

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, National Institute of Pharmaceutical Education and Research (NIPER), Sector 67, S. A. S. Nagar 160 062, India.
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Academic Qualifications:

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

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

1975-1977[†] 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[§] Ph. D. (Science), Jadavpur University/IACS, Calcutta, India.

Areas of Study: α -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.

[¶]The Examination was held in December 1975 and the result was published in June, 1976.

[†]The Examination was held in January 1979 and the result was published in July, 1979.

[§]The Thesis was submitted in September 1984 and the Degree was awarded in March, 1985.

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.

Honours and Awards:

2009	ISMAS Eminent Mass Spectroscopist Award 2009.
2008	Tetrahedron Letters Most Cited Paper 2005-2008 Award.
2008	Bioorganic and Medicinal Chemistry Letters Most Cited Paper 2005-2008 Award.
2007	Tetrahedron Letters Most Cited Paper 2004-2007 Award.
2006	Tetrahedron Letters Most Cited Paper 2003-2006 Award.
2006	Chemical Research Society of India (CRSI) Bronze Medal.
2005	Ranbaxy Research Award 2004 (Pharmaceutical Sciences).
2005	Fellow, The Royal Society of Chemistry, Cambridge, U. K.
2001	Member, National Academy of Sciences, India, Allahabad.
1979	University Gold Medal, The University of Burdwan.
1979	Bardhaman Sammilani Gold Medal, The University of Burdwan.

Member Editorial Board:

The Open Natural Products Journal,
International Journal of BioSciences and Technology,
International Journal of MedicalSciences and Technology,
International Journal of LifeSciences and Technology,
Reports in Organic Chemistry

Reviewer of International Journals:

2010	<i>Org. Lett., J. Org. Chem., J. Combi. Chem., Synlett, Tetrahedron Lett., Org. Biomol. Chem., J. Mol. Cat. A: Chem., Aust. J. Chem.; Bioorg. Med. Chem. Lett., Synth. Commun, Appl. Catal. A., Industrial Engineering and Chemistry Research.</i>
2009	<i>Chem. Commun., Org. Lett., J. Org. Chem., Adv. Synth. Catal., J. Combi. Chem., Synlett, Tetrahedron, Tetrahedron Lett., Org. Biomol. Chem., J. Mol. Cat. A: Chem., Catal. Commun, Aust. J. Chem.; Bioorg. Med. Chem. Lett., Synth. Commun, Appl. Catal. A., J. Organomet. Chem.</i>
2008	<i>Chem. Commun., Org. Lett., J. Org. Chem., J. Combi. Chem., Synlett, Tetrahedron, Tetrahedron Lett., Org. Biomol. Chem., J. Mol. Cat. A: Chem., Catal. Commun, Aust. J. Chem.; Bioorg. Med.</i>

Chem. Lett., Synth. Commun, Organic Commun., Letters Org. Chem., Appl. Catal. A., Chem. Central J.

- 2007 *Org. Lett., J. Org. Chem., J. Combi. Chem., Adv. Synth. Catal., Synlett, J. Mol. Cat. A:Chem., Catalysis Commun., Appl. Catal. A., Bioorg. Med. Chem. Lett., Bioorg. Med. Chem., Can. J. Chem., Carbohydrate Res., Synth. Commun., J. Sulfur Chem, Molecule.*
- 2006 *Org. Lett., J. Org. Chem., J. Combi. Chem., Adv. Synth. Catal., Synlett, J. Mol. Cat. A:Chem., Appl. Catal. A., Bioorg. Med. Chem. Lett., Bioorg. Med. Chem., Synth. Commun., J. Sulfur Chem.*
- 2005 *J. Org. Chem., Internet Electron. J. Mol. Des., Bioorg. Med. Chem., J. Braz. Chem. Soc., J. Sulfur Chem.*
- 2004 *Org. Lett., J. Org. Chem., Internet Electron. J. Mol. Des., Bioorg. Med. Chem. Lett., J. Mol. Catal. A.: Chemical, Molecules.*
- 2003 *Bioorg. Med. Chem.*
- 2001 *Industrial Engineering and Chemistry Research.*
- 1999 *Industrial Engineering and Chemistry Research.*

Research Interests:

Organic Chemistry:

Asymmetric Synthesis- asymmetric epoxidation and aziridation; enantio- and diastereo-differentiated protonation/alkylation; asymmetric synthesis of α - and β - amino carboxylic/phosphonic acids and β -lactams. Organometallic - design and synthetic application of organo-biscuprates; carbon-carbon bond formation using manganese enolates. Combinatorial Chemistry – development of methodologies for synthesis of small molecular libraries; development of novel linkers and analytical protocols. Green Chemistry – reactions on solid support; applications of microwave dielectric heating and ultrasound; reactions in innocuous alternate reaction media such as water and ionic liquids; use of ionic liquids as catalysts. Natural Products and Drug Synthesis - synthesis of complex carbocyclic/heterocyclic frameworks; new synthetic routes to taxanes, epothilones, eleutherobin, lignans and other biologically active molecules.

Medicinal Chemistry:

Identification and validation of new biomolecular targets for various therapeutic areas - design and syntheses of (a) Antiprotozoal compounds with special attention to *multi drug resistance* phenomenon (antimalarials-oxidative stress, tubulin inhibitors, protease inhibitors; antileishmanials - tubulin inhibitors, cystein protease inhibitors), (b) Antimitotic agents (second and third generation taxoids, lignans), (c) Cardiovascular agents (potassium channel openers, calcium channel blockers, HMG-CoA reductase inhibitors), (d) Anti-inflammatory agents (selective COX-2 inhibitors as novel NSAIDs, selective PDE-IVB inhibitors as potential drug candidates for asthma and COPD) and (e) Anti-diabetic agents (PTP1B inhibitors).

Professional 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, The University of Burdwan, Burdwan 713 104, India.
1989 (Oct.)-1990 (Jan.)	Scientist Fellow (Quick Hire), Department of Medicinal Chemistry, Indian Institute of Chemical Biology (IICB), Calcutta 700 032.

