

## DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY

Metric (*2017 Onwards)	Total	Trend																																			
Paper*	126																																				
Book/Chapter*	36																																				
Project*	25																																				
Patent*	5																																				
Consultancy		<p>The chart displays the annual research output for the Department of Pharmaceutics and Pharmaceutical Technology. The Y-axis represents the 'Number of Outputs' ranging from 0 to 12. The X-axis represents the 'YEAR' from 2017 to 2022. The legend indicates three categories: Paper Publications (blue), Book/Book Chapters (light blue), and Patents (cyan). The total output shows a general upward trend with some fluctuations.</p> <table border="1"> <caption>Data for Year-wise Research Output: Pharmaceutics</caption> <thead> <tr> <th>Year</th> <th>Patents</th> <th>Book/Book Chapters</th> <th>Paper Publications</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>2018</td> <td>0</td> <td>2</td> <td>3</td> <td>5</td> </tr> <tr> <td>2019</td> <td>0</td> <td>2</td> <td>4</td> <td>6</td> </tr> <tr> <td>2020</td> <td>1</td> <td>3</td> <td>7</td> <td>11</td> </tr> <tr> <td>2021</td> <td>1</td> <td>4</td> <td>8</td> <td>13</td> </tr> <tr> <td>2022</td> <td>1</td> <td>4</td> <td>8</td> <td>13</td> </tr> </tbody> </table>	Year	Patents	Book/Book Chapters	Paper Publications	Total	2017	0	0	1	1	2018	0	2	3	5	2019	0	2	4	6	2020	1	3	7	11	2021	1	4	8	13	2022	1	4	8	13
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Article Title (Last Five Years)	Journal name
A comparative study of biologic regulation in us, canada, australia, europe and singapore	<i>International journal of drug regulatory affairs</i>
A comprehensive review and analysis of patents on biological and biosimilar products listed in the purple book	<i>World patent information</i>
A machine learning model (sol_me) assisted development of a unit-dose lipid formulation for apalutamide: formulation, pharmacokinetics, and pharmacodynamics evaluation	<i>International journal of pharmaceutics</i>
A review on current status and future prospectus of oral vaccines	<i>Asian journal of medicine and health</i>
A review on utilization of intranasal route for the effective administration of antiviral drugs in the time of covid – 19 pandemic	<i>International journal of biology, pharmacy and allied sciences</i>
Advanced targeted drug delivery of bioactive agents fortified with graft chitosan in management of cancer: a review	<i>Current medicinal chemistry</i>
Advances in nanostructured lipid carriers for colorectal cancer treatment: a comprehensive review	<i>Current drug delivery</i>
Advancing lamotrigine therapy: piezoelectric atomized cloud drying-developed microparticles in lyophilized orally disintegrating tablets with characterization and pbpk simulation	<i>Journal of pharmaceutical innovation</i>

for enhanced dissolution, rapid absorption, and faster onset of action	
Afatinib liposomal dry powder inhaler: targeted pulmonary delivery of egfr inhibitor for the management of lung cancer	<i>Journal of drug delivery science and technology</i>
An overview of fda approved liposome formulations for cancer therapy	<i>Journal of advances in medical and pharmaceutical sciences</i>
An overview of pre and post pandemic regulatory changes for respirators in usa and europe	<i>International journal of biology, pharmacy and allied sciences</i>
Anti-epileptic drug-lipid conjugates for delivery to the brain: in silico admet prediction, molecular docking and molecular dynamics simulations	<i>Chemistryselect</i>
Apolipoprotein e3 functionalized lipid-drug conjugated nanoparticles of levetiracetam for enhanced delivery to the brain: in-vitro cell line studies and in-vivo study	<i>International journal of biological macromolecules</i>
Apolipoprotein e3 functionalized mesoporous silica nanoparticles for targeted and enhanced therapeutic efficacy of levetiracetam in brain tumor-associated epilepsy: insights into brain uptake, biodistribution and pharmacokinetic behavior	<i>International journal of biological macromolecules</i>
Application of mathematical models in drug release kinetics of cyanocobalamin fast dissolving sublingual film	<i>Asian journal of medicine and health</i>
Assessment of nanocarrier mediated afatinib pharmacokinetic: a comparative in-vivo study in rat model for enhanced therapeutic efficacy in lung cancer management	<i>Journal of drug delivery science and technology</i>
Assessment of regulatory requirements and filing procedure of drug master file for brazil, europe and south africa	<i>International journal of drug regulatory affairs</i>
Betamethasone dipropionate nanocrystals: investigation, feasibility and in vitro evaluation	<i>Aaps pharmscitech</i>
Bindi: a unique prescription method for visually impaired, illiterate, and naïve patients to solve the dependency in taking medication	<i>Indian journal of pharmacy practice</i>
Bioequivalence requirements of pharmaceutical products in us, europe and australia	<i>International journal of drug regulatory affairs</i>
Breaking barriers: intranasal delivery of brexpiprazole-nanostructured lipid carriers targets the brain for effective schizophrenia treatment	<i>Journal of drug delivery science and technology</i>

