

CURRICULUM VITAE

Mr. Rupesh Dutta Banik

[M.Sc. PhD (Pursuing)]

Teaching Assistant & Research Scholar
Department of Microbiology,
School of Life Sciences,
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OBJECTIVE

Dedicated educator with over three years of teaching experience and a decent academic background. Currently pursuing PhD in Environmental Microbiology, I strive to inspire students through research-driven teaching. Committed to fostering critical thinking, scientific exploration, and advancing environmental sustainability.

ACADEMIC QUALIFICATIONS

Degree	Major Subject	School/College/Board/University	Passing Year	Percentage
PhD	Microbiology	Swami Vivekananda University	(Pursuing)	
M.Sc.	Microbiology	Swami Vivekananda University	2022	90.2%
B.Sc.	Biosciences (Physiology, Zoology, Botany)	City College, University of Calcutta	2020	75%
12 th	Physics, Chemistry, Mathematics, Biology	Sodepur High School, WBCHSE	2017	65%
10 th	-	Sodepur High School, WBBSE	2015	87%

EXPERIENCES

- Teaching Assistant, Department of Microbiology, School of Life Sciences, Swami Vivekananda University, Barrackpore, India from April. 2023 – till now.
- NPTEL-AICTE Faculty Development Programme funded by the MoE, Govt. Of India, certificate for successfully completing the course Basics of Health Promotion and Education Intervention with 92% score (2% Topper).
- NPTEL-AICTE Faculty Development Programme funded by the MoE, Govt. Of India, certificate for successfully completing the course Food Microbiology for Safe and Sustainable Food Systems with 87% score (1% Topper).
- NPTEL-AICTE Faculty Development Programme funded by the MoE, Govt. Of India, certificate for successfully completing the course Cell Biology: Cellular Organization, Division and Processes with 79% score.
- FDP: “Innovations in Indian Higher Education: Promoting Holistic, Multidisciplinary & Inclusive Teaching-Learning & Governance” organized by School of Life Sciences, Swami Vivekananda University, Barrackpore.
- As a resource person in 6 days Hands-on training & workshop on “Advanced Biological Instruments: Enhancing Research and Practical Skills” organized by Department of Biotechnology & Microbiology, School of Life Sciences, Swami Vivekananda University, Barrackpore.
- Teaching staff, Department of Microbiology, Academic Institution for Education and Research (AIER), Kolkata, INDIA from March, 2022 – March, 2023.
- Product analyst (Intern), Arogyam Medisoft Solution Pvt. Ltd. Kolkata, India, 2023.

- One-day workshop on “Writing Research Grant Proposal” organized by Swami Vivekananda University.
- Hands-on training on Computer Aided Drug Designing, International workshop organized by Prescience Insilico Pvt. Ltd., Bangalore and Swami Vivekananda University.
- Hands-on training on Basic Molecular Biology Techniques organized by Departments of Microbiology and Biotechnology, Swami Vivekananda University in collaboration with Andragogy Life Sciences
- Hands on experience on research training programme, Department of zoology, University of Calcutta, Ballygunge Science College, 2023

AREA OF RESEARCH INTEREST

Environmental Microbiology: Microbial community profiling, Analysis of heavy metals and their concentrations in wastewater, Microbial bioremediation of heavy metals and their mechanisms.

PUBLICATIONS

Journal publications:

