Name: Dr. Anik Sarkar

Designation: Assistant Professor in Botany

Highest qualification: PhD

Contact details/ Office address: Post Graduate Department of Botany
Darjeeling Government College
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Date of joining to this institution: 31st December 2024

Date of joining W.B.E.S.: 31st December 2024

Previous position(s) held: Research Scholar, Department of Botany, University of Calcutta

Teaching experience in years & months: Three months as W.B.E.S.

Awards, Recognition and Honours:

1. Joint CSIR UGC NET JRF in Life sciences (December 2016) (AIR 69).
2. GATE Life Sciences 2017 (AIR 447).
3. Outstanding paper award in 4th Regional Science and Technology Congress (Southern region) 2019 jointly organized by Department of Science & Technology and Biotechnology (Govt. of West Bengal) and MAKUT.
4. First Prize in Two Day National e-Conference on "Plant Science Research: Relevance, Funding, Challenges and Opportunities" organized by Mahatma Hansraj Faculty Development Centre (A Centre of MoE, Govt. of India).
5. Best Oral Presentation in Two Days National Seminar (Online Mode) organized by University of North Bengal (2021).

Courses taught: Mycology, Plant Pathology, Microbiology, Biochemistry, Plant Physiology.

Research area/ interest: Plant innate immunity, Nitric oxide signaling.

Number of Publications-
***Peer-reviewed journals:** 16
***Conference proceedings:** 1
***Chapters in books:** 8

Detailed list of publications

1. Chakraborty, N., **Sarkar, A**., & Acharya, K. (2019). Elicitor-mediated amelioration of abiotic stress in plants. *Molecular plant abiotic stress: biology and biotechnology*, 105-122.

2. Chakraborty, N., Mukherjee, K., **Sarkar, A**., & Acharya, K. (2019). Interaction between bean and *Colletotrichum gloeosporioides*: understanding through a biochemical approach. *Plants*, *8*(9), 345.

3. Sarkar, A., & Acharya, K. (2020). Chitosan: A promising candidate for sustainable agriculture. *Precision Agriculture and Sustainable Crop Production*, 391-407.

4. Chakraborty, N., **Sarkar, A.**, & Acharya, K. (2020). Multifaceted roles of salicylic acid and jasmonic acid in plants against abiotic stresses. *Protective Chemical agents in the amelioration of plant abiotic stress: biochemical and molecular perspectives*, 374-388.

5. Chakraborty, N., **Sarkar, A**., & Acharya, K. (2020). Transgenic Rice Live Against Bacterial Blight. *Rice Research for Quality Improvement: Genomics and Genetic Engineering: Volume 2: Nutrient Biofortification and Herbicide and Biotic Stress Resistance in Rice*, 61-78.

6. Chakraborty, N., Banerjee, A., **Sarkar, A**., Ghosh, S., & Acharya, K. (2021). Mushroom polysaccharides: a potent immune-modulator. *Biointerface Res Appl Chem*, *11*(2), 8915-8930.

7. Chakraborty, N., Mukherjee, S., **Sarkar, A**., Shaw, P., & Acharya, K. (2021). Role of glutathione transporter in plants under stress. In *Transporters and Plant Osmotic Stress* (pp. 345-364). Academic Press.

8. Sarkar, A., Chakraborty, N., & Acharya, K. (2021). Unraveling the role of nitric oxide in regulation of defense responses in chilli against *Alternaria* leaf spot disease. *Physiological and Molecular Plant Pathology*, *114*, 101621.

9. Banerjee, A., **Sarkar, A**., Acharya, K., & Chakraborty, N. (2021). Nanotechnology: an emerging hope in crop improvement. *Letters in Applied NanoBioScience*, *10*(4), 2784-2803.

10. Chakraborty, N., **Sarkar, A**., & Acharya, K. (2021). Biotic elicitor induced nitric oxide production in mitigation of *Fusarium* wilt of tomato. *Journal of Plant Biochemistry and Biotechnology*, *30*(4), 960-972.

11. Chakraborty, N., **Sarkar, A**., Dasgupta, A., Paul, A., Mukherjee, K., & Acharya, K. (2022). In planta validation of nitric oxide mediated defense responses in common bean against *Colletotrichum gloeosporioides* infection. *Indian Phytopathology*, 1-10.

