

# DR. PRITAM CHATTOPADHYAY

Assistant Professor of Botany | Researcher | Educator

Bioinformatics & Microbial Biotechnology Specialist

M.U.C. Women's College, University of Burdwan, Bardhaman, West Bengal, India

Email: [pritam.biotechnol@gmail.com](mailto:pritam.biotechnol@gmail.com); [pritamchattopadhyay@mucwcburdwan.org](mailto:pritamchattopadhyay@mucwcburdwan.org)

Phone: +91 7001009127

Website: <https://www.drpritam.co.in/>



38

Academic Papers

17

H-index

22

i10-index

6

Book Chapters

5

Books

1728

Total Citations

## PROFESSIONAL PROFILE

Interdisciplinary academic and researcher with more than six years of teaching experience, approximately four years of postdoctoral research experience, and demonstrated expertise in botany, microbiology, bioinformatics, genomics, host-microbe interactions, bioprocess engineering and innovation-driven biotechnology. Recognised for integrating biological experimentation with computational analysis, research mentoring, academic leadership, and translational innovation, including a BIRAC-supported startup-linked project on nature-identical vanillin and natural ferulic acid production.

## CORE EXPERTISE

### Host-Microbe Interactions

Virulence, secretion systems, immune responses, symbiosis-pathogenesis continuum

### Bioinformatics & Genomics

Comparative genomics, NGS, annotation, phylogenomics, sequence analysis

### Bioprocess Engineering

Microbial biotransformation, vanillin/ferulic acid production, process development

### Structural & Molecular Biology

Protein modelling, interaction analysis, molecular mechanisms

### Microbial Biotechnology

Biocontrol, biofertilizers, pathogenicity, industrial/environmental microbiology

### Plant Diversity & Markers

DNA barcoding, molecular markers, orchid diversity and systematics

## ACADEMIC IDENTITY & PROFILES

ORCID: 0000-0003-0238-5680

Scopus Author ID: 24823937000

Web of Science Researcher ID: F-6196-2013

Google Scholar: QbfffDwAAAAJ

Vidwan: 196600

GitHub: PritamY2K

## PROFESSIONAL EXPERIENCE

### Assistant Professor of Botany

M.U.C. Women's College, University of Burdwan | 2019 – Present

Teaching undergraduate botany and related life-science courses; research mentorship; curriculum, ICT and academic administration.

### Guest Teacher, Bioinformatics (M.Sc. Botany)

Hooghly Mohsin College | 2022 – 2024

Taught postgraduate bioinformatics and related computational biology concepts.

### Faculty Exchange Programme

Bejoy Narayan Mahavidyalaya | 2021

Delivered bioinformatics teaching under faculty exchange programme.

### Dr. D.S. Kothari Postdoctoral Fellow

Department of Biotechnology, Gauhati University | 2015 – 2018

Worked on type III secretion systems and virulence determinants of symbiotic and pathogenic bacteria.

## CSIR Research Associate

Department of Zoology, University of Delhi | 2014 – 2015

Studied regulation of heat shock proteins in *Drosophila melanogaster* populations under selection.

## INDUSTRIAL EXPERIENCE & ENTREPRENEURSHIP

- **Founder & Chief Consultant, PritMit Biotech Private Limited**, Santiniketan, WB, India (Start-up India Certificate No. DIPP135803) 2022 – Present.
- **Consultancy** engagements include **Green Biotech Eco Solutions, Imphal**, Manipur, 2020-2022.
- **Co-founder, Souhardyo Publication (সৌহার্দ্য প্রকাশন)**, Santiniketan, West Bengal (2012–2013); contributed to the publication of two issues of *Quittim (কুটিম)*, an academic journal in Bengali.
- **Industrial Training at Ajay Biotech (India) Ltd., Pune**, as **BITP Fellow** sponsored by: **DBT**, Government of India, organized by: Biotech Consortium India Limited (**BCIL**), 2006-2007.

