



## UNIVERSITY OF CALCUTTA

**Full name of the Faculty member** : Dr. Arunava Mandal  
**Designation** : Assistant Professor stage I  
**Specialization** : Plant Molecular Biology & Biotechnology  
**Contact Information** :



Room no. 849 , 7<sup>th</sup> Floor ,Plant Molecular Biology Laboratory, Department of Genetics,  
University of Calcutta, 35, Ballygunge Circular Road Kolkata 700019, West Bengal, India  
e-mail: [arunavama@gmail.com](mailto:arunavama@gmail.com), [amgntcs@caluniv.ac.in](mailto:amgntcs@caluniv.ac.in),  
Phone No. 9432521228/8240856720

**Academic Qualifications** :

College / University from which degree obtained	Degree	Year
University of Calcutta	B.Sc	2007
University of Calcutta and Bose Institute	M.Sc	2009
University of Calcutta and Bose Institute	Ph.D	2016
National Institute of Plant Genome Research, New Delhi	Postdoc	2018

**Position held/ holding** :

- Assistant Professor, Department of Biotechnology, Maulana Abul kalam Azad University of Technology, W.B, July 2018 to November 2019
- Assistant Professor, Department of Genetics, University of Calcutta, W.B, November 2019 to present.

**Research Interest** :

- Plant stress biology
- Identification and characterization of Nobel ubiquitin ligase genes regulated during biotic and abiotic stress in plants.

**Research Guidance** :

- Number of researchers pursuing Ph.D : **Two**

**PG Dissertation Guided : :**

Name of the student	Affiliation	Year	Course	Title of the Thesis
Hena Gain	MAKAUT	2019	M.TechBiotechnology	Establishment of Tomato Leaf Curl Virus infection procedure and monitoring of leaf curl disease progression in laboratory condition
AnusmitaBayen	Serampore college	2019	M.Sc Zoology	Amplification of <i>S/WRKY16</i> transcription factor from cDNA of tomato leaf curl virus infected plants
Poulami Chowdhury	Serampore college	2019	M.Sc Zoology	Amplification of TRN1 gene from leaf curl virus infected genomic DNA
Soumyadeepa Kundu	Serampore college	2019	M.Sc Zoology	Amplification and cloning of <i>S/ARM18(E3ligase)</i> from cDNA of tomato leaf curl virus infected plants
Debapriya Kundu	University of Calcutta	2021	M.Sc Genetics	Study of mechanism of regulation of DREB gene : A bioinformatics approach
Sammanita Nag	University of Calcutta	2022	M.Sc Genetics	Genomewide identification, characterisation and in silico expression analysis of GRAM domain containing proteins in <i>Solanum lycopersicum</i>

**Research Project : one**

Project Details	Funding Agency	Sanctioned Amount	Duration (2020-2022)
Mechanism of regulation of tomato PUB22 gene, a E3 ligase during tomato leaf curl virus infection.	SERB-SRG	29,34,800/-	2 years

## Honors& Awards

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- BEST POSTER AWARD in National Symposium on Environmental Impact on Biodiversity and plant Development 2015 , Presidency University, Kolkata, India
- BEST POSTER AWARD in Plant Science section of 100<sup>th</sup> Session of Indian science congress, 2013 Kolkata
- TRAVEL GRANT AWARD by American Society of Virology, Pennsylvania State University, USA, 2013 for attending 32<sup>nd</sup> Annual Meeting of American Society of Virology.
- DOCTORAL STUDENT TRAVEL GRANT by Department of Biotechnology, Government of India, 2013 for attending 32<sup>nd</sup> Annual Meeting of American Society of Virology, USA.

## Conference attended

1. Presented poster entitled “ Regulation of *NiRFP1* and *SITRN1* in *Nicotiana tabacum* and *Solanum lycopersicum* during leaf curl virus infection” in state level seminar & poster presentation competition on “selection or elimination! Which one does a virus offer?” organized by Department of Zoology, Ramkrishna Mission Vidyamandir, 12<sup>th</sup> April 2023
2. Presented poster entitled “Mechanism of a virus stress-induced regulation of a leaf developmental gene expression in tomato: significance in disease symptom manifestation” in National Symposium on Environmental Impact on Biodiversity and plant Development, February 2015, Presidency University, Kolkata.
3. Presented poster entitled “Transcriptional regulation of a cell expansion gene upon Tomato leaf curl virus infection” in 100<sup>th</sup> session of Indian Science Congress, January 2013, Kolkata.
4. Presented poster entitled “Transcriptional regulation of a cell expansion gene upon Tomato leaf curl virus infection” in 32<sup>nd</sup> Annual meeting of American Society of Virology, July 2013, Pennsylvania State University, Pennsylvania, USA.

