

Curriculum Vitae



Centre/School/Special Centre: School of Natural Resources

Department: Pharmacy

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Name: Dr. Shivani Rai Paliwal

Qualifications: M. Pharm. PhD

Area of Interest/Specialization: Pharmaceutics (Drug Delivery and Nanomedicine)

Experience:

December 2011- Till date	Teaching and Guiding students at Department of Pharmacy, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG
July 2009- December 2011	Senior Research Fellow, University Grant Commission, New Delhi, India
March 2008-June 2009	Lecturer, ISF college of Pharmacy, Moga, India
July 2007-March 2008	Lecturer, Globus College of Pharmacy, Bhopal, MP
July 2004-June 2007	Junior Research Fellow, University Grant Commission, New Delhi

Awards and Honors:

- 2022 **Best Paper Award Year for the year 2020** by Guru Ghasidas Vishwavidhyalya, Bilaspur, CG.
- 2022 **SERB International Research Experience Fellowship** to visit Germany for 6 months
- 2011 **Bioencapsulation Research Grant (BRG)** to attend and presentation in XIX International Conference on Bioencapsulation, Amboise, France
- 2011 **Travel Grant** by Department of Science and Technology, India and Indian National Science Academy for attending ICBN 2010 at Singapore
- 2010 **M. P. Young Scientist Award, 2010** by MP Council of Science and Technology, Bhopal, India
- 2010 **M. P. Young Scientist Award, 2010** in 1st Women Science Congress by MP Council of Science and Technology, Bhopal, India
- 2009 **Rudolf Cimdins Award 2009** by European Society of Biomaterials in 22nd European Conference on Biomaterials, Lausanne, Switzerland
- 2009 **Travel Grant** by Department of Biotechnology, India for attending 22nd ESB at Lausanne, Switzerland in 2009
- 2009 **Senior Research Fellowship (SRF)** from University Grant Commission, New Delhi, for PhD Project, India
- 2005 **Junior Research Fellowship (JRF)** from University Grant Commission for M. Pharm. Research Project, India

Research Projects:

- 2020 Project entitled "Pre-clinical evaluation of phytoestrogen loaded bioadhesive zein-hyaluronic acid nanocomplex for chemopreventive action against breast cancer: formulation and optimization using box-behnken design" has been sanctioned by ICMR, New Delhi
- 2014 Project entitled "Development of targeted nanovector system(s) for intracellular delivery of Cytotoxic agents" has been recommended by Department of Science & Technology (SERB-DST) and completed.

International Collaboration/Consultancy:

Dr. Otmar Schitz, Institute of Lung Biology, Pneumology Research Center, Munich, Germany

List of Publications:

1. Rishi Paliwal, Pramod Kumar, Akash Chaurasiya, Rameshroo Kenwat, Sumeet Katke, **Shivani R Paliwal**. Development of nanomedicines and nano-similars: recent advances in regulatory landscape. *Current Pharmaceutical Design*. 2022 Jan 1;28(2):165-77. **(IF: 3.31)**
2. Balak Das Kurmi, **Shivani Rai Paliwal**. Development and Optimization of TPGS based Stealth Liposome of Doxorubicin Using Box-Behnken Design: Characterization, Hemocompatibility and Cytotoxicity Evaluation in Breast Cancer Cells. *Journal of liposome research*. 2021, 1-17. **(IF: 5.586)**
3. **Shivani R Paliwal**, Rameshroo Kenwat, Sabyasachi Maiti, Rishi Paliwal. Nanotheranostics for Cancer Therapy and Detection: State of the Art, *Current Pharmaceutical Design* 26 (42), 5503-5517, 2020. **(IF: 3.31)**
4. Rishi Paliwal, **Shivani Rai Paliwal**, Rameshroo Kenwat, Balak Das Kurmi, Mukesh Kumar Sahu Solid lipid nanoparticles: a review on recent perspectives and patents. *Expert Opinion on Therapeutic Patents* 30 (3), 179-194, 2020. **(IF: 6.74)**
5. Pawan Tekchandani, Balak Das Kurmi, Rishi Paliwal, **Shivani Rai Paliwal** Galactosylated TPGS Micelles for Docetaxel Targeting to Hepatic Carcinoma: Development, Characterization, and Biodistribution Study. *AAPS PharmSciTech*. 2020 Jul;21(5):1-1. **(IF: 4.026)**
6. Balak Das Kurmi, Preeti Patel, Rishi Paliwal, **Shivani Rai Paliwal**. Molecular approaches for targeted drug delivery towards cancer: A concise review with respect to nanotechnology. *Journal of Drug Delivery Science and Technology*. 2020, 57, 101682. **(IF: 5.062)**
7. Balak Das Kurmi, Rishi Paliwal, **Shivani Rai Paliwal**. Dual cancer targeting using estrogen functionalized chitosan nanoparticles loaded with doxorubicin-estrone conjugate: A quality by design approach. *International Journal of Biological Macromolecules*. 2020, 164, 2881-2894. **(IF: 8.025)**