- **Banik, R. D.,** & Pal, P. (2026). Seasonal biosorption of lead by indigenous gram-positive cocci isolated from leather industry effluents of South 24 Parganas, West Bengal. 3 Biotech, DOI: 10.1007/s13205-026-05073-7
- Basak, T., **Banik, R. D.,** De, D., Pal, P., & Pal, P. (2026). Tissue-Specific Arsenic Bioaccumulation in *Labeo Rohita* and *Catla Catla* Across Contaminated Districts of West Bengal, India. Bulletin of Environmental Contamination and Toxicology, 116:50, DOI: 10.1007/s00128-026-04210-5
- Chourasia, A., **Banik, R. D.,** & Pal, P. (2025). Lead biosorption from paint industry wastewater in Hooghly. Bioremediation Journal, DOI: 10.1080/10889868.2025.2521390
- Mondal, S., Roy, D., Pal, S., Pal, P., De, D., & **Banik, R. D.,** (2025). Role of artificial intelligence and machine learning in combating MDR. Journal of Research in Allied Life Sciences, 1(2), 09–18. <https://doi.org/10.65525/jrals.v1i2.7>
- Gucchait, A., Sarkar, M., Ghosh, A., Thakur, S., **Banik, R. D.,** Pal, P., De, D., & S., Pal (2025). MicroRNA-Protein Interaction Networks in Down Syndrome-Linked Alzheimer's Pathogenesis: A Compact Review. Journal of Research in Allied Life Sciences, 1(2), 09–18. <https://doi.org/10.65525/jrals.v1i2.6>
- Das, S., & **Banik, R. D.** (2024). Microbial action to remediate petroleum-hydrocarbon contaminated soil. Journal of Advances in Microbiology Research, 5(1): 27-32, DOI: 10.22271/micro.2024.v5.i1a.129
- Bhowmick, T., & **Banik, R. D.** (2024). Influence of alcohol on breast cancer risk. International Journal of Oncology Research, 4(1): 09-12, DOI: 10.33545/2664665X.2024.v4.i1a.12
- **Banik, R. D.,** Pal, P., & Baksi, S. (2023). GREEN STRATEGY FOR RECLAIMING ECOSYSTEM: MICROBIAL REMEDIATION OF LEATHER INDUSTRY WASTES. Journal of survey in fisheries sciences, 10(IS) 6432-6441, DOI: 10.53555/sfs.v10i1S.2161
- **Banik, R. D.,** Mandal, R. K., Pal, P., Das, B., Baksi, S., & Ghosh, S. (2023). Phytotoxicity Study of Biogenic Mono-metallic and Bimetallic (Au-Ag) Alloy NPs. Journal of Mines, Metals and Fuels, 71(11): 0-0; 2023, DOI: 10.18311/jmmf/2023/36098
- Nandi, P., & **Banik, R. D.** (2023). TOXIC COMPONENTS OF PLASTIC POSE CARCINOGENIC THREAT TO PUBLIC HEALTH. Journal of Advanced Zoology, ISSN: 0253-7214, DOI: 10.17762/jaz.v44is6.2582
- **Banik, R. D.,** & Pal, P. (2023). Study Of Microbial Impact On Lead Remediation In Industrial Wastewater. Journal Of Advanced Zoology, 44(S5), DOI: 10.53555/jaz.v44iS5.3209
- Saha, T., & **Banik, R. D.** (2023). INFLUENCE OF A POOR LIFESTYLE ON THE DEVELOPMENT OF CYSTS IN WOMEN. Journal of Advanced Zoology, ISSN: 0253-7214, DOI: 10.17762/jaz.v44iS6.2697

- **Banik, R. D., & Pal, P. (2023).** MICROBIAL REMEDIATION AS AN EMERGING INDUSTRIAL WASTEWATER TREATMENT PROCESS FOR ARSENIC EXTENUATION. *Journal of Advanced Zoology*, 44(S6), 1621–1628, DOI: 10.53555/jaz.v44iS6.2581
- **Banik, R. D., Dutta, U., Sahani, S., Saha, S., Paul, S., Baksi, S., & Pal, P. (2023).** Impact Of Chronic Arsenic Toxicity on Human Health-A Review. *Journal of Survey in Fisheries Sciences*, 10(IS) 6408-6413.

