

Dr. RAHUL SHUKLA

Assistant Professor,
Department of Pharmaceutics,
NIPER Raebareli.

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Research Interest: *Nanomedicine, Particle's engineering, nanomaterials, dendrimers for drug delivery, Polymeric nanoparticles, nanocrystals, nanogels, nano emulsions and Nano-nutraceuticals for various therapeutic applications*

Academic Achievements/Awards/Experiences:

- Got **D.S Kothari Post-Doctoral Fellowship in Medical Sciences** in UIPS, Panjab University
- Got CSIR-GATE fellowship, during PhD from CSIR-Central Drug Research Institute, Lucknow. Qualified Graduate Aptitude Test in Engineering (GATE-2006) in Pharmaceutical Sciences, conducted by I.I.T Kharagpur, with an **All-India Rank-6** with **99.96 percentile**.
- Qualified Graduate Aptitude Test in Engineering (GATE-2005) in Pharmaceutical Sciences, conducted by I.I.T Bombay with 94.61 Percentile in B.Pharm 3rd year.
- Got DST & CICS travel Grant to present paper at International conference on Colloids & Nanomedicine-2012 held at **Amsterdam, Netherland** 15-17 July 2012.
- Got CICS travel Grant -Invited talk on "Doxycycline loaded nanoparticles of PLGA for controlled delivery and effective therapy against lymphatic filariasis", held at ISNSC 2016, **Brisbane, Australia**.
- worked in Formulation Research & Development in Dr Reddy's' Lab Ltd, Hyderabad.
- Got selected for SERB International Research Experience for the year, 2022-2023 for 4 months fellowship at School of Pharmacy and Biomedical Sciences, **University Of Central Lancashire ,United Kingdom**.

Education:

COURSE	UNIVERSITY
Ph. D	J.N.U, New Delhi, CSIR-CDRI, Lucknow
M. Pharm. (Pharmaceutics)	IIT, (BHU), Varanasi
B. Pharm.	Jamia Hamdard, New Delhi

Publications in Refereed International Journals:

- 1) Lymphatic targeting for therapeutic application using nanoparticulate systems, Nidhi Singh, M. Handa, V. Singh, P. Kesharwani, **Rahul Shukla***, Journal of Drug Targeting, 2022, (**Impact Factor: 5.1**)
- 2) Active pharmaceutical ingredients (API) into Ionic liquids: An effective approach for API, M. Handa, **Rahul Shukla***, H. Almalki, W., Alghamdi, S., Alharbi, K. S., **Rahul Shukla ***, & Beg*, S. , Drug Discovery Today, 2022, (**Impact Factor: 8.369**)

