

## Surajit Bhattacharjee, PhD

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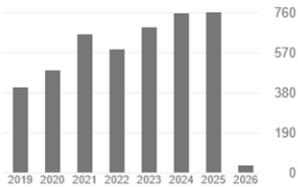
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Associate Professor of Department of Molecular Biology and Bioinformatics, [Tripura University \(A Central University\)](#)  
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TITLE	CITED BY	YEAR
<a href="#">Quercetin as an additive adjuvant enhances ciprofloxacin and tetracycline efficacy against <i>Vibrio cholerae</i> by disrupting membranes, inhibiting biofilms, and ...</a> S Paul, A Sarkar, M Ghosh, D Datta, M Debnath, S Basak, ... 3 Biotech 16 (1), 3		2026
<a href="#">Biosurfactants as novel antibiofilm agents: mechanisms, biomedical applications, and applications in biofilm-associated infections</a> D Datta, S Bhattacharjee Archives of Microbiology 208 (1), 6	1	2026
<a href="#">Biogenic Fabrication of Silver Nanoparticles via <i>Spilanthes Paniculata</i>: A Comprehensive Evaluation of Antimicrobial, Antioxidant, and Catalytic Activities</a> R Debnath, S Paul, S Bhattacharjee, UC De ChemistrySelect 10 (43), e03067		2025
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### SUMMARY OF QUALIFICATIONS

- PhD in Microbiology and Immunology (Bose Institute, Jadavpur University, India) with 15 years of Research and Teaching experience,
- Excellent technical writing skills with more than **90 Research articles, Review articles and Book Chapters** published in National/International Journals.
- Received six extramural research grants at the national level in India (**From DBT (two), DST-SERB(one), ICMR(three), BIRAC(one)**) as PI. Among the five projects, one was completed successfully. Two more extramural projects from DBT were completed successfully as Co-PI.
- Sound understanding of Leishmania and Bacterial biofilm-associated infection, experienced in developing animal models of Leishmanial infection, cell signaling, and immune response during host-pathogen interaction, screening, and development of antileishmanial agents.
- Experienced in working with different aspects of Molecular Biology.
- Successfully guided **7(Seven) PhD students**. (Three of them are working as post-doctoral researchers in different Research Institutes and Universities in the USA. Two of them are working as Assistant Professors in two different Universities in India.
- More than 90 students successfully completed their Master's Project work under my guidance.
- Three patents granted, Two more patents were applied for.

## EDUCATION

PhD From Molecular Medicine Department, Bose Institute (Jadavpur University), Kolkata, India	2003-2009
M.Sc. in Human Physiology, University of Calcutta, Kolkata, India.	2000-2002
B.Sc. Human Physiology (Honours), University of Calcutta, Kolkata, India.	1996-2000

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## RESEARCH AND TEACHING EXPERIENCE

**Associate Professor**, Department of Molecular Biology and Bioinformatics, Tripura University, Tripura, India  
February 2022 to Present  
Teaching and Research in Molecular Biology, Microbiology, Immunology, Cell Biology and Physiology at Postgraduate level.

**Assistant Professor**, Department of Molecular Biology and Bioinformatics, Tripura University, Tripura, India  
September 2011 to Feb 2022  
Teaching and Research in Molecular Biology, Microbiology, Immunology, Cell Biology and Physiology at Postgraduate level.  
Research on Antimicrobial drug discovery, Host-Pathogen Interaction,  
Supervising PhD Research Scholar,

**Postdoctoral Research Associate**, Department of Chemistry (Biochemistry Lab) University of Illinois at Chicago, Chicago, USA.  
November 2009 to June 2011  
Project:  
1. Dynamics of interaction of 5-Lipoxygenase and other proteins involved in leukotriene biosynthesis during inflammation,  
2. Involvement of PKC theta in immunological synapse,  
Supervised and trained Graduate Students

**PhD Candidate**, Department of Microbiology / Division of Molecular Medicine, Bose Institute, Kolkata, India.  
May 2005 to November 2009  
Project:  
Anti-Leishmanial Immunotherapeutic Approaches: Involvement of Herbal and other Compounds.  
Underlying mechanism of the Ara-LAM mediated protection against mycobacterial pathogenesis: involvement of TLR-2 signaling.

**Project Associate**, Department of Immunology and Infectious Diseases. Indian Institute of Chemical Biology (IICB), Kolkata, India.  
November 2003 to May 2005  
Project:  
In vitro immunomodulatory effects of placentrex and various plant and bacterial extract on cell lines and also on different animal models of leishmaniasis.

