Abhay Tulshiram Sangamwar (Ph.D.)

Assistant Professor

Department of Pharmaceutics
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AREA OF RESEARCH

Polymeric drug delivery system using nucleation and crystallization inhibition, Solid state pharmaceutics (cocrystal, amorphous solid dispersions, amorphous salt solid dispersions), Polymeric micellar drug delivery systems. Lipid based drug delivery systems

EDUCATION

Ph.D. (2006) **Pharmacy**
Swami Ramanand Teerth Marathwada University (SRTMU), Nanded, India

M. Pharm (1994) **Pharmacy Operations**
Birla Institute of Technology and Science (BITS), Pilani, India

B. Pharmacy (1991) **Pharmaceutical Sciences**
Government College of Pharmacy, Karad (GCOPK), Shivaji University, Kolhapur, India

WORK EXPERIENCE

Assistant Professor (2009-Present)
- Responsible for conducting research on novel drug delivery systems
- Guiding MS and PhD students for research
- Teaching of various courses to MS and PhD students
- Presenting scientific finding at national and international symposiums and conferences

Name of employer **Director, National Institute of Pharmaceutical Education and Research (NIPER), Mohali, India**

Senior Lecturer and Head of the Department (2000- 2009)
- Teaching to undergraduate students
- Administrative activities related to the Department at college and university level
- Development of the course material

Name of employer **Principal, Nanded Pharmacy College, Nanded, India**

Production Executive (1995-2000)
- Worked in the liquid oral department
- Preparation of the batch manufacturing record
- Liasoning with the quality control department

Name of employer **Wellcare Laboratories, MIDC, Nanded, India**

PUBLICATIONS

1. **A. T. Sangamwar**, U. D. Deshpande, S. S. Pekamwar, S. M. Vadvalkar. Improving decision making for drug candidates: A computational approach for benzothiazoles as antifungal. **Indian J Biotech** July (2007) 6:397-403.
2. **Abhay T. Sangamwar**, Leena. B. Labhsetwar, Sharad. V. Kuberkar . Exploring CYP1A1 as anticancer target: homology modeling and in silico inhibitor Design. **J Mol Model** (2008) 14(11):1101-1109. DOI 10.1007/s00894-008-0354-4 IF: 1.797
3. **A. T. Sangamwar**, U. D. Deshpande, S. S. Pekamwar. Antifungal: A need for search for new molecular target. **Indian J Pharm Scien** (2008) 70(4):

423-430.

4. Avinash Patil, Swastika Ganguly, Sanjay Surana, Sanjay Pekamwar, **Abhay Sangamwar .** Docking studies of novel 2-[5-substituted-1-H benzo (d) imidazole-2-yl sulfinyl] methyl 3-substituted quinazoline-4(2H)one. **International J PharmTech Res CODEN (USA) (**2009) 1:1227-1233.
5. A. L. Shirfule, **A. T. Sangamwar**, C. N. Khobragade. Exploring Glycolate oxidase (GOX) as an antiurolithic drug target: molecular modelling and in vitro inhibitor study. **International J Biol Macromolecules**. (2011) 49:62-70. DOI: 10.1016/j.ijbiomac.2011.03.016. IF: 2.661
6. Aeshna Amin, Manish Dare, **Abhay Sangamwar**, Arvind Kumar Bansal. Interaction of antimicrobial preservatives with blow-fill-seal packs: correlation sorption with solubility parameters. **Pharm Dev Technol**. (2012) 17(5):614-24. DOI: 10.3109/10837450.2011.557733. IF: 1.363
7. Babasaheb Bandgar, Baliram Hote, Rahul Gangwal, and **Abhay Sangamwar**. Synthesis, biological evaluation and pharmacokinetic profiling of benzophenone derivatives as tumonecrosis factor-alpha and Interleukin-6 inhibitors. **Medicinal Chemistry Research** (2012) 21(10): 3177-3181. DOI: 10.1007/s00044-011-9856-1. IF: 1.271
8. Pravin Ambure, Rahul Gangwal, **Abhay Sangamwar**. 3-D QSAR and molecular docking analysis of biphenyl amide derivatives as p38 α mitogen activated protein kinase inhibitors. **Mol Divers**. (2012) 16(2):377-88. DOI: 10.1007/s11030-011-9353-y. IF: 3.153
9. Varikoti, Rohith Anand, Gangwal, Rahul, Dhoke, Gaurao, Ramaswamy, Venkata Krishnan, and **Sangamwar, Abhay**. Structure based de novo design of IspD inhibitors as anti-tubercular agents. Available from **Nature Precedings.** DOI: 10.1038/npre.2012.7088.1 (2012)
10. Gaurao V. Dhoke, Rahul P. Gangwal, **Abhay T. Sangamwar.** A combined ligand and structure based approach to design potent PPAR-alpha agonists. **Journal of Molecular Structure.** (2012) 1028(28): 22–30. DOI:10.1016/j.molstruc.2012.06.032 IF: 1.611
11. Dara Ajay, **Abhay T. Sangamwar and** Parikshit Bansal**.** Improved diffusion cell for drug binding and release studies. **Journal of Bioequival Availab.** (2012) 4(3)139-141 DOI: 10.4172/0975-0851.S1.11
12. Prajwal Nandekar, **Abhay Sangamwar.** Cytochrome P4501A1 mediated anticancer drug discovery: In silico findings**.** **Expert Opin Drug Discov.** (2012) 7(9):771-89. DOI: 10.1517/17460441.2012.698260. IF: 2.116
13. Kailash S Khomne, Prajwal P Nandekar, Banrida Wahlang, Pravin Bagul, Naeem Shaikh, Yogesh B Pawar, Chhuttan Lal Meena, **Abhay T**

