

**Name:** Dr. Biraj Sarkar  
**Designation:** Assistant Professor  
**Branch:** Microbiology



**Educational Qualification(s):**

| Qualification(s)                | University             |
|---------------------------------|------------------------|
| B.Sc. (Honours) in Microbiology | Burdwan University     |
| M.Sc. in Microbiology           | Tripura University     |
| Ph.D. in Microbiology           | University of Calcutta |

**Experience in years:**

Academic:

Details:

| Sl. No. | Organization           | Position Held              | Duration |         |
|---------|------------------------|----------------------------|----------|---------|
|         |                        |                            | From     | To      |
| 1.      | University of Calcutta | University Research Fellow | 2018     | 2022    |
| 2.      | Tripura University     | Guest Faculty              | 2022     | 2023    |
| 3.      | ICFAI University       | Assistant Professor        | 2023     | present |

**Other Information:**

a) Publication details:

- Mandal, A. K., **Sarkar, B.**, Mandal, H., Chakraborty, A. P., Das Mohapatra, P. K., Dam, P., Mondal, R., Some, S., Sadat, A., Ghata, A., Neog, K., Mandal, S., & Ince, I. A. (2022). Genomic Clues of a Multidrug-Resistant Bacterium from Cultured Domestic Silkworm (*Bombyx mori* L.). *Microbiology resource announcements*, 11(6), e0008122. <https://doi.org/10.1128/mra.00081-22>
- Sarkar, B.**, Gupta, A. M., Shah, M. P., & Mandal, S. (2022). Poly-cis-isoprene Degradation by *Nocardia* sp. BSTN01 Isolated from Industrial Waste. *Applied biochemistry and biotechnology*, 194(8), 3333–3350. <https://doi.org/10.1007/s12010-022-03854-3>
- Sarkar, B.**, Mandal, A. K., Ghata, A., Ghosh, P., Mandal, S., & Kati, A. (2022). Whole-Genome Shotgun (WGS) Sequence of *cis*-Isoprene Polymer-Degrading *Nocardia* sp. strain BSTN01. *Microbiology resource announcements*, 11(4), e0117521. <https://doi.org/10.1128/mra.01175-21>
- Islam, M. M., **Sarkar, B.**, Maiti, P. K., Das, S., Dam, P., Mondal, R., Biswas, T., Sadat, A., Chakraborty, A. P., Gangopadhyay, D., Mandal, S., Kati, A., & Mandal, A. K. (2022). Draft Genome Sequence of an Endophytic *Micromonospora* sp. Strain, ANENR4, Isolated from the

