

## **CURRICULUM VITAE**

Name (in block letters) : **DR. SANYOG JAIN**

Date of birth : June 7<sup>th</sup>, 1977

Father's name : Late Shri Suresh Jain

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Nationality : Indian

**Educational qualifications :**

Examination	Year	Board/ University	Division	Remarks
High School	1992	Board of Sec. Ed., M.P., Bhopal	First	5 <sup>th</sup> rank in state board merit
Higher Secondary	1994	Board of Sec. Ed., M.P., Bhopal	First	4 <sup>th</sup> rank in state board merit
B. Pharm.	1998	Dr. H.S. Gour University, Sagar (M.P.)	First	University Gold Medal (1 <sup>st</sup> rank)
M. Pharm. (Pharmaceutics)	2000	Dr. H.S. Gour University, Sagar (M.P.)	First	University Gold Medal (1 <sup>st</sup> rank)
Ph.D.	2006	Dr. H.S. Gour University, Sagar (M.P.)	-	

### **Detailed Employment Record:**

Post held	Institute	From	To
Lecturer	Dept. of Pharm. Sciences and Drug Research, Punjabi University, Patiala	26/08/2004	09/06/2005
Scientist 'B'	Institute of Nuclear Medicine and Allied Sciences, DRDO, Ministry of Defence, Govt. of India, New Delhi	10/06/2005	30/06/2008
Assistant Professor (Pharmaceutics)	National Inst. of Pharm. Education and Research (NIPER), SAS Nagar (Mohali) (Punjab)	01/07/2008	30/06/2013
Associate Professor (Pharmaceutics)	National Inst. of Pharm. Education and Research (NIPER), SAS Nagar (Mohali) (Punjab)	01/07/2013	30/06/2018
Professor (Pharmaceutics)	National Inst. of Pharm. Education and Research (NIPER), SAS Nagar (Mohali) (Punjab)	01/07/2018	Till date

**Research Interests: Nanotechnology and Advanced Drug Delivery (Nanomedicine)**

- Ligand anchored multifunctional nanocarriers for targeted anticancer drug delivery
- Oral bioavailability enhancement of challenging drug molecules
- Vaccine delivery through non-parenteral (oral and topical) routes
- Oral delivery of protein and peptide-based macromolecules like insulin
- Polymer and lipid based non-viral vectors for gene delivery
- Lipid drug conjugates and macromolecular dual drug bio-conjugates for effective drug delivery
- Topical and transdermal drug delivery using smart nanocarriers
- Co-delivery of drug(s) and/ or antioxidant for superior therapeutics
- Caco-2 cell based and ex-vivo permeability assay
- Intracellular trafficking of nanoparticulate drug delivery systems

**Ongoing/Completed Projects:**

Grant agency	Title of the project	Duration	Amount (INR)
<b>Completed Projects:</b>			
DST, Govt. of India	Centre for Pharmaceutical Nanotechnology	July 2008-June 2012	959.5 Lakhs
DST (SYSP programme)	Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral insulin delivery	April 2010 – March 2013	21.52 Lakhs
ICMR under Nanomedicine program	Development and Characterization of functionalized carbon nanotubes for tumor drug targeting and therapy	November 2010-October 2013	49.884 Lakhs
DBT under Nanotechnology Programme	Development of smart nanocarriers for oral vaccine delivery	April 2010- June 2015	28.81 Lakhs
INSA	Development of smart nanoconstructs as non-viral vectors for site specific gene delivery	November 2012-October 2015	15 Lakhs
BIRAC SRISTI	Design and development of novel protein stabilized multiple emulsion with permeation enhancer to improve oral bioavailability of insulin	July 2017-June 2019	15 Lakhs
DST (DPRP programme in collaboration with Tirupati Medicare Ltd. Paonta Sahib (HP) India)	Lipid conjugation based- and nanotech driven- approaches for oral/systemic delivery of Amphotericin B	April 2017-March 2020	141.21 lakhs
DBT (Multi-institutional project; IIT Delhi, AIIMS New Delhi and NIPER, Mohali)	Fallopian tube regeneration with colostrum-polymer nanofabricated biodrug	September 2019-August 2022	150 Lakhs
SERB-DST (ASEAN-India STI Cooperation scheme in collaboration with NUS Singapore and Universiti Teknologi MARA, (UiTM) Malaysia.	Exploring the potential of cisplatin-fatty acid conjugate loaded albumin nanoparticles for an effective tumor-targeted drug delivery	September 2020-March 2023	24.3 Lakhs
<b>Ongoing Projects:</b>			

SERB-DST (Core Research Grant by in collaboration with IIT Mandi)	Wearable NIR triggered on-demand drug release skin patch containing microneedles loaded with gold nanocapsules for localized cancer treatment	February 2022- (3 years)	46.89 Lakhs
ICMR in collaboration with IIT Mandi	Photothermal Therapy using Ultrasmall Gold Nanoparticles and 2D MoS <sub>2</sub> Nanosheets Composite	January 2023 (3 years)	40.25 Lakhs
Pharma Industries; Academic & Research Institutions	Technical Services for sample analysis on SEM, AFM, CLSM and zeta sizer	July 2008 (continuous activity)	>80 lakhs
<b><i>Completed Industrial Consultancy Projects</i></b>			
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

#### **Technologies Transferred to Industry (ToT): 01**

- ☐ Tamoxifen-SEDDS technology for effective treatment of breast cancer has been licensed to VAV Life Sciences, Mumbai for further development and commercialization in 2012.

#### **Technologies shortlisted by National Research Development Corporation (NRDC)\*, Govt. of India: 02**

- ☐ Gemcitabine-Phospholipid complex for improving metabolic stability and deliverability of Gemcitabine
- ☐ Betamethasone and Calcipotriol loaded nanoemulgel for topical psoriasis therapy

***\*Basic Engineering Design Package (BEDP) has been prepared by NRDC***

#### **Awards and Honors:**

- ☐ **Guest of Honor** at 21<sup>st</sup> International Symposium on "Advances in Technology and Business Potential of New drug Delivery Systems (Annual conference of Controlled Release Society-Indian Chapter), Mumbai, 24-25 February 2023.
- ☐ **Secured rank in list of World's top 2% Scientists (in the field of Pharmacy and Pharmacology) published by Stanford University, USA and Elsevier in October 2022.**
- ☐ **Fellow of AAPS-2022**, by the American Association of Pharmaceutical Scientists (AAPS)
- ☐ **Best Abstract Award** at 2022 AAPS PharmSci 360, Boston, Massachusetts, USA, October 16-19, 2022.
- ☐ **Secured rank in list of World's top 2% Scientists (in the field of Pharmacy and Pharmacology) published by Stanford University, USA and Elsevier in October 2021.**
- ☐ **AAiPS Distinguished Young Educator and Research Scholarship Award-2021**, by American Association of Indian Pharmaceutical Scientists (AAiPS)
- ☐ **Secured rank in list of World's top 2% Scientists (in the field of Pharmacy and Pharmacology) published by Stanford University, USA in November 2020.**
- ☐ **ABAP Gold Medal for Advanced Research in Nanoscience and Technology- 2018** by Association of Biotechnology and Pharmacy (ABAP), India

- ❑ **The PharmInnova Award** 2017-18 for best Research Guide for the National Level Innovative Thesis Competition for the M.Pharm. Thesis supervised in Pharmaceutics and Pharmaceutical Technology category by Rajnibhai V. Patel Trust
- ❑ **Shiv Nath Rai Kohli Memorial Mid-Career Best Scientist Award 2017-2018**
- ❑ **The PharmInnova Award** 2016-17 for best Research Guide for the National Level Innovative Thesis Competition for the Ph.D Thesis supervised in Pharmaceutics and Pharmaceutical Technology category by Rajnibhai V. Patel Trust
- ❑ **Illustrious Alumnus Award** of Dept of Pharmaceutical Sciences, Dr. Hari Singh Gour University, Sagar at its Diamond Jubilee Celebration on February 6-7, 2016
- ❑ **The PharmInnova Award** 2014-15 for best Research Guide for the National Level Innovative Thesis Competition for the Ph.D Thesis supervised in Pharmaceutical Sciences by Rajnibhai V. Patel Trust
- ❑ **Award for Rising Suns in Asia** at 40<sup>th</sup> Annual Meeting and Exposition of Controlled Release Society, Honolulu, Hawaii, USA, July 21-24, 2013.
- ❑ **Bharat Jyoti (The Glory of India) Award-2013**
- ❑ **Alkyl Amines Young Scientist Award- 2011**
- ❑ **INSA Medal for Young Scientists-2011 (in Medical Science)** by Indian National Science Academy
- ❑ **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 1999** for securing 1<sup>st</sup> Position in B.Pharm. in the university merit list.
- ❑ **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 as resource person** to deliver invited lectures in several prestigious national and international conferences and to chair the scientific sessions both in India and abroad that includes **38th Annual Meeting and Exposition of the Controlled Release Society (CRS) held at Maryland, USA, July 30-August 03, 2012** and subsequently **39th Annual Meeting & Exposition of the Controlled Release Society Québec City, Canada, July 14-18, 2012.** (This was first time in the 38 year history of CRS that they invited any speaker from India to deliver an invited talk).

#### **Editorial Assignments:**

- ❑ **Editor: AAPS PharmSciTech** (Springer, USA) (I.F. 3.3) (Since 2014)
- ❑ **Editorial Advisory Board Member: Molecular Pharmaceutics** (American Chemical Society; ACS) (I.F. 4.9)
- ❑ **Editorial Board Member: Drug Delivery and Translational Research** (Springer, USA) (I.F. 5.4)
- ❑ **Guest Editor: Theme issue on “Long-Acting Therapeutics: Development Strategies and Clinical Significance” of Advanced Drug Delivery Reviews** (Elsevier, USA) (I.F. 16.1)
- ❑ **Guest Editor: Theme issue on “Lipid Based Drug Delivery Strategies for Oral Drug Delivery” for AAPS PharmSciTech** (Springer, USA) (I.F. 3.3)

## **Foreign visits:**

### ***The Netherlands (January 14-15, 2007):***

Visit to University Medical Center Groningen, University of Groningen, Groningen, The Netherlands and delivered a guest lecture entitled “Novel nanocarriers for non-invasive vaccine delivery through oral and topical routes”

### ***France (November 13-14, 2008)\*:***

Indo-French workshop on Nanotechnology for Biomedical Applications, Paris (Delivered an invited talk entitled “Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral vaccine delivery”).

*\*I was invited by DST to be the part of delegation from India to participate in this joint workshop*

### ***USA (November 2-13, 2009)***

November 2-4, 2009: Visit to Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama and delivered a guest lecture entitled “Emerging trends in nanotechnology and drug delivery”

November 5-6: Visit to College of Pharmacy and Health Sciences, Mercer University, Atlanta, Georgia and delivered a guest lecture entitled “Nanotechnology, Nanomedicines and Drug Delivery”

November 7, 2009: Visit to Nanotechnology Centre, Georgia Institute of Technology, Atlanta, Georgia and visit to Emory University School of Medicine, Atlanta Georgia

November 8-12, 2009: 2009 AAPS Annual Meeting and Exposition, Los Angeles, CA

November 13, 2009: Visit to College of Pharmacy, Western University of Health Science, Pomona, CA

### ***USA (November 13-19, 2010)***

November 13-17, 2010: AAPS Annual Meeting and Exposition, New Orleans, Louisiana (Poster presentation)

November 18-19, 2010: Visit to Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama and delivered a guest lecture entitled “Design of smart nano-carriers for drug delivery”

### ***USA (July 29- August 03, 2011)***

**38th Annual Meeting and Exposition of the Controlled Release Society (CRS)**, National Harbor, Maryland (Chaired a scientific session and delivered invited Talk entitled "Efficacy testing of anticancer drug(s) loaded nanocarriers in tumor bearing animal model")\*

*\*This is first time in the 38 year history of CRS that they invited any speaker from India to deliver an invited talk.*

### ***Canada (July13-20, 2012)***

**39th Annual Meeting & Exposition of the Controlled Release Society** Québec City (Invited talk entitled "Gastro-Intestinal Drug Delivery" at CRS Young Scientist Workshops on Mucosal Drug and Gene Delivery: Barriers and Opportunities" as well as poster presentation)

### ***South Korea (August 15-18, 2012)***

**The Third Indo-Korea Joint Workshop on NanoBio and Emerging Healthcare Technology**, Seoul (Invited talk entitled "Design and development of smart nanoconstructs for purpose specific drug delivery")

*South Korea (August 26-28, 2012)*

**Dasan Conference 2012: The Development of new technologies for the control of emerging infectious diseases**, Organized by The Korean Federation of Science and Technology Societies (KOFST), Jeju Island (Invited talk entitled "Smart Nanoconstructs for Oral Mucosal Immunization")

*USA (July 20- 28, 2013)*

July 20-24, 2013: **40th Annual Meeting and Exposition of the Controlled Release Society (CRS)**, Honolulu, Hawaii (Podium Presentation entitled "Enhanced gene expression, transfection and reduced cytotoxicity of novel hyaluronic acid-PEI-cyclodextrin polyplexes" in Rising Suns in Asia)

July 26-27, 2013: Visit to Dept. of Pharmaceutical Sciences, Chicago College of Pharmacy, Midwestern University, Chicago, IL.

