



Dr. Sk Aftabul Alam

Important Research Links

<https://www.researchgate.net/profile/Sk-Aftabul-Alam>

<http://orcid.org/0000-0002-6668-4383>

<https://scholar.google.com/citations?user=kKSzWZfUAAAAJ>

Educational Qualifications

- § **Ph.D.: Microbiology (2018 – 2023)**, Department of Microbiology, The University of Burdwan, West Bengal, India.
- § **Master of Science: Botany (2014-2016)**, Department of Botany, The University of Burdwan, W.B, India, with CGPA 8.71; **Rank 3rd**.
- § **Bachelor of Science: Botany (Honours) (2011-2014)**, Burdwan Raj College, affiliated to The University of Burdwan. 74%; **Rank 6th**.
- § **Higher Secondary (10+2) (2008-2010)**, W.B.C.H.S.E, Burdwan C.M.S High School, Burdwan, WB, India.
- § **Secondary School Examination (2008)**, W.B.B.S.E, Jotsadi High School, Burdwan, WB, India.
- § Qualified **CSIR NET-JRF in Life Sciences**, held in Dec 2017; **Rank- AIR CSIR JRF-83**.
- § Qualified **CSIR NET-LS in Life Sciences**, held in June 2017; **Rank- AIR CSIR-UGC LS-35**.
- § Qualified **CSIR NET-LS in Life Sciences**, held in Dec 2016; **Rank- AIR CSIR-UGC LS-37**.
- § Qualified **Graduate Aptitude Test (GATE 2017) in Life Sciences**.
- § Qualified **WBSET-2017 in Life Sciences**.

Achievements

- § “Outstanding paper presentation” award at 6th regional science and Technology Congress (Region Three), (January 9-10, 2024); Durgapur, West Bengal; sponsored by Department of Science and Technology and Biotechnology, Govt. of West Bengal.
- § Awarded Junior Research Fellowship by CSIR. (File no. 09/025(0263)/2019)

Research Activities

- § Ph.D. Thesis title: “**Exploration of p-nitrophenol degrading aquatic bacteria from selected water bodies of West Bengal**”.
- § Microbial Ecology and Population Dynamics.
- § Genomic DNA Isolation and PCR-based Molecular techniques
- § Biodegradation of Xenobiotic compounds and Chemotaxis studies
- § Agarose Gel Electrophoresis and Molecular Characterization,
- § Chromatographic separation techniques- TLC, HPLC, GC-MS
- § Microbial Genomics and Comparative Genomics
- § Spectroscopies, Microscopies.
- § Bioinformatics based genome and Proteome analysis.
- § Homology Modelling and Structural Bioinformatics
- § Molecular Docking and Protein–Ligand interaction analysis
- § Molecular Dynamics Simulations (Protein-ligand, Protein-Protein)
- § Computational Biology and In Silico Drug Discovery Approaches

Assistant Professor and microbiologist with expertise in microbial genomics, environmental biodegradation, structural bioinformatics, molecular docking, and dynamics simulations.

Assistant Professor (stage 2)

Department of Botany,

Netaji Mahavidyalaya

(affiliated to The University of Burdwan)

Arambagh, Hooghly, W.B, India



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Specialization

§ Ph.D.- Microbiology

§ M.Sc.- Plant Physiology and Biochemistry

Personal Detail

§ Village- Jotsadi; Post office- Bantir; District- Purba Burdwan; West Bengal; Pin- 713103, India; Nationality: Indian

Languages: Bengali, English, Hindi

Submitted Sequences in NCBI GenBank

16S rRNA gene -MW350013, MZ505525, MW064125, MW073529, OP459200, MZ505526, OK149110, OP740490