## ADMINISTRATIVE LEADERSHIP

- **Head**, Department of Botany, M.U.C. Women's College (2026 – Present).
- **Convenor** of M.U.C.W.C. Data Committee (2023-2024); M.U.C.W.C. Website & IT Committee (2021-2022; 2022-2023; 2023-2024); and M.U.C.W.C. NAAC Sub-committee: Criteria 3 (Research & Development) (2022-2023; 2023-2024).
- **RTI Officer**, M.U.C.W.C. (2022–23).
- **Nodal officer** for West Bengal Higher Education Portal (Banglar Uchho-siksha Portal), West Bengal Student's Credit Card (SCC) Portal, and Students Profile Portal (2019 – Present).

## EDUCATION

- **Ph.D. in Botany — Visva-Bharati University | 2013.**  
**CSIR Senior Research Fellowship (SRF)/ Junior Research Fellowship (JRF)**  
Thesis: Assessment of genetic diversity in *Dendrobium* using morphometric, micromorphometric and molecular markers.
- **UGC-CSIR NET — June 2007 (Roll No. 313644) and December 2007 (Roll No. 320339).**  
Qualified national eligibility examinations for research and teaching in Life Science.
- **M.Sc. in Biotechnology, First Class First (72.50%) — Visva-Bharati University | 2006.**  
**1<sup>st</sup> (Topper) in the Merit List (First Class First)** from Visva Bharati, 2006.  
Dissertation: *Aeromonas hydrophila*-induced macrophage apoptosis.
- **B.Sc. Life Science (Hons.) Botany, First Class Third (70.00%) — Visva-Bharati University | 2004.**  
**3<sup>rd</sup> in the Merit List (First Class Third) with Distinctions in Subsidiary Subjects** from Visva Bharati, 2006.  
Project: Microbiological analysis of drinking water sources.

## MAJOR GRANT

- **Biotechnology Ignition Grant (BIG)**, BIRAC (Grant No. BIRAC/KIIT0813/BIG-15/19), incubated at Bio-NEST, NIPER-Guwahati (15 Feb 2021 – 05 Nov 2022), sanctioned **budget: ₹50 lakh**, for scale-up of nature-identical vanillin production from biotransformation of agro-wastes.  
**Key outcomes:** development of two processes — **Nature Identical Vanillin Production** and **Natural Ferulic Acid Production**; associated research outputs and translational innovation pipeline.

## NATIONAL & INTERNATIONAL COLLABORATIONS

### International Research Collaborations

- **Prof. Pratik Banerjee**  
Department of Food Science and Human Nutrition, **University of Illinois** Urbana-Champaign, Urbana, Illinois, USA
- **Prof. Fu-Shi Quan**  
Department of Medical Zoology, **Kyung Hee University** School of Medicine, Seoul, Republic of Korea

### National Research Collaborations

- **Prof. Shibnath Mazumder**  
Department of Zoology, **University of Delhi**, Delhi, India
- **Prof. Pratap Jyoti Handique**  
Department of Biotechnology, Gauhati University, Assam, India
- **Prof. Koushik Ghosh**  
Department of Zoology, The University of Burdwan, West Bengal, India

## Industry & Translational Collaborations

- **PritMit Biotech Private Limited**, West Bengal, India  
Founder-led collaboration for translation of academic research into biotechnology products, process development, herbal formulations, technology scale-up and commercialisation.
- **Green Biotech Eco Solutions**, Manipur, India  
Industry collaboration and scientific consultancy associated with biotechnology research and BIRAC-linked activities.