*USA (July 05- 16, 2014)*

July 05, 2014: Visit to Dept. of Pharmaceutical Sciences, Chicago College of Pharmacy, Midwestern University, Chicago, IL.

July, 07, 2014: Visit to College of Pharmacy, Roosevelt University, Schaumburg, IL.

July 08-09, 2014: Visit to University of Louisville, Louisville, Kentucky and delivered guest lecture entitled "Nanomedicines for Effective Management of Cancer".

July 10-11, 2014: Visit to Department of Pharmaceutical Sciences, College of Pharmacy, South Dakota State University, Brookings, SD and delivered guest lecture entitled "Smart Nanocarrier Systems for Effective Cancer Chemotherapy".

July 13-16, 2014: **41<sup>st</sup> Annual Meeting and Exposition of the Controlled Release Society (CRS)**, Chicago, IL (Poster Presentation)

*USA (April 29-May 04, 2015)*

April 29-May 01, 2015: Visit to Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama and delivered a guest lecture entitled "Smart nanocarriers for purpose specific drug delivery".

May 04, 2015: Visit to College of Pharmacy and Health Sciences, Mercer University, Atlanta, Georgia and delivered a guest lecture entitled "Nanomedicines for Cancer Therapeutics".

*Australia (November 18-25, 2015)*

November 19-20, 2015: **Drug Delivery Australia 2015 conference** organized by Controlled Release Society (Australian Chapter), University of Queensland, Brisbane (Invited Talk entitled "Nanotechnology intervention for cancer chemotherapy").

November 23, 2015: Visit to Mater Medical Research Institute, Translational Research Institute, The University of Queensland, Brisbane and delivered a guest seminar entitled "Nanotechnology: A powerful oral bioavailability enhancer tool for small drug molecules, proteins and vaccine antigens".

November 24-25, 2015: Visit to Institute of Pharmaceutical Sciences, Monash University, Melbourne and delivered a guest seminar entitled "Implication of nanotechnology in oral delivery of small drug molecules, proteins and vaccine antigens".

***USA (May 04, 2016)***

May 04, 2016: Editor Strategy Meeting of AAPS Pharm SciTech, AAPS office, Arlington VA.

***USA (September 19- 22, 2016)***

September 19-20, 2016: AAPS Workshop on Enabling the Development of Oral Therapeutics with Innovations in Lipid Formulation Technologies. Plainsboro, NJ (Invited Talk entitled “Oral Bioavailability Enhancement with Self Nano-Emulsifying Drug Delivery Systems”).

September 21-22, 2016: Visit to University of Louisville, Louisville, Kentucky and delivered guest lecture entitled “Self Nano Emulsifying Drug Delivery Systems (SNEDDS) and combinatorial drug polymer bioconjugates for effective anticancer drug delivery”.

***UK (August 7-11, 2017)***

August 07, 2017: Weatherall Institute of Molecular Medicine, John Radcliffe Hospital University of Oxford, Headington, Oxford, UK

August 08-10, 2017: Visit to School of Pharmacy, Queen’s University, Belfast (UK) and delivered guest lecture entitled “Advanced drug delivery using nano carrier systems”.

August 11, 2017: Visit to School of Pharmacy, University College of London, London (UK)

***USA (November 12-17, 2017)***

November 12-15, 2017: **2017 AAPS Annual Meeting and Exposition**, San Diego, CA, USA. (Poster Presentation)

November 16-17, 2017: Visit to College of Pharmacy, Western University of Health Science, Pomona, CA

***USA (November 03, 2018)***

November 03, 2018: Editor Strategy Meeting of AAPS Pharm SciTech, Washington DC, USA

***USA (November 03-08, 2019)***

November 03-06, 2019: **2019 AAPS PharmSci 360**, San Antonio, Texas, USA. (Poster Presentation)

November 07-08, 2019: Visit to College of Pharmacy, University of Texas at Austin, Austin, Texas, USA and delivered guest lecture entitled “Advanced drug delivery applications of nanotechnology”.

***USA (October 16-21, 2022)***

October 16-19, 2022: **2022 AAPS PharmSci 360**, Boston, MA, USA. (Poster Presentation)

October 19, 2022: Visit to School of Pharmacy, Northeastern University, Boston, MA, USA and delivered guest seminar entitled “Nanotechnology Enabled Co-Delivery of Drugs for Improved Cancer Therapy”.

October 20-21, 2012: Visit to University of Nebraska Medical Centre (UNMC), Omaha, Nebraska, USA and delivered guest seminar entitled “Dual drug therapy of cancer using nanomedicine”.

***France (December 5-9, 2022)***

December 5-7, 2022: Visit to Université de Bordeaux, Bordeaux, and delivered a guest seminar entitled “Nanotechnology mediated co-delivery of drugs for safer synergistic cancer therapy”

December 8-9, 2022: Visit to Institut de Biologie Moléculaire et Cellulaire, Strasbourg and delivered a guest seminar entitled “Nanotechnology enabled dual drug therapy of cancer”

***Singapore (January 24-30, 2023)***

January 24-30, 2023: Visit to National University of Singapore (NUS), Singapore and Institute of Sustainability for Chemicals, Energy and Environment, ASTAR, Jurong Island, Singapore and delivered a guest seminar entitled “Combination drug therapy using nanotechnology for cancer therapeutics”

***Malaysia (February 18-23, 2023)***

February 18-23, 2023: Visit to Universiti Teknologi MARA Shah Alam and Puncak Alam Campus, and delivered a guest seminar entitled “Synergistic Anticancer Efficacy Using Combination Drug Therapy Approach”

**LIST OF POSTDOCTORAL PROJECTS SUPERVISED**

S. No.	Name of the student	Title of the project	Funding Agency	Year
1.	Dr. Manasmita Das	Functionalization of carbon nanotubes for tumor targeted drug delivery	DST, Govt. of India (under Nanotechnology Mission Program)	Feb 2010-Sep 2013
2.	Dr. Rajan Swami	Advanced non-viral nano nuclear therapeutics to enhance gene silencing through localized cytoplasmic delivery	SERB, Govt. of India under National Post Doctoral Fellowship Scheme	Sep 2016-Aug 2018
3.	Dr. Md Meraj Ansari	Co-delivery of Glycyrrhizin and Taxol using Polycaprolactone Nanocarrier for enhanced antitumor efficacy in precancerous lesions in colon	DHR HRD Young Scientist Scheme of the Department of Health Research, Govt. of India	March 2020-March 2023

**LIST OF PH.D THESES SUPERVISED**

S. No.	Name of the student	Title of the thesis	Year
1.	Mr. Amit K Jain	Development and characterization of tamoxifen containing nanoformulation(s) in combination with quercetin for effective breast cancer therapy	2013
2.	Mr. Nitin K Swarnakar	Liquid crystalline nanoparticles for enhancing oral bioavailability and anticancer efficacy of drug(s): Development, evaluation and comparison with polymeric nanoparticles	2013
3.	Mr. Sandeep Kumar (Co-supervisor)	Development and characterization of nanocarriers as non-viral vector for effective gene delivery	2013
4.	Mr. Mahesh Katariya	Nanocarrier based approaches for localized transdermal delivery of hormonal anticancer drugs	2014
5.	Mr. Harshad Harde	Development of smart nanocarriers for oral vaccine delivery	2014
6.	Mr. Ashish K. Agrawal	Development and characterization of smart nano carriers for oral insulin delivery	2014
7.	Mr. Kaushik Thanki	Development and evaluation of novel lipid conjugates and their nanoformulations for oral delivery of amphotericin B	2015
8.	Mr. Sumit Arora	Dry Powder Inhalable formulations of voriconazole for effective pulmonary delivery	2016
9.	Mr. Chander Parkash Dora	Phospholipid complex based approach to improve the deliverability of anticancer drug(s)	2017
10.	Mr. Varun Kushwah	Biomacromolecules based novel nanoformulations for co-delivery of gemcitabine and docetaxel for improved breast cancer therapy	2017
11.	Mr. Sameer S.Katiyar	Design and development of novel biosurfactant based intravenous sustained release drug delivery system of anticancer drug(s)	2018
12.	Mr. Jayprakash	Molecular interpretation of mechanical stress induced deformation behavior in	2019



	A. Yadav	pharmaceutical multi-component organic crystalline solids	
13.	Mr. Dasharath Chaudhari	Adenosine conjugated novel nanoformulations approaches for the treatment of triple negative breast cancer	2021
14.	Mr. Tushar D Date	Nanotech mediated tumor specific co-delivery of dual action cisplatin (IV) prodrug and venetoclax for improved therapeutic outcome in triple negative breast cancer	2021
15.	Ms. Nallamothu Bhargavi	Exploring intestinal transporter assisted biofunctionalized nanocarriers for improving bioavailability of antidiabetic agent	2022
16.	Mr. Rohan R. Ghadi	Design and Development of nutrient addiction driven cancer nanotherapeutics for targeting triple negative breast cancer	2023
17.	Mr. Kaushik Kuche	Identifying synergistic combinations of ferroptosis inducing agents and development of their nanoformulations for effective cancer therapy	2023

### **LIST OF PH.D THESES CURRENTLY SUPERVISING**

S. No.	Name of the student	Title of the thesis	Year
1.	Ms. Reena Sharma	Targeted nanocarrier based delivery of glycolytic inhibitors and chemotherapeutic agents for the effective management of breast cancer	Ongoing since July 2019
2.	Ms. Oly Katari	Exploring the potential of cisplatin-fatty acid conjugate loaded nanocarriers for effective breast cancer therapy	Ongoing since July 2020
3.	Mr. Sushant Sharma (External guide)	Evaluation of a novel slow-release Lithium (Li+) based complex entrapped within mucoadhesive MOF to control Retinal Ganglion Cell (RCG) degeneration	Ongoing since 2021
4.	Ms. Junia Akthar	Exploring the potential of high permeation vesicles mediated localized transdermal delivery in the management of breast cancer	Ongoing since August 2021
5.	Mr. Vivek Yadav	Development and characterization of transporter-Mediated nanocarrier for delivery of chemotherapeutics for targeted and synergistic management of colon cancer	Ongoing since August 2021
6.	Ms. Sheetal Yadav	Mechanistic understanding of oral bioavailability enhancement of BCS class IV drugs through lipid-based drug delivery system	Ongoing since August 2021
7.	Ms. Shikha S. Jha	Targeting multiple cell death pathways via co-loaded nanocarriers system for effective management of breast cancer	Ongoing since August 2022
8.	Ms. Sayali S. Dighe	Pyroptosis inducing dual drug loaded nanocarrier system for triple negative breast cancer treatment	Ongoing since August 2022
9.	Mr. Brojendra Nath Saren	Targeted delivery of anticancer drug-loaded lipidic nanocarrier for the treatment of triple-negative breast cancer	Ongoing since August 2022

### **LIST OF MASTER'S THESES SUPERVISED**

S. No.	Name of the student	Title of the thesis	Year
1.	Mr Himanshu Gupta	Chitosan based novel in-situ gel system for sustained ocular drug delivery	2006
2.	Mr Pardeep Punia	Folic acid coupled PEGylated human serum albumin nanoparticles for tumor targeting and therapy	2007
3.	Mr Ankit Mittal	Topical delivery of cyclosporine A using PLGA nanoparticles as carrier	2009
4.	Mr Meghal A Mistry	Solid lipid nanoparticles for dermal delivery of an antiviral agent	2009
5.	Mr Bankim H Chaudhari	Niosomal gel for iontophoresis mediated transdermal delivery of an antianginal agent	2009
6.	Mr Vishal V Rathi	Engineered PLGA nanoparticles for oral insulin delivery	2010
7.	Mr Vivek S Thakare	Functionalized carbon nanotubes for tumor drug targeting	2010
8.	Mr Harshad P Harde	Solid lipid nanoparticles for enhancing oral bioavailability of amphotericin B	2010
9.	Mr Swapnil Patil	Polyelectrolyte coated multilayered liposomes (layersomes) for enhancing oral bioavailability of doxorubicin	2010
10.	Mr Omesh M Bhushinge	SMEDDS for enhancing oral bioavailability of an anticancer agent	2010
11.	Mr. Rahul A Sonawane	SLN gel containing combination drugs for topical treatment of psoriasis	2011

