

## Dr. RAHUL SHUKLA

Assistant Professor,  
Department of Pharmaceutics & Regulatory Affairs,  
NIPER Raebareli.

E-mail: [rahul.shukla@niperraebareli.edu.in](mailto:rahul.shukla@niperraebareli.edu.in) , [rahul.shukla@niperrbl.ac.in](mailto:rahul.shukla@niperrbl.ac.in)



**Research Interest:** *Pharmaceutics, Nanomedicine, Particle Engineering, Bionanomaterials, Polymeric nanoparticles, Phytopharmaceuticals, nanocrystals, for various therapeutic applications such as Neurodegenerative disorders, cancer, glioma, and osteoarthritis*

### Academic Achievements/Awards/Experiences:

- Listed in Stanford University **Top 2% Scientist** List released on 04<sup>th</sup> Oct'2023,2024, and 2025 in Pharmaceutical Sciences Worldwide.
- Got selected for **SERB International Research Experience (SIRE)** Fellow for the year, 2022-2023, fellowship at the School of Pharmacy and Biomedical Sciences, University of Central Lancashire, United Kingdom.
- Got **D.S. Kothari Post-Doctoral Fellowship in Medical Sciences** at UIPS, Panjab University, Chandigarh, India
- worked in Formulation Research & Development at Dr Reddy's Lab Ltd, Hyderabad.
- Received the Gyanodaya Award from NIPER Raebareli for Excellent Service in the Institute, dated 26 Jan 2025.
- Editorial board of Journal Scientific Reports.
- Elected as a Fellow of The Linnean Society of London.

### 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) Functionalized iron oxide nanoparticles improve iron status and alleviate iron deficiency anemia: Evidence from a comparative In vivo study, Dennis George, A. Kumar, S. Kumar, H. Saxena, P. Singh, P. Kumar, S. Mahajan, R.Kumar, P K Gupta, M. Handa & **Rahul Shukla**, Inorganic and Nano-Metal Chemistry, 2026.
- 2) Utilizing Extracellular Vesicles for Delivering Therapies in Neurodegenerative Disorders,AD Sutar, AS Kamble, Nitin Chitranshi, **Rahul Shukla\***, Current Drug Delivery, 2026.
- 3) Naringenin-encapsulated Nano-cochleate Hydrogel for Topical Delivery: Cellular Anti-inflammatory Activity and Dermatokinetic Profiling, Anuja S.Kamble, Ashish D. Sutar, Gagandeep Kaur, Kamalinder K. Singh and **Rahul Shukla\***, **RSC Pharmaceutics**, 2025.

- 4) Synergistic Antioxidant and Anti-Inflammatory Effects of Baicalin-Loaded Essential Oil-Based Nano-Phytogel, Ashish D. Sutar, Kamalinder K. Singh\* and **Rahul Shukla\***, *BioNanoScience*,2025.
- 5) Immunopathology to Nanotherapeutics: Redefining Psoriasis Management in Autoimmune Disease, Anuja Kamble, Ashish Sutar, B. Behera, P. Gupta\* and **Rahul Shukla\***, *ACS Nano Medicine*, 2025.
- 6) The interplay of oxidative stress and neurodegeneration: Nanoantioxidants as a novel therapeutic approach, Akshay Yadav, Siddhant Kumar, Shagufta Parveen, Prashant Kesharwani\*, **Rahul Shukla\***, *Microchemical Journal*, 2025.
- 7) Silymarin as a phytopharmaceutical agent: Advances in mechanistic insights, formulation strategies, and pre-clinical applications, Mahewish Sayyad, Ashish Dilip Sutar, Kamini Shivhare, **Rahul Shukla\*** and S.J.S. Flora, *Frontiers in Pharmacology*,2025.
- 8) Emerging Smart Microneedle Technologies in Psoriasis: Convergence of Nanocarriers, Machine learning, and Personalized Delivery, Ashish D. Sutar, **Rahul Shukla\***, *RSC Pharmaceutics*,2025.
- 9) Advancements in Cartilage Tissue Regeneration: Harnessing Nano- and Microtechnology for Enhanced Mesenchymal Stem Cells Delivery in Osteoarthritis Treatment, Ayush Rohila, Kailash Ahirwar, and **Rahul Shukla\***, *Journal of Biomaterials Science: Polymer Edition*,2025.
- 10) Surface Functionalized Nanoparticles for Targeted Drug Delivery Across the Blood-Brain Barrier: Advances and Challenges in Neurodegenerative Disease Therapy, Pramoda G., R. K. Verma, P. Kesharwani\*, and **Rahul Shukla\***, *Journal of Molecular Liquids*, 2025.
- 11) Evaluation of Antidermatophytic and Wound-Healing Effect of Garlic Essential Oil-Loaded Ethosomes Formulation, Manjali Rana, Akhilesh Kumar, R. Raguvaran, Rohit Kumar, Pawan Kumar, Sudhir Kumar Prajapati, Abhishek, Madhu Gupta, **Rahul Shukla**, *Journal of Drug Delivery Science and Technology*, 2025.
- 12) Oral Delivery of Transferrin-Coated Rivastigmine Microspheres for Alzheimer's Disease Therapy, Omkar Khaire, Kailash Ahirwar, Ajit Singh, **Rahul Shukla\***, and S.J.S. Flora\*, *Discover Pharmaceutical Sciences*, 2025.
- 13) Triphenylphosphine-Based Mitochondrial Targeting Nanocarriers: Advancing Cancer Therapy, Mohd S. Ali1, BH Jaswanth Gowda, **Rahul Shukla**, P. Kesharwani\*, *Clinical Pharmacology: Advances and Applications*,2025.
- 14) Exploring the Remyelinating Efficacy of Nanoliposomes Encapsulating Withania somnifera and Ginkgo biloba in a Murine Model of Induced Demyelination, Harshit Saxena, Akhilesh Kumar, Rohit Kumar, Pawan Kumar, Madhu C. Lingaraju, **Rahul Shukla**, Karuna Shankare, Madhu Gupta, *Journal of Liposome Research*,2025.
- 15) Intranasal Therapeutics for Neurodegenerative Disorders: Overcoming the Blood-Brain Barrier with Smart Formulations and Devices, Siddhant Kumar, A. Yadav, R. K. Verma, A. Kumar, P. Gupta, and **Rahul Shukla\***, *Molecular Pharmaceutics*,2025.
- 16) Quality by Design based Hydrogel Formulation of 4-Octyl Itaconate-Loaded Nanostructured Lipid Carriers for Epidermal Restoration in Atopic Dermatitis, Manaswini Behera, Priyanka Mahale, A. Gowtham, Ashish D. Sutar, Ravinder K. Kundal\*, **Rahul Shukla\***, *Journal of Pharmaceutical Investigation*,2025.
- 17) Navigating Neurodegeneration: Challenges, Pathophysiology, Biomarkers, and the Promise of Nanocrystals-Based Nanotherapeutics, Gagandeep Kaur, Jay Prakash Dewangan, Anuradha Kumari, **Rahul Shukla\***, *Journal of Microencapsulation*,2025.