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## PUBLICATIONS

### RESEARCH PAPERS (\*Corresponding Author/First Author)

1. Paul, S., Sarkar, A., Ghosh, M., Datta, D., Debnath, M., Basak, S., ... & **Bhattacharjee, S\***. (2026). Quercetin as an additive adjuvant enhances ciprofloxacin and tetracycline efficacy against *Vibrio cholerae* by disrupting membranes, inhibiting biofilms, and reducing virulence levels. *3 Biotech*, 16(1), 3. <https://doi.org/10.1007/s13205-025-04621-x>
2. Debnath, R., Paul, S., **Bhattacharjee, S.**, & De, U. C. (2025). Biogenic Fabrication of Silver Nanoparticles via *Spilanthes Paniculata*: A Comprehensive Evaluation of Antimicrobial, Antioxidant, and Catalytic Activities. *ChemistrySelect*, 10(43), e03067. <https://doi.org/10.1002/slct.202503067>
3. Mishra, B., Brahma, U., Bhandari, V., **Bhattacharjee, S.**, Acharya, P. C., & De, U. C. (2025). Synthesis of Alkylamino Substituted Anthraquinone Derivatives, Evaluation of their Antiproliferative Efficacy and In Silico Study. *Journal of the Indian Chemical Society*, 101740. <https://doi.org/10.1016/j.jics.2025.101740>
4. Goswami, S., Ghosh, M., Roy, S., Basak, S., & **Bhattacharjee, S\***. (2025). Quercetin combined with ciprofloxacin and gentamicin inhibits biofilm formation and virulence in *Staphylococcus aureus*. *Microbial pathogenesis*, 200, 107297. <https://doi.org/10.1016/j.micpath.2025.107297>
5. Tabrez, S., Fatima, Z., Akand, S.K., Rahman, A., Hameed, S., Saleem, M., Akhter, Y., Yadav, S.K., Ahmed, M.Z., Kumar, Y., **Bhattacharjee, S.** and Rub, A. (2024), *Leishmania donovani* Modulates Macrophage Lipidome During Infection. *Parasite Immunol*, 46: e13066. <https://doi.org/10.1111/pim.13066>.
6. Ghosh, C., Das, M. C., Acharjee, S., Bhattacharjee, S., Sandhu, P., Kumari, M., Bhowmik, J., Ghosh, R., Banerjee, B., De, U. C., Akhter, Y., & **Bhattacharjee, S\***. (2024). Combating *Staphylococcus aureus* biofilm formation: the inhibitory potential of tormentic acid and 23-hydroxycorosolic acid. *Archives of microbiology*, 206(1), 25. <https://doi.org/10.1007/s00203-023-03762-y>
7. Patel, A., Goswami, S., Hazarika, G., Sivaprakasam, S., **Bhattacharjee, S.**, & Manna, D. Sulfonium-Cross-Linked Hyaluronic Acid-Based Self-Healing Hydrogel: Stimuli-Responsive Drug Carrier with Inherent Antibacterial Activity to Counteract Antibiotic-Resistant Bacteria. *Advanced healthcare materials*, 2023, e2302790. Advance online publication. <https://doi.org/10.1002/adhm.202302790>
8. Sulagna Bhattacharjee, Sanghamitra Goswami, Supriyo Das, **Surajit Bhattacharjee**, Sachin Bhaladhare. pH-responsive, stable, and biocompatible functional nanogels based on chitosan (CS)/poly methacrylic acid (PMAA) polymers: Synthesis and characterization. *Materials Today Communications*, 2023, 36, 106541. <https://doi.org/10.1016/j.mtcomm.2023.106541>
9. Subhasis Dey, Anjali Patel, Nandan Haloi, Soumya Srimayee, Suman Paul, Ganesh Kumar Barik, Nasim Akhtar, Dipanjan Shaw, Gunanka Hazarika, Biswa Mohan Prusty, Mohit Kumar, Manas Kumar Santra, Emad Tajkhorshid\*, **Surajit Bhattacharjee\***, Debasis Manna\*. Quinoline Thiourea-Based Zinc Ionophores with Antibacterial Activity. *Journal of Medicinal Chemistry*, 2023, 66 (16), 11078-11093. <https://doi.org/10.1021/acs.jmedchem.3c00368>
10. Anjali Patel, Suman Paul, Nasreen Akhtar, Sribash Das, Sajal Kar, **Surajit Bhattacharjee\***, Debasis Manna. Onium- and alkyl amine-decorated protein nanoparticles as antimicrobial agents and carriers of antibiotics to promote synergistic antibacterial and antibiofilm activities. *ACS Applied Nano Materials*, (2022, 5(11), 16602-16611. <https://doi.org/10.1021/acsanm.2c03665>

11. Rashk-E-Eram, Koel Mukherjee, Ashish Saha, **Surajit Bhattacharjee\***, Anwar Mallick, Biplab Sarkar, Nanoscale iron for sustainable aquaculture and beyond. **Biocatalysis and Agricultural Biotechnology**, 2022, 102440, ISSN 1878-8181, <https://doi.org/10.1016/j.bcab.2022.102440>
12. Das MC, Samaddar S, Jawed JJ, Ghosh C, Acharjee S, Sandhu P, Das A, Daware AV, De UC, Majumdar S, Das Gupta SK, Akhter Y, **Bhattacharjee S\***. Vitexin alters Staphylococcus aureus surface hydrophobicity to obstruct biofilm formation. **Microbiological Research**. 2022 Oct; 263:127126. <https://doi.org/10.1016/j.micres.2022.127126>.
13. Shukla D, Patidar A, Sarma U, Chauhan P, Pandey SP, Chandel HS, Bodhale N, Ghosh SK, Guzman CA, Ebensen T, Silvestre R, Sarkar A, Saha B, **Bhattacharjee S\***. Interdependencies between Toll-like receptors in Leishmania infection. **Immunology**. 2021; 164(1):173-189.
14. Paul P, Chakraborty P, Sarker RK, Chatterjee A, Maiti D, Das A, Mandal S, **Bhattacharjee S**, Dastidar DG, Tribedi P. Tryptophan interferes with the quorum sensing and cell surface hydrophobicity of Staphylococcus aureus: a promising approach to inhibit the biofilm development. **3 Biotech**. 2021;11(8):376.
15. Chakraborty P, Paul P, Kumari M, **Bhattacharjee S**, Singh M, Maiti D, Dastidar DG, Akhter Y, Kundu T, Das A, Tribedi P. Attenuation of Pseudomonas aeruginosa biofilm by thymoquinone: an individual and combinatorial study with tetrazine-capped silver nanoparticles and tryptophan. **Folia Microbiol (Praha)**. 2021; 66(2):255-271. doi: 10.1007/s12223-020-00841-1.
16. Acharjee S, Sarkar A, Raybarman C, Ghosh C, **Bhattacharjee S\***. The implication of serum calcium-phosphorus ratio to assess rheumatoid arthritis (ra) in women of Tripura, a North-Eastern state of India. *Eur J Pharm Med Res*, 2021; 8(11), 347-355.
17. Raybarman C, **Bhattacharjee S\***. Central and local controls of monocytopenia influence the outcome of Leishmania infection. **Cytokine**. 2020:155325 <https://doi.org/10.1016/j.cyto.2020.155325>
18. Saha B, **Bhattacharjee S**, Sarkar A, Bhor R, Pai K, Bodhale N. Conundrums in leishmaniasis. [published online ahead of print, 2020 Sep 28]. **Cytokine**. 2020; 155304. doi:10.1016/j.cyto.2020.155304.
19. Das A, Jawed JJ, Das MC, Parveen S, Ghosh C, Majumdar S, Saha B, **Bhattacharjee S\***. Lupeol and amphotericin B mediate synergistic anti-leishmanial immunomodulatory effects in Leishmania donovani-infected BALB/c mice. **Cytokine**. 2020; 137: 155319.
20. Patidar A, Mahanty T, Raybarman C, Sarode AY, Basak S, Saha B, **Bhattacharjee S\***. Barley beta-Glucan and zymosan induce Dectin-1 and Toll-like receptor2 co-localization and anti-leishmanial immune response in Leishmania donovani infected BALB/c mice. **Scandinavian Journal of Immunology**. 2020; 92(6):e12952.
21. Ghosh C, Bhowmik J, Ghosh R, Das MC, Sandhu P, Kumari M, Acharjee S, Daware AV, Akhter Y, Banerjee B, Chandra De U, **Bhattacharjee S\***. *The anti-biofilm potential of triterpenoids isolated from Sarcochlamys pulcherrima (Roxb.) Gaud. Microbial Pathogenesis*. 2020, 29:103901.
22. Ghosh C, Sarkar A, Anuja K, Das MC, Chakraborty A, Jawed JJ, Gupta P, Majumdar S, Banerjee B, **Bhattacharjee S\***. *Free radical stress induces DNA damage response in RAW264.7 macrophages during Mycobacterium smegmatis infection. Archives of Microbiology*. 2019; 201(4):487-498.
23. Das T, Das MC, Das A, Bhowmik S, Sandhu P, Akhter Y, **\*Bhattacharjee S**, **\*De UC**. *Modulation of S. aureus and P. aeruginosa biofilm: an in vitro study with new coumarin derivatives. World Journal of Microbiology and Biotechnology*. 2018; 34(11):170.

