Dr. Pinaki Biswas

Project Research Scientist – I, Division of Bacteriology, ICMR-NIRBI, P-33, CIT Rd, Scheme-XM, Beleghata, Kolkata - 700010, India.

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https://publons.com/researcher/3127452/pinaki-biswas/

Work Experience

1. Working as "**Project Research Scientist - I (Non-Medical)**" in the ad-hoc project entitled "**Strengthening Laboratory surveillance for pneumococcal meningitis in India to understand the impact of pneumococcal conjugate vaccine (PCV) rollout**" at **ICMR-National Institute for Research in Bacterial Infections**, Kolkata from 01.04.2021 to present date.

2. Worked as **Senior Research Fellow** (State Fund Fellowship) in the **Department of Microbiology, The University of Burdwan**, Burdwan, West Bengal, India from 23.12.2016 to 22.12.2019.

3. Worked as **Junior Research Fellow** (State Fund Fellowship) in the **Department of Microbiology, The University of Burdwan**, Burdwan, West Bengal, India from 23.12.2014 to 22.12.2016.

Area of Interest

- Microbiology
- Cell Biology
- Medical Microbiology
- Molecular Biology
- Bioinformatics
- Docking and virtual screening of drugs

Skills and Techniques

- cDNA preparation & Cloning Techniques
- Different types of PCR
- Transformation and Transfection
- SDS-PAGE and Western Blot
- Homology Modelling
- Molecular Dynamic Simulation
- Whole Genome Sequence analysis
- Basic Microbiological techniques
- R programming and RStudio
- Yeast-two-hybrid screening
- Real-time PCR (quantitative & qualitative)
- Protein Expression and pull down assay
- Cell Culture of *E. histolytica*
- Molecular Docking
- Comparative genomics
- Genomic DNA, Plasmid, total RNA isolation
- Statistical analysis
- Python & Biopython Programming

- ❖ Perl & Bioperl Programming
- ❖ Metagenomics
- ❖ RNASeq analysis
- ❖ Metatranscriptomics

Academic Qualifications

- **2022: Ph.D.** in **Microbiology** from the **Department of Microbiology**, **The University of Burdwan**, **Burdwan**, West Bengal, India. Title of thesis: "***In silico* analysis and molecular characterization of two chromosome segregation proteins in *Entamoeba histolytica***".
- **2016:** Qualified **GATE-2016** in **Life Sciences (XL)** with sections **Biochemistry** and **Microbiology** having **AIR-875**, **GATE Score-430**.
- **2016:** Qualified **ICAR-ASRB NET** in Agricultural Microbiology with 61% in 2016.
- **2014:** Qualified **Lectureship-NET** in **Life Sciences** with **rank 40** in **CSIR-UGC NET** Exam of December 2013.
- **2013:** Qualified **WBSET-2013** in **Life Sciences**.
- **2011: Master of Science** (**M.Sc**) in **Microbiology** from **Dolphin (P.G.) Institute Of Bio-Medical & Natural Sciences**, Dehradun affiliated to **HemWati Nandan Bahuguna Garhwal University** in 2011 with **72.50%**.
- **2009: Bachelor of Science** (**B.Sc**) in **Microbiology** (Hons) with **Chemistry** & **Zoology** from **Sammilani Mahavidyalaya**, Kolkata affiliated to the **University of Calcutta** in 2009 with **54% (50.87% in Hons)**.
- **2006: Higher Secondary** from **Gobindapur Ratneswer High School**, Baruipur under **West Bengal Council of Higher Secondary Education** (**W.B.C.H.S.E.**) in 2006 with **63.50%**.
- **2004: Secondary** from **Baruipur High School**, Baruipur under **West Bengal Board of Secondary Education (W.B.B.S.E.)** in 2004 with **65.125%.**