Burn assessment: a critical review on care, advances in burn healing and pre-clinical animal studies	<i>Journal of research in pharmacy</i>
Central composite design for the development of trimetazidine dihydrochloride-loaded fast dissolving film	<i>Fabad journal of pharmaceutical sciences</i>
Chitosan-based hydrogel in the management of dermal infections: a review	<i>Gels</i>
Comparison of dissolution profile for immediate-release dosage form for us and europe	<i>International journal of drug regulatory affairs</i>
Container closure selection and stability studies of developed multistimuli-responsive ocular sustained in situ hydrogel formulation of timolol maleate	<i>Journal of sol-gel science and technology</i>
Cutaneous pharmacokinetics of topically applied novel dermatological formulations	<i>Aaps pharmscitech</i>
Cutting-edge advances in nanocarrier-facilitated topical drug delivery systems for targeted skin cancer therapy: a comprehensive review	<i>Current pharmaceutical biotechnology</i>
Data analysis and mapping of research interest in clinical trials of tuberculosis by text mining platform of artificial intelligence using open-source tool orange canvas	<i>The chinese journal of artificial intelligence</i>
De-interact: a machine-learning-based predictive tool for the drug-excipient interaction study during product development—validation through paracetamol and vanillin as a case study	<i>International journal of pharmaceutics</i>
Design and optimization of curcumin loaded nano lipid carrier system using box-behnken design	<i>Biomedicine &amp; pharmacotherapy</i>
Design, optimization, and characterization of an in-situ pore-forming system for controlled delivery of paliperidone	<i>Medicine in novel technology and devices</i>
Development and validation of uv spectrophotometric method for the estimation of rotigotine in nanostructured lipid carriers	<i>Indian drugs</i>
Development of taste-masked oral dispersible tablets of cefpodoxime proxetil	<i>Pharmaceutical technology</i>
Doe supported optimization of biodegradable polymeric nanoparticles based dry powder inhaler for targeted delivery of afatinib in non-small cell lung cancer	<i>Journal of drug delivery science and technology</i>
Editorial: augmented neuro-therapy with nanotechnology-based formulations: progress, opportunities and challenges	<i>Frontiers in pharmacology</i>

Effect of lyophilization on stability of peg-protein conjugate: a case study with peginterferon alfa-2b	<i>Brazilian journal of pharmaceutical sciences</i>
Electrospun nanofibers as advanced wound dressing materials: comparative analysis of single-layered and multilayered nanofibers containing polycaprolactone, methylcellulose, and polyvinyl alcohol	<i>Journal of biomaterials science, polymer edition</i>
Evaluating a promising methylcellulose hydrogel for enhanced diabetic foot ulcer therapy through comprehensive preclinical studies	<i>Journal of biomaterials science-polymer edition</i>
Exploring the potential of anti-inflammatory activity of berberine chloride loaded mesoporous silica nanoparticles in carrageenan-induced rat paw edema model	<i>Journal of solid state chemistry</i>
Extracellular vesicles: the future of therapeutics and drug delivery systems	<i>Intelligent pharmacy</i>
Fabrication and characterization of 5-fluorouracil loaded multilayered electrospun nanofiber for the treatment of skin cancer	<i>Journal of drug delivery science and technology</i>
Fabrication and characterization of coblended methyl cellulose with polyvinyl alcohol electrospun nanofibers as a carrier for drug delivery system	<i>Polymer bulletin</i>
Focused insights into liposomal nanotherapeutics for antimicrobial treatment	<i>Current medicinal chemistry</i>
Formulation of modified liquid-solid compact for dissolution enhancement of raloxifene hydrochloride	<i>Pharmaceutical technology</i>
Formulation, evaluation and optimization of oromuco-adhesive vitamin b12 in situ gel (spray)	<i>International journal of biology, pharmacy and allied sciences</i>
From solvents to therapeutics: the expanding role of ionic liquids in dermatological drug administration	<i>International journal of pharmaceutics</i>
Harnessing cu- and fe-based metal-organic frameworks as innovative nanocarriers for enhanced fluconazole delivery in topical management of <i>candida albicans</i>	<i>Journal of drug delivery science and technology</i>
Harnessing the power of ferulic acid: a comprehensive review of its therapeutic mechanisms, delivery innovations, and clinical impact	<i>Current bioactive compounds</i>
Innovative fusion of probiotics and mouth fresheners:	<i>International journal of pharmaceutical</i>

