

RESUME

- Name** : Ms.Preshita P. Desai
- E-mail ID** : Preshita1712@gmail.com
- Course** : Integrated Ph.D. (Tech.)
- Fellowship** : INSPIRE Senior Research Fellow –
Department of Science and Technology (DST)
- Research Guide** : Prof. Vandana B. Patravale
- Department** : Department of Pharmaceutical Sciences and Technology
Institute of Chemical Technology
Matunga, Mumbai, 400 019, Maharashtra, India
- Title of Thesis** : Novel Delivery Systems For Neurodegenerative Disorders
- Area of Research** : To develop and evaluate active targeting based delivery systems of antialzheimer's drugs/ drug combinations and design of oral/ parenteral/ transdermal/ depot dosage forms. Thus the investigation aims at development of delivery system that would ensure improved brain partitioning of drugs, achieving better efficacy and exploiting newer therapeutic strategies to arrest disease progression. Besides this area of research also includes exploring hot melt extrusion technology using hydrophilic matrices so as to achieve bioenhancement of poorly bioavailable neuroprotectivedrugs viz. Curcumin for oral delivery.

Academic Qualifications

Degree		Institute	Percentage/ CGPA	Year	Merit
Integrated Ph.D. (Tech.)	Ph.D. (Tech.)	Institute of Chemical Technology	9.75 (Credit Courses CGPA)	Ongoing	-
	Master of Pharmacy in Pharmaceutics		9.86 (CGPA)	2012	First rank
Bachelor of Pharmacy		Institute of Chemical Technology	78.85%	2010	First rank

Awards

1. **First prize** for poster entitled, “SANS investigation of a micellar drug delivery system formed by a novel antioxidant- lipid bioconjugate” at Conference on Neutron Scattering 2014", Pune, India , February 2014
2. **First prize** for poster entitled, “Development of mathematical model to predict release of a water soluble drug from tamarind seed polysaccharide matrices” at National Seminar on"Software in Drug Discovery and Development", Kolhapur, India, January 2014
3. **First prize** for poster entitled, “In vivo investigation of anticancer activity and treatment associated toxicity of tamoxifen-loaded cationic lipomer” at 65th Indian Pharmaceutical Congress, Delhi, India, December 2013
4. **Visiting fellowship** for a tenure of 2 months at the Center for Pharmaceutical Engineering Science, University of Bradford, UK under the **UKIERI** (UK-India Education and Research Initiative) collaborative project entitled,” Process analytics enabled green technologies for processing of poorly soluble drugs” funded by British council. Project Title: Hot Melt Extrusion Assisted Solid Dispersions for Oral Bioenhancement of Poorly Bioavailable Drugs (August – October 2013)
5. Selected amongst top 20 teams across India to participate in training program and presented a business-research proposal entitled. “Bug the bugs” in **BEST ABLE 2013** (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, October 2013
6. **Bombay Technologist Best Postgraduate Student Award** for year 2012-13, Institute of Chemical Technology, India, March 2013
7. Selected amongst top 20 teams across India to participate in training program and presented a business-research proposal entitled. “Trojan horse drug delivery: exploiting the survival tactics of *Mycobacterium tuberculosis*” in **BEST ABLE 2012** (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, August 2012
8. **First prize** for poster entitled, “Bioenhancement of Curcumin Using Hot Melt Extrusion Technology: Formulation Development, *In Vitro* Characterization And *In Vivo* Pharmacokinetic Studies” and thus opportunity for podium presentation at Drug Delivery India 2012 - Innovations In Pharmaceutical & Manufacturing Sciences, Hyderabad,India, February 2012
9. **First prize** for poster entitled, “Development of Mathematical Model To Predict Release of Poorly Water Soluble Drug From Tamarind Seed Polysaccharide Matrices” at Twelvth International Symposium on Advances In Technology And Business Potential of New Drug Delivery Systems,Mumbai,India, February 2012
10. **First prize** for poster entitled, “Freeze Drying : Exploring Potential In Development of Orodispersible Tablets of Sumatriptan Succinate” at 63rd Indian Pharmaceutical Congress, Bangaluru, India, December 2011
11. **Award** for poster entitled, “Improved Therapeutic Efficacy With NanosizedHalofantrine: Potential of Dose Reduction” at Eleventh International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, February 2011

