CV

Jaydip Ghosh
Department: **Microbiology** (**Post-Graduate**), **St. Xavier's College, Kolkata**
Email Id: 1) jaydipghosh@sxccal.edu
Designation: **Assistant Professor**
Qualification: **M.Sc., Ph.D., Post-doc.**

- **Short Profile**:

Graduation in **Chemistry**, **post-graduation** in **Biochemistry** (with **Molecular Biology** as **special paper**) from **Calcutta University**.
Ph.D. from the **Department of Biophysics, Molecular Biology and Genetics, Calcutta University**. **Ph.D. thesis title**: "**Protein Folding: Chaperones and Ribosomes**."

CSIR-NET & **GATE** qualified.

First post-doctoral research in **Uppsala University**, **Sweden** where primarily worked on **(i) Sporulation in Mycobacteria,** and **(ii) Identification and Characterization of small non coding RNA in Mycobacteria**.

Second post-doctoral research in **Bordeaux University**, **France** where the major project was the **elucidation of the role of small noncoding RNA in the regulation of antibiotic tolerance in bacterial persister cells**.

Present research interest: The present area of research is to
(1) develop drug combinations to eliminate antibiotic tolerant bacterial persister cells which are linked with many chronic recalcitrant human diseases,
(2) identify bacterial persister-specific proteins as targets of new anti-persister drugs.
Also involved in
(3) characterization of extremophillic bacteria and
(4) study of biochemical and antimicrobial properties of tea.

- **Published Articles:**

1. Alleviation of abiotic stress in Oryza sativa by the application of novel polyextremophilic plant growth promoting Bacillus.
Roy, B., Maitra, D., Bhattacharya, A., Mondal, A., Pal, N., Nandy, A., Bakshi, B., **Ghosh, J.**, & Mitra, A. K.
Biocatalysis and Agricultural Biotechnology, 60, 103272. (2024).
https://doi.org/10.1016/j.bcab.2024.103272

2. Biofilm and metallothioneins: A dual approach to bioremediate the heavy metal menace.
Roy, B., Maitra, D., Sarkar, S., Podder, R., Das, T., **Ghosh, J.**, & Mitra, A. K.
Environmental Quality Management, 1–18. (2023).
https://doi.org/10.1002/tqem.22139

3. Efficacy of High-Altitude Biofilm-Forming Novel *Bacillus subtilis* Species as Plant Growth-Promoting Rhizobacteria on *Zea mays* L.
Bedaprana Roy, Debapriya Maitra, Abhik Biswas, Niti Chowdhury, Saswata Ganguly,MainakBera, Shijini Dutta, Samriddhi Golder, Sucharita Roy, **Jaydip Ghosh** & Arup Kumar Mitra
Applied Biochemistry and Biotechnology (2023). https://doi.org/10.1007/s12010-023-04563-1

4. Biofilm production in a novel polyextremophilic *Bacillus subtilis*: A strategic maneuver for survival.
Bedaprana Roy, Debapriya Maitra, Ayan Chandra, **Jaydip Ghosh** and Arup Kumar Mitra,**Biocatalysis and Agricultural Biotechnology**,Volume 45,2022,102517,ISSN 1878-8181,https://doi.org/10.1016/j.bcab.2022.102517.

5. Assessment of Antioxidant and Antimicrobial (Therapeutic) Potentials of Some Medicinally Important Beverages
Sudeshna Shyam Choudhury , Ravichandran Velayutham , Dipanjan Ghosh, Arun Jana , **Jaydip Ghosh**, Sejuti Ray, Debapriya Maitra.
Research and Reviews: Journal of Herbal Science,Volume 10, Issue 2, 2021,pg-8-13.

6. Identification and Characterization of the Antimicrobial and Active Components of Tea (*Camellia Sinensis*).
Hridi Halder, Reetish Raj Sahoo, Shuvrangshu Guha, Sagnik Bhattacharjee, Dyutika Banerjee, Sejuti Ray, Arpita Pareshchandra Mondal, **Jaydip Ghosh** and Sudeshna Shyam Choudhury.(2020)
IOSR Journal Of Pharmacy And Biological Sciences (IOSR-JPBS) e-ISSN:2278-3008, p-ISSN:2319-7676. Volume 15, Issue 1 Ser. II (Jan –Feb 2020), PP 51-58.

7. Comparison of Antioxidant and Antimicrobial Potential of Tea Samples from Seven Valleys of Darjeeling.
Sejuti Ray, Srijan Bhattacharya, **Jaydip Ghosh**, Sudeshna Shyam Choudhury (2020)
Research and Reviews: Journal of Crop Science and Technology. Vol 9, (2) pg-4-13.

8. A possible role of the full-length nascent protein in post-translational ribosome recycling.
Debasis Das, Dibyendu Samanta, Arpita Bhattacharya, Arunima Basu, Anindita Das, Abhijit Chakrabarti, **Jaydip Ghosh** and Chanchal Das Gupta.
PLOS ONE.2017 Jan 18; 12 (1)

9. Involvement of Mitochondrial Ribosomal Proteins in Ribosomal RNA-mediated Protein Folding.
Anindita Das,**Jaydip Ghosh** (***co-first author***), Arpita Bhattacharya, Dibyendu Samanta, Debasis Das, and Chanchal Das Gupta.
Journal of Biological Chemistry. 2011, 286, 43771-43781.

