

Resume



Manisha Bhatneria, Post Doc, PhD, M.S (Pharm.)

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Profile Snapshot

- **Worked as an ICMR-Young Scientist** (2022-25) and CSIR-Research Associate (2019-21) at CSIR-Indian Institute of Toxicology Research, Lucknow, leading predictive pharmacokinetics projects involving PBPK modelling and human health risk assessment for xenobiotics.
- **PhD in Drug Metabolism and Pharmacokinetics** from CSIR-Central Drug Research Institute (2012-2017), focused on drug metabolism, IVIVE, allometric scaling, PK/PD and PBPK modelling.
- Track record of scientific leadership, including managing multidisciplinary DMPK/PBPK projects, **securing competitive research funding (₹46.9 lakh from ICMR, India)**, and winning **first prize for oral presentation at a national conference**.
- **Published 25 (16 as first author) peer-reviewed articles** in international journals across pharmaceutical sciences and health risk assessment, reflecting strong analytical and communication skills.
- Proficient in data analysis and interpretation using MS Office (Word, PowerPoint and Excel), GraphPad Prism and WinNonlin software, Simcyp software
- **Reviewed research publication for international scientific journals**
- **Mentored PhD research fellows and trainees in their project work**

Key areas of interest

- Pharmacokinetics, Toxicokinetics, PBPK and PK/PD Modelling, Health Risk Assessment
- Developing (Write, Edit, Data-check and Proof-read) scientific publications, abstracts, posters, presentations and grant applications
- Mentoring PhD students and research trainees in their project work

Professional Experience

ICMR-Young Scientist (CSIR-Indian Institute of Toxicology Research, Lucknow)

Aug 2022-25

Research Grant: Rs. 46,96,800 (August 2022-25)

Project title: Deriving biomonitoring equivalents and identification of chemical biomarker for enniatin B and beauvericin emerging mycotoxins using toxicokinetic modelling

CSIR-Research Associate (CSIR-Indian Institute of Toxicology Research, Lucknow)

June 19-Nov 2021

Project title: Assessment of human health risk associated to the exposure of enniatin A (ENNA) mycotoxin using toxicokinetics and physiologically based toxicokinetic (PBTK) modelling

Research Experience:

- **In Vitro pharmacokinetic Profiling:** Conducted solubility, permeability, plasma protein binding, metabolic stability, enzyme kinetics, and reaction phenotyping studies for chemicals and toxins to support early-phase pharmacokinetic evaluation.
- **In Vivo Pharmacokinetics (Rodent Models):** Executed single and multiple-dose oral toxicokinetic studies, intravenous PK, bioavailability, and excretion studies to characterise systemic exposure and clearance.
- **PBPK/PBTK Modelling and Human PK Prediction:** Developed and verified physiologically based toxicokinetic (PBTK) models for chemicals in rodents and extrapolated to humans using **Simcyp, Phoenix WinNonlin, and Berkeley Madonna software**, thus supporting forward and reverse dosimetry applications.
- **Biomarker identification:** Conducted *in vitro* metabolite profiling and *in vivo* confirmation using high-resolution MS/MS to identify potential biomarkers for use in human biomonitoring studies

- **Expertise in New Approach Methodologies (NAMs):** Experienced in applying *in vitro* systems and computational modelling approaches to improve human-relevant pharmacokinetic predictions, support regulatory decision-making, and minimize dependence on animal testing.
- **Quantitative Human Health Risk Assessment:** Applied IVIVE, PBPK modelling, and chemical-specific adjustment factors to refine acceptable daily intake (ADI), predict NOAEL/LOEL doses, interpret biomonitoring data, and assess population-level exposure risk.

Doctoral Research Experience

2012-2017

PhD topic: Evaluation of preclinical ADME properties of novel antithrombotic agents, S002-333 and its isomers

Institute: CSIR-Central Drug Research Institute, Lucknow, India

Supervisor: Dr. Rabi Sankar Bhatta, Senior Principal Scientist, Division of Pharmaceutics and Pharmacokinetics, CSIR-CDRI

Research areas:

- Experimental determination of *in vitro* pharmacokinetic properties and drug-drug interactions of new chemical entities using LC-MS/MS-based bioanalytical method
- Design, execution and evaluation of *in vivo* pharmacokinetic and DDI studies in pre-clinical species
- PK/PD Modeling & Simulation using Phoenix WinNonlin software, Hands-on experience in PBPK modelling (GatroPlus) software, allometric scaling and IVIVE

Academic Details

- PhD from CSIR-Central Drug Research Institute, Lucknow with a cGPA of 8.30 2012-2017
- M.S. (Pharm) from Department of Pharmaceutics, National Institute of Pharmaceutical Education and Research (NIPER), Mohali, Punjab, India and secured 9.08/10 (CGPA). 2010-2012
- B. Pharmacy from Maharshi Dayanand University, Rohtak, Haryana and secured 72.14% marks.