- 3) Wearable Smart devices in cancer diagnosis and remote clinical trial monitoring, Mayank Handa, S. Beg, M. Rahman, **Rahul Shukla***, W.H. Almaki, O. Afzal, A. S A Altamimi, Drug Discovery Today,2022, (**Impact Factor: 8.369**)
- 4) Recent advances in nanocrystals heralding greater potential in targeted brain delivery,S Mule, P Khairnar, **Rahul Shukla**, Particle Systems Characterization,2022. (**Impact Factor: 3.46**)
- 5) Rosemary oil low energy nanoemulsion: Optimization, μ rheology, in silico, in vitro and Ex vivo characterization,N Vasdev,M Handa, P Kesharwani, **Rahul Shukla***,Journal of Biomaterials Science Polymer Edition,2022, (**I Factor: 3.68**)
- 6) Potential of particle size ≤ 15 nm for drug transportation to brain through olfactory region when delivered via nasal route, Mayank Handa, Ajit Singh, P. Kesharwani, **Rahul Shukla***, Health Sciences Review,2022
- 7) Formulation and development TPGS nanoengineered polyammidoamine dendrimer for treatment of neurodegenerative disease,Ajit Singh, R.R. Ujjwal, S. Naqvi, S. Tiwari,P. Kesharwani, **Rahul Shukla***, Journal of Drug Targeting,2022, (**I F: 5.1**)
- 8) Silymarin Encapsulated Xanthan Gum Stabilized Selenium Nanocarriers for Enhanced Activity against Amyloid Fibrils Cytotoxicity,V Saini,A Singh, **Rahul Shukla**, K. Jain, A K Yadav, AAPS PharmSciTech,2022, (**Impact Factor: 4.02**)
- 9) Recent trends of natural based therapeutics for mitochondria targeting in Alzheimer's disease, Ashish Dhiman, M. Handa, M. Ruwali,P Kesharwani, **Rahul Shukla***, Mitochondrion,2022, (**Impact Factor: 4.53**)
- 10) Recent advances in lipid-engineered multifunctional nanophytomedicines for cancer targeting, Mayank Handa, Sarwar Beg, **Rahul Shukla***, Md Abul Barkat, Hani Choudhry, Kamalinder K.Singh, Journal of Controlled Release, Volume 340, 10 , Pages 48-59., 2021, (**Impact Factor: 11.46**)
- 11) Stimuli-responsive Polymeric nanosystems for therapeutic applications,M. Handa,A Singh, SJS Flora,**Rahul Shukla***, Current Pharmaceutical Design, 2022,(**I F: 3.3**)
- 12) Recent advances in nanotechnology based combination drug therapy for skin cancer, Shweta Kumari,P K Choudhary, **Rahul Shukla**, P. Kesharwani,Journal of Biomaterials Science Polymer Edition,2022, (**Impact Factor: 3.75**)
- 13) Stimuli-Responsive Microneedles as a Transdermal Drug Delivery System: A Demand-Supply Strategy, B.H. Jaswanth Gowda,M G.Ahmed,Amirhossein Sahebkar, **Rahul Shukla**, P. Kesharwani,Biomacromolecules,2022, (**Impact Factor: 6.978**)
- 14) Biocompatible Nanomaterials for burns, Mayank Handa,S K Maharana, Kamlesh Pal, **Rahul Shukla***, Current Pharmaceutical Biotechnology, 2022, (**Impact Factor- 2.82**)
- 15) Nanocrystals an approachable delivery system for anticancer therapeutics, Pooja Khairnar, M Handa, **Rahul Shukla***, Current Drug Metabolism, (**I Factor- 3.40**)
- 16) Box Behnken Design Optimized Silibinin loaded Nanoliquid crystal for brain targeting, Ajit Singh, A. Vaish, **Rahul Shukla***, Chemistry and Physics of Lipids,2022, (**Impact Factor: 3.57**)
- 17) Graphene quantum dots: Synthesis, optical properties and navigational applications against cancer, Vrushti Kansara, **Rahul Shukla**, SJS Flora, Sanjay Tiwari, Materials Today Communications, 2022, (**Impact Factor: 3.66**)
- 18) Recent highlights on Omicron as a new SARS-COVID-19 variant: Evolution, genetic mutation and future perspectives, P Khairnar, Mukesh Soni, M. Handa, P. Kesharwani, **Rahul Shukla***, Journal of Drug Targeting, 2022, (**Impact Factor: 5.1**)
- 19) Formulation and Optimization of Silymarin Encapsulated Binary Micelles for Enhanced Amyloid Disaggregation Activity, A.Singh, R R Ujjwal, Rahul K Verma, **Rahul Shukla***, Drug Development and Industrial Pharmacy, 2022, (**I F: 3.72**)