Book chapter:

- **Banik, R. D., De, D., & Pal, P. (2026).** Transforming Cancer Detection: The Impact of Deep Learning on Biomedical Imaging. Taylor & Francis (Accepted)
- Banerjee, S., Bhowmik, S., & **Banik, R. D. (2026).** COX-2 inhibitors vs traditional NSAIDs: A comprehensive review. *Essentials of Microbiology: Unearthing the Unseen*, ISBN: 978-93-5635-848-5
- Patra, P., & **Banik, R. D. (2026).** Biotechnological Innovations In Cosmetic Microbial Safety: Molecular Diagnostics, Biopreservation, And Antimicrobial Strategies. *Biotech Horizons: Translational Research in Human Health* ISBN Number: 978-93-5655-163-3
- Pal, P., De, D., **Banik, R. D.**, Pal, P. K., Koner, D., & Pal, S. (2026). Development of plant-based bioreactors for recombinant enzyme production. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 120–142)
- Pal, P., **Banik, R. D.**, Pal, S., & De, D. (2026). Telomere biology and aging: A comprehensive review. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 57–87)
- Paria, D., Roy, S., **Banik, R. D.**, T., Pal, P. K., De, D., Pal, P., Koner, D., & Pal, S. (2026). Targeting the purinome: An integrated in-silico and in vitro strategy for discovering novel adenosine deaminase inhibitors from marine-derived fungi. In D. Koner (Ed.), *The macroworld of the microbes* (pp. 170–184)
- Ghosh, A., Guchhait, A., Sarkar, M., Paria, D., Roy, S., **Banik, R. D.**, T., De, D., Pal, P., Dutta Banik, R., Pal, P. K., Koner, D., & Pal, S. (2026). From genotype to metabolic phenotype: A multi-omics protocol for systems-level analysis of Down syndrome. In S. Pal (Ed.), *The biotechnological palimpsest: From evolutionary scratches to the synthetic future* (pp. 252–292)
- Pal, P., **Banik, R. D.**, Pal, S., & De, D. (2026). The gut microbiome-immune system-brain axis: Implications for neurological disorders. In D. De (Ed.), *Biotechnology: Future of synthetic biology* (pp. 53–70)
- Paria, D., Roy, S., **Banik, R. D.**, Pal, P. K., De, D., Pal, P., Koner, D., Dutta Banik, R., & Pal, S. (2026). Designing an integrated multi-omics bioinformatics pipeline to identify biomarkers of brain insulin resistance in down syndrome mouse models. In P. K. Pal (Ed.), *Biotechnology: Bridging fundamental science and applied innovation* (pp. 22–42)
- Sengupta, T., Ghosh, A., De, D., Pal, S., **Banik, R. D.**, & Pal, P. (2026). Mercury-induced neurotoxicity: Mechanisms, clinical manifestations and therapeutic considerations. In A. Guha (Ed.), *The microbial nexus: Intersections in modern science* (pp. 72–78)
- Sengupta, T., Ghosh, A., De, D., Pal, S., **Banik, R. D.**, & Pal, P. (2026). Epigenetic reprogramming by cadmium: DNA methylation, histone modification, and miRNA dysregulation as drivers of neurotoxicity and neurodegenerative disease. In S. Pal (Ed.), *The biotechnological palimpsest: From evolutionary scratches to the synthetic future* (pp. 128–143).
- **Banik, R. D.**, Baksi, S., & Pal, P. (2025). Advanced strategies in microbial bioremediation of dyes from industrial wastewater. *Springer nature*, ISBN: 978-981-97-9921-3, DOI: 10.1007/978-981-97-9922-0
- **Banik, R. D.**, Pal, P., De, D., & Pal, S. (2025). Biodegradation of Pharmaceutical Pollutants Using Immobilized Microbial Consortia: A Comprehensive Review. *Biotechnology: Future of Synthetic Biology*, ISBN: 978-93-341-7833-3