## TECHNOLOGY, PROCESS & PRODUCT DEVELOPMENT

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- **Nature-Identical Vanillin Production Process**  
Developed a bioprocess for production of nature-identical vanillin through biotransformation of agro-residues/agro-waste-derived substrates. The technology was further developed under the Biotechnology Ignition Grant (BIG), BIRAC, and incubated at Bio-NEST, NIPER-Guwahati.  
**Development stage:** Pilot-scale
- **Natural Ferulic Acid Production Process**  
Developed a process for recovery/production of natural ferulic acid from agro-residue-based raw materials, with potential application in food, flavour, nutraceutical and biotechnology industries.  
**Development stage:** Commercial-stage process
- **Herbal Cold Drinks:** Developed herbal cold-drink formulations based on natural plant-derived ingredients with potential for functional and wellness-oriented beverage applications.  
**Development stage:** Pilot-scale
- **VIBGYOR Tea:** Developed an innovative tea-based product concept integrating natural ingredients and differentiated colour/flavour characteristics for potential functional beverage applications.  
**Development stage:** Pilot-scale  
**Trademark/IPR transfer:** Afepsima™ herbal tea formulations (Trademark No. 5064292) transferred to PritMit Biotech Private Limited.

## TEACHING & ACADEMIC SERVICE

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- More than six years of **undergraduate** teaching in botany and allied life sciences at M.U.C. Women's College; **postgraduate** bioinformatics teaching experience at Hooghly Mohsin College.
- Courses taught include **microbiology**, mycology & phytopathology, molecular biology, plant physiology, **plant metabolism**, genetics & plant breeding, plant biotechnology, industrial microbiology, biomolecules & cell biology, protected agriculture, **bioinformatics**, **genomics and proteomics**.
- Developed and conducted **add-on courses** on Bioinformatics and Industrial & Environmental Microbiology under the University of Burdwan framework.
- Developed online teaching modules and **digital study resources**; maintains academic web resources and recorded student learning materials (<https://www.drpritam.co.in/>).
- **Question setter, invigilator, examiner & head examiner** for undergraduate courses in botany, biochemistry and biotechnology across multiple universities/colleges.

## SELECTED RESEARCH PAPERS

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1. **Chattopadhyay, P.**, Dhanial, N.K., Srivastava, N., Vishvakarma, V.K. & Mazumder S. (2026). Integrative *in Vitro* and *in Silico* Analysis Reveals Cyp-1a–Drp-1 Interaction in *Aeromonas hydrophila* Pathogenesis. ***In Silico Research in Biomedicine***, Accepted on 20<sup>th</sup> Oct., 2026. [Elsevier; **ISSN 3050-7871**]
2. Bhattacharyya, A., Banerjee, G. & **Chattopadhyay, P.\*** (2026). Structural and Functional Characterization of Type IV Pilus-Associated Proteins PilV, Pil94, and Pil96 of *Aeromonas hydrophila*: Potential Role in Human Pathogenesis. ***Current Pharmaceutical Biotechnology***. [Bentham Science; **ISSN 1389-2010; IF 2.9**]  
<https://doi.org/10.2174/0113892010430558251125201911>
3. **Chattopadhyay, P.** & Banerjee, G. (2026). Evolutionary diversification of polyketide synthase (PKS) enzymes in *Monascus purpureus* strains for exploitation as a molecular factory. ***Archives of Microbiology***, 208(8), 421. [Springer Nature; **ISSN 0302-8933; IF 3.4**] <https://doi.org/10.1007/s00203-026-04986-4>
4. **Chattopadhyay, P.** & Banerjee, G. (2025). Diversity and Distribution of Non-Reducing Polyketide Synthases (NR-PKSs) in Ascomycota (Fungi). ***Journal of Fungi***, 11(9), 641. [MDPI AG; **ISSN 2309-608X; IF 4.8**]  
<https://doi.org/10.3390/jof11090641>
5. Bhattacharyya, A., Banerjee, G. & **Chattopadhyay, P.\*** (2025). Investigating the Distribution of Intimin and Invasin in *Aeromonas hydrophila* and Their Role in Host Tissue Attachment. ***Bacteria***, 4(1), 7. [MDPI AG; **ISSN 2674-1334**]  
<https://doi.org/10.3390/bacteria4010007>

