

Curriculum Vitae

Dr. Monica Sharma (PhD in Biotechnology)

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Assistant Professor, Department of
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Education

Doctorate in Philosophy in (2003-2009)

Biotechnology

Department of Biotechnology, Himachal Pradesh University, Shimla, India.

Title: “Studies on amidases of a thermophilic *Geobacillus pallidus* BTP-5x and its application in acetohydroxamic acid production”

Publication details of demonstrable research experience (Sharma M*, as coresponding author):

1. Sharma M, Akhter Y, Chatterjee S (2019) A review on remediation of cyanide containing industrial wastes using biological systems with special reference to enzymatic degradation. World J Microbiol Biotechnol 35: 70. <https://doi.org/10.1007/s11274-019-2643-8>
2. Augustine S, Singh J, Srivastava M, **Sharma M**, Das A, Malhotra BD (2017) Recent advances in carbon based nanosystems for cancer theranostics. Biomaterials Science, **5**:

901-952 (Impact factor 4.21).

3. **Sharma M***, Bhalla TC (2015) Isolation and characterization of culture conditions of a thermoactive amidase from *Geobacillus pallidus* BTP-5x MTCC 9225. *International Journal of Advanced Biotechnology and Bioinformatics* 4 (1): 6-15.
4. **Sharma M***, Rawat P, Mehta A (2015) Denovo Designing, Virtual Screening and Lead Optimization of Potential Drug Candidate for Herpes Disease. *J Microb Biochem Technol* 7: 367-373. doi:10.4172/1948-5948.1000240 (impact factor 2.5).
5. **Sharma M***, Singh S, Sharma S (2015) New Generation Antibiotics/Antibacterials: Deadly Arsenal for Disposal of Antibiotic Resistant Bacteria. *J Microb Biochem Technol* 7: 374-379. doi:10.4172/1948-5948.1000241 (impact factor 2.5)
6. **Sharma M***, Thukral N, Soni NK, Maji S (2015) Microalgae As Future Fuel: Real opportunities and challenges. *Journal of thermodynamics and Catalysis* 6:1 <http://dx.doi.org/10.4172/2157-7544.1000139> (impact factor 0.938)
7. **Sharma M**, Sharma NN and Bhalla TC (2013) Purification studies on a thermo-active amidase of *Geobacillus pallidus* BTP-5x MTCC 9225 isolated from thermal springs of Tatapani (Himachal Pradesh). *Appl Biochem Biotechnol*. 169(1):1-14. doi: 10.1007/s12010-012-9945-8 (impact factor: 1.751)
8. **Sharma M**, Sharma NN, and Bhalla TC (2012) Biotransformation of acetamide to acetohydroxamic acid at bench scale using acyl transferase activity of amidase of *Geobacillus pallidus* BTP-5x MTCC 9225. *Indian Journal of Microbiology*, 52, 76-82. DOI: 10.1007/s12088-011-0211-5 (impact factor 0.988)
9. Sharma NN, **Sharma M** and Bhalla TC (2012) *Nocardia globerula* NHB-2 nitrilase catalysed biotransformation of 4-cyanopyridine to isonicotinic acid. *AMB Express* 2:25. doi:10.1186/2191-0855-2-25 (1.825)
10. Amit Pratush, **Monica Sharma**, Amit Seth and Tek Chand Bhalla (2011) Seeds of rosary pea, *Abrus precatorius*: A novel source of hydroxynitrile lyase. *J Biochem Tech* 3(2): 274-279 ISSN: 0974-2328. (impact factor 0.962)
11. Sharma NN, **Sharma M** and Bhalla TC (2010) An improved nitrilase- mediated bioprocess for synthesis of nicotinic acid from 3-cyanopyridine with hyper induced *Nocardia globerula*

NHB-2. *Journal of Industrial Microbiology and Biotechnology*. 38, 1235-1243. DOI: 10.1007/s10295-010-0902-7. (impact factor 2.624)

12. **Sharma M**, Sharma NN, and Bhalla TC (2009) Amidases: Versatile Enzymes. In *Nature Reviews in Environmental Science and Biotechnology*, **8**, 343-366 (Impact Factor: 4.4)
13. Sharma NN, **Sharma M**, Kumar H and Bhalla TC (2006) *Nocardia globerula* NHB-2: Bench scale production of nicotinic acid. *Process Biochemistry*, **41**, 2078-2081. (impact factor 2.648).
14. **Sharma M**, Sharma NN, and Bhalla TC (2005) Hydroxynitrile lyases: At the interface of biology and chemistry. *Enzyme and Microbial Technology*, **37**, 279-294. (impact factor 2.648)

