



DR. SOUVIK ROY

Ph.D. (Microbiology), M.Phil. (Microbiology), M.Sc. (Microbiology, 1st Class 1st, GOLD-MEDALIST), B.Sc. (Microbiology, 1st Class 1st, GOLD-MEDALIST), Joint CSIR-UGC NET qualified, GATE-qualified, 75th Rank Holder in Madhyamik Examination



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PROFESSIONAL PROFILE

‘MICROBIOLOGISTS SOCIETY BEST TEACHER’ & ‘BHARAT JYOTI PURASKAR’ Awardee

**Total Teaching Experience:
20 years**

- **Assistant Professor (Stage III)**, Post-Graduate & Research Department of Biotechnology, St. Xavier’s College (Autonomous), 30, Mother Teresa Sarani, Kolkata – 700016.
- **Lecturer** of Life Science (Main Paper), NET & SET Training Course, St. Xavier’s College (Autonomous), Kolkata.
- **Vice Deputy President**, Entrepreneurship Development Cell (EDC), St. Xavier’s College (Autonomous), Kolkata.
- **Secretary**, Animal Ethics Committee (AEC), St. Xavier’s College (Autonomous), Kolkata.
- **Faculty (Marketing Advisor)**, Enactus, St. Xavier’s College (Autonomous), Kolkata.
- **Member**, Xaverian Research Yearbook Committee, St. Xavier’s College (Autonomous), Kolkata.
- **Member**, College Magazine Committee (CMC), St. Xavier’s College (Autonomous), Kolkata.
- **Member**, different NAAC Committees, St. Xavier’s College (Autonomous), Kolkata.

EDUCATIONAL PROFILE

- **Ph.D.** in Microbiology (Specialization: Medical Microbiology) [Ph.D. Thesis Title: Assessment of the Potency of Garlic as a Natural, Anti-TB Phytomedicine]
- **M.Phil** in Microbiology (Specialization: Food & Industrial Microbiology) [M.Phil. Thesis Title: Microorganisms in Cut Cucumber and Their public health significance]
- **M.Sc** in Microbiology (**1st Class 1st – GOLD MEDALIST**) [M.Sc. Summer Research Project Thesis Title: Microbiological Studies of *Salmonella enterica* Serotype Typhimurium isolated from hospitalized pediatric Diarrhea cases in Kolkata]
- **B.Sc** in Microbiology (**1st Class 1st – GOLD MEDALIST**)
- **Joint CSIR-UGC NET (Life Sciences)** qualified
- **GATE (Life Sciences)** qualified

ACADEMIC HONORS AND AWARDS-----

- Awarded with the **“BEST TEACHER AWARD”** (from the State of West Bengal) (**NATIONAL-LEVEL AWARD**) from Microbiologists Society, India (MBSI; Reg. No. MAHA/4814/SAT), in recognition of **Contribution towards Academics & Research for over the past 19 years.**
- Awarded with the **“BHARAT JYOTI PURASKAR”** (**NATIONAL-LEVEL AWARD**) from the ‘Best Citizen Publishing House’, New Delhi, in **Recognition of ‘exceptional calibre and outstanding performance in Academics & Research’.**
- Received the **BEST ORAL PRESENTATION AWARD** (**NATIONAL-LEVEL AWARD**) on "Assessing Public Health and Sanitation Status to promote Preventive Healthcare In India" at a National Conference on “Current Industrial Trends in Life Science Research”, 2023, organized by ITLS Academy, Lucknow and Microbiologists Society, India (MBSI; Reg. No. MAHA/4814/SAT).
- Awarded with the **SECOND PRIZE** (**NATIONAL AWARD**) in the International Level Critical Essay Writing Competition on the Theme "How Science Should Be Taught?" at the India International Science Festival (IISF), 2020, organized by Ministry of Science and Technology, Ministry of Earth Sciences, and Ministry of Health and Family Welfare, Govt. of India, in collaboration with Vijnana Bharati (VIBHA) by Council of Scientific & Industrial Research (CSIR).
- Received the **BEST PAPER AWARD [Oral presentation] in RESEARCH** for the Original Research Paper "Pre-Treatment With Scopolamine Naturally Suppresses Japanese Encephalitis Viral Load In Embryonated Chick Through Modulation Of TLR & Type-I IFN Signaling Pathways" at Biospectrum 2020, an International Conference on Biotechnology and Biological Sciences, organized by the Department of Biotechnology, University of Engineering & Management (UEM), Kolkata in collaboration with SMART Society, USA, Indian Ecological Society and Microbiologists’ Society India.
- Received the **BEST POSTER AWARD** (entitled: “Green Pharmacy & Garlic – A Potential Cure for MDR-TB”) at the National Symposium on ‘Interface Areas between Chemical and Biological Sciences’, 2018, organized by Advanced Research Centre, Department of Microbiology, Lady Brabourne College, Kolkata, in prestigious collaboration with Royal Society of Chemistry, Eastern India Section.
- Awarded with the **FIRST PRIZE** in Poster Competition (entitled: “Packaged Drinking Water and Soft Drinks – A Second Thought!!”) at the International Seminar on ‘Frontiers in Biological Science (FIBS)’, 2018, sponsored by the Department of Science & Technology, Govt. of West Bengal, and organized by the Department of Microbiology, St. Xavier’s College (Autonomous), Kolkata.
- Qualified in the **Joint CSIR-UGC NET Examination (in Life Sciences)** (All India Rank-47).
- Qualified in the **GATE Examination (in Life Sciences)** (All India Rank – 739 out of 10900 candidates appeared).
- **1st Class 1st in M.Sc. (2 year) Examination (in Microbiology)** from University of Calcutta (**GOLD MEDALIST**).
- **1st Class 1st in B.Sc. (3 year) Examination (in Microbiology)** from University of Calcutta (**GOLD MEDALIST**).

- Received a '**Merit Award**' from United Bank of India Employees' Cooperative Credit Society Limited for getting **Star-Marks in the H.S. Examination**.
- Received a '**Merit Award**' at the 'Kolkata Nagarik Sammelan, Ward No. 67' for the **75th All-Bengal Rank in the Madhyamik Examination**.

PROFESSIONAL COURSES COMPLETED

- Participated and successfully completed the **UGC-sponsored Short-Term Course on 'Research Methodology in Science and Technology'**, organized by UGC-Human Resource Development Centre (HRDC), **University of Calcutta**, from 6th February 2024 – 12th February 2024.
- Participated and successfully completed the **UGC-sponsored Refresher Course in Life Science**, organized by UGC-Human Resource Development Centre (HRDC), **University of Calcutta**, from 5th January 2022 – 18th January 2022, with **Grade A⁺**.
- Participated and successfully completed the **UGC-sponsored Refresher Course in Biotechnology**, organized by UGC-Human Resource Development Centre (HRDC), **University of Calcutta**, from 6th November 2017 – 26th November 2017, with **Grade A**.
- Participated and successfully completed the **UGC-sponsored Orientation Programme (OP-112)**, organized by UGC-Human Resource Development Centre (HRDC), **University of Calcutta**, from 1st December 2015 – 30th December 2015, with **Grade A**.

