

# Dr. Subhankar Biswas, PhD

## Assistant Professor in Botany

### Plant Development and Molecular Biology Laboratory

Department of Botany, Siksha-Bhavana (Institute of Science),

Visva-Bharati, Santiniketan, West Bengal- 731235

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## Research interests

Plant development, abiotic stresses, phytohormones and abiotic stress relation, plant abiotic stress signaling, functional characterization of gene(s), protein-protein interaction, transcriptome and proteome, protein post-translational modifications

## Teaching experiences

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|---------------------|-----------------------------------------------------------------------------------------------|
| May, 2026 - present | <b>Assistant Professor</b><br>Department of Botany, Visva-Bharati, Santiniketan, West Bengal. |
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## Research experiences

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|----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| May, 2026 - Present        | <b>Assistant Professor</b><br>Department of Botany, Visva-Bharati, Santiniketan, West Bengal.                                  |
| August, 2024 – March, 2026 | <b>Senior Research Fellow (SRF), SERB-CRG funded project</b><br>Department of Botany, Banaras Hindu University, Uttar Pradesh. |

## Education:

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|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2018 - 2024 | <b>PhD in Botany</b> , Department of Botany, Banaras Hindu University.<br><b>Supervisor:</b> Dr. Yogesh Mishra, Department of Botany, Banaras Hindu University, Uttar Pradesh, India |
| 2015 - 2017 | <b>M.Sc. in Botany</b> , Department of Botany, Banaras Hindu University, Uttar Pradesh, India                                                                                        |
| 2012 – 2015 | <b>B.Sc. in Botany (Honours)</b><br>Raiganj Surendranath College (University of Gour Banga), Raiganj, West Bengal, India                                                             |

## Achievements

|      |                                                                                                                                                |
|------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 2026 | <b>iPDF</b> , Post Doctoral Fellowship at IIT Kharagpur, West Bengal, India (Not availed)                                                      |
| 2026 | Short listed for post-doctoral fellowship of <b>MK Bhan Program</b> – Department of Biotechnology, Govt. of India (Not availed)                |
| 2025 | <b>Best poster award</b> in “International conference: molecular biology- current aspects and prospects, Romania”                              |
| 2025 | <b>International Travel grant</b> to attend “International conference: molecular biology- current aspects and prospects, Romania”, ANRF, India |
| 2023 | Senior Research Fellowship, Banaras Hindu University, project funded by Department of Science and technology, India                            |

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|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2022</b> | <b>Best poster award in Plant Molecular Biology XLV ALL INDIA BOTANICAL CONFERENCE OF THE INDIAN BOTANICAL SOCIETY ON Climate Change: Biodiversity, Adaptation and Mitigation, October 14-16, 2022, Organized by Department of Botany, University of Lucknow, Lucknow.</b>                                           |
| <b>2022</b> | <b>Awarded 2nd Prize in Plant Biology.</b> International Conference (Online) titled 'Biomolecules to Biome' (BMB) organized by the Department of Life Sciences, Presidency University, Kolkata to be held on 24 <sup>th</sup> -25 <sup>th</sup> August 2022                                                          |
| <b>2019</b> | <b>Best Poster Award</b> in "National Conference on Biotechnology Innovation: Interdisciplinary Approach to Agriculture, Food, Health, Environment and Sustainable Development, 27-28 <sup>th</sup> September, 2019. Lucknow jointly organized by SBTI and IBT, Shri Ramswaroop Memorial University, Lucknow, India" |
| <b>2019</b> | <b>Awarded 3rd prize</b> in "International conference Current Trends and Future Prospects in Plant Science Research 1-3rd February, 2019, Varanasi organiaed by Department of Botany, Banaras Hindu University. Varanasi, India"                                                                                     |
| <b>2017</b> | Qualified Council of Scientific & Industrial Research-University Grant Commission (CSIR-UGC) Junior Research Fellowship ( <b>JRF</b> ), India                                                                                                                                                                        |
| <b>2017</b> | Qualified Graduate Aptitude Test in Engineering ( <b>GATE</b> ), India                                                                                                                                                                                                                                               |
| <b>2016</b> | Qualified Council of Scientific & Industrial Research-University Grant Commission (CSIR-UGC) Junior Research Fellowship ( <b>JRF</b> ), India                                                                                                                                                                        |
| <b>2016</b> | Qualified Tata Institute of Fundamental Research ( <b>TIFR</b> ) exam, India                                                                                                                                                                                                                                         |

### Position held:

NA

### Publications:

1. Jha, V. K., Srivastava, A., Yadav, S., Basu, S., **Biswas, S.,...** & Mishra, Y. (2026). Comparative Seasonal Proteome Profiling of the Liverwort *Plagiochasma appendiculatum* Reveals Molecular Strategies of Acclimation in its Natural Habitat. ***Plant Molecular Biology Reporter***, 44(3), 84. (IF: 2.0)
2. Yadav, S., Srivastava, A., Jha, V. K., **Biswas, S.**, Basu, S., Chaurasia, N.,... & Mishra, Y. (2026). Seasonal proteome profiling of the liverwort *Dumortiera hirsuta* (Sw.) Nees, from Meghalaya, India, reveals a season-specific acclimation process. ***Journal of Bryology***, 1-17. (IF: 0.7)
3. Basu, S., Yadav, S., Jha, V. K., **Biswas, S.,...** & Mishra, Y. (2025). Two evolutionary diverged liverworts that shared the same habitats developed a few distinct seasonal adaptive strategies: insights from a transcriptomic approach. ***Plant Molecular Biology Reporter***, 43(3), 1621-1641. (IF: 2.0)
4. Yadav, S., Basu, S., Srivastava, A., **Biswas, S.**, Mondal, R., Jha, V. K., ... & Mishra, Y. (2023). Bryophytes as modern model plants: an overview of their development, contributions, and future prospects. ***Journal of Plant Growth Regulation***, 42(11), 6933-6950. (IF: 4.2)
5. Srivastava, A., Kumar, A., **Biswas, S.**, Srivastava, V., Rajaram, H., & Mishra, Y. (2023). Cd-induced cytosolic proteome changes in the cyanobacterium *Anabaena* sp. PCC7120 are mediated by LexA as one of the regulatory proteins. ***Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics***, 1871(3), 140902. (IF: 2.2)
6. Srivastava, A., Kumar, A., **Biswas, S.**, Kumar, R., Srivastava, V., Rajaram, H., & Mishra, Y. (2023). Gamma ( $\gamma$ )-radiation stress response of the cyanobacterium *Anabaena* sp. PCC7120: Regulatory role of LexA and photophysiological changes. ***Plant Science***, 326, 111529. (IF: 4.6)
7. **Biswas, S.**, Mondal, R., Srivastava, A., Trivedi, M., Singh, S. K., & Mishra, Y. (2022). *In silico* characterization, molecular phylogeny, and expression profiling of genes encoding legume lectin-like

proteins under various abiotic stresses in *Arabidopsis thaliana*. **BMC genomics**, 23(1), 480. (IF: 3.9)

8. Yadav, S., Srivastava, A., **Biswas, S.**, Basu, S., Singh, S. K., & Mishra, Y. (2022). Seasonal changes in the antioxidative defence system of a liverwort *Dumortiera hirsuta*. **Journal of Plant Growth Regulation**, 41(3), 1265-1275. (IF: 4.2)
9. Srivastava, A., Kumar, A., **Biswas, S.**, ... & Mishra, Y. (2022). Regulatory role of LexA in modulating photosynthetic redox poise and cadmium stress tolerance in the cyanobacterium, *Anabaena* sp. PCC7120. **Environmental and Experimental Botany**, 195, 104790. (IF: 5.1)
10. Mondal, R., **Biswas, S.**, Srivastava, A., Basu, S., Trivedi, M., Singh, S. K., & Mishra, Y. (2021). *In silico* analysis and expression profiling of S-domain receptor-like kinases (SD-RLKs) under different abiotic stresses in *Arabidopsis thaliana*. **BMC genomics**, 22(1), 817. (Joint First author) (IF: 3.9)
11. Srivastava, A., **Biswas, S.**, Yadav, S., Kumar, S., Srivastava, V., & Mishra, Y. (2021). Acute cadmium toxicity and post-stress recovery: Insights into coordinated and integrated response/recovery strategies of *Anabaena* sp. PCC 7120. **Journal of Hazardous Materials**, 411, 124822. (IF: 10.6)
12. Srivastava, A., **Biswas, S.**, Yadav, S., Kumar, A., Rajaram, H., Srivastava, V., & Mishra, Y. (2021). Physiological and thylakoid proteome analyses of *Anabaena* sp. PCC 7120 for monitoring the photosynthetic responses under cadmium stress. **Algal Research**, 54, 102225. (IF: 5.0)
13. Singh, S., **Biswas, S.**, Srivastava, A., Mishra, Y., & Chaturvedi, T. P. (2021). *In silico* characterization and structural modeling of a homeobox protein MSX1 from *Homo sapiens*. **Informatics in Medicine Unlocked**, 22, 100497. (IF: 5.99)
14. Yadav, S., Srivastava, A., **Biswas, S.**, Chaurasia, N., Singh, S. K., Kumar, S., ... & Mishra, Y. (2020). Comparison and optimization of protein extraction and two-dimensional gel electrophoresis protocols for liverworts. **BMC Research Notes**, 13(1), 60. (IF: 1.7)
15. Mishra, Y., Srivastava, A., Tiwari, A., Mondal, R., Yadav, S., & **Biswas, S.** (2018). Orange Carotenoid Protein (OCP): A Key Player in Non-photochemical Quenching of Cyanobacteria under Fluctuating Light Condition. **International Journal of Plant and Environment**, 4(02), 35-40. (IF: NA)

### Book Chapter:

1. **Biswas, S.**, Srivastava, A., Yadav, S., & Mishra, Y. (2021). Evolution of Genetically Modified (GM) Crops and The Scared World. In *Policy Issues in Genetically Modified Crops* (pp. 317-334). Academic Press.
2. Yadav, S., **Biswas, S.**, Srivastava, A., & Mishra, Y. (2019). Development of Bryophytes as a New Model System to Understand the Phenomenon of Terrestrialization with Environmental Changes. In *Molecular Approaches in Plant Biology and Environmental Challenges* (pp. 475-486). Singapore: Springer Singapore.

### Research Funding:

NA

### Present Lab members:

NA

### Past Lab members:

NA

### Professional membership:

1. Life member of Indian Botanical Society (IBS).