List of Publications: Total 118 [Citation: 2761; *h*-Index: 33. Impact Factor (IF) 2009-2010]

1. 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*-butyloxycarbonylation of amines and the influence of the C-2 hydrogen on catalytic efficiency," *J. Org. Chem.* [Just Accepted], DOI: 10.1021/jo201102q. Published online: Jul, 21, 2011. **IF: 4.219**
2. Sudipta Raha Roy, Pradeep S. Jadhavar, Kapileswar Seth, Kulin K. Sharma, Asit K. Chakraborti,* "Organo-catalytic Application of Room Temperature Ionic Liquids: [bmim][MeSO₄] as a Recyclable Organo-catalyst for One-pot Multicomponent Reaction for Preparation of Dihydropyrimidinones and -thiones," *Synthesis* **2011**, 2261-2267. **IF: 2.572**.
3. 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 α -(*E*)-Dimethylaminoformylidene cycloalkanones," *Synthesis* **2011**, 1930-1935. **IF: 2.572**
4. Anirban Sarkar, Sudipta Raha Roy and Asit K. Chakraborti,* "Ionic Liquid Catalysed Reaction of Thiols with α,β -Unsaturated Carbonyl Compounds- Remarkable Influence of the C-2 Hydrogen and the Anion," *J. Chem. Soc. Chem. Commun.* **2011**, 47, 4538-4540. **Cited 2 times. IF: 5.504**
5. 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 1 time. IF: 5.504**.
6. Sudipta Raha Roy and Asit K. Chakraborti,* "Supramolecular Assemblies in Ionic Liquid catalysis for Aza-Michael Reaction," *Org. Lett.* **2010**, 12, 3866-3869. **Cited 6 times. IF: 5.42**
7. Asit K. Chakraborti,* Sanjeev K. Garg, Raj Kumar, Hashim F. Motiwala, Pradeep S. Jadhavar, "Progress in COX-2 Inhibitors: A Journey So Far," *Curr. Med. Chem.* **2010**, 17, 1563-1593. **Cited 9 times. IF: 4.78**
8. 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. **IF: 4.63**
9. 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 6 times. IF: 4.219
10. 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 24 times. IF: 8.58
 11. 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 2 time. IF: 4.219
 12. 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 10 times. IF: 5.48
 13. 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 3 times. IF: 1.959
 14. Sunay V. Chankeshwara, Rajesh Chebolu and Asit K. Chakraborti*, "Organo-catalytic 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 1 time. IF: 4.219
 15. Asit K. Chakraborti,* Sudipta Raha Roy, Dinesh Kumar, Pradeep Chopra, "Catalytic application of room temperature ionic liquids: [bmim][MeSO₄] 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 22 times. IF: 5.836
 16. S. Sundriyal, B. Viswanad, P. Ramarao, Asit K. Chakraborti, P. V. Bharatam, "New PPAR γ Ligands Based on Barbituric acid: Virtual Screening, Synthesis and Receptor Binding Studies," *Bioorg. Med. Chem. Lett.* **2008**, 18, 4959-4962. Cited 5 times. IF: 2.65
 17. Srikant Bhagat and Asit K. Chakraborti*, "Zirconium(IV) compounds as efficient catalysts for synthesis of α -aminophosphonates," *J. Org. Chem.* **2008**, 73, 6029-6032. Cited 28 times. IF: 4.219
 18. Asit K. Chakraborti* and Sunay V. Chankeshwara, *Magnesium Perchlorate*. In *Encyclopaedia of Reagents for Organic Synthesis [Online (eEROS)]*. L. A. Paquette Ed. John Wiley & Sons Ltd., (2008), (Invited contribution; Unique ID RN1002).
 19. 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 Letters* **2008**, 49, 4269-4271. Cited 18 times. IF: 2.66
 20. 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 α,β -Unsaturated Carbonyl Compounds," *Tetrahedron Letters* **2008**, 49, 4272-4275. Cited 18 times. IF: 2.66
 21. Sandeep Sundriyal, Bhoomi Viswanad, Elumalai Bharathy, Poduri Ramarao, Asit K. Chakraborti and Prasad V. Bharatam,* "New PPAR γ 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 3 times. IF: 2.65**
22. 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 2 times. IF: 2.572**
23. 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 5 times. IF: 2.572**
24. Asit K. Chakraborti*, Santosh Rudrawar, Kirtikumar B. Jadhav, Gurmeet Kaur and Sunay V. Chankeshwara, “On Water” Organic Synthesis: A Highly Efficient and Clean Synthesis of 2-Aryl/Heteroaryl/Styryl Benzothiazoles and 2-Alkyl/Aryl Alkyl Benzothiazolines,” *Green Chem.* **2007**, *9*, 1335-1340. **Cited 33 times. IF: 5.836**
25. Sonia Bhardwaj, Anshuman Shukla, Sourav Mukherjee, Swati Sharma, Purnananda Guptasarma, Asit K. Chakraborti, Arunaloke Chakrabarti, “Putative structure and characteristics of a red water-soluble pigment secreted by *Penicillium marneffei*,” *Medical Mycology* **2007**, *45*, 419-427. **Cited 5 times. IF: 2.13**
26. Hashim F. Motiwala, Raj Kumar and Asit K. Chakraborti,* “Microwave-Accelerated Solvent- and Catalyst-free Synthesis of 4-Aminoaryl/alkyl-7-chloroquinolines and 2-Aminoaryl/alkylbenzothiazoles,” *Aust. J. Chem.* **2007**, *60*, 369-374. **Cited 6 times. IF: 1.959**
27. Shivani, Brahmam Pujala and Asit K. Chakraborti* “Zinc(II) perchlorate hexahydrate catalysed opening of epoxide ring by amines: applications to synthesis of (*RS*)/(*R*)-propranolols and (*RS*)/(*R*)/(*S*)-naftopidils,” *J. Org. Chem.* **2007**, *72*, 3713-3722. **Cited 33 times. IF: 4.219**
28. Hemant Bhutani, Saranjit Singh, Sanjay Vir, K. K. Bhutani, Raj Kumar, Asit K. Chakraborti, K. C. Jindal, “LC and LC-MS study of stress decomposition behaviour of isoniazid and establishment of validated stability-indicating assay method,” *J. Pharm. Biomed. Anal.* **2007**, *43*, 1213-1220. **Cited 6 times. IF: 2.453**
29. Shivani, Rajesh Gulhane and Asit K. Chakraborti,* “Zinc perchlorate hexahydrate [Zn(ClO₄)₂·6H₂O] as acylation catalyst for poor nucleophilic phenols, alcohols and amines: Scope and limitations.” *J. Mol. Catal. A: Chem.* **2007**, *264*, 208-213. **Cited 12 times. IF: 3.135**
30. Srikant Bhagat and Asit K. Chakraborti,* “An extremely efficient three-component reaction of aldehydes/ketone, amines, and phosphates (Kabachnik-Fields reaction) for the synthesis of α -aminophosphonates catalysed by magnesium perchlorate,” *J. Org. Chem.* **2007**, *72*, 1263-1270. **Cited 92 times. Listed under Top 20 Most-Cited Articles Published in the Last Three Years in the Journal of Organic Chemistry (ACS Citation Alert of Oct 6, 2009). IF: 4.219**
31. Gopal L. Khatik, Raj Kumar and Asit K. Chakraborti,* “Magnesium perchlorate as a novel and highly efficient catalyst for synthesis of 2,3-dihydro-1,5-benzothiazepine,” *Synthesis* **2007**, 541-546. **Cited 8 times. IF: 2.572**
32. Shivani and Asit K. Chakraborti,* “Zinc Perchlorate Hexahydrate as a New and Highly Efficient Catalyst for Synthesis of 2-Hydroxysulfides by Opening of Epoxide Rings with

