FACULTY PROFILE FORMAT

1. **Full Name:** HOSSAIN ALI MONDAL
2. **Designation:** PROFESSOR
3. **Department / School:** SCHOOL OF CROP IMPROVEMENT
4. **Official Email id:** mondal.cpgs.cau@gmail.com; hossainalimondal@gmail.com
5. **Profile Photo:**
6. **Areas of Specialization:** Genetics, Molecular Biology and Biotechnology
7. **Research Interests:** Evolutionary Biology on Aphid–Plant Interaction for Crop Improvement
8. **Highest Educational Qualifications:**

Degree	Subject	University
Ph.D	Life Science (Thesis title: Study on the Efficacy of Mannose Binding Plant Lectins on Agriculturally Important Homopteran Insect Pests and Its Possible Mode of Action)	Jadavpur University, Calcutta, India. (Research work in Bose Institute, Calcutta from the section of Plant Molecular and Cellular Genetics (PMCG).

9. **Professional Experience:**

Position	Organization	Duration
Professor	College of Post Graduate Studies in Agricultural Sciences (CPGS-AS), Meghalaya, (Central Agricultural University, Imphal, Manipur)	January 9, 2023-to-Continue
Associate Professor	College of Post Graduate Studies in Agricultural Sciences (CPGS-AS), Meghalaya, (Central Agricultural University, Imphal, Manipur)	January 9, 2020-to-January 8, 2023 ~ 3 years.
Assistant Professor	Uttar Banga Krishi Vishwavidyalaya (UBKV), Cooch Behar, West Bengal, India	June 2, 2014- January, 8, 2020 ~ 5 Years 7 Months
Post-Doctoral Research Fellow	University of North Texas, Texas, United States of America	February 19, 2010 – October 31, 2013 ~ 3 Years 8 Months
Research Associate	Bose Institute, Calcutta	April 8, 2009- February 15, 2010 ~ 10 months

10. **Research Projects: As Principal Investigator, Extramural, Competitive Grant Only**

Title	Funding Agency	Budget	Duration	Status
Molecular Signature Dynamics in Aphid Stylet-probed Vascular Sap and Aphid's Salivary Gland for the Elevated Levels of Resistance in Brassica and its Wild sp against *Lipaphis erysimi*	Science & Engineering Research Board (A statutory body under the Government of India's Department of Science & Technology)	61.78832 Lakhs	3 years	Completed (CPGSAS, CAU)
Dissecting the 'interactome' developed at sieve element due to aphid infestation for better understanding of enhanced insecticidal effect in resistant host plant	Science & Engineering Research Board (A statutory body under the Government of India's Department of Science & Technology)	22.27500 Lakhs	3 years	Completed (UBKV)
Quality Parameter Testing of the Acclimatized Valeriana jatamansi in Terai Zone, W.B and Mass Propagation of Valeriana jatamansi, Bergenia ciliata, and Piper longum for Distribution with Awareness Program	National Medicinal Plants Board (NMPB), Ministry of AYUSH, Government of India (IN)	23.37500 Lakhs	3 years	Completed (UBKV)
Exploring Artificial Soil Formulation for Exponential Rate of Mass Multiplication for Quality Planting Material Production in Stevia rebaudiana	Department of Science & Technology and Biotechnology, Govt. of West Bengal	10.5 Lakhs	3 years	Completed (UBKV)

11. **Selected Publications: [20 numbers only]**

20. Ahmad F, Mondal HA. The juxtaposition of significant 'marginal progeny proliferation from a single aphid' to circadian rhythms depends on aphid density. *Natl Acad Sci Lett.* 2026. https://doi.org/10.1007/s40009-026-01949-7

19. Devi AM, Ahmad F, Kynshi BL, Ranjithkumar V, Mondal HA. A novel absorbance-based probe for early detection of aphid-induced changes in vascular sap to differentiate resistant and susceptible hosts. *Natl Acad Sci Lett.* 2025. https://doi.org/10.1007/s40009-025-01783-3

18. Mondal HA. The histochemical expression portfolio of the aphid resistant genes PAD4 and MPL1 in below-ground tissue in *Arabidopsis thaliana*. *Natl Acad Sci Lett.* 2025. https://doi.org/10.1007/s40009-025-01713-3

17. Devi AM, Ahmad F, Mondal HA. Efficient recovery of vascular sap from aphid-infested *Brassica* spp. depends on parameter combinations namely number of considered leaves and duration of exudation. *Natl Acad Sci Lett.* 2024. https://doi.org/10.1007/s40009-024-01485-2

16. Mondal HA, Paul B, Ahmad F, Ranjithkumar V, Mallick M. The better visualization of the highest resistant induction to *Myzus persicae* in wild crucifer *Rorippa indica*. *Natl Acad Sci Lett.* 2024;47: 365–368. https://doi.org/10.1007/s40009-024-01404-5

15. Archer L, Mondal HA, Behera S, Twayana M, Patel M, Louis J, Nalam VJ, Keereetaweep J, Chowdhury Z, Shah J. Interplay between MYZUS PERSICAE-INDUCED LIPASE 1 and OPDA signaling in limiting green peach aphid infestation on *Arabidopsis thaliana*. *J Exp Bot.* 2023;74(21):6860–6873. doi:10.1093/jxb/erad355