ADMINISTRATIVE PROFILE

- **Vice Deputy President**, Entrepreneurship Development Cell (EDC), St. Xavier's College (Autonomous), Kolkata.
- **Secretary**, Animal Ethics Committee (AEC), St. Xavier's College (Autonomous), Kolkata.
- **Faculty (Marketing Advisor)**, Enactus, St. Xavier's College (Autonomous), Kolkata.
- **Member**, Xaverian Research Yearbook Committee, St. Xavier's College (Autonomous), Kolkata.
- **Member**, College Magazine Committee (CMC), St. Xavier's College (Autonomous), Kolkata.
- **Member**, different NAAC Committees, St. Xavier's College (Autonomous), Kolkata.
- **Member**, different other Committees and Sub-Committees, St. Xavier's College (Autonomous), Kolkata.
- **Member**, Executive Body of St. Xavier's College Teachers' Association (SXCTA), St. Xavier's College (Autonomous), Kolkata (July 2017 – June 2018).
- **Head of the Department of Microbiology** (Honours and General courses), Sarsuna College, Kolkata, affiliated to University of Calcutta (August 2004 – March 2013).

TEACHING PROFILE

PRESENT:

As **Assistant Professor (Stage III)** in the Post-Graduate & Research Department of Biotechnology, St. Xavier's College (Autonomous), Kolkata (2013-till date).

□ **PAST:**

- ✓ As **Head**, Department of Microbiology (Honours and General courses), Sarsuna College, Kolkata (affiliated to University of Calcutta) (2004–2013; 9 years).
- ✓ As **Guest Lecturer** in the Department of Chemical Technology, University of Calcutta.
- ✓ As **Guest Lecturer** in the Post-Graduate Department of Microbiology, Lady Brabourne College, Kolkata (affiliated to University of Calcutta).
- ✓ As **Guest Lecturer** in the Post-Graduate Department of Microbiology, Vijaygarh Jyotish Ray College, Kolkata (affiliated to University of Calcutta).

RESEARCH PROFILE-----

- **Research experience:** 2006-till date.

- **Present Research Interests:**

- *Different aspects of **Clinical/Medical Microbiology:***

- a) Although commercially-available toilet-seat sanitizers claim to be effective in killing the responsible uropathogens, their efficacies need to be checked periodically and compared, particularly keeping in mind the rapid emergence of multi-drug resistant (MDR)- and new pathogenic strains of uropathogens.
- b) In recent times, there has been an increased quest for alternative novel herbal drugs to ameliorate the mammoth problem of new antimicrobial resistance (AMR) mechanisms. Antioxidant and antimicrobial activities in the leaves of Pine (*Pinus* spp.), Fir (*Abies* spp.) and Chinar (*Platanus orientalis*) have not been assessed till date. The present research focus of our lab is to conduct *in vitro* phytochemical screening of radical-scavenging antioxidant properties and antibacterial activities of the aqueous and alcoholic extracts of the leaves of Pine, Fir and Chinar against drug-sensitive (DS) and MDR-bacterial strains [**Recipient of Intramural Research Grant from St. Xavier's College (Autonomous), Kolkata for this Study**].

- *Different aspects of **Food Microbiology:***

Assessment of the microbiological quality of various fruits, confectionaries, and street-vended and shop-sold food and aromatic beverages: In a country like India, especially in Kolkata, consuming food and aromatic beverages from itinerant street vendors and roadside stalls is very common. As these unhygienically-sold consumables are very prone to huge microbial contaminations, a periodic assessment of their sanitary qualities, and tracing down ways to maintain their hygiene status as far as practicable, should always be in the top priority list of Food Microbiologists for an overall societal benefit.

RESEARCH GUIDANCE-----

- Guide of **Summer Research Project** of seven students (Post-Semester 6) of the 5-Year Integrated Course in Biotechnology, St. Xavier's College (Autonomous), Kolkata, on Food Microbiology, in 2024.
- Guide of **Summer Research Project** of three students (Post-Semester 6) of the 5-Year Integrated Course in Biotechnology, St. Xavier's College (Autonomous), Kolkata, on Medical Microbiology, in 2023.
- Guide of **Summer Research Project** of four students (Post-Semester 6) of the 5-Year

Integrated Course in Biotechnology, St. Xavier's College (Autonomous), Kolkata, on Medical Microbiology, in 2019.

- Guide of **Summer Research Project** of one student (Semester 8) of the 5-Year Integrated Course in Biotechnology, St. Xavier's College (Autonomous), Kolkata, on Molecular Microbiology & Microbial Biochemistry, in 2019.
- Co-guide of **Summer Research Project** of two Post-graduate students of the Department of Microbiology, Lady Brabourne College, Kolkata, on "Effect of aqueous extract of garlic on multi drug resistant (MDR) *Mycobacterium smegmatis*" with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2015.
- Co-guide of **Summer Research Project** of one Post-graduate student of the Department of Microbiology, Lady Brabourne College, Kolkata, on "Effect of Garlic Extract on NOS expression in *Mycobacterium smegmatis* by using Western Blotting" with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2014.
- Co-guide of **Summer Research Project** of one Post-graduate student of the Department of Microbiology, Lady Brabourne College, Kolkata, on "Effect of Garlic Extract on Micro RNA synthesis by *Mycobacterium smegmatis*" with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2013.

PUBLICATION PROFILE-----

a) Original Research & Review Papers in Peer-Reviewed Journals:

1. **Roy, S., Mukherjee, P., Kundu, S., Majumder, D. & Raychaudhuri, V. (2024). Microbial Infections in Burn Patients. *Acute and Critical Care (UGC approved)*. 39(2): 214-225. doi: 10.4266/acc.2023.01571. [ISSN (Print): 2586-6052; ISSN (Online): 2586-6060; Impact Factor = 1.7].**
2. Das, M., Chakraborty, M., Das, P., Santra, S., Mukherjee, A., Das, S., Banyai, K., **Roy, S., Choudhury, L., Gupta, R., Dey, T., Das, D., Bose, A., Ganesh, B. & Banerjee, R. (2024). System biology approaches for systemic diseases: Emphasis on type II diabetes mellitus and allied metabolism. *Biocatalysis and Agricultural Biotechnology (Elsevier) (UGC approved)*. 58:103176. doi: 10.1016/j.bcab.2024.103176. [ISSN (Online): 1878-8181; Impact Factor = 4.0].**
3. **Roy, S., Ray, D., Laha, I., & Choudhury, L. (2024). Human Mycobiota and Its Role in Cancer Progression, Diagnostics and Therapeutics: A Link Lesser-Known. *Cancer Investigation (Taylor & Francis) (UGC approved)*. 1-19. doi: 10.1080/07357907.2024.2301733. [ISSN (Print): 0735-7907; ISSN (Online): 1532-4192; Impact Factor = 2.4].**
4. **Bhattacharjee, A., Naga, R., Saha, M., Karmakar, S., Pal, A. & Roy, S. (2023). Viral inhibitory potential of hyoscyamine in Japanese encephalitis virus-infected embryonated chicken eggs involving multiple signaling pathways. *Archives of Virology (Springer) (UGC approved)*. 168:264. doi:10.1007/s00705-023-05883-7. [ISSN (Print): 0304-8608; ISSN (Online): 1432-8798; Impact Factor = 2.7].**