Thiols under Solvent-free Conditions: Application for Synthesis of the Key Intermediate of Diltiazem,” *J. Mol. Catal. A: Chem.* **2007**, *263*, 137-142. **Cited 7 times. IF: 3.135**

33. Gaurav Sharma, Raj Kumar and Asit K. Chakraborti,* “A Novel Environmentally Friendly Process for Carbon-Sulfur Bond Formation Catalyzed by Montmorillonite Clays,” *J. Mol. Catal. A: Chem.* **2007**, *263*, 143-148. **Cited 17 times. IF: 3.135**
34. Hemlata Tamta, Sukriti Kalra, Ramasamy Thilagavathi, Asit K. Chakraborti and Anup K. Mukhopadhyay, “Nature and Position of the Functional Group on the Thiopurine Substrates Influence the Activity of Xanthine Oxidase- Enzymatic Reaction Pathway of 6-Mercaptopurine and 2-Mercaptopurine are Different,” *Biochemistry (Moscow)* **2007**, *72*, 170-177. **Cited 1 time. IF: 1.327**
35. Gopal L. Khatik, Gaurav Sharma, Raj Kumar and Asit K. Chakraborti,* “Scope and Limitations of HClO₄-SiO₂ as an Extremely Efficient, Inexpensive, and Reusable Catalyst for Chemoselective Carbon-Sulfur Bond Formation,” *Tetrahedron* **2007**, *63*, 1200-1210. **Cited 27 times. IF: 3.129**
36. Raj Kumar, Dinesh Kumar and Asit K. Chakraborti,* “Perchloric Acid Adsorbed on Silica-Gel (HClO₄-SiO₂) as an Inexpensive, Extremely Efficient, and Reusable Dual Catalyst System for Acetal/Ketal Formation and their Deprotection to Aldehydes/Ketones,” *Synthesis* **2007**, 299-303. **Cited 18 times. IF: 2.572**
37. Srikant Bhagat, Ratnesh Sharma, Asit K. Chakraborti,* “Dual-activation protocol for tandem cross aldol condensation: an easy and highly efficient synthesis of α,α' -bis(arylmethylidene) ketones,” *J. Mol. Catal. A: Chem.* **2006**, *260*, 235-240. **Cited 22 times. IF: 3.135**
38. Santosh Rudrawar, Ram C. Besra and Asit K. Chakraborti,* “Perchloric Acid Adsorbed on Silica Gel (HClO₄-SiO₂) as an Extremely Efficient and Reusable Catalyst for 1,3-Dithiolane/Dithiane Formation,” *Synthesis* **2006**, 2767-2771. **Cited 21 times. IF: 2.572**
39. Sunay V. Chankeshwara and Asit K. Chakraborti,* “Indium(III) Halides as New and Highly Efficient Catalysts for *N*-tert-Butoxycarbonylation of Amines,” *Synthesis* **2006**, 2784-2788. **Cited 15 times. IF: 2.572**
40. Asit K. Chakraborti* and Shivani, “Magnesium bistrifluoromethanesulfonimide as a new and efficient acylation catalyst,” *J. Org. Chem.* **2006**, *71*, 5785-5788. **Cited 34 times. IF: 4.219**
41. Sunay V. Chankeshwara and Asit K. Chakraborti*, “Catalyst-free chemoselective *N*-tert-butylloxycarbonylation of amines in water,” *Organic Lett.* **2006**, *8*, 3259-3262. **Cited 47 times. IF: 5.42**
42. Asit K. Chakraborti* and Sunay V. Chankeshwara, “HClO₄-SiO₂ as a new, highly efficient, inexpensive and reusable catalyst for *N*-tert-butoxycarbonylation of amines,” *Org. Biomol. Chem.* **2006**, *4*, 2769-2771. **Cited 33 times. IF: 3.762**
43. Sunay V. Chankeshwara and Asit K. Chakraborti,* “Montmorillonite K 10 and Montmorillonite KSF as New and Reusable Catalysts for Conversion of Amines to *N*-tert-Butylcarbamates,” *J. Mol. Catal. A: Chem.* **2006**, *253*, 198-202. **Cited 18 times. IF: 3.135**
44. Gopal L. Khatik, Raj Kumar and Asit K. Chakraborti,* “Catalyst-free conjugated addition of thiols to α,β -unsaturated carbonyl compounds in water,” *Organic Lett.* **2006**, *8*, 2433-2436. **Cited 77 times. IF: 5.42**

45. Raj Kumar, Ramasamy Thilagavathi, Rajesh Gulhane and Asit K. Chakraborti,* "Zinc(II) perchlorate as a new and highly efficient catalyst for formation of aldehyde 1,1-diacetate at room temperature and under solvent-free conditions," *J. Mol. Catal. A: Chem.* **2006**, *250*, 227-232. **Cited 10 times. IF: 3.135**
46. Navnath S. Gavande, Sonia Kundu, Naresh S. Badgujar, Gurmeet Kaur and Asit K. Chakraborti,* "Ph₂S₂-CaH₂ in *N*-methyl-2-pyrrolidone as an efficient protocol for chemoselective cleavage of aryl alkyl ethers," *Tetrahedron*, **2006**, *62*, 4201-4204. **Cited 7 times. IF: 3.219**
47. Sawraj Singh, Gurmeet Kaur, Asit K. Chakraborti, Rakesh K. Jain and Uttam C. Banerjee "Study of the experimental conditions for the lipase production by a newly isolated strain of *Pseudomonas aeruginosa* for the enantioselective hydrolysis of (±)-methyl *trans*-3(4-methoxyphenyl) glycidate," *Bioprocess Biosyst Eng.* **2006**, *28*, 341-348. **Cited 4 times. IF: 1.823**
48. Sunay V. Chankeshwara and Asit K. Chakraborti,* "Copper(II) tetrafluoroborate as a novel and highly efficient catalyst for *N*-*tert*-butoxycarbonylation of amines under solvent-free conditions and at room temperatures," *Tetrahedron Lett.* **2006**, *47*, 1087-1091. **Cited 23 times. IF: 2.66**
49. Srikant Bhagat, Ratnesh Sharma, Devesh M. Sawant, Lalima Sharma and Asit K. Chakraborti,* "LiOH·H₂O as a Novel Dual Activation Catalyst for Highly Efficient and Easy Synthesis of 1,3-Diaryl-2-propenones by Claisen-Schmidt Condensation under Mild Conditions," *J. Mol. Catal. A: Chem.* **2006**, *244*, 20 – 24. **Cited 18 times. IF: 3.135**
50. Raj Kumar and Asit K. Chakraborti,* "Copper(II) tetrafluoroborate as a novel and highly efficient catalyst for acetal formation," *Tetrahedron Lett.*, **2005**, *46*, 8319-8323. **Cited 22 times. IF: 2.66**
51. Hemant Bhutani, Saranjit Singh, K. C. Jindal and Asit K Chakraborti, "Mechanistic Explanation to the Catalysis by Pyrazinamide and Ethambutol of Reaction Between Rifampicin and Isoniazid in anti-TB FDCs," *J. Pharm. Biomed. Anal.*, **2005**, *39*, 892-899. **Cited 9 times. IF: 2.453**
52. Santosh Rudrawar, Atul Kondaskar and Asit K Chakraborti,* "An Efficient Acid- and Metal-Free One-Pot Synthesis of Benzothiazoles from Carboxylic Acids," *Synthesis*, **2005**, 2521-2526. **Cited 20 times. IF: 2.572**
53. Piyush Gupta, R Thilagavathi, Asit K Chakraborti and Arvind K Bansal, "Differential Molecular Interactions between Crystalline and Amorphous Phase of Celecoxib," *J. Pharm. Pharmacol.*, **2005**, *57*, 1271-1278. **Cited 5 times. IF: 1.847**
54. Ram C. Besra, Santosh Rudrawar and Asit K Chakraborti,* "Copper(II) tetrafluoroborate as extremely efficient catalyst for 1,3-dithiolane formation from carbonyl compounds under solvent-free conditions at room temperature," *Tetrahedron Lett.*, **2005**, *46*, 6213-6217. **Cited 21 times. IF: 2.66**
55. Piyush Gupta, R Thilagavathi, Asit K Chakraborti and Arvind K Bansal, "Role of Molecular Interaction in Stability of Celecoxib-PVP Amorphous Systems," *Molecular Pharmaceutics*, **2005**, *2*, 384-391. **Cited 17 times. IF: 5.408**