24. Gupta SK, Sarkar B, **Bhattacharjee S**, Kumar N, Naskar S, Uppuluri KB. *Modulation of cytokine expression by dietary levan in the pathogen aggravated rohu, Labeo rohita fingerlings*. **Aquaculture**, 2018; 495: 496–505.
25. Chakraborty P, Daware AV, Kumari M, Chatterjee A, Bhattacharyya D, Mitra G, Akhter Y, **Bhattacharjee S**, Tribedi P. *Free tryptophan residues inhibit quorum sensing of Pseudomonas aeruginosa: a potential approach to inhibit the development of microbial biofilm*. **Archives of Microbiology**. 2018; 200(10):1419-1425.
26. Das A, Jawed JJ, Das MC, Sandhu P, De U, Dinda B, Akhter Y, **Bhattacharjee S\***. *Antileishmanial and immunomodulatory activity of lupeol a triterpene compound isolated from Sterculia villosa*. **International Journal of Antimicrobial Agents**, 2017, 50 (4), 512-522.
27. Ghosh R, Das MC, Sarkar A, Das A, Sandhu P, Dinda B, Akhter Y, **\*Bhattacharjee S**, **\*De UC**. *Exploration of Phytoconstituents from Mussaenda roxburghii and Studies of Their Antibiofilm Effect*. **Chem Biodivers**. 2017, 14(10).
28. Gupta P, Sarkar A, Sandhu P, Daware A, Das MC, Akhter Y, **Bhattacharjee S\***. *Potential of Antibiotic against Pseudomonas aeruginosa biofilm: A study with Plumbagin and Gentamicin*. **Journal of Applied Microbiology**. 2017, 123(1):246-261, doi: 10.1111/jam.13476.
29. Das A, Das MC, Das N, **Bhattacharjee S\***. *Evaluation of the antileishmanial potency, toxicity and phytochemical constituents of methanol bark extract of Sterculia villosa*. **Pharmaceutical Biology**. 2017, 55(1):998-1009. doi:10.1080/13880209.2017.1285946.
30. Das A, Das MC, Sandhu P, Das N, Tribedi P, De UC, Akhter Y, **Bhattacharjee S\***. *Antibiofilm activity of Parkia javanica against Pseudomonas aeruginosa: A study with fruit extract*. **RSC Advances**, 2017, 7, 5497-5513.
31. Sen P, Das S, Hore S, **Bhattacharjee S**, Choudhuri D. *Obesity and associated cardiometabolic risk among women from Tripura - A Northeastern State of India*. **The Journal of Midlife Health** 2017; 8:110-117.
32. Das A, Jawed JJ, Das MC, Daware A, Ghosh C, Acharjee S, **Bhattacharjee S\***. *Methanolic bark extract of Sterculia villosa attenuate the intracellular Leishmanial load through Nitric Oxide Generation and Immunomodulation*. **European Journal of Pharmaceutical and Medical Research**. 2016, 3(12), 347-351.
33. Bhattacharjee A, Das A, Das MC, Das A, **Bhattacharjee S\***. *Anti-biofilm potentiality of Alternanthera philoxeroides: a study with methanolic plant extract*. **European Journal of Pharmaceutical and Medical Research**. 2016, 3(12), 247-253.
34. Bose PP, **Bhattacharjee S**, Singha S, Mandal S, Mondal G, Gupta P, Chatterjee BP, *A glucose/mannose binding lectin from litchi (Litchi chinensis) seeds: Biochemical and biophysical semi characterizations*. **Biochemistry and Biophysics Reports**. 2016, 6; 242-252. (ISSN: 2405-5808).
35. Das MC, Sandhu P, Gupta P, Rudrapaul P, De UC, Tribedi P, Akhter Y & **Bhattacharjee S\***, *Attenuation of Pseudomonas aeruginosa biofilm formation by Vitexin: A combinatorial study with azithromycin and gentamicin*. **Scientific Reports**. 2016, 23347.
36. **Bhattacharjee S\***, Sarkar B, Sharma AR, Gupta P, Sharma G, Lee SS, Chakraborty C. *Formulation and application of biodegradable nanoparticles based biopharmaceutical delivery - an efficient delivery system*. **Current Pharmaceutical Design**. 2016; 22(20): 3020-3033.