5. **Roy, S.** (2023). Assessing Public Health and Sanitation Status To Promote Preventive Healthcare In India. **International Journal of Biotechnology and Allied Fields (UGC approved)**. **11**(10):105-116 [ISSN (Online): 2320-0774].
6. **Roy, S.,** Majumder, S., Deb, A., & Choudhury, L. (2023). Microbial contamination of cosmetics and the pharmaceutical products, and their preservation strategies: A comprehensive review. **Novel Research in Microbiology Journal (UGC approved)**. **7**(5):2116-2137 [ISSN (Print): 2537-0286; ISSN (Online): 2537-0294; Impact Factor = 1.3].
7. **Roy, S.,** Manna, S., Chowdhury, S., & Choudhury, L. (2023). Improvement of Large-Scale Production of Lignocellulosic Bioethanol through Synthetic Biology Approaches: A Comprehensive Review. **World Journal of Biology Pharmacy and Health Sciences (UGC approved)**. **14**:316-331 [ISSN (Online): 2582-5542].
8. **Roy, S.,** Shaw, D., Sarkar, T., & Choudhury, L. (2023). Mycotoxins in fermented foods: A comprehensive review. **Novel Research in Microbiology Journal (UGC approved)**. **7**(2):1897-1917 [ISSN (Print): 2537-0286; ISSN (Online): 2537-0294; Impact Factor = 1.3].
9. **Roy, S.,** Chakrabarty, S., Pal, R. and Choudhury, L. (2023) Combating SARS-CoV-2: A Comparison between mRNA Vaccines and Killed Whole Cell Vaccines. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **12**(4):1781-1798 [ISSN (Online): 2277-4998; Impact Factor = 1.892].
10. **Roy, S.,** Mullick, S., Chakrabarty, S. and Choudhury, L. (2023) Pathogen-based Molecular Mimicry and Autoimmune Disorders: A Close Look. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **12**(4):1701-1716 [ISSN (Online): 2277- 4998; Impact Factor = 1.892].
11. **Roy, S.,** Banerjee, S., Bhowmick, P. and Choudhury, L. (2023) Psychobiotics: Deciphering its role in neuropsychiatry. **World Journal of Biology Pharmacy and Health Sciences (UGC approved)**. **13**(01):457–464 [ISSN (Online): 2582-5542].
12. **Roy, S.,** Majumder, S., Deb, A. and Choudhury, L. (2023) Various Types and Effects of Microbial Contamination in Cosmetics and Pharmaceutical Products, and their Preservation Strategies. **Aviskaar: A Xaverian Journal of Research** [ISSN (Print): 2277-8411; ISSN (Online): 2278-1048].
13. **Roy, S.,** Laha, I., Ray, D. and Choudhury, L. (2022) Influence of Climate Change & Environmental Toxicants on Epigenetic Modifications. **World Journal of Environmental Biosciences (UGC approved)**. **11**(3):21-29 [ISSN (Online): 2277-8047; Impact Factor = 0.976].
14. **Roy, S.,** Bhowmick, P., Mukherjee, P., Dey, K. and Choudhury, L. (2022) Mucormycosis in COVID-19 patients: a fungal disease decoded. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **11**(11):4979-4995 [ISSN (Online): 2277-4998; Impact Factor = 1.892].
15. **Roy, S.,** Banerjee, A., Mullick, S. and Choudhury, L. (2022) Hunt for non-antibiotic antibacterial approaches: A possible game changer? **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **11**(8):3643-3656 [ISSN (Online): 2277-4998; Impact Factor = 1.892].
16. **Roy, S.,** Nag, S., Saini, A. and Choudhury, L. (2022) Association of human gut microbiota with rare diseases: A close peep through. **Intractable & Rare Diseases Research (UGC approved)**. **11**(2):52-62. doi:10.5582/irdr.2022.01025. [ISSN (Print):

- 2186-3644; ISSN (Online): 2186-361X; Impact Factor = 1.295].
17. **Roy, S.** Roy, L., Khatun, Z. and Sarangi, N. (2022) Gut Microbiome Therapy: A Future Biotechnological Wonder. **Aviskaar: A Xaverian Journal of Research** [ISSN (Print): 2277-8411; ISSN (Online): 2278-1048].
 18. **Roy, S.**, Choudhury, L., and Sarangi, N. (2022) COVID-19, Long COVID and its Neurological Effects. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**.**11(3):1151-1165** [ISSN (Online): 2277-4998; Impact Factor = 1.318].
 19. Roy, L., **Roy, S.**, Siddhanta, U., Siddhanta, A. (2021) Prevalence of antibiotic-resistant pathogenic bacteria from canal bank soils in and around Kolkata, India. **International Journal of Environmental Studies (Taylor & Francis) (UGC approved)**. **9:1-15**. doi: 10.1080/00207233.2021.1966249. [ISSN (Print): 1735-1472; ISSN (Online): 1735-2630; Impact Factor = 2.86].
 20. **Roy, S.**, Bhattacharjee, A., Chaudhuri, R, Dash, J.J., Saha, M., Choudhury, L. (2021) Pre-treatment with Scopolamine naturally suppresses Japanese Encephalitis Viral Load in Embryonated Chick through regulation of multiple signaling pathways. **Applied Biochemistry and Biotechnology (Springer) (UGC approved)**.**193:1654–1674**. doi: 10.1007/s12010-021-03526-8. [ISSN (Print): 0273-2289; ISSN (Online): 1559-0291; Impact Factor = 2.277].
 21. **Roy, S.**, Ghorai, S., Choudhury, L., Das, A., Banik Ghosh, R. and Banik, S.P. (2021) Advances in cellulosic enzyme technologies for enhanced stability and catalysis. **Journal of Advanced Scientific Research (UGC approved)**. **12(2) Suppl 1:49-65**[ISSN (Online): 0976-9595].
 22. **Roy, S.** and Sarangi, N. (2021) Neurological Impact of COVID-19 and its Effect on Pediatric Population: A Comprehensive Review. **Aviskaar: A Xaverian Journal of Research** [ISSN (Print): 2277-8411; ISSN (Online): 2278-1048].
 23. **Roy, S.**, Datta, A., Ghosh, A., Mandal, G., Banerjee, S. and Roy, L. (2020) Studies on the susceptibility of Common Uropathogens to Toilet Seat Sanitizers and their Antibiogram. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **9(9):2212-2230**. doi:10.31032/IJPAS/2020/9.9.5178. [ISSN (Online): 2277-4998; Impact Factor = 1.318].
 24. Choudhury, L., **Roy, S.** and Chakrabarti, K. (2020) Microorganisms in Khoa, the base of Indian Sweets, and their Impact on Public Health. **International Journal of Biology, Pharmacy and Allied Sciences (UGC approved)**. **9(9):2132-2149**. doi:10.31032/IJPAS/2020/9.9.5171. [ISSN (Online): 2277-4998; Impact Factor = 1.318].
 25. **Roy, S.**, Bhattacharjee A., Roy, L. and Das, S. (2020) Recent Advances Towards The Development and Applications of Novel Therapeutics against Chikungunya Virus Infections. **International Journal of Pharmaceutical Sciences and Research (UGC approved)**. **11(12): 6503-6513** [ISSN (Print): 2320-5148; ISSN (Online): 0975-8232].
 26. **Roy, S.**, Roy, L. and Das, N. (2019) Microbes in my ‘Cup of Tea’. **Journal of The Botanical Society of Bengal**. **73(2):95-102** [ISSN (Print): 0971-2976].
 27. **Roy, S.**, Roy, L. and Das, N. (2019) Peeping into The Kettle: A Review on the Microbiology of ‘Made Tea’. **International Journal of Pharmacy and Biological Sciences (UGC approved; MCI approved)**. **9(1):842-849**. doi: 10.21276/ijpbs.2019.9.1.108 [ISSN (Print): 2321-3272; ISSN (Online): 2230-7605].