56. Ramasamy Thilagavathi 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,” *Int. Elec. J. Mol. Des.*, **2005**, *4*, 603-612.
57. Hemlata Tamta, Ramasamy Thilagavathi, Asit K Chakraborti* and Anup K. Mukhopadhyay,* “6-(*N*-Benzoylamino)purine as a novel and potent inhibitor of xanthine oxidase: Inhibition mechanism and molecular modeling studies,” *J. Enzyme Inhibit. Med. Chem.*, **2005**, *20*, 317-324. **Cited 7 times. IF: 1.496**
58. Pankaj Soni, Gurmeet Kaur, Asit K. Chakraborti and Uttam C. Banerjee, “*Candida viswanathii* as a novel biocatalyst for stereoselective reduction of heteroaryl methyl ketones: a highly efficient enantioselective synthesis of (*S*)- α -(3-pyridyl)ethanol,” *Tetrahedron Asymmetry*, **2005**, *16*, 2425-2428. **Cited 16 times. IF: 2.625**
59. Raj Kumar, C. Selvam, Gurmeet Kaur and Asit K. Chakraborti,* “Microwave-Assisted Direct Synthesis of 2-Substituted Benzoxazoles from Carboxylic Acids under Catalyst and Solvent Free Conditions.” *Synlett*, **2005**, 1401-1404. **Cited 15 times. IF: 2.718**
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27. Asit K. Chakraborti and Rajesh Gulhane, "**A process for the acylation of various substrates using a solid support catalyst**." Indian Pat. Appl. (2009), 37pp. CODEN: INXXBQ IN 2003DE00266 A 20091002. Application: IN 2003-DE266 20030310. Priority: AN 2009:1238219 CAPLUS (Copyright (C) 2009 ACS on SciFinder (R)).
28. Asit K. Chakraborti and Atul Kondaskar, "**An improved process for preparation of hydroxyalkyl and hydroxyaryl sulfides**." Indian Pat. Appl. (2009), CODEN: INXXBQ IN 2002DE01209 A 20091023. Application: IN 2002-DE1209 20021203. Priority: AN 2009:1331182 CAPLUS (Copyright (C) 2009 ACS on SciFinder (R)).

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

A) Post-Doctoral Level:

1. Title: "*Transition Metal Promoted Carbon-Carbon Bond Formation via Radical Intermediates: Synthesis of Heterocyclic Compounds*," – studies carried out by Dr. Gurmeet Kaur from April 01, 1997 to Feb. 28, 1999 as CSIR Research Associate.

B) Doctoral Level:

1. Title: "*Development of Newer Methodologies of Green Chemistry for the Epoxide Ring Opening: Applications to Synthesis of Drugs and Drug Intermediates*," - Ph. D. work in persuasion by Mr. Brahmam Pujala. Synopsis submitted in April, **2011**.
2. 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**.

3. 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**.
4. 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**.
5. Title: “*Development of Novel Methodologies for Synthesis of α -Aminophosphonates and α -Hydroxyphosphonates*,” - Ph. D. degree awarded to Mr. Srikant Bhagat in March, **2009**.
6. 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**. **Dr. Sunay V. Chankeshwara is the recipient of 2009 Eli Lilly Asia Outstanding Thesis Award (First Prize)**.
7. 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**. **Dr. Sandeep Sundriyal is the recipient of 2009 Eli Lilly Asia Outstanding Thesis Award (Second Prize)**.
8. Title: “*Molecular Docking Studies and Synthesis of Novel Dual PPAR α/γ Antidiabetic agents*,” - Ph. D. degree awarded to Mr. Amit Mittal by NIPER in May **2008**.
9. Title: “*Design, Synthesis and Biological Evaluation of Novel Ligands as Phosphodiesterase-4 Inhibitors*,” - Ph. D. degree awarded to Mr. Santosh Rudrawar in Apr, **2008**.
10. 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**.
11. 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**.
12. 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**.
13. Title: “*Computer Aided Design and Syntheses of Selective Cyclooxygenase-2 Inhibitors*,” - Ph. D. degree awarded to Ms. R. Thilagavathi by NIPER in April **2005**.
14. 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**.
15. 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**.
16. Title: “*Synthesis of New Chemical Entities as Anti-Leishmanial Agents*,” - Ph. D. degree awarded to Ms. Lalima Sharma by NIPER in December **2002**.
17. Title: “*Synthetic Studies on Organo-Sulfur Compounds*,” - Ph. D. degree awarded to Mr. Mrinal Kanti Nayak by The University of Burdwan in February **1999**.