- Root of a Peanut Plant (*Arachis hypogaea*). *Microbiology resource announcements*, 11(11), e0065522. <https://doi.org/10.1128/mra.00655-22>
5. Das, P., **Sarkar, B.**, (Joint author) Ghati, A., Mondal, R., Dam, P., Franco, O. L., Cardoso, M. H., Sharma, A., Swarnakar, S., Miere Groza, F., Gangopadhyay, D., Mandal, S., Kati, A., & Mandal, A. K. (2022). Draft Genome Sequence of *Streptomyces* sp. Strain PSAA01, Isolated from the Soil of Eastern Himalayan Foothills. *Microbiology resource announcements*, 11(7), e0037022. <https://doi.org/10.1128/mra.00370-22>
  6. Raut, J., Islam, M.M., Sherpa, R.D., **Sarkar, B.**, Mandal, S.M., Hui, S.P., Mandal, S., & Sahoo, P. (2022). Cobalt-conjugated carbon quantum dots for in vivo monitoring of the pyruvate dehydrogenase kinase inhibitor drug dichloroacetic acid. *Scientific Reports*, 12, 19366. <https://doi.org/10.1038/s41598-022-22039-w>
  7. Chakraborty, S., **Sarkar B.**, Mishra, R.K., Dutta, D., & Majumdar, S. (2022). Contribution of Root Associated Zinc Solubilizing *Pseudomonas aeruginosa* on Plant Growth and Translocation of Zinc in Basmati Rice Variety. *Research Journal of Agricultural Sciences*, 13, 291-299.
  8. **Sarkar, B.**, Mandal, S. (2021). *Gordonia* sp. BSTG01 isolated from *Hevea brasiliensis* plantation efficiently degrades polyisoprene (rubber). *3 Biotech*, 11, 508. DOI: <https://doi.org/10.1007/s13205-021-03063-5>
  9. **Sarkar, B.**, Gupta, AM., Mandal, S. (2021). Insights from the comparative genome analysis of natural rubber degrading *Nocardia* species. *Bioinformatics*, 17(10):880-890 DOI: 10.6026/97320630017880
  10. Islam, MM., Bhattacharya, R., **Sarkar, B.**, Maiti, PK., Mahanty, S., Chaudhuri, P., Biswas, SR., Mandal, S. (2021). Different soil salinity imparts clear alteration in rhizospheric bacterial community dynamics in rice and peanut. *Archives of microbiology*, 204(1), 36. DOI: <https://doi.org/10.1007/s00203-021-02695-8>
  11. Some, S., **Sarkar, B.** (joint author), Biswas, K., Jana, T.K., Bhattacharjya, D., Dam, P., Mondal, R., Kumar, A., Deb, A.K., Sadat, A., Saha, S., Kati, A., Ochoy, I., Franco, O.L., Mandal, A., Mandal, S., Mandal, A.K., Ince, I.A. (2020). Bio-molecule functionalized rapid one-pot green synthesis of silver nanoparticles and their efficacy toward the multidrug resistant (MDR) gut bacteria of silkworms (*Bombyx mori*). *RSC Advances*, 10 (38), 22742-22757.
  12. Sarkar, S., **Sarkar, B.**, Das, R., Mandal, M. (2020). Different Anisotropic Silver Nanocrystals Show Different Antibacterial Activities – An Effect of Different Prominent Crystallographic Orientations in Different Shapes. *Current Science*, 118(12):1903-1910 DOI: 10.18520/cs/v118/i12/1903-1910
  13. **Sarkar, B.**, Mandal, S. (2020). Microbial Degradation of Natural and Synthetic Rubbers. In: Shah M. (eds) *Microbial Bioremediation & Biodegradation*. Springer, Singapore. DOI: [https://doi.org/10.1007/978-981-15-1812-6\\_21](https://doi.org/10.1007/978-981-15-1812-6_21) (Book Chapter)
  14. Das, P., **Sarkar, B.**, & Mandal, S. (2022). Endophytic microbes: A potential source of bioactive metabolites with therapeutic values. In: Shah M., Deka, D. (eds) *Endophytic Association: What, Why and How*. Developments in Applied Microbiology and Biotechnology. Elsevier. Paperback ISBN: 9780323912457 (Book Chapter)
  15. Patra, D., Islam, M.M., Das, P., **Sarkar, B.**, Jana, S., & Mandal, S. (2022). Importance of endophytes and mechanisms of their interactions with host-plants. In: Shah M., Deka, D. (eds) *Endophytic Association: What, Why and How*. Developments in Applied Microbiology and Biotechnology. Elsevier. Paperback ISBN: 9780323912457 (Book Chapter)

(b) Details of Seminar/Workshop/Conference.

1. Participated to present “A novel N<sub>2</sub>- fixing non-rhizobial actinobacterial endophyte isolated from the roots of *Arachis hypogaea* plant” in the National Seminar on New Horizon In Botanical Research organised by Department of Botany, University of North Bengal held on February 20-21, 2020.
2. Participated to present “Natural and commercial poly-isoprene degradation by novel bacterial isolates: a potential approach for solid waste cleanup” in the 60th Annual

Conference of Association of Microbiologists of India (AMI-2019) and International Symposium on “Microbial Technologies in Sustainable Development of Energy, Environment, Agriculture and Health” 2019 at the Central University of Haryana, Mahendergarh, Haryana, India.

3. Participated to present “Novel poly-cis-isoprene degrading *Gordonia* sp. BSTG01 and *Nocardia* sp. BSTN01 isolated from Hevea plantation of Tripura, India” in the International Seminar on Current Avenues in Microbial and Plant Sciences (CAMPS 2019) held on 2019, at the University of GourBanga, Malda, West Bengal, India.
4. Participated to present “Isolation and characterization of rubber degrading bacteria from rubber plantation areas of Tripura” in UGC-SAP-DRS sponsored National Seminar on Plant and Microbe: Diversity and Utilization held on March 19-20, 2016 organised by Department of Botany, Visva-Bharati, Santiniketan

(c). Professional membership of reputed bodies if any.