

# CURRICULUM VITAE

## DR. ASIT KUMAR CHAKRABORTI

**Place and Date of Birth:** Calcutta, India. August 15, 1954

**Sex:** Male

**Nationality:** Indian

**Present Position:** Professor and Head,  
Department of Medicinal Chemistry,  
and Dean,  
National Institute of Pharmaceutical Education and Research  
(NIPER),  
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### Academic Qualifications:

1969-1972 Higher Secondary (Science); West Bengal Board of Secondary Education, Calcutta, India. **Grade-First Division**.

1972-1975<sup>¶</sup> B. Sc. (Honours in Chemistry), Bankura Christian College, The University of Burdwan, West Bengal, India. **Grade-First Class**.

1975-1977<sup>†</sup> M. Sc. (Chemistry-Organic Special), The University of Burdwan, **Grade-First Class**. **Rank - First in the First Class**. Received **University Gold Medal** for being placed First in the First Class and **Bardhaman Sammilani Gold Medal** for securing Highest Marks in Chemistry.

1979-1985<sup>§</sup> Ph. D. (Science), Jadavpur University/IACS, Calcutta, India.

Areas of Study:  $\alpha$ -Keto-carbenoid addition and insertion reactions catalysed by self-developed transition metal catalysts, development of catalysts for the conversion of aromatic ring into carboxylic acid group, synthesis of natural products with the help of the self-developed oxidation procedure.

Thesis Title: "*Synthetic Studies in Bridged-Ring and Alicyclic Systems*" supervised by Professor U. R. Ghatak, Department of Organic Chemistry, Indian Association for the Cultivation of Science (IACS), Calcutta.

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<sup>¶</sup>The Examination was held in December 1975 and the result was published in June, 1976.

<sup>†</sup>The Examination was held in January 1979 and the result was published in July, 1979.

<sup>§</sup>The Thesis was submitted in September 1984 and the Degree was awarded in March, 1985.

### A) Academic Profile

**a) Scholarships:**

- 1987 (Nov.)-1989 (Sept.) Postdoctoral Fellowship, Purdue University, Indiana, U. S. A.  
 1985 (Sept.)-1987 (Oct.) Postdoctoral Fellowship, Clemson University, S. C., U. S. A.  
 1981 (Feb.)-1985 (Aug.) Senior Research Fellowship during Ph. D. studies in IACS.  
 1979 (Dec.)-1981 Junior Research Fellowship during Ph. D. studies in IACS.  
 1975-1977 National Scholarship during Postgraduate studies.  
 1972-1975 National Loan Scholarship during Undergraduate studies.

**b) Honours, Awards and Appreciations:**

- Fellow of the Indian Academy of Science, Bangalore, 2014  
 Ranbaxy Research Award 2004 (Pharmaceutical Sciences).  
 Indian Society for Mass Spectroscopy (ISMAS) Eminent Mass Spectroscopist Award 2009.  
 Chemical Research Society of India (CRSI) Bronze Medal 2006.  
 Fellow, Royal Society of Chemistry, Cambridge, U. K.  
 Certificate of Appreciation for Thesis Advisor of the National level Rajnibhai V. Patel PharmInnova Awardee (Mr. Dhameliya Tejas Manjibhai) for the most "Innovative Thesis" in M. Pharm. (Pharmaceutical Chemistry) category in Pharmaceutical Sciences 2014-15.  
 Certificate of Appreciation for Thesis Advisor of 2013 Eli Lilly and Company Asia Outstanding Thesis First Prize Awardee (Dinesh Kumar).  
 Certificate of Appreciation for Thesis Advisor of 2012 Eli Lilly and Company Asia Outstanding Thesis First Prize Awardee (S Raha Roy).  
 Certificate of Appreciation for Thesis Advisor of 2009 Eli Lilly and Company Asia Outstanding Thesis First Prize Awardee (S V Chankeshwara).  
 Certificate of Appreciation for Thesis Advisor of 2009 Eli Lilly and Company Asia Outstanding Thesis Second Prize Awardee (S Sundriyal).  
 Tetrahedron Letters Most Cited Paper 2005-2008 Award.  
 Bioorganic and Medicinal Chemistry Letters Most Cited Paper 2005-2008 Award.  
 Tetrahedron Letters Most Cited Paper 2004-2007 Award.  
 Tetrahedron Letters Most Cited Paper 2003-2006 Award.  
 Member, National Academy of Sciences, India, Allahabad.  
 University Gold Medal 1977, The University of Burdwan.  
 Bardhaman Sammilani Gold Medal 1977, The University of Burdwan.

**c) Member Editorial Board:**

- Technology Transfer and Entrepreneurship  
 Mini-Reviews in Organic Chemistry  
 Current Microwave Chemistry  
 SOA Journal of Organic and Biomolecular Chemistry

The Open Natural Products Journal

International Journal of BioSciences and Technology (IJBST)

International Journal of Medical Sciences and Technology (IJMST)

International Journal of Life Sciences and Technology (IJLST)

**d) Reviewer of International Journals:**

*Chem. Rev., J. Am. Chem. Soc., Chemical Science, Org. Lett., Chem. Commun., J. Med. Chem., Acs. Med. Chem. Lett., Adv. Synth. Catal., Green Chem., J. Org. Chem., Org. Biomol. Chem., RSC Adv., Synlett, Synthesis, J. Combi. Chem., Tetrahedron, Tetrahedron Lett., J. Mol. Cat. A: Chem., Catal. Commun, Catal. Today, Catal. Sci. Tech., Appl. Catal. A., Aust. J. Chem., Can. J. Chem., New J. Chem., Eur. J. Med. Chem., Bioorg. Med. Chem, Bioorg. Med. Chem. Lett., Synth. Commun, Organic Commun., Letters Org. Chem., Chem. Central J. Green. Chem. Lett. Rev., Chem. Biol. Drug Design., J. Organomet. Chem., Appl. Organomet. Chem., J. Sulfur Chem, Molecule, Industrial Engineering and Chemistry Research.*

**e) Research Interest:** To promote interdisciplinary research and teaching culture.

Medicinal Chemistry: Target-based design and syntheses of new chemical entities for various therapeutic areas

Tropical communicable and neglected diseases: (a) Tuberculosis: inhibitors of FtsZ protein assembly, His G, isocitrate lyase (ICL), and malate synthase (ML); (b) Leishmaniasis: trypanothiane reductase (TR), ribose-5-phosphate, and HDAC inhibitors.

Non-communicable diseases: (a) Diabetes: PTP1B, GOAT inhibitors; (b) Inflammation: selective COX-2, COX-LOX dual inhibitors for rheumatoid arthritis and their implication in other disease control such as cancer and CNS disorder; and PDE-IVB inhibitors for asthma and COPD.

Organic Chemistry:

Catalysis: Development of transition-metal catalysed and organocatalytic C-H activation reactions; noble/non-noble metal derived nanocatalysts; and hetero-bimetallic hybrid nanocatalysts for generation of new bio-active carbogens and late functionalisation of bio-active scaffolds.

Green/Sustainable Chemistry: Development of heterogeneous/solid-supported catalysts for organic reactions; microwave-assisted organic reactions; Use of innocuous reaction media- water, ionic liquids, and fluoruous solvents; Molecular level understanding of the role of water in promoting organic reactions; Non-solvent (organo-catalytic) uses of ionic liquids and delineating their role and the origin of catalysis for predictive catalyst modeling.

Combinatorial Chemistry: Development of methodologies for solid/solution phase synthesis of small molecular libraries; Strategies for new linkers and analytical protocols.

Natural Products/Drug Synthesis: Greener synthetic routes to bio-active natural products, cardiovascular drugs, and other biologically active molecules; All-water and protecting group-free synthetic strategies.

**f) Professional (Research and Teaching) Experience:**

2001 (Apr.)- Professor and Head, Department of Medicinal Chemistry, NIPER.

1999 (Nov.)-2001 (Mar.) Associate Professor, Department of Medicinal Chemistry, NIPER.

1994 (Nov.)-1999 (Oct.) Assistant Professor, Department of Medicinal Chemistry, NIPER.  
 1990 (Jan.)-1994 (Oct.) Senior Lecturer, Department of Chemistry, Burdwan University,  
 Burdwan 713 104, India.

1989 (Oct.)-1990 (Jan.) Scientist Fellow (Quick Hire), Department of Medicinal  
 Chemistry, IICB, Calcutta 700 032.

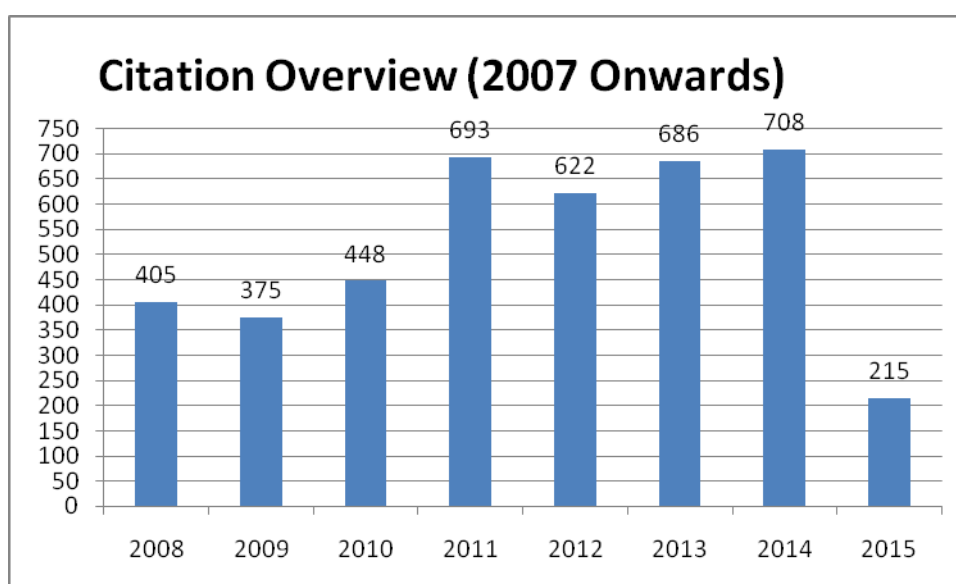
1987 (Nov.)-1989 (Sept.) Postdoctoral Fellow, Purdue University, Indiana, U. S. A.

1985 (Sept.)-1987 (Oct.) Postdoctoral Fellow, Clemson University, S. C., U. S. A.

1981 (Feb.)-1985 (Aug.) Senior Research Fellow during Ph. D. studies in IACS, Kolkata.

1979 (Dec.)-1981 (Jan.) Junior Research Fellow during Ph. D. studies in IACS, Kolkata.

- g) **Publications: Research Article 144; Review Article 1; Book Chapter 2**  
**[Scopus Citation: 5409; Citation per paper 37.56; *h*-Index: 46]**  
**[Google Scholar Citation: 5741; Citation per paper 39.86; *h*-Index:**  
**45; *i*10-Index: 107]**  
**[Impact Factor (IF) 2012: Cumulative IF: 492.981; Average IF: 3.423]**



**Research Articles: Total 144 [Scopus citation against each article provided]**

1. Dinesh Kumar, Pradeep S. Jadhavar, Manesh Nautiyal, Himanshu Sharma, Prahlad K. Meena, Legesse Adane, Sahaj Pancholia, and Asit K. Chakraborti,\* "Convenient synthesis of 2,3-disubstituted quinazolin-4(H)-ones and 2-styryl-3-substituted quinazolin-4(3H)-ones: Applications towards the synthesis of drugs," *RSC Advances*, **2015**, 5, 30819-30825. **IF: 3.708**
2. Babita Tanwar, Priyank Purohit, Banothu Naga Raju, Dinesh Kumar, Damodara N. Kommi, and Asit K. Chakraborti,\* "An "all-water" strategy for regiocontrolled synthesis of 2-aryl quinoxalines," *RSC Advances*, **2015**, 5, 11873-11883. **IF: 3.708**
3. Kapileswar Seth, Manesh Nautiyal, Priyank Purohit, Naisargee Parikh, and Asit K. Chakraborti,\* "Palladium Catalyzed C<sub>sp2</sub>-H Activation for Direct Aryl Hydroxylation: Unprecedented Role of 1,4-Dioxane as Source of Hydroxyl Radical," *J. Chem. Soc. Chem. Commun.*, **2015**, 51, 191-194. **Cited 1 time. IF: 6.718**
4. Dinesh Kumar, Asim Kumar, Mohammad Mohsin Qadri, Md. Imam Ansari, Abhishek Gautam and Asit K. Chakraborti,\* "In(OTf)<sub>3</sub>-catalyzed synthesis of 2-

- styryl quinolines: scope and limitations of metal Lewis acids for tandem Friedländer annulation–Knoevenagel condensation,” *RSC Advances*, **2015**, *5*, 2920-2927. **IF: 3.708**
5. Shaminder Singh, Pravin J. Wanjari, Sonam Bhatia, Vijay C. Sonwane, Asit K. Chakraborti and Prasad V. Bharatam,\* “Design, synthesis, biological evaluation and toxicity studies of *N,N*-disubstituted biguanides as quorum sensing inhibitors,” *Med. Chem. Res.*, **2014** DOI 10.1007/s00044-014-1255-y. **Cited 1 time. IF: 1.612**
  6. Parth Shah, Tejas M. Dhameliya, Rohit Bansal, Manesh Nautiyal, Damodara N. Kommi, Pradeep S. Jadhavar, Jonnalagadda Padma Sridevi, Perumal Yogeeswari, Dharmarajan Sriram, and Asit K. Chakraborti,\* “*N*-Arylalkylbenzo[*d*]thiazole-2-carboxamides as anti-mycobacterial agents: Design, new methods of synthesis and biological evaluation,” *Med. Chem. Commun.* **2014**, *5*, 1489-1495. **Cited 1 time. IF: 2.626**
  7. Kapileswar Seth, Sanjeev K. Garg, Raj Kumar, Priyank Purohit, Vachan S. Meena, Rohit Goyal, Uttam C. Banerjee and Asit K. Chakraborti,\* “2-(2-Arylphenyl)benzoxazole As a Novel Anti-Inflammatory Scaffold: Synthesis and Biological Evaluation,” *ACS Med. Chem. Lett.* **2014**, *5*, 512-516. **Cited 3 times. IF: 3.073**
  8. Kapileswar Seth, Priyank Purohit, and Asit K. Chakraborti,\* “Cooperative Catalysis by Palladium-Nickel Binary Nanocluster for Suzuki-Miyaura Reaction of *Ortho*-Heterocycle-Tethered Sterically Hindered Aryl Bromides,” *Org. Lett.* **2014**, *16*, 2334-2337. **Cited 2 times. IF: 6.324**
  9. Linga Banoth, Bhukya Chandarrao, Brahmam Pujala, Asit K. Chakraborti,\* U. C. Banerjee, “New and Efficient Chemo-enzymatic Synthesis of (*R*)- and (*S*)-Bunitrolol,” *Synthesis* **2014**, *46*, 479-488. **Cited 1 time. IF: 2.5**
  10. L Adane, S. Bhagat, M. Arfeen, S. Bhatia, R. Sirawaraporn, W. Sirawaraporn, Asit K. Chakraborti, P. V. Bharatam, “Design and synthesis of guanylthiourea derivatives as potential inhibitors of *Plasmodium falciparum* dihydrofolate reductase enzyme,” *Bioorg. Med. Chem. Lett.* **2014**, *24*, 613-617. **Cited 1 time. IF: 2.331**
  11. Kapileswar Seth, Sudipta Raha Roy, Damodara N. Kommi, Bhavin V. Pipaliya and Asit K. Chakraborti,\* “Silver nanoparticle-catalysed phenolysis of epoxides under neutral conditions: scope and limitations of metal nanoparticles and applications towards drug synthesis,” *J. Mol. Catal. A: Chem.* **2014**, *392C*, 164-172. **Cited 1 time. IF: 3.679**
  12. Srikant Bhagat, Parth Shah, Sanjeev K. Garg, Shweta Mishra, Preet Kamal, Sushma Singh and Asit K. Chakraborti,\* “ $\alpha$ -Aminophosphonates as novel antileishmanial chemotypes: synthesis, biological evaluation, and CoMFA studies,” *Med. Chem. Commun.* **2014**, *5*, 665-670. **Cited 2 times. IF: 2.626**
  13. Linga Banoth, Brahmam Pujala, Asit K. Chakraborti and Uttam C. Banerjee,\* “Development and validation of HPLC method for the resolution of derivatives of 1-bromo-3-chloro-2-propanol: a novel chiral building block for the synthesis of pharmaceutically important compounds,” *J. Anal. Chem.* **2014**, *69*, 1206-1213. **IF: 0.812**
  14. Dinesh Kumar, Mukesh Sonawane, Brahmam Pujala, Varun K. Jain, Srikant Bhagat and Asit K. Chakraborti,\* “Supported protic acid-catalyzed synthesis of 2,3-