Chapters

1. **Sharma M** (2018) Thermophiles Vs Psychrophiles: Cues from microbes for sustainable industries, Chapter 13. In : *Environmental Biotechnology: for sustainable future*", Eds, Ranbir Chander Sobti, Naveen Kumar Arora, Richa Kothari by Springer-Nature p. 323-340.
2. **Sharma M** (2018) Transdermal and Intravenous Nano Drug Delivery Systems: Present and Future, Chapter 18. In: *Applications of Targeted Nano Drugs and Delivery Systems*, Eds: Shyam S Mahopatra. Shivendu Ranjan, Nandita Dasgupta, Raghvendra Kumar Mishra, Sbu Thomas. Elsevier Inc. p. 499-550.
3. **Sharma M** (2018) Traditional fermented Foods/ Therapeutic Foods: Wellness Mantra for Improving Health. In: *The Nature Health and Wellness Trinity The Way Forward For Tourism in India*, Eds: Shubhini A Saraf, Priyanka Maurya, Shailendra K. Saraf. White Falcon Publishing p. 68-82.
4. Bhalla TC, **Sharma M** and Sharma NN (2009) Nitrile metabolizing yeasts. In: *Yeast Biotechnology: Diversity and Applications*, eds T. Satyanarayana and Kunze, pp Springer New York Inc. p. 696-713 (cited: 3).
5. Bhalla, T C, Sharma, M, Sharma, NN (2008) Microbial production of flavours and fragrances; fats and oils; dyes; bioplastics (PHAS); polysaccharides; pharmacologically active substances from marine microbes; anticancer agents and microbial transformation. *Applied Microbiology* 7, 1-34.

6. Bhalla TC, Sharma NN and **Sharma M** (2007) Applications of Biotechnology in Forestry, for Y.S. Parmar University of Horticulture and Forestry.
7. Bhalla TC, Sharma NN and **Sharma M** (2007) Production of Metabolites, Industrial enzymes, Amino acid, Organic acids, Antibiotics, Vitamins and Single Cell Proteins. National Science Digital Library, India.

MTech Dissertation Supervised:

Ankita Mehta: DENOVO DRUG DESIGN AGAINST ICP-47 OF HSV (2011)

Atisha Jain: STRUCTURE AND LIGAND BASED DRUG DESIGNING OF AMINO ACID HYDROXYLASE ENZYMES INVOLVED IN NEURO-DEGENERATION (2012)

Saumya Bharti: IN SILICO APPROACH TO DESIGN A NOVEL INHIBITOR OF SHP1/2: ENHANCEMENT OF HSCS PROLIFERATION (2014)

Puneet Rawat : LEAD OPTIMIZATION FOR HERPES SIMPLEX VIRUS DISEASE (2014)

Puneet Rawat: MTech Bioinformatics - "IDENTIFICATION OF DNA FEATURES AT THE TRANSITION REGION OF VARIOUS CHROMATIN STATES" (2015)

Ashok Kr. Dev: PRODUCTION AND CHARACTERIZATION OF RECOMBINANT CELLULOLYTIC ENZYMES (2015)

Monika Geetanjaly: ISOLATION, PRODUCTION AND REACTION CONDITION OPTIMIZATION OF AMIDASE OF Bacillus sp. MNB-1 (2015)

Sandeep Kumar Pathak: STUDIES ON THERMOPHILIC NITRILE METABOLISING ENZYME ISOLATED FROM KIRTI NAGAR INDUSTRIAL AREA (2015)

Project Completed:

“Development and Manufacture of Cost- Effective Glucose Biosensor for Clinical Diagnostics” (ICMR-1.33 Crore) (2012-2014) as Co PI with PI Prof. B D Malhotra, Dr. Asmita Das, **Dr.**

Monica Sharma, Dr. Navneeta Bharadvaja, Dr. Yasha Hasija

Ongoing Project:

Investigational analysis of thermal spring for novel thermophilic enzymes of biotechnological importance using metagenomics approach " (2018-2020) as PI (UP-CST).

List of Referees

1. Prof. T C Bhalla, Coordinator , Department of Biotechnology, Himachal Pradesh University, Summer Hill, Shimla – 171 005, Himachal Pradesh, India, Phone no. +91 177 2832514, Email: bhallatc@rediffmail.com
2. Prof S Maji, Department of Mechanical Engineering, Delhi Technological University, Main Bawana Road, Shahbad Daultapur, Delhi-110042, India; Principal, G.B.Pant Govt. Engineering College, Okhala Industrial Estate, Phase-III, New Delhi-110020 Email: smaji333@gmail.com
3. Prof B D Malhotra, HOD, Department of Biotechnology, Delhi Technological University, Main Bawana Road, Shahbad Daultapur, Delhi-110042, India; Email: bansi.malhotra@gmail.com
4. Prof. S. S. Kanwar, Department of Biotechnology, Himachal Pradesh University, Summer Hill, Shimla – 171 005, Himachal Pradesh, India, Phone no. +91 177 2832514, Email: kanwarss2000@yahoo.com

Declaration

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

Delhi

(Monica Sharma)