Awards/Academic Achievements

- Received **first prize in oral poster presentation** in the 5th Annual Conference of “Society for the Study of Xenobiotics (SSX)”, India, held from 14th to 17th July 2021.
- Recipient of:
 - **Research grant of Rs. 46,96,800 from Indian Council of Medical Research (ICMR), New Delhi, India** under “Young Scientist” scheme for three years (2022-2025) as Project Investigator
 - Fellowship from CSIR-HRDG, New Delhi, for pursuing Research Associateship from June 2019-November 2021
 - Fellowship from CSIR-HRDG, New Delhi, for pursuing PhD from 2012-2017
 - Fellowship from the Ministry of Chemicals and Fertilizers, India, for academic excellence in M.S. (Pharm.) for the year 2010-12
- **Qualified GPAT-2010 with All India Rank 80 and NIPER-JEE 2010 with All India Rank 58**

Publications: 25

Total citations: 409; h index: 13

1. **Manisha Bhatneria***, C. Yahavi*, Sheelendra Pratap Singh. **2025.** *Comparative assessment of different alternatives to animal models for developmental toxicity prediction using physiologically based toxicokinetic modelling approach: A case study of hexaconazole, an azole fungicide.* **Journal of Hazardous Materials**, 493:138375. Doi: doi.org/10.1016/j.jhazmat.2025.138375 **(Impact Factor: 12.2)**
2. Anushka Pandey Singh, Mandavi Sharma, **Manisha Bhatneria**, C. Yahavi, Abdul Rahman Khan, Sheelendra Pratap Singh. **2025.** *A review of bioanalytical methods, bioaccessibility, and toxicokinetics of emerging mycotoxins enniatins and beauvericin in the context of health risk assessment.* **Toxicion**, 256: 108288. Doi: doi.org/10.1016/j.toxicion.2025.108288 **(Impact factor: 2.6)**
3. Anushka Pandey Singh, C. Yahavi, **Manisha Bhatneria**, Abdul Rahman Khan, Sheelendra Pratap Singh. **2025.** *Identification of Beauvericin Metabolites Using Rat and Human Liver Microsomes and In Vivo Urinary Excretion Study in Rats for Biomonitoring Application.* **Toxicology in Vitro**, 103:105969. Doi: 10.1016/j.tiv.2024.105969 **(Impact Factor: 2.6)**