12.	Mr. Dinesh Kumar	Polyelectrolyte coated multilayered liposomes for enhancing oral bioavailability of Paclitaxel	2011
13.	Mr. Pankaj U Valvi	Polymer-lipid hybrid nanoparticles for oral delivery of Amphotericin B	2011
14.	Mr. Satyajit R Datir	Hyaluronic acid functionalized carbon nanotubes for tumor drug targeting	2011
15.	Mr. Jagadish Sharma	Preparation & characteri-zation of nanocrystals applying nanosuspension technology for poorly water soluble drug	2011
16.	Mr. Milind Pohekar	Development and characterization of self nanoemulsifying drug delivery system (SNEDDS) for enhancing oral bioavailability of quercetin	2011
17.	Mr. Lalith Mohan	Combination drug therapy using SLNs loaded topical gel for the treatment of Psoriasis	2012
18.	Ms. Manisha Bhateria	PEGylated liposomes containing docetaxel for parenteral delivery	2012
19.	Ms. Neha Bhankur	Docetaxel loaded liquid crystalline nanoparticles for tumor targeting	2012
20.	Ms. Anura Indulkar	Oral delivery of DTP (Diphtheria, Tetanus and Pertussis) vaccine using mannosylated bilosomes	2012
21.	Ms. Muntimadugu Eameema	Self emulsifying drug delivery system of Amphotericin B for bioavailability enhancement	2012
22.	Ms. Kambam Sindhu	Self emulsifying system of Cyclosporine in combination with an antioxidant for enhancing bioavailability and reducing toxicity	2012
23.	Ms. Pooja Yadav	Amphotericin B loaded liquid crystalline nanoparticles for oral bioavailability enhancement	2012
24.	Mr. Gunda Upendar Rao	Polyelectrolyte coated multilayered liposomes (layerosome) for enhancing oral bioavailability of Amphotericin B	2012
25.	Ms. Roopal Jain	Development and characterization of gemcitabine bioconjugate(s) for effective cancer therapy	2013
26.	Ms. Gollapalli Spandana	Estradiol conjugated polymeric nanoparticles for tumor targeted delivery of docetaxel	2013
27.	Mr. B Pradeep Kumar Reddy	Development and Characterization of Curcumin Metal Complexes for Enhancing Oral Bioavailability of Curcumin	2013
28.	Mr. A. Ramu	Tacrolimus Loaded Nanocarriers for Topical delivery: Comparative Dermatokinetics and Toxicity Evaluation	2013
29.	Mr. Gandrathi Kuldeep Kumar	Surface engineered liquid crystalline nanoparticles for oral insulin delivery	2013
30.	Mr. Aditya Nagar	Development, evaluation and optimization of orally inhaled dry powder formulation of sodium alendronate	2013
31.	Mr. Heera Lal B.	Oral delivery of tamoxifen by liquid crystalline nanoparticles (LCNPs)	2013
32.	Mr. Karhale Satish B.	Effect of different polyelectrolytes and their molecular weight on layersome performance: A mechanistic evaluation	2014
33.	Mr. P.Nagesh Kumar	Evaluation of Estradiol-PEG-CNT as non-viral vector for gene delivery	2014
34.	Mr. Venkata Appa Reddy Goli	Oral bioavailability enhancement of candesartan cilexetil using smart nanocrystal technology	2014
35.	Ms. Uma Gohiya	Topical nanoemulsion loaded gel containing adapalene and benzoyl peroxide for effective acne therapy	2014
36.	Mr. Kale Dnyaneshwar Prakashrao	Preparation and evaluation of topical modified liposomal gel containing benzoyl peroxide and adapalene for effective treatment of acne	2014
37.	Mr. Chamala Sivakumar Reddy	AmB-Chitosan-Bile acid conjugate for oral delivery of amphotericin B	2014
38.	Ms. Tanya Garg	SEDSS for oral delivery of lycopene and $\beta$ carotene combination	2014
39.	Ms. Siddhapura Krupaben Chandubhai	Microneedle assisted topical immunization using Tetanus Toxoid loaded chitosan nanoparticles	2014
40.	Mr. Rahul Kumar Soni	Methotrexate functionalized PEGylated PLGA nanoparticles for enhanced tumor delivery of docetaxel	2014
41.	Mr. Korivi Rajesh	Curcumin loaded liquid crystalline nanoparticles (LCNPs) for oral bioavailability enhancement	2014
42.	Mr. Yadav Balvanth	Oral delivery of stearic acid-AmB conjugate using layersomes formulation	2014
43.	Mr. Dileep Urimi	Polyglutamic acid functionalized Chitosan nanoparticles for oral insulin delivery	2014
44.	Mr. Kasukurthi Chinna Babu	Development of lipid drug conjugate for oral delivery of doxorubicin	2014
45.	Mr. Patel Kamleshbhai Manubhai	Development and characterization of nanocrystals of olmesartan medoxomil for oral bioavailability enhancement	2014
46.	Mr. Kiran Kumar Gindam	Methotrexate functionalized PEGylated liposomes containing docetaxel for tumor drug targeting	2014

47.	Mr. Harale vitthal ganpat	Brain drug targeting using poly glutamic acid (PGA) nanoparticles	2014
48.	Ms. Khushbu Gangadia	Bile acid functionalized liposomes for oral insulin delivery	2014
49.	Ms. Shailja Tripathi	Antioxidants loaded self-emulsifying drug delivery system for oral bioavailability enhancement	2014
50.	Mr. Swapnil Singh	Insulin and antioxidant co-encapsulated LCNPs for efficient management of diabetes following oral administration.	2015
51.	Mr. Devesh K. Jain	Anacardic acid functionalized stealth liposomes for tumor targeting	2015
52.	Ms. Anamika Jain	Mannosylated nanconstructs as carrier adjuvant for malaria vaccine	2015
53.	Ms. Amanpreet Kaur	Nanoemulsion gel containing combination of drugs for topical treatment of psoriasis	2015
54.	Mr. Deepanshu Shilpi	Nanopolypill containing hydrophilic and hydrophilic anti-IHD drugs	2015
55.	Ms. Kritika Nayak	Development of anti-aging nanoformulation of retinaldehyde with CoQ10	2015
56.	Ms. Shravanti P. Reddy	Macromolecular gemcitabine-tamoxifen bioconjugate for synergistic breast cancer therapy	2015
57.	Mr. Vikram Kaithwas	Nanostructure Lipid Carriers (NLCs) for oral bioavailability enhancement of BCS Class II drug	2015
58.	Mr. Vikram Bhai	Amphotericin-Phospholipid complex for oral delivery	2015
59.	Katangur Vishruth Reddy	Evaluation of formulation approach for oral delivery of peptide	2016
60.	Kiran Dongre	Development, optimization, and evaluation of anticancer drug loaded solid self-emulsifying drug delivery system	2016
61.	Bhava Lakhabhai	Lipid nanoparticles for the treatment of bacterial biofilm infections	2016
62.	Sandip Vikram Deore	Tumor microenvironment responsive pH sensitive liposomes with cytotoxic and antiangiogenic properties	2016
63.	Priyanka Parkash	Design and characterization of self-nano emulsifying drug delivery system (SNEDDS) of lipidic conjugate of Doxorubicin	2016
64.	Rhythm Arora	Lipid based Nano-therapeutics for the treatment of psoriasis	2016
65.	Venketesh Betmogrekar	Comparative evaluation of polyethylene glycol and dextran chain length on stealth property of liposomes	2016
66.	Jagdish P. Desale	Co-delivery of docetaxel and quercetin through nab <sup>®</sup> technology	2017
67.	Mahesh Desai	Development, optimization and characterization of cross-linked cyclodextrin nanoparticles as drug delivery system	2017
68.	Pragati Khare	Design and development of high permeation vesicles for efficient transdermal delivery	2017
69.	Shivani Sahu	Development and evaluation of tacrolimus and kalonji oil containing nanoemulsion gel for the treatment of psoriasis	2017
70.	Ravindra Y. Patil	Design and development of novel intravenous sustained release system for paclitaxel	2017
71.	Shesherao M. Dongave	Steric stabilization of carbon nanotubes by protein for improved dispersibility and biocompatibility	2017
72.	Haimanti Mandal	Evaluation of $\epsilon$ -Poly-L-Lysine for improving transfection efficacy of plasmid into cells	2017
73.	Madhura D. Rege	Hydrophobically modified gelatin nanoparticles for delivery of anticancer drug	2017
74.	Pattewad Venkat Kerba	Development and evaluation of fluticasone propionate and babchi oil containing nanoemulsion based topical gel for management of psoriasis	2018
75.	Yogesh Kumar	Tumor delivery of plasmid DNA using pH sensitive liposomes	2018
76.	Mali Shiwani Sharad	Topical delivery of phospholipid complex of drug(s): An attempt to increase therapeutic efficacy in management of psoriasis	2018
77.	Arvind Sirvi	Supersaturated SEDDS for improving drug loading and oral bioavailability of quercetin	2018
78.	Narinder Kumar	Development and evaluation of sildanafil loaded SNEDDS for bioavailability enhancement	2018
79.	Aalhate Mayur Bapu	Solidification of SNEDDS containing different spectra of drugs: Different methods and carrier screening to assess in vitro and in vivo performance	2018
80.	Ishneet Kaur	Formulation of multiple emulsion containing permeation enhancer for enhancing oral bioavailability of insulin	2018
81.	Prdnya Bapat	Lipid nanocapsules for improving stability and oral bioavailability of curcumin	2018
82.	Nilesh Malviya	Dendrimer surfactant hybrid micelles: A delivery platform for co-delivery of anti-cancer drug and therapeutic gene	2019

83.	Ashwin Abhang	Ligand decorated pH sensitive liposomes for targeting triple negative breast cancer	2019
84.	Manish Singrole	Cross-linked cyclodextrin nanoparticles for synergistic combinatorial chemotherapy	2019
85.	Kaushani Paul	Design And Development Of Surface Modified Nanosuspension Of Amphotericin B For Improved Drug Delivery	2019
86.	Navneet Singh	Design and development of drug delivery platform for oral delivery of Amphotericin B	2019
87.	Manmath Thalkari	Phospholipid complexation as a strategy for improving biopharmaceutical properties of doxorubicin	2019
88.	Vivek Singh	Apermilast loaded nanoemulsion based gel containing natural oils for synergistic anti-psoriasis therapy	2019
89.	Minal Bathra	Anti-cancer drug loaded high permeation vesicles for localized transdermal delivery in breast cancer treatment	2019
90.	Kalyani Desale	Exploring combinatorial potential of BCL6 gene and anticancer drug t achieve effective cancer therapy	2020
91.	Anuja Muley	Peptide conjugated nanocarriers for co-delivery of glucose depriving bioflavonoid and chemotherapeutic agent for treatment of breast cancer	2020
92.	Aditya Gupta	Phenylboronic acid functionalized nanocarrier for co-delivery of bioflavonoid and chemotherapeutic agent for tumor targeting	2020
93.	Ankit Soni	Exploring the potential of nanocarrier mediated co-delivery with resistance pathway modulators for improved cancer therapy	2020
94.	Akansha Goel	Design and development of amphotericin loaded liposomes for improved drug loading	2020
95.	Charankumar Ronanki	Ceramide doped flexible nanocarrier based gel for effective treatment of psoriasis	2020
96.	Devaguptapu Prakash	Development of alendronate conjugated nanocarriers for active targeting of anticancer drugs in osteoporosis	2020
97.	Suresh Kumar Dewangan	Nanocarrier mediated co-delivery of carboplatin and paclitaxel for treatment of breast cancer	2020
98.	Samiksha Jain	High permeation vesicle mediated localized transdermal delivery of anticancer drugs for improved breast cancer management	2021
99.	Saurabh Bhorkade	Nanocarrier mediated codelivery of ferroptotic and apoptosis causing drugs to treat triple negative breast cancer	2021
100.	Kiran	Co-delivery of linagliptin and quercetin using flexible nanocarrier for improving oral bioavailability in type 2 diabetes management	2021
101.	Patha Aravind Sai	Design and Development of Apremilast loaded nanocarriers for management of Psoriasis	2021
102.	Gabhale Akash Vishnu	LAT-1 Transporter Assisted Mixed Micelles of Tyrosine Kinase Inhibitor for Targeting Triple Negative Breast Cancer	2021
103.	Vaibhav Tipale	Nanotechnology based approaches for improving the oral bioavailability of dipeptidyl peptidase-4 inhibitors for management of Type 2 Diabetes	2021
104.	Pawan K. Pandey	Multifunctional nanocarriers equipped with ferroptotic potential for targeting triple negative breast cancer	2021
105.	Tanvi Sanjay Patil	Nanoformulation based delivery of Platinum (IV)-Fatty acid prodrug conjugate to treat breast cancer	2021
106.	Dhruv Bhaveshkumar Patel	Combinatorial approach for inducing ferroptosis and apoptosis mediated cancer cell death using targeted delivery system	2022
107.	Aaradhya rajabhau wadikar	Mixed Polymeric micelles equipped with dual cell death potential for enhanced cancer therapy	2022
108.	Vivek Shivaji Kedar	The formulation and evaluation of the niclosamide incorporated sodium oleyl hyaluronan nanomicellar gel for topical management of psoriasis	2022
109.	Vignesh S	Erlotinib-resveratrol hybrid nanosuspension for effective management of cancer	2022
110.	Akshay Hari Usare	Nanotechnology based approaches for improving oral bioavailability of dipeptidyl peptidase-4 inhibitors with antioxidant for management of type 2 diabetes	2022
111.	Vrushab Sunil Pipada	Apremilast loaded nano emulsion with combination of thymoquinone for synergistic anti-psoriatic therapy	2022
112.	Lokesh S	Albumin nanoparticle based delivery of cisplatin and oxaliplatin-oleic acid prodrug conjugate to treat breast cancer	2022
113.	Arvinth Kumar	Supersaturated self-emulsifying drug delivery system of model tyrosine	2022

