Curriculum Vitae Of

MD. HASIBUR RAHAMAN HERA

Senior Scientific Officer,
Plant Pathology Division,
Bangladesh Rice Research Institute (BRRI), Gazipur.

Research Interests:

My research interests are centered around the molecular aspects of plant-pathogen interactions, with a specific focus on understanding the proteomics and gene expression dynamics during conidiation in the rice blast pathogen, *Magnaporthe oryzae*. My academic and professional background has equipped me with a comprehensive skill set in plant pathology, molecular biology, and genomics. I am particularly enthusiastic about investigating the intricate mechanisms governing fungicide resistance, genetic diversity in plant pathogenic fungi, and the molecular basis of rice false smut disease.

Key Research Areas:

I am deeply passionate about exploring the intricate molecular mechanisms underlying fungal development and pathogenicity, particularly in the context of the Rice Blast Pathogen, *Magnaporthe oryzae*. My research interests are closely aligned with the following key areas:

Conidiation and Appressorium Formation: My interest in the regulation of conidiation and appressorium formation in *Magnaporthe oryzae*.

Proteomics and Gene Expression Profiling: Study on gene expression profiling during conidiation, I am eager to delve into the proteomic landscape during this developmental stage, aiming to contribute valuable insights to the understanding of *Magnaporthe oryzae*'s life cycle.

Blast Resistance: Employing molecular approaches to understand and enhance resistance in rice varieties against *Magnaporthe oryzae*.

Genetic and Molecular Characterization: Utilizing genome sequencing techniques for germplasm characterization and the analysis of genetic and molecular identities among field isolates of rice pathogens.

Disease Surveillance and Reporting: Investigating the host range of rice blast and conducting studies to identify the source of infection for major rice diseases.

Marker-Assisted Breeding: Employing marker-assisted backcross breeding for the improvement of high-yielding varieties resistant to blast and bacterial blight diseases.

Biological Control: Exploring biological control methods, including the use of antagonistic bacteria and nano-particles, for managing fungal and other rice diseases.

Job Experience

Position	Duration		Institution
	From	To	
Scientific Officer	26-7-2015	22-08-2017	Bangladesh Rice Research Institute (BRRI), R/S Sonagazi, Feni
Scientific Officer	27-08-2017	23-12-2021	Bangladesh Rice Research Institute (BRRI), R/S, Barishal
Scientific Officer	2-1-2022	14-05-2025	Bangladesh Rice Research Institute, Plant Pathology Division, Gazipur
Senior Scientific Officer	15-05-2025	To date	Bangladesh Rice Research Institute (BRRI), R/S, Barishal

Research Publications

1.Md Hasibur Rahaman Hera, Mohammod Hossain, Alok Kumar Paul. **Effect of Foliar Zinc Spray on Growth and Yield of Heat Tolerant Wheat Under Water Stress.** *International Journal of Biological and Environmental Engineering.* Vol. 1, No. 1, 2018, pp. 10-16.

2. Latif, M.A., **Hera, M.H.R**., Rahman, L., Bhuiyan, M.R., Kayess, M.O., Rashid, M.M., Hasan, M.A.-I., Khan, M.A.I. and Saito, H. (2025), Pyramiding of Multiple Resistance Genes for Bacterial Leaf Blight and Blast Diseases in Premium Quality Rice BRRI dhan81 Through Marker-Assisted Selection. *Plant Pathol*. https://doi.org/10.1111/ppa.14112 **(IF: 2.3)**

3. Mahmud, Q. M., Bhuiyan, M. R., Hossain, M. M., Ausraf, N., Islam, M. S., **Hera, M. H. R**., ... & Khan, M. A. I. (2024). **Pathogenicity of rice blast isolates (*Pyricularia oryzae*) in irrigated lowland of Bangladesh.** *Journal of Phytopathology*, *172*(1), e13271. https://doi.org/10.1111/jph.13271 **(IF: 3.4)**