10. Ribosome: The structure–function relation and a new paradigm to the protein folding problem.
Debasis Das, Dibyendu Samanta, Anindita Das, **Jaydip Ghosh**, Arpita Bhattacharya, Arunima Basu, Abhijit Chakrabarti, and Chanchal DasGupta.
Israel Journal of Chemistry.2010, 50, 1–8.

11. Growth, cell-division and sporulation in mycobacteria.
Singh B**, Ghosh J**, Islam NM, Dasgupta S, Kirsebom LA.
Antonie Van Leeuwenhoek. 2010 Aug; 98(2):165-77. Epub 2010 May 1.

12. Sporulation in mycobacteria.
Ghosh J, Larsson P, Singh B, Pettersson BM, Islam NM, Sarkar SN, Dasgupta S, Kirsebom LA.
Proceedings of National Academy of Sciences, U. S. A. 2009 Jun 30; 106(26):10781-6. Epub 2009 Jun 16.
(***Appeared as Research Highlight in Nature Microbiology Reviews, vol 7, 2009***)

13. Role of the ribosome in protein folding.
Das D, Das A, Samanta D, **Ghosh J**, Dasgupta S, Bhattacharya A, Basu A, Sanyal S, Das Gupta C.
Biotechnology Journal. 2008 Aug; 3(8):999-1009.

14. Protein folding by domain V of *Escherichia coli* 23S rRNA: specificity of RNAprotein interactions.
Samanta D, Mukhopadhyay D, Chowdhury S, **Ghosh J**, Pal S, Basu A, Bhattacharya A, Das A, Das D, DasGupta C.
Journal of Bacteriology. 2008 May; 190(9):3344-52. Epub 2008 Feb 29.

15. In vitro protein folding by *E. coli* ribosome: unfolded protein splitting 70S to interact with 50S subunit.
Basu A, Samanta D, Das D, Chowdhury S, Bhattacharya A, **Ghosh J**, Das A, Dasgupta C.
Biochemical and Biophysical Reseach Communications. 2008 Feb 8; 366(2):598-603. Epub 2007 Dec 7.

16. **Ribosome-DnaK interactions in relation to protein folding.**
Ghosh J, Basu A, Pal S, Chowdhuri S, Bhattacharya A, Pal D, Chattoraj DK, DasGupta C.
Molecular Microbiology, 2003, Vol 48, 1679-1692.

17. **Splitting of ribosome into its subunits by unfolded polypeptide chains.**
Basu Arunima, **Ghosh Jaydip**, Bhattacharya Arpita, Pal Saumen, Chowdhury Saheli, and Dasgupta Chanchal.
Current Science, 2003, Vol 84, 1123-1125.

18. **Mutations in domain V of the 23S ribosomal RNA of *Bacillus subtilis* that inactivate its protein folding property *in vitro*.**

Chowdhury S, Pal S, **Ghosh J**, DasGupta C.
Nucleic Acids Research. 2002, Vol 30, 1278-1285

- **Book Chapter**:

1. The need for auto-tailored wetlands for the treatment of untampered wastes of wineries and breweries.
Roy, B., Maitra, D., Chatterjee, B., Ghosh, P., **Ghosh, J**., & Mitra, A. K.
In "**Recent Trends in Constructed Wetlands for Industrial Wastewater Treatment**" (pp. 197-212). (2023). **Springer Nature Singapore.**

2. Metagenomic analysis of acid mine drainage, presence of acidometallophiles and their possible role in biomining.
Roy, B., Chakraborty, R., Choudhury, N., Ghosh, A., Chakraborty, R., **Ghosh, J**., & Mitra, A. K.
In "**Biohydrometallurgical Processes: Metal Recovery and Remediation**". **CRC Press.** (2023).

3. Biotechnological applications extremophiles: the golden epoch ahead.
Roy, Bedaprana, Maitra, Debapriya, Podder, Rajeshwari, **Ghosh, Jaydip** and Kumar Mitra, Arup.
Extremophiles: A Paradox of Nature with Biotechnological Implications,Berlin, **Boston: De Gruyter,** (2023), pp. 269-288. https://doi.org/10.1515/9783110788488-013

4. Unique extremophilic Bacillus: their application in plant growth promotion and sustainable agriculture - Chapter 15
Bedaprana Roy, Debapriya Maitra, **Jaydip Ghosh,** Arup Kumar Mitra,
Editor(s): Junaid Ahmad Malik,
Microbes and Microbial Biotechnology for Green Remediation,
Elsevier,(2022),Pages 287-304,ISBN 9780323904520,
https://doi.org/10.1016/B978-0-323-90452-0.00021-9.

5. Ribosome Assisted Protein Folding: Some of its Biological Implications.
Dibyendu Samanta, Anindita Das, Debasis Das, Arpita Bhattacharya, Arunima Basu, **Jaydip Ghosh** and Chanchal DasGupta.
In "Protein Folding", Novascience publications, Editor: Eric C. Walters, (2010), 4th quarter,
ISBN: 978-1-61728-990-3

- **Text Book:**

1. Snatak Ajaiba Rasayana (**Inorganic Chemistry, Degree Course**).
Saktiprosad Ghosh and **Jaydip Ghosh**.
Book Syndicate Pvt. Ltd. (2014)

- **Patent**:

As an **inventor**, I am a part of an **international patent** (**US-8779088-B2**) **titled "New vaccine for the treatment of *Mycobacterium* related disorders"**. (2014)