Publications

Research Articles

1. Mondal, D., Haiti, S. B., **Biswas, P.**, Singh, S., Chatterjee, N., Paul, D., et al. (2025). **Microgravity transforms Bacillus cereus 1272 into a more resilient infectious pathogen.** The Microbe, 7, 100381. doi: https://doi.org/10.1016/j.microb.2025.100381. (Citations: 1) Scopus
2. Pal, S., **Biswas, P.**, Ghosh, R., Dam, S., (2024). **Unraveling the interaction between a glycolytic regulator protein EhPpdk and an anaphase promoting complex protein EhApc10: yeast two hybrid screening, in vitro binding assays and molecular simulation study**. Protein J, 43(6):1104-1119. PMID: 39487362. doi: https://doi.org/10.1007/s10930-024-10238-5 (Impact Factor: 1.4) (Citations: 0) Scopus PubMed Clarivate Web of Science
3. Ghosh, R., **Biswas, P.**, Chakraborty, A., Pal, S., Das, M., Dam, S. (2024). **A BAR homology domain containing protein, EhABP is the novel interactor of EhAK7, an aurora kinase homolog in *E. histolytica***. Current Research in Biotechnology. doi:

https://doi.org/10.1016/j.crbiot.2024.100216 (Impact Factor: 4.0) (Citations: 1) Scopus Clarivate Web of Science

4. Das M., **Biswas P**., & Dam S. (2024). **Isolation and Potential Probiotic Characterization of Lactic Acid Bacteria from an Ethnic Fermented Beverage having Antibacterial Activity against Human Pathogen *Entamoeba histolytica***. International Journal of Pharmaceutical Investigation, 14(2), 554–567. doi: https://doi.org/10.5530/ijpi.14.2.67 (Impact Factor: 0.5) (Citations: 2) Scopus Clarivate Web of Science

5. Ghosh, R., **Biswas, P**., Das, M., Pal, S., Dam, S. (2022). **In silico analysis of a Skp1 protein homolog from the human pathogen *E. histolytica***. Journal of Parasitic Diseases, **46**, 998–1010. PMID: 36457763. doi: https://doi.org/10.1007/s12639-022-01523-0 (Impact Factor: 0.94) (Citations: 0) Scopus PubMed Central

6. **Biswas P**, Das M, Pal S, Ghosh R, Dam S. (2021). **EhSir2c, a Sir2 homolog from the human pathogen *Entamoeba histolytica* interacts with a DNA repair protein, EhRAD23: Protein-protein interaction, docking and functional study**. J Biomol Struct Dyn. Jan;41(1):263-279. PMID: 34809531. doi: https://doi.org/10.1080/07391102.2021.2004925 (Impact Factor: 2.4) (Citations: 4) Scopus PubMed Clarivate Web of Science

7. Pal S, **Biswas P**, Ghosh R, Dam S. (2021). **In silico analysis and molecular identification of an anaphase-promoting complex homologue from human pathogen *Entamoeba histolytica***. Journal of Genetic Engineering and Biotechnology. 19:133. PMID: 34468883. doi: https://doi.org/10.1186/s43141-021-00234-y (Impact Factor: 3.6) (Citations: 6) Scopus PubMed Clarivate Web of Science

8. **Biswas P**, Ghosh R, Das M, Pal S, Dam S. (2021). **Molecular characterization of EhAK6, an endonuclease V domain-containing aurora kinase protein from *Entamoeba histolytica*: Protein-protein interaction, docking and functional aspect**. Current Research in Biotechnology 3:225-234. doi: https://doi.org/10.1016/j.crbiot.2021.07.003 (Impact Factor: 4.0) (Citations: 3) Scopus Clarivate Web of Science

9. **Biswas P.**, Dam S. (2020). **In Silico Analysis of Molecular Interaction of EhSir2a with its Interacting Proteins from Human Pathogen *Entamoeba histolytica***. Haya: The Saudi Journal of Life Sciences. 5(8): 140-155. doi: https://doi.org/10.36348/sjls.2020.v05i08.002 (Impact Factor: 0.4) (Citations: 1)