- disubstituted thiazolidin-4-ones: enhancement of the catalytic potential of protic acid by adsorption on solid support,” *Green Chem.* **2013**, *15*, 2872-2884. **Cited 5 times. IF: 6.852**
15. Dinesh Kumar, Kapileswar Seth, Damodara N. Kommi, Srikant Bhagat and Asit K. Chakraborti,\* “Surfactant micelles as microreactors for the synthesis of quinoxalines in water: scope and limitations of surfactant catalysis,” *RSC Advances*, **2013**, *3*, 15157-15168. **Cited 8 times. IF: 3.708**
  16. Kapileswar Seth, Sudipta Raha Roy, Bhavin V. Pipaliya and Asit K. Chakraborti,\* “Synergistic Dual Activation Catalysis by Palladium Nanoparticles for Epoxide Ring Opening with Phenols,” *J. Chem. Soc. Chem. Commun.*, **2013**, *49*, 5886 - 5888. **Cited 15 times. IF: 6.718**
  17. Damodara N. Kommi, Dinesh Kumar, Kapileswar Seth, and Asit K. Chakraborti,\* “Protecting group-free concise synthesis of (*RS*)/(*S*)-lubeluzole,” *Org. Lett.* **2013**, *15*, 1158-1161. **Cited 10 times. IF: 6.324**
  18. Damodara N. Kommi, Dinesh Kumar, and Asit K. Chakraborti,\* ““All-water chemistry” for a concise total synthesis of the novel class antianginal drug (*RS*), (*R*), (*S*)-ranozaline,” *Green Chem.* **2013**, *15*, 756-767. **Cited 12 times. IF: 6.852**
  19. Damodara N. Kommi, Pradeep S. Jadhavar, Dinesh Kumar, and Asit K. Chakraborti,\* “All water” one-pot diverse synthesis of 1,2-disubstituted benzimidazoles: hydrogen bond driven ‘synergistic electrophile-nucleophile dual activation’ by water,” *Green Chem.* **2013**, *15*, 798-810. **Cited 22 times. IF: 6.852**
  20. Dinesh Kumar, Damodara N. Kommi, Rajesh Chebolu, Sanjeev K. Garg, Raj Kumar and Asit K. Chakraborti,\* “Selectivity control during the solid supported protic acid catalysed synthesis of 1,2-disubstituted benzimidazoles and mechanistic insight to rationalize selectivity,” *RSC Advances* **2013**, *3*, 91-98. **Cited 5 times. IF: 3.708**
  21. Linga Banoth, Thete K Narayana, Brahmam Pujala, Asit K. Chakraborti and Uttam Chand Banerjee “New chemo-enzymatic synthesis of (*R*)-1-chloro-3-(piperidin-1-yl) propan-2-ol,” *Tetrahedron Asymmetry* **2012**, *23*, 1564-1570. **Cited 1 time. IF: 2.165**
  22. Damodara N. Kommi, Dinesh Kumar, Rohit Bansal, Rajesh Chebolu and Asit K. Chakraborti,\* ““All-water” chemistry of tandem *N*-alkylation-reduction-condensation for synthesis of *N*-arylmethyl-2-substituted benzimidazoles,” *Green Chem.* **2012**, *14*, 3329-3335. **Highlighted in RSC Blog by Mary Badcock, Development Editor, *Green Chemistry*, and may also be included in future promotional material or press releases for *Green Chemistry*. Cited 18 times. IF: 6.852**
  23. Rajesh Chebolu, Damodara N. Kommi, Dinesh Kumar, Narendra Bollineni and Asit K. Chakraborti,\* “Hydrogen-bond driven electrophilic activation for selectivity control: the scope and limitations of fluorous alcohol promoted selective formation of 1,2-disubstituted benzimidazoles and mechanistic insight for rational of selectivity,” *J. Org. Chem.* **2012**, *77*, 10158-10167. **Cited 17 times. IF: 4.638**
  24. Dinesh Kumar, Damodara N. Kommi, Alpesh R. Patel and Asit K. Chakraborti,\* “L-Proline catalysed activation of methyl ketones/active methylene compounds and DMF-DMA for synthesis of (*2E*)-3-dimethylamino-2-propen-1-ones,” *Eur J. Org. Chem.* **2012**, 6407-6413. **Cited 4 time. IF: 3.154**

25. Dinesh Kumar, Damodara N. Kommi, Alpesh R. Patel and Asit K. Chakraborti,\* "Catalytic procedures for multicomponent synthesis of imidazoles: selectivity control during the competitive formation of tri- and tetra-substituted imidazoles," *Green Chem.* **2012**, *14*, 2038-2049. **Cited 16 times. IF: 6.852**
26. Anirban Sarkar, Sudipta Raha Roy, Dinesh Kumar, Chetna Madaan, Santosh Rudrawar, Asit K. Chakraborti,\* "Lack of correlation between catalytic efficiency and basicity of amines during the reaction of aryl methyl ketones with DMF-DMA: an unprecedented supramolecular domino catalysis," *Org. Biomol. Chem.* **2012**, *10*, 281-286. **Cited 6 times. IF: 3.487**
27. Brahmam Pujala, Shivani Rana, Asit K. Chakraborti,\* "Zinc Tetrafluoroborate Hydrate as a Mild Catalyst for Epoxide Ring-opening with Amines: Scope and Limitations of Metal Tetrafluoroborates and Applications in the Synthesis of Anti-hypertensive Drugs (*RS*)/(*R*)/(*S*)-Metoprolols," *J. Org. Chem.* **2011**, *76*, 8768-8780. **Cited 21 times. IF: 4.638**
28. Abhishek Kaler, Vachan Singh Meena, Manpreet Singh, Brahmam Pujala, Asit K. Chakraborti, Uttam Chand Banerjee, "Lipase-mediated kinetic resolution of (*RS*)-1-bromo-3-[4-(2-methoxy-ethyl)-phenoxy]-propan-2-ol to (*R*)-1-bromo-3-(4-(2-methoxyethyl) phenoxy) propan-2-yl acetate," *Tetrahedron Lett.* **2011**, *52*, 5355-5358. **Cited 2 times. IF: 2.391**
29. Anirban Sarkar, Sudipta Raha Roy, Naisargee Parikh, Asit K. Chakraborti,\* "Non-solvent application of ionic liquids: organo-catalysis by 1-alkyl-3-methylimidazolium cation based room temperature ionic liquids for chemoselective *N*-tert-butylloxycarbonylation of amines and the influence of the C-2 hydrogen on catalytic efficiency," *J. Org. Chem.* **2011**, *76*, 7132-7140. **Cited 35 times. IF: 4.638**
30. Sudipta Raha Roy, Pradeep S. Jadhavar, Kapileswar Seth, Kulin K. Sharma, Asit K. Chakraborti,\* "Organo-catalytic Application of Room Temperature Ionic Liquids: [bmim][MeSO<sub>4</sub>] as a Recyclable Organo-catalyst for One-pot Multicomponent Reaction for Preparation of Dihydropyrimidinones and -thiones," *Synthesis* **2011**, 2261-2267. **Cited 21 times. IF: 2.5**
31. Sachin Bindal, Dinesh Kumar, Damodara N. Kommi, Sonam Bhatiya, Asit K. Chakraborti,\* "An Efficient Organocatalytic Dual Activation Strategy for Preparation of the Versatile Synthons 2(*E*)-1-Aryl/heteroaryl/styryl-3-dimethylamino-2-propen-1-ones and  $\alpha$ -(*E*)-Dimethylaminoformylidene cycloalkanones," *Synthesis* **2011**, 1930-1935. **Cited 6 times. IF: 2.5**
32. Anirban Sarkar, Sudipta Raha Roy and Asit K. Chakraborti,\* "Ionic Liquid Catalysed Reaction of Thiols with  $\alpha,\beta$ -Unsaturated Carbonyl Compounds- Remarkable Influence of the C-2 Hydrogen and the Anion," *J. Chem. Soc. Chem. Commun.* **2011**, *47*, 4538-4540. **Cited 38 times. IF: 6.718**
33. Naisargee Parikh, Dinesh Kumar, Sudipta Raha Roy and Asit K. Chakraborti,\* "Surfactant mediated oxygen reuptake in water for green aerobic oxidation: mass-spectrometric determination of discrete intermediates to correlate oxygen uptake with oxidation efficiency," *J. Chem. Soc. Chem. Commun.* **2011**, *47*, 1797-1799. **Cited 37 times. IF: 6.718**
34. Sudipta Raha Roy and Asit K. Chakraborti,\* "Supramolecular Assemblies in Ionic Liquid catalysis for Aza-Michael Reaction," *Org. Lett.* **2010**, *12*, 3866-3869. **Cited 48 times. IF: 6.324**

35. Anuradha Ghosh, Meenu Khurana, Archana Chauhan, Masahiro Takeo, Asit K. Chakraborti, and Rakesh K. Jain, "Degradation of 4-nitrophenol, 2-chloro-4-nitrophenol, and 2,4-dinitrophenol by *Rhodococcus imtechensis* strain RKJ300," *Environ. Sci. Technol.* **2010**, *44*, 1069-1077. **Cited 38 times. IF: 5.25**
36. Asit K. Chakraborti,\* Bavneet Singh, Sunay V. Chankeshwara and Alpesh R. Patel, "Protic acid immobilised on solid support as an extremely efficient recyclable catalyst system for a direct and atom economical esterification of carboxylic acids with alcohols," *J. Org. Chem.* **2009**, *74*, 5967-5974. **Selected by the Editorial Board of SYNFACTS for its important insights and published the highlights in SYNFACTS Issue 11/09. Cited 44 times. IF: 4.638**
37. Asit K. Chakraborti\* and Sudipta Raha Roy, "On Catalysis by Ionic Liquids," *J. Am. Chem. Soc.* **2009**, *131*, 6902-6903. **Selected for display in Nature Publishing Groups Asia Materials website. Cited 101 times. IF: 11.444**
38. Asit K. Chakraborti\* and Sunay V. Chankeshwara, "Counterattack Mode Differential Acetylation Deprotection of Phenylmethyl Ethers: Applications to Solid Phase Organic Reactions," *J. Org. Chem.* **2009**, *74*, 1367-1370. **Cited 14 times. IF: 4.638**
39. Aditya M. Kaushal, Asit K. Chakraborti and Arvind K. Bansal,\* "FTIR Studies on Different Intermolecular Association in the Crystalline and Amorphous States of Structurally Related Non Steroidal Anti-inflammatory Drugs," *Molecular Pharmaceutics* **2008**, *5*, 937-945. **Cited 29 times. IF: 4.570**
40. Dinesh Kumar, Santosh Rudrawar and Asit K. Chakraborti,\* "One-pot synthesis of 2-substituted benzoxazoles directly from carboxylic acids," *Aust. J. Chem.* **2008**, *61*, 881-887. **Cited 19 times. IF: 1.869**
41. Sunay V. Chankeshwara, Rajesh Chebolu and Asit K. Chakraborti\*, "Organocatalytic methods for chemo-selective *O-tert*-butoxycarbonylation of phenols and their regeneration from the *O-t*-Boc derivatives," *J. Org. Chem.* **2008**, *73*, 8615-8618. **Cited 14 times. IF: 4.638**
42. Asit K. Chakraborti,\* Sudipta Raha Roy, Dinesh Kumar, Pradeep Chopra, "Catalytic application of room temperature ionic liquids: [bmim][MeSO<sub>4</sub>] as a recyclable catalyst for synthesis of bis(indolyl)methanes. Ion-fishing by MALDI-TOF-TOF MS and MS/MS studies to probe the proposed mechanistic model of catalysis," *Green Chem.* **2008**, *10*, 1111-1118. **Cited 73 times. IF: 6.852**
43. S. Sundriyal, B. Viswanad, P. Ramarao, Asit K. Chakraborti, P. V. Bharatam, "New PPAR $\gamma$  Ligands Based on Barbituric acid: Virtual Screening, Synthesis and Receptor Binding Studies," *Bioorg. Med. Chem. Lett.* **2008**, *18*, 4959-4962. **Cited 13 times. IF: 2.331**
44. Srikant Bhagat and Asit K. Chakraborti\*, "Zirconium(IV) compounds as efficient catalysts for synthesis of  $\alpha$ -aminophosphonates," *J. Org. Chem.* **2008**, *73*, 6029-6032. **Cited 66 times. IF: 4.638**
45. Gaurav Sharma, Raj Kumar and Asit K. Chakraborti\*, "On Water" Synthesis of 2,4-Diaryl-2,3-dihydro-1,5-benzothiazepines Catalysed by Sodium Dodecyl Sulphate (SDS)," *Tetrahedron Lett.* **2008**, *49*, 4269-4271. **Cited 52 times. IF: 2.391**
46. Gaurav Sharma, Raj Kumar and Asit K. Chakraborti\*, "Fluoroboric Acid Adsorbed on Silica-gel as a New, Highly Efficient and Reusable Heterogeneous Catalyst for



- Thia-Michael Addition to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds,” *Tetrahedron Lett.* **2008**, *49*, 4272-7275. **Cited 62 times. IF: 2.391**
47. Sandeep Sundriyal, Bhoomi Viswanad, Elumalai Bharathy, Poduri Ramarao, Asit K. Chakraborti and Prasad V. Bharatam,\* “New PPAR $\gamma$  Ligands Based on 2-Hydroxy-1,4-naphthoquinone: Computer-Aided Design, Synthesis and Receptor Binding Studies,” *Bioorg. Med. Chem. Lett.* **2008**, *18*, 3192-3195. **Cited 7 times. IF: 2.331**
  48. Rajesh Chebolu, Sunay V. Chankeshwara and Asit K. Chakraborti\*, “Triphenylphosphine as a novel organo-catalyst for chemo-selective *O*-tert-butoxycarbonylation of phenols,” *Synthesis* **2008**, 1448-1455. **Cited 6 times. IF: 2.5**
  49. Dinesh Kumar, Raj Kumar and Asit K. Chakraborti\*, “Tetrafluoroboric Acid Adsorbed on Silica-Gel as a Reusable Heterogeneous Dual-Purpose Catalyst for Conversion of Aldehydes/Ketones into Acetals/Ketals and Back Again,” *Synthesis* **2008**, 1249-1256. **Cited 15 times. IF: 2.5**
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2. Asit K. Chakraborti,\* “Non-heme model of dioxygen activation in aqueous medium: Mass spectrometric methods to identify the catalytic species and understanding the rational of catalysis,” *14<sup>th</sup> ISMAS Symposium cum Workshop on Mass Spectrometry*, Tea County, Munnar, Kerala, India, Nov. 7 – 11, **2011**. Invited Talk No. IT-16. Page 81-88.
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5. Asit K. Chakraborti\* and Anirban Sarkar, “Mass spectrometry identification of ionic liquids,” *12<sup>th</sup> ISMAS Symposium cum Workshop on Mass Spectrometry*, Cedade-de-Goa, Dona Paola, Goa, India, Mar. 25 – 30, **2007**. Invited Talk No. IT 3 (Proceedings on CD).
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15. Asit K. Chakraborti and Sudipta Raha Roy "**An improved process for synthesis of  $\beta$ - $\delta$ - hydroxysulfides using ionic liquid as an organo catalyst.**" Indian Patent Application No. 2366/DEL/2011 filed on 19.08.2011 (IP17890/JCR).