- Pal, P., **Banik, R. D.**, Pal, S. & De, D. (2025). The Gut Microbiome-Immune System-Brain Axis: Implications for Neurological Disorders. *Biotechnology: Future of Synthetic Biology*, ISBN: 978-93-341-7833-3
- Pal, P., **Banik, R. D.**, Pal, S. & De, D. (2025). Telomere Biology and Aging: A Comprehensive Review. *Microbial Cosmos: The Architects of Life*. ISBN: 978-93-341-7834-0
- **Banik, R. D.**, Pal, P., De, D., & Pal, S. (2025). Biodegradation of Municipal Wastes Using Bacterial Strains: A Comprehensive Review. *Microbial Cosmos: The Architects of Life*. ISBN: 978-93-341-7834-0
- Pal, P., De, D., **Banik, R. D.**, Pal, P. K., Konar, D. & Pal, S. (2025). Development of Plant-Based Bioreactors for Recombinant Enzyme Production. *Microbial Cosmos: The Architects of Life*. ISBN: 978-93-341-7834-0
- Saha, T., Bhowmick, T., Das, D., & **Banik, R. D.** (2025). Nanorobots: An Innovative Aspect of Future Cancer Treatments. *Code of Life the Biotech Blueprint for a Better Future*, ISBN: 978-93-5834-153-9, DOI: <https://doi.org/10.62778/int.book.582>
- Dey, D., Sengupta, R., **Banik, R. D.** (2025). Impact of Marine Contamination on Human Health. *Bio-Architects, Designing with Nature's Smallest Tools*, ISBN: 978-93-6233-486-2, DOI: <https://doi.org/10.62906/int.book.403>
- Dhara, A., Das, A., & **Banik, R. D.** (2025). Is organic food the answer? Examining the benefits and pitfalls for modern living. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Banerjee, A., Shaoo, K., Begam, K. M., Singh, K., Maswood, A., Josh, A., & **Banik, R. D.** (2025). Microbial Fuel Cells: A Sustainable Solution for Wastewater Treatment and Energy Generation. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Das, D., Bhowmick, T., Saha, T., & **Banik, R. D.** (2025). Engineering heart health: Biotechnology's innovation in cardiovascular disease management. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Mushkan, Chakraborty, S., & **Banik, R. D.** (2025). Significance of gut microbiota in human health and illness. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Patra, P., & **Banik, R. D.** (2025). Role of Staphylococcus aureus in skin and soft tissue infection. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Bhowmick, T., Das, D., Saha, T., & **Banik, R. D.** (2025). Nano-enabled theranostics for brain infections: Exploring the potential of nanoparticles and graphene. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Saha, T., Das, A., Bhowmick, T., Das, D., & **Banik, R. D.** (2025). Advancements in modern biotechnological approaches for combating HIV infection. *Microbial Menace and Miracle: The Double-Edged Sword of Infection and Immunity Awareness*, ISBN: 978-81-984719-5-6
- Dey, D., Dutta, S., & **Banik, R. D.** (2025). Microbial Contamination of Dairy Products. *The Living World: Fundamentals of Life Sciences*, ISBN: 978-93-6135-276-8, DOI: 10.22271/ed.book.3190
- Dey, D., Gazi, A., & **Banik, R. D.** (2025). Uses of Honey as a Supplemental Treatment. *The Living World: Fundamentals of Life Sciences*, ISBN: 978-93-6135-276-8, DOI: 10.22271/ed.book.3190
- Sardar, S., Banerjee, S., & **Banik, R. D.** (2025). Comprehensive Review of the Mechanism of Action, Side Effects and Emerging Alternatives to NSAIDs. *Biobridges: Connecting Technology with the future of Life*, ISBN: 978-93-5834-976-4, DOI: 10.62778/int.book.535
- Nandi, P., & **Banik, R. D.** (2024). Detrimental Effect of Maternal Smoking during Gestation on Offspring. *Microbes and Biotechnology: Real-World Applications*, ISBN: 978-93-5834-281-9, DOI: 10.62778/int.book.451