10. Chatterjee N., **Biswas P.**, Bhattacharyya K., Laskar S., Nandi A. (2016). **A study on bacterial isolates from Dacryocystitis patients in a tertiary care teaching hospital Kolkata, West Bengal**. **EJBPS**. 3(1):259-264. (Impact Factor: 0) (Citations: 0)

➢ **Book Chapters**

1. Chattopadhyay S., **Biswas P**. (2025). **Serine proteases in prostate cancer: unraveling the interplay of inflammation and immune response.** In Therapeutics of Natural and Synthetic Compounds in Protease-Induced Cancer: Volume 1: Therapeutic Aspects of Some Natural

Compounds in Proteases-Induced Cancer (Chapter 11). Academic Press. https://doi.org/10.1016/B978-0-443-26635-5.00012-2. (Citations: 0)

2. **Biswas P**., Pal S., Das M., Dam S. (2022). **Microbe-Induced Oxidative Stress in Cancer Development and Efficacy of Probiotics as Therapeutics in Preventing Its Onset and Progression**. In: Chakraborti S. (eds) **Handbook of Oxidative Stress in Cancer: Therapeutic Aspects**. Springer, Singapore. https://doi.org/10.1007/978-981-16-1247-3_159-1. (Citations: 5)

3. Dam S., **Biswas P.**, Ghosh R. (2019). **Oxidative Stress in *Entamoeba histolytica***. In: Chakraborti S., Chakraborti T., Chattopadhyay D., Shaha C. (eds) **Oxidative Stress in Microbial Diseases**. Springer, Singapore. https://doi.org/10.1007/978-981-13-8763-0_14. (Citations: 6)

Project, Dissertation, Training & Workshop

- Participated in hands on workshop (June 16 to 21, 2025) on "**Quadriplexreal time PCR for Identification of Pneumococcal serotypes and Antibiotics resistance features**" held at CMC, Vellore with coordination by CDC, Atlanta, USA and ICMR, New Delhi, India.

- Participated as Resource Person in 3-days Refresher training on "**Real-time PCR detection of Bacterial Meningitis Pathogens**" held at SMS Medical College, Jaipur, India (September 18-20, 2024), organized in joined collaboration with ICMR, New Delhi, India and CDC Atlanta, Georgia, USA.

- Participated in Department of Health Research, Govt. of India sponsored training program on "**Modern Biology in Health Research**", **Module – AI & Clinical Bioinformatics** (14th &15th December 2023) and **Module – Molecular Biology Techniques** (18th – 23rd December 2023) organized by Mahatma Ghandhi Medical Advanced Research Institute, Puducherry, India.

- Completed 4 months (September 4th, 2021 to January 4th, 2022) of **Bioinformatics training** on **R programming, Python & Biopython Programming, Perl & Bioperl Programming** from **ArrayGen Technologies Pvt. Ltd**, Pune, India.

- Participated in "**National Workshop on Fluorescence Microscopy**" during September 01-04, 2015. Jointly Organized by University Science Instrumentation Centre and Department of Microbiology, The University of Burdwan.

- "**Isolation and characterization of aerobic bacteria and mycological study of Dacryocystitis patients.**"-This study is done in **R. G. Kar Medical College & Hospital**, Kolkata from May-2011 to July-2011.

- Completed a short hands-on training in Microbiology, Biochemistry, Histopathology, Haematology, and Immunohistochemistry from 24.02.2010 to 03.03.2010 at **Cancer Center Welfare Home and Research Institute**, Kolkata.

- Participated in a workshop on "**Microbial Technology & Its Applications**" on 10.10.2009 and 11.10.2009. Organized by **Dolphin (P.G.) Institute of Biomedical and Natural Sciences**, Dehradun in collaboration with **Forest Research Institute**, Dehradun, Uttarakhand.