37. Das MC, Paul S, Gupta P, Tribedi P, Sarkar S, Manna D, **Bhattacharjee S\***. *3-Amino-4-Aminoximidofurazan derivatives: small molecules possessing antimicrobial and antibiofilm activity against Staphylococcus aureus and Pseudomonas aeruginosa.* **Journal of Applied Microbiology.** 2016, 120(4):842-859.
38. Bhattacharjee T, **Bhattacharjee S** & Choudhuri D. Hepatotoxic and nephrotoxic effects of chronic low dose exposure to a mixture of heavy metals – lead, cadmium and arsenic. **International Journal Of Pharmaceutical, Chemical And Biological Sciences**, 2016, 6(1), 39-47.
39. Ghosh S, Mazumder G, Bhattacharjee S & Bhattacharjee A. "Correlation of perceived stress with symptom severity and quality of life in Trichotillomania patients." **Journal of Evolution of Medical and Dental Sciences**, 2016, 5(30), 1518.
40. Sarkar B, **Bhattacharjee S**, Daware A, Tribedi P, Krishnani KK, Minhas PS. Selenium Nanoparticles for Stress-Resilient Fish and Livestock. **Nanoscale Research Letters.** 2015, 10(1):371. doi: 10.1186/s11671-015-1073-2. Epub 2015 Sep 23.
41. Gupta P, Sarkar S, Das B, **Bhattacharjee S**, Tribedi P. *Biofilm, pathogenesis and prevention-a journey to break the wall: a review.* **Archives of Microbiology.** 2015, 198(1):1-15.
42. Sharma BK, Saha A, Rahaman L, **Bhattacharjee S**, Tribedi P. *Silver Inhibits the Biofilm Formation of Pseudomonas aeruginosa.* **Advances in Microbiology**, 2015, 5, 677-685.
43. Sarkar B, Jaisai M, Mahanty A, Panda P, Sadique M, Nayak BB, Gallardo G, Thakur D, **Bhattacharjee S**, Dutta J. Optimization of the sublethal dose of silver nanoparticle through evaluating its effect on intestinal physiology of Nile tilapia (*Oreochromis niloticus L.*). **Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering.** 2015; 50(8):814-823.
44. Das N, Saha T, **Bhattacharjee S.** *A new biologically active ecdysteroid from the aerial parts of Sida glutinosa.* **Journal of Pharmacognosy and Phytochemistry.** 2014; 3(5): 73-78.
45. Rudrapaul P, Sarma IS, Das N, De UC, **Bhattacharjee S**, Dinda B. *New flavonol methyl ether from the leaves of Vitex peduncularis exhibits potential inhibitory activity against Leishmania donovani through activation of iNOS expression.* **European Journal of Medicinal Chemistry.** 2014, 26; 87C:328-335.
46. Majumdar SB, Bhattacharya P, **Bhattacharjee S**, Majumder S, Banerjee S, Majumdar S. "Toll like receptor 2 and CC chemokine receptor 5 cluster in the lipid raft enhances the susceptibility of Leishmania donovani infection in macrophages." **Indian Journal of Experimental Biology.** 2014; 52(1):17-29.
47. Das AR, Das P, **Bhattacharjee S** & Saha AK. *Chemical analysis of a wild edible mushroom: Pleurotus djamor (Rumph. ex Fr.) Boedijn.* **Mushroom Research.** 23 (2): 161-166, 2014.
48. Majumder Lahiri N, Das S, **Bhattacharjee S**, Gupta G, Bhattacharyya Majumdar S, Majumdar S. "Toll Like Receptor 2 signaling as a target for Ara-LAM mediated protection in Man LAM induced pathogenesis." **Journal of Biomedical Sciences.** 2013; 2(2): 1-12.
49. Das N, Sikder K, **Bhattacharjee S**, Bhattacharya Majumdar S, Ghosh S, Majumdar S, Dey S. "Quercetin alleviates inflammation after short-term treatment in high-fat-fed mice." **Food & Function.** 2013; 4(6):889-98.

50. Majumder S, **Bhattacharjee S**, Paul Chowdhury B, Majumdar S. “*CXCL10 is critical for the generation of protective CD8 T cell response induced by antigen pulsed CpG-ODN activated dendritic cells*”. **PLoS One**. 2012;7(11):e48727.
51. Adhikari A, Gupta G, Majumder S, Banerjee S, **Bhattacharjee S**, Bhattacharya P, Kumari S, Haldar S, Majumdar SB, Saha B, Majumdar S. “*Mycobacterium indicus pranii (Mw) Re-Establishes Host Protective Immune Response in Leishmania donovani Infected Macrophages: Critical Role of IL-12*.” **PLoS One**. 2012; 7(7):e40265.
52. **Bhattacharjee S\***, Bhattacharjee A, Majumder S, Bhattacharyya Majumdar S, Majumdar S. “*Glycyrrhizic acid suppresses Cox-2 mediated anti-inflammatory responses during Leishmania donovani infection*.” **The Journal of Antimicrobial Chemotherapy**. 2012; 67(8):1905-14.
53. Majumder S, Dey R, **Bhattacharjee S**, Rub A, Gupta G, Bhattacharyya Majumdar S, Saha B, Majumdar S. “*Leishmania-induced biphasic ceramide generation in macrophages is crucial for uptake and survival of the parasite*”. **The Journal of Infectious Diseases**. 2012; 205(10):1607-16.
54. Datta S, Adak R, Chakraborty P, Haldar AK, **Bhattacharjee S**, Chakraborty A, Roy S, Manna M. “*Radio-attenuated leishmanial parasites as immunoprophylactic agent against experimental murine visceral leishmaniasis*.” **Experimental Parasitology**. 2012; 130(1):39-47.
55. Sinha M, Das DK, **Bhattacharjee S**, Majumdar S, Dey S. “*Leaf extract of Moringa oleifera prevents ionizing radiation-induced oxidative stress in mice*.” **Journal of Medicinal Food**. 2011; 14(10):1167-72.
56. Saha P, **Bhattacharjee S**, Sarkar A, Manna A, Majumder S, Chatterjee M. “*Berberine Chloride Mediates Its Anti-Leishmanial Activity via Differential Regulation of the Mitogen Activated Protein Kinase Pathway in Macrophages*. **PLoS One**. 2011; 6(4):e18467.
57. Kar Mahapatra S, **Bhattacharjee S**, Chakraborty SP, Majumdar S, Roy S. “*Alteration of immune functions and Th1/Th2 cytokine balance in nicotine-induced murine macrophages: Immunomodulatory role of eugenol and N-acetylcysteine*.” **International Immunopharmacology**. 2011; 11(4):485-95.
58. Mukherjee A, Gupta G, **Bhattacharjee S**, Guha SK, Majumder S, Adhikari A, Bhattacharya P, Majumdar SB, Majumdar S. “*Amphotericin B Regulates the Host Immune Response in Visceral Leishmaniasis: Reciprocal Regulation of Protein Kinase C isoforms*”. **Journal of Infection**. 2010; 61(2):173-84.
59. Bhattacharya P, **Bhattacharjee S**, Gupta G, Majumder S, Adhikari A, Mukherjee A, Bhattacharyya Majumdar S, Saha B, Majumdar S. “*Ara-LAM mediated protection in visceral leishmaniasis through upregulation of TLR-2 signaling: an immunoprophylactic approach*.” **The Journal of Infectious Diseases**. 2010; 202(1):145-55.
60. Gupta G, **Bhattacharjee S**, Bhattacharyya S, Bhattacharya P, Adhikari A Mukherjee A, Bhattacharyya Mujumdar S, Majumdar S. “*CXC chemokine mediated protection against visceral leishmaniasis: Involvement of proinflammatory response*.” **The Journal of Infectious Diseases**. 2009; 200(8):1300-10.
61. **Bhattacharjee S\***, Gupta G, Bhattacharya P, Adhikari A, Bhattacharya Majumdar S, Majumdar S. “*Administration of Anti-IL-10 mAb confers protection against experimental visceral leishmaniasis via induction of Th1 cytokines and nitric oxide*.” **Indian Journal of Experimental Biology**. 2009; 47(6):489-97.