18. Title: “*Design, Synthesis and Biological Evaluation of New Chemical Entities with Carbo/Heterocyclic Scaffolds as Potential Cyclooxygenase Inhibitors,*” - Ph. D. work in persuasion by Mr. Sanjeev Kumar Garg from July, **2007**.
19. Title: “*Development of Sustainable Methodologies for the reactions used in the Preparation of Drug Molecules: Catalytic Applications of Ionic Liquid(s),*” - Ph. D. work in persuasion by Mr. Sudipta Raha Roy from July, **2007**.
20. Title: “*Development of Novel Catalytic Procedures for Functional Group Interconversion,*” - Ph. D. work in persuasion by Mr. Rajesh Chebolu from July, **2007**.
21. Title: “*Design, Synthesis and Biological evaluation of Heterocyclic Based Scaffolds as Cyclooxygenase Inhibitors,*” - Ph. D. work in persuasion by Mr. Dinesh Kumar from July, **2008**.
22. Title: “*Studies on Organic Reactions in Aqueous Media: Applications and Understanding the Catalytic Role,*” - Ph. D. work in persuasion by Mr. Damodara Naidu Kommi from July, **2008**.
23. Title: “*Development of Synthetic Methodologies Catalysed by Metal Lewis Acids/Metal Nanoparticles,*” - Ph. D. work in persuasion by Mr. Kapileswar Seth from July, **2008**.
24. Title: “*Design, Synthesis and Biological Evaluation of Novel Heterocyclic Scaffolds as Potential phosphodiesterase-4 Inhibitors,*” - Ph. D. work in persuasion by Ms. Naisargee Parikh from July, **2010**.
25. Title: “*Diversity Oriented Synthesis for Identifying Novel Anti-Tuberculosis Drugs,*” - Ph. D. work in persuasion by Mr. Pradeep Jadhavar from July, **2010**.

C) Masters Level:

1. Title: “*Design, synthesis and biological evaluation of new chemical entities belonging to novel structural scaffolds as potential PDE-4 inhibitors,*” – M. S. (Pharm.) project in persuasion by Mr. Mardul K. Srivasrtava from July **2011**.
2. Title: “*PTB-1B as antidiabetic drug target: Design, synthesis and biological evaluation of new chemical entities,*” – M. S. (Pharm.) project in persuasion by Mr. Varun Jain from July **2011**.
3. Title: “*Design, synthesis and biological evaluation of quinazoline based heteroaromatics as cyclooxygenase inhibitors,*” – M. S. (Pharm.) project in persuasion by Mr. Manesh Nautiyal from July **2011**.
4. Title: “*Design, synthesis and biological evaluation of Novel Oxazolidinones as Antitubercular Agents,*” – M. S. (Pharm.) project in persuasion by Mr. Choure Sunil Housrao from June **2011**.
5. Title: “*Design, synthesis and biological evaluation of HDACIs as antiparasitic agents,*” - M. S. (Pharm.) project in persuasion by by Md. Imam Ansari from June **2011**.
6. Title: “*Design and synthesis of potential non purine xanthine oxidase inhibitors,*” – M. S. (Pharm.) project in persuasion by Mr. Samala Mohan Reddy from June **2011**.
7. Title: “*Concise and efficient synthesis of Neuraminidase inhibitor- Oseltamivir,*” – M. Tech. (Pharm.) project in persuasion by Mr. Prashant S. from June **2011**.

8. 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**.
9. 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**.
10. 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**.
11. 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**.
12. Title: “*Oseltamivir Synthesis: A New Approach,*” - M. Tech. (Pharm.) degree awarded to Ms. Babita Tanwar in June **2011**.
13. 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**.
14. 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**.
15. Title: “*Novel Heterocyclic Scaffolds as Histone Deacetylase Inhibitors,*” – M. Tech. (Pharm.) degree awarded to Mr. Sachin Bindal in June **2010**.
16. Title: “*Design and Synthesis of Novel Xanthine Oxidase Inhibitors,*” – M. Tech. (Pharm.) degree awarded to Mr. Mukesh Sonawane in June **2010**.
17. Title: “*Design and Synthesis of Potential Selective Cyclooxygenase-2 Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Kulin K. Sharma in June **2009**.
18. Title: “*Design, Synthesis of New Heterocyclic Scaffolds of Potential Phosphodiesterase-4 Inhibitors,*” - M. S. (Pharm.) degree awarded to Ms. Naisargee Parikh in June **2009**.
19. Title: “*Development of New methodology for Alkylation using Dimethyl Carbonate under heterogeneous catalysis: An Eco-friendly Approach,*” - M. Tech. (Pharm.) degree awarded to Mr. Alpesh R. Patel in June **2009**.
20. 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**.
21. 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**.
22. 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**.

23. 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**.
24. Title: “*Electrophilic Activation catalyst for Nitration: An Ecofriendly Approach,*” - M. Tech. (Pharm.) degree awarded to Mr. Satyakam Rahul in June **2008**.
25. 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**.
26. Title: “*Enantioselective Kinetic Resolution of Racemic Metoprolol using Lipase Mediated transesterification Reaction,*” - M. Tech. (Pharm.) degree awarded to Mr. Abhishek Kaler in June **2008**.
27. Title: “*Biological Evaluation of New Chemical Entities as Cyclooxygenase Inhibitor,*” - M. Tech. (Pharm.) degree awarded to Mr. Anil Kumar in June **2008**.
28. 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**.
29. Title: “*Design and Synthesis of Heteroaromatics as Cyclooxygenase Inhibitors,*” - M. S. (Pharm.) degree awarded to Mr. Dinesh Kumar by NIPER in June **2007**.
30. 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**.
31. Title: “*Quest for Novel Friedel Crafts Acylation,*” - M. Tech. (Pharm.) degree awarded to Mr. Bavneet Singh by NIPER in June **2007**.
32. 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**.
33. 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**.
34. 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**.
35. 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**.
36. 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**.
37. Title: “*Dual Activation Strategy: Application in Carbon-Carbon Coupling Reaction,*” - M. S. (Pharm.) degree awarded to Mr. Ratnesh Sharma by NIPER in July **2006**.

38. Title: “*Studies of Cyclopropanation under PTC Conditions,*” - M. Tech. (Pharm.) degree awarded to Ms. Kavitha B. by NIPER in July **2006**.
39. 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**.
40. Title: “*Chemoenzymatic Synthesis of (S)-Sotalol,*” - M. Tech. (Pharm.) degree awarded to Mr. Kamlesh Mena by NIPER in July **2006**.
41. Title: “*Synthesis of 1,3-Bisheterocycles,*” - M. S. (Pharm.) degree awarded to Mr. Ramchandra Besra by NIPER in July **2005**.
42. 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**.
43. 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**.
44. Title: “*Synthesis of Hydroxychalcones as Antileishmanial Agents,*” - M. S. (Pharm.) degree awarded to Mr. Sawant Devesh M. by NIPER in December **2003**.
45. Title: “*Regioselective Thiocarbothioalkoxylation of Phenols,*” - M. S. (Pharm.) degree awarded to Ms. Beenu Bhatt by NIPER in December **2003**.
46. 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**.
47. 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**.
48. 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**.
49. 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**.
50. Title: “*Cleavage of Aryl Alkyl Ethers,*” - M. S. (Pharm.) degree awarded to Mr. Harsh Vardhan Jain by NIPER in December **2002**.
51. 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**.
52. 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**.

