

Bhavya Jha, PhD

Assistant Professor
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Work Experience

- i. Assistant Professor at Ganga Devi Mahila Mahavidyalaya, A constituent Unit of Patliputra University, Patna (22nd Nov'19- till date)
- ii. Research Associate at National Institute of Immunology, DBT, New Delhi from 24th April'19 to 19th Nov'19.

Educational qualifications

Degree/Exam	Year	Institute	Awarding Authority
Ph.D.	March 2019	National Institute of Immunology, DBT, New Delhi	Jawaharlal Nehru University
M.Sc. in Zoology (specialization in Biochemistry and Molecular Biology)	2013	Banaras Hindu University	Banaras Hindu University

Research Profile

ORCID- 0000-0002-0944-4279

Scopus Author ID- 57201823736

i10 index: 4

H-index: 5

PhD thesis topic- Structural and biochemical studies of histidinol phosphate phosphatase from *Mycobacterium tuberculosis*

Research Interests

Structural and functional characterization of *Mycobacterium tuberculosis* proteins that are reported essential.

Targeting the essential enzymes of *Mycobacterium tuberculosis* through an integrated approach of structure based and ligand based drug discovery.

PhD Supervision (ongoing)

Mrs. Bhawana Singh, Topic- Identification of novel inhibitors against *Mycobacterium tuberculosis* by targeting homoserine dehydrogenase

Administrative Responsibilities at workplace

- Head of Zoology department, GDMM
- IQAC coordinator of GDMM from July'2020 till date
- Coordinator of IT cell of GDMM
- Member of DRC and RAC of PPU Zoology department

Membership of Academic Bodies

Lifetime member of Indian Science Congress

Publications:

a. In Scopus/Web of Science Indexed Journals with Thomson Reuters Impact Factor:

1. Ahmad M, **Jha B**, Bose S, Tiwari S, Dwivedy A, Kar D, Pal R, Mariadasse R, Parish T, Jeyakanthan J, Vinothkumar KR. Structural snapshots of Mycobacterium tuberculosis enolase reveal dual mode of 2PG binding and its implication in enzyme catalysis. IUCrJ. 2023 Nov 1;10(6). <https://doi.org/10.1107/S2052252523008485>
2. Kumar D, **Jha B**, Bhatia I, Ashraf A, Dwivedy A, Biswal BK. Characterization of a triazole scaffold compound as an inhibitor of Mycobacterium tuberculosis imidazoleglycerol-phosphate dehydratase. Proteins. 2022 Jan;90(1):3-17. <https://doi.org/10.1002/prot.26181>
3. Dwivedy A, Ashraf A, **Jha B**, Kumar D, Agarwal N, Biswal BK. De novo histidine biosynthesis protects Mycobacterium tuberculosis from host IFN- γ mediated histidine starvation. Commun Biol. 2021 Mar 25;4(1):410. <https://doi.org/10.1038/s42003-021-01926-4>
4. **Jha B**, Vyas R, Bhushan J, Sehgal D, Biswal BK. Structural insights into the substrate specificity of SP_0149, the substrate-binding protein of a methionine ABC transporter from Streptococcus pneumoniae. Acta Crystallogr F Struct Biol Commun. 2019 Jul 1;75(Pt 7):520-528. <https://doi.org/10.1107/S2053230X19009038>
5. Dwivedy A, **Jha B**, Singh KH, Ahmad M, Ashraf A, Kumar D, Biswal BK. Serendipitous crystallization and structure determination of bacterioferritin from Achromobacter. Acta Crystallogr F Struct Biol Commun. 2018 Sep 1;74(Pt 9):558-566. <https://doi.org/10.1107/S2053230X18009809>