Sangamwar, Rahul Jain, K Tikoo, Arvind K Bansal. Mechanistic Insights into PEPT1-Mediated transport of a novel antiepileptic, NP-647. **Mol Pharm**. (2012) 9(9):2458-68. DOI: 10.1021/mp200672d. IF: 4.782

14. Santosh S Chobe, Bhaskar S Dawane, Khaled M Tumbi, Prajwal P Nandekar, **Abhay T Sangamwar**. An ecofriendly synthesis and DNA binding interaction study of some pyrazolo [1,5-a] pyrimidines derivatives **Bioorg Med Chem Lett.** (2012) 22(24):7566-72. DOI: 10.1016/j.bmcl.2012.10.027 IF: 2.539
15. Udghosh Singh, Rahul P Gangwal, Rameshwar Prajapati, Gaurao V Dhoke, **Abhay T Sangamwar**. 3D QSAR pharmacophore based virtual screening and molecular docking studies to identify novel matrix metalloproteinase 12 (MMP-12) inhibitors. **Molecular Simulation** (2013) 39(5):1-12. DOI: 10.1080/08927022.2012.731506.
16. Udghosh Singh, Rahul P Gangwal, Rameshwar Prajapati, Gaurao V Dhoke, Mangesh Damre, **Abhay T Sangamwar**. 3D QSAR and molecular docking analysis of (4-piperidinyl)-piperdinyl-piperazines as acetyl-CoA carboxylase inhibitors. **Arabian J of Chemistry.** (2012). DOI: 10.1016/j.arabjc.2012.10.023 Accepted In Press
17. Prajwal P Nandekar, Khaled M Tumbi, Nitu Bansal, Vijay P Rathod, Leena B Labhsetwar, Neelagiri Soumya, Sushma Singh, **Abhay T Sangamwar**. Chem-bioinformatics and in vitro approaches for candidate optimisation: a case study of NSC745689 as promising antitumor agent. **Med Chem Res** (2013) 22:3728-3742 DOI: 10.1007/s00044-012-0364-8.
18. Anuseema Bhadauriya, Gaurao V Dhoke, Rahul Gangwal, Mangesh V Damre, **Abhay T Sangamwar**. Identification of Acetyl-CoA carboxylase 1 and 2 inhibitors by Pharmacophore based virtual screening and molecular docking approach. **Molecular Diversity.** (2013) 17(1):139-149. DOI: 10.1007/s11030-013-9425-2.
19. Satya Prakash Tripathi, Anuseema Bhadauriya, Abhijit Patil, **Abhay T Sangamwar**. Substrate selectivity of human intestinal UDP-glucuronosyltransferases (UGTs): In silico and in vitro insights. **Drug Metabolism Reviews.** (2013) 45(2):231-252. DOI: 10.3109/03602532.2013.767345. IF: 5.538
20. Rahul P Gangwal, Anuseema Bhadauriya, Mangesh V Damre, Gaurao V Dhoke, **Abhay T Sangamwar**. p38 mitogen activated protein kinase inhibitors: A review on Pharmacophore mapping and QSAR studies. **Curr Top Med Chem.** (2013) 13(9):1015-35. DOI: 10.1016/j.annder.2013.02.009.