4. Naher UA, Biswas JC, Maniruzzaman M, Khan FH, Sarkar MIU, Jahan A, **Hera MHR**, Hossain MB, Islam A, Islam MR and Kabir MS (2021) **Bio-Organic Fertilizer: A Green Technology to Reduce Synthetic N and P Fertilizer for Rice Production.** *Front. Plant Sci.* 12:602052. doi: 10.3389/fpls.2021.602052 **(IF: 5.6)**

5. Hossain, M. Z., Rahman, M. M., Morshed, M. N., Uddin, M. E., **Hera, M. H. R.**, Sultana, N. & Hashem, M. A. (2023). **Yield response of rice (Oryza sativa L.) to elevated potassium applied under the irrigated ecosystem of Bangladesh.** *Eurasian Journal of Soil Science*, 12 (2), 104-110. DOI: 10.18393/ejss.1198190 **(IF: 1.3)**

6. Rashid, M.M., Begum, S., Manir, M.R., **Hera, M.H.R**. *et al.* Response of grain yield and soil health to the individual application of organic fertilizers and chemical fertilizers in the rice-rice cropping systems. *Discov Agric* **3**, 49 (2025). https://doi.org/10.1007/s44279-025-00201-y **(ESCI and Scopus)**

7. Maniruzzaman, S., Debsharma, S. K., Ahmed, M. E., Ali, M. H., & **Hera, M. H. R. GGE Biplot Analysis for Genotype× Environment Interaction on Yield Trait of rice in Bangladesh Irrigated Environments.** *The Agriculturists* 19(1&2):63-72(2021)

8. Kunwar, Uttam Bahadur, **Md. Hasibur Rahaman Hera**, and Jiancheng Wen. 2025. "**Root System Architecture (RSA) and Drought Tolerance in Rice: Exploring Genetic Mechanisms and Genomic Approaches for Enhancing RSA**". *Asian Journal of Advances in Agricultural Research* 25 (2):45-58. https://doi.org/10.9734/ajaar/2025/v25i2584.

9. Galib MAA, Chakrobarty T, **Hera MHR**, Farzana S and Rahman MM (2022). **Effect of potassium fertilizer and alternate wetting and drying (AWD) irrigation system for Boro rice cultivation in Faridpur region.** *International Journal of Natural and Social Sciences*, 9(1): 01-13. DOI: 10.5281/zenodo.6665068

10. Md. Moniruzzaman, Md. Niaz Morshed, Md Mahfuzur Rahman, Md. Eftekhar Uddin, **Md Hasibur Rahaman Hera,** Naznin Sultana, Md. Abul Hashem (2022), **Can nitrogen fertilizer rates affect the yield response of Boro rice (*Oryza sativa* L.) variety on the Old Brahmaputra floodplain soil of Bangladesh?** *IJB*, V21, N2, August, P27-33

11. Md. Niaz Morshed, Md. Eftekhar Uddin, Md **Hasibur Rahaman Hera**, Naznin Sultana. **Effect of temperature, rainfall and relative humidity on seasonal incidence of major rice insect pests.** *International Journal of Biosciences*,2020 | IJB | ISSN: 2220-6655 (Print), 2222-5234 (Online) http://www.innspub.net Vol. 17, No. 6, p. 92-102, 202. DOI: 10.12692/ijb/17.6.92-102

12.MN Morshed, MTH Howlader, MR Islam, N Sultana and **MHR Hera**. **Effect of abiotic factors on the seasonal incidence of Rice yellow stem borer, *Scirpophaga incertulas* (Walker) and rice leaf folder, *Cnaphalocrocis medinalis* (Guenee) population at the south-east coastal region of Bangladesh.** *Journal of Entomology and Zoology Studies* 2020; 8(3): 1321-1326

13. Rashid, M M, M S Islam, M R Manir, M S Rahaman, **M H R Hera**, S Begum, and A K M Shalahuddin. 2024. "**Using Combined Nutrient Management Practices to Maximize Yields, Nutrient Uptake, and Balance for Rice-Rice Cropping Systems**". *Asian Journal of Soil Science and Plant Nutrition* 10 (4):770-78. https://doi.org/10.9734/ajsspn/2024/v10i4448.