- Saha, A., Sardar, S., Sinha, A., & **Banik, R. D.** (2024). Microbiome Based Biodiesel Production using Genetic Engineering. *Microbial Biotechnology in Industry and Medicine*, ISBN: 978-93-6233-478-7, DOI: 10.62906/bs.book.213
- Dey, D., & **Banik, R. D.** (2024). Relationship between Gut Microbial Incidence and Metabolic Disorders in Human. *Interdisciplinary Review Articles*, ISBN: 978-93-6135-236-2, DOI: 10.22271/ed.book.2879
- **Banik, R. D.**, Saha, A., Sinha, A., & Pal, P. (2024). Chromium Remediation from Leather Industry Wastewater: The Microbial Approach. *Microbes and Biotechnology: Real-World Applications*, ISBN: 978-93-5834-281-9, DOI: 10.62778/int.book.451
- **Banik, R. D.**, De, D., & Pal, P. (2023). Horizontal Gene Transfer in the Evolution of Microbial Genomes. *MICROBIOME: PRINCIPLES AND EXPLORATIONS*, ISBN: 978-93-5980-246-6
- Pal, P., De D, **Banik, R. D.**, & Paul, S. (2023). An overview of the mechanistic approach to RNA interference. *FRONTIERS IN BIOTECHNOLOGY: EMERGING APPROACHES AND STRATEGIES*, ISBN: 978-93-5980-245-9
- De, D., Pal, P., **Banik, R. D.**, Paul, S. (2023). UNRAVELING THE WONDERS OF GENOME SEQUENCING AND IT'S ADVANCE METHOD NEXT GENERATION SEQUENCING. *FRONTIERS IN BIOTECHNOLOGY: EMERGING APPROACHES AND STRATEGIES*, ISBN: 978-93-5980-245-9

CONFERENCES ATTENDED AND PRESENTATIONS

- **Greenshift 2026: National Conference on Innovative Design for Sustainability and Microplastic Mitigation** organized by Design Innovation Center, Indian Institute of Technology (IIT) Kharagpur, India and Ministry of Education, India (Poster presentation)
- **1st Symposium on Emerging Frontiers of Biotechnology 2025** organized by Department of Life Science and Biotechnology, Jadavpur University (Poster presentation)
- **10th International Conference on Environment and Ecology (ICEE 2024)** organized by Guru Ghasidas Vishwavidyalaya, Bilaspur (Oral presentation)
- **DST-SERB Sponsored National Conference on Zoology for Ecosystem and Human Health, 2024** organized by Department of Zoology, University of Kalyani (poster presentation)
- **International Conference on Technological Interventions in Agriculture, Life Sciences and Food & Nutrition-ICALF 2024** organized by Swami Vivekananda University, Barrackpore (oral presentation)
- **6th Regional Science and Technology Congress, 2023-24** jointly organized by University of Kalyani, Nadia and Department of Science and Technology and Biotechnology, Government of West Bengal (oral presentation)
- **International Conference on Scientific Advances in Life sciences, Agriculture and Food & Nutrition, 2023** organized by Swami Vivekananda University, Barrackpore (oral presentation)
- **International Conference on Technological Interventions in Agriculture, Life Sciences and Food & Nutrition-ICALF 2023** organized by Swami Vivekananda University, Barrackpore (oral presentation)
- **National Conference on Technological Interventions in Life sciences** organized by Swami Vivekananda University, Barrackpore (oral presentation)
- **International Conference on Engineering Design and Computing** organized by Swami Vivekananda University, Barrackpore (oral presentation)
- Poster presentation on Metastasis: a staircase to severity organized by Swami Vivekananda University, Barrackpore
- **2nd Annual Conference on Biological Sciences in the modern era: current trends and future challenges** organized by AIER (oral presentation)

MEMBERSHIP

Global Outreach – Contributing Member of the **American Society for Microbiology (ASM)**

TECHNICAL KNOWLEDGE

Microsoft office (Word, PowerPoint, Outlook & Excel), Google

PERSONAL INFORMATION

- Name : Mr. Rupesh Dutta Banik
- Father's Name : Mr. Himangshu Dutta Banik
- Mother's Name : Mrs. Rinku Dutta Banik
- Brother's / Sister's Name : Mr. Himesh Dutta Banik (elder brother)
- Date of Birth : 13th July, 1999
- Gender : Male
- Marital Status : Unmarried
- Nationality : Indian
- Category : General
- Language Known : Bengali, English, Hindi
- Permanent Address : C/197, Tirtha Bharati, Sodepur, North 24 Parganas,
West Bengal, Kolkata-700110, India.

HOBBIES

Reading books, painting, hand crafting, singing, travelling

DECLARATION

I hereby declare that all statements and information provided in this Curriculum Vitae are true, complete and correct to the best of my knowledge and belief.

Date: 15.09.2026

Rupesh Dutta Banik
[Mr. Rupesh Dutta Banik]