- 18) Utilising extracellular vesicles for delivering therapies in neurodegenerative disorders, Ashish Dilip Sutar, Anuja Shashikant Kamble, Nitin Chitranshi, **Rahul Shukla\***, *Current Drug Delivery*,2025.
- 19) Breathing New Life Nanomedicines for Pulmonary Drug Delivery: Targeting approaches, Experimental models, and Regulatory aspects, A. Gholap, S. Pardeshi, P. Giram, S. Nangare, S. Sodha, H. Kapare, M. More, Y. Sonar, **Rahul Shukla**, J. Naik, G. Reddy, F. Damiri, N. Dhas, M. Berrada, D. Bari, B. Prajapati, Mónica C. García & C. Pardeshi, *Beni-Suef University Journal of Basic and Applied Sciences*, 2025.
- 20) Apolipoprotein-Decorated Drug-Loaded Liposomes Mitigating Copper Intoxication: an in vitro and in vivo Evidence-Based Study Intervening Wilson Disease, A. Chaturvedi, G. Kaur, and **Rahul Shukla\***, *Naunyn-Schmiedeberg's Archives of Pharmacology*,2025.
- 21) Leveraging Nanoscience and Strategic delivery for the expedition of Osteoporosis, Pramoda G, Rahul K Verma, **Rahul Shukla\***, *AAPS PharmSciTech*,2025.
- 22) Intranasal Apocynin-Loaded Nanostructured Lipid Carriers (NLCs) for Alzheimer's Disease Therapy: Formulation, Optimization, and Pharmacokinetic Evaluations, S. Samala, A. Mhaske, **Rahul Shukla\***, *Journal of Drug Delivery Science and Technology*,2025.
- 23) Vincristine loaded bioinspired vesicles: Preparation, Characterization, and In-Vitro evaluation on U87-MG cells, Reetika Tandon, Mayank Handa, **Rahul Shukla** & Nidhi Srivastava, *Journal of Cluster Science*,2025.
- 24) Synergy of Microfluidics and Nanomaterials: A Revolutionary Approach for Cancer Management, Pramoda G, Mansi Singh, Piyush Kumar Gupta, **Rahul Shukla\***, *ACS Applied Biomaterials*, 2025.
- 25) siRNA-based therapeutics in hormone-driven cancers: Advancements and benefits over conventional treatments, Sayani Saha, Reetika Tandon, Jhansi Sanku, Anchala Kumari, **Rahul Shukla**, Nidhi Srivastava, *International Journal of Pharmaceutics*,2025.
- 26) Nano-Mediated Management of Metal Toxicity-Induced Neurodegeneration: A Critical Review, Priyanshu Rajesh Dubey, Gagandeep Kaur, and **Rahul Shukla\*** *Molecular Neurobiology*,2025, **(I F: 4.6)**
- 27) Pharmacokinetic and Pharmacodynamics of Clofazimine Nano-in-micro-Particles: Enhanced Brain Delivery and CNS tuberculosis Amelioration via Intranasal Administration, Krishna Jadhav, Agrim Jhila,; Raghuraj Singh,; Swarnima Negi,; Shweta Sharma; **Rahul Shukla**, Amit K Singh; Rahul K Verma, *ACS Infectious Diseases*,2025, **(IF: 4.2)**
- 28) Neuroprotective Potential of Baicalin Nanocrystals: Optimisation, Comprehensive In Vitro SH-SY5Y Cell Studies and In Vivo Pharmacokinetics, Akshay Fadnis, Akshada Mhaske, and **Rahul Shukla\***, *Bionanosciences*,2025, **(I F: 3.0)**
- 29) Copper induced Neurodegenerative Disorders and therapeutic Potential of Curcumin-Loaded Nanoemulsion, Akshada Mhaske, Govind Hake, **Rahul Shukla\***, S.J.S. Flora\*, *toxics*, MDPI, 2025. **(I F: 4.1)**
- 30) Investigating the Efficacy of Gliclazide Encapsulated Hydrogel in the Preclinical Mice Model for Atopic Dermatitis, K. Mamale, S. Shukla, P. Mahale, Akshada Mhaske, Ravinder K. Kaundal\*, **Rahul Shukla\***, *Naunyn-Schmiedeberg's Archives of Pharmacology*,2024, **(I F: 3.1)**
- 31) Innovative Food Applications of Quinoa: Exploring Novel Insights into its Nutritional Potential and Biological Activities, Rohit Kumar, Sweety Bhardwaj, Mohini

- Sikarwar, Akhilesh Kumar, Bhoj Raj Singh, Madhu Gupta, **Rahul Shukla**, Journal of Food Composition and Analysis,2024, (I F: 4.0)
- 32) Trans-nasal Brain Delivery of Anti-TB Drugs by Methyl- $\beta$ -cyclodextrin Microparticles show Efficient Mycobacterial Clearance from Central Nervous System, Krishna Jadhav, Agrim Jhila, Raghuraj Singh, Shweta Sharma, Swarnima Negi, Kailash Ahirwar, **Rahul Shukla**, Amit K. Singh, Rahul K. Verma Journal of Controlled Release,2024, (I F: 11.5)
- 33) Modulation of Copper-Induced Neurotoxicity by Monoisoamyl 2,3-dimercaptosuccinic acid loaded nanoparticles through Inhibition of Mitophagy and Reduction of Oxidative Stress in SH-SY5Y cells, Akhanda Mhaske, SJS Flora\*, **Rahul Shukla\***, Toxicology Reports, 2024,
- 34) Therapeutic Role of Scutellarein in Neurological Disorders, Rohit Kumar, Sucharitha Bai, **Rahul Shukla**, Saba Naqvi, Current Pharmaceutical Design,2024, (I F: 3.0)
- 35) Nondestructive techniques in pharmaceutical drug product characterization, Sarwar Beg \*, Kailash Ahirwar, WH Almalki, S.S Almuji, A. Alhamyani, M. Rahman, **Rahul Shukla\***, Drug Discovery Today,2024. (I F: 6.5).
- 36) Leveraging Nanoengineered Microneedle-Augmented Drug Delivery in Oncological Intervention, Mansi Singh and **Rahul Shukla\***, Particle and Particle Systems Characterization, Wiley, 2024.
- 37) Scientific Investigation of Non-coding RNAs in Mitochondrial Epigenetic and Aging Disorders: Current Nanoengineered Approaches for their Therapeutic Improvement, Vaibhav Patange, Kailash Ahirwar, Tripti Tripathi, Pratima Tripathi\* and **Rahul Shukla\***, Mitochondrion,2024 (I F: 3.9).
- 38) Zein decorated rifaximin nanosuspension: Approach for sustained release and antibacterial efficacy enhancement, Atul Mourya, M. Handa, K. Singh, S. Chintalapati, J. Madan and **Rahul Shukla\***, Therapeutic Delivery ,2024 (I F: 3.0).
- 39) Advancements in Microneedle Technology: Current Status and Next-Generation Innovations, Siddhant Kumar, **Rahul Shukla\***, Journal of Microencapsulation, 2024. (I F: 3.0).
- 40) Naringenin nanocrystals reduce rotenone neurotoxicity in SH-SY5Y cells by inhibiting mitophagy and oxidative stress, Vaibhavi Giradkar, Akshada Mhaske, and **Rahul Shukla\***, AAPS PharmSciTech,2024. (I F: 3.4).
- 41) Current strategic arsenal and advances in Nose to Brain nanotheranostics for therapeutic intervention of glioblastoma multiforme, Ankit Kumar **Rahul Shukla\***, Journal of Biomaterials Science, Polymer Edition,2024. (I F: 3.6).
- 42) Quality by Design in Pulmonary Drug Delivery: A Review on Dry Powder Inhaler Development, Nanotherapy Approaches, and Regulatory Considerations, Ashish Dilip Sutar, Rahul K. Verma, **Rahul Shukla\***, AAPS PharmSciTech,2024. (I F: 3.4).
- 43) Decitabine enclosed biotin-zein conjugated nanoparticles: Synthesis, characterization, in vitro and in vivo evaluation, Akshada mhaske, Jasleen kaur, Saba naqvi\*, **Rahul Shukla\***, Nanomedicine, 2024. (I F: 5.1).
- 44) Revolutionizing Periodontic Care: Nano Dentistry's Impact on Inflammation Management, Akanksha Chaturvedi, Garima Gupta, Prashant Kesharwani\* **Rahul Shukla\***, Journal of Drug Delivery Science and Technology,2024. (I F: 5.0)
- 45) Recent advancements in microspheres mediated targeted delivery for therapeutic interventions in osteoarthritis, Ayush Kumar, **Rahul Shukla\***, Journal of Microencapsulation, 2024. (I F: 3.0).