6. **Jha B**, Kumar D, Sharma A, Dwivedy A, Singh R, Biswal BK. Identification and structural characterization of a histidinol phosphate phosphatase from *Mycobacterium tuberculosis*. J Biol Chem. 2018 Jun 29;293(26):10102-10118. <https://doi.org/10.1074/jbc.RA118.002299>
7. Singh KH, **Jha B**, Dwivedy A, Choudhary E, N AG, Ashraf A, Arora D, Agarwal N, Biswal BK. Characterization of a secretory hydrolase from *Mycobacterium tuberculosis* sheds critical insight into host lipid utilization by *M. tuberculosis*. J Biol Chem. 2017 Jul 7;292(27):11326-11335. <https://doi.org/10.1074/jbc.M117.794297>

b. In Web of Science Indexed Journals without Thomson Reuters Impact Factor

1. Singh B, **Jha B**. The three-dimensional structure of homoserine dehydrogenase from *Mycobacterium tuberculosis*: an in silico study. CIBTech Journal of Zoology. 2025, 14: 130-140. <https://www.cibtech.org/J-Zoology/PUBLICATIONS/2025/CJZ-016-BHAVYA-HOMOSERINE%20DEHYDROGENASE.pdf>
2. Singh B, **Jha B**. Phylogeny of Homoserine dehydrogenase. CIBTech Journal of Zoology. 2024; 13: 124-130. <https://cibtech.org/J-Zoology/PUBLICATIONS/2024/CJZ-015-BHAVYA-PHYLOGENGY-DEHYDROGENASE.pdf>

c. In Peer-reviewed Journals

1. **Jha B**. The Burden of Tuberculosis in India: A Journey from Ancient Times to Modern Era. Ascent International journal for research analysis. 2023 Sep; 8(3): 68.1-68.5. <https://www.ijcms2015.co/file/2023/aijra-vol-8-issue-3/aijra-vol-8-issue-3-68.pdf>

Book Chapters

1. Chatterjee S, Yadav M, Sharma H, **Jha B**, Neelam DK, Thakre V, Pathak H, Devki, Kumar D. (2025). Organ-specific autoimmune disorders. *Role of Medicinal Plants in Autoimmune Diseases*. pp39-74. Academic Press Elsevier. doi: <https://www.sciencedirect.com/book/9780443187766/role-of-medicinal-plants-in-autoimmune-diseases>
2. Kumar D, Chatterjee S, Gurjar C, Parihar M, Sharma G, **Jha B**, Sharma I. Techniques and equipment for aflatoxin detection in crops. In *Aflatoxin Management in Crops 2026* Jan 1 (pp. 305-350). Academic Press Elsevier. Doi: <https://doi.org/10.1016/B978-0-443-33863-2.00007-2>

Structures deposited in the Protein Data Bank (PDB)

- i. 5YHT - Crystal structure of a phosphatase from *Mycobacterium tuberculosis* in complex with its substrate.
- ii. 5ZON- Histidinol phosphate phosphatase from *Mycobacterium tuberculosis*.
- iii. 5XDS- Crystal structure of *Mycobacterium tuberculosis* HisB bound with an inhibitor.

- iv. 5ZUR- *Achromobacter* Dh1f Bacterioferritin.
- v. 6KHH - Crystal Structure of HisB from *Mycobacterium tuberculosis*
- vi. 6JF1- Crystal structure of the substrate binding protein of a methionine transporter from *Streptococcus pneumoniae*.
- vii. 6L7D - *Mycobacterium tuberculosis* enolase mutant - S42A
- viii. 7CLK - *Mycobacterium tuberculosis* enolase in complex with alternate 2-phosphoglycerate.
- ix. 7CKP – *Mycobacterium tuberculosis* Enolase
- x. 7CLL - *Mycobacterium tuberculosis* enolase in complex with 2-Phosphoglycerate

Awards and Accomplishments

- Received the prestigious International Union of Crystallography Young Scientist award in December'2018 at Auckland, New Zealand.
- Won poster award at AsCA 2018/CRYSTAL 32 (2018)
- Received DST International Travel Support to attend the AsCA 2018/CRYSTAL 32 at Auckland, New Zealand.
- Received bursary from Immunology foundation to attend the AsCA 2018/CRYSTAL 32 at Auckland, New Zealand.
- Qualified GATE in Life Sciences with 99.67 percentile (2013).
- Qualified NET-JRF in Life Sciences (Dec'12)
- Qualified NET-LS in Life Sciences (June'12)