28. **Roy, S.,** Roy, L. and Das, N. (2018) Bacteria – the New ‘Magic Bullet’ against Cancer! **Indian Science Cruiser (UGC approved)**. **32(6):**25-31. doi: 10.24906/isc/2018/v32/i6/179815 [Search & Survey Article] [ISSN (Print): 0970-4256].
29. **Roy, S.** and Nag Chaudhuri, A. (2018) Effects of Crude Aqueous Garlic Extract on Multi-Drug Resistant (MDR) *Mycobacterium smegmatis*. **International Journal of Herbal Medicine**. **6(2):**7-12. [ISSN (Print): 2394-0514; ISSN (Online): 2321-2187; Impact Factor = 2.47].
30. Das, N. and **Roy, S.** (2018) Nanobodies: Ushering in of an Era of Novel Therapeutic and Research Prospects. **Aviskaar: A Xaverian Journal of Research**. **10(1):**21-29 [ISSN (Print): 2277-8411; ISSN (Online): 2278-1048].
31. **Roy, S.,** Roy, L. and Guha, A.K. (2017) Microorganisms in Cut Cucumber and their Public Health Significance. **International Journal of Food and Fermentation Technology**. **7(2):**241-246. doi: 10.5958/2321-5771.2017.00033.3 [ISSN (Print): 2249-1570; ISSN (Online): 2277-9396].
32. **Roy, S.** and Nag Chaudhuri, A. (2017) Current Havoc of TB and its Alleviation by Green Pharmacy. **Indian Science Cruiser (UGC approved)**. **31(3):**43-49 [Feature Article] [ISSN (Print): 0970-4256].
33. **Roy, S.** and Nag Chaudhuri, A. (2016) Changes in Signal Cross-talking in *Mycobacterium smegmatis* infected Murine Macrophages in presence of Aqueous Garlic Extract. **International Journal of Applied Research**. **2(5):**810-816. [ISSN (Print): 2394-7500; ISSN (Online): 2394-5869; Impact Factor = 5.2].
34. **Roy, S.** and Nag Chaudhuri, A. (2015) Bactericidal Effect of Garlic Extract on *Mycobacterium smegmatis*. **International Journal of Scientific Research**. **4(3):**1-6. [ISSN: 2277-8179; Impact Factor = 3.2416].

b) Book Chapters:

1. **Roy, S.,** Sarkar, S., and Choudhury, L. (2024) "**Bacteria & Cosmetics – the ‘Industry’ connect!**" Recent Advances in Microbiology. Vijaygarh Jyotish Ray College. (Ed. Saha Kesh Gargi). (*In Press*).
2. **Roy, S.,** Manna, S., Chowdhury, S., and Choudhury, L. (2024) Ways of Improvement: A step ahead towards improved cellulosic ethanol production. *Biofuels: Scientific Explorations and Technologies for a Sustainable Environment*. CRC Press, Taylor & Francis (Ed. Banik Samudra Prosad & Bagchi Debasis). Edn 1. [ISBN 9781003350606, <https://doi.org/10.1201/9781003350606>].
3. **Roy, S.,** Bhowmick, P., Banerjee, S., Choudhury, L. and Mukherjee, A. (2024) Neuropsychiatric applications of psychobiotics. *Developments in Applied Microbiology and Biotechnology, Microbial Essentialism*. Academic Press, Elsevier (Ed. Sarsan Sreedevi) Pages 301-315 [ISBN 9780443139321, <https://doi.org/10.1016/B978-0-443-13932-1.00002-7>].
4. **Roy, S.** and Choudhury, L. (2022) Human Gut Microbiota and Rare Diseases: A Knot Tied? Recent Trends in Microbiology. Vijaygarh Jyotish Ray College and Scholar’s Book Hub, Kolkata (in association with the Microbiologist’s Society of India) (Ed. Debnath Sampa). Volume II. Pp 246-275 [ISBN (Print): 978-81-956878-9-3].
5. **Roy, S.** and Roy, L. (2022) The symbiotic relationship between fungi and plants. *Sustainable Utilization of Fungi in Agriculture and Industry (Series - Mycology: Current and Future Developments)*. Bentham Science Publishers Pte. Ltd. Singapore (Ed.

Shanthipriya Ajmera, B. Bhima, Krishnappa M. and Ramchander Merugu). Volume 4. Pp 52-74(23) [ISSN (Online): 2452-0780; ISSN (Print): 2452-0772; ISBN (Online): 978- 981-5040-34-0; ISBN (Print): 978-981-5040-35-7; ISBN (Paperback): 978-981-5040-36-4] DOI: 10.2174/9789815040340122020009.

c) **Review Paper in Blog:**

Roy, S. and Roy, L. (2018) Oh! The ‘not-so-cool’ cucumbers! *InquiScitive Journal: An e-magazine of recent scientific developments. Vol I [Feature Article]* [https://inquiscitive.files.wordpress.com/2018/07/inquiscitive-journal-an-e-magazine-of-recent-scientific-developments-vol-i-july-20181.pdf]

d) **Oral presentations:**

- On "**Bacteria & Cosmetics – the ‘Industry’ connect!**" at the **International Conference on “Scope of Microbiology beyond Academia: Industry, Entrepreneurship and More”, 2024**, organized by Department of Microbiology, Placement Cell & Microbiology Alumni Association, Vijaygarh Jyotish Ray College, in collaboration with Microbiologists Society of India (MBSI; Reg. No. MAHA/4814/SAT) & E-YUVA Centre, Adamas University (Supported by BIRAC).
- On "Garlic – A Novel Green Pharmacy for TB & MDR-TB" at the **International Seminar on “Microbes and Social Equity (ISMS)”, 2023**, organized by the Department of Microbiology & IQAC, Bankura Sammilani College, Bankura, West Bengal, and sponsored by Microbiologists Society of India (MBSI; Reg. No. MAHA/4814/SAT).
- On "Assessing Public Health and Sanitation Status to promote Preventive Healthcare In India" (**AWARDED WITH THE 1ST PRIZE**) at the **National Conference on “Current Industrial Trends in Life Science Research”, 2023**, organized by ITLS Academy, Lucknow and Microbiologists Society, India (MBSI; Reg. No. MAHA/4814/SAT).
- On “Assessing Public Health And Sanitation Status To Promote Preventive Healthcare In India - How Far We Are?” at the **International Conference on Emerging Perspectives in Commerce, Economics, Environment and Management (ICCEEM), 2022-23**, titled “Building the SDG Economy: Emerging Challenges and Prospects”, jointly organized by The Internal Quality Assurance Cell (IQAC) and Post Graduate and Research Department of Commerce, St. Xavier’s College (Autonomous), Kolkata.
- On “Exploring the Functional Evolution of Intrinsically Disordered Protein Regions in p53” at the **5th Regional Science and Technology Congress (RSTC), 2022-23** (Region-4: Kolkata, Howrah, South 24 Parganas) (Discipline: Medical Science), jointly organized by the Department of Science and Technology and Biotechnology, Government of West Bengal and Maulana Azad College, Kolkata.
- On “A Contaminated Cup of Tea” at the **International Virtual Seminar on “NUTRIGENOMICS” (IVSN-2021)**, sponsored by DBT Star College Scheme and organized by the PG & Research Department of Microbiology and B. Voc., (FSQM), V.H.N. Senthikumara Nadar College (Autonomous), Virudhunagar, Tamil Nadu,

India.