## Publications

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1. **Arunava Mandal**, Deepti Sarkar, Surekha kundu, Pallob Kundu, “Mechanism of regulation of tomato TRN1 gene in late infection with tomato leaf curl New Delhi virus (ToLCNDV),” *Plant Science* 2015 Dec;241:221-37. doi: 10.1016/j.plantsci.2015.10.008
2. Abhishek Pal, Santanu Maitra, **Arunava Mandal**, Mimi Biswas and Pranab Kr Banerjee<sup>1,2\*</sup> “Studies on Mid Gut Microbiota of Wild Caught Aedes (*Aedes albopictus*) Mosquitoes from Diamond Harbour (South 24 Parganas) Areas of West Bengal, India” *International Journal of Current Microbiology and Applied Sciences* ISSN: 2319-7706 Volume 4 Number 12 (2015) pp. 591-599
3. Payel Bhattacharjee, Rohit Das, **Arunava Mandal** and Pallob Kundu “Functional characterization of tomato membrane-bound NAC transcription factors” *Plant Molecular Biology* 2017 Mar;93(4-5):511-532. doi: 10.1007/s11103-016-0579-z
4. **Arunava Mandal**, Mishra AK, Dulani P, Muthamilarasan M, Shweta S, Manoj Prasad \* (2017) Identification, characterization, expression profiling, and virus-

induced gene silencing of armadillo repeat-containing proteins in tomato suggest their involvement in Tomato leaf curl New Delhi virus resistance. *Functional & Integrative Genomics* 2018 Mar;18(2):101-111. doi: 10.1007/s10142-017-0578-4.

5. **Arunava Mandal**, Namisha Sharma, Manoj Prasad “Ubiquitination: A tool for plant adaptation to changing environments” *The Nucleus*, 2018, Volume 61, pp 253–260, doi.org/10.1007/s13237-018-0255-6
6. A Das, A Roy, **A Mandal**, HA Mondal, D Hess, P Kundu, S Das “Inhibition of Bemisia tabaci vectored, GroEL mediated transmission of tomato leaf curl New Delhi virus by garlic leaf lectin (Allium sativum leaf agglutinin)” *Virus Research*, 2021, 300, 198443. doi.org/10.1016/j.virusres.2021.198443
7. Disruption of tomato TGS machinery by ToLCNDV causes reprogramming of vascular tissue-specific TORNADO1 gene expression S Chowdhury, A Mukherjee, S Basak, R Das, **A Mandal**, P Kundu, *Planta*. 2022 Sep 12;256(4):78. doi: 10.1007/s00425-022-03985-1.
8. Significance of Plant E3 ubiquitin ligases in NPK homeostasis: A review S Patra and **A Mandal**\* *Plant stress* 2023 Aug <https://doi.org/10.1016/j.stress.2023.100207>
9. MYB transcription factor: A new weapon for biotic stress tolerance in plants Biswas D, Gain H , **Mandal A** *Plant stress* 2023 Dec <https://doi.org/10.1016/j.stress.2023.100252>
10. Abiotic and biotic factors regulate the timing of floral induction: a review S Patra, D Chatterjee, R Dutta, **A Mandal** ,*Physiologia Plantarum* 2024, 176 (1), <https://doi.org/10.1111/ppl.14199>
11. CRISPR/Cas9 opens new horizon of crop improvement under stress condition S Patra, D Chatterjee, S Basak, S Sen, **A Mandal**, *Biochimica et Biophysica Acta (BBA)-General Subjects*, 2024 1868 <https://doi.org/10.1016/j.bbagen.2024.130685>
12. Plant Growth Promoting Rhizobacteria (PGPR): Reports on Their Colonization, Beneficial Activities, and Use as Bioinoculant D Biswas, AK Chakraborty, V Srivastava, **A Mandal** *Advances in Agriculture* 2024 (1), 8173024 <https://doi.org/10.1155/2024/8173024>

## Book Chapters

1. S Chakrabarti, C Chatterjee, **A Mandal** “Improving Nutrient Value of Crops: Applications of RNAi in Targeting Plant Metabolic Pathways” *RNA-Based Technologies for Functional Genomics in Plants*, 2021, Springer Nature, 199-225 doi.org/10.1007/978-3-030-64994-4\_10

## Membership of Learned Societies :

- Life member of Indian science congress association
- Member of American society of virology

## Other Notable Activities :

- Reviewer of PLOS ONE
- Reviewer of BMC Plant Biology
- Reviewer of Plant Cell Reports
- Reviewer of The Nucleus
- Reviewer of Plant Cell Tissue and Organ Culture (PCTOC)