8. Balak Das Kurmi Pawan Techchandani, Rishi Paliwal, **Shivani Rai Paliwal**. Transdermal Drug Delivery: Opportunities and Challenges for Controlled Delivery of Therapeutic Agents Using Nanocarriers. *Current Drug Metabolism*. 2017, 18,5,481-495. **(IF: 3.408)**
9. Pawan Techchandani, Balak Das Kurmi, **Shivani Rai Paliwal**. Nanomedicine to Deal with Cancer Cell Biology In Multi-Drug Resistance. *Mini Reviews in Medicinal Chemistry*. 2017, 17,18, 1793-1810. **(IF: 3.737)**
10. Rishi Paliwal, **Shivani Rai Paliwal**, Suresh P Vyas, Nanotherapeutics for cancer therapy and imaging, *Mini Reviews in Medicinal Chemistry* 2017, 1. **(IF: 3.737)**
11. **Shivani Rai Paliwal**, Rishi Paliwal, G.P. Agrawal, S.P. Vyas. Hyaluronic acid modified pH-sensitive liposomes for targeted intracellular delivery of doxorubicin. *J Liposome Res*, 2016,26(4), 276-87. **(IF: 5.586)**
12. Balak Das Kurmi, Pawan Tekchandani, Rishi Paliwal and **Shivani Rai Paliwal**. Nanocarriers In Improved Heparin Delivery: Recent Updates. *Current Pharmaceutical Design*, Volume 21, Issue 42, 2015. **(IF: 3.31)**
13. Rishi Paliwal, **Shivani Rai Paliwal**, Suresh P Vyas, Role of Molecular Bioports in Oral Delivery of Biomacromolecules, *Current Drug Therapy*, 2014, 1-1.
14. **Shivani Rai Paliwal**, Rishi Paliwal and Suresh P Vyas. pH-sensitive liposomes: an update review. *Drug Delivery*. 2015, 22,3, 231-42. **(IF: 6.819)**
15. **Shivani Rai Paliwal**, Rishi Paliwal, G. P. Agrawal, S. P. Vyas, Targeted Breast Cancer Nanotherapeutics: Options And Opportunities With Estrogens Receptors, *Critical Reviews™ in Therapeutic Drug Carrier Systems*, 2012, 29(5), 421-446. **(IF: 3.097)**
16. **Shivani R Paliwal**, Rishi Paliwal, Harish C Pal, Ajit K Saxena, Praduman R Sharma, Prem N Gupta, Govind P Agrawal, Suresh P Vyas. Estrogen-Anchored pH-Sensitive Liposomes as Nanomodule Designed for Site-Specific Delivery of Doxorubicin in Breast Cancer Therapy, *Mol Pharm*. 2012 Jan 1;9(1):176-86. **(IF: 5.364)**
17. Rishi Paliwal, **Shivani Rai Paliwal**, G. P. Agrawal, S.P. Vyas, “Chitosan nanoconstructs for improved oral delivery of low molecular weight heparin: In vitro and in vivo evaluation” *International Journal of Pharmaceutics*, 2012 Jan 17;422(1-2):179-84. **(IF: 6.51)**
18. Rishi Paliwal, **Shivani Rai Paliwal**, G. P. Agrawal, S.P. Vyas, “Biomimetic Solid Lipid Nanoparticles for Oral Bioavailability Enhancement of Low Molecular Weight Heparin and Its Lipid Conjugates: In vitro and in vivo evaluation”, *Molecular Pharmaceutics*, 2011, 8(4):1314-21. **(IF: 5.364)**
19. Rishi Paliwal, **Shivani Rai**, S.P. Vyas, “Lipid drug conjugate (LDC) nanoparticles as autolymphotrophs for oral delivery of methotrexate”, *Journal of Biomedical Nanotechnology*, 2011, 7(1):130-131. **(IF: 3.641)**
20. **Shivani Rai**, Rishi Paliwal, S.P. Vyas, “Doxorubicin encapsulated nanocarriers for targeted delivery to estrogen responsive breast cancer” *Journal of Biomedical Nanotechnology*, 2011, 7(1):121-122. **(IF: 3.641)**
21. **Shivani Rai Paliwal**, Rishi Paliwal, G. P. Agrawal, S. P. Vyas, “Liposomal Nanomedicine in Breast Cancer Therapy” *Nanomedicine (UK)*, 2011, 6(6):1085-100. **(IF: 6.096)**