6. **Chattopadhyay, P.**, Biswas, I. & Banerjee, G. (2024). Analysing the Metagenomic Dynamics of Soil Microbiota Affected by Tea Pruning and Skiffing Methods in Tea Plantations of Dibrugarh, Assam, India. *Indian Journal of Microbiology*, 65(4), 2015–2020. [Springer Nature; ISSN 0046-8991; IF 2.4] <https://doi.org/10.1007/s12088-024-01382-8>
7. Bhattacharyya, A., Banerjee, G. & **Chattopadhyay, P.\*** (2024). Probable Role of Type IV Pili of *Aeromonas hydrophila* in Human Pathogenicity. *Pathogens*, 13(5), 365. [MDPI AG; ISSN 2076-0817; IF 3.8] <https://doi.org/10.3390/pathogens13050365>
8. **Chattopadhyay, P.**, Banerjee, G. & Handique, P.J. (2022). Use of an abscisic acid-producing *Bradyrhizobium japonicum* isolate as biocontrol agent against bacterial wilt disease caused by *Ralstonia solanacearum*. *Journal of Plant Disease & Protection*, 129, 869–879. [Springer Nature; ISSN 1861-3829; IF 2.8] <https://doi.org/10.1007/s41348-022-00604-9>
9. Banerjee, G., Quan, F.S., Mondal, A.K., Sur, S., Banerjee, P. & **Chattopadhyay, P.\*** (2022). Interrelation between Stress Management and Secretion Systems of *Ralstonia solanacearum*: An In-silico Assessment. *Pathogens*, 11, 730. [MDPI AG; ISSN 2076-0817; IF 3.8] <https://doi.org/10.3390/pathogens11070730>
10. Banerjee, G., Basak, S., Roy, T. & **Chattopadhyay, P.\*** (2019). Intrinsic role of bacterial secretion systems in phylogenetic niche conservation of *Bradyrhizobium*. *FEMS Microbiology Ecology*, 95(1), f12165. [Oxford Academic; ISSN 0168-6496; IF: 4.8] <https://doi.org/10.1093/femsec/f12165>
11. **Chattopadhyay, P.** & Banerjee, G. (2019). Corticosteroid Catabolism by *Klebsiella pneumoniae* as a Possible Mechanism for Increased Pneumonia Risk. *Current Pharmaceutical Biotechnology*, 20:309-316. [Bentham Science; ISSN 1389-2010; IF 2.9] <https://doi.org/10.2174/1389201020666190313153841>
12. **Chattopadhyay, P.**, Banerjee, G. & Sen, S.K. (2018). Cleaner production of vanillin through biotransformation of ferulic acid esters from agroresidue by *Streptomyces sannanensis*. *Journal of Cleaner Production*, 182:272–279. [Elsevier; ISSN 0959-6526; IF 10.7] <https://doi.org/10.1016/j.jclepro.2018.02.043>
13. Banerjee, G., Gorthi, S. & **Chattopadhyay, P.\*** (2018). Beneficial effects of bio-controlling agent *Bacillus cereus* IB311 on the agricultural crop production and its biomass optimization through response surface methodology. *Anais da Academia Brasileira de Ciências*, 90:2149-2159. [The Brazilian Academy of Sciences; ISSN 0001-3765; IF 1.4] <https://doi.org/10.1590/0001-3765201720170362>
14. Saikia, D.J., **Chattopadhyay, P.**, Banerjee, G., Talukdar, B. & Sarma, D. (2018). Identification and Pathogenicity of *Pseudomonas aeruginosa* DJ1990 on Tail and Fin Rot Disease in Spotted Snakehead. *Journal of the World Aquaculture Society*, 49(4):703-714. [Wiley Online Library; ISSN 0893-8849; IF 4.7] <https://doi.org/10.1111/JWAS.12476>
15. **Chattopadhyay, P.**, Banerjee, G. & Banerjee, N. (2017). Distinguishing orchid species by DNA barcoding: increasing the resolution of population studies in plant biology. *OMICS: A Journal of Integrative Biology*, 21(12):711–720. [MaryAnn Liebert; ISSN 1536-2310; IF 2.0] <https://doi.org/10.1089/omi.2017.0131>
16. Kulkarni, M., Gorthi, S., Banerjee, G. & **Chattopadhyay, P.\*** (2017) Production, characterization and optimization of actinomycin D from *Streptomyces hydrogenans* IB310, an antagonistic bacterium against Phytopathogens. *Biocatalysis and Agricultural Biotechnology*, 10:69–74. [Elsevier; ISSN 1878-8181; IF 4.6] <https://doi.org/10.1016/j.bcab.2017.02.009>
17. Saikia, D.J., **Chattopadhyay, P.**, Banerjee, G. & Sarma, D. (2017). Time and dose dependent effect of *Pseudomonas aeruginosa* infection on the scales of *Channa punctata* (Bloch) through light and electron microscopy. *Turkish Journal of Fisheries and Aquatic Sciences*, 17(5):871-876. [Central Fisheries Research Institute of Türkiye; ISSN 1303-2712; IF 1.7] [https://doi.org/10.4194/1303-2712-v17\\_5\\_03](https://doi.org/10.4194/1303-2712-v17_5_03)
18. Majumdar, T., **Chattopadhyay, P.**, Saha, D.R., Sau, S. & Mazumder, S. (2009). Virulence plasmid of *Aeromonas hydrophila* induces macrophage apoptosis and helps in developing systemic infection in mice. *Microbial Pathogenesis*, 46(2):98–107. [Elsevier; ISSN 0882-4010; IF 3.9] <https://doi.org/10.1016/j.micpath.2008.11.002>