- 20) Therapeutic potential of nanoemulsions as feasible wagons for targeting Alzheimer's disease, Handa, M., Tiwari, S., Yadav, A. K., H.Almalki, W., Alghamdi, S., Alharbi, K. S., **Rahul Shukla** *, & Beg*, S. , Drug Discovery Today,2021, (**IF: 8.369**)
- 21) Nanotechnological approaches for targeting amyloid β aggregation with potential for Neurodegenerative disease therapy and diagnosis,Drug Discovery Today,2021, (**Impact Factor: 8.369**)
- 22) Potential of nanoparticulate based delivery systems for effective management of alopecia. Mishra, P., Handa, M., Ujjwal, R. R., Singh, V., Kesharwani, P., & **Shukla, R***, Colloids and Surfaces B: Biointerfaces, 208, 112050,2021, (**IF: 5.99**)
- 23) Investigations on the role of edge activator upon structural transitions in Span vesicles, Rathod, S., Arya, S., **Shukla, R.**, Ray, D., Aswal, V. K., Bahadur, P., & Tiwari, S. , Colloids and Surfaces A,2021, (**Impact Factor: 5.5**)
- 24) Mobility of doxorubicin in TPGS micelles in response to sodium taurodeoxycholate incorporation: Analyses based on scattering and fluorescence studies, Jayant Sarolia, **Rahul Shukla**, Debes Ray, V K. Aswal, S. D. Choudhury,Pratap Bahadur Sanjay Tiwari, Colloids and Surfaces A: Physicochemical and Engineering Aspects,2021, (**Impact Factor: 5.5**)
- 25) Drug Repurposing strategies and key challenges for Covid-19 management, Shubham Mule1, Ajit Singh, Khaled Greish, Amirhossein Sahebkar, P. Kesharwani*, **Rahul Shukla***, Journal of Drug Targeting,2021, (**Impact Factor: 5.1**)
- 26) Stimuli-responsive Polymeric nanosystems for therapeutic applications, Mayank Handa, Ajit Singh, Ajit Singh, S.J.S. Flora, Rahul Shukla*, Current Pharmaceutical Design,2021, (**Impact Factor: 3.33**)
- 27) Epidemiology, virology and clinical aspects of hantavirus infections:an overview, Sima Singh, Arshid Numan, D. Sharma, **Rahul Shukla**, A. Alexander, Gaurav K. Jain, Farhan J. Ahmad and Prashant Kesharwani, International Journal of Environmental Health Research,2021, (**Impact Factor: 4.5**)
- 28) PAMAM dendrimer as a talented multifunctional biomimetic nanocarrier for cancer diagnosis and therapy, Bhavya Surekha, Naga Sreenu Kommana, Sunil Kumar Dubey, A V Pavan Kumar, **Rahul Shukla**, P. Kesharwani, Colloids and Surfaces B,2021, (**Impact Factor: 5.99**)
- 29) Nanotherapeutics approaches for targeting alpha synuclien protein in the management of Parkinson disease, Singh, A., Maharana, S. K., **Shukla, R***, & Kesharwani, P., Process Biochemistry, 110, 181–194,2021, (**Impact Factor: 4.88**)
- 30) Nanocarrier mediated autophagy an emerging trend for cancer therapy, Singh, A., Handa, M., Ruwali, M., Flora, S.J.S, **Shukla***, **R.**, & Kesharwani*, P., Process Biochemistry,2021, (**Impact Factor: 4.88**)
- 31) Quantum dot: Heralding a brighter future in neurodegenerative disorders, Singh, A., Mallika, T. N., Gorain, B., Yadav, A. K., Tiwari, S., S.J.S.Flora, **Shukla***, **R.**, & Kesharwani*, P., Journal of Drug Delivery Science and Technology,2021, (**IF=5.06**)
- 32) Viral vectors as a promising nanotherapeutic approach against neurodegenerative disorders., Srivastava, V., Singh, A., Jain, G. K., Ahmad, F. J., **Shukla, R***, & Kesharwani, P. , Process Biochemistry,2021, (**Impact Factor: 4.88**)
- 33) Optimization of Surfactant and Co-Surfactant Aided Pine Oil Nanoemulsion by Isothermal Low-Energy Methods for Anticholinesterase Activity, Handa, M.,Ujjwal, R. R.,Vasdev, N., Flora, S.J.S., and **Shukla, R***. ACS Omega, 6, 1, 559–568, 2021, (**Impact Factor: 4.1**)
- 34) Box-Benkhen Design Optimized TPGS Coated Bovine Serum Albumin Nanoparticles Loaded with Anastrozole, Kumar, A., Singh, A., Flora, S.J.S., **Shukla, R***. Current Drug Delivery, 2020. (**Impact Factor: 3.75**)