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19. Asit K. Chakraborti, Naisargee Parikh, and Sudipta Raha Roy, "**A Novel Process for the Synthesis of Substituted Benzoxazoles and Benzthiazoles using Ionic Liquid as a Catalyst.**" Indian patent. Appl. No. 1404/DEL/**2010** (16/06/2010 IP14531/AMT/md).
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24. Asit K. Chakraborti, Sunay V. Chankeshwara, "**A Novel Process for Direct Alkylation,**" Indian patent. Appl. No. 11107/DEL/**2008** (May 01, 2008).
25. Asit K. Chakraborti, Sunay V. Chankeshwara, "**An Improved Organocatalytic Process for Esterification and Amidation Process,**" Indian patent. Appl. No. 1030/DEL/**2008** (Apr 04, 2008).
26. Asit K. Chakraborti, Uttam C. Banerjee, Raj Kumar, Sanjeev K. Garg, Vachan S. Meena, "**Novel cyclooxygenase-2 inhibitors.**" Indian Pat. Appl. (2009), 32pp. CODEN: INXXBQ IN 2008DE00638 A 20090918. Application: IN 2008-DE638 20080314. Priority: AN 2009:1171656 CAPLUS (Copyright (C) 2009 ACS on SciFinder (R)).
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29. Asit K. Chakraborti, Simi Sarin, Santosh V. Rudrawar, Raj Kumar, Sunay V. Chankeshwara, Sunanda Dastidar, Abhijit Ray, “**Inhibitors of Phosphodiesterase Type-IV,**” PCT patent filed/1882/DEL/**2006** (22-08-2006).
30. Asit K. Chakraborti, Simi Sarin, Santosh V. Rudrawar, Raj Kumar, Sunay V. Chankeshwara, Sunanda Dastidar, Abhijit Ray, “**Phosphodiesterase Inhibitors,**” PCT patent filed/566/DEL/**2006** (06-03-2006).
31. Asit K. Chakraborti, Santosh V. Rudrawar, Raj Kumar, Sunay V. Chankeshwara, Simi Sarin, Dr. Sunanda Dastidar, Dr. Abhijit Ray, “**Inhibitors of Phosphodiesterase Type-IV,**” PCT patent filed/565/DEL/**2006** (03-03-2006).

i) **Research Guidance:** (In collaboration with other faculty of the Institute/Department)

**Doctoral Level: Total 33**

Degree Awarded: 26

1. Title: “*Design, Synthesis and Biological Evaluation of Chemical Entities with New Structural Motifs as Antiasthmatic Agents Targeting Phosphodiesterase IV Inhibition,*” - Ph. D. Degree awarded to Ms. Naisargee Parikh in Nov, **2013**.
2. Title: “*Studies on Organic Reactions in Aqueous Media: Applications and Understanding the Catalytic Role,*” - Ph. D. Degree awarded to Mr. Damodara Naidu Kommi in August, **2013**.
3. Title: “*Development of Synthetic Methodologies Catalysed by Metal Lewis Acids/Metal Nanoparticles,*” - Ph. D. Degree awarded to Mr. Kapileswar Seth in July, **2013**.
4. Title: “*Design, Synthesis and Biological evaluation of Heterocyclic Based Scaffolds as Cyclooxygenase Inhibitors,*” - Ph. D. Degree awarded to Mr. Dinesh Kumar in June, **2013**.
5. Title: “*Design, Synthesis and Biological Evaluation of New Chemical Entities with Carbo/Heterocyclic Scaffolds as Potential Cyclooxygenase Inhibitors,*” - Ph. D. degree awarded to Mr. Sanjeev Kumar Garg in Mar, **2013**.
6. Title: “*Studies on Drug Action and Metabolism for the Design and Synthesis of Novel Y-Shaped PPAR $\gamma$  Activators,*” - Ph. D. degree awarded to Mr. Dixit Vaibhav Anil in Dec, **2012**.
7. Title: “*Development of Newer Methodologies of Green Chemistry for the Epoxide Ring Opening: Applications to Synthesis of Drugs and Drug Intermediates,*” - Ph. D. degree awarded to Mr. Brahmam Pujala in Nov, **2012**.
8. Title: “*Applications and Mechanistic Investigations of Ionic Liquid Catalysis,*” - Ph. D. degree awarded to Mr. Sudipta Raha Roy in July, **2012**. **Recipient of 2012 Eli Lilly Asia Outstanding Thesis Award (First Prize).**

9. Title: “*Computational and Synthetic Studies on Novel PPAR $\gamma$  Ligands*,” - Ph. D. degree awarded to Mr. Yoganjaneyulu Kasetti in July, **2012**.
10. Title: “*Development of Novel Catalytic Reactions for Functional Group Interconversion and Cascade Processes*,” - Ph. D. degree awarded to Mr. Rajesh Chebolu in June, **2012**.
11. Title: “*Ionic Liquids as Catalysts in the Development of Eco-friendly Organic Reaction Methodologies and Mass Spectrometric Investigation of Catalysis*,” - Ph. D. degree awarded to Mr. Anirban Sarkar in Apr, **2011**.
12. Title: “*Design, Synthesis and Biological Evaluation of 6-Aminopurine Derivatives as Potential Xanthine Oxidase Inhibitors*,” - Ph. D. degree awarded to Mr. Amit Agarwal in Apr, **2011**.
13. Title: “*Computer-aided Design and Synthesis of Potential Anti-malarial Agents: Targeting PfDHFR Enzyme*,” - Ph. D. degree awarded to Mr. Legesse Adane Bahiru in Feb, **2011**.
14. Title: “*Development of Novel Methodologies for Synthesis of  $\alpha$ -Aminophosphonates and  $\alpha$ -Hydroxyphosphonates*,” - Ph. D. degree awarded to Mr. Srikant Bhagat in March, **2009**.
15. Title: “*Development of Novel Electrophile Activation Strategies for Organic Transformations: Applications to Synthesis of Drugs and Drug Intermediates*,” - Ph. D. degree awarded to Mr. Sunay V. Chankeshwara in Dec, **2008**. **Recipient of 2009 Eli Lilly Asia Outstanding Thesis Award (First Prize)**.
16. Title: “*Computer-Aided Design, Synthesis and Receptor Binding Studies for the Discovery of Potential PPAR Ligands*,” - Ph. D. degree awarded to Mr. Sandeep Sundriyal in Dec, **2008**. **Recipient of 2009 Eli Lilly Asia Outstanding Thesis Award (Second Prize)**.
17. Title: “*Molecular Docking Studies and Synthesis of Novel Dual PPAR $\alpha$ / $\gamma$  Antidiabetic agents*,” – Ph. D. degree awarded to Mr. Amit Mittal by NIPER in May **2008**.
18. Title: “*Design, Synthesis and Biological Evaluation of Novel Ligands as Phosphodiesterase-4 Inhibitors*,” - Ph. D. degree awarded to Mr. Santosh Rudrawar in Apr, **2008**.
19. Title: “*Design, Synthesis and Biological Evaluation of Cyclooxygenase Inhibitors as New Non-steroidal Anti-inflammatory Agents*,” - Ph. D. degree awarded to Mr. Raj Kumar in Sept, **2007**.
20. Title: “*Development of Novel Catalysts for Activation of Electrophiles: Application to Chiral Synthesis*,” - Ph. D. degree awarded to Ms. Shivani by NIPER in Aug, **2007**.
21. Title: “*Molecular Modelling Studies on Dual PPAR Agents: Synthesis of a Few Designed Molecules*,” – Ph. D. degree awarded to Ms. Smriti Khanna by NIPER in July **2005**.
22. Title: “*Computer Aided Design and Syntheses of Selective Cyclooxygenase-2 Inhibitors*,” – Ph. D. degree awarded to Ms. R. Thilagavathi by NIPER in April **2005**.

23. Title: “*Studies on Selective Nucleophilic Epoxide Cleavage and Applications in Synthesis of Pharmaceuticals,*” - Ph. D. degree awarded to Mr. Atul Kondaskar by NIPER in May **2003**.
24. Title: “*Design of Catalysts for Acylation and Alkylation Reactions: Application for the Syntheses of Pharmaceutical Intermediates,*” - Ph. D. degree awarded to Mr. Rajesh Gulhane by NIPER in March **2003**.
25. Title: “*Synthesis of New Chemical Entities as Anti-Leishmanial Agents,*” - Ph. D. degree awarded to Ms. Lalima Sharma by NIPER in December **2002**.
26. Title: “*Synthetic Studies on Organo-Sulfur Compounds,*” - Ph. D. degree awarded to Mr. Mrinal Kanti Nayak by The University of Burdwan in February **1999**.

In Persuasion: 7

27. Title: “*Diversity Oriented Synthesis for Identifying Novel Anti-Tuberculosis Drugs,*” - Ph. D. work in persuasion by Mr. Pradeep Jadhavar from July, **2010**.
28. Title: “*Design and Synthesis of Molecular Entities Belonging to New Structural Scaffolds as Anti-Tubercular Agents,*” - Ph. D. work in persuasion by Ms. Babita Tanwar from July, **2011**.
29. Title: “*Development of Novel Anti-inflammatory Scaffold: Synthesis via Newer C-H Activation Protocols and Determination of COX-Inhibitory Potential,*” - Ph. D. work in persuasion by Mr. Priyank Purohit from July, **2012**.
30. Title: “*New Anti-inflammatory Scaffolds for PDE IV Inhibition: Synthesis through C-H Activation and Determination of Enzyme Inhibitory Potency,*” - Ph. D. work in persuasion by Mr. Bhavin V. Pipaliya from July, **2013**.
31. Title: “*Development of Methodologies for Synthesis of N-Heterocycles and their Biological Evaluation for Anti-inflammatory Activities,*” - Ph. D. work in persuasion by Mr. Asim Kumar from July, **2013**.
32. Title: “*Design and Synthesis of New Heterocyclic Scaffolds as Potential Anti-tubercular Agents,*” - Ph. D. work in persuasion by Mr. Dhameliya Tejas Manjibhai from July, **2014**.
33. Title: “*Design, Synthesis and Biological Evaluation of Oxazolidinone-based New Molecular Entities as Anti-tubercular Agents,*” - Ph. D. work in persuasion by Mr. Vaja Maulikkumar Dineshbhai from July, **2014**.

**Masters Level: Total 95**

Degree Awarded: 89

1. Title: “*Design and Synthesis of Novel B/C Ring Fused Oxazolidinones as Potential Anti-TB Agents,*” – M. S. (Pharm.) degree awarded to Mr. Vaja Maulikkumar Dineshbhai in June **2014**.
2. Title: “*Design and Synthesis of Novel Oxazolidinones as Potential Anti-TB Agents,*” – M. S. (Pharm.) degree awarded to Mr. Udaya Bhaskar Goda in June **2014**.



3. Title: “*Design and Synthesis of Novel Benzothiazoles as Potential Anti-tubercular Agents*,” – M. S. (Pharm.) degree awarded to Mr. Dhameliya Tejas Manjibhai in June **2014**. Received the National level Rajnibhai V. Patel PharmInnova Award for the most “Innovative Thesis” in M. Pharm. (Pharmaceutical Chemistry) category in Pharmaceutical Sciences 2014-15.
4. Title: “*Development of Novel Anti-Inflammatory Agents Targeting Cyclooxygenase Enzyme*,” – M. S. (Pharm.) degree awarded to Mr. Bandoo Chatale Chhagan in July **2014**.
5. Title: “*Design and Synthesis of Novel COX/LOX Dual Inhibitors*,” - M. S. (Pharm.) degree awarded to Mr. Abhishek Gautam in June **2014**.
6. Title: “*Design and Synthesis of Substituted Heteroaryl and Biaryl Derivatives as Potential PTP-1B Inhibitors*,” – M. S. (Pharm.) degree awarded to Ms. Shikha Jain in June **2014**.
7. Title: “*Design, Synthesis and Biological Evaluation of Structurally Diverse Heterocyclic Scaffolds as Phosphodiesterase IV Inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Shah Hardik Vijaykumar in June **2014**.
8. Title: “*Design and Synthesis of Phosphonate Derivatives of Curcumin Type Analogue as Antileishmanial Agents*,” – M. S. (Pharm.) degree awarded to Ms. Shweta Mishra in June **2014**.
9. Title: “*Design and synthesis of novel benzothiazole derivatives as Anti-Tubercular Agents*,” – M. S. (Pharm.) degree awarded to Mr. Parth Shah in June **2013**.
10. Title: “*Design, synthesis and biological evaluation of new heterocyclic scaffolds as potential PDE4 inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Rahul P Mahire in June **2013**.
11. Title: “*Design and synthesis of Histone Deacetylase inhibitors as novel Anti-Parasitic Agent*,” – M. S. (Pharm.) degree awarded to Mr. Asim Kumar in June **2013**.
12. Title: “*Design, synthesis and biological evaluation of potential Cyclooxygenase (COX) Inhibitors*,” – M. S. (Pharm.) degree awarded to Mohammad Mohsin A. G. Qadri in June **2013**.
13. Title: “*Design synthesis and evaluation of structurally diverse bisphosphonates as Antileishmanial Agents*,” - M. S. (Pharm.) degree awarded to Mr. G. V. V. Tharun Kumar in June **2013**.
14. Title: “*PTP-1B as Anti Diabetic drug target: Design and Synthesis of new chemical entities*,” – M. S. (Pharm.) degree awarded to Mr. Banothu Nagaraju in June **2013**.
15. Title: “*Design, synthesis and evaluation of  $\alpha$ -sulfonamidophosphonates and 3- keto phosphonates as Anti-Leishmanial Agents*,” – M. S. (Pharm.) degree awarded to Ms. M. Supriya in June **2013**.
16. Title: “*Design and synthesis of 2-imino-thiazolidine 4-one as ATP-competitive GSK-3 inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Rahulkumar Arvindbhai Patel in June **2013**.