Whole genome -JALLKV0000000000, JBSYXB0000000000

Metrics Section

Total publications-21

First-author publications-15

Corresponding-author publications- 07

Scopus Indexed publications-18

h-index-06

i10-index-02

List of publications

- § **Sk Aftabul Alam*** Debabrata Karmakar, Biswajit Khan, Rajkumar Mandal, Satyabrata Bhattacharya, Ijaz Ahmed, Fumito Maruyama, Pradipta Saha*(2026). Polyphasic taxonomic characterization of *Brachybacterium netajii* sp. nov., a metabolically versatile bacterium isolated from the river Ganges, India. Scientific Reports. (IF 4.9) <https://doi.org/10.1038/s41598-026-56775-0>
- § Broad-spectrum antibacterial activity of a bioactive fraction containing Laucysteinamide A-like metabolite from the soil crust cyanobacterium *Desmonostoc* sp. 3 Biotech (IF 3.1) (accepted)
- § **Sk Aftabul Alam***, Sourav Chakraborty, Piyush Baidara and Santi M. Mandal* (2026). Computational identification of inhibitors from *Aegle marmelos* leaf extract targeting ergosterol biosynthesis ERG4/ERG24 enzyme and serine proteases for combatting mancozeb-resistant *Fusarium*. Antonie Van Leeuwenhoek. (IF 2.0) <https://doi.org/10.1007/s10482-026-02354-2>
- § Chauhan, A., Sharma, A. D.*, Kaur, I., Panja, A. S., & **Sk Aftabul Alam** (2026). Phytocomponents Derived from Naturally Growing *Chamaedorea seifrizii* as Novel α -Amylase Inhibitors for Diabetes Management: In Vitro and In Silico Approach. Biotechnology and Applied Biochemistry. (IF 2.5) <https://doi.org/10.1002/bab.70178>
- § Karmakar, S., **Sk Aftabul Alam**, & Mondal, S. (2026). Naturally occurring CC and COC-linked biflavonoids as potential inhibitors of the SARS-CoV-2 main protease (Mpro). Virology, 110845. (IF 2.6) <https://doi.org/10.1016/j.virol.2026.110845>
- § **Sk Aftabul Alam***, Debabrata Karmakar, Trisha Nayek, Rajkumar Mandal, Satyabrata Bhattacharya, Pradipta Saha (2026) 'Genomic and structural elucidation of multi-heavy metal tolerance in the p-nitrophenol-degrading bacterium *Pseudomonas asiatica* strain PNPG3' Scientific Reports. 16, 9156. (IF 4.9) <https://doi.org/10.1038/s41598-026-40113-5>
- § **Sk Aftabul Alam** (2025). Virtual screening and molecular dynamics reveal the stable binding of taraxerone and anabsinthin to mpox targets. Network Modeling Analysis in Health Informatics and Bioinformatics, 14(1), pp 1-20. (IF 2.4) <https://doi.org/10.1007/s13721-025-00655-6>
- § **Sk Aftabul Alam**, Biswajit Khan, Debabrata Karmakar, Rajkumar Mandal, and Pradipta Saha* (2025). Integrative bioinformatics and chemotactic insights into p-nitrophenol bioremediation by halotolerant aquatic *Pseudomonas* sp. strain PNPBRP5 (2). Archives of Microbiology, 207(12), pp.1-12. (IF 3.4) <https://doi.org/10.1007/s00203-025-04461-6>
- § **Sk Aftabul Alam** (2025). Computational investigation of tomatidine and gedunin as probable inhibitors of mpox virus proteins. In Silico Research in Biomedicine, p.100079. <https://doi.org/10.1016/j.insr.2025.100079>
- § **Sk Aftabul Alam*** and Pradipta Saha (2025). Azoreductases of *Pseudomonas* sp. PNPG3: a bioinformatics and molecular simulation study for azo dye detoxification. Journal of Biomolecular Structure and Dynamics, pp.1-17. (IF2.5) <https://doi.org/10.1080/07391102.2025.2562136>
- § Dhitishree Ghosh, **Sk Aftabul Alam** and Subhrakanti Mukhopadhyay* (2025). Genomic insights, determination of quorum quenching potential of a beta-lactamase enzyme from *Chromohalobacter* sp. strain D23 against *Aeromonas hydrophila* and molecular docking study. International Microbiology, pp.1-17. (IF 2.9) <https://doi.org/10.1007/s10123-025-00705-z>
- § **Sk Aftabul Alam** (2025). Epicatechin gallate and anabsinthin: effective inhibitors of *Xanthomonas citri* for citrus canker control. Discover Chemistry, 2(1), 1-17. <https://doi.org/10.1007/s44371-025-00150-x>.
- § Suresh K. Mondal, S Chakraborty, Tamanna Roy, A Jana, **Sk Aftabul Alam**, Gourisankar Roymahapatra* and Santi M. Mandal*. (2024) "Biogenic Synthesis of Glycerol Tributyrates: A Selective Synergistic Agent Against Carbapenem-resistant *Klebsiella pneumoniae*" Engineered Science. <https://doi.org/10.30919/escs1385>
- § **Sk Aftabul Alam** and Santi M. Mandal*. (2024) "Guardians of the Epidermis: Interplay Between Skin Microbiota and Antimicrobial Peptides" Book- Evolution of Antimicrobial Peptides, Springer Nature Switzerland AG https://doi.org/10.1007/978-3-031-67515-7_4 (Book Chapter).
- § Suresh Mondal, **Sk Aftabul Alam**, Gourisankar Roymahapatra, Santi M. Mandal* (2024) "Anti-MRSA activity of chlorophenyl pyrrolo benzodiazepines compound" The Journal of Antibiotics (IF 2.7) <https://doi.org/10.1038/s41429-024-00747-x>.
- § **Sk Aftabul Alam**, and Pradipta Saha* (2023) "Chemotactic response of p-nitrophenol degrading *Pseudomonas asiatica* strain PNPG3 through phenotypic & genome sequence based in silico studies" 3 Biotech. (IF 3.1) <https://doi.org/10.1007/s13205-023-03809-3>
- § **Sk Aftabul Alam**, and Pradipta Saha* (2023) "P-Nitrophenol decolorization and draft genome sequence of *Pseudomonas* sp. strain PNPG3: A preliminary study report". Journal of Environmental Biology. (IF 1.0) <http://doi.org/10.22438/jeb/44/4/MRN-5061>
- § **Sk Aftabul Alam**, and Pradipta Saha* (2022) "Functional, and phylogenetic analysis of maleylacetate reductase of *Pseudomonas* sp strain PNPG3: An in-silico approach". Journal of Experimental Biology and Agricultural Sciences: 1331 – 1343. (IF 0.74) [http://dx.doi.org/10.18006/2022.10\(6\).1331.1343](http://dx.doi.org/10.18006/2022.10(6).1331.1343)
- § **Sk Aftabul Alam**, and Pradipta Saha* (2022) "Evidence of p-nitrophenol Biodegradation and Study of Genomic Attributes from a Newly Isolated Aquatic Bacterium *Pseudomonas asiatica* Strain PNPG3." Soil and Sediment Contamination: An International Journal 1-18. (IF 1.9) <https://doi.org/10.1080/15320383.2022.2159321>
- § **Sk Aftabul Alam**, and Pradipta Saha* (2022) "Microbial biodegradation of nitrophenols and their derivatives: A Review". Journal of Experimental Biology and Agricultural Sciences 743-766. (IF 0.74) [http://dx.doi.org/10.18006/2022.10\(4\).743.766](http://dx.doi.org/10.18006/2022.10(4).743.766)
- § **Sk Aftabul Alam**, and Pradipta Saha* (2022) "Biodegradation of p-nitrophenol by a member of the genus *Brachybacterium*, isolated from the river Ganges." 3 Biotech 12.9: 1-10. (IF3.1) <https://doi.org/10.1007/s13205-022-03263-7>