- 46) Nanoengineered tools in the treatment of Diabetic wounds: a review on next generation multidimensional therapeutic approaches, Jhansi Sanku, Kailash Ahirwar, K K Pinapati, **Rahul Shukla\***, Nidhi Srivastava\*, BioNanoScience, 2024. (I F: 3.1).
- 47) Manoeuvring the innovative drug delivery systems for veterinary therapeutics: Present day demand, Jayesh S. Unde, Kailash Ahirwar, Akhilesh Kumar, Saad Ali Alshehri, Shadma Wahab, Prashant Kesharwani\*, **Rahul Shukla\***, European Polymer Journal, (I.F:6).
- 48) Gold Nanoparticles as a Tool to Detect Biomarkers in Osteoarthritis: New Insights, Atul Mourya, Shristi Arya, Ayush Singh, Gopal Bajad, Soham Loharkar, Shubhra, Pawan Devangan, Neelesh Kumar Mehra, **Rahul Shukla**, Ramesh Chandra & Jitender Madan\*, Indian Journal of Microbiology, 2024, (I F: 2.1).
- 49) Formulation and Characterization of Silibinin Entrapped Nano-Liquid Crystal for Activity against A $\beta$ 1-42 Neurotoxicity in In-Vivo Model, AAPS PharmSciTech, Ajit Singh, Debarati Rakshit, Ankit Kumar, Awanish Mishra and **Rahul Shukla\***, 2024, (I F: 3.3).
- 50) Leveraging Artificial Intelligence for Synergies in Drug Discovery: From Computers to Clinics, Priyanka Arora, Manaswini Behera, Shubhini A. Saraf and **Rahul Shukla\***, Current Pharmaceutical Design, 2024, (I. F: 3.1).
- 51) Tissue regeneration properties of hydrogels derived from biological macromolecules: A review, Payal Kesharwani, Amit Alexander, **Rahul Shukla**, Smita Jain, Akansha Bisht, Kajal Kumari, Kanika Verma, Swapnil Sharma, International Journal of Biological Macromolecules, 2024, (I F: 8.2)
- 52) Microneedles along with Conventional Therapies: An In-depth Observational Review in Alopecia Areata Treatment, Priyanka Arora, **Rahul Shukla\***, Journal of Drug Delivery Science and Technology, 2024, (IF: 5)
- 53) Harnessing the potential of nanoengineered siRNAs carriers for target responsive glioma therapy: Recent progress and future opportunities, Kailash Ahirwar, Ankit Kumar, Nidhi Srivastava, Shubhini A Saraf, **Rahul Shukla\***, International Journal of Biological Macromolecules, 2024, (I F: 8.2)
- 54) Optimization, Characterization and In-Vitro Cellular Uptake of Donepezil-Loaded NanoCrystVesicles, Ashish Dhiman, Reetika Tandon, Kailash Ahirwar, Mayank Handa, Nidhi Srivastava & **Rahul Shukla\***, Journal of Cluster Science, 2024, (I F: 2.8)
- 55) Receptor assisted nanotherapeutics for overcoming the blood brain barrier, A Mhashke, S. Shukla, K. Ahirwar, Kamalinder K. Singh\*, **Rahul Shukla\***, Molecular Neurobiology, 2024, (I F: 5.1)
- 56) Nanocrystals: a multifaceted regimen for dermatological ailments, V. Giradkar, A. Mhashke, **Rahul Shukla\***, Particle and Particle Systems Characterization, 2024. (I F: 3.1)
- 57) State-of-the-art drug delivery system to target the lymphatics, Omkar T. Khaire, Akshada Mhaske, Aprameya Ganesh Prasad, Waleed H. Almalki, Nidhi Srivastava, Prashant Kesharwani & **Rahul Shukla\***, Journal of Drug Targeting, 2024, (I F: 5.1)
- 58) Drug nanocrystals: A delivery channel for antiviral therapies, Akanksha Chaturvedi S. Sharma, **Rahul Shukla\***, AAPS PharmSciTech, 2024, (I F: 3.3)
- 59) Role of NLRP3 Inflammasome in Stroke Pathobiology: Current Therapeutic Avenues and Future Perspective, K Panbhare, R Pandey, C Chauhan, A Sinha, **Rahul Shukla**, RK Kaundal ACS Chemical Neuroscience, 2023, (I F: 5.78)
- 60) Nano-Mediated Molecular Targeting in Diagnosis and Mitigation of Wilson Disease, Akanksha Chaturvedi, S. Sharma, **Rahul Shukla\***, Molecular Neurobiology, 2023, (I F: 5.1)