	Suppuraj	kinase inhibitor for evaluating simultaneous solubilization and permeation potential	
114.	Smriti Bhardwaj	High permeation vehicle mediated localised delivery of fluvestrant for managing breast cancer	2022
115.	Hiral Joshi	Nanostructured lipid carrier for enhancing the oral bioavailability of ursolic acid	2023
116.	Simran Chandani	Crosslinked cyclodextrin nanoparticles for the codelivery of sorafenib and venetoclax for the treatment of breast cancer	2023
117	Shrushti Bhamble	Ionic liquid based transdermal delivery of anti-rheumatic drug for rheumatoid arthritis	2023
118.	Dharshini M.	Supersaturated bio SNEDDS FOR enhancing oral bioavailability of tyrosine kinase inhibitors	2023
119.	Keshav Kumar	High permeation vesicle-based gel for transdermal delivery of anti-rheumatic drug for the treatment of rheumatoid arthritis	2023
120.	Yash Salunkhe	Codelivery of sorafenib and phloretin in albumin nanoparticles to enhance anti-tumor effect in cancer	2023
121.	Arun Sontakke	Fatty acid-surfactant based hybrid micelles of apremilast loaded in gel for enhanced anti-psoriatic activity	2023
122.	Prathiksha Sharma	Codelivery of betulinic acid and cabazitaxel via chondroitin sulfate modified PLGA nanocarrier for the treatment of triple negative breast cancer	2023
123.	Parvez Sayyad	Formulation and evaluation of gefitinib nanosuspension: <i>in vitro</i> and <i>in vivo</i> evaluation	2023
124.	Meet Patel	Codelivery of sorafenib and venetoclax in phenylboronic acid ligand conjugated PLGA nanocarrier for synergistic anticancer effect	2023
125.	Ranveer Kaur (Joint supervisor)	Animal and cell culture studies for biological evaluation of Injection molded orthopaedic polymeric screws	2023

#### **LIST OF MASTER'S THESES CURRENTLY SUPERVISING**

1.	Viren Shinde	PEG-PCL-based nano-micellar topical hydrogel for the delivery of apremilast against psoriasis.	Ongoing
2.	Sanket Kapadne	Codelivery approach using PEG-PCL for effective treatment of colon cancer.	Ongoing
3.	Lavkesh Bhute	PEGylated liposomes-based cisplatin prodrug delivery for effective breast cancer treatment.	Ongoing
4.	Paulami Datta	Enhancing transdermal permeation via ionic liquid-based patch for improved localized action in breast cancer	Ongoing
5.	Siddhesh Warke	Preparation and evaluation of topical PEG-PCL-based nano-micellar gel containing adapalene and benzoyl peroxide for effective treatment of acne	Ongoing
6.	Akanksha Khandwe	Development and evaluation of lipid nanocarriers for Venetoclax delivery: A comparative study of solid lipid nanoparticles (SLN) and nanostructured lipid carriers (NLC).	Ongoing
7.	Yukta Mate	Co-delivery of betulinic and gefitinib-loaded albumin nanoparticles effective against TNBC.	Ongoing
8.	Sneha Thonnamkuzhi	Poly{[methyl vinyl ether-alt-maleic acid]-co-[methyl vinyl ether-alt-(N-3-boronophenyl-maleamic acid)]} (pPBA) based nanoconstruct for delivery of 1,3-diol containing anticancer drug for cancer treatment.	Ongoing
9.	Kshitija Abhang	Dual-acting cisplatin-chlorambucil prodrug-loaded albumin nanoparticles for safer synergistic anticancer activity	Ongoing
10.	Mayuri Sukre	Development and evaluation of retinol loaded PEG-PCL based nanoparticles for topical acne therapy	Ongoing

## **LIST OF PUBLICATIONS/ PATENTS/ INVITED TALKS/**

### **Patents (Granted)**

1. **Sanyog Jain**, Milind Pohekar, Amit K. Jain. Self emulsifying pharmaceutical composition for oral delivery of quercetin. Indian Patent number **413857 granted on 7 December 2022.**
2. **Sanyog Jain**, Kaushik Thanki. Novel Lipid Drug Conjugates for improved oral delivery of Amphotericin B and nano-formulations thereof. Indian Patent number **411678 granted on 17 November 2022.**
3. **Sanyog Jain**, Mahesh K Katariya, Sumit Arora, Harshad Harde. High permeation vesicles for transdermal drug delivery system and process of preparation thereof. Indian Patent number **391633 granted on 10 March 2022.**
4. **Sanyog Jain**, Vishal V. Rathi, Manasmita Das, Amit K. Jain. Folic acid conjugated polymeric nanoparticles for oral delivery of bioactive agents. Indian Patent number **347594 granted on 24 September 2020.**
5. **Sanyog Jain**, Jagadish M. Sharma, Amit K. Jain, Rahul R. Mahajan, Dinesh S. Chauhan. A pharmaceutical formulation in form of surface stabilized lopinavir nanoparticles. Indian Patent number **339051 granted on 22 June 2020.**
6. **Sanyog Jain**, Neha Bhankur, Nitin K. Swarnakar, Kaushik Thanki. Folic acid functionalized liquid crystalline nanoparticulate formulation. Indian Patent number **337370 granted on May 26, 2020.**
7. **Sanyog Jain**, K. Sindhu, Amit K. Jain, An oral self emulsifying formulation of cyclosporin A in combination of antioxidant and method thereof. Indian Patent number **331580 granted on February 10, 2020.**
8. **Sanyog Jain**, Amit K. Jain, Solid self-emulsifying formulation of tamoxifen in combination of antioxidant for enhanced oral bioavailability and antitumor efficacy. Indian Patent number **318353 granted on August 16, 2019.**
9. **Sanyog Jain**, Pooja Yadav, Nitin K. Swarnakar, Kaushik Thanki, Kuldeep Kumar Gandrathi, Heeralal B. Novel liquid crystalline nanoparticulate composition and process of preparation thereof. Indian Patent number **313805 granted on June 06, 2019.**
10. **Sanyog Jain**, Dinesh K Rawat, Nitin K Swarnakar, Kaushik Thanki. Novel layersome composition for oral delivery of anti cancer agents. Indian Patent number **307621 granted on February 19, 2019.**
11. **Sanyog Jain**, Dinesh S. Chauhan, Amit K. Jain, N. K. Swarnakar, Harshad Harde, Rahul R. Mahajan, Dinesh Kumar, Pankaj K. Valvi, Manasmita Das, Satyajit R. Datir, Kaushik Thanki. A universal step-wise freeze drying process for lyophilization of pharmaceutical products. Indian Patent number **306846 granted on February 05, 2019.**
12. **Sanyog Jain**, Rahul Sonawane, Lalith M. Tummalapalli, Harshad Harde, Mahesh Katariya, A novel submicronic topical pharmaceutical formulation for the effective treatment of psoriasis. Indian Patent number **303213 granted on November 19, 2018.**
13. **Sanyog Jain**, Harshad Harde, Amit. K. Jain. A novel solid lipid nanoparticle formulation. Indian Patent number **299107 granted on July 24, 2018.**
14. **Sanyog Jain**, Omesh M. Bhushinge, Amit K. Jain, Nitin K. Swarnakar, Harshad Harde, Pharmaceutical compositions for enhancing anticancer efficacy of tamoxifen. Indian Patent number **296411 granted on May 02, 2018.**

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1. **Sanyog Jain**, Shivani Sahu, Sameer S. Katiyar, Vivek Singh, Rohan Ghadi. Nanoemulsion formulation for site specific delivery of drugs. Indian Patent Application no **201811032540** filed on August 30, 2018.

**Cumulative impact factor: 1174.77; h-index: 61, i10-index: 190, Total citations: 12534 (as on August 27, 2023) Google Scholar: <http://scholar.google.co.in/citations?hl=en&user=aFapK-8AAAAJ>**

**(A) Research Articles**

1. Bhargavi Nallamothu, Kaushik Kuche, Rohan Ghadi, Dasharath Chaudhari, **Sanyog Jain**, Enhancing Oral Bioavailability of Insulin through Bilosomes: Implication of Charge and Chain length on Apical Sodium-Dependent Bile Acid Transporter (ASBT) Uptake. **International Journal of Biological Macromolecules**, 2023 (In Press) (8.2)
1. Sarjana Raikwar, Vivek Yadav, **Sanyog Jain**, Sanjay K. Jain, Antibody-conjugated pH-sensitive Liposomes for HER-2 Positive Breast Cancer: Development, Characterization, in vitro and in vivo Assessment. **J. Liposome Research**, 2023 (In Press) (4.4)
2. Kaushik Kuche, Vivek Yadav, Meet Patel, Rohan Ghadi, and Sanyog Jain, Exploring sorafenib and simvastatin combination for ferroptosis-induced cancer treatment: Cytotoxicity screening, in vivo efficacy, and safety assessment. **AAPS PharmSciTech**, 2023 (In Press) (3.3)
3. Ashwin Abhang, Oly Katari, Rohan Ghadi, Dasharath Chaudhari, **Sanyog Jain**, Exploring the synergistic behaviour of paclitaxel and vorinostat upon co-loading in albumin nanoparticles for breast cancer management. **Drug Delivery and Translational Research**, 2023 (In Press) (5.4)
4. Sarita Rani, Rakesh Kumar Sahoo, Ashutosh Mahale, Kanan Panchal, Akash Chaurasiya, Onkar Kulkarni, Kaushik Kuche, **Sanyog Jain**, Kartik Nakhate, Ajazuddin, Umesh Gupta, Sialic Acid Engineered Prodrug Nanoparticles for Co-delivery of Bortezomib and Selenium in Tumor Bearing Mice. **Bioconjugate Chemistry**, 2023 (In Press) (4.7)
5. **Sanyog Jain**, Venkat Pattewad, Nallamothu Bhargavi, Sheetal Yadav, Reena Sharma, Rohan Ghadi, Tushar Date, Sameer S. Katiyar, Dasharath Chaudhari, Kaushik Kuche, Rahul R. Mahajan, Exploring the therapeutic potential of functional excipient based nanoemulgel of fluticasone propionate for the management of psoriasis. **Journal of Drug Delivery Science and Technology**, 84, 2023: 104435 (5.0)
6. Sushil Y. Raut, Kengyen Fu, Huang Taichun, Avinash Gahane, Dasharath Chaudhari, Varun Kushwah, Renuka S. Managuli, Aswathi R. Hegde, **Sanyog Jain**, Guruprasad Kalthur, Manjunath Bandu Joshi, Hsin-I Chang, Niann-Tzyy Dai, Srinivas Mutalik, Engineered Nano-carrier Systems for the oral targeted delivery of Follicle Stimulating Hormone: Development, characterization, and, assessment of in vitro and in vivo performance and targetability. **International Journal of Pharmaceutics**, 637, 2023: 122868 (5.8)
7. Kaushik Thanki, Tushar Date, **Sanyog Jain**, Enabling oral amphotericin B delivery by merging the benefits of prodrug approach and nanocarrier-mediated drug delivery. **ACS Biomaterials Science & Engineering**, 9(6), 2023: 2879-2890 (5.8)
8. Dasharath Chaudhari, Kaushik Kuche, Vivek Yadav, Rohan Ghadi, Tushar Date, Nallamothu Bhargavi, **Sanyog Jain**, Exploring Paclitaxel Loaded Adenosine Conjugated PEGylated PLGA Nanoparticles for Targeting Triple-Negative Breast Cancer. **Drug Delivery and Translational Research**, 13(4), 2023: 1074-1087 (5.4)
9. Sarita Rani, Rakesh Kumar Sahoo, Vinay Kumar, Akash Chaurasiya, Onkar Kulkarni, Ashutosh Mahale, Sumeet Katke, Kaushik Kuche, Vivek Yadav, **Sanyog Jain**, Kartik Nakhate, Ajazuddin, Umesh Gupta, HPMa-PCL Polymeric Micelles in Co-delivery of Proteasome Inhibitor and Polyphenol: Exploration of Synergism or Antagonism. **Molecular Pharmaceutics**, 20(1), 2023: 524-544 (4.9)
10. **Sanyog Jain**, Narinder Kumar, Reena Sharma, Rohan Ghadi, Tushar Date, Nallamothu Bhargavi, Dasharath Chaudhari, Sameer S. Katiyar, Self-nanoemulsifying formulation for oral delivery of sildenafil: Effect on physicochemical attributes and in vivo pharmacokinetics. **Drug Delivery and Translational Research**, 13(3), 2023: 839-851 (5.4)