- 35) Nanodiamonds: A Versatile Drug Delivery System in Recent Therapeutics Scenario, Yadav, A. K., **Shukla, R.**, Flora, S.J.S., Critical Reviews™ in Therapeutic Drug Carrier Systems, (2020). (**Impact Factor: 3.09**)
- 36) Formulation and evaluation of gastro-retentive floating bilayer tablet for the treatment of hypertension, Balaji Maddiboyina, M. Hanumanaik, R. Krishna N. Vikas Jhawat, Pinki Rawat, Aftab Alam, Ahmed I. Foudahd Majed M. Alrobaian, **Rahul Shukla**, S Singh, P. Kesharwani, Heliyon, Volume 6, Issue 11, November 2020, (**Impact Factor: 3.77**)
- 37) Investigations of process parameters during dissolution studies of drug loaded 3D printed tablets, Part H: Journal of Engineering in Medicine, 2021,
- 38) 3D Printing Fabrication of Personalized Nanomedicine, Keerti Jain, Rahul Shukla, Awesh Yadav, Rewati Raman Ujjwal and S.J.S. Flora, Nanomaterials, 2021, (**Impact Factor: 5.7**)
- 39) Silymarin Encapsulated Nanoliquid Crystals for Enhanced Activity against Beta Amyloid Induced Cytotoxicity, Ajit Singh, Ashish Kumar, Rahul Verma, **Rahul Shukla***, International Journal of Biological Macromolecules, Volume 149, 1198-1206, 2020. (**Impact Factor: 8.02**)
- 40) Immune checkpoint inhibitors: a promising anticancer therapy, Sima Singh, Daniel Hassan, Hibah M. Aldawsari, N. Molugulu, **Rahul Shukla**, P. Kesharwani, Drug Discovery Today, Volume 25, Issue 1, 2020, Pages 223-229, (**Impact Factor: 8.369**)
- 41) Autophagy inducing inhalable Co-crystal formulation of Niclosamide-Nicotinamide for lung cancer therapy, Eupa Ray, K. Vaghasiya, A. Sharma, **Rahul Shukla**, Anil Kumar, Rahul K Verma, AAPS PharmSciTech (2020), (I.Factor=4.02)
- 42) Role of flavonoids in neurodegenerative diseases: Limitations and future perspectives, Gagandeep Mann, Biplab Sikdar, Ashish Kumar, **Rahul Shukla**, Awanish Mishra, Current Topics in Medicinal Chemistry, 2020, (I.Factor=3.57)
- 43) Insulin mediated novel therapies for the treatment of Alzheimer's disease, S K Dubey, K.K. Lakshmi, K V Krishna, Mukta Agrawal, Gautam Singhvi, R N Saha, Swarnlata Saraf, Shailendra Saraf, **Rahul Shukla**, A Alexander, Life Sciences, 2020, (I.Factor=6.75)
- 44) Recent advances in self-assembled nanoparticles for drug delivery, T Varma Lanke, N. Singh, B. Gorain, H Gorain, Murtaza Tambuwala, P. Kesharwani, **Rahul Shukla***, Current Drug Delivery, 2020, (**Impact Factor: 3.75**)
- 45) Azacitidine loaded PLGA nanoparticles and its dual release mechanism, Kanchan Kashyap, Mayank Handa, Rahul Shukla*, Current Nanomedicine, 2020.
- 46) Drug delivery and targeting to the brain through nasal route: Mechanisms, Applications and Challenges, Kanchan Kashyap, **Rahul Shukla***, Current Drug Delivery, Volume 16, Number 10, 2019, 887-901, 2019, (**Impact Factor: 3.75**)
- 47) Temperature/pH-Triggered PNIPAM-Based Smart Nanogel System Loaded With Anastrozole Delivery for Application in Cancer Chemotherapy". Ajit Singh, Kalpesh Vaishagya, Rahul K. Verma, **Rahul Shukla***; AAPS PharmSciTech (2019) 20: 213. (**I.F=4.02**)
- 48) Polycaprolactone based nano-carrier for co-administration of moxifloxacin and rutin and its in-vitro evaluation for sepsis, M. Handa, A. Sharma, Rahul K. Verma, **Rahul Shukla***, Journal of Drug Delivery Science and Technology, 2019. (**I.F=5.06**)
- 49) Key Signaling Pathways Engaged in Cancer Management :Current Update, Sanjiv Singh and Rahul Shukla, Current Cancer Therapy Reviews, 2020, 16, 36-48.
- 50) Nanocrystals: An Overview of Fabrication, Characterization and Therapeutic Applications in Drug Delivery, Vishwas P. Pardhi, Tejesh Verma, S.J.S. Flora, H.