- 61) Systematic optimization, characterization of Mycophenolic acid loaded nanostructured lipid carrier embedded nanogel for improved permeation and in vivo anti psoriatic activity, Payal Kesharwani, Akansha Bisht, Mayank Handa, **Rahul Shukla**, Mahendra Kesari, Shailendra Paliwal, Sarvesh Paliwal, Swapnil Sharma, Journal of Drug Delivery Science and Technology,2023, (**I F: 5.06**)
- 62) Combining donepezil and memantine via mannosylated PLGA nanoparticles for intranasal delivery: Characterization and preclinical studies, M.Handa, S. N. Sanap, R S Bhatta, G. Patil, S. Ghose, D P Singh, **Rahul Shukla\*** Biomaterials Advances, 2023, (**I F: 8.0**).
- 63) ApoE3 Anchored Stealth-Liposomal Delivery of Rivastigmine for Brain Delivery: Formulation, Characterization and in vivo Pharmacokinetic Evaluation, Pooja Khairnar,Ajit Singh, Kailash Ahirwar, **Rahul Shukla\***, AAPS PharmSciTech, 2023, (**I F: 3.3**).
- 64) Clofazimine nanoclusters show high efficacy in experimental TB with amelioration in paradoxical lung inflammation, K. Jadhav, A. Jhilt, R. Singh, E. Ray, N. Sharma, **Rahul Shukla**, A K Singh, R. K. Verma, Biomaterials Advances, 2023, (**I F: 8.0**).
- 65) Simultaneous Intranasal Codelivery of Donepezil and Memantine in nano-colloidal Carrier: Optimization Pharmacokinetics and Pharmacodynamics studies, Mayank Handa, S. Sanap, R S Bhatta, Gajanan Patil, Rajendra Palkhade, D P Singh, **Rahul Shukla\***, Molecular Pharmaceutics, ACS,2023, (**I F: 4.9**).
- 66) Nanovesicular-mediated intranasal drug therapy for neurodegenerative disease, Shalu Singh, Rahul Shukla AAPS PharmSciTech,2023, (**I F: 3.3**).
- 67) Vincristine based Nanoformulations: A Preclinical and Clinical Studies Overview, **Rahul Shukla\***, Ajit Singh and Kamalinder K. Singh\*, Drug Delivery and Translational Research,2023, (**I F: 5.4**).
- 68) Vitamin E Modified Polyamidoamine Dendrimer for Piperine Delivery to Alleviate A $\beta$ 1–42 Induced Neurotoxicity in Balb/c Mice Model, A Singh, D Rakshit, A Kumar, A Mishra, **Rahul Shukla\***, Journal of Biomaterials Science, Polymer Edition, 1-18,2023, (**I F: 3.68**).
- 69) Hyaluronic acid-functionalized lipoplexes and polyplexes as emerging nanocarriers for receptor-targeted cancer therapy, J. Chandra, N. Molugulu, S. Annadurai, S. Wahab, R. Karwasra, S. Singh, **Rahul Shukla**, P. Kesharwani, Environmental Research,2023, (**I F: 8.43**)
- 70) Therapeutic potential of Microneedles based delivery systems for the management of Atopic dermatitis, Shalini Shukla, Kalpana Balu Mamale, R K Kaundal and **Rahul Shukla\***, Journal of Drug Delivery Science and Technology,2023, (**I F: 5.06**)
- 71) New Generation smart drug delivery systems for Rheumatoid arthritis, Current Pharmaceutical Design, Raghuraj Singh, K. Jadhav, K. Vaghasiya, E. Ray, Rahul Shukla and R. K.Verma, 2023 (**I.F=3.33**)
- 72) Transferrin decorated PLGA encumbered Moxifloxacin nanoparticles and in vitro cellular studies, Gayathri Reddy A., M. Handa, D.Garabadu, R. Kumar, P. K. Kushawaha, **Rahul Shukla\*** , Drug Development and Industrial Pharmacy,2023, (**Impact Factor: 3.72**)
- 73) Harnessing the personalized tailored medicines to digital-based data enriched edible pharmaceuticals, M.Handa, R. K. Kaundal, R. K. Verma,M. Rahman, **R. Shukla\***, S. Beg\* , Drug Discovery Today ,2023, (**Impact Factor: 8.369**)
- 74) The microbiome-gut-brain axis in Epilepsy: Pharmacotherapeutic target from bench evidence for potential bedside applications,S Kundu , S Nayak ,D Rakshit, T Singh, **Rahul Shukla** , DK Khatri , Awanish Mishra, European Journal of Neurology,2023, (**Impact Factor: 6.28**)

- 75) New insights on mode of action of vasorelaxant activity of simvastatin, K. Verma, **Rahul Shukla**, J. Dwivedi, S. Paliwal & S. Sharma, *Inflammopharmacology*, 2023. (**Impact Factor: 5.01**)
- 76) Nanotheranostic: The futuristic therapy for copper mediated neurological sequelae, A Mhaske, S Sharma, **Rahul Shukla\***, *Journal of Drug Delivery Science and Technology*, 2023, (**Impact Factor: 5.1**)
- 77) Cedrus deodara (Roxb. ex D. Don) G. Don bark fraction ameliorates metabolic, endocrine, and ovarian dynamics in rats experiencing polycystic ovarian syndrome, A Bisht, R Gururani, S Jain, **Rahul Shukla**, J Dwivedi, S Sharma, *Journal of Ethnopharmacology*, 2023, (**Impact Factor: 5.19**)
- 78) Recent nanoengineered diagnostic and therapeutic advancements in management of Sepsis, Mukesh Soni, Mayank Handa, Kamalinder K\*. Singh, **Rahul Shukla\***, *Journal of Controlled Release*, 2022, (**Impact Factor: 11.46**)
- 79) Recent pharmaceutical engineered approaches as prophylaxis and management of frostbite, Parth Patel, M. Handa, K. Jain, **Rahul Shukla\***, *Journal of Drug Delivery Science and Technology*, 2022, (**Impact Factor: 5.1**)
- 80) Fabrication of TPGS-Grafted Polyamidoamine Dendrimer for Enhanced Piperine Brain Delivery and Pharmacokinetics, Ajit Singh, Akshada Mhaske, **Rahul Shukla\***, *AAPS PharmSciTech*, 2022, (**Impact Factor: 4.02**)
- 81) Bilayer fixed-dose combination tablet for curcumin microparticles and piroxicam and in vitro evaluation, M Handa K Kumar, D Garabadu, P K Kushawaha & **Rahul Shukla\***, *Therapeutic Delivery*, 2023
- 82) Recent pharmaceutical engineered trends as theranostics for Japanese Encephalitis, *Process Biochemistry*, A. Mhaske, S. Singh, P. Kesharwani **Rahul Shukla\***, 2022, (**Impact Factor: 4.88**)
- 83) Immunoliposomes as an emerging nanocarrier for breast cancer therapy, N Parveen, M AS Abourehab, **Rahul Shukla**, PV Thanikachalam, G K Jain, P. Kesharwani, *European Polymer Journal*, 2022, (**Impact Factor: 5.54**)
- 84) Recent advances in multifunctional dendrimer-based nanoprobe for breast cancer theranostics, P. Kesharwani, R. Chadar, **Rahul Shukla**, G. K. Jain, G. Aggarwal, M A S Abourehab, A. Sahebkar, *Journal of Biomaterials Science, Polymer Edition*, 2022, (**Impact Factor: 3.68**)
- 85) Retinoid Nanoparticulates: Approachable Gateway for Acne Treatment, Judy Lalrengpuii, K. Raza, Awanish Mishra, **Rahul Shukla\***, *Health Sciences Review*, 2022.
- 86) 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**)
- 87) 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**)
- 88) 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**)
- 89) 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**)
- 90) Rosemary oil low energy nanoemulsion: Optimization,  $\mu$ 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**)