14. Khan, M. A. I., **Hera, M. H. R**., Rahaman, S., Moni, Z. R., Hussen, M. A. M., Someya, T., & Ueno, K. (2019). **Way of compost application for organic farming.** *SAARC Journal of Agriculture*, *17*(1), 211-217.

15. A.K. Paul*, T. K. Bala, S. Shahriar and **H. R. Hira**. **Effect of Foliar Application of Zinc on Yield of Wheat Grown under Water Stress Condition.** *International Journal of Bio-resource and Stress Management* 2016, 7(5):1025-1031. HTTPS://DOI.ORG/10.23910/IJBSM/2016.7.5.1645b

16. Sheikh Maniruzzaman, Tahmina Akter, Md. Azizur Rahman, **Md. Hasibur Rahaman Hera** and , Md. Maksudul Haque **Effect of Level of Phosphorus and Mulching on Growth and Yield of Tomato (*Lycopersicon lycopersicum* L.)** Glo. Adv. Res. J. Agric. Sci. November 2018 Vol: 7(11): 348-365

17. Aktarujjaman, M., Majumder, S., Haq, M. E., Tamima, T., Parvin, A., Saha, S., Ahmed, M., **Hera, M. H.R**, & Hassan, S. (2019). **Evaluation of Some Tomato Genotypes against Tomato Fruit Borer Infestation, Growth Parameters and Some Chemical Constituents.** *Asian Research Journal of Agriculture*, *11*(2), 1-6. https://doi.org/10.9734/arja/2019/v11i230054

18. Md. Zafrul Hasan, Md. Amirul Islam, Md. **Hasibur Rahaman Hera,** Md. Niaz Morshed and Md. Kamrul Hassan. **Effects of Different Coating Materials on Shelf Life and Quality of Mango.** May 2020 *Trends in Horticultural Research* 10(1):1-1 DOI: 10.3923/thr.2020.1.10

19. Md. Zafrul Hasan, Md. Niaz Morshed, Md. Amirul Islam, **Md. Hasibur Rahaman Hera,** Md. Kamrul Hassan (2020). **Effects of Different Concentrations of Chitosan on Shelf Life and Quality of Mango.** *Sustainability in Food and Agriculture*, 1(1): 21-26.

20. MA Islam, MY Kabir, NT Shuvra and **MHR Hera. Effect of different organic manures and fertilizers on growth and yield of knol-khol (*Brassica oleracea* var. *gongylodes* L.)** June 2020 *Malaysian Journal of Halal Research* 3(2):56-62. DOI: 10.2478/mjhr-2020-0010 License CC BY 4.0

21. Alam, M. S., Ali, M., Hossain, M. M., Hossain, M. S., Islam, M. A., & **Hera, M. H. R. (**2021). **Management Practices for Whitefly and Thrips in Mungbean.** *Malaysian Journal of Halal Research*, *4*(2), 42-51.

22. Mahbuba Akther Mishu, Fardous Ara Happy, Farzana Yeasmin, G.M. Amzad Hossain and **Md. Hasibur Rahaman Hera**. **Impact of ASA NGO's Microcredit Program on Livelihood of Rural People in Mymensingh District, Bangladesh**. *American Journal of Agricultural and Biological Sciences* 2020, Volume 15: 51.59. DOI: 10.3844/ajabssp.2020.51.59

23. Rahman, H., Happy, F. A., Efan, A. H., & **Hera, M. H. R**. (2019). **The small-scale dairy value chain analysis: challenges and opportunities for dairy development in Mymensingh district of Bangladesh.** *SAARC Journal of Agriculture*, *17*(2), 213-226.

24. Aziza L, Fardous A H, Farjana Y, **Hasibur R H**. **Production and Marketing of Cucumber in Some Selected Areas of Mymensingh District.** *Agri Res & Tech: Open Access* J. 2018; 15(5): 555969. DOI: 10.19080/ARTOAJ.2018.15.555969.