Chandasana, **Rahul Shukla***, Current Pharmaceutical Design , Volume 24 , Issue 43 , 2018.(**I.F=3.33**)

- 51) Caffeic acid phenethyl ester (CAPE) reverses fibrosis caused by chronic colon inflammation in murine model of colitis.,MM Tambuwala, P Kesharwani, **R Shukla**, PD Thompson, PA McCarron, Pathology-Research and Practice, Vol. 214, Issue 11, Pages 1909-1911 2018, (**I. F: 3.3**)
- 52) Quality by Design (QbD)-enabled development of aceclofenac loaded-nano structured lipid carriers (NLCs): An improved dermatokinetic profile for inflammatory disorder(s).N. K. Garg, G. Sharma,B. Singh, P.Nirbhavane, R. K. Tyagi, **Rahul Shukla**, O.P. Katare, Int. Jou. of Pharmaceutics, 517 (2017) 413–431 (**I. F: 6.51**)
- 53) Chitosan coated alginate micro particles for oral delivery of antifilarial drug and combinations for intervention in Brugia malayi induced lymphatic filariasis. **R.Shukla**,J.Gupta et al., RSC Advances 2015, 5, 69047–69056.(**Impact factor 4.03**)
- 54) Emerging trend in nano-engineered polyelectrolyte based surrogate carriers for delivery of bioactives. Shukla P, Gupta G, Singhodia D ,**Shukla R**, et al. Expert opin Drug Deliv. 2010 Sep; 7(9):993-1011.(**Impact factor 8.12**)
- 55) Ciprofloxacin surf-plexes in sub-micron emulsions: A novel approach to improve payload efficiency and antimicrobial efficacy, V. Jain, D Singodia, G K. Gupta, D Garg, G.B.S Keshava, **Rahul Shukla**, P. K. Shukla and P R. Mishra, International Journal of Pharmaceutics,Vol. 409 (2011) 237–244 (**I. Factor: 6.5**)
- 56) Development of Nevirapine Loaded Novel Surfactant Free Polymeric Emulsion and Investigations for Its Suitability as Drug Delivery Vehicle. D Singodia, S Kansal, A Verma, **Rahul Shukla**, P Shukla,P Dwivedi, V Kumar, P Gupta, A. K. Dwivedi, and P R. Mishra.Journal of Bionanoscience Vol.4, 66-73 (2010)
- 57) Exploiting 4-sulphate N-acetyl galactosamine decorated gelatin nanoparticles for effective targeting to professional phagocytes in vitro and in vivo. P. Dwivedi, S. Kansal, M.Sharma, **Rahul Shukla**, A. Verma, P. Shukla, P. Tripathi, P. Gupta, D. Saini, K. Khandelwal,R. Verma, A. K. Dwivedi and P. R. Mishra Journal of Drug Targeting, 2012 Oct 1,(**Impact Factor 5.1**)
- 58) Microparticles of Diethylcarbamazine Citrate for the Treatment of Lymphatic Filariasis.**Rahul Shukla***, J. Kumar, P. Dwivedi, P. Gatla and P.R. Mishra Asian Journal of Chemistry; Vol. 25, (2013), 302-304.
- 59) Preparation and characterization of solid lipid nanoparticles of antimalarial drug Arteether for oral administration.P. Dwivedi, R. Khatik, K. Khandelwal, **Rahul Shukla**, S. K Paliwal, A. K Dwivedi, P R Mishra,Journal of Biomaterials and Tissue Engineering, Vol. 4, 1–5, 2014
- 60) Formulation and characterization of Amphotericin B loaded nanostructured lipid carriers using microfluidizer, P. Tripathi, A.Verma, P. Dwivedi, D. Sharma, V. Kumar, **Rahul Shukla**, V. Teja Banala, G. Pandey, S. D. Pachauri and P R Mishra,Journal of Biomaterials and Tissue Engineering 2014, Vol. 4(3), 194-197).
- 61) Development of docetaxel nanocapsules for improving in vitro cytotoxicity and cellular uptake in MCF-7 cells, S K Singh, V. T. Banala, G. K. Gupta, A. Verma, **Rahul Shukla**, V K. Pawar, P. Tripathi, P.R Mishra,Drug Development and Industrial Pharmacy 2015, (**Impact Factor 3.75**)
- 62) Poly (lactic-co-glycolic acid) (PLGA) & Poly (caprolactone) (PCL)Nanoparticles for Sustained delivery of anti-filarial drug. Full Paper in conference Proceedings. ASP-14, Indian Institute of Technology, Guwahati.
- 63) Cationic Chitosan Grafted Lipid Nanocarriers of a Chemotherapeutic Agent. held at. Full Paper in Proceedings ASP-14, Indian Institute of Technology, Guwahati.