12. Recipient of prestigious **INSPIRE Fellowship** from Department of Sciences and Technology (DST) based on first rank at University at Bachelor of Pharmacy for pursuing Integrated Ph.D. (Tech.) Degree, November 2010
13. **Prof. S.K. Pradhan Prize** in Pharmacy for securing First rank at Final year B.Pharmacy, Institute of Chemical Technology, March 2011
14. **ManjulaBagnal Parikh Memorial Foundation prize** for securing First rank at Final year B. Pharmacy, Institute of Chemical Technology, March 2011
15. **Gold medal** from Indian Pharmaceutical Association, Maharashtra State Branch for securing highest percentage of marks at Final year B.Pharmacy, December 2010
16. **Certificate of merit** for securing First rank at Third year B.Pharmacy, Institute of Chemical Technology, March 2010
17. **Best Student Award** for the year 2009-10 by Indian Pharmaceutical Association, Maharashtra State Branch, February 2010
18. **Certificate of merit** for securing First rank at Second year B.Pharmacy, Institute of Chemical Technology, March 2009
19. UICT Alumni Association Prize for **Second Best Student Award** (Penultimate Year) by Institute of Chemical Technology, March 2009
20. **Certificate of merit** for securing First rank at First year B.Pharmacy, Institute of Chemical Technology, January 2008
21. **First prize** for poster entitled, “ Nanotechnology” at Bioanalyze-08, Mumbai, India, January 2008
22. **National Scholarship Award** from State of Maharashtra for meritorious performance at SSC examination, 2004

Patent

1. Pharmaceutical composition for bioenhancement of active agents (1108/MUM/2012)

Publications

Research articles (International)

1. D. Gugulothu, P. Desai, P. Pandharipande, V. Patravale; Freeze drying: exploring potential in development of orodispersible; Drug Dev. Ind. Pharm.; DOI: 10.3109/03639045.2013.871551, 2013.
2. D. Gugulothu, P. Desai, P., V. Patravale; A Versatile Liquid Chromatographic technique for pharmacokinetic estimation of curcumin in human plasma; J. Chromatogr. Sci.; doi: 10.1093/chromsci/bmt131, 2013

Review articles (International)

3. P. Desai, A. Date and V. Patravale; Overcoming poor oral bioavailability using nanoparticle formulations - opportunities and limitations; Drug Discovery Today: Technologies, 9 (2), e-87-95, 2011

Book Chapter

1. P. Desai, V. Patravale; Topical Nanointerventions for Therapeutic and Cosmeceutical Applications in book entitled, “Focal Controlled Drug Delivery” Springer publishers (Ed. Prof. Abraham J. Domb, and Dr. Wahid Khan,) 2013, In Press

General Articles

1. P. Desai, A. Arsiwala, B. Bacchav, V. Patravale; Pharmaceutical cocrystals: are they the next big thing?; Pharmabiz, Chronical Special Issue - CPHI 2013
2. P. Desai, A. Lokhande, V. Patravale; Aptamers: The Genesis of Nanogenetics for Neuro-Ailments; Pharmabiz, 13(13), 8, 2013
3. P. Desai, S. Potdar; DNA vaccination-The genetically Immunized Future!; Bombay Technologist, Journal of Technological association, institute of Chemical Technology, 58, 62-65, 2008