- 91) Potential of particle size  $\leq 15$  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
- 92) 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**)
- 93) 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: 3.3**)
- 94) 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**)
- 95) Recent advances in lipid-engineered multifunctional nanophytomedicines for cancer targeting, Mayank Handa, Sarwar Beg, **Rahul Shukla\***, Md Abul Barkat, Hani Choudhry, Kamalinder Singh, Journal of Controlled Release, Volume 340, 10, Pages 48-59., 2021, (**Impact Factor: 11.46**)
- 96) Stimuli-responsive Polymeric nanosystems for therapeutic applications, M. Handa, A Singh, SJS Flora, **Rahul Shukla\***, Current Pharmaceutical Design, 2022, (**I F: 3.3**)
- 97) 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**)
- 98) 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**)
- 99) Biocompatible Nanomaterials for burns, Mayank Handa, S K Maharana, Kamlesh Pal, **Rahul Shukla\***, Current Pharmaceutical Biotechnology, 2022, (**Impact Factor- 2.82**)
- 100) Nanocrystals an approachable delivery system for anticancer therapeutics, Pooja Khairnar, M Handa, **Rahul Shukla\***, Current Drug Metabolism,2022 (**I Factor- 3.40**)
- 101) 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**)
- 102) 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**)
- 103) 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**)
- 104) 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**)
- 105) 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 \***, & S. Beg\*, Drug Discovery Today,2021, (**I F: 8.369**)

- 106) Nanotechnological approaches for targeting amyloid  $\beta$  aggregation with potential for Neurodegenerative disease therapy and diagnosis, **Rahul Shukla\***, A. Singh, M. Handa, S J S Flora, P. Kesharwani, Drug Discovery Today,2021, (**Impact Factor: 8.369**)
- 107) 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, (**I F: 5.99**)
- 108) 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**)
- 109) 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**)
- 110) 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**)
- 111) 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**)
- 112) 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**)
- 113) 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**)
- 114) 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**)
- 115) 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**)
- 116) 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, (**I.F:5.06**)
- 117) 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**)
- 118) 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**)
- 119) 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**)

- 120) Nanodiamonds: A Versatile Drug Delivery System in Recent Therapeutics Scenario, Yadav, A. K., **Shukla, R.**, S.J.S. Flora, Critical Reviews™ in Therapeutic Drug Carrier Systems, (2020). (**Impact Factor: 3.09**)
- 121) Investigations of process parameters during dissolution studies of drug-loaded 3D printed tablets, V. Sharma, Khaja M. Shaik, A. Choudhury, P. Kumar, P. Kala, Y. Sultana, **Rahul Shukla**, D. Kumar, Part H: Journal of Engineering in Medicine, 2021,
- 122) 3D Printing Fabrication of Personalized Nanomedicine, Keerti Jain, **Rahul Shukla**, Awesh Yadav, R.R. Ujjwal and S.J.S. Flora, Nanomaterials, 2021, (**I.Factor: 5.7**)
- 123) Silymarin Encapsulated Nanoliquid Crystals for Enhanced Activity against Beta Amyloid Induced Cytotoxicity, Ajit Singh, A. Kumar, R. K. Verma, **Rahul Shukla\***, International Journal of Biological Macromolecules, Volume 149, 1198-1206, 2020. (**Impact Factor: 8.02**)
- 124) 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**)
- 125) 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**)
- 126) 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**)
- 127) 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**)
- 128) 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**)
- 129) Azacitidine loaded PLGA nanoparticles and its dual release mechanism, Kanchan Kashyap, Mayank Handa, **Rahul Shukla\***, Current Nanomedicine, 2020.
- 130) 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**)
- 131) Temperature/pH-Triggered PNIPAM-Based Smart Nanogel System Loaded With Anastrozole Delivery for Application in Cancer Chemotherapy". A. Singh, K. Vaishagya, R. K. Verma, **Rahul Shukla\***; AAPS PharmSciTech 20: 213, 2019 (**I.F=4.02**)
- 132) 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**)
- 133) Key Signaling Pathways Engaged in Cancer Management: Current Update, Sanjiv Singh and **Rahul Shukla**, Current Cancer Therapy Reviews, 16, 36-48, 2020.
- 134) 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**)
- 135) Caffeic acid phenethyl ester (CAPE) reverses fibrosis caused by chronic colon inflammation in murine model of colitis., MM Tambuwala, P Kesharwani, **Rahul**

- Shukla**, PD Thompson, PA McCarron, Pathology-Research and Practice, Vol. 214, Issue 11, Pages 1909-1911 2018, **(I. F: 3.3)**
- 136) 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)**
- 137) Chitosan coated alginate micro particles for oral delivery of antifilarial drug and combinations for intervention in Brugia malayi induced lymphatic filariasis. **Rahul Shukla**, J. Gupta et al., RSC Advances, 5, 69047–69056, 2015. **(I factor 4.03)**
- 138) Emerging trend in nano-engineered polyelectrolyte based surrogate carriers for delivery of bioactives. Shukla P, Gupta G, D Singhodia, **Rahul Shukla**, et al. Expert opin Drug Deliv; 7(9):993-1011,2010. **(Impact factor 8.12)**
- 139) 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, 237–244, 2011 **(I. Factor: 6.5)**
- 140) 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, P R. Mishra. Journal of Bionanoscience Vol.4, 66-73, 2010.
- 141) 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, **(Impact Factor 5.1)**
- 142) 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, , 302-304, 2013.
- 143) 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.
- 144) 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 Vol. 4(3), 194-197), 2014.
- 145) 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)**

#### ***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, Dr. Gagandeep, Mr. Mayank Handa, Dr. Awanish Mishra, Dr. S.J.S. Flora,  
Indian Patent No: 202111007442.
  7. Novel Method of Preparation for Metal Nanoparticles and Product Thereof,  
Dr. Rewati Raman Ujjwal, Mr. Mayank Handa, Dr. Rahul Shukla, Dr. S.J.S. Flora,  
Indian Patent No: 202111009794.
  8. Novel method for preparation of Vincristine loaded exosomes and their therapeutic Intervention Thereof Miss Reetika Tandon, Mr. Mayank Handa, Dr. Rahul Shukla, Dr. Nidhi Srivastava,  
Indian Patent No: 202211065328.
  9. An Artemisinin Loaded Self Emulsifying Delivery Composition, Mr. Harsh, Dr. Pratima Tripathi, Dr. Rahul Shukla, Dr. Sandeep Chaudhary,  
Indian Patent No: 202311049238
  10. A Herbal Green Toothpaste Composition for Diabetic Patients and Method Of Its preparation, Mallareddy Tejomayee, Rashi Rathore, Saurabh Pratap Singh Rathour, Kailash Ahirwar, Rahul Shukla, Nidhi Srivastava, Shubhini A. Saraf, Indian Patent No: 202411044017
  11. Novel Manageable Herbal Microbicide formulation for the Deactivation of microflora Present in Toothbrush, Anjani Sihag, Kishore K. Pinapati, Kailash Ahirwar, Jyoti Mathur, Rahul Shukla, Nidhi Srivastava, Shubhini A. Saraf, Indian Patent No: 202411045126
  12. A Synergistic Anti-leishmanial Nanodrug Formulation and Method of Preparation Thereof Piyush Kumar Gupta, Madhu Gupta, Manali Singh, Ashish Dilip Sutar, Rahul Shukla, Jhalak Singhal, Neha Jha, Shailja Singh, A T Ezhil Vilian, Indian Patent No: 202511024633.
1. **Copyright granted:** PharmSolWave Technology, Dr. Rahul Shukla, Mr. Mayank Handa, Dr. S.J.S. Flora, Diary No. 18327/2019-CO/L.