25. Palash Kumar Kundu, Md. Ferdous Parvez, Dr. Tapos Kumar Acharjee, Sheikh Maniruzzaman, Sanjoy Kumar Debsharma, Golam Sarwar Jahan, **Md. Hasibur Rahaman Hera**, Aishik Debnath, Md. Rezoan Bin Hafiz Pranto. **Rainfall Induced Saline Soil Management through Leaching.** *North American Academic Research*, Volume 3, Issue 07; July,2020; 3(07) 208-222 ©TWASP, USA208

Conference Paper:

1.Md. Abdul Kader1*, Partha Sarathi Biswas1, Helal Uddin Ahmed1, Md. Alamgir Hossain1, Md. Rafiqul Islam1, Md. Nazmul Bari1, Muhammad Ali Siddiquee1, Tapas Kumer Hore1, Md. Maksudul Haque1, Al Amin1, Md. Khairul Alam Bhuiyan1, Md. Panna Ali1, Md. Abul Monsor1, Masud Iqbal1,Habibul Bari Shozib1, Nilufa Ferdous1, Mohammod Hossain1, Aminul Islam1, Md. Salim Mian1, Mamunur Rashid1, Md. Adil1, Shamima Akter1, Fahmida Akter1, Md. Harun-Or-Rashid1, Md. Abu Syed1, A.T.M. Sakhawat Hossain1, Sheikh Maniruzzaman1, **Hasibur Rahman Hera1**, Golam Sarwar Jahan1, Md. Abdul Latif1, Tamal Lata Aditya1, Md. Ansar Ali1, Md. Shahjahan Kabir1, Md. Russell Reinke2, Mallikarjuna Swamy2, Raul Boncodin2, and Donald J. MacKenzie. **Updates of Golden Rice Research in Bangladesh, 2018.**

2.**Green Synthesis,Characterization of Nano-Particles and Their Efficacy Against Sheath Blight and Bacterial Blight Diseases of Rice, An Ecofriendly Approach**. MA Latif, SI Babor, MAI Khan, S Akter, R Akter **MHRH** and MRB. International Symposium for the 50 Years of BRRI. 24 February 2023 |Bangladesh Rice Research Institute (BRRI),*1101*.

3. Latif, M. A., Khan, M. A. I., Nihad, S. A. I., Bhuiyan, M. R., **Hera, M. H. R**., Rahman, L., Hasan, R., Islam, N., & Hasan, M. A.-I. (2023, October 16). **Recent updates on physiological races of Xanthomonas oryzae pv. oryzae, stringent evaluation of germplasm, and gene pyramiding of both Bacterial Blight & Blast resistance in Bangladesh.** https://doi.org/10.5281/zenodo.10398249

4**. Hera, M. H. R**., & Mohammad Abdul Latif. (2023, October 16). **Phenotypic screening of advanced breeding lines against bacterial blight (BB) disease in rice.** https://doi.org/10.5281/zenodo.10398422

5. Baktiar, M. H. K., Hossain, M. A., Hassan, L., Siddique, M. A., Ausraf, N., Bhuiyan, M., **Hera**, M., Khaton, A., & Khan, M. A. I. (2023, October 16). **Blast resistance revealed a significant relationship with morphological characters in rice (Oryza sativa L.) germplasm.** https://doi.org/10.5281/zenodo.10399266

6. Khan, M. A. I., Das, S., Khatun, M., Ausraf, N., **Hera, M. H. R**., Bhuiyan, M. R., Rashid, M. M., Ara, A., Iftekharuddaula, K. M., & Latif, M. A. (2023, October 16). **Xa21 Gene-Derived Lines Reveal Robust Bacterial Leaf Blight (BLB) Disease Resistance in Rice Against Bangladeshi Strains.** https://doi.org/10.5281/zenodo.10399830

7. Rodru, Ausraf, Mahmud, Islam, Hossain, Quddus, Ahmed, Bhuiyan, Rashid, **Hera**, Ara, Ansari, Latif, & Khan. (2023, October 16). **Characterization and management of seedling blight pathogen in seedling tray for enhancing mechanized cultivation in Bangladesh.** https://doi.org/10.5281/zenodo.10399168