- On "Pre-Treatment With Scopolamine Naturally Suppresses Japanese Encephalitis Viral Load In Embryonated Chick Through Modulation Of TLR & Type-I IFN Signaling Pathways" **[BEST PAPER AWARD (Oral presentation) in RESEARCH]** at Biospectrum 2020, an **International Conference on Biotechnology and Biological Sciences**, organized by the Department of Biotechnology, University of Engineering & Management (UEM), Kolkata in collaboration with SMART Society, USA, Indian Ecological Society and Microbiologists' Society India.
- On 'Garlic – The Future Green Pharmacy For TB' at the **25th West Bengal State Science & Technology Congress (WBSSTC)**, Southern Region, organized by the Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal.
- On 'Green Pharmacy: A possible alleviation of TB' at the **National Symposium** on "Towards Climate Smart Agriculture - A Key to Livelihood Security", organized by the Institute of Agricultural Science, University of Calcutta (in collaboration with Alumni Association, Institute of Agricultural Science, University of Calcutta).

e) **Poster presentations:**

- Presented a Poster titled "Microbial Organic Compounds in Cosmetics & Perfumes: A Comprehensive Peep-through!" at the **International Symposium** on 'Modern Perspectives of Chemistry in Biology', organized by the Department of Chemistry, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled "Examining the Notion of 'Injudicious' Use of Azithral 250 / 500 and Clavam 625 in Post-COVID-19 Era: A Comprehensive Survey-Based Research" at the **International Symposium** on Biotechnology (ISBT)-2023, organized by the Post-Graduate & Research Department of Biotechnology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled "Climate Change and Epigenetic Modifications" at the National Higher Education Mission sponsored **International Conference** on 'Climate Change: Global Cooperation', organized by St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled "Microbes in my 'Cup of Tea'" at the University of Calcutta sponsored **National Seminar** on 'Advancement in Plant Sciences: An Insight' organized by Botanical Society of Bengal, in Collaboration with CAS, Department of Botany, University of Calcutta.
- Presented a Poster titled 'Probiotics and Folate Bio-fortification: A Novel Approach in 'Bio-yoghurt' Production' at the **National Seminar** on 'Modern Trends in Microbiology – Chapter XVI' organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled 'Pathogens in the Tea-pot!' at the **National Seminar** on 'Recent Advances in Chemical & Biological Sciences (RACB 2019)' organized by the Department of Chemistry, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled 'Cut Cumbers and their Bacterial Contamination Profile' at the **National Seminar** on 'Frontiers in Biological Science (FIBS): Chapter III'

organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata, in association with Presidency University, Kolkata & IICB, Kolkata.

- Presented a Poster titled 'Garlic - A Novel Home-Cure for TB & MDR-TB' at the **National Seminar** on 'Sustainable Utilization of Plants and Microbes' (under UGC-SAP-DRS Programme) organized by the Department of Botany, Visva-Bharati, Santiniketan.
- Presented a Poster titled 'Allicin - A natural anti-TB Nutraceutical?' at the **National Seminar** on 'Modern Research Trends in Chemistry (MRTC-2019)' organized by The Department of Chemistry, St. Xavier's College (Autonomous), Kolkata and The Royal Society of Chemistry (Eastern India Section).
- Presented a Poster titled "Garlic – a Potential 'Green Pharmacy' for MDR-TB" at the **3rd Regional Science & Technology Congress (Southern Region)**, organized by Bidhannagar College, Govt. of West Bengal, & Department of Science and Technology and Biotechnology, Govt. of West Bengal.
- Presented a Poster titled 'Do Not Cross-Talk: Use of Quorum Quenchers as Novel Antibacterials' at the **National Seminar** on 'Modern Trends in Microbiology – Chapter XV' sponsored by The Telegraph and co-sponsored by Mercy Hospitals, and organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled 'Microbes – the future weapon of sleuths' at the **National Seminar** on 'Modern Trends in Microbiology – Chapter XV' sponsored by The Telegraph and co-sponsored by Mercy Hospitals, and organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled 'Mushrooms: A Potential Respite for Alcoholics' at the **National Seminar** on 'Modern Trends in Microbiology – Chapter XV' sponsored by The Telegraph and co-sponsored by Mercy Hospitals, and organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled "Garlic – A 'Green' Medicine For MDR-TB" at the **National Seminar** on 'Pharmacy & Healthcare: Traditional Knowledge to Modern Techniques', sponsored by Science and Engineering Research Board (SERB), Department of Science & Technology, Govt. of India, New Delhi, and organized by Advanced Pharmacognosy Research Laboratory, Department of Pharmaceutical Technology, Jadavpur University, Kolkata.
- Presented a Poster (**AWARDED WITH BEST POSTER AWARD**) titled "Green Pharmacy & Garlic – A Potential Cure for MDR-TB" at the **National Symposium** on 'Interface Areas between Chemical and Biological Sciences', organized by Advanced Research Centre, Department of Microbiology, Lady Brabourne College, Kolkata, in prestigious collaboration with Royal Society of Chemistry, Eastern India Section.
- Presented a Poster (**AWARDED WITH THE 1ST PRIZE**) titled 'Packaged Drinking Water and Soft Drinks – A Second Thought!!' at the **International Seminar** on 'Frontiers in Biological Science (FIBS)', sponsored by the Department of Science & Technology, Govt. of West Bengal, and organized by the Department of Microbiology, St. Xavier's College (Autonomous), Kolkata.
- Presented a Poster titled 'ALLICIN – The Wondrous Anti-TB Chemical of Garlic' at the **International Symposium** on 'Facets of Chemistry in Biology (FOCB-II)', organized by the Department of Chemistry, St. Xavier's College (Autonomous), Kolkata.