## SELECTED REVIEW PAPERS

1. Banerjee, G. & **Chattopadhyay, P.\*** (2019). Vanillin biotechnology: the perspectives and future. *Journal of the Science of Food and Agriculture*, 99(2), 499–506. [Wiley Online Library; ISSN 0022-5142; IF 4.0] <https://doi.org/10.1002/JSSA.9303>
2. **Chattopadhyay, P.** & Banerjee, G. (2018). Recent advancement on chemical arsenal of Bt toxin and its application in pest management system in agricultural field. *3 Biotech*, 8:201. [Springer Nature; ISSN 2190-572X; IF 3.4] <https://doi.org/10.1007/s13205-018-1223-1>
3. **Chattopadhyay, P.**, Banerjee, G. & Mukherjee, S. (2017). Recent trends of modern bacterial insecticides for pest control practice in integrated crop management system. *3 Biotech*, 7:60. [Springer Nature; ISSN 2190-572X; IF 3.4] <https://doi.org/10.1007/s13205-017-0717-6>

- Goswami, R., **Chattopadhyay, P.**, Shome, A., Banerjee, S.N., Chakraborty, A.K., Mathew, A.K. & Chaudhury, S. (2016). An overview of physico-chemical mechanisms of biogas production by microbial communities: a step towards sustainable waste management. **3 Biotech**, 6(1):72. [Springer Nature; ISSN 2190-572X; IF 3.4] <https://doi.org/10.1007/S13205-016-0395-9>

