


CONTACT ME



BRT profile

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 +420-771-196-116

 [LinkedIn](#)



HIGHLIGHTS

Researcher with 15 years of hands-on experience in Sustainable Environmental Microbiology and Agricultural Biotechnology. Strong experience in enzyme producing rhizospheric and gut microbial biochemistry for the possible answers towards Renewable Energy Production, Bioremediation, and Plant Growth Promotion. In addition to these, in silico protein characterization and microbial omic data analysis also assist to complete the circle of my research potentialities.

Sandipan Banerjee

Postdoctoral Researcher



WORK EXPERIENCE

Post Doctoral Researcher

BioResources & Technology Division (BRT) at FTZ/CZU

September 2025 - Ongoing

Exploration of unexplored gut system for possible application in biogas production, bioremediation and sustainable agriculture

Post Doctoral Researcher

Department of Forest Genetics and Physiology at FLD/CZU

June 2024 - August 2025

Symbiotic interaction between Gut microbes of bark beetles and entomopathogenic fungi- non-entomopathogenic fungi

Industrial Microbiologist, Research & Development

SAI Crop Science Pvt. Ltd. India

August 2022 - May 2024

Formulation of Biocontrolling and Plant Growth Promoting bacteria as organic fertilizer

Senior Research Fellow

Department of Botany, Visva-Bharati, India

Department of Biotechnology

March 2019 - December 2021

Carcinogenic Polycyclic Aromatic Hydrocarbon degradation through Earthworm gut bacteria

Project Scientist

Department of Botany, Visva-Bharati, India

Tea Board of India

September 2017- February 2019

Biocontrol of plant pathogenic fungi through plant growth promoting rhizospheric bacteria

Project Fellow

The University of Burdwan, India

University Grants Commission

February 2011 2017- August 2015

Biocontrol of plant pathogenic fungi through plant growth promoting rhizospheric bacteria



LIST OF SCIENTIFIC PUBLICATIONS

ARTICLES

Banerjee S, Saha KK, Pramanik K, Biswas R, Balachandran S, Roubik H, Mandal NC (2025). Biocontrol, plant growth-promoting, and bioremediation potential of *Aeromonas veronii* CMF from the gut of *Chrysomya megacephala*. **Microbiology Spectrum**.

Dey N, **Banerjee S**, Pramanik K (2025). Arsenic-resistant endophytic bacteria: in-house plant-probiotics. **Journal Soil Science and Plant Nutrition**.

Koley A, **Banerjee S**, Gupta N, Balachandran S (2025). Sustainable biovalorisation of water hyacinth for enhancing rural livelihood and achieving sustainable development goals. **Bioresource Technology Reports**.

Gupta N, **Banerjee S**, Koley A, Hoque RR, Balachandran S (2024). Strategies for Remediation of Polycyclic Aromatic Hydrocarbons in Contaminated Soil: A systematic review and bibliometric analysis. **Applied Soil Ecology**.

Gupta N, Koley A, **Banerjee S**, Hoque RR, Balachandran S (2024). Nanomaterial-mediated strategies for enhancing bioremediation of Polycyclic Aromatic Hydrocarbons: A Systematic Review. **Hybrid Advances**.

Banerjee S, Gupta N, Pramanik K, Gope M, GhoshThakur R, Karmakar A, Gogoi N, Hoque RR, Mandal NC, Balachandran S (2023). Microbes and Microbial Strategies in Carcinogenic Polycyclic Aromatic Hydrocarbons Remediation: A Systematic Review. **Environmental Science and Pollution Research**.

Show BK*, **Banerjee S***, Banerjee A et al. (2022) Insect Gut Bacteria: A Promising Tool for Enhanced Biogas Production. **Reviews in Environmental Science and Bio/Technology**. 21:1-25.

Banerjee S, Maiti TK and Roy RN (2022) Enzyme Producing Insect Gut Microbes: An Unexplored Biotechnological Aspect. **Critical Reviews in Biotechnology**.

Sinha D, **Banerjee S**, Mandal S et al. (2021) Enhanced Biogas Production from *Lantana camara* via Bioaugmentation of Cellulolytic Bacteria. **Bioresource Technology**.

Bhattacharjee R*, Mandal S*, **Banerjee S*** et al. (2021) Structural-genetic Insight and Optimization of Protease Production from a Novel Strain of *Aeromonas veronii* CMF, a Gut Isolate of *Chrysomya megacephala*. **Archives of Microbiology**.

Pramanik K, Mandal S**, **Banerjee S**** et al. (2021). Unraveling the heavy metal resistance and biocontrol potential of *Pseudomonas* sp. K32 strain facilitating rice seedling growth under Cd stress. **Chemosphere**.

Banerjee S, Maiti TK and Roy RN (2020). Production, Purification and Characterization of Cellulase from *Acinetobacter junii* GAC 16.2, a Novel Cellulolytic Gut Isolate of *Gryllotalpa africana* and its Effect on Cotton Fiber and Saw Dust. **Annals of Microbiology**

Karmakar A, Bandyopadhyay P, **Banerjee S** et al. (2020). Synthesis, Spectroscopic, Theoretical and Antimicrobial Studies on Molecular Charge-transfer Complex of 4-(2-thiazolylazo) Resorcinol (TAR) With 3, 5-dinitrosalicylic Acid, Picric acid and Chloranilic Acid. **Journal of Molecular Liquids**.

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Karmakar A, **Banerjee S**, Mandal NC et al. (2019). Study of Hydrogen Bonding Interaction of Acridine Orange With Different Acceptor Molecules By Spectroscopic, Theoretical, and Antimicrobial Studies. **Journal Molecular Structure**.