62. **Bhattacharjee S\***, Gupta G, Bhattacharya P, Mukherjee A, Bhattacharyya Mujumdar S, Pal A, Majumdar S. “*Quassin Alters the Immunological Patterns of Murine Macrophages Through Generation of Nitric Oxide to Exert Antileishmanial Activity.*” **The Journal of Antimicrobial Chemotherapy**. 2009; 63(2): 317-24.
63. Maity PC, **Bhattacharjee S**, Majumdar S, Sil AK. “*Potential of macrophage function by cigarette smoke against Leishmania donovani infection.*” **Inflammation Research**. 2009; 58(1): 22-29.
64. Kar Mahapatra S, Das S, **Bhattacharjee S**, Gautam N, Majumdar S, Roy S. In Vitro “*Nicotine-Induced Oxidative Stress in Mice Peritoneal Macrophages: A Dose-Dependent Approach.*” **Toxicology Mechanisms and Methods**. 2009; 19(2): 100 – 108.
65. Sarkar D, Saha P, Gamre S, **Bhattacharjee S**, Hariharan C, Ganguly S, Sen R, Mandal G, Chattopadhyay S, Majumdar S, Chatterjee M. “*Anti-inflammatory effect of allylpyrocatechol in LPS-induced macrophages is mediated by suppression of iNOS and COX-2 via the NF-kappaB pathway.*” **International Immunopharmacology**. 2008; 8(9):1264-1271.
66. Majumder N\*, **Bhattacharjee S\***, Dey R, Bhattacharyya Majumdar S, Pal NK, Majumdar S. “*Arabinosylated lipoarabinomannan modulates the impaired cell mediated immune response in Mycobacterium tuberculosis H37Rv infected C57BL/6 mice.*” **Microbes and Infection**. 2008; 10(4): 349-357.
67. Bhattacharyya S, Dey R, Majumder N, **Bhattacharjee S**, Majumdar S. “*A novel approach to regulate experimental visceral leishmaniasis in murine macrophages using CCR5 siRNA.*” **Scandinavian Journal of Immunology**. 2008; 67(4): 345-353.
68. Majumder N, **Bhattacharjee S**, Bhattacharyya Majumdar S, Dey R, Guha P, Pal NK, Majumdar S. “*Restoration of impaired free radical generation and proinflammatory cytokines by MCP-1 in mycobacterial pathogenesis.*” **Scandinavian Journal of Immunology**. 2008; 67(4): 329-339.
69. **Bhattacharjee S\***, Majumder N, Bhattacharyya P, Bhattacharyya S, Majumdar S. “*Immunomodulatory role of arabinosylated lipoarabinomannan on Leishmania donovani infected murine macrophages.*” **Indian Journal of Biochemistry and Biophysics**. 2007; 44(5):366-72.
70. Dey R, Majumder N, Bhattacharyya Majumdar S, **Bhattacharjee S**, Banerjee S, Roy S, Majumdar S. “*Induction of host protective Th1 immune response by chemokines in Leishmania donovani-infected BALB/c mice.*” **Scandinavian Journal of Immunology**. 2007; 66(6): 671-683.
71. Dey R, Majumder N, **Bhattacharjee S**, Majumdar SB, Banerjee R, Ganguly S, Das P, Majumdar S. “*Leishmania donovani-induced ceramide as the key mediator of Akt dephosphorylation in murine macrophages: role of protein kinase C zeta and phosphatase.*” **Infection and Immunity**. 2007; 75(5): 2136-42.
72. Sharma A, Saha A, **Bhattacharjee S**, Majumdar S, Das Gupta SK. “*Specific and randomly derived immunoactive peptide mimotopes of mycobacterial antigens.*” **Clinical and Vaccine Immunology**. 2006; 13(10): 1143-54.