investigating unaltered growth, microscopic analysis, and mucoadhesive strength	<i>compounding</i>
Intranasal delivery of levosulpiride-decorated novel nanosized phospholipid magnesomes for the treatment of schizophrenia: development, optimization, and in vitro characterization	<i>Journal of research in pharmacy</i>
Intranasal delivery of topiramate nanoemulsion: pharmacodynamic, pharmacokinetic and brain uptake studies	<i>International journal of pharmaceutics</i>
Investigation of solid lipid nanoparticles as oral delivery of paclitaxel for enhanced absorption	<i>Journal of research in pharmacy</i>
Investigation on potential of chitosan nanoparticles for oral bioavailability enhancement of risedronate sodium	<i>Aaps pharmscitech</i>
Investigation on potential of karanjin loaded emulgel for improved efficacy against psoriasis	<i>Indian journal of pharmaceutical education and research</i>
Lymphatic targeting system using nano-formulation: challenges and approaches	<i>International journal of pharmaceutical sciences and research</i>
Machine learning-based prediction of drug solubility in lipidic environments: the sol_me tool for optimizing lipid-based formulations with a preliminary apalutamide case study	<i>Aaps pharmscitech</i>
Mechanical properties and biodegradability of electrospun methylcellulose-polyvinylalcohol single-layered nanofibers compared to polycaprolactone/methylcellulose-polyvinylalcohol/polycaprolactone multilayered nanofibers	<i>International journal of polymeric materials and polymeric biomaterials</i>
Mechanistic evaluation of lymphatic targeting efficiency of atazanavir sulfate loaded lipid nanocarriers: in-vitro and in-vivo studies	<i>Journal of drug delivery science and technology</i>
Metallic and metal oxide nanoparticles in treating <i>pseudomonas aeruginosa</i> infections	<i>Journal of drug delivery science and technology</i>
Multifaceted nanolipidic carriers: a modish stratagem accentuating nose-to-brain drug delivery	<i>Journal of nanoparticle research</i>
Nanocomposite hydrogels: an optimistic insight towards the treatments of ocular disorders	<i>Recent patents on nanotechnology</i>
Nanocrystals: a new herald for the management of alzheimer's disease	<i>Journal of dispersion science and technology</i>
Nanocrystals: an emerging paradigm for cancer therapeutics	<i>Future journal of pharmaceutical sciences</i>

Nanoemulsion for topical therapy of acne: optimization and evaluation	<i>Indian drugs</i>
Nanomaterials as drug delivery agents for overcoming the blood-brain barrier: a comprehensive review	<i>Admet and dmpk</i>
Nanotechnology in ocular drug delivery: the potential of polymeric micelles as a drug delivery vehicle	<i>Journal of ocular pharmacology and therapeutics</i>
Nanotechnology-powered meningitis therapies: lipid nanoparticles lead the way	<i>Current pharmaceutical biotechnology</i>
Nose to brain delivery of rotigotine loaded solid lipid nanoparticles: quality by design based optimization and characterization	<i>Journal of drug delivery science and technology</i>
Novel approaches in the drug development and delivery systems for age-related macular degeneration	<i>Life</i>
Off-label use of raloxifene hydrochloride in uterine fibroids: a novel insert-based formulation approach and in-vivo preclinical evaluation	<i>Journal of drug delivery science and technology</i>
Optimization of poly( $\gamma$ -caprolactone) based biodegradable in situ porous drug-eluting insert of bcs class ii/iv drug for targeted application	<i>International journal of polymeric materials and polymeric biomaterials</i>
Optimizing critical quality attributes of fast disintegrating tablets using artificial neural networks: a scientific benchmark study	<i>Drug development and industrial pharmacy</i>
Optimizing etodolac and quercetin loaded msns using taguchi design: an approach for enhancing drug loading efficiency	<i>Journal of pharmaceutical sciences</i>
Oral spray – a review on promising drug delivery system for oral cavity	<i>Asian journal of research in medical and pharmaceutical sciences</i>
Ordered mesoporous silica nanocarriers: an innovative paradigm and a promising therapeutic efficient carrier for delivery of drugs	<i>Journal of drug delivery science and technology</i>
Palbociclib-letrozole loaded solid self-nano emulsifying drug delivery system for oral treatment of breast cancer: in-vitro and in-vivo characterization	<i>Journal of drug delivery science and technology</i>
Pharmaceutical market access in latin america: analyzing approval requirements in three key nations: ecuador, dominican republic, and nicaragua	<i>Applied drug research, clinical trials and regulatory affairs</i>
Phosphatidylcholine (pcl) fortified nano-phytopharmaceuticals	<i>Excli journal</i>