Patent & Copyrights :

1. Combinatorial Formulation for Solubilization of Poorly Water Soluble Drugs & Method of Preparation Thereof. Dr. Rahul Shukla, Mr. Mayank Handa, Dr. S.J.S. Flora, Indian Patent No: 201911046999.
 2. Pharmaceutical Compositions Of Montelukast For Enhancing Oral Bioavailability And Method Of Preparation Thereof, Dr. Rahul Shukla, Mr. Mayank Handa, Mr Nikhil Chauhan, Dr. S.J.S. Flora, Patent No: 201911042226.
 3. Novel Composition of Zein Polymeric Nanoparticles and Method Of Preparation Thereof, Dr. Rahul Shukla, Mr. Mayank Handa, Mr Ajit Singh, Mr Abhas Saxena, Dr. S.J.S. Flora, Indian Patent No: 202011024072.
 4. Coating Composition having Pathogen Deactivation Properties for 3-Ply Surgical-Mask and Method of Preparation Thereof, Dr. Rahul Shukla, Dr Anoop Kumar, Dr. A K Yadav, Dr. S.J.S. Flora, Indian Patent No: 202011033702
 5. Natural Oil Based Herbal Sanitizer Hydrogel Composition and Method of Preparation Thereof, Dr. A K Yadav, Dr. Rahul Shukla, Dr Saba Naqvi, Dr. S.J.S. Flora, Indian Patent No: 202011033482
 6. Novel Non-Aqueous Topical Anti-Inflammatory Drug Composition and Method of Preparation Thereof Dr Rahul Shukla, Gagandeep, Mayank Handa, Dr Awanish Mishra, Dr S.J.S. Flora, Indian Patent No: 202111007442.
 7. Novel Method of Preparation for Metallic nanoparticles and Product Thereof, Dr. Rewati Raman Ujjwal, Mr. Mayank Handa, Dr. Rahul Shukla, Dr. S.J.S. Flora, Indian Patent No: 202111009794.
1. **Copyright granted:** PharmSolWave Technology, Dr. Rahul Shukla, Mr. Mayank Handa, Dr. S.J.S. Flora, Diary No. 18327/2019-CO/L.

Editor in Book:

1. **IntechOpen – Title “Role of Novel Drug Delivery Vehicles in Nanobiomedicine”, Edited by Dr Rajeev K. Tyagi, Dr Neeraj K Garg, Dr Rahul Shukla, Dr Prakash Singh Bishen**
2. **Elsevier : Nanomedical Drug Delivery for Neurodegenerative Disease, Edited by Dr A K Yadav, Dr Rahul Shukla and Dr S.J.S. Flora**
3. **Elsevier: Multifunctional Nanocomposites for Targeted Drug Delivery in Cancer Therapy, Edited by Dr A.K. Yadav, Dr Rahul Shukla and Dr Rewati R.Ujjwal**
4. **Elsevier: Cannabis and Its Derivatives: Guide to Medical Application And Regulatory Challenges, Edited by Dr Rahul Shukla, Dr Ashis Dhir, Mr Mayank Handa and Dr. D.P Singh**
5. **Elsevier: Infectious diseases: innovations applying nanoarchitectures, Edited by Dr. Rahul Shukla, Dr Sarwar Beg, and Mr Mayank Handa**
6. **Ereadon: Pharmaceutics-I, Edited by Dr Rahul Shukla and Dr Pankaj K. Singh**

Chapter in Book Published by International Publisher :