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12. Dasharath Chaudhari, Oly Katari, Rohan Ghadi, Kaushik Kuche, Tushar Date, Bhargavi Nallamothu, **Sanyog Jain**, Unfolding the potency of adenosine in targeting triple-negative breast cancer via paclitaxel incorporated pH-responsive stealth liposomes, **ACS Biomaterials Science & Engineering**, 8(8), 2022: 3473-3484(5.8)
13. **Sanyog Jain**, Kiran Dongare, Bhargavi Nallamothu, Chander Parkash Dora, Varun Kushwah, Sameer S Katiyar, Reena Sharma, Enhanced stability and oral bioavailability of erlotinib by solid self nano emulsifying drug delivery systems. **International Journal of Pharmaceutics**, 622, 2022: 121852. (5.8)
14. Tushar Date, Kaushik Kuche, Dasharath Chaudhari, Rohan Ghadi, Deepak Kumar Sahel, Deepak Chitkara, **Sanyog Jain**, Hitting multiple cellular targets in triple-negative breast cancer using dual-action cisplatin (IV) prodrugs for safer synergistic chemotherapy. **ACS Biomaterials Science & Engineering**, 8(6), 2022: 2349-2362 (5.8)
15. Tushar Date, Kaushik Kuche, Rohan Ghadi, Pradeep Kumar, **Sanyog Jain**, Understanding the role of axial ligands in modulating biopharmaceutical outcomes of cisplatin (IV) derivatives. **Molecular Pharmaceutics**, 19(5), 2022: 1325-1337 (4.9)
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18. Satyajit Datir, Dinesh Kumar, Pradeep Kumar, **Sanyog Jain**, Arvind Kumar Bansal, Bhargavi Nallamothu, Samarth D Thakore, Mrudula H Bele, Study of different crystal habits of aprepitant: Dissolution and material attributes. **Applied Sciences**, 11, 2021: 5604(2.7)
19. Seema Kirar, Dasharath Chaudhari, Neeraj S. Thakur, **Sanyog Jain**, Jayeeta Bhaumik, Joydev K. Laha, Uttam C. Banerjee, Light-assisted anticancer photodynamic therapy using porphyrin-doped nanoencapsulates. **J. Photochem. Photobiol. B**, 220, 2021: 112209. doi: 10.1016/j.jphotobiol.2021.112209 (5.4)
20. Nilesh Malavia, Rohan Ghadi, Kaushik Kuche, Tushar Date, Nallamothu Bhargavi, Dasharath Chaudhari, Rajan Swami, Parmeshwar B. Katore, Sanjay K. Banerjee, **Sanyog Jain**, Green Surfactant-Dendrimer Aggreplexes: An Ingenious Way to Launch Dual Attack on Arch-Enemy Cancer. **Colloids and Surfaces B: Biointerfaces**, 204, 2021: 111821 (5.8)
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23. Swati Rathore, Vaibhav Rajoriya, Varun Kushwah, **Sanyog Jain**, Sushil Kashaw, 5-Fluorouracil loaded nanogels: Preparation, characterization, and their anticancer activity. **Current Nanomedicine**, 11, 2021.(0.80)



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25. Ishneet Kaur, Nallamothu Bhargavi, Kaushik Kuche, Sameer S. Katiyar, Dasharath Chaudhari, **Sanyog Jain**, Exploring Protein Stabilized Multiple Emulsion with Permeation Enhancer for Oral Delivery of Insulin. **International Journal of Biological Macromolecules**, 167, 2021: 491-501 (8.2)
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23. 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 **(1.515)**

## **Books**

1. **Sanyog Jain**, Kaisar Raza, Ashish Kumar Agrawal, Ankur Vaidya, **Application of Nanotechnology in Cancer Chemotherapy**. Elsevier Inc. 2020, 702 p. ISBN 978-0-12-817846-1
2. Padma Devarajan, **Sanyog Jain (Editors)**, **Targeted Drug Delivery-Concepts and Design**. Springer, USA on behalf of the Controlled Release Society, Inc. 2015, XVIII, 790 p. ISBN 978-3-319-11354-8.

## **Book Chapters**

1. Oly Katari, Sheetal Yadav, Junia Akhtar, **Sanyog Jain\***, Micelles-based drug delivery for dementia. In: Umesh Gupta, Prashant Keshwarni (Eds), **Nanomedicine based approaches for the treatment of dementia**, Elsevier Inc, 2022, pp. 169-192.
2. Md Ansari, Kaushik Kuche, Rohan Ghadi, Dasharath Chaudhari, Rehan Khan, **Sanyog Jain**. Socioeconomic Impact of Antimicrobial Resistance and Their Integrated Mitigation by One Health

- Approach. In: Nadeem. Akhtar, K.S. Singh, Perna, Dinesh Goyal (Eds), **Emerging Modalities in Mitigation of Antimicrobial Resistance**, pp. 135-156. Springer, Cham, 2022. (**Chapter 7**)
3. Md Ansari, Kaushik Kuche, Rohan Ghadi, Dasharath Chaudhari, Faiyaz Ahmad Ansari, Rehan Khan, Akshay Vyawahare, **Sanyog Jain**. Nanoparticles as a Future Alternative Against Multiple Drug Resistance. In: Nadeem. Akhtar, K.S. Singh, Perna, Dinesh Goyal (Eds), **Emerging Modalities in Mitigation of Antimicrobial Resistance**, pp. 423-439. Springer, Cham, 2022. (**Chapter 18**)
  4. Saurabh Bhorkade, Pawan Kumar Pandey, Md Ansari, **Sanyog Jain**. Nano-Cargo Boarded Defensins to Combat Multidrug Resistance. In: Nadeem. Akhtar, K.S. Singh, Perna, Dinesh Goyal (Eds), **Emerging Modalities in Mitigation of Antimicrobial Resistance**, pp. 441-459. Springer, Cham, 2022. (**Chapter 19**)
  5. **Sanyog Jain**, Sandeep Kumar, Sumit Arora. Non-viral nano-wagons: A quest for safe and effective gene therapy, In: B.S. Bhoop (Chief Ed), N.K. Jain, O.P. Katare (volume editor), **Nanobiomedicine, Volume 6: Drug Nanocarriers**, Studium Press LLC, USA, 2015, pp. 373-418, ISBN 1-62699-056-5 (**Chapter 12**).
  6. Kaushik Thanki, Varun Kushwah, **Sanyog Jain**. Recent Advances in Tumor Targeting Approaches, In: P.V. Devarajan, **Sanyog Jain (Editors)**, **Targeted Drug Delivery-Concepts and Design**. Springer, USA on behalf of the Controlled Release Society, Inc. 2015, XVIII, pp. 41-112, ISBN 978-3-319-11354-8. (**Chapter 02**)
  7. Ashish Kumar Agrawal, Dileep Urimi, **Sanyog Jain**. Multifunctional Polymeric Nano-Carriers in Targeted Drug Delivery, In: P.V. Devarajan, **Sanyog Jain (Editors)**, **Targeted Drug Delivery-Concepts and Design**. Springer, USA on behalf of the Controlled Release Society, Inc. 2015, XVIII, pp. 461-500 ISBN 978-3-319-11354-8. (**Chapter 15**)
  8. Vivek S. Thakare, D'Arcy Prendergast, Giorgia Pastorin, **Sanyog Jain**. Carbon-based Nanomaterials for Targeted Drug Delivery and Imaging, In: P.V. Devarajan, **Sanyog Jain (Editors)**, **Targeted Drug Delivery-Concepts and Design**. Springer, USA on behalf of the Controlled Release Society, Inc. 2015, XVIII, pp. 615-645, ISBN 978-3-319-11354-8. (**Chapter 19**)
  9. **Sanyog Jain**, Amit K Jain, Vivek S Thakare. Carbon Nanotubes in Drug Delivery. In: S.P. Vyas, R.S.R. Murthy, R.K. Narang (Eds.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, New Delhi, India, 2010, pp. 219-251 (*Chapter 11*).
  10. Sushama Talegaonkar, Omesh Bhushinge, **Sanyog Jain**. Self Nanoemulsifying system for enhanced lymphatic uptake: An approach to increase oral bioavailability, In: S.P. Vyas R.S.R. Murthy, R.K. Narang (Eds.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, New Delhi, India, 2010, pp.320-364 (*Chapter 14*).
  11. Sushama Talegaonkar, Zeenat Iqbal, Farhan J. Ahmad, Tripta Bansal, **Sanyog Jain**. Nanoemulsion as tool for brain targeting via intranasal route, In: S.P. Vyas R.S.R. Murthy, R.K. Narang (Eds.), **Nano-Colloidal Carriers: Site Specific and Controlled Drug Delivery**, CBS Publishers and Distributors, New Delhi, India, 2010, pp.512-552 (*Chapter 20*).

### **Invited Talks**

#### **Invited lectures delivered Abroad:**

1. **Malaysia (February 21, 2023)**: Synergistic Anticancer Efficacy Using Combination Drug Therapy Approach, **Malaysia Technology Expo (MTE-2023)**, Kuala Lumpur, Malaysia.
2. **Singapore (January 26, 2023)**: Delivered guest seminar entitled "Combination drug therapy using nanotechnology for cancer therapeutics" at **National Univeristy of Singapore (NUS)**, Singapore.
3. **France (December 8, 2022)**: Delivered guest seminar entitled "Nanotechnology enabled dual drug therapy of cancer" at **Institut de Biologie Moléculaire et Cellulaire, Strasbourg Cedex**, Strasbourg.
4. **France (December 5, 2022)**: Delivered guest seminar entitled "Nanotechnology mediated co-delivery of drugs for safer synergistic cancer therapy" at **Université de Bordeaux, Bordeaux**.
5. **USA (October 21, 2022)**: Delivered guest seminar entitled "Dual drug therapy of cancer using nanomedicine" at **University of Nebraska Medical Centre (UNMC), Omaha, Nebraska**.

6. **USA (October 19, 2022):** Delivered guest seminar entitled “Nanotechnology Enabled Co-Delivery of Drugs for Improved Cancer Therapy” at **School of Pharmacy, Northeastern University, Boston, MA.**
7. **Iran (February 22, 2022):** Delivered invited talk entitled “Fundamentals and applications of nanotechnology for targeted anticancer drug delivery” at **Amirkabir University of Technology Winter School 2022 on Injectable and Implantable polymeric drug delivery systems**, Amirkabir University of Technology, Iran (through virtual platform)
8. **USA (November 30, 2021): Distinguished young educator and researcher scholarship presentation** entitled “Nanotechnology intervention to enhance oral bioavailability of drugs” at **American Association of Indian Pharmaceutical Scientists (AAiPS), USA** (through virtual platform)
9. **USA (November 18, 2021):** Delivered a seminar entitled “Cancer Nanomedicine” at **Division of Molecular Pharmaceutics and Drug Delivery (MPDD)’s annual seminar series 2021-22 at The University of Texas at Austin, Austin, Texas** (through virtual platform).
10. **USA (November 08, 2019):** Delivered a guest seminar entitled “Advanced drug delivery applications of nanotechnology” at **School of Pharmacy, University of Texas at Austin, Austin, Texas.**
11. **UK (August 09, 2017):** Delivered a guest seminar entitled “Advanced drug delivery using nano carrier systems” at **School of Pharmacy, Queen’s University, Belfast.**
12. **USA (September 21, 2016):** Delivered a guest lecture entitled “Self Nano Emulsifying Drug Delivery Systems (SNEDDS) and combinatorial drug polymer bioconjugates for effective anticancer drug delivery” at **University of Louisville, Louisville, Kentucky.**
13. **USA (September 19-20, 2016):** Delivered an invited talk entitled “Oral Bioavailability Enhancement with Self Nano-Emulsifying Drug Delivery Systems” at **AAPS Workshop on Enabling the Development of Oral Therapeutics with Innovations in Lipid Formulation Technologies, Plainsboro, NJ.**
14. **Australia (November 25, 2015):** Delivered a guest seminar entitled “Implication of nanotechnology in oral delivery of small drug molecules, proteins and vaccine antigens” at **Institute of Pharmaceutical Sciences, Monash University, Melbourne.**
15. **Australia (November 23, 2015):** Delivered a guest seminar entitled “Nanotechnology: A powerful oral bioavailability enhancer tool for small drug molecules, proteins and vaccine antigens” at **Mater Medical Research Institute, Translational Research Institute, The University of Queensland, Brisbane.**
16. **Australia (November 19-21, 2015):** Delivered an invited talk entitled “Nanotechnology intervention for cancer chemotherapy” at **Drug Delivery Australia 2015 conference organized by Controlled Release Society (Australian Chapter), University of Queensland, Brisbane.**
17. **USA (May 04, 2015):** Delivered a guest lecture entitled “Nanomedicines for Cancer Therapeutics” at **College of Pharmacy and Health Sciences, Mercer University, Atlanta, Georgia.**
18. **USA (May 01, 2015):** Delivered a guest lecture entitled “Smart nanocarriers for purpose specific drug delivery” at **Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama.**
19. **USA (July 11, 2014):** Delivered a guest lecture entitled “Smart Nanocarrier Systems for Effective Cancer Chemotherapy” at **Department of Pharmaceutical Sciences, College of Pharmacy, South Dakota State University, Brookings, SD.**
20. **USA (July 08-09, 2014):** Delivered a guest lecture entitled “Nanomedicines for Effective Management of Cancer” at **University of Louisville, Louisville, Kentucky.**
21. **USA (July 20-24, 2013):** Podium Presentation entitled "Enhanced gene expression, transfection and reduced cytotoxicity of novel hyalurononic acid-PEI-cyclodextrin polyplexes" at **40th Annual Meeting and Exposition of the Controlled Release Society (CRS), Honolulu, Hawaii** and received ‘**Rising Suns in Asia**’ award for this presentation.
22. **South Korea (August 26-28, 2012):** Delivered an invited talk entitled "Smart Nanoconstructs for Oral Mucosal Immunization" at **Dasan Conference 2012: The Development of new technologies for the control of emerging infectious diseases, Organized by The Korean Federation of Science and Technology Societies (KOFST), Jeju Island.**