4. C Yahavi, Anushka Pandey, **Manisha Bhatelia**, Balabhau Vaijinathrao Warkad, Ravi Kumar Trivedi, Sheelendra Pratap Singh. **2024**. *Identification of potential chemical biomarkers of hexaconazole using in vitro metabolite profiling in rat and human liver microsomes and in vivo confirmation through urinary excretion study in rats*. **Chemosphere**, 358, 142123. doi.org/10.1016/j.chemosphere.2024.142123 (**Impact Factor: 8.1**)
5. **Manisha Bhatelia**, Isha Taneja, Kajal Karsauliya, Ashish Kumar Sonker, Yukihiro Shibata, Hiromi Sato, Akihiro Hisaka and Sheelendra Pratap Singh. **2024**. *Predicting the in vivo developmental toxicity of fenarimol from in vitro toxicity data using PBTK modelling-facilitated reverse dosimetry approach*. **Toxicology and Applied Pharmacology**, 484, 116879. Doi: doi.org/10.1016/j.taap.2024.116879 (**Impact Factor: 3.3**)
6. **Manisha Bhatelia***, Kajal Karsauliya*, Ashish Kumar Sonker, Chandrasekharan Yahavi, Shashyendra Singh Gautam, Shweta Karsauliya, Sheelendra Pratap Singh. **2023**. *Detection of bisphenols in Indian surface water, tap water, and packaged drinking water using dispersive liquid-liquid microextraction: exposure assessment for health risk*. **Environmental Science and Pollution Research**. 30, 17776. Doi: 10.1007/s11356-022-23293-1. (**Impact Factor: 5.910**)
7. **Manisha Bhatelia**, Kajal Karsauliya, Ashish Kumar Sonker, C. Yahavi, Sheelendra Pratap Singh. **2022**. *Cytochrome P450 isoforms contribution, plasma protein binding, toxicokinetics of enniatin A in rats and in vivo clearance prediction in humans*. **Food and Chemical Toxicology**, 164, 112988. doi.org/10.1016/j.fct.2022.112988. (**Impact Factor: 5.572**)
8. Kajal Karsauliya, C. Yahavi, Anushka Pandey, **Manisha Bhatelia**, Ashish Kumar Sonker, Harshita Pandey, Manu Sharma, Sheelendra Pratap Singh. **2022**. *Co-occurrence of mycotoxins: A review on bioanalytical methods for simultaneous analysis in human biological samples, mixture toxicity and risk assessment strategies*. **Toxicol.** 218, 25-39, Doi: 10.1016/j.toxicol.2022.08.016 (**Impact factor: 3.02**)
9. **Manisha Bhatelia***, Kajal Karsauliya*, Ashish Sonker and Sheelendra Pratap Singh. **2021**. *Determination of Bisphenol Analogues in Infant Formula Products from India and Evaluating the Health Risk in Infants Associated with Their Exposure*. **Journal of Agricultural and Food Chemistry**. 69:13, 3932-41. doi/10.1021/acs.jafc.1c00129. (**Impact factor: 5.895**)
10. Ashish Kumar Sonker, **Manisha Bhatelia**, Kajal Karsauliya, Sheelendra Pratap Singh. **2021**. *Investigating the glucuronidation and sulfation pathways contribution and disposition kinetics of Bisphenol S and its metabolites using LC-MS/MS-based nonenzymatic hydrolysis method*. **Chemosphere**. 273: 129624. doi.org/10.1016/j.chemosphere.2021.129624 (**Impact factor: 8.1**)
11. Kajal Karsauliya, Ashish Kumar Sonker, **Manisha Bhatelia**, Isha Taneja, Anshuman Srivastava, Manu Sharma, Sheelendra Pratap Singh. **2020**. *Plasma protein binding, metabolism, reaction phenotyping and toxicokinetic studies of fenarimol after oral and intravenous administration in rats*. **Xenobiotica**. 51:1, 72-81, doi.org/10.1080/00498254.2020.1796170 (**Impact factor: 1.997**)
12. **Manisha Bhatelia**, Ramakrishna Rachumallu, Sahithi Yerrabelli, Anil K. Saxena, Rabi Sankar Bhatta. **2017**. *Insight into stereoselective disposition of enantiomers of a potent antithrombotic agent, S002-333 following administration of the racemic compound to mice*. **European Journal of Pharmaceutical Sciences**. 101:107-114. (DOI: 10.1016/j.ejps.2017.02.012) (**Impact factor: 5.112**)
13. Rachumallu Ramakrishna, Durgesh Kumar, **Manisha Bhatelia**, Anil Nilkanth Gaikwad, Rabi Sankar Bhatta. **2017**. *16-Dehydropregnenolone lowers serum cholesterol by up-regulation of CYP7A1 in hyperlipidemic male hamsters*. **The Journal of Steroid Biochemistry and Molecular Biology**. 168:110-117. (DOI: 10.1016/j.jsbmb.2017.02.013) (**Impact factor: 5.011**)
14. **Manisha Bhatelia***, Santosh Kumar Puttrevu*, Rachumallu Ramakrishna*, Moon Jain, Kashif Hanif, Rabi Sankar Bhatta. **2017**. *Pharmacokinetic-pharmacodynamic modeling of the antihypertensive interaction between azilsartan medoxomil and chlorthalidone in spontaneously hypertensive rats*. **Naunyn-Schmiedeberg's Archives of Pharmacology**. 390:457-470. (DOI: 10.1007/s00210-017-1339-6) (**Impact factor: 3.195**)
15. **Manisha Bhatelia**, Ramakrishna Rachumallu, Sahithi Yerrabelli, Anil K. Saxena, Rabi Sankar Bhatta. **2016**. *Enantioselective inhibition of Cytochrome P450-mediated drug metabolism by a novel antithrombotic agent, S002-333: Major effect on CYP2B6*. **Chemico-Biological Interactions**. 256:257-265. (DOI:10.1016/j.cbi.2016.07.001) (**Impact factor: 5.168**)
16. **Manisha Bhatelia**, Ramakrishna Rachumallu, Sahithi Yerrabelli, Anil K. Saxena, Rabi Sankar Bhatta. **2016**. *Pre-clinical investigation of plasma pharmacokinetics and biodistribution of a novel antithrombotic agent S002-333 in mice using LC-MS/MS*. **Journal of Chromatography B**. 1031:154-162. (DOI:10.1016/j.jchromb.2016.07.030) (**Impact factor: 3.318**)
17. **Manisha Bhatelia***, Ramakrishna Rachumallu*, Rabi Sankar Bhatta. **2016**. *Evaluation of the impact of 16-dehydropregnenolone on the activity and expression of rat hepatic cytochrome P450 enzymes*. **The Journal of**