22. Rishi Paliwal, **Shivani Rai Paliwal**, Govind Prasad Agrawal, S.P. Vyas. Recent advances in search of oral heparin therapeutics. *Medicinal Research Reviews*. 2012 32(2):388-409. **(IF: 12.388)**
23. Rishi Paliwal, **Shivani Rai Paliwal**, S. P. Vyas. Advances in effective vaccine development against hepatitis B: focus on mucosal immunization strategies. *Therapeutic Delivery*, 2010, Vol. 1, No. 3, Pages 397-410.
24. Sheetu Wadhwa, Rishi Paliwal, **Shivani Rai Paliwal**, S. P. Vyas, Hyaluronic Acid modified Chitosan Nanoparticles for Effective Management of Glaucoma: Development, characterization and evaluation, *Journal of Drug Targeting*, 2010, 18, 4, 292-302. **(IF: 5.016)**
25. **Shivani Rai Paliwal**, Rishi Paliwal, Neeraj Mishra, Abhinav Mehta, Suresh P. Vyas. A novel cancer targeting approach based on estrone anchored stealth liposome for site-specific breast cancer therapy. *Current Cancer Drug Target*, 2010, 10, 3, 343-353. **(IF: 2.907)**
26. Bhuvaneshwar Vaidya, Amit K. Goyal, Kapil Khatri, Neeraj Mishra, Rishi Paliwal, **Shivani Rai**, Shailja Tiwari, S.P. Vyas, Bolaamphiphiles based novel liposomes: a possible approach for drug delivery, *Int. J. Biomedical Nanoscience and Nanotechnology*, 2010, 1, 2/3/4, 95-108.
27. Neeraj Mishra, Amit Kumar Goyal, Shailja Tiwari, Rishi Paliwal, **Shivani Rai Paliwal**, Bhuvneshwar Vaidya, Sharad Mangal, Madhu Gupta, Devyani Dube, Abhinav Mehta, Suresh P. Vyas. Recent advances in mucosal delivery of vaccine: Role of mucoadhesive/ biodegradable polymeric carriers. *Expert Opinion on Therapeutic Patents*. 2010, 20, 5, 661-679. **(IF: 6.76)**
28. Madhu Gupta; Amit K. Goyal; **Shivani Rai Paliwal**; Rishi Paliwal; Neeraj Mishra; Bhuvneshwar Vaidya; Devyani Dubey; S.K. Jain; S.P. Vyas. Development and characterization of effective topical liposomal system for localized treatment of cutaneous candidiasis. *Journal of Liposome Research*. 2010, 20, 4, 341-50. **(IF: 5.586)**
29. Daisy Arora, Amit K. Goyal, **Shivani R. Paliwal**, Bharat Khurana, Suresh P. Vyas, Oral Mucosal Immunization: Recent Advancement and Future Prospects, *Current Immunology Reviews*, 2010, 6, 3, 234-259.
30. Rishi Paliwal, **Shivani Rai**, Bhuvaneshwar Vaidya, Kapil Khatri, Amit K. Goyal, Neeraj Mishra, Abhinav Mehta, Suresh P. Vyas, Effect of lipid core material on characteristics of solid lipid nanoparticles designed for oral lymphatic delivery. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 2009, 5, 2, 184-191. **(IF: 6.458)**
31. Rishi Paliwal, **Shivani R Paliwal**, Neeraj Mishra, Abhinav Mehta, S.P. Vyas "Engineered Chylomicron Mimicking Carrier Emulsome for Lymph Targeted Oral Delivery of Methotrexate", *International Journal of Pharmaceutics*. 2009, 380, 1-2, 181-188. **(IF: 6.51)**
32. Sheetu Wadhwa, Rishi Paliwal, **Shivani R Paliwal**, S. P. Vyas "Nanocarriers in Ocular Drug Delivery: An Update Review", *Current Pharmaceutical Design*. 2009, 15, 23, 2724-2750. **(IF: 3.31)**
33. Sheetu Wadhwa, Rishi Paliwal, **Shivani Rai Paliwal**, S. P. Vyas, Chitosan and its role in ocular therapeutics, *Mini Reviews in Medicinal Chemistry*, 2009, 9, 14, 1639-1647. **(IF: 3.767)**