8. Khan, M., Quddus, M., Ausraf, N., Bakar, M., Bhuiyan, M., Rashid, M., **Hera**, M., Nihad, S., Dilzahan, H., Ara, A., Ahmed, M., Rahman, M., & Latif, M. (2023, October 16). **Genome-wide association mapping revealed novel genomic loci for blast resistance in Bangladesh rice landraces.** https://doi.org/10.5281/zenodo.10399174

Bulletin:

1. Md. Alamgir Hossain, Mohammod Hossain, Sheikh Maniruzzaman, **Md. Hasibur Rahaman Hera** and Palash Kundu, **Boro rice cultivation in greater Barisal region (in Bengali)**, November 2017.

2. Md. Alamgir Hossain, Mohammod Hossain, Moniruzzaman Kabir, Abu Syed , **Md. Hasibur Rahaman Hera** and Palash Kundu, **Aus rice cultivation in greater Barishal region (In Bengali),** April 2018.

3. Md. Alamgir Hossain, Mohammod Hossain, Moniruzzaman Kabir, Abu Syed , **Md. Hasibur**

Rahaman Hera and Palash Kundu, **Cultivation technology of BRRI dhan76 and BRRI dhan77 for non-saline tidal region (In Bengali),** June 2019.

4. Md. Alamgir Hossain, Mohammod Hossain, Moniruzzaman Kabir, Abu Syed ,**Md. Hasibur Rahaman Hera** and Palash Kundu, **Boro rice cultivation in greater Barisal region (in Bengali),** November 2019.
5. ধানের খোল পোড়া রোগ দমনে কৃষকের করণীয় (ব্রি প্রকাশনা নম্বরঃ ৪১৪; প্রকাশকালঃ জুন, ২০২৪)
6. ধানের ব্যাকটেরিয়াজনিত পাতাপোড়া ও লালচে রেখা রোগের প্রাদুর্ভাব ও করণীয় (ব্রি প্রকাশনা নম্বরঃ ৪১৫; প্রকাশকালঃ জুন, ২০২৪)

No. of technology developed:

As Principal- Investigator

1.Integrated blast management technique to the farmer's field

As Co- Investigator

1. ধানের খোল পোড়া রোগ দমনে কৃষকের করণীয় (ব্রি প্রকাশনা নম্বরঃ ৪১৪; প্রকাশকালঃ জুন, ২০২৪)

2. ধানের ব্যাকটেরিয়াজনিত পাতাপোড়া ও লালচে রেখা রোগের প্রাদুর্ভাব ও করণীয় (ব্রি প্রকাশনা নম্বরঃ ৪১৫; প্রকাশকালঃ জুন, ২০২৪)

3. Boro rice cultivation procedure in greater Barisal region (November, 2019)
4. Cultivation technology of BRRI dhan76 and BRRI dhan77 for non-saline tidal region (June, 2019)
5. Aus,rice cultivation procedure in greater Barisal region (April, 2018)
6. Boro rice cultivation procedure in greater Barisal region (November, 2017)
7. Bio-Organic Fertilizer: A Green Technology to Reduce Synthetic N and P Fertilizer for Rice Production
8. Find out effective chemical(s) to manage blast disease of rice.
9. বীজতলায় কীটনাশকমুক্ত ধানের চারা উৎপাদনে আয়তাকার হাতজাল উদ্ভাবন

Relevant activities and achievement

(i) ***Membership***

1. Annual Performance Agreement (APA) Committee of Plant PathologyDivision
2. Boro 2021-22 District Monitoring Team
3. ব্রি বার্ষিক গবেষণা পর্যালোচনা কর্মশালা ২০২২-২৩ আয়োজনের প্রদর্শনী স্টল ব্যবস্থাপনা উপ-কমিটি
4. বিভিন্ন জাতীয় দিবসে বহিরাঙ্গন খেলাধুলা পরিচালনা কমিটি
5. মাঠ মূল্যায়ন কমিটি

(ii) Training conducted

1. Participated as trainer in Sub Assistant Agricultural Officer, DAE in conducted by BRRI Training Division, Gazipur.
2. Participated as trainer in farmers training in Gazipur, Rangpur, Chittagong and Barishal Region.