**Project Awarded :**

- **UP CST** (Council of Science & Technology) awarded project for 3 Years entitled- "Flavonoid-loaded mannosylated nano lipidic vesicles for therapeutic intervention of Wilson disease"(Project ID-4645), Amount-14.36 for 3 Years, PI - Dr. Rahul Shukla, Co-PI-Dr. Ravinder K. Kaundal
- Awarded SERB International Research Experience (**SIRE**) for the year, 2022-2023 for fellowship at School of Pharmacy and Biomedical Sciences, **University of Central Lancashire, United Kingdom.**

- Awarded Science and Engineering Research Board (**SERB**) - Startup Research Grant (SRG) LRP engineered nanolipidic carriers as potential therapeutics for brain targeting in Wilson's disease, File Number: SRG/2022/001285, 2 Years, 29.49 Lacs
- Awarded with NIPER Raebareli Innovation Grant (**NIG**) for 2 Years, entitled Organic Novel Dermal Patch (ONDP) and Herbal Powder (HP) for diabetic wound healing, Rs 5 Lacs.
- **UP CST** (Council of Science & Technology) awarded project for 3 Years entitled- Targeting Nrf2/TGF1/Smad axis for mitigating chronic kidney disease: preclinical evaluation of Phytochemicals (Project ID-4140), Rs 16.36 Lacs.
- Awarded Project on Unani formulations in Collaborations with Takmeel Ut Tib State Unani Medical College & Hospital, 2024-2026, 55.60 Lacs
- NRI DHR Fellowship of more than 1 Cr is awarded to Dr Rewati Raman Ujjwal under his mentorship in 2025

**Editor in Books:**

1. **IntechOpen – Title “Role of Novel Drug Delivery Vehicles in Nanobiomedicine”, Edited by** Rajeev K. Tyagi, Neeraj K Garg, Rahul Shukla, Prakash Singh Bishen
2. **Elsevier: Nanomedical Drug Delivery for Neurodegenerative Disease, Edited by** A K Yadav, Rahul Shukla and S.J.S. Flora
3. **Elsevier: Multifunctional Nanocomposites for Targeted Drug Delivery in Cancer Therapy, Edited by** A.K. Yadav, Rahul Shukla and Rewati R.Ujjwal
4. **Elsevier: Cannabis and Its Derivatives: Guide to Medical Application and Regulatory Challenges, Edited by** Rahul Shukla, Mayank Handa, D. P Singh, Ashish Dhir
5. **Elsevier: Nanostructured Drug Delivery Systems in Infectious Disease Treatment, Edited by** Sarwar Beg, Rahul Shukla, Mayank Handa, Mahfoozur Rahman, Ashish Dhir
6. **Ereadon: Pharmaceutics-I, Edited by** Rahul Shukla and Pankaj K. Singh
7. **Drug Formulation Design, IntechOpen, Edited by** Rahul Shukla Co-Editors: Akbar Ali and Aleksey Kuznetsov
8. **Emerging Frontiers in the Drug Formulation Design, IntechOpen, Edited by** Rahul Shukla, Prof. Shubhini A Saraf, Prof. Rosario Pignatello
9. **Springer Nature-** Neuroendocrine-Immune Axis: A New Revolution to Understand the Pathogenesis of neurodegeneration, Dr Rahul Shukla, Dr Saba Naqvi, Dr Monika S. Deore, & Dr Ravinder K Kaundal,
10. **Springer Nature-**Drug Repurposing: Exploring Newer Therapeutic Potentials, Dr Ravinder K Kaundal, Dr Rahul Shukla & Prof. Shubhini A Saraf,

### **Chapter in Book Published by International Publishers :**

1. "Chitosan-Based Nanocarriers a Promising Delivery System for Bioactives" Book Chapter published by, NanoAgroceuticals & NanoPhytoChemicals., **CRC Press, Taylor & Francis Group**
2. "Dendrimer-based nanocarriers in lung cancer therapy" Book "Nanotechnology-based Targeted Drug Delivery Systems for Lung Cancer" Chapter Published by **Elsevier.**
3. "Dendrimer-based nanoparticulate delivery system for cancer therapy" Book Chapter Published by **Elsevier, 2019.**
4. "Conclusion and future prospective of polymeric nanoparticles for cancer therapy" Book Chapter Published by **Elsevier, 2019.**
5. "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.**
6. "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.**
7. "Natural flavors in functional food supplements" Flavor development for functional foods and nutraceuticals, Book Published by **CRC Press 2019, taylor & francis group.**
8. "Introduction to Pharmaceutical Product Development" Pharmaceutical Product and Process Optimization Book Published by **Apple Academic Press 2019.**
9. "Recent Advances in the Development of Nanopharmaceuticals" Pharmaceutical Product and Process Optimization book Published by **Apple Academic Press 2019.**
10. "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.
11. "Human Microbiome and Malignancy: Principles, Mechanisms and Challenges" BookChapter for book on "Infectious Diseases and Microbes: Progress and Prospects" published by **Springer-Nature.**
12. "Application of membrane processing techniques in wastewater treatment for food industries", for book on Applications of Membrane Technology for Food Processing Industries" going to be Published by **CRC Press.**
13. "Retention of antioxidants by using novel membrane processing technique", for book on Applications of Membrane Technology for Food Processing Industries Published by **CRC Press.**
14. "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.**
15. "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.**
16. "Dendrimer-based drug delivery systems for tuberculosis treatment" Nanotechnology Based Approaches for Tuberculosis Treatment Published by **Elsevier.**
17. "Electrospun nanofibers for wound healing", in book "Theory and Applications of Nonparenteral Nanomedicines, Published by **Elsevier.**