Seminar, Conference and Webinar

- Presented paper on "**Probable role of EhAK6, an aurora kinase homolog with C-terminal endonuclease V domain in *Entamoeba histolytica* and its interactors by *in silico* approach**" in International Webinar (**Present and Future Strategies to combat emerging and reemerging contagious disease**) on August16-18, 2020.

- Presented poster on "**Role of EhAK6, an aurora kinase homolog with a unique C-terminal endonuclease V domain in *Entamoeba histolytica***" in 4th Regional Science & Technology Congress (Western Region), 2019. Jointly organized by The University of Burdwan and DSTBT, Govt. of West Bengal during December 09-10, 2019.

- Presented oral session on "**Identification of chromosome segregation proteins from *Entamoeba histolytica* by bioinformatics analysis and molecular characterization of one such protein, Sir2 homolog**" in 3rd Regional Science & Technology Congress (Western Region), 2019. Jointly organized by Sidho-Kanho-Birsha University and DSTBT, Govt. of West Bengal during December 20-21, 2018.

- Presented poster on "***In-Silico* analysis of SNARE protein family and Homology Modelling of EhYTK6a and EhVAMPa of *Entamoeba histolytica***" in International Conference on Advancement in Science & Technology, 2018 on September 03-04, 2018. Jointly organized by the Indian JSPS Alumni Association and Department of Physics, Visva-Bharati.

- Participated in the "**Biologic'10**" Lecture series on Biotechnology by Experts. Organized by **Beehive College of Advance Studies**, Dehradun with **State Biotechnology Programme**, **Govt. of Uttarakhand** and **Uttarakhand Science Education & Research Centre**, Dehradun and in collaboration with **ONGC**.

Instrument Expertise

- **Electronic pH Meter** (pH700, Eutech Instruments)
- **Spectrophotometer** (UV-1900, Shimadzu)
- **Colony counter**
- **SDS-PAGE Gel apparatus** (Mini-PROTEAN Tetra System, Bio-Rad)
- **Gradient PCR machine** (Bio-Rad T100/ T1000)
- **Semi-dry apparatus** (Bio-Rad)
- **Biosafety Cabinet** (Thermo Scientific 1300 Series A2)
- **Gel Documentation machine** (Gel Doc EZ Imager, Bio-Rad)
- **Optical and Phase Contrast Microscope** (Leica DM1000)
- **Inverted Microscope** (Primovert, Zeiss)
- **VITEK 2 COMPACT** (bioMérieux)
- **Autoclave**
- **Water bath**
- **Hot Air Owen**
- **-80°C and -20°C refrigerator**
- **Real-time PCR machine** (QuantStudio 3, Applied Biosystems, Bio-Rad CFX96, QIAquant96 5plex)
- **Micro-centrifuge** (Eppendroff) & **Cooling Centrifuge** (Sorvall ST8R, Thermo Scientific)
- **BOD Incubator with shaker**
- **Agarose Gel Electrophoretic apparatus** (Bio-Rad)
- **Electronic Weighting machine** (Metter Toledo)
- **Fluorescence Microscope** (Leica)
- **Ice Maker** (LabMan)
- **Electroporator** (Gene Pulser Xcell, Bio-Rad)
- **BIOFIRE® FILMARRAY® TORCH** (bioMérieux)

Computer Proficiency & Communication Skills

- Completed a Diploma in Information Technology from the Institute of Computer science & Technology, Baruipur with "A" grade.
- Familiar with a number of design and DTP packages. MS-Word, Excel, PowerPoint. Working knowledge in both Windows and Linux environment.
- Completed computer literacy program from IBM with 92%.
- Working knowledge of the following software: Microsoft Office, Adobe Photoshop, Inkscape, R and R studio, SPSS, Autodock, Gromacs, GraphPad Prism, MEGA, LigPlot+, Endnote, Mendeley, ChemOffice, Cytoscape, Python and Perl.
- English, Bengali, Hindi (Speak / Read / Write)

Personal Information

Date of Birth: 12th July 1988.
Father's Name: Late Pradip Kumar Biswas.
Mother's Name: Bina Biswas.
Nationality: Indian.
Sex: Male.
Marital Status: Married.