Pramanik K, Kundu S, **Banerjee S** et al. (2018). Computational-based Structural, Functional and Phylogenetic Analysis of Enterobacter phytases. **3 Biotech**.

Banerjee S, TK Maiti and RN Roy (2017). Protease Production by Thermo-alkaliphilic Novel Gut Isolate *Kitasatospora cheerisanensis* GAP 12.4 from *Gryllotalpa africana*. **Biocatalysis and Biotransformation**.

Banerjee S, Maiti TK and Roy RN (2016). Identification and Product Optimization of Amylolytic *Rhodococcus opacus* GAA 31.1 Isolated from Gut of *Gryllotalpa africana*. **Journal of Genetic Engineering and Biotechnology**.

BOOK CHAPTERS

Gupta N, Koley A, **Banerjee S**, Show BK, Ghosh A, Banerjee S, Hoque RR and Balachandran S (2024). Microbial Strategies of Chrysene Remediation. In: *Challenges and Sustainable Solutions in Bioremediation*. **CRC Press**.

Gupta N, **Banerjee S**, Koley A, Basu A, Gogoi N, Hoque RR, Mandal NC and Balachandran S (2023). Fungal Strategies for the Remediation of Polycyclic Aromatic Hydrocarbons. In: *Bioremediation of Toxic Metal(loid)s*. **CRC Press**.

Koley A, Ghosh A, **Banerjee S**, Gupta N, Thahir RG, Show BK, Chaudhury S, Hazra AK, Ross AB, Gaurav N, and Balachandran S (2023). Phytoremediation of Wastewater Discharged from Paper and Pulp, Textile and Dairy Industries using Water Hyacinth (*Eichhornia crassipes*) A Sustainable Approach. In: *Bioremediation for Sustainable Environmental Cleanup*. **CRC Press**.

Koley A, Bray D, **Banerjee S**, Sarkar S, Thahir RG, Hazra AK, Mandal NC, Chaudhury S, Ross AB, Camargo-Valergo MA, and Balachandran S (2023). Water Hyacinth (*Eichhornia crassipes*) A Sustainable Strategy for Heavy Metals Removal from Contaminated Waterbodies. In *Bioremediation of Toxic Metal (loid)s*. **CRC Press**

Pramanik K, **Banerjee S**, Mukherjee D, Saha KK, Maiti TK, Mandal NC (2021). Beneficial Role of Plant Growth-Promoting Rhizobacteria in Bioremediation of Heavy Metal (loid)-Contaminated Agricultural Fields. In: *Microbes: The Foundation Stone of the Biosphere*. **Springer**,

Banerjee S and Mandal NC (2020): Fungal Bioagents in the Remediation of Degraded Soils. In: *Microbial Services in Restoration Ecology*. **Elsevier**.

Banerjee S, Mandal NC (2019). Diversity of chitinase-producing bacteria and their possible role in plant pest control. In: *Microbial Diversity in Ecosystem Sustainability and Biotechnological Applications*. **Springer**.



LIST OF PROJECTS

- **DBT India:** Earthworm Gut Microbes Mediated carcinogenic polycyclic Aromatic Hydrocarbon Degradation
- **Tea Board of India:** Development of Bio-pesticide against Fungal Disease of Tea using Phosphate Solubilizing Rhizospheric Bacteria
- **UGC, India:** study of Extra-Cellular Enzyme Producing Gut Bacteria of *Gryllotalpa africana* P.de Beau



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EDUCATION HISTORY

Ph.D. in Science

Visva-Bharati, India

Year of Graduation: 31st December 2022

- Santiniketan, India
- Dissertation research on "Production Optimization and Characterization of Antifungal Enzymes from Gut Bacterial Isolates of *Hemidactylus flaviviridis* and *Chrysomya megacephala*

Masters in Plant Science

Visva-Bharati, India

Year of degree: 2009

- Santiniketan, India
- Specialization in Microbiology

Bachelors in Life Science

Visva-Bharati, India

Year of degree: 2007

- Santiniketan, India

TEACHING EXPERIENCE

Guest Lecturer

- Dr. Bhupendranath Dutta Smriti Mahavidyalaya, The University of Burdwan, India. August 2014- September 2016

Part-time Lecturer

- Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague. November 2025- continuing

MENTORSHIP


- M.Sc. dissertation project, Department of Botany, Visva-Bharati : **05 Fellows**
- B.Sc. dissertation project, Department of Botany, Visva-Bharati **25 Fellows**




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MEMBERSHIP

- Lifetime Membership at **Association of Microbiologists of India**
- Membership at **American Society for Microbiology**

PATENT

- **Status:** Applied. Govt. of India

GUEST EDITOR

MDPI Journals

- [International Journal of Molecular Sciences](#)
- [Agronomy](#)
- [Microorganisms](#)
- [Molecules](#)
- [International Journal of Molecular Sciences](#)
- [Plants](#)

REVIEWER

- [Ecotoxicology and Environmental Safety](#)
- [Applied Soil Ecology](#)
- [Bioresource Technology](#)
- [BMC Microbiology](#)
- [Bioresource Technology Reports](#)
- [Environmental International](#)
- [Biotechnology Letters](#)
- [BMC Biotechnology](#)
- [World Journal of Microbiology and Biotechnology](#)
- [International Microbiology](#)
- [International Biodeterioration and Biodegradation](#)
- [Scientia Agriculturae Bohemica](#)

SECTION EDITOR

- [Plant Science Today](#)