

PROFILE

Dr. Sanyog Jain, M.Pharm., Ph.D.

Assistant Professor

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Professional Experience:

- 2008-till present: Assistant Professor, Dept. of Pharmaceutics, NIPER, SAS Nagar
- 2005-2008: Scientist, Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, Ministry of Defence, Govt. of India, New Delhi.
- 2004-2005: Lecturer (Pharmaceutics), Dept. of Pharm. Sciences and Drug Research, Punjabi University, Patiala (Punjab).

Professional Interests:

Broad Area: Nanotechnology and Drug Delivery Systems

- Targeted drug delivery using nanocolloidal drug carriers e.g. vesicular carriers (liposomes, niosomes etc.) and particulate carriers (polymeric and lipid nanoparticles).
- Improving oral bioavailability of poorly water soluble/ poorly permeable drugs using different types of nano formulations.
- Topical drug delivery using nanoparticles for the topical treatment of psoriasis and other fungal skin infections.
- Functionalization of carbon nanotubes to improve their dispersibility in aqueous biological fluid, reduce their toxicity and explore their potential in targeted cancer therapy.
- Development of antigen loaded nano-carrier systems for oral mucosal immunization.
- Oral delivery vehicle of insulin for the treatment of diabetes.
- Non-viral vectors for gene delivery.
- Radiolabelling and pharmacoscintigraphic evaluation of drug delivery systems.

Research Projects:

Ongoing Projects from Government Funding Agencies			
Grant agency	Title of the project	Duration/ status	Amount (INR)
Dept. of Science and Technology (DST), Govt. of India	Centre for Pharmaceutical Nanotechnology	August 2006 (5 years) (Joined as PI in July 2008)	956 Lakhs

Dept. of Biotechnology (DBT), Govt. of India under Nanotechnology Programme	Development of smart nanocarriers for oral vaccine delivery	April 2010 (Five years)	25.21 Lakhs
Dept. of Science and Technology (DST)-SYSP programme	Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral insulin delivery	April 2010 (Three years)	19.96 Lakhs
Indian Council of Medical Research (ICMR) under Nanomedicine program	Development and Characterization of functionalized carbon nanotubes for tumor drug targeting and therapy	Sanctioned Project (Three years). Grant awaited	49.884 Lakhs
Completed Industrial Consultancy Projects			
AD Pharma Pvt. Ltd., Hyderabad (AP)	In vitro skin permeation study of some formulations using Franz Diffusion Cell	December 2008	2.5 Lakhs
Himalaya Drug Company, Bangalore (KA)	Feasibility studies for development of a nano formulation of herbal drugs	April 2009	0.5 Lakh
GlaxoSmithKline (GSK) Consumer Health Care Ltd, Gurgaon (HR)	In vitro skin permeation study of some topical anti-inflammatory formulations using Franz Diffusion Cell	August 2009	3.75 Lakhs

Publications/ Presentations:

LIST OF PUBLICATIONS (Dr. Sanyog Jain)

International Journals

1. **Sanyog Jain**, Ankit Mittal, Amit K Jain, Rahul R Mahajan, Dinesh Singh, Cyclosporin-A loaded PLGA nanoparticles: preparation, optimization, *in-vitro* characterization and stability studies. **Curr. Nanosci.** 2010 (*In Press*).
2. Awesh K. Yadav, Abhinav Agarwal, **Sanyog Jain**, Anil K. Mishra, Hemant Bid, Gopal Rai, Himanshu Agrawal, G. P. Agrawal, Chondroitin Sulphate Decorated Nanoparticulate Carriers of 5-Fluorouracil: Development and *In Vitro* Characterization. **J. Biomed. Nanotech.**, 2010 (*In Press*).
3. Himanshu Gupta, T. Velpandian, **Sanyog Jain**, Ion- and pH- activated novel in-situ gel system for sustained ocular drug delivery. **J. Drug Target.**, 2010 (*In Press*).
4. K.K Upadhyay, A. N Bhatt, A.K Mishra, B. S. Dwarakanath, **Sanyog Jain**, C. Schatz, J.-F. Le Meins, A. Farooque, G. Chandraiah, A. K. Jain, A. Misra, S. Lecommandoux, Doxorubicin loaded poly(γ -benzyl L-glutamate)-*b*-hyaluronan polymersomes: Enhanced intracellular drug delivery and anti tumor activity in animals. **Biomaterials**, 31(10), 2010: 2882-2892.