- I. “Chitosan-Based Nanocarriers A Promising Delivery System for Bioactives” Book Chapter published by , NanoAgroceuticals & NanoPhytoChemicals.,**CRC Press, Taylor & Francis Group**
- II. “Dendrimer-based nanocarriers in lung cancer therapy” Book “Nanotechnology-based Targeted Drug Delivery Systems for Lung Cancer” Chapter Published by **Elsevier.**
- III. “Dendrimer-based nanoparticulate delivery system for cancer therapy” Book Chapter Published by **Elsevier, 2019.**
- IV. “Conclusion and future prospective of polymeric nanoparticles for cancer therapy” Book Chapter Published by **Elsevier, 2019.**
- V. “History of Flavors associated with functional foods and Nutraceuticals” : Flavor development for functional foods and nutraceuticals, Flavor development for functional foods and nutraceuticals, Book Published by **CRC Press 2019, taylor & francis group.**
- VI. “Flavors and Fragrances - Natural and Food Grade Ingredients for Nutraceuticals applications” Flavor development for functional foods and nutraceuticals,Book Published by **CRC Press 2019, taylor & francis group.**
- VII. “Natural flavors in functional food supplements” Flavor development for functional foods and nutraceuticals, Book Published by **CRC Press 2019, taylor & francis group.**
- VIII. “Introduction to Pharmaceutical Product Development” Pharmaceutical Product and Process Optimization Book Published by **Apple Academic Press 2019.**
- IX. “Recent Advances in the Development of Nanopharmaceuticals” Pharmaceutical Product and Process Optimization book Published by **Apple Academic Press 2019.**
- X. “Environmental risk factors, genetic variations and their interactions: Association with susceptibility to cancer” for book on “Environmental Microbiology and Biotechnology” to be published by **Springer Nature**, Singapore.
- XI. “Human Microbiome and Malignancy: Principles, Mechanisms and Challenges” BookChapter for book on “Infectious Diseases and Microbes: Progress and Prospects” published by **Springer-Nature.**

- XII. “Application of membrane processing techniques in waste water treatment for food industries”, for book on Applications of Membrane Technology for Food Processing Industries” going to be Published by **CRC Press**.
- XIII. “Retention of antioxidants by using novel membrane processing technique”, for book on Applications of Membrane Technology for Food Processing Industries Published by **CRC Press**.
- XIV. “Probiotic supplementation in major depressive disorders” for book on Volume 4: Successes, problems and future prospects of probiotics in neurodegenerative disorders, published by **Springer Nature**.
- XV. “Role of Probiotics in Rheumatoid Arthritis” for book on Volume 5: Probiotics in Cancers and immunology of Multivolume Book series entitled “Probiotic Research in Therapeutics” going to be published by **Springer Nature**.
- XVI. “Dendrimer-based drug delivery systems for tuberculosis treatment” Nanotechnology Based Approaches for Tuberculosis Treatment Published by **Elsevier**.
- XVII. "Electrospun nanofibers for wound healing", in book "Theory and Applications of Nonparenteral Nanomedicines, Published by **Elsevier**.
- XVIII. "Nanomedicine in pain management", in book "Theory and Applications of Nonparenteral Nanomedicines",Published by **Elsevier**.
- XIX. “Emergence of Nanophytomedicine in Health Care Setting”, in Book Nanophytomedicine, published by **Springer Nature**.
- XX. “Nanophytomedicine Market: Global Opportunity Analysis and Industry Forecast” in Book Nanophytomedicine, published by Springer Nature.
- XXI. “Nanotechnological Advances in Direct Nose to Brain Drug Delivery for Neurodegenerative Disorders and other Neuro-ailments”, in Book on Direct Nose to Brain Drug Delivery Published by **Elsevier**.
- XXII. “Immunochemotherapy combination therapy in cancer treatment”, to be published by **Springer Nature**, Singapore.
- XXIII. “Clinical Translation Status of Nanoformulations”, to be published by **Springer Nature**, Singapore.
- XXIV. "Role of nanomedicines in neglected tropical diseases", to be published by **Wiley**.
- XXV. Oxidative Stress and Cancer: Role of the Nrf2-Antioxidant Response Element Signaling Pathway published by **Springer Nature**, Singapore.

- XXVI. Nano Drug Delivery Approaches for Lymphatic Filariasis Therapeutics, to be published by **Springer Nature**
- XXVII. Futuristic Potential of Nanoantibiotics Against Multidrug Resistant Tuberculosis, to be published by **Springer Nature**
- XXVIII. Nanotechnology-mediated combinational drug delivery approach for cancer therapy Published by **Elsevier**
- XXIX. Application of nanotechnology assisted devices in cancer treatment Published by **Elsevier**
- XXX. Chitosan as a biomaterial for implantable drug delivery Published by **Elsevier**
- XXXI. Chitosan for delivery of biomolecules Published by **Elsevier**
- XXXII. Nanomaterial-based drug delivery systems as tools for targeted therapy of neurodegenerative diseases Published by **Elsevier**
- XXXIII. New Insights into Nanoparticulate Carriers for Direct Nose-to-Brain Drug Delivery, Nanoengineering of Biomaterials, 261-307, **Wiley**
- XXXIV. Application of nanotechnology assisted devices in cancer treatment Nanotherapeutics in Cancer Vaccination and Challenges, **Elsevier**
- XXXV. 3D Nanoprinting in the Biomedical Industries, Smart 3D Nanoprinting, **CRC Press**