17. Title: “*Design and Synthesis of Substrate Competitive Inhibitors of GSK-3*,” – M. S. (Pharm.) degree awarded to Mohd. Tosif Khan in June **2013**.
18. Title: “*Design and Synthesis of Novel GTU Derivatives: Targeting PfDHFR Enzyme*,” – M. S. (Pharm.) degree awarded to Mr. Ankur Khare in June **2013**.
19. Title: “*Design and Synthesis of Novel 6-Aminochromane Derivatives of Troglitazone as PPAR $\gamma$  Agonist*,” – M. S. (Pharm.) degree awarded to Mr. Sanjay Singh in June **2013**.
20. Title: “*Binding Site Characterization and Identification of Novel Inhibitors of hSGLT2 protein*,” - M. S. (Pharm.) degree awarded to Mr. Ayush Singhal in June **2013**.
21. Title: “*Molecular Docking Studies and Synthesis of 2-Iminothiazole Derivatives as Anti-Cancer Agents*,” – M. S. (Pharm.) degree awarded to Mr. Maulik Dineshchandra Patel in June **2013**.
22. Title: “*Design, Synthesis and Biological Evaluation of New Chemical Entities Belonging to Novel Structural Scaffolds as Potential PDE-4 Inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Mardul K. Srivastava in June **2012**.
23. Title: “*Design and Synthesis of Thiazolidine-4-one and 3-(1H-indol-3-yl)-1,3-Diphenylpropan-1-one Derivatives as PTP-1B Inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Varun K. Jain in June **2012**.
24. Title: “*Design, Synthesis and Biological Evaluation of Quinazoline-based Heteroaromatics as Cyclooxygenase Inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Manesh Nautiyal in June **2012**.
25. Title: “*Design and Synthesis of Novel Oxazolidinones as Potential Anti-tubercular Agents*,” – M. S. (Pharm.) degree awarded to Mr. Sunil H. Choure in June **2012**.
26. Title: “*Design and Synthesis of HDACIs as Anti-parasitic Agents*,” - M. S. (Pharm.) degree awarded to Md. Imam Ansari in June **2012**.
27. Title: “*Design and Synthesis of Non-purine Entities as Xanthine Oxidase Inhibitors*,” – M. S. (Pharm.) degree awarded to Mr. Samala Mohan Reddy in June **2012**.
28. Title: “*Exploration of Non-Shikimic Acid-based Synthetic Routes for the Neuraminidase Inhibitor- Oseltamivir*,” – M. Tech. (Pharm.) degree awarded to Mr. Prashant S. in June **2012**.
29. Title: “*Biocatalytic stereoinversion of secondary alcohols using Candida parapsilosis MTCC 1965*,” – M. Tech. (Pharm.) degree awarded to Mr. Suyog Madhav Amrutkumar in June **2012**.
30. Title: “*New scaffolds for selective COX-2 inhibition: design, synthesis and biological evaluation of novel compounds*,” – M. S. (Pharm.) degree awarded to Mr. Tushar Satav in June **2011**.

31. Title: “*Design, synthesis and biological evaluation of new heterocyclic scaffolds as potential phosphodiesterase-IV inhibitors,*” – M. S. (Pharm.) degree awarded to Mr. Husan Chand in June **2011**.
32. Title: “*Design and Synthesis of new heterocyclic scaffolds as potential histone deacetylase inhibitors,*” – M. S. (Pharm.) degree awarded to Ms. Himanshu Sharma in June **2011**.
33. Title: “*Design and Synthesis of structurally diverse scaffoldss as potential HIF prolyhydroxylase inhibitors,*” – M. S. (Pharm.) degree awarded to Mr. Rohit Bansal in June **2011**.
34. Title: “*Oseltamivir Synthesis: A New Approach,*” - M. Tech. (Pharm.) degree awarded to Ms. Babita Tanwar in June **2011**.
35. Title: “*Design and Synthesis of Potential Phosphodiesterase 4 Inhibitors with Novel Structural Framework,*” – M. S. (Pharm.) degree awarded to Ms. Sonam Bhatia in June **2010**.
36. Title: “*Design and Synthesis of New Heterocyclic Scaffolds as Protein Tyrosine Phosphatase 1B Inhibitors (PTP1B),*” – M. S. (Pharm.) degree awarded to Mr. Prahlad Kumar Meena in June **2010**.
37. Title: “*Novel Heterocyclic Scaffolds as Histone Deacetylase Inhibitors,*” – M. Tech. (Pharm.) degree awarded to Mr. Sachin Bindal in June **2010**.
38. Title: “*Design and Synthesis of Novel Xanthine Oxidase Inhibitors,*” – M. Tech. (Pharm.) degree awarded to Mr. Mukesh Sonawane in June **2010**.
39. Title: “*Design and Synthesis of Potential Selective Cyclooxygenase-2 Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Kulin K. Sharma in June **2009**.
40. Title: “*Design, Synthesis of New Heterocyclic Scaffolds of Potential Phosphodiesterase-4 Inhibitors,*” - M. S. (Pharm.) degree awarded to Ms. Naisargee Parikh in June **2009**.
41. Title: “*Development of New methodology for Alkylation using Dimethyl Carbonate under heterogeneous catalysis: An Eco-friendly Appraoch,*” - M. Tech. (Pharm.) degree awarded to Mr. Alpesh R. Patel in June **2009**.
42. Title: “*Design and Synthesis of Novel Hydroxamates Based Histone Deacetylase Inhibitors having Heterocyclic Spacer,*” - M. S. (Pharm.) degree awarded to Mr. Pradeep Chopra in June **2008**.
43. Title: “*Design and Synthesis of Dual COX/LOX Inhibitors as Non-steroidal Antiinflammatory Agents,*” - M. S. (Pharm.) degree awarded to Mr. Pradeep Jadhavar in June **2008**.
44. Title: “*Design and Synthesis of New Chemical Entities as Potential Xantine Oxidase Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Vinay Saini in June **2008**.
45. Title: “*Design, Synthesis and in-vitro Evaluation Various Heterocyclic Scaffolds based Phosphodiesterase (PDE-4) Inhibitors,*” - M. S. (Pharm.) degree awarded to Ms. Sharmistha Sharma in June **2008**.

46. Title: “*Quantum Chemical Structural Analysis of Antidiabetic Sulfonyl Ureas to Understand Conformational and Polymorphic Preferences,*” - M. S. (Pharm.) degree awarded to Mr. Nikunj Kumar Patel in June **2008**.
47. Title: “*Electrophilic Activation catalyst for Nitration: An Ecofriendly Approach,*” - M. Tech. (Pharm.) degree awarded to Mr. Satyakam Rahul in June **2008**.
48. Title: “*Isolation and Screening of Novel Microorganisms for Bioreduction of 1-(4-Fluorophenyl)-5-(2-oxo-4-phenyl-oxazolodin-3-yl)-pentane-1,5-dione: an Intermediate for Ezetimibe Synthesis,*” - M. Tech. (Pharm.) degree awarded to Mr. Abdul Basit in June **2008**.
49. Title: “*Enantioselective Kinetic Resolution of Racemic Metoprolol using Lipase Mediated transesterification Reaction,*” - M. Tech. (Pharm.) degree awarded to Mr. Abhishek Kaler in June **2008**.
50. Title: “*Biological Evaluation of New Chemical Entities as Cyclooxygenase Inhibitor,*” - M. Tech. (Pharm.) degree awarded to Mr. Anil Kumar in June **2008**.
51. Title: “*Design and Synthesis of Hetero-Michael Adducts as Phosphodiesterase 4 Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Gaurav Shrama by NIPER in June **2007**.
52. Title: “*Design and Synthesis of Heteroaromatics as Cyclooxygenase Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Dinesh Kumar by NIPER in June **2007**.
53. Title: “*Design and Synthesis of Substituted 1-Aryl-3-amino-2-propen-1-one Based Histone Deacetylase Inhibitors,*” - M. S. (Pharm.) degree awarded to Ms. Chetna Madaan by NIPER in June **2007**.
54. Title: “*Quest for Novel Friedel Crafts Acylation,*” - M. Tech. (Pharm.) degree awarded to Mr. Bavneet Singh by NIPER in June **2007**.
55. Title: “*Molecular Docking and Synthesis of Y-Shaped Potential PPAR $\gamma$  Ligands,*” - M. S. (Pharm.) degree awarded to Mr. G. Ranganath in June **2007**.
56. Title: “*Biological Evaluation of New Chemical Entities (NCEs) for Inhibition of Cyclooxygenase and Lipooxygenase,*” - M. Tech. (Pharm.) degree awarded to Mr. Vachan Singh Meena by NIPER in June **2007**.
57. Title: “*Isolation and Purification of Phosphodiesterase Enzymes and in-vivo, in-vitro Screening of New Chemical Entities for PDE-4 Activity,*” - M. Tech. (Pharm.) degree awarded to Mr. Jagmohan Verma by NIPER in June **2007**.
58. Title: “*Isolation and Purification of Xanthine Oxidase from Bovine Milk and Screening of New Chemical Entities as Xanthine Oxidase Inhibitors,*” - M. Tech. (Pharm.) thesis submitted by Mr. Sanjay Rawat by NIPER in June **2007**.
59. Title: “*Design and Synthesis of 1,3-Diaryl Heterocyclic Compounds as Anti-Leishmanial Agents,*” - M. S. (Pharm.) degree awarded to Mr. Gopla L. Khatik by NIPER in July **2006**.

60. Title: “*Design and Synthesis of Novel 4-Aminoquinoline Analogues as Cyclooxygenase Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Hashim F. Motiwala by NIPER in July **2006**.
61. Title: “*Dual Activation Strategy: Application in Carbon-Carbon Coupling Reaction,*” - M. S. (Pharm.) degree awarded to Mr. Ratnesh Sharma by NIPER in July **2006**.
62. Title: “*Studies of Cyclopropanation under PTC Conditions,*” - M. Tech. (Pharm.) degree awarded to Ms. Kavitha B. by NIPER in July **2006**.
63. Title: “*Synthesis of 1-Chloro-3-(3,4-difluorophenoxy)-2-propanol (Intermediate in Lubeluzole Synthesis) and its Resolution by Lipase,*” - M. Tech. (Pharm.) degree awarded to Mr. Parikshit Khokale by NIPER in July **2006**.
64. Title: “*Chemoenzymatic Synthesis of (S)-Sotalol,*” - M. Tech. (Pharm.) degree awarded to Mr. Kamlesh Mena by NIPER in July **2006**.
65. Title: “*Synthesis of 1,3-Bisheterocycles,*” - M. S. (Pharm.) degree awarded to Mr. Ramchandra Besra by NIPER in July **2005**.
66. Title: “*1,3-Diaryls as Potential Inhibitors of Leishmanial Tubulin: Design and Synthesis,*” - M. S. (Pharm.) degree awarded to Mr. Sanjeev Kumar Garg by NIPER in July **2005**.
67. Title: “*Design and Synthesis of Diaryl Ethers, Sulfides and Amines as Leishmanial Tubulin Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Navnath S. Gavande by NIPER in July **2005**.
68. Title: “*Design and Synthesis of Fructose-1,6-bisphosphatase Inhibitors as Antidiabetic Agents,*” - M. S. (Pharm.) degree awarded to Ms Rajni in June **2005**.
69. Title: “*Synthesis of Hydroxychalcones as Antileishmanial Agents,*” - M. S. (Pharm.) degree awarded to Mr. Sawant Devesh M. by NIPER in December **2003**.
70. Title: “*Regioselective Thiocarbothioalkoxylation of Phenols,*” - M. S. (Pharm.) degree awarded to Ms. Beenu Bhatt by NIPER in December **2003**.
71. Title: “*Solution and solid Phase Synthesis of 2-Arylbenzothiazole Libraries,*” - M. S. (Pharm.) degree awarded to Mr. Jadhav Kiritikumar B. by NIPER in December **2003**.
72. Title: “*Development of New Method for On-Bead and Off-Bead Monitoring and Quantification of Resin Loading in Solid-Phase Combinatorial Reactions,*” - M. S. (Pharm.) degree awarded to Mr. Sunay V. Chankeshwara by NIPER in December **2003**.
73. Title: “*Single Electron Transfer Process for In Situ Generation of Thiolate Anion: Applications in Functional Group Transformations and Syntheses of Sulfides as Potential Anti-parasitic Agents,*” - M. S. (Pharm.) degree awarded to Ms. Sonia Kundu by NIPER in December **2002**.
74. Title: “*Design and Syntheses of Potential Parasite Specific Anti-tubulin Agents,*” - M. S. (Pharm.) degree awarded to Mr. Raj Kumar by NIPER in December **2002**.

75. Title: “*Cleavage of Aryl Alkyl Ethers,*” - M. S. (Pharm.) degree awarded to Mr. Harsh Vardhan Jain by NIPER in December **2002**.
76. Title: “*Design and Syntheses of Novel Oximes and Oxime Ethers Anti-tubulin Compounds as Potential Anti-leishmanial Agents,*” - M. S. (Pharm.) degree awarded to Ms. Harmeet Kaur by NIPER in December **2002**.
77. Title: “*Computer Aided Design and Synthesis of Benzyl Piperidinyl Thiourea Derivatives as Acetylcholinesterase Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Harpreet Singh by NIPER in December **2001**.
78. Title: “*Ligand Based Design of Phosphodiesterase Type IV Inhibitors as Anti-Asthma Agents,*” - M. S. (Pharm.) degree awarded to Mr. Malde Alpeshkumar Keshavji by NIPER in December **2001**.
79. Title: “*Combinatorial Synthesis of Stilbene Libraries,*” - M. S. (Pharm.) degree awarded to Mr. S. Magesh by NIPER in December **2001**.
80. Title: “*Synthesis of Novel Benzopyran and Dihydroquinoline Derivatives as Potential Anti-hypertensive Agents,*” - M. S. (Pharm.) degree awarded to Mr. Anurag Bansal by NIPER in December **2001**.
81. Title: “*Computer Aided Design of Novel Acetylcholinesterase Inhibitors as Anti-Alzheimer’s Agents,*” - M. S. (Pharm.) degree awarded to Mr. Akash Khandelwal by NIPER in December **2000**.
82. Title: “*Computer Aided Design of Cystein Protease Inhibitors as Antiparasitic Agents,*” - M. S. (Pharm.) degree awarded to Mr. Sachin Badrinath Surade by NIPER in December **2000**.
83. Title: “*Combinatorial Synthesis of Chalcone Libraries,*” - M. S. (Pharm.) degree awarded to Ms. Smriti Khanna by NIPER in December **2000**.
84. Title: “*Design and Synthesis of Novel Anti-tubulin Compounds as Anti-leishmanial Agents,*” - M. S. (Pharm.) degree awarded to Mr. Santosh Rudrawar by NIPER in December **2000**.
85. Title: “*Theoretical Modelling of Lewis Acid Catalyst,*” - M. S. (Pharm.) degree awarded to Ms. R. Thilagavathi by NIPER in December **1999**.
86. Title: “*Design of Novel HMG-CoA Reductase Inhibitors,*” - M. S. (Pharm.) degree awarded to Ms. V. Aparna by NIPER in December **1999**.
87. Title: “*The Use of Zirconium Derived Catalysts as a Substitute for Aluminium Chloride in the Synthesis of Certain Drug Intermediates,*” - M. Tech. (Pharm.) degree awarded to Mr. Santharam U. by NIPER in December **1999**.
88. Title: “*Application of Microwave in Functional Group Protection and Deprotection,*” - M. S. (Pharm.) degree awarded to Mr. C. Selvam by NIPER in December **1999**.
89. Title: “*Asymmetric Synthesis of  $\alpha$ -Amino Acids,*” - M. S. (Pharm.) degree awarded to Mr. D. Gangadhar Goud by NIPER in December **1999**.