21. Rameshwar Prajapati,Udghosh Singh,Abhijit Patil,Kailash S Khomane, Pravin Bagul, Arvind K Bansal, **Abhay T Sangamwar**. In silico model for P-glycoprotein substrate prediction: insights from molecular dynamics and in vitro studies **J Compu Aided Mol Design**. (2013) 27(4): 347-363. DOI: 10.1007/s10822-013-9650-x.
22. Kaushik Thanki,Rahul P Gangwal, **Abhay T Sangamwar,** Sanyog Jain. Oral delivery of anticancer drugs: Challenges and opportunities **J Control Release**. (2013) 170(1):15-40. DOI: 10.1016/j.conrel.2013.04.020.
23. Mangesh V Damre, Rahul P Gangwal, Gaurao V Dhoke, Manisha Lalit, Dipna Sharma, Kanchan Khandelwal, **Abhay T Sangamwar**. 3D QSAR and molecular docking studies of aminopyrimidine derivatives as PknB inhibitors. **J of Taiwan Institute of Chemical Engineers.** (2014) 45:354-364 DOI:10.1016/j.jtice.2013.05.016.
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25. Rahul P Gangwal, Gaurao V Dhoke, Mangesh V Damre, **Abhay T Sangamwar**. Structure based virtual screening and molecular dynamic simulation studies to identify novel cytochrome bc1 inhibitors as antimalarial agents. **J of Computational Medicine.** (2013) 637901 DOI: 10.1155/2013/637901 Accepted In Press
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27. Vijay Rathod, Sumit Jain, Prajwal Nandekar, **Abhay T Sangamwar**. Human Pregnane X receptor: A novel target for anticancer drug development. **Drug Discovery Today.** (2014) 19(1) 63-70. DOI:10.1016/j.drudis.2013.08.009 IF: 6.890
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29. Rahul P Gangwal, Nihar R Das, Kaushik Thanki, Mangesh V Damre, Gaurao V Dhoke, Shyam S Sharma, Sanyog Jain, **Abhay T Sangamwar**.

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31. Neelagiri soumya, Hitendra Tandan, Mangesh V Damre, Rahul P Gangwal, **Abhay T Sangamwar**, Sushma Singh. Leucine-684: A conserved residue of an AMP-acetyl CoA synthetase (AceCS) from leishmania donovani is involved in substrate recognition, catalysis and acetylation. **Gene** (2016) 580:125-133
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33. Dara Ajay and Abhay T Sangamwar. Identifying the Patent Trend, Licensing Pattern and Geographical Landscape Analysis of the Council for Scientific & Industrial Research (CSIR) of India between 2000 and 2011. **World Patent Information** (2014) 38:42-49 DOI:10.1016/J.wpi.2014.03.006
34. Nihar R Das, Rahul P Gangwal, Mangesh V Damre, Abhay T Sangamwar and Shyam S Sharma. A PPAR-β/δ agonist is neuroprotective and decreases cognitive impairment in a rodent model of parkinson's disease. **Current Neurovascular Research** (2014) 11:114-124. DOI:10.2174/1567202611666140318114037
35. Ganesh Shete, Swathi Kuncham, Vibha Puri, Rahul P Gangwal, Abhay T Sangamwar and Arvind Kumar Bansal. Effect of different states of 'sorbed' water on amorphous celecoxib. **J Pharm Sci** (2014) 103: 2033-2041 DOI:10.1002/jps.23999
36. Khaleed M Tumbi, Prajwal P Nandedkar, Naeem Shaikh, Siddharth S Kesharwani, **Abhay T Sangamwar**. Molecular dynamics simulation studies for DNA sequence recognition by reactive metabolites of anticancer compounds. **J Molecular Recognition.** (2014) 27: 138-150. DOI:10.1002/jmr.2342 IF: 3.006
37. Kanchan Khandelwal, Rahul P Gangwal, Udghosh Singh, Rameshwar

Prajapati, Mangesh V Damre, **Abhay T Sangamwar**. Computational insights into the active site of human breast cancer resistance protein (BCRP/ABCG2): A similarity search approach. **Med Chem Res** (2014) 23(11):4657-4668 DOI: 10.1007/s00044-014-1035-8