Steroid Biochemistry and Molecular Biology. 163:183-192. (DOI: 10.1016/j.jsbmb.2016.05.018) (**Impact factor: 5.168**)

18. **Manisha Bhatéria**, Rachumallu Ramakrishna, Santosh Kumar Puttrevu, Rajbir Singh, Rabi Sankar Bhatta. **2016.** *Analysis of bacopaside I in biomatrices using liquid chromatography-tandem mass spectrometry: Pharmacokinetics and brain distribution in Swiss-albino mice.* **Journal of Pharmaceutical and Biomedical Analysis.** 125:101-109. (DOI: 10.1016/j.jpba.2016.03.002) (**Impact factor: 3.571**)
19. **Manisha Bhatéria***, Ramakrishna Rachumallu*, Rajbir Singh, Santosh Kumar Puttrevu, Rabi Sankar Bhatta. **2016.** *Plasma pharmacokinetics, bioavailability and tissue distribution of agnuside following peroral and intravenous administration in mice using liquid chromatography-tandem mass spectrometry.* **Journal of Pharmaceutical and Biomedical Analysis.** 125: 154-164. (DOI:10.1016/j.jpba.2016.02.047) (**Impact factor: 3.571**)
20. **Manisha Bhatéria***, Rachumallu Ramakrishna*, Santosh Kumar Puttrevu, Yarra Durga Prasad, Rajbir Singh, Rabi Sankar Bhatta. **2016.** *A liquid chromatography-tandem mass spectrometry method for the quantitation of actarit in rabbit plasma: application to pharmacokinetics and metabolic stability.* **Journal of Mass Spectrometry.** 51:69-78. (DOI: 10.1002/jms.3730) (**Impact factor: 2.394**)
21. **Manisha Bhatéria**, Rachumallu Ramakrishna, Dora Babu Pakala, Rabi Sankar Bhatta. **2015.** *Development of an LC-MS/MS method for simultaneous determination of memantine and donepezil in rat plasma and its application to pharmacokinetic study.* **Journal of Chromatography B.** 1001:131-139. (DOI: 10.1016/j.jchromb.2015.07.042) (**Impact factor: 3.318**)
22. Rachumallu Ramakrishna, Santosh kumar Puttrevu, **Manisha Bhatéria**, Veenu Bala, Vishnu L. Sharma, Rabi Sankar Bhatta. **2015.** *Simultaneous determination of azilsartan and chlorthalidone in rat and human plasma by liquid chromatography-electrospray tandem mass spectrometry.* **Journal of Chromatography B.** 990:185-197. (DOI: 10.1016/j.jchromb.2015.03.018) (**Impact factor: 3.318**)
23. Rajbir Singh, Rachumallu Ramakrishna, **Manisha Bhatéria**, Rabi Sankar Bhatta. **2015.** *In vitro effects of standardized extract of Bacopa monniera and its five individual active constituents on human P-glycoprotein activity.* **Xenobiotica.** 45:741-749. (DOI: 10.3109/00498254.2015.1017752) (**Impact factor: 1.997**)
24. **Manisha Bhatéria**, Rachumallu Ramakrishna, Rajbir Singh, Rabi Sankar Bhatta. **2014.** *Erythrocytes-based synthetic delivery systems: transition from conventional to novel engineering strategies.* **Expert Opinion on Drug Delivery.** 11:1219-1236. (DOI:10.1517/17425247.2014.927436) (**Impact factor: 8.129**)
25. Rajbir Singh, Rachumallu Ramakrishna, **Manisha Bhatéria**, Rabi Sankar Bhatta. **2014.** *In-vitro evaluation of Bacopa monniera extract and individual constituents on human recombinant monoamine oxidase enzymes.* **Phytotherapy Research.** 28: 1419-1422. (DOI: 10.1002/ptr.5116) (**Impact factor: 6.388**)

(*Equally contributing authors)

Book chapter

1. **Manisha Bhatéria**, C. Yahavi, Anushka Pandey, Shiv Singh, and Sheelendra Pratap Singh. "Fate and Disposition of Functionalized Nanomaterial in vivo: Implication in human health risk assessment" in book entitled "Handbook of Functionalized Nanomaterials: Environmental Health and Safety. Micro and Nano Technologies". Elsevier. 165-196. (DOI: 10.1016/B978-0-12-822415-1.00012-3)
2. Anushka Pandey, **Manisha Bhatéria** and Sheelendra Pratap Singh. "Analytical Advancement for Pharmaceutical Quantification in Environment" in Medicinal and Environmental Chemistry: Experimental Advances and Simulations (Part II). Banthem Science. 166-197. (doi.org/10.2174/97898149983071210101)