In persuasion: 6

90. Title: “*Design and Synthesis of 2-(2'-Arylphenyl)benzoxazole Derivatives As Potential COX-2 Inhibitors,*” – M. S. (Pharm.) project in persuasion by Ms. Madhulika Singh from July **2014**.
91. Title: “*Design and Synthesis of Benzothiazole Based New Anti-Tubercular Agents,*” – M. S. (Pharm.) project in persuasion by Mr. Sahaj Pancholia from July **2012**.
92. Title: “*Design And Synthesis of Benzothiazole Derivatives as Potential PDE IV Inhibitors,*” – M. S. (Pharm.) project in persuasion by Ms. Tokala Ramya from July **2014**.
93. Title: “*2-(Aminophenyl)benzthiazoles as Potentially New Antileishmanial Chemotypes: Design, Synthesis and Biological Evaluation,*” – M. S. (Pharm.) project in persuasion by Mr. Nishant Singh Chauhan from July **2014**.
94. Title: “*Design and Synthesis of New Chemotypes as Potential Antitubercular Agents,*” - M. S. (Pharm.) project in persuasion by Mr. Shinde Bharat Dashrath from July **2014**.
95. Title: “*Design and Synthesis of 2-(2'-Arylphenyl)benzothiazole Derivatives As Potential COX-2 Inhibitors,*” – M. S. (Pharm.) project in persuasion by Mr. Gulshan Kumar from July **2014**.

**Guidance at Masters Level for Other University/Institute Students:**

1. Title: “*Naked Fluoride Anion Promoted Deprotection of Sulfonate Esters,*” - Project carried out at NIPER by Ms. Rajita Patankar, M. Sc. (Tech.) in Pharmaceutical Chemistry student from Devi Ahilya Viswavidyalaya, Indore, July **2001**.
2. Title: “*Selective Aryl-Alkyl Ether Cleavage,*” - Project work carried out at NIPER by Mr. Anurag Hardia, M. Sc. (Tech.) in Pharmaceutical Chemistry student from Devi Ahilya Viswavidyalaya, Indore, July **2001**.
3. Title: “*Development of Novel Methodologies for Protection and Deprotection of Functional Groups,*” - Project carried out at NIPER by Ms. Upasana Sharma and the M. Sc. (Tech.), Pharmaceutical Chemistry Degree awarded by the University of Lucknow in January **2001**.
4. Title: “*Electrostatic Catalysis: Protection of Aldehydes as Diacetates under Environment Friendly Condition,*” - Project carried out at NIPER by Mr. Amit Kumar Tiwari and the M. Sc. (Pharmaceutical Chemistry) Degree was awarded by the Devi Ahilya Viswavidyalaya, Indore in **2000**.
5. Title: “*Development of Novel Method for Acylation Datalysed by Zirconium Derivatives,*” - Project carried out at NIPER by Mr. Kishan Kumar Vishwakarma and the M. Sc. (Pharmaceutical Chemistry) Degree was awarded by the Devi Ahilya Viswavidyalaya, Indore in **2000**.
6. Title: “*Transition Metal Catalysed Thioketalisation of Carbonyl Groups,*” - Project carried out at NIPER by Mr. Sandeep Victor and the M. Sc. (Pharmaceutical Chemistry) Degree was awarded by the Devi Ahilya Viswavidyalaya, Indore in **2000**.

7. Title: “Effect of Counter Cation in the Alkylation of Carboxylate Anion with Dialkyl Sulfates,” - Project carried out at NIPER by Mr. Sashi Dixit and the M. Sc. (Pharmaceutical Chemistry) Degree was awarded by the Devi Ahilya Viswavidyalaya, Indore in **1999**.

**Short Training at Masters Level for Other University/Institute Students:**

1. Ms. Pooja Batra, M. Sc. (Industrial Chemistry) student from Guru Nanak Khalsa College, Yamuna Nagar, Haryana. June 4 to August 31, **2001**.
2. Ms. Shefali Ghai, M. Sc. (Industrial Chemistry) student from Guru Nanak Khalsa College, Yamuna Nagar, Haryana. July 4 to September 6, **2000**.
3. Ms. Harneet Kaur, M. Sc. (Industrial Chemistry) student from Guru Nanak Khalsa College, Yamuna Nagar, Haryana. June 15 to August 13, **1999**.
4. Mr. Amit Kumar Tiwari, M. Sc. (Pharmaceutical Chemistry) student from Devi Ahilya Viswavidyalaya, Indore. June 3 to July 30, **1999**.

**j) Paper Presented/Accepted in Symposium: Total 89**

[Abroad 13, India 76, Adjudged Best Paper/Presentation 5]

1. Parth Shah, Tejas Dhameliya, Rohit Bansal, Manesh Nautiyal, Damodara N. Kommi, Pradeep S. Jadhavar, Jonnalagadda Padma Sridevi, Perumal Yogeeswari, Dharmarajan Sriram and Asit K. Chakraborti. “N-Arylalkylbenzo[d]thiazole-2-carboxamides as anti-mycobacterial agents: Design, new methods of synthesis and biological evaluation”, ‘The International Symposium on Recent Advances in Medicinal Chemistry 2014 (ISRAM-2014)’ held at NIPER, S.A.S. Nagar (Mohali), Punjab, India, during 8<sup>th</sup>-10<sup>th</sup> September, 2014. **Poster No- P30**
2. Babita Tanwar, Pradeep S. Jadhavar, and Asit K. Chakraborti. “Search For New Anti-Tb Leads: Green Synthesis and Evaluation of Antitubercular Activity” ‘The International Symposium on Recent Advances in Medicinal Chemistry 2014 (ISRAM-2014)’ held at NIPER, S.A.S. Nagar (Mohali), Punjab, India, during 8<sup>th</sup>-10<sup>th</sup> September, 2014. **Poster No- P43**
3. Srikant Bhagat, Methuku Supriya, Tharun Kumar G. V. V., Shweta Mishra, Jonnalagadda Padma Sridevi, Perumal Yogeeswari, Dharmarajan Sriram, and Asit K. Chakraborti. “ $\alpha$ -Sulfonamidophosphonates and bis- $\alpha$ -aminophosphonates: New leads towards infectious disease chemotherapy”. ‘248<sup>th</sup> ACS National Meeting’ held at San Francisco, CA, USA, during 10<sup>th</sup>-14<sup>th</sup> August, 2014. **Poster No. 510, Document ID: 23282**
4. Babita Tanwar, Asit K. Chakrabortia Naisargee Parikh and Asit K. Chakraborti. “Acid catalysis for formation of 2-(2'-aminophenyl)benzoxazoles from isatoic anhydride; a journey from dusk to dawn,” Second UK-India Congress 2013 organized by Royal Society of Chemistry during March 22 and 23, 2013 at CSIR-Indian Institute of Chemical Technology, Hyderabad, India, **Poster Number- 29**
5. Banothu Naga Raju, Dinesh Kumar and Asit K. Chakrabortia. “Organocatalysis for the Synthesis of Benzoxanthenones,” “Second UK-India Congress 2013” organized by Royal Society of Chemistry during March 22 and 23, 2013 at CSIR-Indian Institute of Chemical Technology, Hyderabad, India, **Poster Number- 31**
6. Parth Shah, Pradeep S. Jadhavar, Asit K. Chakraborti. “Identification of benzothiazole derivatives as ATP-phosphoribosyl transferase (HisG) inhibitors: A



combination of molecular docking, 3D-QSAR and molecular dynamics simulation studies,” “Second UK-India Congress 2013” organized by Royal Society of Chemistry during March 22 and 23, 2013 at CSIR-Indian Institute of Chemical Technology, Hyderabad, India, **Poster Number- 115**

7. Parth Shah, Pradeep S. Jadhavar, Asit K. Chakraborti. “3D-QSAR and Molecular Docking Analysis of Benzothiazole derivatives as ATP-phosphoribosyl transferase (HisG) inhibitors,” 3rd INDO-GERMAN CONFERENCE ON MODELING CHEMICAL AND BIOLOGICAL (RE)ACTIVITY (MCBR3 2013), NIPER & IISER, S.A.S. Nagar, PUNJAB, INDIA. Date- 26th Feb. to 1st March 2013 in NIPER and IISER, Mohali. **Poster No- 55**
8. Pradeep S. Jadhavar, Rajesh Chebolu, Parth Shah and Asit K. Chakraborti. “DFT studies to understand the role of fluorous alcohols in reductive amination reaction catalyzed by Hantzsch ester,” 3rd INDO-GERMAN CONFERENCE ON MODELING CHEMICAL AND BIOLOGICAL (RE)ACTIVITY (MCBR3 2013), NIPER & IISER, S.A.S. Nagar, PUNJAB, INDIA. **Poster No – 60**
9. Rahul Mahire, Naisargi Parikh, Asit K. Chakraborti. “Docking Analysis of Biologically Active Phosphodiesterase4 Inhibitors,” 3rd INDO-GERMAN CONFERENCE ON MODELING CHEMICAL AND BIOLOGICAL (RE)ACTIVITY (MCBR3 2013), NIPER & IISER, S.A.S. Nagar, PUNJAB, INDIA. Date- 26th Feb. to 1st March 2013 in NIPER and IISER, Mohali.-**Poster No- 68**
10. Naisargee Parikh and Asit K. Chakraborti. “Novel Tricks for Legacy Tasks: Probing the Reaction Mechanism by Mass Spectrometric Identification of Supramolecular Adducts. 243<sup>rd</sup> ACS National Meeting & Exposition, San Diego, California, March 25-29, **2012**.
11. Murli Misra, Rama Rao Poduri, G. Jena, C. Gopi Mohan, Naisargee Parikh, and Asit K. Chakraborti, “In Silico Methods of Genotoxicity Prediction: Can it be Used Reliably for Prediction of In Vitro/In Vivo Genotoxicity?” Society of Toxicology’s (SOT) 5<sup>th</sup> annual Meeting, Moscone Convention center in San Francisco, California, USA, Mar 11-15, **2012**. Poster Presentation. No. **P-1829**. Received Dr. Harihara Mehendale Graduate Student Best Abstract Award.
12. Pradeep S. Jadhavar, Babita Tanwar, and Asit K. Chakraborti, “Ligand Free Copper catalysed C-N Bond Formation under Microwave Irradiation.” 14<sup>th</sup> national Symposium in Chemistry (NSC-14) & 6<sup>th</sup> CRSI-RSC Symposium in Chemistry, NIIST & IISER Thiruvananthapuram, Feb 2-5, **2012**. Poster Presentation. No. **P-82**.
13. Damodara N. Kommi, Kapileswar Seth and Asit K. Chakraborti, “An Efficient Green Protocol for Synthesis of Benzodiazapines.” CRSI Eastern Zonal Meeting on Celebration of the International Year of Chemistry 2011, Department of Chemistry, University of North Bengal, Darjeeling, W. B.. July 22-24, **2011**. Poster Presentation. **P-29**.
14. Babita Tanwar, Brahmam Pujala, Pradeep S. Jadhavar and Asit K. Chakraborti, “Green and Efficient Protocol for the Synthesis of 1,2-Diamines.” Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-32**.

15. Brahmam Pujala, Pradeep S. Jadhavar and Asit K. Chakraborti, "Facile and Efficient Synthesis of Vicinal Amino Alcohols Catalysed by Recyclable Protic Acids on Solid Support." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-36**.
16. Damodara N. Kommi, Dinesh Kumar, Pradeep S. Jadhavar and Asit K. Chakraborti, "Highly Efficient One-pot Three-component Reactions for the Synthesis of  $\beta$ -Amino Carbonyl Compounds in Water." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-40**.
17. Dinesh Kumar and Asit K. Chakraborti, "Convenient and Highly Efficient Synthesis of 2,4,5-Trisubstituted Imidazoles by Three Component Reactions (3-MCR) Catalysed by Recyclable Protic Acid." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-48**.
18. Himanshu Sharma, Dinesh Kumar and Asit K. Chakraborti, "Organo-catalysis by Organophosphorus Compound: A New Approach for the Synthesis of Multifunctionalized Dihydropyrimidones/thiones." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-65**.
19. Kapileswar Seth, Sudipta Raha Roy, Naisargee Parikh and Asit K. Chakraborti, "An Efficient Method of Epoxide Ring Opening Catalyzed by Ionic Liquid." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-84**.
20. Linga Banoth, Bhukya Chandar Rao, Brahmam Pujala, A. K. Chakraborti and U. C. Banerjee, "Enantioselective Enzymatic Resolution of Racemic (*RS*)-1-Chloro-3-(2-cyanophenoxy) propan 2-ol." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-96**.
21. Pradeep S. Jadhavar, Sudipta Raha Roy, Kulin Kumar Sharma and Asit K. Chakraborti, "Rapid Synthesis of Multifunctionalized Dihydropyrimidine Derivatives: Application Towards the Synthesis of Pharmacologically Active Compounds." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-151**.
22. Sanjeev K. Garg and Asit K. Chakraborti, "An Efficient Green Protocol for the Synthesis of Enaminones." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-210**. **Received Best Poster Award**.
23. Tushar Satav, Dinesh Kumar and Asit K. Chakraborti, "Green Friedlander Synthesis of Quinoline Derivatives." Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh. February 11-12, **2011**. Poster Presentation. No. **P-246**.

24. Sudipta Raha Roy, Pradeep Jadhavar and Asit K. Chakraborti. "Ionic Liquid Catalysis: A Green Approach for the Synthesis of Bioactive Molecules"; 13<sup>th</sup> CRSI National Symposium in Chemistry and the 5<sup>th</sup> CRSI-RSC Joint Symposium in Chemistry, Bhubaneswar, India. 4-6<sup>th</sup> Feb **2011**, Poster Presentation No. **P-209**.
25. Dinesh Kumar, Damodara N. Kommi, Asit K. Chakraborti. "Regioselective Synthesis of Benzimidazole Derivatives: Application to Parallel Synthesis"; Practical Applications of Modern Tools in Organic Synthesis and Purifications (PAMTOSP-2010), Indian Institute of Chemical Technology, Hyderabad, India. 21<sup>st</sup>-25<sup>th</sup> Nov. **2010**. Poster Presentation No. **11**.
26. Damodara N. Kommi, Dinesh Kumar and Asit K. Chakraborti. "Miceller Catalysed Ring Opening of Epoxides by Different Nucleophiles: Application to Parallel Synthesis"; Practical Applications of Modern Tools in Organic Synthesis and Purifications (PAMTOSP-2010), Indian Institute of Chemical Technology, Hyderabad, India. 21<sup>st</sup>-25<sup>th</sup> Nov. **2010**. Poster Presentation No. **12**.
27. Sudipta Raha Roy, Asit K. Chakraborti. "Inspired by Nature: Supramolecular Assembly in Ionic Liquid Catalysis"; 8<sup>th</sup> International Congress of Young Chemist (YoungChem 2010), Reda, Poland. 6-10<sup>th</sup> Oct, **2010**, Poster Presentation No. **T-12**.
28. Brahmam Pujala, Asit. K. Chakraborti. "Ambiphilic (Dual Electrophile-Nucleophile) Activation Role of Water in Promoting Organic Reactions"; International Symposia on Advancing the Chemical Sciences (ISACS), Challenges in Organic Chemistry and Chemical Biology (ISACS1), San Francisco, USA. 6-9 July **2010**. Poster Presentation No. **E2**.
29. Damodara N. Kommi, Dinesh Kumar a and Asit K. Chakraborti, "An efficient green protocol for selective synthesis of 1,2-disubstituted benzimidazoles." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-18**.
30. Kapileswar Seth, Dinesh Kumar and Asit K. Chakraborti. "A facile and efficient tandem process for synthesis of quinoxalines." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-34**.
31. Sonam Bhatia, Dinesh Kumar, Asit K. Chakraborti. "Organocatalytic Synthesis of 1,5-Benzodiazepine." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-89**.
32. Sudipta Raha Roy and Asit K. Chakraborti. "Ionic Liquid Catalysis: Telling the Tale of Green Chemistry." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-92**.
33. Naisargee Parikh, Asit K. Chakraborti, "On the Trail towards Green Chemistry by means of Ionic Liquid: Delve into Acquiring 2,3-dihydro-1,5 benzothiazepine." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-114**. **Received best poster award**.