5. **Sanyog Jain**, Prateek Dani, R. K. Sharma, Pharmacoscintigraphy: A blazing trail for evaluation of new drugs/delivery systems. **CRC Critical Reviews in Therapeutic Drug Carrier Systems**, 26(4), 2009: 373-426.
6. Atul Pathak, A. Swami, S. Patnaik, **Sanyog Jain**, Krishna Chutani, A.K. Mishra, S.P. Vyas, P. Kumar, K.C. Gupta, Efficient tumor targeting by polysaccharide decked polyethylenimine based nanocomposites. **J. Biomed. Nanotech.**, 5(3), 2009: 264-277.
7. Atul Pathak, Pradeep Kumar, Krishna Chutani, **Sanyog Jain**, A.K. Mishra, S.P. Vyas, K.C. Gupta, Gene expression, biodistribution and pharmacoscintigraphic evaluation of chondroitin sulphate-PEI nanostructures mediated tumor gene therapy. **ACS Nano**, 3(6), 2009: 1493-1505.
8. Himanshu Gupta, A. Bhatnagar, Gaurav Mittal, A. Malik, **Sanyog Jain**, Development and characterization of ^{99m}Tc-timolol maleate for evaluating efficacy of in situ ocular drug delivery system. **AAPS Pharm. Sci. Tech.** 10 (2), 2009: 540-546.
9. Javed Qureshi, Alka Ahuja, Sanjula Baboota, Krishna Chutani, **Sanyog Jain**, Javed Ali, Development and evaluation of time specific pulsatile release tablet of aceclofenac: A solution for morning pain in rheumatoid arthritis, **Method. Find. Exp. Clin. Pharmacol.**, 31(1), 2009:15-23.
10. Parul Jain, **Sanyog Jain**, K.N. Prasad, S.K. Jain, S.P. Vyas, Polyelectrolytes coated multilayered liposomes for the treatment of *H. pylori* infection. **Mol. Pharm.** 6(2), 2009: 593-603.
11. A. K. Yadav, Pradeep Mishra, **Sanyog Jain**, Pushpa Mishra, A. K. Mishra, G. P. Agrawal, Preparation and characterization of HA-PEG-PCL intelligent core-corona nanoparticles for delivery of doxorubicin. **J. Drug Target.** 16(6), 2008: 464-478.
12. Minakshi Garg, B.R. Garg, **Sanyog Jain**, Pushpa Mishra, R.K. Sharma, A.K. Mishra, T. Dutta, N.K. Jain, Radiolabeling, Pharmacoscintigraphic Evaluation and Antiretroviral Efficacy of Stavudine Loaded ^{99m}Tc Labeled Galactosylated Liposomes. **Eur. J. Pharm. Sci.** 33(3), 2008: 271-281.
13. A. K. Yadav, Pradeep Mishra, A.K. Mishra, Pushpa Mishra, **Sanyog Jain**, G.P. Agrawal, Development and characterization of hyaluronic acid- anchored PLGA nanoparticulate carriers of doxorubicin. **Nanomedicine**, 3(4), 2007: 246-57.
14. Himanshu Gupta, **Sanyog Jain**, Rashmi Mathur, Pushpa Mishra, A. K. Mishra, T. Velpandian, Sustained ocular drug delivery from a temperature and pH triggered novel in-situ gel system, **Drug Delivery**, 14(8), 2007: 507-515.
15. H.B. Agashe, A.K. Babbar, **Sanyog Jain**, R.K. Sharma, A.K. Mishra, A. Asthana, M. Garg, T. Dutta, N.K. Jain, Investigations on biodistribution of Technetium-99m-labeled carbohydrate coated poly(propylene imine) dendrimers. **Nanomedicine**, 3(2), 2007:120-127.
16. S.P. Vyas, V. Sihorkar, **Sanyog Jain**, Mannosylated liposomes for bio-film targeting. **Int. J. Pharm.** 330(1-2), 2007: 6-13.
17. **Sanyog Jain**, S.P. Vyas, Mannosylated niosomes as adjuvant-carrier system for oral mucosal immunization. **J. Liposome Research** 16, 2006: 331-345.
18. S.P. Vyas, Rasika Subhedar, **Sanyog Jain**, Development and characterization of emulsomes based system for sustained and targeted delivery of an antiviral agent to liver. **J. Pharm. Pharmacol.** 58(3), 2006: 321-326.
19. **Sanyog Jain**, R.K. Sharma, S.P. Vyas, Chitosan nanoparticles encapsulated vesicular systems for oral immunization: Preparation, in vitro and in vivo characterization, **J. Pharm. Pharmacol.** 58(3), 2006: 303-310.
20. **Sanyog Jain**, Paramjit Singh, Vivek Mishra, S.P. Vyas, Mannosylated niosomes as adjuvant-carrier system for oral genetic immunization against hepatitis B. **Immunol. Lett.**, 101, 2005: 41-49.
21. **Sanyog Jain**, S. P. Vyas, Mannosylated niosomes as carrier-adjuvant system for topical immunization. **J. Pharm. Pharmacol.**, 57(9), 2005: 1177-1184.
22. S.P. Vyas, R.P. Singh, **Sanyog Jain**, Vivek Mishra, Sunil Mahor, Paramjit Singh, P.N. Gupta, A. Rawat, P. Dubey. Non-ionic surfactant based vesicles (niosomes) for non-invasive topical genetic immunization against hepatitis B. **Int. J. Pharm.**, 296(1-2), 2005: 80-86.