Oral Presentations

1. Podium presentation on paper entitled, "Hot Melt Extrusion: Rejuvenating Clinical Potential of Curcumin" at the 6th International conference on Drug metabolism and Pharmacokinetics, NIPER, Chandigarh, India, 27 February – 2nd March 2014
2. Podium presentation on paper entitled, "Hot Melt Extrusion: A Scalable Technology Towards Bioenhanced Curcumin" at the UKIERI Seminar - Green Processing Technologies for Poorly Soluble Drugs, Mumbai, India, 9th January 2014
3. Podium presentation on paper entitled, "Bioenhancement of Curcumin Using Hot Melt Extrusion Technology: Formulation Development, *In Vitro* Characterization And *In Vivo* Pharmacokinetic Studies" at Drug Delivery India 2012 - Innovations In Pharmaceutical & Manufacturing Sciences, Hyderabad, India, 24-25th February 2012

Poster Presentations

1. SANS investigation of a micellar drug delivery system formed by a novel antioxidant-lipid bioconjugate. Desai P. Aswal V. Hassan P. Patravale P. at Conference on Neutron Scattering 2014", Pune, India , 10-12th February 2014
2. Development of mathematical model to predict release of a water soluble drug from tamarind seed polysaccharide matrices. Patale R., Desai P., Patravale V. at National Seminar on "Software in Drug Discovery and Development", Kolhapur, India, 21-22nd January 2014
3. In vivo investigation of anticancer activity and treatment associated toxicity of tamoxifen-loaded cationic lipomer Shete H., Desai P., Vanage G., Patravale V. at 65th Indian Pharmaceutical Congress, Delhi, India, 20-22nd December 2013
4. Amphotericin B Solid Lipid Nanoparticles :Exploiting Oral Route as an Alternative to IV Treatment; Chaudhari M., Desai P., Patravale V., at The South Asian Chapter of American College of Clinical Pharmacology: 6th International Conference on Innovation in 21st Century: Clinical Pharmacology in Current and Future environment, Mumbai, India, April 2013
5. Bioenhancement of Curcumin Using Hot Melt Extrusion Technology: Formulation Development, *In Vitro* Characterization And *In Vivo* Pharmacokinetic Studies; Desai P. P.; Gokarna V. S.; Gugulothu D. B.; Deshpande V. D. and Patravale V. B. at Drug Delivery India 2012 - Innovations In Pharmaceutical & Manufacturing Sciences, Hyderabad, India, 24-25th February 2012
6. Development of Mathematical Model To Predict Release of Poorly Water Soluble Drug From Tamarind Seed Polysaccharide Matrices; Patale R.L., Desai P.P. and Patravale V.B. at Twelvth International Symposium on Advances In Technology And Business Potential of New Drug Delivery Systems, Mumbai, India, 9-10th Feb 2012
7. Hydrogel Nanoparticles of Curcumin: Potential In Macrophage Targeting; Gugulothu D.B., Dandekar P.P., Desai P.P. And Patravale V. B. at Twelvth International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, 9-10th February 2012

8. Freeze Drying : Exploring Potential In Development of Orodispersible Tablets of Sumatriptan Succinate; Pandharipande P. P., Dalapathi G. B., Desai P.P. and Patravale V. B. at 63rd Indian Pharmaceutical Congress, Bangaluru, India, 16-18th December 2011
9. Formulation Development And Pharmacokinetics Of Curcumin Nanoparticles; Gugulothu D, B., Desai P. P., Prabhu R. H., and Patravale V. B. at INDO-US Joint Symposium on Nanomedicine : Prospects and Challenges, Mumbai, India 14-15th November 2011
10. Improved Therapeutic Efficacy With Nanosized Halofantrine: Potential Of Dose Reduction; Soni U., Desai P.P, Pathak S., Sharma S., Patravale V.B at Eleventh International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, 16-17th February 2011
11. Biofuel Cells; Desai P.P. at Rx Festival 2008-09, Mumbai, India, November 2009
Nanotechnology; Desai P.P., Suryavanshi S. at Bioanalyze-08, Mumbai, India, 11th January 2008