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39. Preeti Pragyan, Siddharth S. Kesharwani, Prajwal P. Nandekar, Vijay Rathod, **Abhay T. Sangamwar**. Predicting drug metabolism by CYP1A1, CYP1A2, and CYP1B1: insights from MetaSite, molecular docking and quantum chemical calculations. **Mol. Divers. (**2014) 18(4): 865-78. DOI 10.1007/s11030-014-9534-6
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41. Varun Kumar, Mahesh Rachamalla, Prajwal Nandekar, Gopal L Khatik, **Abhay T. Sangamwar,** Kulbhushan Tikoo, Vipin Nair. Desigh and synthesis of optically pure 3-aryl-6-methyl-2-thiooxotetrahydropyrimidin-4(1H)-ones as anti-prostate cancer agents, **RSC Advances** (2014) 4:37868-37877 DOI: 10.1039/C4RA056391k
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43. Sanjay R. Patel, Rahul Gangwal, **Abhay T. Sangamwar**, Rahul Jain. Synthesis, biological evaluation and 3D-QSAR study of hydrazide, semicarbazide and thiosemicarbazide derivatives of 4-(1-adamantan-1-yl)quinoline as anti-tuberculosis agents. **Eur. J. Med. Chem.** (2014) 85: 255-267 DOI: 10.1016/j.ejmech.2014.07.100
44. Rameshwar Prajapati, **Abhay T. Sangamwar**, Translocation mechanism of P-glycoprotein and conformational changes occurring at drug binding site: Insights from Multi-targeted Molecular Dynamics. **Biochim Biophys Acta** (2014) 1838: 2882-2898. DOI:10.1016/j.bbamem.2014.07.018
45. Sumit Jain, Vijay Rathod, Rameshwar Prajapati Prajwal Nandekar, **Abhay T.**

Sangamwar. Pregnane X receptor and P-glycoprotein: a connexion for alzheimer's disease management. **Mol. Divers** (2014) 18(4): 895-909. DOI: 10.1007/s11030-014-9550-6

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47. Rahul P. Gangwal, Mangesh V. Damre, Nihar R. Das, Shyam S. Sharma, Abhay T. Sangamwar. Biological evaluation and structural insights for design of subtype-selective peroxisome proliferator activated receptor-α (PPAR-α) agonists. **Bioorg. Med. Che. Lett**. (2014) 15;25(2) 270-5 DOI: 10.1016/jbmcl.2014.11.052
48. Roshan M. Borkar, Murali Mohan Bhandi, Ajay P. Dubey, Prajwal P. Nandekar, **Abhay T. Sangamwar**, Sanjay K. Baberjee, R. Srinivas. Plasma protein binding, pharmacokinetics, tissue distribution, and CYP450 biotransformation studies of fidarestat by ultra high performance liquid chromatography-high resolution mass spectrometry. **J Pharm Biomed Anal.** (2015) 102: 386-399 DOI:10.1016/jjpba.2014.10.008
49. Patel SR, Gangwal R, **Sangamwar AT**, Jain R. Synthesis, biological evaluation and 3D QSAR study of 2, 4-disubstituted quinolines as anti-tuberculosis agents **Eur J Med Chem** (2015) 26(93):511-22. DOI: 10.1016/j.ejmech.2015.02.034
50. Amit Mahindra Rahul P. Gangwal Sunil Bansal, Nathan E. Goldfarb, Ben M. Dunn, **Abhay T. Sangamwar** and Rahul Jain Antiplasmodial activity of short peptide-based compounds ***RSC Adv.***, (2015) 5:22674-22684 DOI: 10.1039/C5RA00779H
51. Prinesh N. Patel, Roshan M. Borkar, Pradipbhai D. Kalariya, Rahul P. Gangwal, **Abhay T. Sangamwar**, Gananadhamu Samanthula and Srinivas Ragampeta Characterization of degradation products of Ivabradine by LC-HR-MS/MS: a typical case of exhibition of different degradation behaviour in HCl and H_2SO_4 acid hydrolysis **J Mass Spectrometry (**2015) 50(2): 344–353 DOI: 10.1002/jms.3533
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53. Sunil K Jena, Sarsija Suresh, **Abhay T Sangamwar**. Modulation of

tamoxifen induced hepatotoxicity by tamoxifen-phospholipid complex. **J Pharm Pharmacol** (2015) Apr 23 DOI: 10.1111/jphp.12422