23. P.N. Gupta, V. Mishra, A. Rawat, P.K. Dubey, S. Mahor, **Sanyog Jain**, D.P. Chatterji, S.P. Vyas, Non-invasive vaccine delivery in transferrinsomes, niosomes and liposomes: a comparative study. **Int. J. Pharm.**, 293(1-2), 2005: 73-82.
24. Praveen K. Dubey, Vivek Mishra, **Sanyog Jain**, Sunil Mahor, S.P. Vyas, Liposomes modified with cyclic RGD-peptide for tumor targeting, **J. Drug Target.**, 12(5), 2004: 257-64.
25. Paramjit Singh, Prabakaran D., **Sanyog Jain**, Vivek Mishra, Jaganathan, K.S., S.P. Vyas, Cholera toxin B subunit conjugated bile salt stabilized vesicles (bilosomes) for oral immunization, **Int. J. Pharm.**, 278(2), 2004: 379-390.
26. S.P. Vyas, M.E. Kannan, **Sanyog Jain**, Vivek Mishra, Paramjit Singh, Design of liposomal aerosols for improved delivery of rifampicin to alveolar macrophages, **Int. J. Pharm.**, 269 (1), 2004: 37-49.
27. **Sanyog Jain**, Vivek Mishra, Paramjit Singh, P.K. Dubey, D.K. Saraf, S.P. Vyas, RGD-Anchored magnetic liposomes for monocytes/neutrophils mediated brain targeting. **Int. J. Pharm.**, 261 (1-2), 2003: 43-55.
28. P. Venugopalan, **S. Jain**, S. Sankar, P. Singh, A. Rawat, S.P. Vyas, pH-sensitive liposomes: Mechanism of triggered release to drug and gene delivery prospects. **Die Pharmazie**, 56(10), 2002: 659-671.

National Journals

1. Vivek S. Thakare, Mahesh Katariya, Vishal Rathi, Omesh Bhushinge, Rahul Mahajan, Dinesh Chauhan, **Sanyog Jain**, Nanotechnology: Current Pharmaceutical Perspectives, **Pharma Buzz**, 2010 (*In press*).
2. Vivek S. Thakare, Chandraiah Godugu, Rahul Mahajan, Dinesh Chauhan, **Sanyog Jain**, Functionalized carbon nanotubes: Novel drug delivery cargos, **Curr. Res. Info. Pharm. Sci.**, 10 (3), 2009: 42-47.
3. Prem N. Gupta, P. Singh, V. Mishra, **Sanyog Jain**, P.K. Dubey, S.P. Vyas, Topical Immunization: Mechanistic Insight and Novel Delivery Strategies, **Ind. J. Biotech.**, 3, 2004: 9-21.
4. **Sanyog Jain**, Sandeep Jain, Paramjit Singh, S.P. Vyas, New colorimetric method for estimation of magnetite in drug carrier systems. **The Indian Pharmacist**, 1(2), 2002: 74-76.
5. Sandeep Jain, Neelam Jain, **Sanyog Jain**, Pradeep Mishra, A new sensitive colorimetric method for the estimation of norfloxacin in tablets. **The Indian Pharmacist**, 1(2), 2002: 77-79.