## **REVIEW PAPERS**

73. Datta, D., & **Bhattacharjee, S\***. (2026). Biosurfactants as novel antibiofilm agents: mechanisms, biomedical applications, and applications in biofilm-associated infections. *Archives of Microbiology*, 208(1), 6. <https://doi.org/10.1007/s00203-025-04555-1>

74. Sarkar, A., & **Bhattacharjee, S\***. (2025). Biofilm-mediated bioremediation of xenobiotics and heavy metals: a comprehensive review of microbial ecology, molecular mechanisms, and emerging biotechnological applications. *3 Biotech*, 15(4), 1-30. <https://doi.org/10.1007/s13205-025-04252-2>
75. Barik, S., Goswami, S., Nanda, P. K., Sarkar, A., Saha, B., Sarkar, A., & **Bhattacharjee, S\***. (2025). TGF-beta plays dual roles in immunity and pathogenesis in leishmaniasis. *Cytokine*, 187, 156865. <https://doi.org/10.1016/j.cyto.2025.156865>
76. Gupta P\*, **Bhattacharjee S\***, Sharma AR, Sharma G, Lee SS, Chakraborty C. miRNAs in Alzheimer disease - a Therapeutic perspective. *Curr Alzheimer Res*. 2017. 14(11):1198-1206.
77. Sarkar B, Daware AV, Gupta P, Krishnani KK, Baruah S, **Bhattacharjee S\***. Nanoscale wide-band semiconductors for photocatalytic remediation of aquatic pollution. *Environmental Science and Pollution Research* (2017). 24(33):25775-25797. <https://doi.org/10.1007/s11356-017-0252-3>.
78. Mahanty T, **Bhattacharjee S**, Goswami M, Bhattacharyya P, Das B, Ghosh A, Tribedi P. Biofertilizers: a potential approach for sustainable agriculture development. *Environmental Science and Pollution Research International*. 2017; 24(4):3315-3335.
79. Anuja K, Roy S, Ghosh C, Gupta P, **Bhattacharjee S\***, Banerjee B\*. Prolonged inflammatory microenvironment is crucial for pro-neoplastic growth and genome instability: a detailed review. *Inflammation Research*. 2017. 66(2):119-128.
80. Saha M, Sarkar S, Sarkar B, Sharma BK, **Bhattacharjee S\***, Tribedi P. *Microbial siderophores and their potential applications: a review*. *Environmental Science and Pollution Research Int*. 2016; 23(5):3984-3999.
81. Dey R, Ghosh S, **Bhattacharjee S**, Majumder N, Majumdar S. “*Ceramide as the chief villain in the perspective of visceral leishmaniasis: its role as the platform for pathogenic establishment*. Review.” *Science and Culture*. 2007.73 (5-6).
82. **Bhattacharjee S\***, Dey R, Bhattacharya P, Mukherjee A, Bhattacharyya Majumdar S, Majumdar S. “*Induction of host protective immune response by chemokines in visceral leishmaniasis:importance of ceramide as a therapeutic target*.” *Perspective in Cytology and Genetics*. 2007; 13: 115-124.

### **BOOK CHAPTERS**

83. **Bhattacharjee, S.**, Paul, S., RayBarman, C. (2022). Redox Signaling. In: Chakraborti, S. (eds) Handbook of Oxidative Stress in Cancer: Therapeutic Aspects. Springer, Singapore. [https://doi.org/10.1007/978-981-16-1247-3\\_152-1](https://doi.org/10.1007/978-981-16-1247-3_152-1)
84. **Bhattacharjee S**, Arginase: A Prospective Regulator of Oxidative Stress During Microbial Pathogenesis. In the book “Oxidative Stress in Microbial Diseases.” Edited by Chakraborti, S., Chakraborti, T., Chattopadhyay, D., Shaha, C. Chapter 6 (p97-109). Chapter Publisher - Springer Nature Singapore Pte Ltd. DOI. 10.1007/978-981-13-8763-0\_6.
85. Sarkar B, Daware A, Tribedi P, **Bhattacharjee S**, Krishnani kk, Minhas PS. “Nanotechnology Applications In Fisheries And Aquaculture” in the book “Advances in Fish Research, Vol.-VII, Edited by: B.P. Mohanty Narendra Publishing House, Delhi, India Pages 61–80. January 2019; ISBN: 978-93-87590-48-9.
86. Sarkar A and **Bhattacharjee S**; “Terpenoids In Treatment Of Immunological Disease” In the book “Terpenoids Against Human Diseases” Edited by Dijendra Nath Roy, Chapter 6, 1st Edition, Publisher: CRC Press, ISBN: 9781351026680, 1351026682. March 20, 2019.

<https://www.crcpress.com/Terpenoids-Against-Human-Diseases/Roy/p/book/9780815370666>

87. **Bhattacharjee S** & Sarkar, A. “Concordance.” In the book [Encyclopedia of Animal Cognition and Behavior](#) (2017). 1-4. [https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6\\_42-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6_42-1). Online ISBN: 978-3-319-47829-6.
88. **Bhattacharjee S** & Sarkar, A. “Diallel Design” In the book [Encyclopedia of Animal Cognition and Behavior](#) (2017). 1-3. [https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6\\_60-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6_60-1). Online ISBN: 978-3-319-47829-6.
89. **Bhattacharjee S** & Sarkar, A. “Equal Environments Assumption.” In the book [Encyclopedia of Animal Cognition and Behavior](#) (2017). 1-4. [https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6\\_38-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-47829-6_38-1). Online ISBN: 978-3-319-47829-6.
90. **Bhattacharjee S** and Saha AK. “*Plant Water-Stress Response Mechanisms.*” In the book “Approaches to plant stress and their management”. Edited by R.K. Gaur, Pradeep Sharma. New York: Springer, 2014. ISBN: 978-81-322-1619-3 (Print) 978-81-322-1620-9 (Online). [http://springer.libdl.ir/chapter/10.1007/978-81-322-1620-9\\_8](http://springer.libdl.ir/chapter/10.1007/978-81-322-1620-9_8). 2014. p149-172.
91. **Bhattacharjee S\***, Bhattacharya A. “*The Host Pathogen Interaction and Immunomodulation during Leishmaniasis.*” In the book ‘*Microbial Pathogenesis: Infection and Immunity*’. Edited by: Uday Kishore and Annapurna Nayak. **Advances in Experimental Medicine and Biology series**. Volume 798. Chapter 10, New York: Austin: Landes Bioscience, Springer Science; <http://www.landesbioscience.com/curie/chapter/5422/>. 2013, p203-232.. ISBN10 1493949519; ISBN13 9781493949519