53. 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**.
54. Title: “*Combinatorial Synthesis of Stilbene Libraries*,” - M. S. (Pharm.) degree awarded to Mr. S. Magesh by NIPER in December **2001**.
55. 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**.
56. 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**.
57. 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**.
58. Title: “*Combinatorial Synthesis of Chalcone Libraries*,” - M. S. (Pharm.) degree awarded to Ms. Smriti Khanna by NIPER in December **2000**.
59. 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**.
60. Title: “*Theoretical Modelling of Lewis Acid Catalyst*,” - M. S. (Pharm.) degree awarded to Ms. R. Thilagavathi by NIPER in December **1999**.
61. Title: “*Design of Novel HMG-CoA Reductase Inhibitors*,” - M. S. (Pharm.) degree awarded to Ms. V. Aparna by NIPER in December **1999**.
62. 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**.
63. Title: “*Application of Microwave in Functional Group Protection and Deprotection*,” - M. S. (Pharm.) degree awarded to Mr. C. Selvam by NIPER in December **1999**.
64. Title: “*Asymmetric Synthesis of α -Amino Acids*,” - M. S. (Pharm.) degree awarded to Mr. D. Gangadhar Goud by NIPER in December **1999**.

D) 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 Catalysed 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**.

E) 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**.

Paper Presented/Accepted in Symposium:

1. 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**.
2. 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**.
3. Damodara N. Kommi, Dinesh Kumar, Pradeep S. Jadhavar and Asit K. Chakraborti, “Highly Efficient One-pot Three-component Reactions for the Synthesis of β -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**.
4. 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**.

5. 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**.
6. 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**.
7. 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**.
8. 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**.
9. 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**.
10. 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**.
11. Sudipta Raha Roy, Pradeep Jadhavar and Asit K. Chakraborti. "Ionic Liquid Catalysis: A Green Approach for the Synthesis of Bioactive Molecules"; 13th CRSI National Symposium in Chemistry and the 5th CRSI-RSC Joint Symposium in Chemistry, Bhubaneswar, India. 4-6th Feb **2011**, Poster Presentation No. **P-209**.
12. 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. 21st-25th Nov. **2010**. Poster Presentation No. **11**.
13. Damodara N. Kommi, Dinesh Kumar and Asit K. Chakraborti. "Micellar 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. 21st-25th Nov. **2010**. Poster Presentation No. **12**.

14. Sudipta Raha Roy, Asit K. Chakraborti. "Inspired by Nature: Supramolecular Assembly in Ionic Liquid Catalysis"; 8th International Congress of Young Chemist (YoungChem 2010), Reda, Poland. 6-10th Oct, **2010**, Poster Presentation No. **T-12**.
15. 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**.
16. 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**.
17. 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**.
18. 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**.
19. 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**.
20. 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**.
21. 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**.
22. 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**.
23. Sonam Bhatia, Dinesh Kumar and Asit K. Chakraborti, "Polymer-Supported Lewis Acid as a Convenient and Efficient Catalyst for Synthesis of 1, 5-Benzodiazepine." 14th 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**.
24. 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." 14th 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**.

25. Mukesh Sonawane, Srikant Bhagat, Ratnesh Sharma and Asit K. Chakraborti, "Dual Activation Catalysis: Green Protocol for an Efficient Stereoselective Olefination." 14th 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**.
26. Prahlad Kumar Meena, Dinesh Kumar and Asit K. Chakraborti, "Green Synthesis of synthesis of 8,9,10,12-tetrahydrobenzo[a]xanthen-11-one derivatives." 14th 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**.
27. Sudipta Raha Roy, Asit K. Chakraborti, "Cooperative Hydrogen Bonded Clusters: Untangling the Mysteries of the Ionic Liquid Catalysis." 14th ISCB International Conference (ISCBC-2010) Central Drug Research Institute, Lucknow. January 15-18, **2010**. Poster Presentation. No. **P-148**.
28. Naisargee Parikh, Asit K. Chakraborti, "Inclination towards Green Chemistry: Delve into Acquiring Seven Membered Heterocyclic Scaffold." 14th 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**.
29. 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**.
30. 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**.
31. S. Bhagat, S. Rawat, A. Aggarwal, U. C. Banerjee, A. K. Chakraborti, "An Efficient Synthesis of α -Aminophosphonates and their Biological Evaluation," Challenges in Organic Chemistry. 8th Tetrahedron Symposium. **2007**, June 26-29, Berlin, Germany. Poster Presentation. **P3-28**.
32. A. Sarkar, A. K. Chakraborti, "Catalytic Uses of Ionic Liquids," Challenges in Organic Chemistry. 8th Tetrahedron Symposium. **2007**, June 26-29, Berlin, Germany. Poster Presentation. **P1-19**.
33. Sunay V. Chankeshwara, Santosh Rudrawar, Asit K. Chakraborti, "Investigation of the Dual Activation Role of Water in Catalysing Organic Reactions: Electrospray Ion Mass Spectrometry," 12th ISMAS Symposium cum Workshop on Mass Spectrometry. **2007**, March 25-30, Dona Paula, Goa, India. Innovative Research Presentation (Oral). **IRP-2**.
34. Brahmam Pujala, Shivani, Asit K. Chakraborti, "A Novel Heterogeneous Catalyst for Nucleophilic Opening of Epoxide Rings," 11th ISCB International Conference on Advances in Drug Discovery Research, **2007**, Feb 24 – 26. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India. **Poster No. PP 88**.

35. Bavneet Singh, Sunay V. Chankeshwara, Asit K. Chakraborti, "A Highly Efficient Solid-supported Catalyst System for Direct Esterification of Carboxylic Acids with Alcohols," 9th CRSI Symposium in Chemistry, **2007**, Feb 1 – 4. Delhi University, Amritsar, India **Poster No. PP 41**.
36. 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**.
37. 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**.
38. 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**.
39. Raj Kumar, Asit K. Chakraborti, "An Efficient Protocol for Acetal Formation under the Catalytic Influence of Copper (II) tetrafluoroborate," 8th CRSI National Symposium in Chemistry, **2006**, Feb 3 – 5. Indian Institute of Technology, Mumbai, India **Poster No. PP 29**.
40. Srikant Bhagat, Asit K. Chakraborti, "An Efficient and Novel Solid Supported Catalyst for the Synthesis of α -Amino and α -Hydroxy phosphonates under Solvent-free Conditions and at Room Temperature, Joint International Conference on Building Bridges," Forging Bonds for 21st Century Organic Chemistry and Chemical Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 20**.
41. 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 21st Century Organic Chemistry and Chemical Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 24**.
42. 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 21st Century Organic Chemistry and Chemical Biology, **2006**, Jan 6 – 9. National Chemical Laboratory, Pune, India **Poster No. P 120**.
43. 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**.
44. 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," 7th CRSI National Symposium in Chemistry, **2005**, Feb 4 – 6. Indian Association for the Cultivation of Science, Kolkata, India **Poster No. P 54**.