- Presented a Poster titled ‘Garlic – An Effective Home Remedy for TB’ at the **23rd West Bengal State Science & Technology Congress (WBSSTC)**, organized by Presidency University, Kolkata, Department of Science and Technology, Govt. of West Bengal and West Bengal Council of Science & Technology, Kolkata, Govt. of West Bengal.
- Presented a Poster titled ‘Garlic: A Potential Green Pharmacy for TB’ at the **CSIR-sponsored One-day International Seminar** on ‘Frontiers in Translational & Regenerative Biology’, organized by the Immunology & Regenerative Medicine Research Unit, Department of Zoology, University of Calcutta.
- Presented a Poster titled ‘Mycobactericidal potency of Garlic Extract: with special references to differential expression profiles of NF-κB by SDS-PAGE-Western Blot analysis and corresponding changes in NOS-SOD activities’ at the **UGC-sponsored National Seminar** on ‘Recent Advances in Biotechnology’, organized by CSIR-IICB, Kolkata, in collaboration with The Biotech Research Society, India.
- Presented a Poster titled ‘Characteristic changes in macrophage infection with special references to permeability to fluorescent dyes in nucleus and Micro RNA synthesis’ at the **UGC-sponsored National Level Seminar** on ‘Frontiers of Microbiology: Prospects and Challenges’, organized by the Department of Microbiology, Ramakrishna Mission Vidyamandira, Belur Math, Howrah, in collaboration with CSIR-IICB, Kolkata.
- Presented a Poster titled ‘Inhibition of Mycolic acid and Trehalose biosyntheses in *Corynebacterium* spp. by Garlic Extract’ (under the section ‘Medical Sciences, including Physiology’) at the **100th Indian Science Congress**, Kolkata, organized by The Indian Science Congress Association.
- Presented a Poster titled ‘Use of Waste Fruit Skin as Antioxidant’ at the **International Symposium** at University of Calcutta on ‘Teaching, Research and Exploration in Biochemistry: 50 years of Journey’, organized by the Golden Jubilee Celebration Committee, Department of Biochemistry, University of Calcutta.

f) Campus Publications:

(1) Chiasma - the Annual Journal of the Post-graduate Department of Biotechnology:

- Published a Scientific Review Article “Neuropsychiatry and Psychobiotics: a link lesser known” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 13, 2023.
- Published a Poem “*Mon kharap-er mon*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 12, 2022.
- Published a Poem “*Britterbair - Robikironey*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 11, 2021.
- Published a Scientific Review Article “No Quorum – Infection Adjourned!” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 10, 2019.
- Published a Poem “*Raja-Saja*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume

10, 2019.

- Published a Poem “*Shakkhat*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 9, 2018.
- Published a Poem “*Rang o gandho*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 8, 2017.
- Published a Poem “*Jeebon ek utsab*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 7, 2016.
- Co-authored a review article titled ‘Green Pharmacy: the future treatment of TB’ published in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 6, 2015.
- Co-authored a review article titled ‘Consumption of packaged non-carbonated potable water and water-based carbonated soft-drinks and its associated risks’ published in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 5, 2014.
- Published a Poem “*Dehochhut mon aamar*” in ‘Chiasma’, the Annual Journal of the Post-graduate Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata, Volume 4, 2013.

(2) **Xaverian - the Magazine of St. Xavier’s College (Autonomous), Kolkata:** Published a Poem “Live the death...” in ‘Xaverian 2021’, the Magazine of St. Xavier’s College (Autonomous), Kolkata.

(3) **InquiScitive - an E-Magazine of recent scientific developments - a Blog initiative of the students of St. Xavier’s College (Autonomous), Kolkata, and of various pioneering institutes all over India:** Contributor of Foreword – Volume 1 (2018), Volume 2 (2019), Volume 4 (2021)

REVIEWER-----

- **Reviewer** of The Nucleus, an International Journal of Cytogenetics and Molecular Biology, from Springer [ISSN (Print): 0029-568X; ISSN (Online): 0976-7975].
- **Reviewer** of the Proceedings of the Indian National Science Academy (PINSAs), a peer reviewed Journal from Springer [ISSN: 3700046; Impact Factor = 0.62].

RESOURCE PERSON-----

- **Delivered an Invited Lecture** on the Topic “Assessment of the Potency of Garlic as a Natural, anti-TB Phytomedicine” at the Department of Microbiology, West Bengal State University, Barasat, West Bengal, in 2022.
- **Delivered a Talk** on the Topic “Microbiologically-fermented Food” at the Science Club Program of Rotary Club of Calcutta, Jadavpur [Rotary International District (RID) 3291] in 2022.

- **Judge of the Online Debate Competition** titled “The Stage is Yours”, organized by the InquiScitive Blog in 2021.
- **Delivered a Talk** on the Topic “TB Awareness & Prevention” at Rotary Club of Calcutta, Kasba [Rotary International District (RID) 3291] in 2020.
- **Co-guide of Summer Research Project** of two Post-graduate students of the Department of Microbiology, Lady Brabourne College, Kolkata, on “Effect of aqueous extract of garlic on multi drug resistant (MDR) *Mycobacterium smegmatis*” with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2015.
- **Co-guide of Summer Research Project** of one Post-graduate student of the Department of Microbiology, Lady Brabourne College, Kolkata, on “Effect of Garlic Extract on NOS expression in *Mycobacterium smegmatis* by using Western Blotting” with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2014.
- **Delivered a Talk** on ‘Water Conservation’ and evaluated the ‘Drawing Competition’ held at HSBC Bank, Dalhousie Branch, Kolkata as the Ennovate Expert in the HSBC Monsoon Splash Fortnight, in 2014.
- **Co-guide of Summer Research Project** of one Post-graduate student of the Department of Microbiology, Lady Brabourne College, Kolkata, on “Effect of Garlic Extract on Micro-RNA synthesis by *Mycobacterium smegmatis*” with Prof. (Dr.) Aditi Nag Chaudhuri, Head, Department of Microbiology, Lady Brabourne College, Kolkata, in 2013.
- **Delivered a Talk** on ‘UGC-sponsored 2-day Workshop on the Syllabus of B.Sc. (Microbiology) Course of University of Calcutta (with special emphasis on Practical Syllabus)’ organized by the Department of Microbiology, Scottish Church College, Kolkata, as a Subject Expert in 2007.
- **Delivered a Talk** on the ‘Jagadish Bose National Science Talent Search (JBNSTS) Workshop’ at Sarsuna Girls’ High School (H.S.), as a Resource Person of Biological Sciences in 2006.
- **Paper Setter** of different theoretical and practical examinations of Microbiology (Honours and General) under University of Calcutta; **Paper Setter** of a theoretical examination of Microbiology (M.Sc.) of Vijaygarh Jyotish Ray College (under University of Calcutta); **Paper Setter** of a theoretical examination of Microbiology (Honours) under Kazi Nazrul University, **former Head Examiner** of a theoretical paper of Microbiology (General) under University of Calcutta; **former Head Examiner** of a theoretical paper of Microbiology (General) under West Bengal State University; **Examiner** of different theoretical examinations of Microbiology (Honours and General) and **External Examiner** of practical examinations of Microbiology (Honours and General) under University of Calcutta; **Examiner** of a theoretical examination of Microbiology (M.Sc.) of Vijaygarh Jyotish Ray College (under University of Calcutta).

SESSION CHAIR-----

- Chaired a Scientific Session on the Plenary Lecture titled “Importance of Human Microbiome in the Development of Biotherapeutics for Management and Treatment of Chronic Inflammatory Diseases in Indian Population”, delivered by Dr. Souvik Mukherjee, Assistant Professor, NIBMG, Kalyani, at the **International Symposium on Biotechnology (ISBT)-2023**, organized by the Post-Graduate & Research Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata.
- Chaired a Scientific Session on the Oral Presentations delivered by University Faculties at the **International Symposium on Biotechnology (ISBT)-2023**, organized by the Post-Graduate & Research Department of Biotechnology, St. Xavier’s College (Autonomous), Kolkata.