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## PATENTS

1. Title: **An artificially intelligent compact computing device, system and method for next-generation vaccine design**  
Reference Number: 202431079603 A  
Date of Filing: 19/10/2024  
Date of Grant: 28/05/2025  
Sponsoring Agency: SELF  
National/International: International (South Africa)
2. Title- **Non-invasive diagnostic kit for detection of urinary tract infection (UTI) (Patent Granted)**  
Patent No. 441839  
Application No. 201831007555  
Date of Filing: 28/02/2018  
Date of Grant: 32/07/2023  
National/International: National
3. Title - **Natural gum based nanocomposite hydrogel having antibacterial and wound healing effects and a method of preparation thereof. (Patent Granted)**  
Patent No. 497567  
Application number- 201931008616, Indian Patent  
Date of Filing: 29/03/2019  
Date of Grant: 11/01/2024

National/International: National

Sponsoring Agency: ICAR-INDIAN INSTITUTE OF NATURAL RESINS AND GUMS

4. Title - **A novel process and formulations of ‘Alcoholic Nano-silver having Anti-Viral and Anti-Biofilm Efficacy’**

Application Number - 202111061283

Reference Number: E- 2/1771/2022/DEL

Sponsoring Agency: ICAR-Indian Institute of Agricultural Biotechnology, Garhkhatanga, Ranchi, Jharkhand

5. Title - **System And Method For Development Characterization, And Simulation Of The Epitope-Base Peptide Therapeutic Vaccine Against Colorectal Cancer Using Neoantigens**

Date of Filling – 11/12/2025

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### Workshop CONFERENCES AND PRESENTATIONS (Selected)

1. **\*Surajit Bhattacharjee**, Antu Das, Lupeol in combination of Amphotericin B mediates synergistics anti-leishmanial immunomodulatory effects on *Leishmania donovani* AG83 infected BALB/c mice. 17th International Congress of Immunology, (IUIS) 2019, at Beijing China, From 19th October to 23rd October 2019. (Oral Presentation)
2. **Surajit Bhattacharjee, UC De, A Das, MC Das**. Lupeol a triterpene compound isolated from *Sterculia villosa* exhibits antileishmanial effect through immunomodulation. TWAS ROCASA Young Scientists Conference on the topic "Infectious Diseases: Biology to Intervention Strategies" at Jawaharlal Nehru Centre for Advanced Scientific Research, from 7-9 Sept 2017.
3. **Surajit Bhattacharjee**, "Development of Strategies for the Prevention and Treatment of Biofilm Related Infections: A study with Natural Compounds and Synthetic Derivatives." International Conferences on 'Perspectives of Cell Signaling and Molecular Medicine' Bose Institute, Kolkata, India, from 8<sup>th</sup> - 10<sup>th</sup> Jan. 2017.
4. **Surajit Bhattacharjee**, "Novel Strategies for the Prevention and Treatment of Biofilm Related Infections Using Natural Compounds." International Conference on 'Contemporary Antimicrobial Research (ICCAR)' at Assam University, Silchar on 14th - 17th Nov. 2016.
5. **Surajit Bhattacharjee**, "Vitexin degrades the microbial city traffic by destroying the quorum sensing phenomena." "National Seminar on 'Recent Advances in Biotechnological Research in North East India: Challenges and Prospects' at Tezpur University on 27<sup>th</sup> -29<sup>th</sup> Nov. 2014.

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### RESEARCH GUIDANCE

- **Postdoctoral Guidance: Dr. Avik Sarkar**, National Postdoctoral Fellow, DST-SERB April 2017-March,2019.
- **PhD Guidance (Completed and Awarded)**
  1. **Dr. Antu Das - 2018** (Currently Postdoc fellow University of Pittsburg at USA )
  2. **Dr. Manash Chandra Das - 2018** (Currently Assistant Professor in Govt. Polytechnique College)

3. **Dr. Chinmoy Ghosh** (As Co-supervisor) - **2019** from KIIT School of Biotechnology, KIIT University. (Currently Postdoc at Virginia Commonwealth University, USA)
  4. **Dr. Sandeep Das** (Department of Human Physiology, Tripura University) (Currently Postdoc at Louisiana State University Health Sciences Center Shreveport, USA).
  5. **Dr. Shukdeb Acharjee, 2024** (Currently Assistant Professor in Techno India University, Agartala)
  6. **Dr. Sanghamitra Goswami, 2025**
  7. **Dr. Chandam Ray Barman, 2025**
- **Ongoing PhD students :**  
Eight Students Pursuing his/her PhD (Full-time/Part-time) under my guidance,  
Mr. Suman Paul  
DR. Epsita Ghosh (Part-time)  
Mr. Argajit Sarkar  
Mr. Debajyoti Datta  
Mr. Mihir Lal Das (Part-time)  
Ms. Moumita Debnath  
Ms. Barsha Ghosh  
Ms. Diptani Saha
  - **Current Postdoctoral student:**  
**Dr. Nishma Dahal** (ANRF Post doctoral fellowship 2025)
  - **Supervised more than 90 Students for their Six months Masters Projects.**
- 

### List of Courses Taught

#### Postgraduate Courses

1. **Cell Biology (Core) (Code - MBB 701C)**
2. **Biomolecules and Molecular Biology (Core) (Code - MBB 702C)**
3. **Advanced Techniques in Molecular Biology (Code - MBB 703C)**
4. **Recombinant DNA Technology (Core) (Code - MBB 802C)**
5. **Molecular analysis of cellular function (Elective) (Code - MBB 807E)**
6. **Immunology (Core) (Code - MBB 901C)**
7. **Laboratory-III – Immunology practical (Core) (Code - MBB 903C)**
8. **Tissue culture and Animal cloning (Elective) (Code - MBB 904E)**
9. **Basic of Molecular Biology (Core from other Department) (Code - MBB 701C)**

#### PhD Course work:

1. **Antimicrobial Resistance: Mechanisms and Solutions (Code – MBB 1101C)**
  2. **Ethics in Biological Research (Code – MBB 1103C)**
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## RESEARCH GRANTS