18. "Nanomedicine in pain management", in book "Theory and Applications of Nonparenteral Nanomedicines", Published by **Elsevier**.
19. "Emergence of Nanophytomedicine in Health Care Setting", in Book Nanophytomedicine, published by **Springer Nature**.
20. "Nanophytomedicine Market: Global Opportunity Analysis and Industry Forecast" in Book Nanophytomedicine, published by Springer Nature.
21. "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**.
22. "Immunochemotherapy combination therapy in cancer treatment", to be published by **Springer Nature**, Singapore.
23. "Clinical Translation Status of Nanoformulations", to be published by **Springer Nature**, Singapore.
24. "Role of nanomedicines in neglected tropical diseases", to be published by **Wiley**.
25. Oxidative Stress and Cancer: Role of the Nrf2-Antioxidant Response Element Signaling Pathway published by **Springer Nature**, Singapore.
26. Nano Drug Delivery Approaches for Lymphatic Filariasis Therapeutics, to be published by **Springer Nature**
27. Futuristic Potential of Nanoantibiotics Against Multidrug Resistant Tuberculosis, to be published by **Springer Nature**
28. Nanotechnology-mediated combinational drug delivery approach for cancer therapy Published by **Elsevier**
29. Application of nanotechnology assisted devices in cancer treatment Published by **Elsevier**
30. Chitosan as a biomaterial for implantable drug delivery Published by **Elsevier**
31. Chitosan for delivery of biomolecules Published by **Elsevier**
32. Nanomaterial-based drug delivery systems as tools for targeted therapy of neurodegenerative diseases Published by **Elsevier**
33. New Insights into Nanoparticulate Carriers for Direct Nose-to-Brain Drug Delivery, Nanoengineering of Biomaterials, 261-307, **Wiley**
34. Application of nanotechnology assisted devices in cancer treatment, Nanotherapeutics in Cancer Vaccination and Challenges, **Elsevier**
35. 3D Nano printing in the Biomedical Industries, Smart 3D Nano printing, **CRC Press**
36. Concept of Nanomedicine in Endocrine Hormone Cancer Treatment, **Springer**.
37. Flavonoid Based Bioactive for Therapeutic Application in Neurological Disorders, BenthamScience.
38. Regulatory consideration and pathways for vaccine development, **Springer Nature**.
39. Dendrimers in photodynamic therapy, **Elsevier**.
40. Drug Delivery Strategies in Alzheimer's Disease, **Elsevier**.
41. Nanomaterial-based drug delivery systems as tools for targeted therapy of neurodegenerative diseases, **Elsevier**.
42. Preformulation Studies: A Versatile Tool in Formulation Design, **Intechopen**.
43. Nanoscaffolds and role of 3D-printed surgical dressings for wound healing application, **Elsevier**.
44. Hybrid Nanomaterials as Novel Therapeutic and Imaging Modalities, **Springer**.
45. Polymeric Micelles in the Delivery of Therapeutic Phytoconstituents, **Springer**.
46. Therapeutic Potential of Nanocrystals for Targeting Lymphoid Carcinoma, A Mhaske, R Shukla, **Springer**.

47. Multifunctional nanocrystals for liver cancer, Multifunctional Nanocomposites for Targeted Drug Delivery in Cancer Therapy **Elsevier**.
48. Regulatory Aspects for Clinical Applications of Nanophytomedicines, Springer.
49. Nanocarriers for the Delivery of Cosmeceuticals, Springer.
50. Nanotherapeutics in Japanese encephalitis virus infections management, Book Applications of Nanotherapeutics and Nanotheranostics in Managing Infectious Diseases, Elsevier.
51. Application of nanotechnology-based therapy against malaria, Elsevier.
52. Nanoantibiotics-driven approaches as an advanced therapy for bacterial infections and chemotherapeutic resistance, Elsevier.
53. Exploration of advanced therapeutics for lymphatic and cutaneous leishmaniasis, Elsevier.
54. Recent advances in nanomedicines for the treatment of global infectious diseases, Elsevier.
55. Interaction of cannabis with other drugs, book: Cannabis and Derivatives, Elsevier.
56. Chronotherapeutic Delivery Systems, Wiley.
57. Enhanced Preservation of Stem Cell-Derived Extracellular Vesicles Through Freeze-Drying, Springer.
58. Introductory Chapter: Redefining the Therapeutic Landscape of the Smart Drug Delivery System, IntechOpen.
59. Overview of Erythrocytes and Nanoerythrocytes, CRC Press, Taylor & Francis.
60. Nanoengineered Microneedles: A Versatile Targeted Delivery System for Theragnostic Application, IntechOpen.
61. Recent progress on liposomes as vaccine delivery system, Elsevier.
62. Role of Industry–Academia Collaboration in the Translational Success of Drug Repurposing, Springer Nature.
63. Stimuli-Responsive Extracellular Vesicles/Exosomes, Springer Nature.
64. Nanomaterials for three-dimensional printing in management of metabolic disorders, Elsevier.
65. Immunotherapy for breast cancer, Elsevier.

### **Invited Talks**

- Invited Speaker for delivering invited talk at National Conference on Smart Biomaterials and Next-Generation Drug Delivery Platforms on 20th February, 2026, organized by the NGSM Institute of Pharmacy, NITTE, Mangalore.
- Invited Speaker for delivering invited talk at GITAM Chemistry Research Conference (GCRC) 2026, organized by the Department of Chemistry, School of Science, GITAM Visakhapatnam, dated 12-14 Feb'2026.
- Invited Speaker in International Conference on Advanced Materials, Semiconductor Technology and Startup Ecosystem (Hybrid Mode) January 9-11 2026 Global Conference 2026 Organized by Trivandrum Engineering Science and Technology (TrEST) Research Park, Thiruvananthapuram, Kerala
- Invited Speaker in ANRF Sponsored workshop- Green Nanomedicine, Title of Talk- Advancing Neurological Therapies with Green Nanomedicine: Engineered Nanocrystals of Phytopharmaceuticals, Centre for Development of Biomaterials and Department of Life Sciences, Sharda School of Basic Sciences and Research, Sharda University, India. 21 Dec- 22 Dec 2025.

- Invited Speaker at International Conference on Biotechnology & Nanotechnology (ICBN-2025), organized by the Department of Microbiology and Biotechnology, The IIS (deemed to be University), Jaipur, from October 30 to November 1, 2025, title of talk “Next-Generation Drug Delivery: Engineered Nanocrystals in Neurological Therapies”.
- Invited Speaker at workshop, title of talk “cGMP For Sustaining Pharmaceutical's Quality”, on the Occasion of the third National cGMP Day, scheduled for October 10, 2025, from 10 am onwards at the Seminar Hall, Faculty of Pharmacy, Integral University.
- Invited Speaker at workshop, title of talk Pharmaceutical prototype formulations from bench to commercialization, organised by the department of Pharmaceutical Sciences in collaboration with the institution's innovation council (IIC) & Centre for innovation, incubation and entrepreneurship (CIIE), BBAU Lucknow on 29 Aug'2025.
- Speaker at workshop, title of talk- Harmonizing Good Laboratory Practices & Worldwide Regulatory Frameworks, Ethical Compliance in Animal Studies “National Workshop and Training for Translational Pre-Clinical Success” scheduled to take place from 9<sup>th</sup> to 12<sup>th</sup> September, 2025 at NIPER-Raebareli
- Invited Speaker at one-week online FDP on “Innovation in Pharmacy Education and Application of AI: Enhancing Teaching-Learning Practices”, organized in collaboration with SPER from 23-28 June 2025, organized by **ISF College of Pharmacy (An Autonomous College), Moga, Punjab.**
- Invited Speaker at International Research Conference PHARMANECIA 4.E, 7-8 March'2025 held at **JSS College of Pharmacy, Ooty, Tamilnadu.**
- Talk at International Conference on Multidisciplinary Approaches in Life Sciences, 22-23 Jan'2025 held at **IIS (deemed to be University)**
- Invited Talk at Department of Biotechnology-sponsored National Symposium on Next Generation Drug Delivery Systems 2024, held at Sharda University!
- Invited Talk at **ONLINE International Conference on Advanced Materials and Startup Ecosystem** on December 13-15, 2024 at Thiruvananthapuram, Kerala, India.
- Invited Speaker in **IPSCON, AIIMS New Delhi** India 28-30 Nov 2024.
- Speaker in Young Scientist Conference in **India International Science Festival (IISF)**, IIT Guwahati, India 30 Nov-3 Dec' 2024.
- Keynote Speaker at the “International Conference on Biotechnology and Biomedical Research” Organized by the Association of Pharmaceutical Research (APR) on 19- 20 September 2024 at Goa, India.
- Invited Speaker in DST SERB Sponsored workshop- Development and Characterization of Bionanomaterials for Drug Delivery and Tissue Engineering, Centre for Development of Biomaterials and Department of Life Sciences, Sharda School of Basic Sciences and Research, Sharda University, India. 27 May- 1 June 2024.
- Speaker in Young Scientist Conference in **India International Science Festival (IISF)**, THSTI, Faridabad India 17-20 Jan 2024.
- Speaker in Emerging Pharmacologist, **IPSCON-2023**, SRM Chennai 14-16 Dec 2023.
- Title “Dual nanoengineered Sphingomyelin coated Vincristine nanocrystals for targeting cerebral carcinoma at Brain Tumor” by Brain Tumor Northwest England (BTNW) Annual Retreat, 15-16 Dec 2022 Marriott, United Kingdom.