23. **South Korea (August 15-18, 2012):** Delivered an invited talk entitled "Design and development of smart nanoconstructs for purpose specific drug delivery" at The Third **Indo-Korea Joint Workshop on NanoBio and Emerging Healthcare Technology, Seoul.**
24. **Canada (July 13-20, 2012):** Delivered an invited talk entitled "Gastro-Intestinal Drug Delivery" at CRS Young Scientist Workshops on Mucosal Drug and Gene Delivery: Barriers and Opportunities" at **39th Annual Meeting & Exposition of the Controlled Release Society Québec City.**
25. **USA (July 29- August 03, 2011):** Delivered an invited talk entitled "Efficacy testing of anticancer drug(s) loaded nanocarriers in tumor bearing animal model" at **38th Annual Meeting and Exposition of the Controlled Release Society (CRS), National Harbor, Maryland\***  
*\*This is first time in the 38 year history of CRS that they invited any speaker from India to deliver an invited talk.*
26. **USA (November 18, 2010):** Delivered a guest lecture entitled "Design of smart nano-carriers for drug delivery" at **Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama.**
27. **USA (November 6, 2009):** Delivered a guest lecture entitled "Nanotechnology, Nanomedicines and Drug Delivery" at **College of Pharmacy and Health Sciences, Mercer University, Atlanta, Georgia.**
28. **USA (November 3, 2009):** Delivered a guest lecture entitled "Emerging trends in nanotechnology and drug delivery" at **Centre for NanoBiotechnology Research (CNBR), Alabama States University, Montgomery, Alabama.**
29. **France (November 13-14, 2008):** Delivered an invited talk entitled "Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral vaccine delivery" at **Indo-French workshop on Nanotechnology for Biomedical Applications, Paris.**
30. **The Netherlands (January 14-15, 2007):** Delivered a guest lecture entitled "Novel nanocarriers for non-invasive vaccine delivery through oral and topical routes" at **University Medical Center Groningen, University of Groningen, Groningen, The Netherlands.**

**Invited lectures in India:**

1. Nanotechnology Enabled Co-Delivery of Drugs for Synergistic Cancer Therapy, **International Conference 'Innovation and Advances in Drug Development & Clinical Research' (IADDCR-2023)**, Chitkara University, Rajpura, Punjab, 25 April 2023
2. Dual drug therapy of cancer using nanotechnology, **A guest seminar delivered at BITS Pilani Hyderabad Campus, Hyderabad**, 8 April 2023.
3. Determination of class boundaries in BCS Classification, **Eminent lecture series for the session 2022-23** organized by Institute of Pharmaceutical Sciences, University of Lucknow, Lucknow (U.P.), 18 March 2023.
4. Basics and Advancement in Nanotechnology Assisted Drug Delivery, **International Conference on Development in Drug Delivery-ICD3**, Karpagam College of Pharmacy, Coimbatore (Tamil Nadu), 28 February 2023.
5. Dual action cisplatin prodrugs for safer synergistic cancer therapy, **21<sup>st</sup> International Symposium on "Advances in Technology and Business Potential of New drug Delivery Systems (Annual conference of Controlled Release Society- Indian Chapter)**, Mumbai, 24 February 2023. (Inaugural Talk)
6. Herbal Drug Delivery using Nanotechnology, **Training Program on Herbal Drug Development Technologies** organized by CSIR- Central Institute of Medicinal and Aromatic Plants (CSIR-CMAP), Lucknow, 20 January 2023.
7. Advanced Drug Delivery using Nanocarriers, **A guest seminar delivered at National Institute of Pharmaceutical Education and Research (NIPER), Kolkata**, 21 December 2022.

8. Design and Development of Nanotechnology Based Strategies for Advanced Drug Delivery, **International conference on Innovation and Challenges in Nanoscience and Nanotechnology**, Sanjay Rungta Group of Institutions, Bhilai (CG), 15 December 2022.
9. Techniques for Nanomedicine Analysis, **Training course on Advance Analytical Techniques: Basic Principal & Application for Quality Assessment of Drugs and Pharmaceutical for Export**, sponsored by Govt. of India, Ministry of External Affairs under Indian Technical and Economic Cooperation (ITEC), NIPER, SAS Nagar (Punjab), 02 December 2022.
10. Recent Advances in Cancer Nanotechnology, **Dept of Science and Technology (DST), Govt. of India's Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) (DST-STUTI), on Recent Approaches and Techniques in Drug Design and Drug Discovery**, hosted by Shoolini University, Solan (HP), 27 August 2022.
11. Advanced characterization techniques for nanotechnology based drug delivery systems, **Hands on Training Program on Formulation Development Aspects of Nanotechnology Based Drug Delivery Systems**, Dept of Science and Technology (DST), Govt. of India's Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) (DST-STUTI), hosted by R.C. Patel Institute of Pharmaceutical Education and Research, Shirpur (Maharashtra), 20 August 2022.
12. Nanomedicine for Cancer Therapeutics, **Hands on Training Program on Formulation Development Aspects of Nanotechnology Based Drug Delivery Systems**, Dept of Science and Technology (DST), Govt. of India's Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) (DST-STUTI), hosted by R.C. Patel Institute of Pharmaceutical Education and Research, Shirpur (Maharashtra), 20 August 2022.
13. Nanomedicine for better cancer therapy, **Virtual International Conference on Emerging Trends in Biotechnology and Sustainable Chemistry – 2022 (ETBSC-2022)**, Baba Farid College, Bathinda (Punjab), 28 April 2022.
14. Design of cancer nanomedicine with improved therapeutic efficacy and safety. **AICTE-Sponsored two-day e-Conference on Translational Research for Nano Medicines**, Indore Institute of Pharmacy, Indore (MP), 23 April 2022
15. Important Tips and Tricks on How to Draft a Patent, **An International Conference on Intellectual Property Rights and Patent Drafting**, Chaitanya (Deemed to be University) Pharmacy, Hanamkonda, Warangal (Telangana), 22 April 2022.
16. Nanotechnology based topical formulations for skin disorders, **E- Symposium on Innovation & Advancements in Topical Product Development**, NIPER, Kolkata, 25 March 2022
17. Design of Targeted Nanomedicine for Cancer Therapy, **3 days Online Webinar- Recent Trends in Pharmaceutics and NDDS**, Shri Vishnu College of Pharmacy (Autonomous), Bhimavaram, A.P., 23 March 2022.
18. Nanomedicine for cancer therapeutics, **Shastri Indo-Canadian Institute Sponsored Virtual International Seminar On "Artificial Intelligence and Drug Engineering in Drug Discovery"**, Dr. Harisingh Gour Central University, Sagar, MP, 4 March 2022.
19. Herbal Drug Delivery using Nanotechnology, **A Training Program on Herbal Drug Development Technologies under CSIR- Skill India Initiative**, CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow, UP, 26 February 2022.
20. Synergistic Anticancer Efficacy Using Combination Drug Therapy Approach, **6<sup>th</sup> Nirma Institute of Pharmacy International Conference Jointly organized with Indian Pharmacological Society (NIPICON-IPS-2022) on the theme Emerging Opportunities and Challenges in Pharmacology and Pharmaceutical Sciences for Drug Discovery and Healthcare Innovations**, Nirma University, Ahmedabad, Gujarat, 17 February, 2022

21. Nanopharmaceuticals in Health Care, **AICTE Training and Learning (ATAL) Academy, Government of India sponsored online Faculty Development Program (ATAL-FDP) on Molecular Manufacturing**, Central University of Punjab, Bathinda, Punjab, 04 January, 2022.
22. Artificial Intelligence in Pharmaceutical Sciences, **National Conference on “Artificial Intelligence in Pharmaceutical Biotechnology: Future Prospect and Challenges”** Sagar Institute of Pharmaceutical Sciences, Sagar (MP), 12 November 2021
23. Research misconduct(s) and publication ethics in pharmaceutical research, **AICTE Training and Learning (ATAL) Academy, Government of India sponsored online Faculty Development Program (ATAL-FDP) on Foundation of Pharmaceutical Innovation and Research**, Central University of Rajasthan, Bandarsindri (Ajmer), Rajasthan, 06 September 2021.
24. Nanoformulations for improved cancer therapy, **Key Note Address at GUJCOST Sponsored two days National e-Seminar on "Application & Regulatory constraints of nano formulation in Pharmaceutical Industries: Current perspective"**, Saurashtra University, Rajkot, Gujarat, 03 September 2021.
25. Enabling oral drug delivery using nanotechnology based approaches, **AICTE sponsored Short Term Training Programme (STTP) on "New Horizons in Pharmaceutical Industry and Health Care: Rediscovering Indian Traditional System of Medicine through Novel Approaches"**, Al-Shifa College of Pharmacy, Perinthalmanna, Kerala, 28 April 2021.
26. Nano-formulation development of plant drugs, **Online training program on "Herbal Drug Development Technologies**, CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow (U.P.), 26 February 2021.
27. Combinatorial drug bioconjugates to improve deliverability and efficacy of drugs, **Online International Seminar on Current Trends in Chemical and Pharmaceutical Sciences (CTCPS-2021)**, Dr. Hari Singh Gour Central University, Sagar (M.P.), 21 January 2021.
28. Characterization of Liposomes, **Technical webinars series on phospholipids and its applications**, organized by VAV Lipids Pvt. Ltd., Mumbai, 29 July 2020
29. Overcoming the challenges in oral drug delivery using nanotechnology, **One day National Seminar on "Opportunities and Challenges in Drug Discovery and Development**, Kurukshetra University, Kurukshetra, Haryana, 19 February 2020.
30. Implication of nanotechnology in oral bioavailability enhancement, **International Conference on Emerging techniques in drug discovery and drug delivery: current challenges and future prospects**, Chandigarh College of Pharmacy (CCP), Mohali, Punjab, 11 February 2020.
31. Surface modified Voriconazole dry powder inhalable formulation for the treatment of invasive pulmonary aspergillosis, **National Seminar on “Health care management of respiratory disease by Physician and Pharmacists” (Pharmarendezevous-2019)**, Department of Pharmacy, Sumandeep Vidyapeeth Deemed University, Vadodara, Gujarat, 06 December 2019.
32. Advanced techniques for characterization of multifunctional nanomaterials used for drug delivery application, **Winter School on Advanced techniques in Nano Science and Technology (ATNST 2019)**, Institute of Nano Science and Technology (INST), SAS Nagar (Mohali), Punjab, 03 December 2019.
33. Phospholipid drug complex to improve deliverability of drugs, **4<sup>th</sup> Lipoid Seminar on Phospholipids**, Mumbai, 22 November 2019
34. Publication ethics and ethical misconduct(s) in academic research. **AICTE sponsored Faculty Development Program on Enhancing Moral, Ethical and Emotional Competencies in Pharmacy Students: The Need for Paradigm Shift in Pedagogy**, ASBASJSM College of Pharmacy, Bela (Ropar), Punjab, 14 October 2019.