### Principal Investigator:

1. **Indian Council of Medical Research, India** **2025**  
“Integrating Gut Microbiome, Hormonal Profiles, and Lifestyle Factors for AI-Driven Metabolic Risk Prediction in Adolescents from Tripura, Northeast India with Adipocyte Validation”
2. **Department of Biotechnology, India:** **2018**  
“Neo-therapeutic strategy for Tuberculosis with the combination of conventional antibiotics and natural flavone compounds that inhibits biofilm." Grant- 45 Lakhs (INR)
3. **Science and Engineering Research Board (SERB-DST), India:** **2016**  
“Role of Toll-Like Receptors in Leishmania infection: Spatio-temporal Regulation of TLR expression and function.” Grant (INR) - 63 Lakhs
4. **Indian Council of Medical Research, India:** **2015**  
“Dectin 1 and Toll Like Receptors (TLR) at the interface of Beta Glucan and macrophage interaction: A mechanistic study of immunomodulatory activity of B-glucan using leishmaniasis as an immunosuppressive disease model.” Grant (INR) - 33 Lakhs
5. **Indian Council of Medical Research, India:** **2015**  
"Interaction of IL-18 and TNF-alpha in the modulation of Osteoprotegerin (OPG) in Subjects with Osteoarthritis, Rheumatoid Arthritis (in both Sexes) and Osteoporosis in Post-Menopausal Women." Grant (INR) - 20 Lakhs
6. **Department of Biotechnology, India:** **2014**  
“Role of TLR mediated Genomic Instability patterns in response to chronic infection of Tuberculosis and Host- pathogen interaction.” Grant (INR) - 37 Lakhs
6. BIRAC, DBT, Department of Biotechnology  
Detection and Diagnosis of Urinary Tract Infection through development of a rapid and sensitive non-invasive agglutination method.

### **Co-Principal Investigator:**

7. **Department of Biotechnology, India:** **2014**  
“Studies on identification, antimicrobial, antioxidant level and nutritional index as well as standardization of cultivation of some wild edible mushrooms of Tripura.”
8. **Department of Biotechnology, India:** **2014**  
“Molecular and Cellular studies on normal and diabetic wound healing activities of Perkia javanica, a medicinal plant of Tripura, northeast India”.

### **Three Fellowship Projects**

1. **ANRF Postdoc fellowship for Dr. Nishma Dahal: 2025**
2. **DST-INSPIRE Junior Research Fellowship for Ms. Barsha Ghosh: 2025**
3. **ICMR Senior Research Fellowship for Mr. Shukdeb Acharjee: 2019 to 2022**

**Exploring the synergistic role of IL-18 and TNF-alpha in the development of hyperphosphatemia and progressive bone erosion in rheumatoid arthritis patients.**

**4. DST SERB nPDF to Dr. Avik Sarkar from 2017 to 2019**

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**SKILLS**

**Cell Biology:** Mammalian cell culture (primary and cell lines), Flow cytometry, Transfection, reporter assay, cell counting, Light, fluorescence and confocal microscope microscopy, cell cloning, cell proliferation assay, protein expression and shRNA/siRNA-based gene knockdowns, cellular assays including viability (MTT, XTT), motility.

**Immunology:** Monoclonal antibody production, antibody purification, antibody isotyping, enzyme-antibody conjugation, SDS-PAGE, Western blot, sandwich ELISA development, Co- Immunoprecipitation, Immunohistochemistry, isolation of murine immune cells (splenic T-lymphocytes and B-lymphocytes, peritoneal macrophage, and bone marrow cells), mixed lymphocyte reaction.

**Microbiology:** Competent in aseptic technique, Microbiological culture maintenance, media preparation, bacterial biofilm assay, antimicrobial susceptibility testing, Infectivity assay, motility and other functional assays, antimicrobials assay, monitoring the effect of microorganisms on animal models.

**Molecular Biology:** Genomic DNA extraction, total RNA extraction, analysis by transcriptional profiling and Northern blot, Real Time-PCR, End point PCR, Molecular Cloning & Vector Design, Plasmid preparation, ligation, transformation, UV-Visible spectroscopy.

**Animal Experimentation:** Handling of Mouse, Rat, Hamster and Rabbit, Animal model (Leishmaniasis and Bacterial infection, Biofilm Catheter model), ip injection, iv injection, and sc injection, tail vein blood withdrawal, and survival surgery, tissue preparation and histology.

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**HONORS & AWARDS**

- Selected as Indian National Young Academy of Science (INYAS) member for the term 2016 – 2021.
- Received International Travel Grant from DST SERB.
- Selected as Young Investigator for the 7th Young Investigators Meet organized by India Bioscience in collaboration with EMBO, TIFR, NCBS, DBT, CSIR, University of Kashmir.
- IASc-INSA-NASI Summer Research Fellowship for Faculty in 2014, Registration No: LFT-260
- **CSIR NET (LS) in Life Sciences (2009). All India ranking 8th.**
- GATE in Life Sciences (2004). 92.88 percentile.
- Prof. A. K. Mukherjee Memorial Gold Medal (2002). From Department of Physiology, Calcutta University.

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## PROFESSIONAL AND ACADEMIC SERVICES

Associate Editor of BMC Microbiology,	January 2017 to Present
Reviewer of Frontiers in Pharmacology	January 2019 to Present
Reviewer of BMC Infectious Diseases	January 2019 to Present
Reviewer of PLOS ONE,	May 2013 to Present
Reviewer of Journal of Ethnopharmacology,	April 2014 to Present
Reviewer of Journal of Toxicology Mechanisms and Methods,	July 2010 to Present
Reviewer of 3Biotech,	December 2016 to Present
Reviewer of Journal of Nanoparticle Research (NANO),	March 2019 to Present
Coordinator of Department of Molecular Biology & Bioinformatics of Tripura University	October 2016 to Present
Head Department of Molecular Biology and Bioinformatics	12 <sup>th</sup> June 2021 to Present
Member of Board of Post-Graduate Studies Committee- Department of Molecular Biology and Bioinformatics, Tripura University.	July 2013 to Present
Member of Animal Ethical Committee- Tripura University.	June 2013 to Present
Member of Institutional Biosafety Committee - NIT Agartala.	August 2014 to Present
Foreign Student Advisor -Tripura University	April 2015 to June 2018
Member of Central Instrumentation Committee - Tripura University	August 2014 to Present
Member of Institutional Biosafety Committee – Tripura University	January 2019 to Present

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*Surajit Bhattacharjee*

Surajit Bhattacharjee, PhD

13<sup>th</sup> January, 2026.