34. Bhuvaneshwar Vaidya, Rishi Paliwal, **Shivani Rai**, Kapil Khatri, Amit K. Goyal, Neeraj Mishra, Suresh P Vyas, Cell-selective mitochondrial targeting: A new approach for cancer therapy, *Cancer Therapy*, 2009, 7, 141-148.
35. Amit K. Goyal, Kapil Khatri, Neeraj Mishra, Abhinav Mehta, Bhuvaneshwar Vaidya, Shailja Tiwari, Rishi Paliwal, **Shivani Paliwal**, Suresh P. Vyas, Development of Self-assembled Nanoceramic Carrier Construct(s) for Vaccine Delivery, *Journal of Biomaterials Applications*, 2009, 24, 1, 65-84. (**IF: 2.712**)
36. **Shivani Rai**, Rishi Paliwal, Bhuvaneshwar Vaidya, Prem N. Gupta, Kapil Khatri, Amit Goyal, S. P. Vyas, Solid lipid nanoparticles (SLNs) as a rising tool in drug delivery science: one step up in nanotechnology, *Current Nanoscience*, 4,1, 2008, 30-44. (**IF: 1.51**)
37. **Shivani Rai**, Rishi Paliwal, Bhuvaneshwar Vaidya, Kapil Khatri, Amit Goyal, Prem N. Gupta, S. P. Vyas, Targeted delivery of doxorubicin via estrone appended liposome, *Journal Drug Targeting*, 2008, 16, 6, 455- 463. (**IF: 5.016**)
38. Neeraj Mishra, Amit K. Goyal, Kapil Khatri, Bhuvaneshwar Vaidya, Rishi Paliwal, **Shivani Rai**, Abhinav Mehta, Shailja Tiwari, Shiva Vyas, Suresh P. Vyas, "Biodegradable Polymer Based Particulate Carrier(s) for the Delivery of Proteins and Peptides" *Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry*, 2008, 7, 240-251.
39. Rishi Paliwal, **Shivani Rai**, Bhuvaneshwar Vaidya, Sunil Mahor, Prem N. Gupta, Amit Rawat, S.P. Vyas, Cell-selective Mitochondrial Targeting: Progress in Mitochondrial Medicine, *Current Drug Delivery*, 2007, 4, 3, 211-214. (**IF: 3.758**)
40. **Shivani Rai**, Rishi Paliwal, Bhuvaneshwar Vaidya, Prem N. Gupta, Sunil Mahor, Kapil Khatri, Amit K. Goyal, Amit Rawat, S.P. Vyas, Estrogen(s) and Analogs as a Non Immunogenic Endogenous Ligand in Targeted Drug/DNA Delivery, *Current Medicinal Chemistry*, 2007, 14, 2095-2105. (**IF: 4.74**)
41. Amit Rawat, Bhuvaneshwar Vaidya, Kapil Khatri, Amit K. Goyal, Prem N. Gupta, Rishi Paliwal, **Shivani Rai**, S.P. Vyas, Targeted intracellular delivery of therapeutics: An overview, *Die Pharmazie*, 2007, 62, 9, 643-58. (**IF: 1.267**)