Address:
Pinaki Biswas, S/O Late Pradip Kumar Biswas, Golpukur (Near Canara Bank Baruipur Branch), Ward No. 10,Kamalendu Roy Chowdhury Road, P.O & P.S = Baruipur, Kolkata – 700144, West Bengal, India.

Membership in Scientific Societies, Associations and Communites

- Lifetime Member (**Membership No.: L-3707**) of **Indian Association of Medical Microbiologists** from 2022**.**
- Lifetime Member (**Membership No.: 5191-2022**) of **Association of Microbiologists of India** from 2022**.**
- Lifetime Member of (**Membership No.: 4476**) **Society of Biological Chemists, India** from 2022**.**

Editorial board Members

- Appointed as an **Editorial Board Member** of "**International Journal of Microbiology and Biotechnology(IJMB)**" from 08-12-2022 to 08-12-2024, 25-08-2025 to 25-08-2028.
  ISSN Print: 2578-9678; ISSN Online: 2578-9686; https://www.sciencepg.com/j/ijmb
  http://www.ijmicrobio.org/editorial-team

Reviewer in following Scientific Journals

- Cell Cycle
- Journal of Genetic Engineering and Biotechnology
- Current Research in Microbial Sciences
- Journal of Biomolecular Structure and Dynamics
- PloS one
- American Journal of Biochemistry and Biotechnology
- mSystems
- Network Modeling Analysis in Health Informatics and Bioinformatics

GenBank Accession Number of deposited 16S rRNA Gene Sequences

- Following are the GenBank Accession Number of 16S rRNA gene sequences from 18 isolated *Limosilactobacillus fermentum* strains having probiotic potential:

MW581901.1	MW581928.1	MW583465.1	MW581937.1	MW582103.1	MW581949.1
MW582096.1	MW581933.1	OM112310.1	OM108316.1	OM108435.1	OM112215.1
OM108486.1	OM108654.1	OM112313.1	OM112208.1	OM108466.1	OM110923.1

References

1. **Dr. Somasri Dam**
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   The University of Burdwan
   Golapbag, Burdwan – 713104, India.
   Email: sdam@microbio.buruniv.ac.in
   Ph. no.: +91-6294317643

2. **Dr. Bomba Dam**
   Assistant Professor
   Department of Botany,
   Siksha-Bhavana, Visva-Bharati,
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3. **Dr. Pradipta Saha**
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4. **Dr. Subhra Kanti Mukhopadhyay**
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   Department of Microbiology
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   Golapbag, Burdwan - 713104, India.
   Email:
   skmukhopadhyay@microbio.buruniv.ac.in
   Ph. no.: +91-7908778733

5. **Dr. Alok Kumar Deb**
   Scientist G
   Division of Epidemiology
   ICMR - National Institute for Research in Bacterial Infections (Formerly known as ICMR - National Institute of Cholera and Enteric Diseases), P-33, CIT Rd, Scheme-XM, Beleghata, Kolkata 700010, India.
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   Ph. no.: +91-9831149779

6. **Dr. Asish Kumar Mukhopadhyay**
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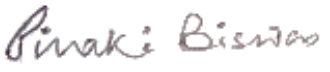
   Division of Bacteriology
   ICMR - National Institute for Research in Bacterial Infections (Formerly known as ICMR - National Institute of Cholera and Enteric Diseases), P-33, CIT Rd, Scheme-XM, Beleghata, Kolkata 700010, India.
   Email: asish_mukhopadhyay@yahoo.com
   Ph. no.: +91-9830468362

Declaration

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

Date: 28-10-2025

Yours sincerely



(Pinaki Biswas)