(iv) Participation in workshops (In Country and Abroad)

1. 6th Internatonal Rice Congress
2. KOICA-UPLB-IRRI seminar featuring Dr. Michael Purugganan and his talk on "**Selection and Gene Expression on the Rice Genome**". Given this 8th day of August 2023 at the University of the Philippines Los Banos Rural Economic Development and Renewable Energy Center Auditorium.
3. Shaping the Future Virtual Seminar on Speed Breeding Technology entitled "**Speed Breeding Crops to Feed 10 billion**" by Lee Hickey, PhD (29.07.2020)
4. 3rd KOICA-UPLB-IRRI International Conference on "**Application of Genomics and Bioinformatics to Agriculture, Aquaculture, and Natural Resources**"Co-organized by PSBMB-SLC, August 13-14, 2024; DL Umali Building, International Rice Research Institute Headquarters (IRRI)
5. "**ANN Based Image Processing for Plant Disease Detection and Classification**" on 23rd May, 2021
6. "**Climate smart practices and varieties for intensive rice-based systems in Bangladesh and India**" at Hotel Radisson Blu Chittagong Bay View, Chittagong on November 21-22, 2016
7. "**Piloting of Climate Resilent Agricultural Practices in Bangladesh**" on August 21-22,2017 at Hotel Radix, Feni.
8. BRRI Annual Researh Review workshop at BRRI Auditorium.
9. Training Workshop on Seaweed Cultivation
10. "**Exploring new source of blast resistance and pyramiding blast resistant genes into boro rice**" on August 31,2017 at VIP Conference room, BRRI, Gazipur 1701.
11. "**অধিক ফলনশীল হাইব্রিড ধানের জাত উদ্ভাবন গবেষণা ও আধুনিকায়ন**" শীর্ষক প্রকল্পের রিভিউ কর্মশালা" on June27,2024 at BRRI Auditorium, BRRI, Gazipur 1701.
12. Human Resources Development through PARTNER Program" dated 6 June 2024 Thursday in Auditorium-1, BARC
13. PBRG, NATP-2, BARC funded "**Formulation of biopesticides to control bakanae disease of rice in field condition**" project closing workshop on December22,2022 at Training Complex, BRRI, Gazipur 1701.
14. "**Linkage and QTL mapping of Tungro resistance in Rice (ID- BR2- C/17)**" on August 31,2017 at VIP Conference room, BRRI, Gazipur 1701.
15. **নতুন ৬ টি আঞ্চলিক কার্যালয় স্থাপনের মাধ্যমে স্থানভিত্তিক ধানের জাত ও প্রযুক্তি উদ্ভাবন এবং বিদ্যমান গবেষণাগার উন্নয়ন (এল এস টি ডি)** শীর্ষক প্রকল্পের "প্রারম্ভিক এবং বাৎসরিক অগ্রগতি" বিষয়ক কর্মশালা on June27,2024 at BRRI Auditorium, BRRI, Gazipur 1701.
16. Capacity Building for Conducting Adaptive Trials on Seaweed Cultivation in Coastal Areas
17. Pest Management Program Area Planning Workshop at training conference room BRRI.
18. Varietal Development Programme workshop at VIP conference room BRRI.
19. The 3rd International Agrobiodiversity Congress (scheduled for 20–22 May 2025 in Kunming, Yunnan, China)
20. The 3rd International Conference of Tropical Plants (ICTP2025) at Kunming World Expo Garden Hotel, Yunnan, China (Conference time: **February 13-16, 2025)**
21. **"Leading beakthroughs: gene drives for a sustainable agriculture and biodiversity conservation" (9 December 2024) at International Service for the Acquisition of Agri-biotech Applications**
22. **The 22nd Kunming International Flower Expo of China & Kunming International Flowers and Plants Expo (KIFE & IFEX 2024) at Kunming Dianchi International Convention & Exhibition Center On September 20th-22th, 2024.**
23. SAKURA SCIENCE Exchange Program administrated by Japan Science and Technology Agency. (February 21 to March 13, 2025)