NATIONAL MEDIA RESOURCE PERSON-----

- Participated in an **Invited Panel Discussion** on ‘Liberalism in Tagore’s Work’, broadcasted on **Akashvani Kolkata B and FM GOLD (Prasar Bharati)** in 2022.
- Presented a **Scientific Talk** on ‘Medicinal Food and National Nutrition Week’, broadcasted on **Akashvani Kolkata B and FM GOLD (Prasar Bharati)** in 2016.
- Delivered **Lectures on different topics in Microbiology** (for the Undergraduate students of different Indian Universities) for the **Educational Multimedia Research Centre (EMMRC), St. Xavier’s College (Autonomous) Kolkata**, which were broadcasted on **National Television** in 2013 and 2014.

MAJOR CONFERENCES, SYMPOSIA, WORKSHOPS, SEMINARS, ETC.
ATTENDED -----

| <u>NAME</u> | <u>SPONSORING AGENCY</u> | <u>PLACE AND DATE</u> |
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| <ul style="list-style-type: none"> • New Horizons in Life Sciences (National Seminar) | Swami Vivekananda Research Centre | Ramakrishna Mission Vidyamandira, Belur Math, Howrah; 12.02.2020. |
| <ul style="list-style-type: none"> • Two-Day Faculty Development Programme on Experimental Physics at Graduate Level: Scope and Challenges (Regional Seminar) | DBT Star College Grant | St. Xavier's College (Autonomous), Kolkata; 10.01.2020-11.01.2020. |
| <ul style="list-style-type: none"> • Recent Advances in Chemical & Biological Sciences (International Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 08.01.2020. |
| <ul style="list-style-type: none"> • International Seminar on 'Women in Science' (International Seminar) | - | Lady Brabourne College, Kolkata; 07.01.2020 |
| <ul style="list-style-type: none"> • International Symposium on | - | St. Xavier's College (Autonomous), Kolkata; 20.12.2019. |

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| <p>Environment and Climate Crises (International Symposium)</p> <ul style="list-style-type: none"> • Applications of Statistics in Natural Sciences (National Seminar) • Advancement in Plant Sciences: An Insight (National Seminar) • Modern Trends in Microbiology – Chapter XVI (National Seminar) • Recent Advances in Chemical & Biological Sciences (RACB 2019) (National Seminar) • Frontiers in Biological Science (FIBS): Chapter III (National Seminar) • Plagiarism and Academic Integrity (National Workshop) • Data Science – The Key To The Future (National Seminar) • Sustainable Utilization of Plants and Microbes (National Seminar) | <p style="text-align: center;">University of Calcutta</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">-</p> <p style="text-align: center;">UGC (under UGC-SAP-DRS Programme)</p> | <p>St. Xavier's College (Autonomous), Kolkata; 16.12.2019-17.12.2019.</p> <p>Department of Botany, University of Calcutta; 30.09.2019.</p> <p>St. Xavier's College (Autonomous), Kolkata; 26.09.2019-27.09.2019.</p> <p>St. Xavier's College (Autonomous), Kolkata; 23.09.2019.</p> <p>St. Xavier's College (Autonomous), Kolkata; 21.09.2019-22.09.2019.</p> <p>St. Xavier's College (Autonomous), Kolkata; 31.08.2019</p> <p>St. Xavier's College (Autonomous), Kolkata; 22.07.2019</p> <p>Department of Botany, Visva-Bharati, Santiniketan; 28.03.2019</p> |
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| <ul style="list-style-type: none"> • Modern Research Trends In Chemistry (MRTC-2019) (National Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 22.02.2019-23.02.2019 |
| <ul style="list-style-type: none"> • Crafting and Conducting Research and How to Publish (State-level Workshop) | - | St. Xavier's College (Autonomous), Kolkata; 09.02.2019 |
| <ul style="list-style-type: none"> • 3rd Regional Science & Technology Congress (Southern Region) | Bidhannagar College, Govt. of West Bengal, & Department of Science and Technology and Biotechnology, Govt. of West Bengal | Bidhannagar College, Govt. of West Bengal; 18.12.2018-19.12.2018 |
| <ul style="list-style-type: none"> • 9th India Probiotic Symposium - "Probiotics through the lifespan" (National Symposium) | Gut Microbiota and Probiotic Science Foundation (India), in collaboration with Indian Council of Medical Research (ICMR), New Delhi, Indian Institute of Liver and Digestive Sciences (IILDS), & Amity University, Kolkata | Amity University, Kolkata; 24.11.2018-25.11.2018 |
| <ul style="list-style-type: none"> • Frontiers in Biotechnology, 2018 (National Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 12.10.2018 |
| <ul style="list-style-type: none"> • Modern Trends In Microbiology-Chapter XV (National Seminar) | The Telegraph; Co-sponsored by Mercy Hospitals | St. Xavier's College (Autonomous), Kolkata; 10.10.2018-11.10.2018 |

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| <ul style="list-style-type: none"> Pharmacy & Healthcare: Traditional Knowledge to Modern Techniques (National Seminar) | Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India, New Delhi | Jadavpur University, Kolkata; 14.09.2018 |
| <ul style="list-style-type: none"> Frontiers in Biological Science (FIBS)- Chapter II (International Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 21.08.2018 |
| <ul style="list-style-type: none"> Interface Areas between Chemical and Biological Sciences (National Symposium) | - | Lady Brabourne College, Kolkata; 31.07.2018 |
| <ul style="list-style-type: none"> Frontiers in Biological Science (FIBS) (International Seminar) | Department of Science & Technology, Govt. of West Bengal | St. Xavier's College (Autonomous), Kolkata; 30.01.2018 |
| <ul style="list-style-type: none"> Towards Climate Smart Agriculture – A Key to Livelihood Security (National Symposium) | - | Institute of Agricultural Science, University of Calcutta; 09.12.2017-11.12.2017 |
| <ul style="list-style-type: none"> Frontiers in Biotechnology, 2017 (National Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 27.10.2017 |
| <ul style="list-style-type: none"> Modern Trends in Environmental Microbiology (National Level) | UGC | Department of Microbiology, Scottish Church College Kolkata (in collaboration with Bose Institute, |

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| Seminar) | | Kolkata); 30.01.2017 – 31.01.2017 |
| <ul style="list-style-type: none"> Recent Trends in Microbiology (International Level Seminar) | RUSA | Department of Microbiology, Ramakrishna Mission Vidyamandira, Belur Math, Howrah; 14.01.2017 |
| <ul style="list-style-type: none"> Facets of Chemistry in Biology (FOCB-II) (International Symposium) | - | St. Xavier's College (Autonomous), Kolkata; 12.01.2017 |
| <ul style="list-style-type: none"> Chemistry in Human Life – Current Aspects (National Seminar) | UGC | Gurudas College, Kolkata (in collaboration with IISER, Kolkata); 09.12.2016 -10.12.2016 |
| <ul style="list-style-type: none"> Frontiers in Biotechnology, 2016 (National Seminar) | - | St. Xavier's College (Autonomous), Kolkata; 04.10.2016 |
| <ul style="list-style-type: none"> Introduction to Complex System (National Workshop) | DBT, Govt. of India (under STAR College Scheme) | St. Xavier's College (Autonomous), Kolkata; 19.09.2016 |
| <ul style="list-style-type: none"> 23rd West Bengal State Science & Technology Congress (WBSSTC) (State Level Seminar) | Presidency University, Kolkata, Department of Science and Technology, Govt. of West Bengal and West Bengal Council of Science & Technology, Kolkata, Govt. of West Bengal | Presidency University, Kolkata; 28.02.2016-29.02.2016 |
| <ul style="list-style-type: none"> Frontiers in Translational & Regenerative Biology (International Seminar) | CSIR | University of Calcutta, Kolkata; 31.01.2016 |
| <ul style="list-style-type: none"> Workshop on Biophysics | DBT, Govt. of India (under STAR College | St. Xavier's College (Autonomous), Kolkata; 19.01.2016 |

