.
55. Novel TiO<sub>2</sub>/ZnO photocatalysts for environment remediation: Synthesis, characterization and their photocatalytic reactivity. National Symposium on Analytical Sciences (NSAS), IHBT Palampur, Nov. 23-25 **2008**
56. Synthesis of 3-methyl-, 3,7-dimethyl-6'(7'H)-oxospiro[cyclohexane-1,3'(4'H)-[2H]thiazolo[3,2-b]-s-tetrazines], 3-methyl-6',7'-dihydrospirocyclohexane-1,3'(4'H)-[2H]thiazolo[3,2-b]-s-tetrazine and 6'aryl-3methylspiro[cyclohexane-1,3'(4'H)-[2H]thiazolo[3,2-b]tetrazines. Proceedings of International Conference on "Molecules to Materials" ICM-06, held at SLIET, Longowal (Sangrur) during March 3-4, 2006, page 372. Ram Pal.