45. Sanjeev K. Garg, Raj Kumar, Asit K. Chakraborti, "Novel Transition Metal Derived Catalyst for Thia-Michael Reaction," 7th CRSI National Symposium in Chemistry, **2005**, Feb 4 – 6. Indian Association for the Cultivation of Science, Kolkata, India **Poster No. P 55**.
46. Navnath S. Gavande, Ramasamy Thilagavathy, C. Selvam, Gurmeet Kaur and Asit K. Chakraborti, "Efficient Synthesis of 2-Substituted Benzimidazoles," 9th National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 023**.
47. Sunay V. Chankeshwara, Gurmeet Kaur and Asit K. Chakraborti, "Novel Cleavage protocol and analytical Methodologies for Solid Phase Organic Synthesis," 9th National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 037**.
48. Ram C. Besra, Santosh Rudrawar and Asit K. Chakraborti, "Transition Metal Catalysed Synthesis of 1,3-Dithiolanes," 9th National Conference on *Bioactive Heterocycles and Drug Discovery*, **2005**, Jan 8 – 10. Saurashtra University, Rajkot, Gujrat, India **Paper No. P 132**.
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50. 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**.
51. 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**.
52. 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**.
53. 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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57. 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)," 11th ISMAS Workshop on Mass Spectrometry, Shimla, India, 2004, Oct. 7 – 12. **Paper No. RS-20**. Page 338-341.
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59. 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 marneffeii*," 5th National Conference of Society for Indian Human and Animal Mycologists, Department of Experimental Medicine, PGI, India. 2004, March 12-14, **Poster No. O-10**.
60. Asit K. Chakraborti, Atul Kondaskar, Raj Kumar, and Santosh Rudrawar, "Complementarity of Zeolites and Clays in Catalyzing Nucleophilic Opening of Epoxides: Applications for Synthesis of Drug and Drug Intermediate," ICOB-4 & ISCNP-24, IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications, Department of Chemistry, University of Delhi, India. 2004, January 26-31, **Poster No. P 165**.
61. Asit K. Chakraborti, Atul Kondaskar, Santosh Rudrawar, and Raj Kumar, "Zirconium (IV) Catalyzed Opening of Epoxide Rings by Thiols: Effect of Ligands in Controlling Regioselectivity," ICOB-4 & ISCNP-24, IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications, Department of Chemistry, University of Delhi, India. 2004, January 26-31, **Poster No. P 296**.
62. 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**.
63. 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).
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66. 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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Seminar Lecture Delivered:

1. “*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.
2. “*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.
3. “*Influence of Green Chemistry on Medicinal Chemistry Research: Rational Approaches to Meet the Challenges*,” **2011**, Mar 4, “3rd Symposium on Medicinal Chemistry and Pharmaceutical Sciences,” CDRI, Lucknow, Mar 3-5, 2011.
4. “*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.
5. “*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.
6. “*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.
7. “*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.
8. “*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.
9. “*Rational Approaches towards Green Chemistry*,” **2010**, Nov 20, Training Workshop on Green Chemistry Education. Department of Chemistry, Delhi University, Delhi. Nov 20, 2010.
10. “*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.
11. “*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.
12. “*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.

13. “*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**.
14. “*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**.
15. “*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.
16. “*Ionic Liquids: In the Context of Sustainable Development,*’ **2010**, Feb 7, 13th Punjab Science Congress, Feb 7-9, 2010, Punjab University, Chandigarh.
17. “*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.
18. “*Sustainable Development: An Exploration to the Wonderland of Ionic Liquids,*’ **2010**, Jan 16, 14th ISCB International Conference (ISCB-2010) Chemical Biology for Discovery: Perspective and Challenges. Central Drug Research Institute, Lucknow. January 15-18, **2010**.
19. “*In the Context of Medicinal Chemistry Education,*” **2009**, Dec 24, Nargund College of Pharmacy, Bangalore, India.
20. “*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.
21. “*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.
22. “*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.
23. “*Quest for Novel Concepts: Development of New Synthetic Methodologies,*” **2009**, Nov 27, Jubilant, Bangalore, India.
24. “*Development of New Synthetic Methodologies Relevance to Drug Synthesis: Deriving Novel Concepts,*” **2009**, Nov 26, AstraZeneca, Bangalore, India.
25. “*Discovery Chemistry Research in the Context of Sustainable Development,*” **2009**, Nov 25, Nargund College of Pharmacy, Bangalore, India.
26. “*Role of Mass Spectrometry in the Conceptual Advancement towards Sustainable Development in Pharmaceutical research,*” **2009**, Nov 22, Award Lecture 1. 11th ISMAS

- Triennial Conference on Mass Spectrometry, Nov 24-28, 2009, Ramoji Film City, Hyderabad, India.
27. "*Mass Spectrometry in the Generation of New Chemical Entities*," **2009**, Nov 22, ISMAS Short Course in Mass Spectrometry, CCMB, Hyderabad, AP, India.
 28. "*Sustainable Synthesis Through Novel Concepts*," **2009**, Nov 13, Institute of Pharmacy, Nirma University, Ahmedabad, Gujrat, India.
 29. "*Sustainable Development: New Concepts and Organic Synthetic Methodologies*," **2009**, Oct 13, Dep of Chemistry, NIIT, Jalandhar, India.
 30. "*Implementing a few Green Chemistry Principles in Academic Research*," **2009**, Aug 25, Dept Chemistry, J. N. Vyas Univ, Jodhpur, India.
 31. "*On Organocatalysis by Ionic Liquids*," **2009**, July 23, Mid CRSI Meeting, Department of Applied Chemistry, SGSITS, Indore.
 32. "*Sustainable Chemical Synthesis: Developing New Concepts and Novel Synthetic Tools*," **2009**, April 22, Royal Society of Chemistry Eastern Chapter, IACS, Kolkata.
 33. "*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.
 34. "*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.
 35. "*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
 36. "*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.
 37. "*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.
 38. "*Rational Design of Green Chemistry Methodologies: Thriving for Sustainable Development*," **2008**, Nov 23 – 27, 45th Annual Convention of Chemists, P.G. Department of Studies in Chemistry, Karnatak University, Dharwad, India.
 39. "*On How Water Catalyses Organic Reactions*," **2008**, Nov 20-22, Symposium on "Current Trends in Organic Synthesis," Indian Institute of Science, Bangalore, India.
 40. "*The Changing Pattern of Discovery Chemistry Keeping Pace with Sustainable Development*," **2008**, Nov 24, Astra Zeneca, Bangalore, India.
 41. "*Green Chemistry Initiative in Academic Research: Geering up with EPA Regulations*," **2008**, Aug 4, Advinus Therapeutics, Pune, India.
 42. "*Green Chemistry Influence on Medicinal Chemistry*," **2008**, Mar 18-19, MedChem India. Bangalore, India.