34. Rajesh Chebolu and Asit K. Chakraborti. "Solvent free chemoselective O-tert-butoxycarbonylation." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-116**.
35. Prahlad Kumar Meena, Dinesh Kumar, Pradeep Chopra, and Asit K. Chakraborti, "Supported protic acids as recyclable catalysts for synthesis of bis(indolyl)methanes (BIMs): Scope and limitations." National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**. Poster Presentation. No. **PP-123**.
36. Sonam Bhatia, Dinesh Kumar and Asit K. Chakraborti, "Polymer-Supported Lewis Acid as a Convenient and Efficient Catalyst for Synthesis of 1, 5-Benzodiazepine." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-97**.
37. Sachin Bindal, Dinesh Kumar, Santosh Rudrawar and Asit K. Chakraborti, "Facile and Efficient Synthesis of Functionalised Pyridines Catalysed by Recyclable Protic Acids on Solid Support." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-98**. **Received best poster award**.
38. Mukesh Sonawane, Srikant Bhagat, Ratnesh Sharma and Asit K. Chakraborti, "Dual Activation Catalysis: Green Protocol for an Efficient Stereoselective Olefination." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-113**.
39. Prahlad Kumar Meena, Dinesh Kumar and Asit K. Chakraborti, "Green Synthesis of synthesis of 8,9,10,12-tetrahydrobenzo[a]xanthen-11-one derivatives." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-120**.
40. Sudipta Raha Roy, Asit K. Chakraborti, "Cooperative Hydrogen Bonded Clusters: Untangling the Mysteries of the Ionic Liquid Catalysis." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-148**.
41. Naisargee Parikh, Asit K. Chakraborti, "Inclination towards Green Chemistry: Delve into Acquiring Seven Membered Heterocyclic Scaffold." 14<sup>th</sup> ISCB International Conference (ISCBC-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-150**.
42. Alpesh. R. Patel, Dinesh Kumar and Asit K. Chakraborti, "Facile Synthesis of Tri and Tetra substituted Imidazoles catalysed by Recyclable heterogeneous Catalyst." National Conference on Green Chemistry. Department of Chemistry, Veer Narmad South Gujrat University, Surat. Feb 6-8, **2009**. Oral Presentation. No. **OP-1**.
43. Naisargee R. Parikh, Dinesh Kumar and Asit K. Chakraborti, "Facile and Environment Friendly Synthesis of 2-aryl benzothiazole and 2-alkyl benzothiazole at Room Temperature." National Conference on Green Chemistry. Department of

Chemistry, Veer Narmad South Gujrat University, Surat. National Conference on Green Chemistry. Department of Chemistry, Veer Narmad South Gujrat University, Surat. Feb 6-8, **2009**. Oral Presentation. No. **OP-3**.

44. S. Bhagat, S. Rawat, A. Aggarwal, U. C. Banerjee, A. K. Chakraborti, "An Efficient Synthesis of  $\alpha$ -Aminophosphonates and their Biological Evaluation," Challenges in Organic Chemistry. 8<sup>th</sup> Tetrahedron Symposium. **2007**, June 26-29, Berlin, Germany. Poster Presentation. **P3-28**.
45. A. Sarkar, A. K. Chakraborti, "Catalytic Uses of Ionic Liquids," Challenges in Organic Chemistry. 8<sup>th</sup> Tetrahedron Symposium. **2007**, June 26-29, Berlin, Germany. Poster Presentation. **P1-19**.
46. Sunay V. Chankeshwara, Santosh Rudrawar, Asit K. Chakraborti, "Investigation of the Dual Activation Role of Water in Catalysing Organic Reactions: Electrospray Ion Mass Spectrometry," 12<sup>th</sup> ISMAS Symposium cum Workshop on Mass Spectrometry. **2007**, March 25-30, Dona Paula, Goa, India. Innovative Research Presentation (Oral). **IRP-2**.
47. Brahmam Pujala, Shivani, Asit K. Chakraborti, "A Novel Heterogeneous Catalyst for Nucleophilic Opening of Epoxide Rings," 11<sup>th</sup> ISCB International Conference on Advances in Drug Discovery Research, **2007**, Feb 24 – 26. Dr. Babasaheb Ambedkar Morathwada University, Aurangabad, India. **Poster No. PP 88**.
48. Bavneet Singh, Sunay V. Chankeshwara, Asit K. Chakraborti, "A Highly Efficient Solid-supported Catalyst System for Direct Esterification of Carboxylic Acids with Alcohols," 9<sup>th</sup> CRSI Symposium in Chemistry, **2007**, Feb 1 – 4. Delhi University, Amritsar, India **Poster No. PP 41**.
49. Gopla. L. Khathik, Raj Kumar, Asit K. Chakraborti, "Co-operative Dual Activation Role of Water in Catalyst-free C-S Bond Formation," National Symposium on New Challenges in Chemistry, **2006**, Mar 20 – 21. Guru Nanak Dev University, Amritsar, India **Poster No. PP 23**.
50. Hashim F. Motiwala, Raj Kumar, Asit K. Chakraborti, "Microwave-Assisted Catalyst and Solvent-Free Synthesis of 4-Aminoaryl Derivatives of 4,7-Dichloroquinolines," National Symposium on New Challenges in Chemistry, **2006**, Mar 20 – 21. Guru Nanak Dev University, Amritsar, India **Poster No. PP 24**.
51. Santosh Rudrawar, Kirti B. Jadhav, Gurmeet Kaur, Asit K. Chakraborti, "Green Synthesis of 2-Aryl/alkylbenzothiazoles in Aqueous Medium," National Symposium on New Challenges in Chemistry, **2006**, Mar 20 – 21. Guru Nanak Dev University, Amritsar, India **Poster No. PP 25**.
52. Raj Kumar, Asit K. Chakraborti, "An Efficient Protocol for Acetal Formation under the Catalytic Influence of Copper (II) tetrafluoroborate," 8<sup>th</sup> CRSI National Symposium in Chemistry, **2006**, Feb 3 – 5. Indian Institute of Technology, Mumbai, India **Poster No. PP 29**.
53. Srikant Bhagat, Asit K. Chakraborti, "An Efficient and Novel Solid Supported Catalyst for the Synthesis of  $\alpha$ -Amino and  $\alpha$ -Hydroxy phosphonates under Solvent-free Conditions and at Room Temperature, Joint International Conference on Building Bridges," Forging Bonds for 21<sup>st</sup> Century Organic Chemistry and Chemical

- Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 20**.
54. Sunay V. Chankeshwara, Asit K. Chakraborti, “Electrophilic Activation: An Efficient Acylative Deprotection of Aryl and Alkyl Benzyl Ethers in a Counter-attack Fashion,” Joint International Conference on Building Bridges, Forging Bonds for 21<sup>st</sup> Century Organic Chemistry and Chemical Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 24**.
  55. Asha Rani, Gurmeet Kaur, S. Majumdar, N. K. Ganguly, P. Ray, Asit K. Chakraborti, Anuradha Chakraborti, “Is Iron Acquisition in Group A Streptococcus (Gas) Mediated by Siderophore?” Joint International Conference on Building Bridges, Forging Bonds for 21<sup>st</sup> Century Organic Chemistry and Chemical Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 120**.
  56. Ratnesh Sharma, Srikant Bhagat, Asit K. Chakraborti, “Dual Activation Strategy for Claisen Schmidt Condensation: Synthesis of 1,3-Diaryl-2-propenones,” National Conference on Modern Trends in Chemical Science & Technology, **2005**, Oct 15 – 17. DAV College Jalandhar, Punjab, India **Poster No. P 49**.
  57. Raj Kumar, Vema Aparna, M. Elizabeth Sobhia, Ramasamy Thilagavathy, Bulusu Gopalakrishnan, Asit K. Chakraborti, “3-D QSAR Studies on Imidazolyl and *N*-Oyrrolyl Heptenoates as HMG-CoA Reductase Inhibitors,” 7<sup>th</sup> CRSI National Symposium in Chemistry, **2005**, Feb 4 – 6. Indian Association for the Cultivation of Science, Kolkata, India **Poster No. P 54**.
  58. Sanjeev K. Garg, Raj Kumar, Asit K. Chakraborti, “Novel Transition Metal Derived Catalyst for Thia-Michael Reaction,” 7<sup>th</sup> CRSI National Symposium in Chemistry, **2005**, Feb 4 – 6. Indian Association for the Cultivation of Science, Kolkata, India **Poster No. P 55**.
  59. Navnath S. Gavande, Ramasamy Thilagavathy, C. Selvam, Gurmeet Kaur and Asit K. Chakraborti, “Efficient Synthesis of 2-Substituted Benzimidazoles,” 9<sup>th</sup> National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 023**.
  60. Sunay V. Chankeshwara, Gurmeet Kaur and Asit K. Chakraborti, “Novel Cleavage protocol and analytical Methodologies for Solid Phase Organic Synthesis,” 9<sup>th</sup> National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 037**.
  61. Ram C. Besra, Santosh Rudrawar and Asit K. Chakraborti, “Transition Metal Catalysed Synthesis of 1,3-Dithiolanes,” 9<sup>th</sup> National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 132**.
  62. S. Bhagat and Asit K. Chakraborti, “Novel Transition Metal catalysts for Synthesis of  $\alpha$ -Amino and  $\alpha$ -Hydroxy Phosphonates,” *Sustainable Development through Catalysis*, National Symposium on Catalysis, **2005**, Jan 18 – 20. CSMCRI, Bhavnagar, Gujrat, India **Paper No. PA 32**.
  63. S. V. Chankeshwara, R. Thilagavathy, M. E. Sobhia, B. Gopalakrishnan, P. V. Bharatham and Asit K. Chakraborti, “Semi-empirical Calculations on Lewis Acid-Carbonyl Interactions: An Approach to Predict Better Catalyst for Acylation

- Reactions,” *Sustainable Development through Catalysis*, National Symposium on Catalysis, **2005**, Jan 18 – 20. CSMCRI, Bhavnagar, Gujrat, India **Paper No. PD 28**.
64. Ramasamy Thilagavathy and Asit K. Chakraborti, “Importance of Alignment in Developing 3-D QSAR Models of 1,5-Diaryl Pyrazoles for Prediction of COX-2 Inhibitory Activity,” *Internet Electronic Conference of Molecular Design 2004*, IECMD 2004, **2004**, Nov 29 – Dec 12. **Paper No. 41**.
  65. Asit K. Chakraborti and Shivani, “Heterocycles as Templates for Synthesis Zincperchlorate as a Novel Catalyst for Opening of Epoxide Rings by Thiols and amines,” *Chemistry Biology Interface: Synergistic New Frontiers*, University of Delhi, **2004**, Nov 21-26. **Poster No. P26-58**.
  66. Asit K. Chakraborti, R. Thilagavathy, C. Selvam and S. M. Jachak , “Design, Synthesis, Biological Evaluation and Molecular Docking of Novel 3,4-Diaryl Oxazolones as COX-1/COX-2 Inhibitors,” *Chemistry Biology Interface: Synergistic New Frontiers*, University of Delhi, **2004**, Nov 21-26. **Poster No. P23-48**.
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  69. Santosh. Rudrawar, Kirtikumar B. Jadhav, Gurmeet Kaur and Asit K. Chakraborti, “Application of Mass Spectrometric Techniques for Characterization and Quantification of Solution and Solid Phase Combinatorial 2-Aryl Benzothiazole Libraries,” *11<sup>th</sup> ISMAS Workshop on Mass Spectrometry*, Shimla, India, **2004**, Oct. 7 – 12. **Paper No. RS-16**. Page 316-318.
  70. Asha Rani, Gurmeet Kaur, Asit K. Chakraborti, S. Majumdar, N. K. Ganguly and Anuradha Chakraborti, “Use of Mass Spectrometric Analysis in Establishing Siderophore Mediated Iron Acquisition in Group A Streptococcus (GAS),” *11<sup>th</sup> ISMAS Workshop on Mass Spectrometry*, Shimla, India, **2004**, Oct. 7 – 12. **Paper No. RS-20**. Page 338-341.
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  72. Sonia Bharadwaj, Anshuman shukla, Sourav Mukherjee, Swati Sharma, Purnanda Guptasharma, Asit K. Chakraborti and Arunaloke Chakraborti, “Priliminar Characterization of a Red water-soluble Pigment Secreted by the Dimorphic Fungus *Penicillium marneffei*,” *5<sup>th</sup> National Conference of Society for Indian Human and Animal Mycologists*, Department of Experimental Medicine, PGI, India. **2004**, March 12-14, **Poster No. O-10**.

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75. Rohit Sharma, J. P. Iyer, Asit K. Chakraborti, and U. C. Banerjee, "Determination of Gibberellins in Fermentation Broth Produced by *Fusarium verticillioides* MTCC 156 by High Performance Liquid Chromatography Tandem Mass Spectrometry," *91st Indian Science Congress*, Chandigarh, India. **2004**, January 3-7, **Poster No. BP 1**, New Biology/Biophysics. **Adjudged the Best Paper**.
76. Asha Rani, Asit K. Chakraborti, S. Majumdar, N. K. Ganguly, Gurmeet Kaur, and Anuradha Chakraborti, "Siderophore Mediated Iron Acquisition in Group A Streptococcus," *91st Indian Science Congress*, Chandigarh, India. **2004**, January 3-7, **Poster No. P 9**, Medical Sciences (including Physiology).
77. Asit K. Chakraborti, Gurmeet Kaur, and Kirtikumar Jadhav, "Solution and Solid Phase Combinatorial Synthesis of Benzothiazole Libraries," *55<sup>th</sup> Indian Pharmaceutical Congress*, Chennai, India. **2003**, Dec 19-21, **BP4**.
78. Asit K. Chakraborti, Sunay V. Chankeshwara and Gurmeet Kaur, "A New, Mild and Efficient Method for Conversion of Aryl Benzyl Ethers to Aryl Acetates: Application in Solid Phase Combinatorial Library Synthesis," *55<sup>th</sup> Indian Pharmaceutical Congress*, Chennai, India. **2003**, Dec 19-21, **B24. Adjudged the Best Paper**.
79. Asit K. Chakraborti, and Ramasamy Thilagavathi, "Computer-Aided Design of selective COX-2 Inhibitors: Molecular Docking of structurally Diverse COX-2 Inhibitors using FlexX Method," *International Electronic Conference on Molecular Design*, **2003**, Nov. – Dec. 5. 24-21, **Paper No. 18**.
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86. Asit K. Chakraborti, Gurmeet Kaur, Lalima Sharma and C. Selvam, "An Efficient Method for Syntheses of Thiazoles, Oxazoles and Imidazoles," *18<sup>th</sup> International Congress of Heterocyclic Chemistry*, Pacific Yokohama, Japan. **2001**, July 29-August 3, **2-PO-151**.
87. Asit K. Chakraborti, "Heterocycles in Organic Synthesis: Selectivity Control During the Nucleophilic Opening of Epoxides as Key Step in the Syntheses of Pharmaceuticals," *18<sup>th</sup> International Congress of Heterocyclic Chemistry*, Pacific Yokohama, Japan. **2001**, July 29-August 3, **2-PO-150**.
88. Mrinal K. Nayak, Anindita Nandi and Asit K. Chakraborti, "Counter-Cation Controlled Alkylation of Nitrophenolates," *Organic Synthesis and Catalysis via Metallo-Organics*, NCL (Pune), **1993**, 23-24 September.
89. Richard K. Dieter, Asit K. Chakraborti and Vibuti Dabral, "Asymmetric Induction in the Copper (I) Catalysed Conjugate addition," *Southeast Regional Meeting of American Chemical Society*, Florida, U. S. A., **1986**, 3-5 November.