## PUBLISHED BOOK CHAPTERS

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- Bhattacharyya, A., Ghosh, K. & **Chattopadhyay, P.\*** (2025). In-silico Modelling of Interaction Between *Aeromonas hydrophila* Invasin and Human  $\beta$ -Integrins in Bhattacharyya, R. and Pathak, S. (Eds.) “*Current Advancement in Science towards Our Better Future*”, pp. 28–38. Department of Chemistry, **Raja Rammohun Roy Mahavidyalaya & Haldia Government College**, WB, India. ISBN: 978-93-341-7437-3
- Chattopadhyay, P.** & Banerjee, G. (2020). Arms race between insecticide and insecticide resistance and evolution of insect management strategies in Srivastava, PK., Singh, VP., Singh, A., Tripathi, DK., Singh, S., Prasad, SM. and Chauhan D.K. (Eds.) “*Pesticides in Crop Production: Physiological and Biochemical Action*”, pp.109-130. **Wiley**, NJ, United States. ISBN: 978-1119432197
- Chattopadhyay P.** & Banerjee N. (2015). In-silico re-evaluation of DNA sequences for drawing phylogeny of Orchids with special emphasis on *Dendrobium Sw.* in Pullaiah T. (Ed.) “*Biotechnological Approaches for Sustainable Development*”, pp.55-82. **Regency Publication**, New Delhi, India. ISBN: 978-9351302520
- Chattopadhyay, P.**, Chaudhary B. & Banerjee, N. (2015). Morphological and Micromorphological differentiation in *Dendrobium aphyllum* (Roxb.) of Eastern India in Ray, S. and Sen S.K. (Eds.) “*Molecular and biotechnological Approach to Resource Utilization: Microbes to Angiosperms*”. **Levant Books & Visva-Bharati**, WB, India. ISBN: 978-93-84106-04-1
- Banerjee, G. & **Chattopadhyay, P.\*** (2013). Biocompatibility of polymer composites for dental applications in Choudhuri, S. (Ed.) “*Accelerating Science Vol. 3*”, pp.112-150. **Jamuguri H.S. School**, Jamuguri, Assam, India. ISBN: 93-82661-24-7
- Sinha S., **Chattopadhyay P.** & Sen S.K. (2011). Microbial Degradation of Recalcitrant PAHs-Microbial Diversity Involving Remediation Process in Singh S.N. (Eds.) “*Microbial Degradation of Xenobiotics, Environmental Science and Engineering*”, pp 395-410, **Springer**, Berlin, Germany. ISBN: 978-3-642-23788-1

## PUBLISHED BOOKS

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- Chattopadhyay, P.** & Banerjee, N. (2014). *Pollens of Dendrobium: The Story They Tell*. Lambert Academic Publishing, Germany. ISBN: 978-3-659-54217-6
- Chhetri, R. & **Chattopadhyay, P.** (2013). *Creativity and Multiple-Intelligence in Elementary Schools of North Bengal and Sikkim*. Lambert Academic Publishing, Germany. ISBN: 978-3-659-43913
- Chattopadhyay, P.** & Sen, S.K. (2013) *Production of Vanillin from Agro Waste*. Lambert Academic Publishing, Germany. ISBN: 978-3-659-39934-3
- Chattopadhyay, P.** & Sen, S.K. (2012). *Development of Bacterial Biopesticide: Isolation to Product Formulation*. Lambert Academic Publishing, Germany. ISBN: 978-3-8484-1041-5
- Chattopadhyay, P.**, Mazumder, S. & Saha, D.R. (2012). *Unpacking the Virulence Plasmid of Bacteria: Role in Apoptosis and Disease Establishment*. Lambert Academic Publishing, Germany. ISBN: 978-3-8473-4761-3

## INVITED LECTURES

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- Invited lecture on “Metagenomics: A State-of-the-Art Tool for Exploring Microbiome Dynamics for Improving Sustainable Agriculture,” for FDP on Next Generation Sequencing, organized by **Haldia Institute of Technology**, May 2024.
- Invited lecture on “BIG Innovation Grant,” organized by RISE Foundation, **IISER Kolkata**, at Kalyani University, January 2024.
- Invited lecture on “Alternative & Sustainable Use of Mushroom,” workshop jointly organized by **BKCRTC and CIESD, The University of Burdwan**, July 2023.