43. “*Understanding Organic Chemistry in aqueous Medium,*” 12th ISCBC, **2008**, Feb 22-24, International Conference on the Interface of Chemistry-Biology in Biomedical Reserach, BITS, Pillani, India.
44. “*Understanding the Role of Water for Aqueous Reactions: Mass Spectrometric Investigation,*” 13th ISMAS-WS, **2008**, Jan 27-31, Indian Society of Mass Spectrometry, BARC, Mumbai, India.
45. “*Sustainable Chemistry in Drug Discovery,*” **2008**, Jan 27-29, International Conference on Drug Discovery and Nanotechnology, Yeshwant Mahavidyalaya, Nanded, Maharashtra, India.
46. “*Excercising Green Chemistry in Academic Research: Scope and Implementation,*” **2008**, Jan 7-9, Third Indo-US Workshop on Green Chemistry. University of Delhi, India.
47. “*Water Catalysis: Electrophile-Nucleophile Dual Activation by Single Water Molecule through Cooperative Hydrogen Bond Network,*” 95th ISCA, **2008**, Jan 6, Indian Science Congress Association, Andhra University, Visakhapatnam, India.
48. “*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.
49. “*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.
50. “*Mass Spectrometric Identification of Ionic Liquids,*” **2007**, Mar 27, 12th ISMAS Symposium cum Workshop on Mass Spectrometry. Mar 25-30, 2007, Dona Paula, Goa, India.
51. “*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.
52. “*The Nucleophilic and Electrophilic Activation Strategies: Applications in Developing Reactions used for the Preparation of Drug Molecules,*” **2007**, Feb 25, 11th ISCB International Conference on Advances in Drug Discovery Research. Dr. Babasaheb Ambedkar Morathwada University, Aurangabad, India.
53. “*Medicinal Chemistry: Another Degree or a Multifaceted Expertise?*” **2006**, Sept 2, 11th Annual National Convention of APTI, Bangalore.
54. “*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.
55. “*Building Novel Concepts from Prior Arts*” **2006**, March 29, Department of Organic Chemistry, Indian Institute of Science, Bangalore.
56. “*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.

57. "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.
58. "Demand-Based Thiolate Generation: Concept and Applications," **2006**, Feb. 3-5, National Symposium in Chemistry (NSC-8). IIT, Mumbai.
59. "Mass Spectrometry in Pharmaceutical research," **2006**, Jan 28- Feb. 1. 10th ISMAS Triennial International Symposium on Mass Spectrometry, Munnar, Kerala.
60. "Proteomics in Drug Discovery: Uses of Mass Spectroscopy," **2005**, Nov 06. Clinical Proteomics, PGI, Chandigarh.
61. "Application of Mass Spectroscopy in Combinatorial Synthesis of Chalcone and Stilbene Libraries," **2004**, Oct. 7 - 12. Eleventh ISMAS Workshop on Mass Spectrometry, Shimla.
62. 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.
63. 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.
64. 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.
65. "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.
66. "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.
67. 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.
68. 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.
69. "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.
70. 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.

71. "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.
72. "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.
73. "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.
74. 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.
75. "Second Generation Taxoids as Antimitotic Agents," **1997**, June 18. Department of Organic Chemistry, I.A.C.S., Calcutta.
76. "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.

Seminar/Symposium/Workshop Organised:

1. 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.
2. 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.
3. 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.
4. Convener. "*Workshop on Green Chemistry*," **2007**, Sept. 3 - 4, NIPER, S. A. S. Nagar in Association with DST, New Delhi.
5. Convener. "*Eleventh ISMAS Workshop on Mass Spectrometry*," **2004**, Oct. 7 - 12, Shimla in Association with Indian Society of Mass Spectrometry, Mumbai.
6. 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.
7. 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.

8. 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.
9. 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.
10. 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.

Symposium/Seminar/Workshop Attended:

1. *Eleventh ISMAS Workshop on Mass Spectrometry*, **2004**, Oct 7-12, Shimla, India.
2. *ISMAS Silver Jubilee Symposium on Mass Spectrometry*, National Institute of Oceanography, **2003**, Jan 27-31, Goa, India.
3. National Symposium on *New Trends in Synthetic Organic Chemistry*, **2002**. Jul 8-9, Department of Chemistry, KTHM College, Nashik.
4. National Symposium on *Current Perspectives in Organic Chemistry*, **2002**. Jan 24-25, Department of Organic Chemistry, IACS, Kolkata.
5. "*National Bioorganic Symposium 7*," GND University, Amritsar, 9-10 November, **2001**. Organised by Indian Society of Bioorganic Chemists & Department of Chemistry, GNDU.
6. "*Third National Symposium in Chemistry (NSC-3)*," Panjab University, Chandigarh, 2-4 February, **2001**. Organised by CRSI, Bangalore.
7. "*Fifth International Symposium on Bioorganic Chemistry*," NCL, Pune, 30 January - 4 February, **2000**. Organized by IUPAC.
8. "*Training Programme on Methods, Applications and Economics of Combinatorial Chemistry and Combinatorial Technologies*," IICT, Hyderabad, 26-31 October, **1998**. Organized by UNIDO.
9. "*Symposium on Advances in Medicinal Chemistry*," IISC, Bangalore, September 17-19, **1998**. Organized by ASTRA.
10. "*Seminar on Absorption and Emission Spectroscopy for Characterization of Materials*," New Delhi, 11-12 June, **1998**. Organized by Chemistry Group, Atomic Mineral Division.
11. "*First Workshop on Patent Information in R&D and Industry*," New Delhi, 12-13 February, **1998**. Organized by NISSAT.
12. "*Patent Awareness Workshop*," Chandigarh, 4th April, **1997**. Organized by PSCST (Punjab).
13. "*Patent Literacy*," New Delhi, 14-15 March, **1997**. Organized by The Indian Pharmaceutical Association.
14. "*Workshop on Industrial Application of NMR Spectroscopy and 3rd National Symposium on Magnetic Resonance*," IIT Delhi, 7-9 February, **1997**.

15. "*Challenges in Organic Synthesis*," IACS, Calcutta, 29-30 January, **1996**.
16. "*Pasteur's Heritage*," IMTECH, Chandigarh, 28-29 September, **1995**.
17. "*46th Indian Pharmaceutical Congress*," Punjab University, Chandigarh, 28-30 December, **1994**.
18. "*Recent Development in Asymmetric Synthesis*," IICT, Hyderabad, 19-20 December, **1994**.