Posters/Presentations at national/international conferences (Total: 20)

Last five years

1. C. Yahavi, **Manisha Bhatéria**, Sheelendra Pratap Singh. Received second prize in oral talk presented on "Integrating Physiologically Based Toxicokinetic Modelling to Predict Developmental Toxicity of Hexaconazole from Alternatives to Animal Models" at Women in Academia, Research and Management for Empowering Successful Transformations (WARMEST) held in CSIR-IITR, Lucknow, India on 06-08th March, 2025.
2. Sagar D Sonone, **Manisha Bhatéria**, Roshan M Borkar, Sheelendra Pratap Singh. Poster presented on "From Ocean to Table: Multi-Pesticide Residue level in dry fish and associated health risk in India" at the International Toxicology Convention on Emerging Approaches in Risk Analysis and Translational Aspects of Health and Environment (EARTH) held at CSIR-IITR, Lucknow, India on 27-30th November 2024.
3. **Manisha Bhatéria**, C. Yahavi, Anushka Pandey, Ashish K Sonker, Sheelendra Pratap Singh. Poster presented on "Prediction of in vivo endocrine activity in humans from ToxCast in vitro toxicity database for bisphenols using

- physiologically based toxicokinetic modelling-reverse dosimetry approach” at the 7th Annual Conference of the Society for the Study of Xenobiotics (SSX) held in Manipal University, India on 02-03rd February, 2024
4. C. Yahavi, **Manisha Bhateria**, Anushka Pandey, Harshit Kaushik, Sheelendra Pratap Singh. Oral talk presented on “Predicting human equivalent doses of azole fungicides from in vitro toxicity data using physiologically based toxicokinetic modelling: An alternative to animal model approach” at the 4th National Biomedical Research Competition (NBRCOM-2023 held in ESIC Medical College, Alwar, India on 09-10th December 2023
 5. C. Yahavi, **Manisha Bhateria**, Anushka Pandey, Sheelendra Pratap Singh. **Received second prize** in oral talk presented on “Species difference in metabolism and selection of suitable biomarker for hexaconazole via in vitro and in vivo metabolic studies” at the Women in Academia, Research and Management of Food Safety and Toxicology (WARM-FOST) held in CSIR-IITR, Lucknow, India on 24-25th February, 2023
 6. **Manisha Bhateria**, C. Yahavi, Kajal Karsauliya, Ashish Kumar Sonker, Anushka Pandey, Sheelendra Pratap Singh. Poster presented on “Deriving the Biomonitoring Equivalent for Enniatin A Mycotoxin using Physiologically Based Toxicokinetic (PBTk) Model” at the Women in Academia, Research and Management of Food Safety and Toxicology (WARM-FOST) held at CSIR-IITR, Lucknow, India from 24-25th February 2023.
 7. Delivered a lecture on LC-MS/MS: Principle and Applications in CSIR One Week-One Lab program held at CSIR-IITR, Lucknow from March 1-3, 2023
 8. C. Yahavi, **Manisha Bhateria**, Kajal Karsauliya, Priyadeep Bhutani, Swathi H N, Pulipati Shobha, Balabhau Vaij Nathrao Warkad, Mahendra Shukla, Ravi Kumar Trivedi, Sheelendra Pratap Singh. Poster presented on “Predicting the Plasma Concentration of Flusilazole in Humans from in Vitro Toxicokinetic Data using PBTk Modelling: Implications in Health Risk Assessment” at the International Conference on Medical Health Science, Pharmacology & Bio Technology (ICMPB) held in Hyderabad, India on 01 May, 2022
 9. **Manisha Bhateria**, Kajal Karsauliya, Ashish K Sonker, C. Yahavi, Isha Taneja, Sheelendra Pratap Singh. **Received first prize in oral presentation** on “Predicting the in vivo Developmental Toxicity of Fenarimol in Rats and Humans from in vitro Toxicity Assay Using PBTk Modelling-Facilitated Reverse Dosimetry Approach” in Annual Conference of Society for the Study of Xenobiotics (SSX), 2021, India held from 14-17th July, 2021

References

Dr. Sheelendra Pratap Singh

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Declaration

I hereby declare that the information furnished above is true to the best of my knowledge.

Manisha Bhateria