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56. Prakram Singh Chauhan, Satya Prakash Tripathi, **Abhay T Sangamwar**, Neena Puri, Prince Sharma, Naveen Gupta. Cloning, molecular modelling, and docking analysis of alkali-thermostable β-mannanase from Bacillus nealsonii PN-11. **Appl Microbiol Biotechnol (**2015) 99(21): 8917-25 DOI: 10.1007/s00253-015-6613-2
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60. Chhuttan L Meena, Avinash Thakur, Prajwal P Nandekar, Shyam S Sharma, **Abhay T Sangamwar**, Rahul Jain. Synthesis and biology of ring-modified l-histidine containing thyrotropin releasing hormone (TRH) analogues. **Eur. J Med Chem.** (2016) 111: 72-78. DOI: 10.1016/j.ejmech.2016.01.038
61. Inderjit S Yadav, Prajwal P Nandekar, Shambhavi Shrivastava, **Abhay Sangamwar**, Ashok Chaudhary, Subhash Mohan Agrawal. Ensemble docking and molecular dynamics identify knoevenagel curcumin derivatives

with potent anti-EGFR activity. **Gene** (2014) 539:82-90. DOI: 10.1016/j.gene.2014.01.056

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63. Kesharwani SS, Nandekar PP, Pragyan P, Rathod V, **Sangamwar AT.** Characterization of differences in substrate specificity among CYP1A1, CYP1A2 and CYP1B1: an integrated approach employing molecular docking and molecular dynamics simulations **J Mol Recognit** (2016) 29(8):370-390. DOI: 10.1002/jmr.2537
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68. Ankit Dhaundiyal, Sunil K Jena, Sanjaya K Samal Bhavin Sonwane, Mahesh Chand, Abhay T sangamwar. Alpha lipoic acid sterylamine conjugate based solid lipid nanoparticles for tamoxifen delivery: Formulation, optimization, in vivo pharmacokinetic and hepatotoxicity study **J Pharm Pharmacol** (2016) 68(12):1535-1550

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80. Siddharth S Kesharwani, Shamandeep Kaur, Hemachand Tummala, **Abhay T Sangamwar**. Multifunctional approaches utilizing polymeric micelles to circumvent multidrug resistant tumors. **Colloids and surfaces b: Biointerfaces** 173 (2019) 581-590 DOI: 10.1016/j.colsurfb.2018.10.022
81. Siddharth S Kesharwani, Shamandeep Kaur, Hemachand Tummala, **Abhay T Sangamwar**. Overcoming multiple drug resistance in cancer using polymeric micelles **Expert Opin Drug Deliv** (2018) 15(11):1127-1142 DOI:10.1080/17425247.2018.1537261
82. Prachi Joshi and **Abhay T Sangamwar**. Stabilizing supersaturated drug Delivery system through mechanism of nucleation and crystal growth inhibition of drugs **Ther Deliv**. (2018) 9(12) 873-885. DOI: 10.4155/tde-2018-0031
83. Shrishti S Tiwari, Balasaheb B Chavan, Bhoopendra S Kushwah, Naga Veera Yerra, Sumit Mukesh, **Abhay T Sangamwar**, Jagadeshwar Reddy Thaota, M V N Kumar Talluri. In vitro and in vivo investigation of metabolic fate of riociguat by HPLC-Q-TOF/MS/.MS and in silico evaluation of the metabolites by ADMET predictor™. **J Pharm Biomed Analysis** (2019) 164 326-336 DOI: 10.1016/j.jpba.2018.10.050
84. Samarth S Thakore, Rahul P Gangwal, Ajit S Narang, **Abhay T Sangamwar**. Assessment of biopharmaceutical performance of supersaturating formulations of carbamazepine in rats using PBPK modelling. **AAPS PharmSciTech** (2019) Apr 30;20(5):179
85. Ikjot Sodhi, Prabhakar Mallepogu, Vaibhav P Thorat, Mahesh C Kashyap, **Abhay T Sangamwar**. Insights on role of polymers in precipitation of celecoxib from supersaturated solutions as assessed by focused beam reflectance measurement (FBRM) **Eur J Pharm Sci** (2019) 137:104983. DOI10.1016/j.ejps.2019.104983