for improvement of therapeutic efficacy	
Polymer-drug conjugates: design principles, emerging synthetic strategies and clinical overview	<i>International journal of pharmaceutics</i>
Practicality assessment of a frugal nanoparticle generator: opening doors to nano pharmaceuticals for the researchers and students of underprivileged academic institutions	<i>Current nanoscience</i>
Preparation and characterization of a novel optimum modified liquisolid compact to enhance the dissolution profile of mifepristone	<i>Dissolution technologies</i>
Probiotic formulations: a patent landscaping using the text mining approach	<i>Current microbiology</i>
Process analytical technology – a review of game changer regulatory framework by us fda	<i>Journal of community health management</i>
Progresses in nano-enabled platforms for the treatment of vaginal disorders	<i>Recent patents on nanotechnology</i>
Quality by design driven development of lipid nanoparticles for cutaneous targeting: a preliminary approach	<i>Drug delivery and translational research</i>
Quantifying alpha arbutin and niacinamide from nanocosmeceutical formulation matrix: aqbd driven high-performance thin-layer chromatographic method	<i>Drug development and industrial pharmacy</i>
Recent review on biological barriers and host–material interfaces in precision drug delivery: advancement in biomaterial engineering for better treatment therapies	<i>Pharmaceutics</i>
Review and analysis of massively registered clinical trials of covid-19 using the text mining approach	<i>Reviews on recent clinical trials</i>
Solubility enhancement of brexpiprazole for schizophrenia using hpβ cyclodextrin ternary complexation	<i>Ars pharmaceutica</i>
State-of-the-art and projected developments of nanofiber filter material for face mask against covid-19	<i>Recent patents on nanotechnology</i>
Study of 5-fluorouracil loaded chitosan nanoparticles for treatment of skin cancer	<i>Recent patents on nanotechnology</i>
The astonishing accomplishment of biological drug delivery using lipid nanoparticles: an ubiquitous review	<i>Current pharmaceutical biotechnology</i>
Thermoresponsive in situ gel of curcumin loaded solid lipid nanoparticle: design, optimization and in vitro characterization	<i>Journal of drug delivery science and technology</i>

Transmucosal delivery of peptides and proteins through nanofibers: current status and emerging developments	<i>Aaps pharmscitech</i>
Unraveling the power of zaleplon laden mcm-41 silica nano-carriers: in vitro and in vivo assessment for insomnia treatment	<i>Bionanoscience</i>

## FOCUSED RESEARCH AREA

- **Novel Drug Delivery Systems (NDDS):** Design and evaluation of advanced drug carriers such as Nanoparticles, Microemulsions, and Solid Lipid Nanoparticles for enhanced therapeutic efficacy. (e.g., *Ordered Mesoporous Silica Nano Scaffold for delivery of poorly soluble drug/s*).
- **Bioavailability Enhancement:** Strategies to improve the absorption of poorly soluble drugs (BCS Class II and IV).
- **Targeted Drug Delivery:** Utilizing materials and ligands to specifically deliver agents, such as for the treatment of diseases like Alzheimer's or eye melanoma.
- **Pharmaceutical Regulatory Affairs:** Review and preparation of regulatory documents, including Chemistry, Manufacturing and Control (CMC) sections for CTD Dossiers.