Recent books/book chapters/monographs:

Guest Editor:

1. Editor, *Nanomedicine*, **Current Indian Science**, Bentham Science Publishers since **2021**
2. Special Issue of **Mini-Review in Medicinal Chemistry** " Nanotherapeutics for Cancer Therapy and Imaging" (Published), 2017
3. Special Issue of **Current Drug Therapy** on "Role of Molecular Bioports in Oral Delivery of Biomacromolecules" (Published), 2014

Books:

1. *Advances in Nanochemoprevention: Controlled Delivery of Phytochemical Bioactives* R Paliwal, **SR Paliwal** Springer Nature, ISBN 978-981-15-9692-6, 2021.
2. *Targeted nanomedicine for breast cancer therapy*, 9780128244760, **Elsevier**, 2022.
3. *Nanomedicine, Nanotheranostics and Nanobiotechnology: Fundamentals and Applications*, **CRC Press**, (In Press).

Book Chapters:

1. R Kenwat, V Singh, **SR Paliwal**, Paliwal R. Photoresponsive nanocarriers for the delivery of bioactives. In *Smart Polymeric Nano-Constructs in Drug Delivery* 2023 Jan 1 (pp. 109-128). Academic Press.
2. S Naman, S Naryal, R Paliwal, **SR Paliwal**, A Baldi. Combating atherosclerosis with nanodrug delivery approaches: from bench side to commercialization. In *Drug Delivery Systems for Metabolic Disorders* 2022 Jan 1 (pp. 97-136). Academic Press.
3. A Malaiya, M Singhai, **SR Paliwal**, R Paliwal. Basics of targeted nanodrug delivery of chemotherapeutics for breast cancer therapy. In *Targeted Nanomedicine for Breast Cancer Therapy* 2022 Jan 1 (pp. 27-44). Academic Press.
4. BD Kurmi, R Paliwal, **SR Paliwal**. Cell-selective breast cancer targeting through estrogen receptors. In *Targeted Nanomedicine for Breast Cancer Therapy* 2022 Jan 1 (pp. 131-151). Academic Press.
5. R Kenwat, **SR Paliwal**, R Paliwal. Targeted breast cancer nanotheranostics. In *Targeted Nanomedicine for Breast Cancer Therapy* 2022 Jan 1 (pp. 441-464). Academic Press.
6. B Gajbe, BD Kurmi, R Kenwat, R Paliwal, **SR Paliwal**. Breast cancer: introduction. In *Targeted Nanomedicine for Breast Cancer Therapy* 2022 Jan 1 (pp. 3-26). Academic Press.
7. R Paliwal, A Chaurasiya, K Panchal, P Nayak, N Parveen, **SR Paliwal**. Engineering and functionalization of nanomaterials for theranostic applications in infectious diseases. In *Nanotheranostics for Treatment and Diagnosis of Infectious Diseases* 2022 Jan 1 (pp. 45-71). Academic Press.
8. R Paliwal, K Sulakhiya, **SR Paliwal**, V Singh, R Kenwat, D Paramanik. Role of nanoparticles in neurotoxicity. In *Nanomaterial Drug Delivery for Neurodegenerative Diseases* 2022 Jan 1 (pp. 165-182). Academic Press.
9. R Paliwal, A Mamgain, R Kenwat, **SR Paliwal**. Reverse Engineering in Pharmaceutical. *Micro-and Nanotechnologies-Based Product Development*, 235, 2021.
10. R Paliwal, P Kumar, **SR Paliwal**, R Kenwat, O Schmid. Utility of Nanomaterials. *Nanomaterials in Bionanotechnology: Fundamentals and Applications*, 333, 2021.
11. R Paliwal, **SR Paliwal**, R Kenwat. Nanomedicine-based multidrug resistance reversal strategies in cancer therapy. *Nano Drug Delivery Strategies for the Treatment of Cancers*, 319-339, 2021.
12. Rishi Paliwal **Shivani R Paliwal**, Rameshuru, Balak D. Kurmi, Chitosan-based nanocarriers for ophthalmic applications. *Polysaccharide Carriers for Drug Delivery*, **Editors:** Sabyasachi Maiti Sougata Jana. Elsevier. 79-104. 2019
13. **Shivani R Paliwal**, Pawan Tekchandani, Balak D. Kurmi, Rishi Paliwal. Designing Nanocargos for Multi Drug Resistant Cancerous Cells: Strategies and Applications, 4 Volume *NanoBioMedicine* book series. (In Press)
14. **Shivani R Paliwal**, Rishi Paliwal, Suresh P Vyas "Ligand appended liposomes for breast cancer therapy" *Encyclopedia Of Biomedical Polymers And Polymeric Biomaterials*, Taylor & Francis Group, LLC, New York, New York 10017 U.S.A. (In press)