**k) Seminar Lecture Delivered: Total 118**

1. "Science Education: Scope and Opportunities in Career Advancement," Mar 21. **2015**, INSPIRE Internship Camp, Organised by Akal College of Pharmacy & Technical Education, Mastuana Sahib, Sangrur, Punjab. Mar 20-24, 2015.
2. "Organo-catalysis by Ionic Liquids: On the Origin of Catalysis and Applications," **2015**, Mar 14. Plennar Lecture 8. National Conference on Frontiers at the Chemistry-Allied Sciences Interface (FACSI-2015), 13-14 Mar 2015, Department of Chemistry, University of Rajasthan, Jaipur, Rajasthan, India.
3. "Sustainable Chemistry: Rational Approaches and Applications," **2015**, Feb 17 Invited Lecture 1. Frontiers in Chemistry-2015, 17-18 Feb 2015, Department of Chemistry, North Bengal University, West Bengal, India.
4. "Rational Design of Sustainable Chemistry," **2015**, Jan 16 Keynote Lecture 4 The 5<sup>th</sup> Asia Oceania Conference on Green and Sustainable Chemistry (AOC-5 GSC), 15-17 Jan 2015, India Habitat Center, New Delhi, India.
5. "Novel Anti-Inflammatory Scaffolds through Sustainable Chemistry," **2014**, Sept 11 Keynote presentation in Drug Discovery India 2014, 11-13 Sept 2014, Ramada Powai Hotel & Convention Center, Mumbai, India.

6. *“Supramolecular assemblies: On the origin of catalysis by ionic liquids and molecular basis for rate acceleration in aqueous medium,”* **2014**, July 4 in the Twenty-fifth Mid-year meeting of Indian Academy of Sciences, Bangalore, 4-5 July 2014, Indian Institute of Science, Bangalore.
7. *“Sustainable Development: All Chemistry in Water,”* **2014**, May 10 in the UGC-ASC Refresher Course in Chemistry Apr 24 to May 14, Department of Chemistry, Guru Jambheshwar University of Science and Technology, Hisar, Haryana.
8. *“Sustainable Chemistry: On Organo-catalysis by Ionic Liquids,”* **2014**, May 10 in the UGC-ASC Refresher Course in Chemistry Apr 24 to May 14, Department of Chemistry, Guru Jambheshwar University of Science and Technology, Hisar, Haryana.
9. *“Medicinal Chemistry Education and Research: The Necessity and Pitfalls,”* **2014**, Apr 4 Centre of Chemical and Pharmaceutical Sciences, Central University, Bhatinda, Punjab.
10. *“Enriching the Medicinal Chemists’ Tool Box: Emerging Trend and Paradigm Shift in Discovery Chemistry,”* **2014**, Apr 4 Centre of Chemical and Pharmaceutical Sciences, Central University, Bhatinda, Punjab.
11. *“Sustainable Chemistry for Novel Anti-inflammatory Scaffolds,”* **2014**, Apr 4 Centre of Chemical and Pharmaceutical Sciences, Central University, Bhatinda, Punjab.
12. *“Mass Spectrometry in Intercepting Supramolecular Assemblies of Small Molecules in Understanding Organo-catalysis by Ionic Liquids,”* **2014**, Mar 12, “28<sup>th</sup> ISMAS Symposium cum Workshop (28<sup>th</sup>-ISMAS-2014). Advances in Chemical Sciences,” Organised by ISMAS, Mumbai at Timber Trail Heights, Parwanoo, HP, India, Amritsar. Mar 9-13, 2014.
13. *“Supramolecular Assemblies in Organo-catalysis by Ionic Liquids,”* **2014**, Mar 7, Department of Chemistry, IIT Kharagpur, W. B.
14. *“Sustainable Chemistry in Drug Discovery and Process Development,”* **2014**, Mar 3, Department of Chemical Sciences, IISER, Kolkata.
15. *“Supramolecular Assemblies: Origin of Catalysis by Ionic Liquids,”* **2014**, Feb 28, 8<sup>th</sup> Annual Meeting of Chandigarh Science Congress (CHASCON-2014), Organised by Panjab University, Chandigarh. Feb 26-28, 2014.
16. *“Sustainable Chemistry: Rational Approaches,”* **2014**, Feb 27, “IV<sup>th</sup> National Symposium on Advances in Chemical Sciences,” Organised by Center for Advanced Studies, Department of chemistry, GNDU, Amritsar. Feb 27-28, 2014.
17. *“Green Approaches in Drug Discovery and Process Development,”* **2013**, Dec 03, International Workshop on Green Initiatives in Energy, Environment & Health, Organised by Green Chemistry Network Centre, Delhi University, Dec 2-3, 2013.
18. *“Enriching Medicinal Chemists’ Tool Box,”* **2013**, Nov 19 Training School on CHALLENGES AND OPPORTUNITIES IN DRUG DISCOVERY, NETWORKING RESOURCE CENTRE UGC Centre for Advanced Studies (CAS), Organised by UIPS, Panjab University, Punjab, Nov 18 – 23, 2013.
19. *“Science Education: Motivation to Innovate and Opportunities for Career Development,”* **2013**, Nov 16, INSPIRE Internship Science Camp, Organised by Columbia College of Pharmacy, Raipur, Chhatrisgarh, Nov 13-17, 2013.

20. *“Necessity for Science Education: Scope for Career Development,”* **2013**, Aug 11, DST INSPIRE SCIENCE CAMP, Organised by Guru Nanak Dev Engineering College, Ludhiana, Punjab, Aug 7-11, 2013.
21. *“Greener Approaches Towards Drug Discovery and Development,”* **2013**, Aug 9, 12<sup>th</sup> Training School on “LEARNING METHODOLOGIES IN PHARMACEUTICAL CHEMISTRY: MEDICINAL AND ANALYTICAL ASPECTS,” NETWORKING RESOURCE CENTRE UGC Centre for Advanced Studies (CAS), Organised by UIPS, Panjab University, Punjab, Aug 5 – 10, 2013.
22. *“Greener Approaches Towards Drugs and Pharmaceuticals,”* **2013**, June 12, Conference on “Research Trends in Future Drug Development: Exploration of Medicinal and Aromatic Flora.” Organised by Faculty of Pharmaceutical Sciences, Shoolini University, Solan, HP, June 20 – 21, 2013.
23. *“Ionic Liquids as Functional Materials; Organo-Catalytic Power and its Relation,”* **2013**, Apr 26, Workshop on "Recent Developments in Functional Materials" under TEQIP – II Organised by the Department of Applied Sciences and Department of Materials & Metallurgical Engineering, PEC University of Technology, Chandigarh, Apr 14, 2013.
24. *“Sustainability through Innovation: Necessary Drive in Pharmaceutical Research,”* **2013**, Mar 14. Training School on “INNOVATIONS IN PHARMA RESEARCH: STEPPING STONES,” NETWORKING RESOURCE CENTRE UGC Centre for Advanced Studies (CAS), Organised by UIPS, Panjab University, Punjab, Mar 11 – 16, 2013.
25. *“Organo-catalytic Applications of Ionic Liquids: Mechanistic Insight and the Rational for Catalyst Selection,”* **2013**, Mar 13, Department of Chemistry, PAU, Ludhiana, Punjab.
26. *“Mass Spectrometry in Designing Sustainable synthetic Methods to Prepare New Chemical Entities for Potential Therapeutic Applications,”* **2013**, Mar 05, "12<sup>th</sup> ISMAS Triennial International Conference on Mass Spectrometry (12<sup>th</sup> ISMAS-TRICON-2013)," Organised by ISMAS, Dona Paula, Goa, India, Mar 3-8, 2013.
27. *“Integrating Discovery Research and Sustainable Chemistry,”* **2013**, Feb 06, UIPS, UGC Centre of Advanced Study (CAS), Panjab University, Chandigarh.
28. *“Necessity for Science Education: Scope for Career Development,”* **2012**, Nov 6, SCIENCE CAMP UNDER INSPIRE INTERNSHIP SCHEME Organised by Selvamm Arts and Science College, Namakkal, TN, Nov 5-12, 2012.
29. *“Supramolecular Organo-catalysis,”* **2012**, Oct 11, XV NOST-Organic Chemistry Conference (OCC), Organised by National Organic Symposium Trust, Jaypee Palace Hotel, Agra, Oct 10-13, 2012.
30. *“Enriching the Medicinal Chemists’ Tool Box: Emerging Trend and Paradigm Shift in Discovery Chemistry,”* **2012**, Sept 22, AICTE Sponsored Quality Improvement Programme 2012, “Impetus to Organic Synthesis: Approaches for Pharmaceutical Chemistry,” Organised by Department of Pharmaceutical Sciences, BIT, Mesra, Ranchi, Sep 16-30, 2012.

31. *"Sustainable Chemistry for Novel Anti-inflammatory Scaffolds,"* **2012**, Sept 22, AICTE Sponsored Quality Improvement Programme 2012, "Impetus to Organic Synthesis: Approaches for Pharmaceutical Chemistry," Organised by Department of Pharmaceutical Sciences, BIT, Mesra, Ranchi, Sep 16-30, 2012.
32. *"Science: Necessity for Education and the Scope for Career Development,"* **2012**, May 13, Second Residential INSPIRE Science Camp, Organised by Krishna College, Bijnor, UP, May 11-15, 2012.
33. *"Sustainable Chemistry Development in the Perspective of Academic Research,"* **2012**, Mar 20, national Seminar on Recent Trends in chemistry," Organised by Department of Chemistry, Sri Venkateshwara College, University of Delhi, New Delhi, Mar 20-22, 2012.
34. *"Sustainable Chemistry Development in the Perspective of Academic Research,"* **2012**, Mar 20, National Seminar on Recent Trends in chemistry," Organised by Department of Chemistry, Sri Venkateshwara College, University of Delhi, New Delhi, Mar 20-22, 2012.
35. *"Novel Anti-inflammatory Scaffolds through Sustainable Chemistry Development,"* **2012**, Mar 12. Indo-US Workshop on Green Chemistry for Environments & Sustainable Development. Organised by H. N. B. Garhwal University, Srinagar, Uttarakhand, India at Dehradun, Mar 11-13, 2012.
36. *"Drug Discovery Chemistry in the Context of Sustainable Development,"* **2012**, Feb 26, 6<sup>th</sup> Chandigarh Science Congress, CHASCON 2012, Panjab University, Chandigarh India, Feb 26-28, 2012.
37. *"Emerging Trends in Medicinal Chemistry Research: A Paradigm Shift in the Context of Sustainable Chemistry Development,"* **2012**, Feb 10, National Conference on "Drug Innovation: Emerging trends and Challenges," Rayat-Bahra Institute of Pharmacy, Hoshiarpur, Punjab, India, Feb 10-11, 2012.
38. *"Medicinal Chemistry Education and Research: the Necessity and Pitfalls,"* **2011**, Dec 13, Professor K. N. Giand Memorial Seminar on "Advances in the Area of Pharmaceutical Education and Research in the Country," University Institute of Pharmaceutical Sciences, Panjab University, Chandigarh, India.
39. *"Extracting Newer Chemistries in Aqueous Medium: Non-heme Model of Dioxygen Activation,"* **2011**, Dec 7, "International Symposium on Green Chemistry (ICGC-2011)," Department of Chemistry, School of Chemical Sciences & Pharmacy, Central University of Rajasthan, Kisangarh, Rajasthan, India, Dec 7-9, 2011.
40. *"Non-heme Model of Dioxygen Activation in Aqueous Medium: Mass Spectrometric Methods to Identify the Catalytic Species and Understanding the Rational of Catalysis,"* **2011**, Nov 8, "14<sup>th</sup> ISMAS Workshop cum Workshop on Mass Spectroscopy," Tea County, Munnar, India, Nov 7-11, 2011.
41. *"Novel Anti-inflammatory Scaffolds: Design, Synthesis and Biological Evaluation,"* **2011**, Oct 11, "9<sup>th</sup> Indo-Italian Workshop on Chemistry and Biology of Antioxidants: Natural Products-based Antioxidants from Medicinal Plants as Leads towards Development of Novel Drugs," Department of Chemistry, University of Delhi, Delhi, Oct 10-11, 2011.

42. *"Implementing Green Chemistry in Drug Discovery and Development,"* **2011**, Aug 22, "National Workshop on Green Chemistry (NWGC-2011)," Department of Chemistry, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu Aug 17-22, 2011.
43. *"Rationally Designing Sustainable Medicinal Chemistry,"* **2011**, Apr 21, "Indo-US Symposium on Frontiers in Medicinal Chemistry and Drug Discovery," JSS Univ, Mysore, Apr 21-23, 2011.
44. *"A Relook into the Green Image of Ionic Liquids: Non-Solvent Applications and Rational Selection,"* **2011**, Mar 22, "Workshop on Green Chemistry Education," Department of Chemistry, HNB Garhwal Univ, Mar 22-23, 2011.
45. *"Influence of Green Chemistry on Medicinal Chemistry Research: Rational Approaches to Meet the Challenges,"* **2011**, Mar 4, "3<sup>rd</sup> Symposium on Medicinal Chemistry and Pharmaceutical Sciences," CDRI, Lucknow, Mar 3-5, 2011.
46. *"Rationally Designing Sustainable Chemistry using Water and Ionic Liquids,"* **2011**, Feb 16, "National Seminar Recent Advances in Chemistry and their impact on Environment," NSRACE- 11, Department of Chemistry, Panjabi University, Patiala. Feb 15-16, 2011.
47. *"Identification and Characterisation of Supramolecular Assemblies of Small Molecules: Implication in the Emerging Trends in Medicinal Chemistry Research,"* **2011**, Jan 27, UGC Training Course on "Current Trends in Pharmaceutical Analysis & Medicinal Chemistry." UIPS, Panjab University, Chandigarh. Jan 24-29, 2011.
48. *"Alternative Reaction Media: Molecular Basis of Selection,"* **2011**, Jan 12, International Conference on Emerging Areas of Chemistry (ICEAC-2011). Department of Chemistry, Tripura University, Agartala, Tripura. Jan 12-14, 2011.
49. *"Rationally Designing Sustainable Chemistry: On the use of Water and Ionic Liquids as Alternate Reaction Media,"* **2011**, Jan 22, National Conference On Green Chemistry: "An approach to meet the challenges of sustainability" (GCMS-2011). MMH College, Gaziabad, UP, Jan 22-23, 2011.
50. *"Exploring Sustainable Chemistry: Rational Approaches,"* **2010**, Dec 19, 29th Annual Conference of Indian Council of Chemists (ICC). Department of Chemistry, Panjab University, Chandigarh. Dec 19-21, 2010.
51. *"Rational Approaches towards Green Chemistry,"* **2010**, Nov 20, Training Workshop on Green Chemistry Education. Department of Chemistry, Delhi University, Delhi. Nov 20, 2010.
52. *"Sustainable Development in Chemistry: An Academic Perspective,"* **2010**, Sept 27, National Conference on Green Chemistry- Recent Trends and Application (NCGO-2010). Department of Chemistry, DAV College, Amritsar. Sept 28-29, 2010.
53. *"On Understanding the Role of Ionic Liquids in Promoting Organic Reactions,"* **2010**, Sept 11, National Conference on Recent Advances in Green, Eco-friendly and Sustainable Chemistry. Hans Raj Mahila Mahavidyalaya, Jalandhar. Sept 10-11, 2010.