Book Chapters

1. **Sanyog Jain**, Amit K Jain, Vivek S Thakare. Carbon Nanotubes in Drug Delivery. In: S.P. Vyas (Ed.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, 2010 (*In Press*).
2. Sushama Talegaonkar, Omesh Bhushinge, **Sanyog Jain**. Self Nanoemulsifying system for enhanced lymphatic uptake: An approach to increase oral bioavailability, In: S.P. Vyas (Ed.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, 2010 (*In Press*).
3. Sushama Talegaonkar, Zeenat Iqbal, Farhan J. Ahmad, Tripta Bansal, **Sanyog Jain**. Nanoemulsion as tool for brain targeting via intranasal route, In: S.P. Vyas (Ed.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, 2010 (*In Press*).

Invited Talks in Conferences/Workshops/Seminars/Symposia

1. Nanomedicines: A complete drug delivery solution, **NIPER-NUS Pharmacy Mini Symposium**, NIPER, SAS Nagar (Punjab), February 26, 2010.
2. Design and development of smart nanocarriers for drug delivery, **3rd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 8-12 Feb, 2010.
3. Nanotechnology and Drug Delivery, **International Conference on Drug Delivery- ICODD 2010**, PSG College of Pharmacy, Coimbatore (TN), 29-30 January, 2010.
4. Emerging Trends in Nanomedicines, **UGC sponsored Winter School on Emerging Areas in Pharmaceutical Sciences**, Panjab University, Chandigarh, 11-16 January, 2010.
5. Nanotechnology and Nanomedicines: Challenges and Opportunities, **International Conference on Integrative and Personalized Medicine and 42nd Annual Conference of Indian Pharmacological Society (IPSCON-2009)**, Kolkata (WB) India, 10-12 December 2009.
6. Nanotechnology, Nanomedicines and Drug Delivery, a guest lecture delivered at College of Pharmacy and Health Sciences, Mercer University, Atlanta, Georgia, USA, 6 November, 2009
7. Emerging trends in nanotechnology and drug delivery, a guest lecture delivered at Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery Alabama, USA, 3 November, 2009
8. Emerging Role of Nanotechnology and Nanomedicines in Drug Delivery, **14th Annual National Convention of Association of Pharmaceutical Teachers of India (APTICON-2009)**, Lachoo Memorial College of Science and Technology, Pharmacy Wing, Jodhpur (Rajsthan), India, October 3-4, 2009 (*Delivered Prof. G.P. Shrivastava Memorial Lecture*).
9. Emerging trends in nanomedicines, **One Day Seminar on Nanomedicines organized by IPA State Branch (Chhatisgarh)**, Pt. Ravi Shankar Shukla University, Raipur (CG), India, 19 September, 2009.
10. Current and future trends in nanomedicines, **2nd Summer School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 10-14 August, 2009.
11. Nanotechnology in healthcare, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, May 04-08, 2009.
12. Nanotechnology in oral and topical immunization, **RCH-PHARMAMED 2009 National Conference on Recent Advances Reproductive and Child Health: A Confluence of Traditional Medicine and Novel Pharmaceutical Techniques**, Jamia Hamdard, New Delhi, 17-18 April, 2009.
13. Nanomedicines: Future therapeutic agents, **National Seminar on Frontiers in Nanotechnology: A Pharmaceutical Perspective**, Nirma University, Ahmedabad (Gujarat) India, 20 March 2009.
14. Nanomedicines: A nanoway to treat ailments, **2nd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 24-28 February, 2009.
15. Novel nano colloidal carrier systems for targeted drug and vaccine delivery, **National Conference on Nanomaterials: Synthesis and Applications**, Jalandhar (Punjab) India, 06-07 February, 2009.
16. Novel nano colloidal carrier systems for controlled and targeted drug delivery, **Faculty Development Program**, Rayat Bahra Institute of Pharmacy, Ropar (Punjab), 25 January , 2009.
17. Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral vaccine delivery, **Indo-French workshop on Nanotechnology for Biomedical Applications**, Paris (France), 13-14 Nov 2008.