International Conference Paper Presented:

- ❖ Paper Title “A Lymphotropic Delivery System for Antifilarial Drug: Diethylcarbamazine Citrate.” Colloids and Nanomedicine 2012 Conference Organized by Elsevier held at **NH Grand, Amsterdam, Netherlands.**
- ❖ Paper Title “Doxycycline loaded nanoparticles of PLGA for controlled delivery and effective therapy against lymphatic filariasis”, held at ISNSC 2016, **Mercure Brisbane, Australia.**

Abstract in conferences (India)

Invited Talk

- **Invited talk on** “Doxycycline loaded nanoparticles of PLGA for controlled delivery and effective therapy against lymphatic filariasis”, held at ISNSC 2016, **Mercure Brisbane, Australia.**
- Invited talk on “ISNSCON2018 : 6th World Congress on Nanomedical Sciences” held at Vigyan Bhawan, New Delhi.

- Poly (lactic-co-glycolic acid) (PLGA) & Poly (caprolactone) (PCL) Nanoparticles for Sustained delivery of anti-filarial drug. **(Oral Presentation)**
ASP-14, held at Indian Institute of Technology, Guwahati.
- Microparticles of Diethylcarbamazine Citrate for the Treatment of Lymphatic Filariasis. ICONN-2013 held at SRM University, Chennai. **(Oral Presentation)**
- **Invited talk on “Pharmaceutical Innovation & Product development of therapeutics” Lyotalk, Novotel, Hyderabad, Feb 23-24’2017.**
- Llyod’s Institute of Technology, Noida Webinar dated 19 May’2021
- Faculty of Pharmacy, Dharmsinh Desai University, Nadiad Webinar dated 21/8/2021
- BICON-2021 Indo Japan Fest Webinar dated 15 Dec’2021
- Invited Expert talk on **“Pharmaceutical Nanocrystals Techniques”**, **Delhi Pharmaceutical Sciences & Research University, New Delhi, India.**

Workshop & National School Participated & Distance Learning Courses.

- Participated in QIP Short term course in Department of Material Sciences, IIT BHU Faculty Development Programs on “Nanomaterials Synthesis, characterizations & Applications”, 1-6 July 2019
- The Distance Learning General course on Intellectual Property from Feb 1-April 28, 2013 conducted by WIPO Academy completed.
- Participated in Nano Mission School on “Nano Science & Nano Technology- Biological Sciences” conducted by INST, Mohali from Nov **6th-11th** , 2017.
- Participated in Workshop on Biorisk Management, hosted by Sandia National Lab, USA, 11th -15th Sep’2017.
- Participated in National Workshop on “Research Methodologies in Animal Sciences” Organized by Department of Zoology, Centre for Advanced Studies (UGC), Panjab University, Chandigarh from March 21st to 28th March, 2017.
- Participated in Symposium cum workshop on “Then Integration of Biological Methods in the Nano field of Chemistry” held at SAIF, Panjab University, Chandigarh, 3rd - 4th March’2017.
- Participated & Presented Paper in National School on Sustainable Polymers conducted by Dept. of Chemical Engineering, IIT, Guwahati from Jan 6-11 2014.
- Scientific and Technical Awareness Programme on Animal Experimentation, March 26-30, 2012 held at National Laboratory Animal Centre, Lucknow

Membership of Professional Bodies

- **Life Member of Association of Pharmaceutical Teachers of India (APTI) , India.**
- **Life Member of Indian Pharmacy Graduates' Association (IPGA), New Delhi, India.**
- **Life Member of Indian Red Cross Society, New Delhi.**
- **Member of Expert Committee in AKTU, Lucknow, Lucknow University and Era University, Lucknow.**

Extra Curricular Activities

- ◆ **Member of scientific, registration and reception committee of 59TH Indian Pharmaceutical Congress held at B.H.U.**
- ◆ **Got N.C.C 'B' Certificate.**
- ◆ **Participated in National Games-94, Pune.**
- ◆ **Life member of Youth hostels association of India.**

STUDENTS SUPERVISED

Post Graduate level: 27

PhD:3(Ongoing)

Post Doctoral: 1 (N-PDF)