Papers Under Revision:

- § Shyam Baboo Prasad^{1#}, **Sk Aftabul Alam**^{2##}, Shrawan Kumar Sahu³, Nikhilesh Joardar^{4*}, Animesh Sen^{1*}
Computational validation of *Tecomella undulata* bark as a source of anti-filarial leads targeting UDP-galactopyranose mutase (under review in *The Protein Journal* since 19.05.26)
- § **Sk Aftabul Alam***, Debabrata Karmakar, Pradipta Saha, Fumito Maruyama* Comparative computational characterization of three L-asparaginase paralogs encoded in the genome of *Pseudomonas asiatica* strain PNPG3: homology modeling, molecular dynamics, and MM/PBSA analysis (under review in *Scientific Reports* since 12.05.26) (Submission ID 19fcc3f6-3bc9-40b0-b0e0-5712d248add7)
- § Debabrata Karmakar, **Sk Aftabul Alam**, Pradipta Saha* Structural and Molecular Dynamics Insights into Two L-Asparaginases from Insect Gut-Associated *Agrobacterium* sp. DKPNP3. (Under revision in *ChemistrySelect*, Wiley)
- § **Sk Aftabul Alam**. ‘In silico discovery of anti-diabetic phytochemicals from *Tinospora cordifolia* and *Pterocarpus marsupium*: A synergistic approach using molecular docking and dynamics’ (under 2nd revision in *ChemistrySelect*, Wiley since 6.10.25)
- § Deo Shankar Prasad, Saurav Kumar Mishra, Gyan Prakash Rai, Akansha Subba, **Sk Aftabul Alam***, John J. George* Subtractive Proteomic Assisted Novel Drug Targets and Their Inhibitor Identification: A Study Based on *Candida spp* (Under 2nd Revision in *Naunyn-Schmiedeberg's Archives of Pharmacology*)

REFERENCES		
Name	Designation	Institutional/personal Email
Dr. Pradipta Saha (PhD supervisor)	Professor, Dept. of Microbiology, The University of Burdwan	psaha@microbio.buruniv.ac.in
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Dr. Subhra Kanti Mukhopadhyay	Professor, Dept. of Microbiology, The University of Burdwan	skmukhopadhyay@microbio.buruniv.ac.in