## EDITORIAL & REVIEWER ROLES

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- Lead Editor, Frontiers in Immunology**, Topic “Microbial Secretion Systems and Host Immune Responses: From Symbiosis to Pathogenesis”
- Reviewer** roles include 3 Biotech (**Springer**), ACS Sustainable Chemistry & Engineering (**ACS**), Archives of Microbiology (Springer), Biomass Conversion and Biorefinery (Springer), BMC Genomics (Springer), Current Microbiology (Springer), European Journal of Plant Pathology (Springer), Frontiers in Microbiology (**Frontiers**), iScience (**Cell Press**), Journal of Plant Biochemistry and Biotechnology (Springer), Journal of Science of Food & Agriculture

## PROFESSIONAL MEMBERSHIPS

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- “Life Membership” of the Association of Microbiologists of India or AMI (ID: **AMI 5/2011**)
- “Quarterly Franklin Membership” from London Journals Press (ID: **KN71202**)

## PROFESSIONAL DEVELOPMENT & SPECIALIZED TRAININGS

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- **Refresher Course** in Earth Systems, Natural Resources, and Sustainable Futures under the UGC Malaviya Mission Teacher Training Programme, University of Burdwan, 1<sup>st</sup> August – 14 August, 2026.
- **NEP 2020 Orientation & Sensitization Programme**, Malaviya Mission Teacher Training Programme (MM-TTP), University Grants Commission; organised by The University of Burdwan, 3–12 June 2024.
- **Refresher Course in Research Methods and Online Pedagogy**, UGC-HRDC, The University of Burdwan, 31 January–13 February 2023.
- **Orientation Programme**, UGC-HRDC, University of Mumbai, 18 January–8 February 2021.
- **Workshop on Medicinal Plants – Biodiversity, Sustainable Utilization and Cultivation**, sponsored by UGC; Department of Botany, Visva-Bharati, Santiniketan, 14–15 January 2012.
- **Workshop on Probing Biology: In-vivo, In-vitro and In-silico**, sponsored by UGC and DBT; jointly organised by the Department of Botany, Visva-Bharati and Department of Biophysics, Molecular Biology and Bioinformatics, University of Calcutta, 3–4 December 2011.
- **Workshop on Plant Genomic DNA**, sponsored by UGC; Scottish Church College in collaboration with Bose Institute, Kolkata, 5–6 May 2009.
- **Workshop on Knowledge Discovery in Life Science – Bioinformatic Approaches**, Indian Institute of Chemical Biology (IICB), sponsored by DBT, 16–18 March 2005.
- **Training on Microscopic Techniques and Applications in Material Science and Biological Sciences**, Department of Instrumentation Science, Jadavpur University, Kolkata, 11 July–19 August 2005.

## AWARDS & RECOGNITION

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- **Rishi Parashar Award, 2026** from Minister of State, Industry, Science & Technology, West Bengal for research contributions at Burdwan Town Hall, Burdwan on 5<sup>th</sup> September, 2026.
- **Indo-Asian Elmer L. Gaden Best Teacher & Researcher Award, 2025**, for consistent superior performance in Bioprocess Engineering and Bioinformatics from **International Multidisciplinary Research Foundation**, India on 5<sup>th</sup> October, 2025.
- **Young Researcher Award, 2023** for the Journal of Cleaner Production publication on cleaner production of vanillin through biotransformation of ferulic acid esters from agroresidues, from **Institute of Scholars (InSc)** online, Bangalore, India on 3<sup>rd</sup> November, 2023.
- **Best Researcher Award, 2021** International Scientist Awards on Engineering, Science and Medicine, from **VDGOOD Professional Association**, Trivandrum, India on 28<sup>th</sup>-29<sup>th</sup> August, 2021,
- **Topper** in the Merit List of **College Service Commission (CSC), WB** in **Botany**, 2018.
- **Awarded Dr. DS Kothari Post Doctoral Fellowship (DSK-PDF)**, from **UGC, Government of India**, 2015.
- Received **Research Associateship (RA)** from CSIR, Government of India, at **University of Delhi**, 2014
- Received **Junior Research Fellowship (JRF)** and **Senior Research Fellowship (SRF)** from **CSIR**, Government of India at Visva-Bharati, 2007-2012.