Papers/ Abstracts Presented/ Published In Conferences/ Seminars/ Symposia

1. Vivek S. Thakare, **Sanyog Jain**, Functionalized carbon nanotubes for tumor drug targeting and therapy: PEGylation, drug loading and in vitro studies, **10th International Symposium of Controlled Release Society (CRS) Indian Chapter on Advances in Technology and Business Potential of New Drug Delivery Systems**, Mumbai, 17-18 February 2010.
2. Amit K. Jain, G. Chandraiah, Nitin K. Swarnakar, **Sanyog Jain**, Efficacy and toxicity evaluation of orally administered doxorubicin loaded PLGA nanoparticles. **10th International Symposium of Controlled Release Society (CRS) Indian Chapter on Advances in Technology and Business Potential of New Drug Delivery Systems**, Mumbai, 17-18 February 2010. **(WON 3rd BEST POSTER AWARD)**.
3. Vivek S. Thakare, **Sanyog Jain**, Development and characterization of functionalized carbon nanotubes for cancer therapy, **3rd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 8-12 Feb, 2010. **(WON BUDDING NANOTECHNOLOGIST AWARD)**.
4. Amit K. Jain, G. Chandraiah, **Sanyog Jain**, Orally administered tamoxifen loaded PLGA nanoparticles: In-vivo efficacy and toxicity evaluation, **3rd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 8-12 Feb, 2010.
5. **Sanyog Jain**, G. Chandraiah, Amit K. Jain, Orally administered polymeric nanoparticles enhance efficacy and reduce toxicity of anticancer drugs. **Bio Asia 2010**, Hyderabad (AP) India, 03-06 February, 2010. **(nominated for YSR innovation award- 2010)**
6. Ankit Mittal, **Sanyog Jain**, Preparation and characterization of cyclosporin loaded PLGA nanoparticles. **National Conference on Nanomaterials: Synthesis and Applications**, Jalandhar (Punjab) India, 06-07 February, 2009.
7. Meghal Mistry, **Sanyog Jain**, Preparation and Characterization of Acyclovir loaded solid lipid nanoparticles. **National Conference on Nanomaterials: Synthesis and Applications**, Jalandhar (Punjab) India, 06-07 February, 2009.
8. Amit K. Jain, **Sanyog Jain**, N.K. Jain, Galactosylated Multiwalled Carbon Nanotubes: Development and Characterization, **National Conference on Nanomaterials: Synthesis and Applications**, Jalandhar (Punjab) India, 06-07 February, 2009. **(WON S.S. BHATNAGAR CHEMICAL SOCIETY BEST POSTER AWARD)**.
9. Himanshu Gupta, Aqil Malik, R.K. Khar, Asgar Ali, **Sanyog Jain**, Pushpa Mishra, Anil K. Mishra, T. Velpandian, Physiologically activated novel in-situ gel system for sustained ocular drug delivery. **60th Indian Pharmaceutical Congress**, New Delhi, 12-14 December, 2008.
5. Rashi Mathur, R.P. Chauhan, **Sanyog Jain**, Anil K. Mishra, Magnetite nanoparticles as potential marker for imaging and targeted delivery. **Special Symposium on Advanced MR applications and 14th Annual Conference of National Magnetic Resonance Society**, Delhi, 16-19 Jan, 2008.
6. **Sanyog Jain**, Rashi Mathur, Pushpa Mishra, Anil K. Mishra, Radiolabeling and biological evaluation of HSA-methotrexate conjugate for targeted tumor imaging and therapy. **39th Annual Conference of the Society of Nuclear Medicine, India**, Lucknow, 05-09 December, 2007.
7. **Sanyog Jain**, Rashi Mathur, Pardeep Punia, Pushpa Mishra, Anil K. Mishra, Folic Acid Coupled Stealth Nanoparticles For Tumor Targeting, **39th Annual Conference of the Society of Nuclear Medicine, India**, Lucknow, 05-09 December, 2007.
8. Himanshu Gupta, Pushpa Mishra, A.K. Mishra, T. Velpandian, **Sanyog Jain**, Chitosan based novel hydrogel system for sustained ocular drug delivery, **58th Indian Pharmaceutical Congress**, Mumbai, 1-3 December, 2006
9. **Sanyog Jain**, Pushpa Mishra, A.K. Mishra, Radiolabelling and biological evaluation of dextran methotrexate conjugate for targeted tumor therapy, **58th Indian Pharmaceutical Congress**, Mumbai, 1-3 December, 2006
10. Pushpa Mishra, **Sanyog Jain**, Sangeeta Rajvanshi, Nitin Kumar, A.K. Mishra, Radiolabelling and scintigraphic evaluation of Tc-99m labeled glutamic acid and its DTPA conjugate for brain/bone

imaging, **38th Annual Conference of the Society of Nuclear Medicine, India**, Jamshedpur, 13-16 December, 2006.