86. Navpreet Kaur, Poonam Singh Thakur, Ganesh Shete, Rahul Gangwal, **Abhay T. Sangamwar**, and Arvind Kumar Bansal. Understanding the oral absorption of Irbesartan using biorelevant dissolution testing and PBPK modelling. **AAPS PharmSciTech** (2020) 21:102
87. Santosh Sunnam, Ikjot Sodhi, Prachi Joshi, Sanjaya K Samal, **Abhay T Sangamwar.** Correlating precipitation inhibition efficacy of Eudragit EPO and polyvinyl pyrrolidone (PVP) K30 on supersaturated solution of atorvastatin calcium with Caco-2 permeability enhancement. Journal Drug Del Sci and Tech (2020) 57:101692
88. Mandeep, Shamandeep Kaur, Sanjaya K Samal, Sabyasachi Roy, **Abhay T Sangamwar**. Successful oral delivery of fexofenadine hydrochloride by improving permeability via phospholipid complexation. **Eur J Pharm Sci** (2020) 149:105338
89. Rahul Kumar, Arvind Sirvi, Shamandeep Kaur, Sanjaya K Samal, sabyasachi Roy, **Abhay T Sangamwar**. Polymeric micelles based on amphiphilic oleic acid modified carboxymethyl chitosan for oral drug delivery of BCS class IV compound: intestinal permeability and pharmacokinetic evaluation. **Eur J Pharm Sci** (2020) 153:105466
90. Shristy S. Tiwari, Sumit Mukesh, **Abhay T Sangamwar**, M V N Kumar Talluri. In vivo metabolic investigation of cetilistat in normal versus pseudo-germ-free rats using UPLC-QTOFMS/MS and in silico toxicological evaluation of its metabolites. **Biomedical Chromatography** (2020) 34(8):e4860
91. Shristy S Tiwari, Vivek Dhiman, Sumit Mukesh, **Abhay T Sangamwar**, Ragampeta Srinivas, M V N Kumar Talluri. Identification and characterisation of novel metabolites of nintedanib by ultra-performance liquid chromatography/quadrupole time-of-flight tandem mass spectrometry with in silico toxicological assessment. **Rapid Commun Mass Spectrom** (2020) 34(22):e8915

82.

BOOK & BOOK CHAPTERS

Book Chapters

1. Rahul P Gangwal A, Mangesh V Damre, Abhay T Sangamwar (2016). **Chemometrics Applications and Research,** In Andreaw G Mercader, Pablo R Duchowicz and P M Sivakumar (Eds) **Apple Academic Press**, NJ 08758. USA

INVITED TALKS

1. 'Alternatives to animal experimentation', National Symposium cum Workshop on Experimental Research and Alternatives, PGIMER, Chandigarh, March 3, 2012

2. 'Molecular modelling in Pharmaceutical research', Two days orientation programme on Current developments in Pharmaceutical Technology and Practice (Sponsored by PCI), SNIOP, Pusad, Maharashtra
3. 'QSAR's do they really work', Training school on computer aided drug design: hands on workshop, Panjab University, Chandigarh, January-February, 2013
4. 'Exploiting hPepT1 specific interactions towards next generation peptidomimetics',5th International Symposium on Drug Metabolism and Pharmacokinetics at NIPER SAS Nagar, March 2013
5. 'Xenobiotics', One day programme titled 'Medicine and Media' Goa College of Pharmacy, 25th July, 2014
6. "Understanding ligand-P-gp interactions at the atomistic level" Society for the study of xenobiotics (SSX), First annual conference, IISc, Bangalore. Sept. 1-3, 2016

CONFERENCES/SYMPOSIUM/WORKSHOPS

1. National Symposium cum workshop on experimental research and alternatives (NSWERA), PGIMER, Chandigarh (03.03.2012)
2. Computer aided drug design: Hands on workshop, UGC networking resource centre, UIPS, Panjab University, Chandigarh (28.01.2013 – 09.02.2013)
3. 3rd International symposium on drug metabolism and pharmacokinetics, NIPER, SAS Nagar (11.02.2011 – 13.02.2011)
4. 4th International symposium on drug metabolism and pharmacokinetics, NIPER, SAS Nagar (16.02.2012 – 19.02.2012)
5. 5th International symposium on drug metabolism and pharmacokinetics, NIPER, SAS Nagar (07.03.2013 – 10.03.2013)
6. Structural and functional characterization of CYP1A1 ligand binding domain by homology modelling. International Conference on Drug Metabolism and Pharmacokinetics (DMPK) NIPER, SAS Nagar. 21-28 Feb., 2016