- Title “Development and evaluation of Silibinin loaded Glyceryl monooleate Nano liquid crystalline for Alzheimer’s therapy. Swansea University, United Kingdom 2022.
- Speaker in 5-day Training Program in Animal Handling and drug administration, NIPER Raebareli. India, 28 April- 2 May 2024.
- **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.**
- Invited Expert talk on “Drug development and delivery systems: Strategies, Challenges, and Opportunities”, Institute Pharmaceutical Sciences, Lucknow, India.
- Invited Expert talk on DST Stuti “Pharmaceutical Nanocrystals: heralding greater potential in Drug Delivery with versatile applications”, **Indian Veterinary Research Institute, Izatnagar, (U.P),16-25 Jan 2023.**
- 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 Development and evaluation of Silibinin loaded Glyceryl monooleate Nano liquid crystalline for Alzheimer’s therapy. Swansea University, UK on the 22-23rd of August 2022.
- Invited talk on “ISNSCON2018: 6<sup>th</sup> 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 was held at SRM University, Chennai. **(Oral Presentation)**
- Faculty Development Program (FDP) Invited Expert talk on Drug nanocrystals: Promising approach in drug delivery, applications and challenges, SGT University, Haryana India, 13-17 Feb 2023.
- Invited Eminent Lecture Series May 9-17, 2023, at RITM, Lucknow, U.P, India
- Invited Expert talk on Drug Discovery, Design & Development of Dosage Forms at National Conference held at KPSM Pharmacy College, Sitapur, U.P, 28 April 2023
- Invited talk in Professional Development Programme (PDP) on “Innovations, opportunities, and challenges in Life Science Sector Skilling & Research, 20 July 2023.
- Got DST & CICS travel Grant to present paper Paper Title “A Lymphotropic Delivery System for Antifilarial Drug: Diethylcarbamazine Citrate 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.**

### **Workshop & National School Participated & Distance Learning Courses.**

- Treasurer in BIO-NEXT was held on , Dec 18-19, 2025 at Holiday Inn, Kanpur Road, Lucknow (U.P.).
- Convener in 45th National Symposium of Sun Pharma Science Foundation on “Innovations on Age-appropriate Therapeutics for the Elderly: Challenges and Opportunities” being held on Monday, August 18, 2025 at Holiday Inn, Kanpur Road, Lucknow (U.P.).
- Organized 5 days course in NIPER Raebareli on Hands on training on “Design and characterization of nanomaterials”,30 June-4 July 2025.
- Organized 1 days SSR Activity sponsored by SERB at NIPER Raebareli on “Novel Drug Delivery System for Brain Targeting”,6 May 2025.
- Organizing Secretary of National Conference “National Conference on Next Generation Therapeutics and Delivery Systems, 25-26 Oct’2024
- Participated in Faculty Development Programs on Department of Biosciences & Biotechnology, Banasthali Vidyapeeth, Rajasthan, India.
- Organized 5 days course in NIPER Raebareli on on Hands on training on “Design and characterization of nanomaterials”, July 2023.
- NSIL 2024, National Summit of Institutional Leaders: Institutions for National Development,15-17 Feb 2024.
- Organizing Secretary of 11<sup>th</sup> NIPER-R Symposium “Natural Product Based Therapeutics in Drug Development, 14-15 Feb’2019.
- 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 6<sup>th</sup>-11<sup>th</sup>, 2017.
- Participated in Workshop on Biorisk Management, hosted by Sandia National Lab, USA,11<sup>th</sup> -15<sup>th</sup> 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 21<sup>st</sup> to 28<sup>th</sup> 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, 3<sup>rd</sup> - 4<sup>th</sup> 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**

- Fellow of The Linnean Society, London.
- Member British Society of Nanomedicine (BSNM)
- Life Member of Indian Pharmacological Society (IPS)
- Member for 5 Years Controlled Release Society (IC) CRSIC - 1426.
- Life Member of Association of Pharmaceutical Teachers of India (APTI), India.
- Life Member of Indian Pharmacy Graduates Association (IPGA), New Delhi.
- Life Member of Indian Red Cross Society, New Delhi.

- Life Membership of Indian Academy of Neurosciences (IAN).
- Life Membership of Alumni Association of IIT (BHU), Varanasi (AASSII).
- Membership in European Society for Medical Oncology

### **Other Institutional Activities:**

- Nodal Officer for HRD Scheme for M Tech Medical Device NIPER Raebareli, India
- Member Secretary, In-house Committee Promotion of Research & Innovation in Pharma Med Tech (PRIP), NIPER RAEBARELI, India, 2024-26.
- Member of Institution's Innovation Council (IIC), NIPER Raebareli, India, 22-25.
- Member of Training & Placement Cell, NIPER Raebareli, India, 2021-26.
- Member of Institutional Animal Ethic Committee (IAEC), NIPER Raebareli, 23-26.
- Member of Hindi Rajbhasha Cell, NIPER Raebareli, India, 2023-25.
- Chairman Mess Committee NIPER Raebareli, India, 2023-26.
- PhD Student Akshada Mhashke received a Commonwealth Split Site fellowship from UCLAN, United Kingdom.
- Dr Pradip Nirbhavane, Assistant Professor, Amity Institute of Pharmacy, was awarded the INSA Visiting Scientist Programme 2025 in my lab.
- NRI DHR Fellowship of more than 1 Cr is awarded to Dr Rewati Raman Ujjwal 2025, in my mentorship.

### **Extra Curricular Activities**

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

### **RESEARCH STUDENTS SUPERVISED**

---

**M.S (Pharm): Completed -48 Ongoing:7 PhD: Awarded: 2 Ongoing:4, PDF:1 (N-PDF)**  
**H index-36 i10-index- 97 Citations > 4100**