54. *“Implementing Green Chemistry Principles in Medicinal Chemistry Research,”* **2010**, June 1, Panjab Univ., Chandigarh, UGC Networking Resource Centre Training Course, May 31 – June 12, 2010.
55. *“Exploring Sustainable Chemistry in the Quest for Novel Concepts, New Synthetic Methodologies and Reaction Mechanism,”* **2010**, Mar 19, National Seminar on Chemistry Today, Department of Chemistry, The University of Burdwan, West Bengal. March 18-20, **2010**.
56. *“In the Pursuit of Sustainable and Green Chemistry Development: New Concepts, Reaction Mechanism and Synthetic Methodologies,”* **2010**, Feb 19, National Conference on Green and Sustainable Chemistry (NCGSC-2010), Chemistry Group Birla Institute of Technology and Science, Pilani (Rajasthan). February 19-21, **2010**.
57. *“Rationally Designed Sustainable Chemistry in the generation of New Chemical Entities,”* **2010**, Feb 16, Mini-symposium in Medicinal Chemistry, National Institute of pharmaceutical Education and Research (NIPER), S. A. S. Nagar, Punjab.
58. *“Ionic Liquids: In the Context of Sustainable Development,”* **2010**, Feb 7, 13<sup>th</sup> Punjab Science Congress, Feb 7-9, 2010, Punjab University, Chandigarh.
59. *“Chemical Research in the Context of Sustainable Development: Scope of Implementation in Academia,”* **2010**, Jan 22, Recent Advances in Chemical and Environmental Sciences, Modi College, Patiala, Punjab.
60. *“Sustainable Development: An Exploration to the Wonderland of Ionic Liquids,”* **2010**, Jan 16, 14<sup>th</sup> ISCB International Conference (ISCB-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**.
61. *“In the Context of Medicinal Chemistry Education,”* **2009**, Dec 24, Nargund College of Pharmacy, Bangalore, India.
62. *“Implementing Green Chemistry Principles: Use of Non-conventional Reaction Media,”* **2009**, Dec 23, SERC School on Green Chemistry-Applications, Research Activities and Recent Trends, Dec 14-27, 2009, School of Chemistry, Madurai Kamraj University, Madurai, India.
63. *“Implementing Green Chemistry Principles: Novel Concepts in the Development of New Synthetic Methodologies,”* **2009**, Dec 23, SERC School on Green Chemistry-Applications, Research Activities and Recent Trends, Dec 14-27, 2009, School of Chemistry, Madurai Kamraj University, Madurai, India.
64. *“Rational Use of Non-conventional Reaction Media,”* **2009**, Dec 8, Green Chemistry, Opportunities and Challenges in New Global Era, Dec 7-9, 2009, Department of Chemistry, Maharaja’s College, University of Rajasthan, Jaipur, India.
65. *“Quest for Novel Concepts: Development of New Synthetic Methodologies,”* **2009**, Nov 27, Jubilant, Bangalore, India.
66. *“Development of New Synthetic Methodologies Relevance to Drug Synthesis: Deriving Novel Concepts,”* **2009**, Nov 26, AstraZeneca, Bangalore, India.

67. *"Discovery Chemistry Research in the Context of Sustainable Development,"* **2009**, Nov 25, Nargund College of Pharmacy, Bangalore, India.
68. *"Role of Mass Spectrometry in the Conceptual Advancement towards Sustainable Development in Pharmaceutical research,"* **2009**, Nov 22, Award Lecture 1. 11<sup>th</sup> ISMAS Triennial Conference on Mass Spectrometry, Nov 24-28, 2009, Ramoji Film City, Hyderabad, India.
69. *"Mass Spectrometry in the Generation of New Chemical Entities,"* **2009**, Nov 22, ISMAS Short Course in Mass Spectrometry, CCMB, Hyderabad, AP, India.
70. *"Sustainable Synthesis Through Novel Concepts,"* **2009**, Nov 13, Institute of Pharmacy, Nirma University, Ahmedabad, Gujrat, India.
71. *"Sustainable Development: New Concepts and Organic Synthetic Methodologies,"* **2009**, Oct 13, Dep of Chemistry, NIIT, Jalandhar, India.
72. *"Implementing a few Green Chemistry Principles in Academic Research,"* **2009**, Aug 25, Dept Chemistry, J. N. Vyas Univ, Jodhpur, India.
73. *"On Organocatalysis by Ionic Liquids,"* **2009**, July 23, Mid CRSI Meeting, Department of Applied Chemistry, SGSITS, Indore.
74. *"Sustainable Chemical Synthesis: Developing New Concepts and Novel Synthetic Tools,"* **2009**, April 22, Royal Society of Chemistry Eastern Chapter, IACS, Kolkata.
75. *"Green Chemistry Approaches in Academic Research: Part I-III,"* **2009**, June 19-20, Summer School on Green Chemistry, Dep of Chemistry, Tezpur Univ, Tezpur, India.
76. *"Furthering Green Chemistry Through Novel Concepts and Synthetic Methodologies,"* **2009**, May 9, Workshop on Green Chemistry in Real World Practice, Univ of Delhi, Delhi, India.
77. *"Sustainable Chemical Research: The Necessity and Implementation,"* **2009**, March 12-13, National Symposium on Emerging Trends in Chemical Analysis & Synthesis (ETCAS-2009), SLIET, Longwal, India
78. *"The discovery chemistry in the context of sustainable development,"* **2009**, Mar 04, National Conference on Innovation in Drug Discovery and Research, Punjabi Univ. Patiala, India.
79. *"Green Chemistry Principles: Applications in Chemical Research,"* **2009**, Feb 5-6, National Symposium in Green Chemistry: Applications in Science & Engineering (NSGC 2009), Thapar Univ, Patiala, India.
80. *"Rational Design of Green Chemistry Methodologies: Thriving for Sustainable Development,"* **2008**, Nov 23 – 27, 45<sup>th</sup> Annual Convention of Chemists, P.G. Department of Studies in Chemistry, Karnatak University, Dharwad, India.
81. *"On How Water Catalyses Organic Reactions,"* **2008**, Nov 20-22, Symposium on "Current Trends in Organic Synthesis," Indian Institute of Science, Bangalore, India.
82. *"The Changing Pattern of Discovery Chemistry Keeping Pace with Sustainable Development,"* **2008**, Nov 24, Astra Zeneca, Bangalore, India.

83. *“Green Chemistry Initiative in Academic Research: Geering up with EPA Regulations,”* **2008**, Aug 4, Advinus Therapeutics, Pune, India.
84. *“Green Chemistry Influence on Medicinal Chemistry,”* **2008**, Mar 18-19, MedChem India. Bangalore, India.
85. *“Understanding Organic Chemistry in aqueous Medium,”* 12<sup>th</sup> ISCBC, **2008**, Feb 22-24, International Conference on the Interface of Chemistry-Biology in Biomedical Reserach, BITS, Pillani, India.
86. *“Understanding the Role of Water for Aqueous Reactions: Mass Spectrometric Investigation,”* 13<sup>th</sup> ISMAS-WS, **2008**, Jan 27-31, Indian Society of Mass Spectrometry, BARC, Mumbai, India.
87. *“Sustainable Chemistry in Drug Discovery,”* **2008**, Jan 27-29, International Conference on Drug Discovery and Nanotechnology, Yeshwant Mahavidyalaya, Nanded, Maharashtra, India.
88. *“Excercising Green Chemistry in Academic Research: Scope and Implementation,”* **2008**, Jan 7-9, Third Indo-US Workshop on Green Chemistry. University of Delhi, India.
89. *“Water Catalysis: Electrophile-Nucleophile Dual Activation by Single Water Molecule through Cooperative Hydrogen Bond Network,”* 95<sup>th</sup> ISCA, **2008**, Jan 6, Indian Science Congress Association, Andhra University, Visakhapatnam, India.
90. *“Green Chemistry: Scope in Medicinal Chemistry Activities,”* **2007**, Sept 4, Workshop on Green Chemistry. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar, Punjab, India.
91. *“Practicing Green Chemistry: Scope in Academic Research,”* **2007**, Apr 2, National Workshop on Green Chemistry Practices & Their Applications. Deptt. of Chemistry, Cotton College, Guwahati, India.
92. *“Mass Spectrometric Identification of Ionic Liquids,”* **2007**, Mar 27, 12<sup>th</sup> ISMAS Symposium cum Workshop on Mass Spectrometry. Mar 25-30, 2007, Dona Paula, Goa, India.
93. *“Developing Reactions Frequently Required in Drug Synthesis: A Green Chemistry Approach,”* **2007**, Mar 10, Workshop on Green Chemistry Education for a Sustainable Future. University of Delhi, Delhi, India.
94. *“The Nucleophilic and Electrophilic Activation Strategies: Applications in Developing Reactions used for the Preparation of Drug Molecules,”* **2007**, Feb 25, 11<sup>th</sup> ISCB International Conference on Advances in Drug Discovery Research. Dr. Babasaheb Ambedkar Morathwada University, Aurangabad, India.
95. *“Medicinal Chemistry: Another Degree or a Multifaceted Expertise?”* **2006**, Sept 2, 11<sup>th</sup> Annual National Convention of APTI, Bangalore.
96. *“Demand Based Thiolate Anion Generation: Novel Concepts from Prior Arts”* **2006**, May 4, Department of Organic Chemistry, Indian Association for the Cultivation of Science, Kolkata.



97. “*Building Novel Concepts from Prior Arts*” **2006**, March 29, Department of Organic Chemistry, Indian Institute of Science, Bangalore.
98. “*Demand Based Thiolate Anion Generation: A Novel Strategy for Functional Group Manipulation*” **2006**, Mar 20-21, National Symposium on New Challenges in Chemistry, GNDU, Amritsar.
99. “*Single Electron Transfer process for in situ Thiolate Anion Generation: Applications in Organic Synthesis,*” **2006**, Feb 24-25, 10th International Conference on Drug Discovery Perspectives and Challenges, CDRI, Lucknow.
100. “*Demand-Based Thiolate Generation: Concept and Applications,*” **2006**, Feb. 3-5, National Symposium in Chemistry (NSC-8). IIT, Mumbai.
101. “*Mass Spectrometry in Pharmaceutical research,*” **2006**, Jan 28- Feb. 1. 10<sup>th</sup> ISMAS Triennial International Symposium on Mass Spectrometry, Munnar, Kerala.
102. “*Proteomics in Drug Discovery: Uses of Mass Spectroscopy,*” **2005**, Nov 06. Clinical Proteomics, PGI, Chandigarh.
103. “*Application of Mass Spectroscopy in Combinatorial Synthesis of Chalcone and Stilbene Libraries,*” **2004**, Oct. 7 - 12. Eleventh ISMAS Workshop on Mass Spectrometry, Shimla.
104. Resource Faculty in “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme),*” **2006**, Oct. 9 - 28. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
105. Resource Faculty in “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme),*” **2005**, Sept 5 - 23. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
106. Resource Faculty in “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme),*” **2004**, Aug. 30 - Sept. 17. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
107. “*Applications of UV-VIS Spectroscopy,*” in “*Management Development Programme on Operation, Maintenance & Repair of Analytical Instruments (ITEC-SCAPP Programme),*” **2004**, Mar. 3. Central Scientific Instruments Organisation, Chandigarh.
108. “*Applications of NMR Spectroscopy,*” in “*Management Development Programme on Operation, Maintenance & repair of analytical Instruments (ITEC-SCAPP Programme),*” **2004**, Mar. 3. Central Scientific Instruments Organisation, Chandigarh.
109. Resource Faculty in “*National Workshop on Curriculum Development in Natural Products at Postgraduate Level,*” **2003**, Nov. 25-27. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
110. Resource Faculty in “*Modern Analytical Techniques in Quality Control of Drugs and Pharmaceuticals (ITEC-SCAPP Programme),*” **2003**, Sept. 1-19. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.

111. "Ecofriendly Unit Processes: Application of Green Chemistry in Chemical Industry," in Workshop on *Indian Pharmaceutical Industry: Technological Challenges*, **2003**. Mar 20-21, National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
112. Resource Faculty in "*Modern Analytical Techniques in Quality Control of Drugs and Pharmaceuticals (ITEC-SCAPP Programme)*," **2002**, Sept. 2-20. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
113. "Demand-Based Thiolate Anion Generation: Concept and Applications," in National Symposium on *New Trends in Synthetic Organic Chemistry*, **2002**. Jul 8-9, Department of Chemistry, KTHM College, Nashik.
114. "Quest for Novel Targets for Design and Synthesis of New Chemical Entities as anti-leishmanial agents," in *Current Perspectives in Organic Chemistry*, **2002**. Jan 24-25, Department of Organic Chemistry, IACS, Kolkata.
115. "Design of New Chemical Entities as Anti-leishmanial Agents Aiming at Novel Targets: synthesis of Bio-active Phenols *via* Demand Based Thiolate anion generation in Counter-attack Fashion," in *National Bioorganic Symposium 7*, **2001**, Nov. 9-10. Department of Chemistry, GNDU, Amritsar, Punjab.
116. Resource faculty in *Summer School on Computer Aided Drug Design*, **1998**, June 15-19. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
117. "Second Generation Taxoids as Antimitotic Agents," **1997**, June 18. Department of Organic Chemistry, I.A.C.S., Calcutta.
118. "Semi-Synthetic Approaches to Taxoids," in National Seminar on *Molecular Basis of Drug Discovery and Development*. **1997**, May 31, National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.

**I) National/International Seminar/Symposium/Workshop Organised:**

1. Convenor. "*International Symposium on Recent Advances in Medicinal Chemistry ISRAM-2014*," **2014**, Sept. 08 - 10. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
2. Scientific Coordinator. "*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export (ITEC-SCAPP Programme)*," **2012**, Oct. 08 - 19. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
3. Scientific Coordinator. "*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export (ITEC-SCAPP Programme)*," **2012**, Oct. 08 - 19. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
4. Scientific Coordinator. "*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export*"

- (ITEC-SCAPP Programme),” **2011**, Oct. 03 - 14. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
5. Scientific Coordinator. “*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export (ITEC-SCAPP Programme)*,” **2010**, Oct. 18 - 30. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  6. Scientific Coordinator. “*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export (ITEC-SCAPP Programme)*,” **2009**, Oct. 19 - 30. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  7. Scientific Coordinator. “*Advanced analytical Techniques: Basic Principles & Applications for Quality Assessment of Drugs and Pharmaceuticals for Export (ITEC-SCAPP Programme)*,” **2008**, Oct. 9 - 28. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  8. Convener. “*Workshop on Green Chemistry*,” **2007**, Sept. 3 - 4, NIPER, S. A. S. Nagar in Association with DST, New Delhi.
  9. Convener. “*Eleventh ISMAS Workshop on Mass Spectrometry*,” **2004**, Oct. 7 - 12, Shimla in Association with Indian Society of Mass Spectrometry, Mumbai.
  10. Module Coordinator. “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme)*,” **2006**, Oct. 9 - 28. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  11. Module Coordinator. “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme)*,” **2005**, Sept 5 - 23. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  12. Module Coordinator. “*Development, Scale up and Production of Biopharmaceuticals (ITEC-SCAPP Programme)*,” **2004**, Aug. 30 - Sept. 17. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  13. Programme Director. “*Modern Analytical Techniques in Quality Control of Drugs and Pharmaceuticals*,” **2003**, Sept. 1-19. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.
  14. Programme Director. “*Modern Analytical Techniques in Quality Control of Drugs and Pharmaceuticals*,” **2002**, Sept. 2-20. National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar.