

Anusree Saha, PhD

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Experience

- Postdoctoral Research Associate**, University of Cambridge, UK December 2025 – Present
- Supervisor: Dr. Leonie Luginbuehl
 - Exploring the molecular mechanisms that allow plants to regulate carbon transfer to arbuscular mycorrhizal fungi. I will also test whether carbon allocation, and therefore the cost–benefit balance of the symbiosis, can be manipulated by genetic engineering of host plants.
- Postdoctoral Research Associate**, NIAB – Cambridge, UK April 2023 – November 2025
- Supervisor: Dr Stéphanie Swarbreck
 - Lead researcher on a BBSRC-funded project studying Strigolactone's role in wheat nitrogen response. Developed strong lab skills, including generating and genotyping TILLING lines, wheat crossing, molecular physiological experiments, RNA sequencing and field trials; expertise in computational analysis, working with R, Python, and HPC environments for large datasets processing.
 - Supervised two undergraduate students for final year research project and an MPhil student in the lab. Provided small group undergraduate teaching and supervision (8 students) for IB Plant and Microbial Sciences course at the University of Cambridge.
- Associate Editor**, *Heliyon* (Cell Press) and *Biocatalysis and Agricultural Biotechnology* (Elsevier) April 2022 – present
- Managed the peer review process by overseeing manuscript submissions, fact-checking, coordinating with stakeholders, and ensuring timely evaluations.
- Assistant Professor**, Raja Narendra Lal Khan Women's College, India Sept 2019 – March 2023
- Lectured in Botany (Hons) for undergraduate and postgraduate students, mentoring 25+ students over three years.
 - Served on the IQAC committee, ensuring quality education, student assessment, and NAAC accreditation.
- Visiting Research Scholar**, University of Essex, UK June 2017 – October 2017
- Supervisor: Prof. Christine Raines. Awarded the Newton Bhabha PhD Placement Programme by the British Council and DBT, India
 - Gained specialized expertise in Genome Editing techniques; Construction of knockout cassettes using CRISPR-Cas9 and overexpression constructs of multiple genes with Golden Gate Cloning; Confocal imaging and Fluorescence microscopy.

Education

- PhD in Plant Molecular Biology**, University of Hyderabad, India Aug 2015– Feb 2022
- Supervisor: Prof. P.B.Kirti (Retired) Thesis: "*Identifying Ribosomal Protein Genes as Potential Targets for Manipulating Stress Tolerance in Rice*"
 - Genetic Engineering including molecular cloning (using Conventional and Golden Gate Cloning); Plant transformation and tissue culture in Rice. Raised and characterized transgenic rice lines using molecular techniques (PCR, qRT-PCR, TAIL-PCR, Western Blotting and Southern hybridization), PAM and regular plant physiological and biochemical experiments, along with Bioinformatics and *in-silico* studies.
 - Mentored two Master's students, guiding them through their M.Sc. projects while overseeing lab work and fostering their academic growth.
- M.Sc in Plant Biology and Biotechnology**, University of Hyderabad, India July 2013 – June 2015
- CGPA 8.75/10
 - Supervisor: Prof. Appa Rao Podille. Dissertation: "*Effect of Plant Growth Promoting Rhizobacteria on Mustard and Tomato Plants*"

- Inoculation of seeds with PGPR strains and assessing the growth parameters of the seedlings. Visualization of PGPR colonization via Scanning Electron microscopy

B.Sc in Botany Hons, Presidency College, University of Calcutta, India

July 2010 – June 2013

- Percentage (Hons) 66.75

Publications

- Published a short article on "Of Tillering and parasitic weeds- Wheat N response" in NIAB Landmark Spring 2024 edition.
- Moin, M*. Saha, A*. Bakshi, A., MS, M., and PB, K. (2021) Study on Transcriptional Responses and Identification of Ribosomal Protein Genes for Potential Resistance against Brown Planthopper and Gall Midge Pests in Rice, *Current Genomics*, 22(2), 98-110. *equal contribution
- Saha A, Das S, Moin M, Dutta M, Bakshi A, Madhav MS and Kirti PB (2017) Genome-Wide Identification and Comprehensive Expression Profiling of Ribosomal Protein Small Subunit (RPS) Genes and their Comparative Analysis with the Large Subunit (RPL) Genes in Rice., *Frontiers in plant science*, 8:1553 doi: 10.3389/fpls.2017.01553.
- Dutta, M., Saha, A., Moin, M., and Kirti, P. B. (2021). Genome-wide identification, transcript profiling and bioinformatic analyses of GRAS transcription factor genes in rice., *Frontiers in plant science*, 2649 doi.org/10.3389/fpls.2021.777285.
- Dutta, M., Moin, M., Saha, A., Dutta, D., Bakshi, A., and Kirti, P. B. (2021). Gain-of-function mutagenesis through activation tagging identifies XPB2 and SEN1 helicase genes as potential targets for drought stress tolerance in rice, *Theoretical and Applied Genetics*, 1-20.
- Moin, M., Saha, A., Bakshi, A., Madhav, M. S., and Kirti, P. B. (2021). Constitutive expression of Ribosomal Protein L6 modulates salt tolerance in rice transgenic plants., *Gene*, 789, 145670.
- Moin M, Bakshi A, Saha A, Dutta M, P. B. Kirti (2017). Gain of-function mutagenesis approaches in rice for functional genomics and improvement of crop productivity. *Briefings in Functional Genomics*, Vol-16, Issue 4.
- Moin M, Bakshi A, Saha A, Dutta M, Madhav SM and Kirti PB (2016). Rice Ribosomal Protein Large Subunit Genes and Their Spatio-temporal and Stress Regulation., *Frontiers in plant science*, 7:1284
- Moin M., Bakshi A., Saha A., Udaya Kumar M., Reddy A.R., Rao K.V., Siddiq E.A. and Kirti P.B. (2016). Activation tagging in indica rice identifies ribosomal proteins as potential targets for manipulation of water-use efficiency and abiotic stress tolerance in plants, *Plant, cell environment*, 39(11), pp.2440-2459.

Awards and Grants

- Won the **ECR Bursary award** for presenting poster at Monogram 2024, Rothamstead Research (2024) and **AAB travel grant** for attending Monogram 2025
- **DST-SERB Travel Grant**(2018) and **Foreign Travel Grant** by Council of Scientific and Industrial Research (Govt. of India) (2019)
- Selected for **Newton-Bhabha PhD Placement Program**,Dept. of Biotechnology, Govt. of India and British Council, UK (2017)
- **Junior Research Fellowship-2016** from Dept of Biotechnology, Govt. of India (PhD fellowship), and **National Eligibility Test** by CSIR (2017),Govt. of India

Selected Seminars, Conferences and Workshops

- Presented Poster at **Monogram 2025** held at Aberystwyth University (April, 2024) **Monogram 2024** held at Rothamstead Research (March, 2024)
- Oral Presentation at **Norwich and Cambridge Science Symposium 2024** held at JIC, Norwich, UK (Sept, 2024).
- Participated in workshop as a part of **Rosalind Franklin Women in Wheat Champions programme** led by the JIC and TSL (July, 2023)
- Invited talk at "Gene manipulation to safeguard plants from harsh climatic conditions" at "**Online symposium- Climate Change: Science and Society**", GW4 Universities of Bath, Bristol, Cardiff and Exeter. . (Dec 2020).

- Presented E-poster at "*4th Edition of Global Conference on Plant Science and Molecular Biology*", London, UK (Sept, 2019).
- Presented Poster at "*12th Congress of International Plant Molecular Biology*", Montpellier, France (Aug, 2018).
- Poster at "*3rd International Conference on Bioresource and Stress Management (ICBSM)*", Jaipur, Rajasthan (Nov, 2017).