Teaching Responsibilities

1. Subject teacher (Combined) for Physical Pharmacy (PHT 1103), Second Year B. Pharmacy, Semester III, Institute of Chemical Technology, Academic year 2012-13
2. Practical expert for Pharmaceutics Laboratory – I, First Year B. Pharmacy, Semester II, Institute of Chemical Technology, Academic year 2011-12, 2012-13, 2013-14

Advanced Training

1. Technology Expertise:
Hot melt Extrusion, High pressure homogenization, synthesis, HPLC, UV-Spectroscopy, FTIR Spectroscopy, Differential scanning calorimetry, X-Ray Diffraction, Particle size analysis, Small angle neutron Scattering, *In vitro* cell culturing, Animal handling
2. Completed 8 weeks Scientific Writing Course with Grade “A” from Achievers League, Maryland, USA, July - August 2012
3. Training on “The Expression CMS - Compact Mass Spectrometer ” at Indian Institute of Technology (IIT), April 2012
4. Training on Hot Melt Extrusion ‘EXACTMELT-2010’ at BASF India Pvt. Ltd., Mumbai, India, August 2010
5. Training on “ Molecular Biology and Recombinant DNA Technology” at Sangene Institute of Biosciences, Bangalore, India, 2008
6. Completed one year course in “German” language from University of Mumbai, 2005

Work/ Research Project Experience

1. Training in the Formulation and Development Department of Ajanta Pharma Ltd., 2009
2. Research project student on project entitled, “ Expression and Extraction of Dinuclear Copper containing fragment of the respiratory enzyme, Cytochrome C Oxidase” at Tata Institute of Fundamental Research, Mumbai, India, 2007

Co-curricular Activities

1. Panel Member, “Institute of Chemical Technology – Vision 2020” discussion summit at Institute of Chemical Technology, Mumbai, India, February 2014
2. Member of core committee, “ UKIERI Seminar - Green Processing Technologies for Poorly Soluble Drugs” at Institute of Chemical Technology, Mumbai, India, January 2014
3. Member of core committee, “International Symposium on Drug Discovery for Infectious Diseases And Cancer” at Institute of Chemical Technology, Mumbai, India, January 2013
4. Member of core committee, “Pharma Alumni Meet” at Institute of Chemical Technology, Mumbai, India, December 2012
5. Member of core committee, “National Seminar on Regulatory Roadmap for Pharmaceuticals in the Global Market” at Institute of Chemical Technology, Mumbai, India, November 2012
6. Member of core committee, “Pharma Alumni Meet” at Institute of Chemical Technology, Mumbai, India, December 2011
7. Member of core committee, “Indo-US Joint Symposium on Nanomedicine Prospects and Challenges” at Institute of Chemical Technology, Mumbai, India, November 2011
8. Member of core committee, “National Seminar on Emerging Frontiers in Nano Delivery Systems” at Institute of Chemical Technology, March, 2011

Membership of Institution committees / Academic Society

1. Life Member, U.D.C.T. Alumni Association
2. Life member and core committee member, Pharma ICT Alumni Group (PhICTAG)
3. Life Member, Indian Pharmaceutical Association (IPA), Maharashtra State Branch
4. Member, Controlled Release Society – Indian Chapter
5. Students representative and member of SENATE-Institute of Chemical Technology, Year 2007-08, 2008-09

Extra-curricular Activities

1. Volunteer in making teaching aids for visually impaired students under SarvShikshaAbhiyan
2. Trained in Special creative writing skills viz. Ambigraphy, Calligraphy
3. Active member and participant in poem reciting event “K- Kavitecha”, Manthan Group, Institute of Chemical Technology, India
4. Participant in various fine arts event in FUNTECH, MANZAR, Institute of Chemical Technology, India
5. Evaluator for various undergraduate technical events YICC, EXERGY (Affichem, Disease Management, Quantity Sufficient), Institute of Chemical Technology, India, 2011- 2012