35. Fundamentals and applications of nanotechnology for drug delivery. **International conference on Recent Trends in Nano-biogovernance**, Al-Shifa College of Pharmacy, Perinthalmanna (Kerala), 28 September, 2019.
36. Advanced techniques for characterization of multifunctional nanomaterials used for drug delivery application. **Continuing Education Programme on Nanomaterials and Life**, Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, Ministry of Defense, New Delhi, 20 August 2019.
37. Advanced drug delivery using nanotechnology. **Continuing Education Programme on Nanomaterials and Life**, Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, Ministry of Defense, New Delhi, 20 August 2019.
38. Importance of interdisciplinary approach in drug delivery research. **Faculty Development Program on Multidisciplinary Approaches in Pharmaceutical Sciences Education**, ISF College of Pharmacy, Moga (Punjab), 08 July 2019.
39. Nanotechnology for Targeted Drug Delivery Systems. **Short Term Training Course on Nanotechnology: Development and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, 30 May 2019.
40. Non-invasive vaccine delivery using nanotechnology. **First SPARC International Workshop on Vaccine Chemistry and Immunology**, Panjab University, Chandigarh, 16 April, 2019
41. Current trends in nanotechnology based strategies for advanced drug delivery. **Faculty Development Program on “Current Trends in Pharmaceutical Sciences: Education, Research, Regulatory & Industrial Perspectives”**, Gujarat Technological University, Ahmedabad, Gujarat, 17 March, 2019.
42. Oral drug delivery using nanotechnology. **A guest lecture delivered at Department of Pharmacy, Birla Institute of Technology and Science (BITS)**, Pilani, Rajasthan, 09 March, 2019.
43. Emerging Trends in Nanotechnology Based Strategies for Targeted Drug Delivery and Oral Bioavailability Enhancement. **PCI Sponsored Continuing Education Program for Pharmacy Teachers on Futuristic Trends in Teaching, Pedagogy & Research in Pharmaceutical Sciences**, Shobhaben Pratapbhai Patel School of Pharmacy & Technology Management, SVKM's NMIMS Deemed to be University, Mumbai, 14 February, 2019
44. Implication of nanotechnology in oral delivery of injection. **International Conference on Nanotechnology and its Application to Ocular Drug Delivery Systems**, Maliba Pharmacy College, Uka Tarsadia University, Bardoli, Gujarat, 29 January, 2019
45. Fundamentals of nanomedicine and drug delivery. **International Conference on Nanotechnology and its Application to Ocular Drug Delivery Systems**, Maliba Pharmacy College, Uka Tarsadia University, Bardoli, Gujarat, 29 January, 2019
46. Dissolution Science: Importance and Factors Affecting. **PCI Sponsored Continuing Education Program for Pharmacy Teachers on Teaching, Learning and Assessment in Pharmacy: Approaches and Innovation**, Lauret Institute of Pharmacy, Kathog, Jwalamukhi, Distt. Kangra (H.P.), 06 January, 2019
47. Pharmacoscintigraphy: Principle and applications in evaluation of novel drug delivery systems. **National Seminar on Radiopharmaceuticals in Healthcare System: Safety and Regulatory Aspects**, School of Pharmacy & Research, People's University, Bhopal (M.P), 24 November, 2018.
48. Synergistic dual drug therapy of cancer using bio-macromolecular based novel nanoformulations. **12<sup>th</sup> Annual Convention of Association of Biotechnology and Pharmacy (ABAP) and International conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET 2018)**, Mizoram Central University, Aizawl, Mizoram, 12-15 November, 2018
49. Lipid-drug conjugate for improving oral delivery and reducing nephrotoxicity of Amphotericin B. **6<sup>th</sup> Rajasthan Science Congress 2018 (RSC2018)**, Central University of Rajasthan, Rajasthan, 14 October 2018.

50. Pharmacoscintigraphy: An effective non-invasive imaging tool for evaluation of new delivery systems. **One day national seminar on "Regulatory and safety aspects of Radiopharmaceuticals in Healthcare"** GLA University, Mathura, U.P., 6 October 2018.
51. Challenges in delivery of peptide and protein. **Training course on Recent Trends and Challenges in Biopharmaceuticals, sponsored by Govt. of India, Ministry of External Affairs under Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) program**, NIPER, SAS Nagar (Punjab) India, 04 October 2018.
52. Biopharmaceutic Classification System: Implication of Dose Number, Dissolution Number and Absorption Number in determining the BCS class of the drug. **PCI Sponsored Continuing Education Program (CEP-2018) on Challenges of Pharmaceutical Education, Teaching and Research: Role of Teachers**, ASBASJSM College of Pharmacy, Bela (Ropar), Punjab, 18 August, 2018.
53. Oral drug delivery using nanotechnology, **Continuing Education Program (CEP-2018) on qualitative pharmaceutical education in pharmaceutical technology and practices**, Chitkara University, Punjab, 29 June 2018.
54. Parameters including solubility and permeability that affect bioavailability of drugs-BCS classification, **Meeting/Workshop on Bioavailability (BA) and Bioequivalence (BE) studies of BCS Class II and Class IV drugs**, FDA Bhavan, New Delhi, 02 June 2018.
55. Herbal drug delivery using nanotechnology, **National conference on Cutting Edge Technologies in Herbal Medicines**, Shobhit University, Gangoh, Saharanpur (UP), 21 April 2018.
56. Advances in nanomedicine and drug delivery, **National conference on Recent advances in Pharmaceutical Sciences**, St Mary's College of Pharmacy Secunderabad (Telangana), 23 March 2018.
57. Recent advances in nanotechnology enabled drug delivery. **National conference on Recent advances in Pharmaceutical Sciences-2018**, Kakatiya University, Warangal (Telangana), 24 February 2018.
58. Pharmacoscintigraphy: A non-invasive tool for evaluation of new drugs/ delivery systems. **National Seminar on Radiopharmaceuticals in Healthcare System: Quality, Safety and Regulatory Aspects**, AKS University, Satna (MP), 10 February 2018.
59. Self Emulsifying Drug Delivery Systems (SEDDS) for oral drug delivery. **International Conference on Nanoscience and Nanotechnology centered on the theme "Expanding Horizons of Nanotechnology: Next Gen Challenges in Biomedical Sciences"** (NanoSciTech 2017), Panjab University, Chandigarh, India, 09 November 2017.
60. Fundamentals of Pharmaceutical Nanotechnology, **Nanomission School on "Nano Science and Nanotechnology-Biological Sciences"**, Institute of Nano Science and Technology (INST), SAS Nagar (Mohali), 8 November 2017.
61. Combinatorial drug bioconjugates to improve deliverability and therapeutic efficacy of drugs, **International GIAN workshop on "Chemical Biology and Drug Discovery**, NIPER SAS Nagar, 28 October 2017.
62. Oral delivery of drugs using nanotechnology. **Joint symposium 'NIPER-Shizuoka University Meet: Prospects for Collaborations'**, NIPER, SAS Nagar, 27 October 2017.
63. Drug delivery applications of PLGA and its nanoparticles. **Evonik's Academia Day: One day seminar cum workshop on Advances in Formulation Development**, Evonik India Pvt. Ltd., Mumbai, 6 October 2017.
64. Improved cancer therapy using nanotechnology. **3rd CRIKC Nanoscience Day, CSIR-Central Scientific Instruments Organization (CSIO)**, Chandigarh, 29 August 2017.
65. Implication of nanotechnology in oral bioavailability enhancement. **9th NIPER (RBL)-CSIR-CDRI Symposium on Empowering Drug Discovery by Pharmaceutical and Clinical Research**, NIPER, Raebareli, (U.P.), 24 March 2017

66. From Injectable to Oral: Can Nanotechnology Help?, **1st International Drug Delivery Congress 2017 (IDC 2017)**, RVS College of Pharmaceutical Sciences, Coimbatore (TN), 21 January 2017.
67. Nanomaterials for Healthcare & Medicine, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 24 November 2016.
68. Oral bioavailability enhancement using nanotechnology, **21st APTI Annual National Convention (APTICON - 2016)**, Manipal University, Manipal, 16 October 2016.
69. Nanomedicines and Drug Delivery, **National Conference on Recent Advances in Green Nanotechnology**, Bahra University, Shimla Hills, Distt. Solan (HP), 29 September 2016.
70. Advanced Nanomaterials for Drug Delivery Applications. **TEQIP workshop on Nanomaterials: Emerging Trends**, Institute of Chemical Technology (ICT), Mumbai, 17 September 2016.
71. Implication of nanotechnology in enhancing oral bioavailability of bioactives. **DST-SERB Sponsored two days national seminar on Bioavailability Enhancement: An Industry Desire and Regulatory Constrains**, Saurashtra University, Rajkot (Gujarat), 30 July 2016.
72. Novel nanomaterials for cancer therapeutics. **International Conference on Biomaterials, Biodiagnostics, Tissue Engineering & Drug Delivery (BiTERM-2016)**, Indian Institute of Technology-Delhi, New Delhi, 16 April 2016.
73. Innovative tools and techniques for characterization of nanomaterials used for drug delivery applications. **UGC Networking Resource Centre Training School on Innovative Tools and Techniques for Pharma Research**, Punjab University Chandigarh, 15 March 2016.
74. Fundamentals of Nanotechnology and Nanomedicines. **MPCOST Workshop on Preparation and characterization methods used in nanomedicine research**, Faculty of Pharmacy, VNS Group of Institution, Bhopal (MP), 12 March 2016.
75. Lipid prodrug and lipidic formulation based combined strategy for oral delivery of Amphotericin B. **International Conference on "Improving Quality of Life using Nanotechnology: Potential Role of Polymers" (NanoSciTech 2016)**, Chandigarh, 20 February, 2016.
76. Implication of QbD enabled nanotechnology in oral delivery of biomolecules. **National Seminar cum Workshop on Nanotechnology-Application of QbD**, B.V. Patel PERD Centre, Ahmedabad, 29 January 2016.
77. Smart nanoconstructs for oral delivery of insulin, **Medicinal Chemistry Conference-2015 (MedChem-2015) on Anti-diabetic Drug Discovery and Development**, Indian Institute of Technology-Madras, Chennai, 30 October 2015.
78. Nanotechnology and Drug Delivery, **Faculty Development Program (FDP) on Biosciences- Recent Developments & Applications**, SUS College of Engineering and Technology, Tangori, Mohali, 10 July 2015
79. Design of nanoparticles for targeted drug delivery. **Refresher Course for the University/Colleges teachers** organized by Kurukshetra University, Kurukshetra, 20 June 2015
80. Nanoparticles for oral delivery of challenging biomolecules. **Refresher Course for the University/Colleges teachers** organized by Kurukshetra University, Kurukshetra, 20 June 2015
81. Nanomedicines & Targeted Drug Delivery, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 21 May 2015
82. Cancer Nanomedicine, **National Conference on "Translating Biodiversity Research into Deliverables for Human Welfare (TBRD-2015)"**, Organized by Panjab University, Chandigarh, 19 March 2015.

83. Emerging Frontiers in Nanotechnology and Drug Delivery, **National Seminar on Emerging Frontiers and Challenges in Nanotechnology and Drug Design (EFCNDD-2015)**, Dr. Hari Singh Gour Central University, Sagar (M.P.), 01 March 2015.
84. Smart Nanomedicines for Effective Cancer Chemotherapy, **International Symposium on Nanotechnology and Cancer (ISNACT-2015)**, IIT- Bombay, Mumbai, 21 February 2015.
85. Nanotechnology intervention for cancer chemotherapy, **Training School on “Attaining Excellence and Compliance through Drug Delivery and Pharmaceutical Technology”**, Organized by UGC Networking Resource Centre in Pharmaceutical Sciences, Panjab University, Chandigarh, 04 February 2015.
86. Smart Nanomedicine for Cancer Therapy, **Nanoformulations and translational research: Small getting bigger**, Babasaheb Bhimrao Ambedkar University, Lucknow, India 02 February 2015.
87. Nanomedicines: Basics to Translational, **International Conference on Translational Nanomedicine (T-NANO 2014)**, Ahmedabad, India, 16 December 2014.
88. **Smart Nanomedicines for Cancer, Guest Lecture Delivered at Central Drug Research Institute (CDRI)**, Lucknow, India, 15 December, 2014
89. QbD in Pharmaceutical Product Development, **Training course on Pharmaceutical Quality by Design: A Risk Based Approach, sponsored by Govt. of India, Ministry of External Affairs under Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) program**, NIPER, SAS Nagar (Punjab) India, 26 November, 2014.
90. Nanotechnology in Healthcare and Medicines, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 13 Nov, 2014.
91. Emerging Trends in Nanomedicines, **National Workshop on “Emerging Trends in Nano Science and Biotechnology”**. G.J. University of Science and Technology, Hisar (Haryana), 19 August 2014.
92. Recent Advances in Topical and Transdermal Drug Delivery Systems. **Faculty Development Program (FDP) on “Dosage Form Design”**, Rayat & Bahra Institute of Pharmacy, Mohali (Punjab), 01 July, 2014.
93. Recent Advances in Brain Drug Targeting Strategies. **Faculty Development Program (FDP) on “Dosage Form Design”**, Rayat & Bahra Institute of Pharmacy, Mohali (Punjab), 01 July, 2014.
94. Teaching Quality Improvement. **PTU sponsored Faculty Development Programme (FDP) on “Improvement of Teaching Quality by Improving Quality of Teaching”**, ASBASJSM College of Pharmacy, Bela (Ropar), Punjab, 05 June, 2014
95. Nano Drug Delivery System: A smarter way to treat life threatening diseases. **1st International Indo-Portugal Conference on Emerging Trends of Nanotechnology in Drug Discovery**. University of Delhi (South Campus), 26 May 2014
96. Nanomedicines and drug delivery, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 16 May, 2014.
97. Surface engineering of carbon nanotubes for targeted cancer therapy and multimodal imaging: from tailored surface to theragnostics. **Mini Symposium on Indo-German Academic Activities**, IIT, Ropar, 21 April, 2014.
98. Smart Nanocarriers for purpose specific drug delivery. **Guest lecture under Initiated Lecture Series Programme**, Jamia Hamdard, New Delhi, 25 March, 2014.
99. Bioequivalence and In Vitro-In Vivo Correlations in view of Biopharmaceutic Classification System. **6th International Symposium on Drug Metabolism and Pharmacokinetics (DMPK- 2014) in collaboration with Bristol-Myers Squibb (BMS)**, NIPER, SAS Nagar (Punjab), Feb 27, 2014.