| (National Workshop) | Scheme) | |
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| <ul style="list-style-type: none"> Recent Advances in Biotechnology(National Seminar) | UGC | CSIR-IICB, Kolkata; 17.04.2015 |
| <ul style="list-style-type: none"> Frontiers of Microbiology: Prospects and Challenges (National Seminar) | UGC | Department of Microbiology, Ramakrishna Mission Vidyamandira, Belur Math, Howrah; 20.11.2014-21.11.2014 |
| <ul style="list-style-type: none"> 100th Indian Science Congress (National Conference) | The Indian Science Congress Association | University of Calcutta, Kolkata; 03.01.2013-07.01.2013 |
| <ul style="list-style-type: none"> Modern Biology and its Impact on Public Health (National Seminar) | UGC | Dinabandhu Andrews College, Kolkata; 18.01.2012 |
| <ul style="list-style-type: none"> Geographical Appraisal of the City of Joy's Environmental Wellbeing (State Level Seminar) | UGC | Town Hall, Kolkata; 17.01.2012 |
| <ul style="list-style-type: none"> Sustainable Development: An Interdisciplinary Approach (National Seminar) | UGC | Sarsuna College, Kolkata; 23.09.2011-24.09.2011 |
| <ul style="list-style-type: none"> Challenges of Teaching Microbiology in Under Graduate Colleges (Symposium) | Centre for Modern Biology, University of Calcutta | Department of Biochemistry, University of Calcutta, Kolkata; 25.09.2010 |
| <ul style="list-style-type: none"> Niche Skill Creation and the Responsibilities of | Sarsuna College | Sarsuna College, Kolkata; 14.04.2010 |

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| <p>Higher Education (State Level Seminar)</p> <ul style="list-style-type: none"> Syllabus of B.Sc. (Microbiology) Course of University of Calcutta (With Special Emphasis on Practical Syllabus) (Workshop) Environmental and Industrial Aspects of Microbes in the New Millennium (EIAMNM-2006) (State Level Symposium) Jagdish Bose National Science Talent Search (JBNSTS) (Workshop) International Conference on ‘Free Radicals and Antioxidants in Health, Disease and Radiation’, & V Annual Conference of ‘Society for Free Radical Research-India (SFRR-India)’ International Symposium on ‘Teaching, Research & Exploration in Biochemistry: 50 years of Journey’ | <p>UGC</p> <p>UGC</p> <p>Jagdish Bose National Science Talent Search (JBNSTS)</p> <p>Biochemistry Research Wing, Institute of Post Graduate Medical Education & Research, Kolkata</p> <p>Golden Jubilee Celebration Committee, Department of Biochemistry, University of Calcutta</p> | <p>Scottish Church College, Kolkata; 04.04.2007 – 05.04.2007</p> <p>Department of Microbiology, Barrackpore Rastraguru Surendranath College, Kolkata; 24.02.2006-25.02.2006</p> <p>Sarsuna Girls’ High School (H.S.), Kolkata; 30.01.2006</p> <p>Science City, Kolkata; 16.01.2006-18.01.2006</p> <p>Ballygunge Science College Campus, University of Calcutta, Kolkata; 06.01.2006-07.01.2006</p> |
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CO- AND EXTRA-CURRICULAR PROFILE-----

- Participated as an **Organizing Committee Member**, at “Xavotsav 2024”, the Annual Fest of St. Xavier’s College (Autonomous), Kolkata, held on 2nd February, 2024 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2024”, held on 16th January, 2024 at St. Xavier’s College (Autonomous), Kolkata.

- Participated as an **Organizing Committee Member** for “Ronaldinho Visit”, at St. Xavier’s College (Autonomous), Kolkata, held on 17th October, 2023 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Xavotsav 2023”, the Annual Fest of St. Xavier’s College (Autonomous), Kolkata, held on 10th & 11th February, 2023 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, and **Departmental Professor-In-Charge** of the “Annual Sports 2023”, held on 4th February, 2023 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2023”, held on 14th January, 2023 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2022”, held on 19th February, 2022 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2021”, held on 13th March, 2021 at St. Xavier’s College (Autonomous), Kolkata.
- **Panelist** in the promotion of a Bengali Film by Windows Production House (by Shiboprosad Mukhopadhyay and Nandita Roy), Kolkata, arranged by Bengali Literary Society (BLS), St. Xavier’s College (Autonomous), Kolkata on 21st February, 2020 (The International Mother Language Day).
- Participated as an **Organizing Committee Member**, at “The Inter College State Sports Meet”, organized by the Govt. of West Bengal, and hosted by St. Xavier’s College (Autonomous), Kolkata, held in February 2020 at the Sports Authority of India (SAI) Complex, Netaji Subhash Eastern Center, Salt Lake City, Sector III, Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2020”, held on 16th January, 2020 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “West Bengal Youth Parliament Competition 2019”, organized by the Department of Parliamentary Affairs, Govt. of West Bengal, and hosted by St. Xavier’s College (Autonomous), Kolkata, held on 17th September, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member** for Semester 1 (B.Sc. & Integrated M.Sc.) Inauguration of St. Xavier’s College (Autonomous), Kolkata, held in July, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as a **Member**, at “Cinematheque 2019”, the Annual Fest of the Department of Mass Communication and Videography, St. Xavier’s College (Autonomous), Kolkata, held on 28th February, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as a **Judge** of JAM event of “Xavullash 2019”, organized by the Bengali Literary Society, St. Xavier’s College (Autonomous), Kolkata, held on 22nd February, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Xavotsav 2019”, the Annual Fest of St. Xavier’s College (Autonomous), Kolkata, held on 22nd January, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as an **Organizing Committee Member**, at “Convocation 2019”, held on 16th January, 2019 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as a **Member**, at “Cinematheque 2018”, the Annual Fest of the Department of Mass Communication and Videography, St. Xavier’s College (Autonomous), Kolkata, held on 27th February, 2018 at St. Xavier’s College (Autonomous), Kolkata.

- Participated as an **Organizing Committee Member**, at “Xavotsav 2018”, the Annual Fest of St. Xavier’s College (Autonomous), Kolkata, held on 24th January, 2018 at St. Xavier’s College (Autonomous), Kolkata.
- Participated as a **Member**, at “Cinematheque 2017”, the Annual Fest of the Department of Mass Communication and Videography, St. Xavier’s College (Autonomous), Kolkata, held on 24th March, 2017 at St. Xavier’s College (Autonomous), Kolkata.

MEMBERSHIPS

- **Life Member (Life Membership No. MS/LM/663) of Microbiologists Society, India** (MBSI; Reg. No. MAHA/4814/SAT)
 - **Member of The Indian Science Congress Association (ISCA)**
 - **Member of Prof. J.J. Ghosh Foundation**
 - **Member of InquiScitive Journal [2018-till date]:** An e-magazine of recent scientific developments, a blog initiative of the students of St. Xavier’s College (Autonomous), Kolkata, and of various pioneering institutes all over India
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