

FACULTY MEMBERS' ACADEMIC PROFILE

1. Name of the Faculty member: Dr. Saswati Bhattacharya

2. Designation: Assistant Professor (WBES)

3. Qualification: M.Sc, PhD.

4. Specialization: Cell Biology, Molecular Genetics & Plant Biotechnology

5. E-mail address: bhattacharya.sw@gmail.com

6. Date of Joining in W.B.E.S.: 20.02.2015

7. Date of Joining in this College: 11.12.2024

8. Total Teaching experience at the college level: 10 years

9. Research interests: Cell and Molecular Biology, Phytochemistry, Genomics

10. Title of thesis (Ph.D.) with year: Chromosomal Analysis, DNA Fingerprinting Patterns, *In vitro* Propagation and Phytochemical Studies on Some Available Indian Species of *Ornithogalum* L. (Awarded in 2017 from Department of Botany, University of Calcutta)

11. Research guidance: NIL

12. Research Projects (Completed and ongoing): NIL

13. List of publications:

A. Published papers in Journals:

- a. Shaw, J., Ghosh, P., **Bhattacharya, S.**, & Kundu, A. (2024). Combined drought and salinity trigger unique lncRNA regulatory signatures in sweet sorghum (*Sorghum bicolor* L. Moench) compared to individual stress responses. *Plant Growth Regul.* 104(3), 1399-1416.
- b. **Bhattacharya, S.**, Gupta, S., & Saha, J. (2023). Nanoparticles regulate redox metabolism in plants during abiotic stress within hormetic boundaries. *Funct. Plant Biol.*, 50(11) 850-869
- c. Saha J, Chaudhuri D, Kundu A, **Bhattacharya S**, Roy S, Giri K (2022) Phylogenetic, structural, functional characterisation and effect of exogenous spermidine on rice (*Oryza sativa*) HAK transporters under salt stress. *Funct. Plant Biol.*, 49:999–1021.
- d. Laskar, P., **Bhattacharya, S.**, Chaudhuri, A., & Kundu, A. (2021). Exploring the GRAS gene family in common bean (*Phaseolus vulgaris* L.): characterization, evolutionary



relationships, and expression analyses in response to abiotic stresses. *Planta*, 254(4), 1-21.

- e. **Bhattacharya S.**, De A and Choudhury M. (2017) Cytological effects of 5-AminoUracil on *Allium cepa* L roots *J Med Pl Studies* 5 (1):96-100
- f. **Bhattacharya S.**, Maity S., Pramanick D., Hazra K. and Choudhury M. (2016) HPLC of Phenolic compounds, antioxidant and antimicrobial activity of bulbs from three *Ornithogalum* species available in India. *Int J Pharm Pharm Sc* 8 (7):187-192
- g. **Bhattacharya S.**, Ghosh B. and Choudhury M. (2016) A simple reliable protocol for cytogenetically stable mass propagation of *Ornithogalum virens*. *Pl Tissue Cult Biotech* 26(1) :1-14

Book Chapters:

- a. **Bhattacharya, S.**, & Kundu, A. (2025). Ecotoxicological Footprint of Agricultural Nanoparticles: Balancing Productivity with Environmental Safety. In Dey S, & Bhattacharya S., (Eds.) *Biotechnological Interventions in the Removal of Emerging Pollutants*, **Springer Nature** 539-560.
- b. **Bhattacharya, S.**, & Saha, J. (2023). Green Synthesis and Application of Biogenic Nanomaterials as a Blueprint in Mitigation of Abiotic Stress in Crop Plants: A Conceptual Review. In Das J & Halder S., (Eds.) *Advancement of GI-Science and Sustainable Agriculture: A Multi-dimensional Approach*, **Springer Nature** 155-182.
- c. **Bhattacharya, S.**, & Kundu, A. (2020). Sugars and sugar polyols in overcoming environmental stresses. In Roychowdhury A & Tripathi DK (Eds.) *Protective Chemical Agents in the Amelioration of Plant Abiotic Stress: Biochemical and Molecular Perspectives*, , **Wiley Online Library** 71-101
- d.

B. Conference Proceedings:

C. Membership of Learned Societies/ Editorial Boards, etc.: Life Member of Indian Science Congress Association

D. Patents:

E. Awards:

F. Other notable activities:

G. Participation in

A) Seminars/Symposia/Conferences/Workshops:

Seminars/Symposia/Conferences

- a. **Bhattacharya ,S** , Pramanick , D , M Choudhury (2017) Micropropagation as a tool to maintain three temperate Indian species of *Ornithogalum*, Abstract volume: Advances in Life Sciences, 10th year celebration of IISER, Kolkata, organized by IISER, Kolkata
- b. **Bhattacharya ,S** , Pramanick , D , Hazra AK, M Choudhury (2017)Phytochemical analysis and assessment of bioactives from three species of *Ornithogalum* Abstract volume: International Conference: The Green Planet: Past Present & Future; organized by University of Calcutta
- c. **Bhattacharya , S.** , Maity, S . , Pramanick, D. , Hazra , A.K. & M Choudhury (2016) Study of antimicrobial natural products from *Ornithogalum dubium* Hoult.: 23rd West Bengal Science & Technology Congress, organized by Presidency University, Kolkata
- d. **Bhattacharya , S .** , M Choudhury and B Ghosh (2015) : Micropropagation techniques and cytology of *Ornithogalum virens* L Abstract volume : National Symposium on evolving plant biology : From Chromosomes to Genomics , organized by the Bose Institute , Kolkata
- e. **Bhattacharya ,S.**, Maity, S. , Hazra , A.K. and M Choudhury(2015) : Studies on activity-guided separation of bioactive fractions /compounds from *Ornithogalum thyrsoides* Abstract volume : National Symposium on Environmental Impact on Biodiversity and Plant Development organized by Department of Biological Science , Presidency University
- f. **Bhattacharya , S.**, De, A. and M Choudhury (2014) : Clastogenic effect of 5- Amino Uracil and Caffeine and their effect in synchronization of cell cycle of *Allium cepa* L Abstract volume : 35 th PTCA Meeting and National Symposium on Advances in Plant Molecular Biology & Biotechnology organized by IISER, Pune

Workshop:

- a. Participation in National level workshop on Herbarium Techniques and Plant Nomenclature (2 days), organized by Department of Botany, Ramakrishna Mission Vivekananda Centenary College, 2018
- b. Participation in A Two-Day Workshop on Analysis of Statistical Data & Use of R-Code, organized by Department of Statistics, Bidhannagar College, 2022
- c. Participation in National level workshop on Herbarium Techniques and Plant Nomenclature (2 days), organized by Department of Botany, Ramakrishna Mission Vivekananda Centenary College, 20122
- d. DST-SERB sponsored workshop on sensitization on the Recent Advances in Plant Genome Editing and Regulatory Guidelines, organized by ICAR-CRIJAF, 2023

e. OP/RC:

- a. UGC Sponsored 119th Orientation Programme, University of Calcutta, 2017
- b. Refresher Course in Life Sciences, University of Ranchi, Jharkhand, 2018
- c. Refresher Course in Life Sciences, University of Ranchi, Jharkhand, 2023