14. Mondal HA. *Myzus persicae* herbivore-mediated vascular microbiota is correlated with *Arabidopsis thaliana* perception to aphid infestation. *J Plant Biochem Biotechnol.* 2023;32: 560–569. https://doi.org/10.1007/s13562-023-00841-5

13. Mallick M, Mondal HA. Vascular dodecanoic acid of *Arabidopsis* mediates insect resistance against *Myzus persicae*. *Arch Insect Biochem Physiol.* 2022;112(3):e21986. https://doi.org/10.1002/arch.21986

12. Alam ST, Sarowar S, Mondal HA, Makandar R, Chowdhury Z, Louis J, Shah J. Opposing effects of MYZUS PERSICAE-INDUCED LIPASE 1 and jasmonic acid influence the outcome of *Arabidopsis thaliana–Fusarium graminearum* interaction. *Mol Plant Pathol.* 2022;23: 1141–1153. doi:10.1111/mpp.13216

11. Mondal HA, Paul B, Gurung A, Mallick M. Factors involved in enhancing host susceptibility towards aphid clonal propagation on leaf foliage of *Arabidopsis*. *Curr Sci.* 2021;121(8):1080–1089.

10. Das A, Roy A, Mandal A, Mondal HA, Hess D, Kund P, Das S. Inhibition of *Bemisia tabaci*-vectored GroEL-mediated transmission of tomato leaf curl New Delhi virus by garlic leaf lectin (*Allium sativum* leaf agglutinin). *Virus Res.* 2021;300: 198443.

9. Mondal HA. Aphid saliva: a powerful recipe for modulating host resistance towards aphid clonal propagation. *Arthropod Plant Interact.* 2020;14: 547–558. https://doi.org/10.1007/s11829-020-09769-2

8. Mondal HA, Louis J, Archer L, Patel M, Nalam VJ, Sarowar S, Sivapalan V, Root DD, Shah J. *Arabidopsis thaliana* ACTIN DEPOLYMERIZING FACTOR 3 gene is required for controlling green peach aphid feeding from sieve elements. *Plant Physiol.* 2018;176: 879–890. https://doi.org/10.1104/pp.17.01438

7. Mondal HA. Shaping the understanding of saliva-derived effectors towards aphid colony proliferation in host plant. *J Plant Biol.* 2017;60: 103–115.

6. Suzuki N, Miller G, Salazar C, Mondal HA, Shulaev E, Cortes DF, Shuman JL, Luo X, Shah J, Schlauch K, Shulaev V, Mittler R. Temporal-spatial interaction between reactive oxygen species and abscisic acid regulates rapid systemic acclimation in plants. *Plant Cell.* 2013;25: 3553–3569.

5. Louis J, Gobbato E, Mondal HA, Feys BJ, Parker JE, Shah J. Discrimination of *Arabidopsis* PAD4 activities in defense against green peach aphid and pathogens. *Plant Physiol.* 2012;158: 1860–1872.

4. Mondal HA, Chakraborti D, Majumder P, Roy P, Roy A, et al. Allergenicity assessment of *Allium sativum* leaf agglutinin, a potential candidate protein for developing sap-sucking insect resistant food crops. *PLoS ONE.* 2011;6(11): e27716. doi: 10.1371/journal.pone.0027716

3. Sengupta S, Chakraborti D, Mondal HA, Das S. Selectable antibiotic resistance marker gene-free transgenic rice harbouring the garlic leaf lectin gene exhibits resistance to sap-sucking plant hoppers. *Plant Cell Rep.* 2010;29(3):261–271.

2. Sarkar A, Hess D, Mondal HA, Banerjee S, Sharma HC, Das S. Homodimeric alkaline phosphatase located at *Helicoverpa armigera* midgut, a putative receptor of Cry1Ac, contains α-GalNAc in terminal glycan structure as interactive epitope. *J Proteome Res.* 2009; 81838–1848.

1. Majumder P, Mondal HA, Das S. Monitoring of the insecticidal ability of *Arum maculatum* tuber lectin and its binding to glycosylated insect gut receptors. *J Agric Food Chem.* 2005;53: 6725–6729.

12. **Courses Taught: [Last academic year only]**

GPB 603: Molecular Cytogenetics for Crop Improvement (2+0)
MBB 601: Plant Molecular Biology (3+0)
MBB 518: Gene regulation (2+0)
GPB 506: Molecular Breeding and Bioinformatics (2+1)

13. **Student Guidance:**
    - M.Sc. Guided: 09 (CPGSAS-07, UBKV-02)
    - Ph.D. Guided: 01 (CPGSAS), Thesis submitted- 01 (CPGSAS)
14. **Workshops / Training / Conferences Organized:** Farmers' Trainings - **07**
15. **Google Scholar / ORCID / ResearchGate / Scopus ID:**

Google Scholar: Hossain A Mondal (0000-0001-5181-0300) - Google Scholar
ORCID: Mondal (0000-0001-5181-0300) - My ORCID
Scopus ID: Mondal, Hossain Ali - Author details - Scopus Preview