15. **Shivani R Paliwal**, Rishi Paliwal, Suresh P Vyas “*pH sensitive liposomes in drug delivery*” In: Smart Materials for Drug Delivery, Royal Society of Chemistry, UK (In press).
16. Rishi Paliwal, **Shivani R Paliwal**, Suresh P Vyas “*Novel Carrier(s) Based Vaccine Design against Hepatitis B: Recent Updates*” In: Hepatitis B: New Research, Nova Science Publishers, (In press).
17. Suresh P Vyas, Rishi Paliwal, **Shivani R Paliwal**, “*Chitosan-based Systems for Ocular Biopharmaceuticals Delivery*” In: Chitosan-Based Systems for Biopharmaceuticals: Delivery, Targeting and Polymer Therapeutics Ed. Sarmiento B and Neves JD, John Wiley & Sons, Ltd. 2012, pp. 243-254.
18. Suresh P Vyas, Rishi Paliwal, **Shivani R Paliwal** “*Ocular Delivery of Proteins and Peptides*” In: Protein and Peptide Delivery, Ed. Chris Walle, Elsevier. 2011, pp. 87-103
19. Suresh P Vyas, Rishi Paliwal, **Shivani R Paliwal** “*Chitosan/Chitosan Derivatives as Carriers and Immunoadjuvants in Vaccine Delivery*” In: Chitin, Chitosan, Oligosaccharides and Their Derivatives: Biological Activities and Applications, Ed. SN Kim CRC press. 2010, pp. 335-349.
20. Suresh P Vyas, **Shivani R Paliwal**, Rishi Paliwal “*Targeted Drug Delivery*” In: Lachman’s Industrial Pharmacy, Ed. Vyas SP and Khar RK, CBS Publishers, New Delhi, India.
21. Rishi Paliwal, **Shivani R Paliwal**, Suresh P Vyas, “*Ocular Nanomedicine*” In Nanocolloidal carriers in site specific and controlled drug delivery, CBS Publishers, New Delhi, India, 2010, 154-171.
22. **Shivani R Paliwal**, Rishi Paliwal, Suresh P Vyas, “*Nanocarriers in Breast Cancer Therapy*” In: Nanocolloidal carriers in site specific and controlled drug delivery, CBS Publishers, New Delhi, India, 2010, 554-577.
23. Rishi Paliwal, **Shivani R Paliwal**, Suresh P Vyas, “*Nanocarriers: Toxicological Aspects*” In Nanocolloidal carriers in site specific and controlled drug delivery, CBS Publishers, New Delhi, India, 661-674.

Research Supervision:

PhD	01 (completed)
M. Pharm	06+02 (ongoing)

Administrative Responsibilities:

1. Program Officer, NSS Pharmacy Unit
2. NAAC Criteria VI- Department coordinator
3. Academic Head-DPharm

Additional Information (Google Scholar on 22/12/2022)

h index	i-10 index:	Total citation:	Cummulative Impact Factor:	Average Impact Factor:
27	36	2402	168.047	4.099