7. Impact of polymers on precipitation kinetics of atorvastatin. Ikjot Sodhi, Santosh Kumar Sumann, Sumit Mukesh, Abhay T Sangamwar. International Unioin of Crystallography, 24th Congress and General Assembly, Hyderabad 21-28 Aug., 2017

AWARDS, HONORS & ACHIEVEMENTS

1. DAAD fellowship for research stay in Germany 03.05.2014 – 16.05.2014 (1796 Euro) Host University- Heidelberg Institute of Theoretical Studies (HITS), gGmbH
2. An extramural project entitled 'Design and pharmaceutical profiling of anti-inflammatory leads' by DST, New Delhi (18,40,000 INR)
3. An extramural project entitled 'Investigations of the solid state properties of pharmaceutical solids by in silico approaches' by CSIR, New Delhi (6,63.000 INR)
4. An extramural project entitled 'Molecular dynamics studies of homology model of CYP1A1, structure based drug design and virtual screening of potential ligands that modulates the biological function of CYP1A1' by DBT, New Delhi (38,04,000 INR)
5. An extramural project entitled 'Computational and in vitro screening of bioflavonoids for selective P-gp inhibition' by DBT, New Delhi (31,83,200 INR)
6. An extramural project entitled 'Investigations of drug polymer interactions by coarse grained molecular dynamics simulations for stable drug formulations' by BMBF-DBT, New Delhi (1,00,35712 INR)

TECHNICAL SKILLS

- **Nanoformulation**: Experience in preparation and characterization of organic & inorganic nanoparticles, PEGylated Liposomes
- **Solid state pharmaceutics:** Preparation and characterization of cocrystals and amorphous solid dispersions
- **Polymeric drug delivery:** Screening of polymers as nucleation and crystallization growth inhibitors, Calculation of metastable width zone of drugs .
- **Lipidic drug delivery:** Drug phospholipid complexes and its characterization, Matrix dispersions
- **Cell culture techniques:** Hands on experience in handling and maintenance of various cell lines (e.g. Caco-2, MCF 7), Proliferation and Cytotoxicity, Biocompatibility studies using MTT, assays.
- **Instrumentation and microscopy:** Experience in handling instruments like optical and fluorescence microscope, scanning and transmission electron microscopy, QCM and analytical techniques like IR, HPLC, UV and fluorescence spectrophotometers, confocal microscope, zeta potential analyzer, DLS.
- **Animal handling:** Performed toxicity studies, dose response studies, pharmacodynamics, pharmacokinetic & histopathology studies on rats
- **Scientific software's:** PDB search, Medline, Endnote, Chemdraw, Sigmastat, Origin, Gastro Plus (PBPK modelling)

JOURNAL EDITORIAL & REVIEWER

Journal Reviewer: Molecular Pharmaceutics, International J of Pharmaceutics, Carbohydrate Polymers, Crystal Growth and Design, European J of Pharmaceutics, The Journal of Physical Chemistry

PROFESSIONAL MEMBERSHIPS

Treasurer, Indian Society for Xenobiotic, Babalore, India 2016-17

Member, American Associationof Pharmaceutical Sciences (AAPS), USA 2016-17

RESEARCH PROJECTS COMPLETED/ONGOING/SUBMITTED

Sr No.	Grant Agency	Title of the project	Duration/Status	Amount (INR)
1	DST, New Delhi	Design and pharmaceutical profiling of anti-inflammatory leads: small molecule approaches	2010-2013/Completed	18,40,000/-
2	CSIR, New Delhi	Investigations of the solid state properties of pharmaceutical solids by in silico approaches	2011-2014/Completed	6,63,000/-
3	DBT, New Delhi	Molecular dynamics studies of homology model of CYP1A1, structure based drug design and virtual screening of potential ligands that modulates the biological function of CYP1A1	2012--2015/Completed	38,04,000/-
4	DBT, New Delhi	Computational and in vitro screening of bioflavonoids for selective P-gp	2015/ Completed	31,83,200/-

		inhibition		
5	BMBF-DBT science programme	Investigations of drug polymer interactions by coarse grained molecular dynamics simulations for stable drug formulations	2018/On going	1,00,35712/-
6	SERB-DST	Polymeric low molecular weight carboxymethyl chitosan (LMCMC)-polyphenol (PP) micelle formulation for paclitaxel delivery	2019/Submitted	50,85,995/-