100. Nano drug delivery systems: A smarter way to treat life threatening diseases. **International conference on Nanotechnology in the services of health, environment and society (NanoSciTech-2014)**, Chandigarh, 14 February, 2014
101. Design and development of smart nanoconstructs for oral delivery of insulin, **DST Group Monitoring Workshop (GMW)**, Chandigarh, 10 February, 2014.
102. Nanocarriers: A powerful oral bioavailability enhancer tool for small drug molecules, proteins and vaccine antigens, **101st Indian Science Congress**, Jammu, 4 February, 2014
103. Biomedical Applications of Nanotechnology, **DBT Sponsored one day seminar on Recent Advances in Material Science and Nanotechnology**, G.G.D.S.D. College, Chandigarh, 01 February, 2014
104. Pharmacoscintigraphy: A novel technique for evaluation of drug delivery systems. **45th Annual Conference of Society of Nuclear Medicine India (SNMICON-2013)**, Mumbai, 13 December, 2013.
105. Combinatorial bioconjugation approach for effective drug delivery. **AICTE sponsored Faculty Development Program on Recent Advances in Applied Analytical and Pharmaceutical Sciences**, Rayat & Bahra Institute of Pharmacy, Mohali (Punjab), 09, December, 2013.
106. Nano Drug Delivery Systems: A Smarter Way to Treat Life Threatening Diseases. **International Conference on Biotechnology and Human Welfare**, SASTRA University, Thanjavur (T.N.), 06 December, 2013.
107. Nanomaterials for Medicines, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 22 Nov, 2013.
108. Analysis of Nanoparticles, **Training course on Advanced Analytical Techniques: Basic Principles and Application for Quality Assessment of Drugs and Pharmaceuticals for Export**, sponsored by Govt. of India, Ministry of External Affairs under Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) program, NIPER, SAS Nagar (Punjab) India, 21 November, 2013.
109. Lipid prodrug of amphotericin B for oral delivery. **AICTE and PTU Sponsored National Seminar on Advancement, Challenges and Opportunities in Pharmaceutical Research**. ASBASJSM College of Pharmacy, Bela (Ropar), Punjab, 19 October, 2013.
110. Combinatorial drug bioconjugates for effective drug delivery. **AICTE Sponsored Faculty Development Program on "An Approach to Develop New Models in the Field of Medicinal Chemistry"**, B.N. Institute of Pharmaceutical Sciences, Udaipur (Rajasthan), 23 September, 2013.
111. Recent Advances in Nanotechnology and Nanomedicine. **National Conference on Advances in Nanomedicine, Nanotechnology & Drug Discovery**. Lakshmi Narain College of Pharmacy, Bhopal (M.P.), August 17, 2013
112. Smart Nanoconstructs for Advanced Drug Delivery Applications, NanoBio 2013: **Collaborative International Conference**, jointly organized by Dept. of Pharmaceutical Technology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli (T.N.) India and Nanomedicine Research Centre, University of South Florida, Tampa, Florida, USA held at Tiruchirappalli (T.N.), June 29, 2013.
113. Nanomedicines and Nanotechnology, **AICTE sponsored Faculty Development Program on Academic research: A tool to improve the quality of research**, ADINA Institute of Pharmaceutical Sciences, Sagar (M.P.), June 22, 2013.
114. **Design and development of smart nanoconstructs for purpose specific drug delivery, Nanomedicine, SelectBio**, New Delhi, May 30, 2013.
115. Nanotechnology in medicines, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, 08 May, 2013.



116. Self-Emulsifying Formulation of Tamoxifen: Translation of Bench Research, **UGC Sponsored summer training school on "Innovations in Pharma Research: Stepping Stones**, Panjab University, Chandigarh, 11-16 March, 2013
117. Smart nanocarrier systems for purpose specific drug delivery, **6th Chandigarh Sciences Congress (CHASCON-2012)**, Punjab University, Chandigarh, 03 March, 2013
118. Recent Advances in Nanoparticulate Drug Delivery Systems, **National Workshop on Recent Advances in Drug Delivery 2013**, Charotar University of Science and Technology (CHARUSAT), Changa, Gujarat, 23 Feb, 2013.
119. Nanocarriers in Drug Delivery Systems, **National Seminar on Application of Nanotechnology and Biotechnology in Drug Delivery Systems**, Shri B.M. Shah College of Pharmaceutical Education and Research, Modasa, Gujarat, 11 Feb, 2013
120. Nanomaterials for nanomedicines, **Short Term Training Course on Nanomaterials: Characterization and Applications**, National Institute of Technical Teachers Training & Research, Chandigarh, 23 Nov, 2012.
121. Challenges & Opportunity in Translating Academic Research to Industry for Development of Drug Product, **IPGA National Convention on "The Future of Pharmacist: A Healthcare Professional"**, Kurukshetra University, Kurukshetra, Haryana, 18 Nov, 2012.
122. Analysis of Nanoparticles, **Training course on Advanced Analytical Techniques: Basic Principles and Application for Quality Assessment of Drugs and Pharmaceuticals for Export**, sponsored by Govt. of India, Ministry of External Affairs under Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) program, NIPER, SAS Nagar (Punjab) India, 18 Oct, 2012.
123. Nanocarriers: A powerful oral bioavailability enhancer tool for small drug molecules, proteins and vaccine antigens, **Autumn School on Nanotechnology in Drug Delivery: Promises and Concerns**, Panjab University, Chandigarh, 11 Oct, 2012.
124. Challenges & Opportunity in Translating Academic Research to Industry for Development of Drug Product, **Faculty Development Program on Modern Aspects of Teaching, Training, Technology & Research in Academic Development – Challenges and Opportunities**, ASBASJSM College of Pharmacy, Bela (Ropar), Punjab, 07 July, 2012.
125. Nanotechnology in Drug Delivery: Emerging Trends and Advances, **AICTE sponsored Staff Development Programme on Current Status & Future Perspectives in Drug Discovery and Delivery Technologies**, Jan Nayak Ch. Devi Lal Memorial College of Pharmacy, Sirsa, Haryana, June 19, 2012.
126. Design and Development of smart nanocarriers for targeted drug delivery, **National Symposium on Nanobiotechnology (NSNT-2012)**, Indian Institute of Technology (IIT) Mandi, HP, India, 01 June, 2012.
127. Nano Drug Delivery Systems: A Smarter Way to Treat Life Threatening Diseases, **National Symposium on Nanobiotechnology (NSNT-2012)**, Indian Institute of Technology (IIT) Mandi, HP, India, 02 June, 2012.
128. Nanotechnology in healthcare, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, 11 May, 2012.
129. Nanotechnology in Drug Delivery: Emerging Trends and Advances, **International conference on Recent Advances in Pharmaceutical Sciences**, Rayat Institute of Pharmacy, SBS Nagar, Punjab, 21-23 March, 2012.
130. Nanomedicines: the effective therapeutics of tomorrow, **National seminar on Nanotechnology in Drug Delivery: Emerging Trends and Advantages**, Sardar Patel University, Vallabh Vidyanagar, Gujarat, 10 March, 2012.

131. Nanotechnology Platforms for Drug Delivery, **6th Chandigarh Sciences Congress (CHASCON-2012), Punjab University, Chandigarh**, 26-28 Feb 2012.
132. Bioavailability enhancement of drugs using nanotechnology, **Drug Delivery India 2012: Innovation in Pharmaceutical and Manufacturing Sciences**, Hyderabad (AP) India, 24-25 Feb. 2012.
133. Design, Synthesis and Biological Evaluation of Novel Multifunctional Carbon Nanotubes Based “Smart” Drug Delivery Platform, **International Conference on Frontiers in Nanoscience, Nanotechnology and Applications “NanoSciTech-2012”**, Punjab University, Chandigarh, India, 15-18 Feb 2012.
134. **Development of nanotechnology based drug delivery formulations for potential biomedical applications, Dr. Reddy's Laboratory**, Hyderabad (AP), India, 8 Feb 2012.
135. Nano drug delivery systems: A rational approach to combat multiple drug resistance, **2nd National Conference on Antimicrobial Resistance: A Cause for Global Concern**, Sam Higginbottom Institute of Agriculture, Technology & Sciences, Allahabad (UP), India, 6-8 Feb 2012.
136. Design of polyelectrolyte coated multilayered liposomes (stable liposomes) for oral insulin delivery, **Annual Group Monitoring Workshop, DST, at CIKS**, Chennai, 14-16 Dec. 2011.
137. Characterization of nanoparticles used for drug delivery, **Training course on Advanced Analytical Techniques: Basic Principles and Application for Quality Assessment of Drugs and Pharmaceuticals for Export**, sponsored by Govt. of India, Ministry of External Affairs under **Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) program**, NIPER, SAS Nagar (Punjab) India, 12 Oct, 2011.
138. Surface engineering of carbon nanotubes for targeted cancer therapy and multimodal imaging: from tailored surface to theragnostics, **Alkyl Amines-ICT Foundation Day Lecture**, ICT Mumbai, India, 01 Oct, 2011.
139. Nano Drug Delivery Systems: A Smarter Way to Treat Life Threatening Diseases, **AICTE sponsored 2 weeks staff development program on Novel Drug Delivery Systems: Past-Present-Future**, Sinhgad College of Pharmacy, Pune, India, 19 Sep-01 October, 2011.
140. Nanotechnology in healthcare, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, 19 May, 2011.
141. Nanotechnology and Nanomedicines: **Big fears about science of tiny**, **National Technology Day**, NIPER, SAS Nagar (Punjab) India, 11 May, 2011.
142. Drug Development: Collaboration Between Academia and Industry, **National Conference on “Industry Academic Interaction for Removing Blocks and Accelerating Commercialization of Pharmaceutical Academic Research”**, Sagar Institute of Pharmaceutical Sciences (SIPS), Sagar (MP), India, 13-14 April, 2011
143. Nanomedicines: Basics to Translational, **National Seminar on “Emerging Frontiers in Nano Drug Delivery Systems**, Institute of Chemical Technology, Mumbai, India, 19 March, 2011.
144. Nano carriers: A powerful oral bioavailability enhancer tool for poorly absorbed or pre-systemically metabolized drugs, **2nd World Conference on Nanomedicine and Drug Delivery (WCN-2011)**, Kottayam, Kerala, India, 11-13 March, 2011.
145. Novel nano carriers for “smart” drug delivery: From tailored nanoparticles to magic nanobullets, **4th Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 28 Feb-04 March, 2011.
146. Nano Drugs: Hopes and Hurdles, **5th Chandigarh Sciences Congress (CHASCON-2011)**, Punjab University, Chandigarh, 26-28 February 2011.
147. Nanobiotechnology: **A powerful tool to enhance oral bioavailability of bioactives**, **Nanotechnology meeting**, **National Agro-food Biotechnology Institute (NABI)**, Mohali (Punjab), 10 January, 2011.

148. PLGA: A versatile polymer for efficient delivery of bioactives, **National Conference on Polymer Science and Engineering; Emerging Dimensions (PSE-2010)**, Panjab University, Chandigarh, 26-27 November, 2010.
149. Nanotechnology in healthcare, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, 11 November, 2010.
150. Design and development of smart nanocarriers as targeted nanomedicine and for drug delivery, **3rd Summer School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 23-27 August, 2010.
151. Biomedical Applications of Nanotechnology, **Faculty Development Program on Advances in Pharmaceutical Sciences**, Rayat & Bahra Institute of Pharmacy, Sahauran, Mohali (Punjab), 21 July, 2010.
152. Nanomedicines: A complete drug delivery solution, **NIPER-NUS Pharmacy Mini Symposium**, NIPER, SAS Nagar (Punjab), 26 February, 2010.
153. 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.
154. Nanotechnology and Drug Delivery, **International Conference on Drug Delivery- ICODD 2010**, PSG College of Pharmacy, Coimbatore (TN), 29-30 January, 2010.
155. Emerging Trends in Nanomedicines, **UGC sponsored Winter School on Emerging Areas in Pharmaceutical Sciences**, Panjab University, Chandigarh, 11-16 January, 2010.
156. 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.
157. 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 (Rajasthan), India, October 3-4, 2009 (Delivered Prof. G.P. Shrivastava Memorial Lecture).
158. 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.
159. Current and future trends in nanomedicines, **2nd Summer School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 10-14 August, 2009.
160. Nanotechnology in healthcare, **Short Term Training Course on Nanotechnology: Opportunities and Challenges**, National Institute of Technical Teachers Training & Research, Chandigarh, May 07, 2009.
161. 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.
162. Nanomedicines: Future therapeutic agents, **National Seminar on Frontiers in Nanotechnology: A Pharmaceutical Perspective**, Nirma University, Ahmedabad (Gujarat) India, 20 March 2009.
163. Nanomedicines: A nanoway to treat ailments, **2nd Winter School on Nanotechnology in Advanced Drug Delivery**, NIPER, SAS Nagar (Punjab) India, 24-28 February, 2009.
164. 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.
165. Novel nano colloidal carrier systems for controlled and targeted drug delivery, **Faculty Development Program**, Rayat Bahra Institute of Pharmacy, Ropar (Punjab), 25 January, 2009.