11. **Sanyog Jain**, Rashi Mathur, Pushpa Mishra, Anil K. Mishra, Radiolabeling and biological evaluation of dextran-folate conjugate for tumor scintigraphy, **6th Annual Symposium on Frontiers in Biomedical Research**, Delhi, 30 November-02 December, 2006.
12. **Sanyog Jain**, A.K. Mishra, R.K. Sharma, S.P. Vyas, Non-invasive topical genetic vaccine against hepatitis B using mannosylated niosomes, Alexander von Humboldt Stiftung, Germany sponsored Kolleg on "Bio-Nano-Geo-Sciences: Addressing issues of concern to mankind" Palampur (H.P.), 24-26 March 2006 (**WON BEST ORAL PRESENTATION AWARD**).
13. **Sanyog Jain**, R.K. Sharma, S.P. Vyas, Mannosylated niosomes for non-invasive topical genetic vaccination against hepatitis B, **38th Annual Conference of Indian Pharmacological Society**, Chennai, 28-30 December, 2005.
14. A.K. Babbar, H.B. Agashe, **Sanyog Jain**, N.K. Jain, R.K. Sharma, Evaluation of carbohydrate coated poly propylene (imine) dendrimers as potential drug carrier(s): pharmacoscintigraphic studies with Tc-99m labeled system, **37th Annual Conference of the Society of Nuclear Medicine, India**, Calicut, 8-11 December, 2005.
15. **Sanyog Jain**, S.P. Vyas, Non-ionic surfactant based vesicles (niosomes) for oral immunization, **National Symposium on Futuristic Trends in Pharmacotherapeutics and Formulation Development**, Varanasi, 4-5 March, 2005.
16. **Sanyog Jain**, Polysaccharide coated niosomes for oral mucosal immunization, **8th Punjab Science Congress**, Patiala, 7-9 February, 2005. (**WON PUNJAB STATE YOUNG SCIENTIST AWARD**).
17. **Sanyog Jain**, Mannosylated niosomes as adjuvant-carrier system for oral genetic immunization against hepatitis B, **19th M.P. Young Scientist Congress**, Sagar, 12-13 April 2004.
18. **Sanyog Jain**, S.P. Vyas, Development and characterization of niosomes for oral immunization, **55th Indian Pharmaceutical Congress**, Chennai, 19-21 December, 2003.
19. **Sanyog Jain**, M.E. Kannan, S.P. Vyas, Development of rifampicin-loaded liposomal aerosol for alveolar macrophages targeting. **54th Indian Pharmaceutical Congress**, Pune, 13-15 December, 2002.
20. **Sanyog Jain**, S.P. Vyas, Development and characterization of magnetic liposomes for monocytes/neutrophils mediated brain targeting. **53rd Indian Pharmaceutical Congress**, New Delhi, 21-23 December, 2001.

Awards and honor:

- **OPPI Young Scientist Award 2009** in the field of Pharmaceutics (Novel & Improved Drug Delivery Systems)
- **Punjab State Young Scientist Award 2005.**
- **IDMA G.P. Nair Award 1998**
- **Best Oral Presentation award** at Alexander von Humboldt Stiftung, Germany sponsored Kolleg on "Bio-Nano-Geo-Sciences: Addressing issues of concern to mankind" held at Palampur (H.P.) during 24-26 March 2006.
- Invited member of the editorial board of the international journal "Recent Patents on Drug Delivery and Formulation" (Publishers: Bentham Science)
- University Gold Medal for first position in both B.Pharm. and M.Pharm. (1998 and 2000 respectively).

Work of the research group recognized and students won the award:

- **S.S. Bhatnagar Chemical Society Best Poster Award** at **National Conference on Nanomaterials: Synthesis and Applications**, Jalandhar (Punjab) India, 06-07 February 2009 (Mr. Amit K. Jain, Ph.D. Scholar).
- **Budding Nanotechnologist Award** at **3rd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, Mohali (Punjab) India, 08-12 February 2010 (Mr. Vivek S. Thakare, M.S. student).
- **3rd Best poster award** at **10th International Symposium of Controlled Release Society (CRS) Indian Chapter on Advances in Technology and Business Potential of New Drug Delivery Systems**, Mumbai, 17-18 February 2010 (Mr. Amit K. Jain, Ph.D. scholar).