12. Paul, A., Shamim, N., Sarkar, A., Acharya, K., & Chakraborty, N. (2021). Boosting of bioactive secondary metabolites in anti-diabetic plants through elicitation: a simple technology for better future. *Biotechnology of anti-diabetic medicinal plants*, 307-340.

13. Paul, A., **Sarkar, A**., Acharya, K., & Chakraborty, N. (2023). Fungal elicitor-mediated induction of innate immunity in Catharanthus roseus against leaf blight disease caused by *Alternaria alternata*. *Journal of Plant Growth Regulation*, *42*(1), 491-501.

14. Sarkar, A., Chakraborty, N., & Acharya, K. (2022). Chitosan nanoparticles mitigate *Alternaria* leaf spot disease of chilli in nitric oxide dependent way. *Plant Physiology and Biochemistry*, *180*, 64-73.

15. Ganguly, R., **Sarkar, A**., Acharya, K., Keswani, C., Minkina, T., Mandzhieva, S., ... & Chakraborty, N. (2022). The role of no in the amelioration of heavy metal stress in plants by individual application or in combination with phytohormones, especially auxin. *Sustainability*, *14*(14), 8400.

16. Ganguly, R., **Sarkar, A**., Dasgupta, D., Acharya, K., Keswani, C., Popova, V., ... & Chakraborty, N. (2022). Unravelling the efficient applications of zinc and selenium for mitigation of abiotic stresses in plants. *Agriculture*, *12*(10), 1551.

17. Chakraborty, N., Chandra, S., **Sarkar, A**., Ghosh, S., Dasgupta, A., & Acharya, K. (2023). An in planta approach for understanding defense responses in tomato plants against *Fusarium oxysporum* Schltdl. *Journal of Plant Pathology*, *105*(1), 129-136.

18. Paul, A., Chakraborty, N., **Sarkar, A**., Acharya, K., Ranjan, A., Chauhan, A., ... & Prasad, R. (2023). Ethnopharmacological potential of phytochemicals and phytogenic products against human RNA viral diseases as preventive therapeutics. *BioMed Research International*, *2023*(1), 1977602.

19. Chakraborty, N., Mitra, R., Pal, S., Ganguly, R., Acharya, K., Minkina, T., **Sarkar, A**. and Keswani, C., 2023. Biopesticide consumption in India: insights into the current trends. *Agriculture*, *13*(3), 557.

20. Naskar, A., Roy, K., Santra, B., **Sarkar, A**., & Acharya, K. (2024). An Outlook of Nematophagous Fungi and the Underlying Mechanism of Nematophagy. In *Applied Mycology for Agriculture and Foods* (pp. 129-149). Apple Academic Press.

21. Chakraborty, N., **Sarkar, A**., & Acharya, K. (2023). Spermine induced endogenous signal ameliorates osmotic stress in Lens culinaris. *Physiology and Molecular Biology of Plants*, *29*(10), 1591-1603.

22. Ganguly, R., **Sarkar, A.**, Acharya, K., & Chakraborty, N. (2024). Prospective role of melatonin in pathogen suppression and host resistance. In *Advancement of Melatonin Research in Plants* (pp. 279-297). CRC Press.

23. Mitra, R., Das, P., Acharya, K., Chakraborty, A., De Corato, U., Minkina, T., Kirichkov, M.V., Kalinitchenko, V.P., **Sarkar, A**., Keswani, C. and Chakraborty, N., 2024. Unravelling recent advances in Ionizing irradiation-based management of post-harvest crop losses: a Pan-global Survey. *Journal of Crop Health*, 1-17.

24. Chakraborty, N., Ganguly, R., **Sarkar, A**., Dasgupta, D., Sarkar, J., Acharya, K., ... & Keswani, C. (2025). Multifunctional Role of Brassinosteroids in Plant Growth, Development, and Defense. *Journal of Plant Growth Regulation*, 1-14.

Google Scholar link: https://scholar.google.com/citations?user=KeJbHcIAAAAJ&hl=en
ResearchGate link: https://www.researchgate.net/profile/Anik-Sarkar-5
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Participation in Workshops/ Training programme/ Certificate course: Hands-on training on Molecular biology