(v) ***Providing clinical and advisory support to farmers and extension personnels***

1. Through farmer's field and office
2. At the time of disease survey

(vi) PVT team member

1. Performed Proposed Variety Trial (PVT) as a member of pathologist in Chittagong region, Barishal region, Jamalpur, Manikganj, Faridpur and Gopalganj.

(vii) Radio Talk

1. Performed Radio Talk at Bangladesh Betar Barishal.

Outstanding achievement

1) The plant pathology division has won the third position among the 37 divisions/sections in the execution of Annual Performance Agreement (APA) with the Director General, BRRI during the financial year 2022-23. I have worked as member of this APA committee.

2) **Yuan Longping High-tech Agriculture Co. Ltd, China Training Course Award (2018):**
Recognized by Yuan Longping High-tech Agriculture Co. Ltd, China for participation in the Training Course on Hybrid Rice Technology for Bangladesh in 2018, showcasing dedication to advancing agricultural knowledge and technology.

3) **Bill and Melinda Gates Foundation Fellowship - ICRISAT, Hyderabad, India (2022):**
Awarded a fellowship by the Bill and Melinda Gates Foundation through the One CGIAR GENDER Platform for participation in the Gender-Responsive Plant Breeding and Seed Systems in South Asia at ICRISAT, Hyderabad, India. This experience has enriched my understanding of gender-responsive approaches in agriculture.

4) **6th International Rice Congress 2023 Fellowship:**
Honored with a fellowship by the IRC Organizing Committee for participation in the 6th International Rice Congress 2023 held at the Philippine International Convention Center, Manila, Philippines. This opportunity allowed me to engage with the global rice research community and stay abreast of the latest advancements in the field.

5) Award Letter for PARTNER PhD Fellowship in Yunnan Agricultural University, China

6) Dissemination of blast management technologies in southern region.

7) Evaluation of new molecules against major rice diseases.

8) Obtained Distinction in the **"Two-month Rice Production and Communication Training Course**" held at BRRI Gazipur.

9) Bio-Organic fertilizers for rice production.

10) Supervised the advanced materials evaluation for variety release.

11) Obtained first place in the "Crop Improvement through Plant Biotechnology" training from January 15, 2023, to January 19, 2023, at the National Agriculture Training Academy (NATA).

12) Obtained first place in the "English Language and Skills Development" training from 29/10/2023 to 07/11/2023, at the National Agriculture Training Academy (NATA).

13) Receiving the certificate of attendance in the 6th International Rice Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

14) Receiving the certificate of presentation as a main author for the abstract titled "**Phenotypic screening of advanced breeding lines against bacterial blight (BB) disease in rice**" at the 6th International Rice

Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

15) Receiving the certificate of presentation as a co-author for the abstract titled ' **Blast resistance revealed a significant relationship with morphological characters in rice (*Oryza sativa* L.) germplasm** ' at the 6th International Rice Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

16) Receiving the certificate of presentation as a co-author for the abstract titled '**Xa21 Gene-Derived Lines Reveal Robust Bacterial Leaf Blight (BLB) Disease Resistance in Rice Against Bangladeshi Strains**' at the 6th International Rice Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

17) Receiving the certificate of presentation as a co-author for the abstract titled "**Characterization and management of seedling blight pathogen in seedling tray for enhancing mechanized cultivation in Bangladesh**" at the 6th International Rice Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

18) Receiving the certificate of presentation as a co-author for the abstract titled "**Genome-wide association mapping revealed novel genomic loci for blast resistance in Bangladesh rice landraces**." at the 6th International Rice Congress, held at the Philippine International Convention Center, Manila, Philippines, October 16-19, 2023.

19) Abstract accepted by the scientific committee of the 3rd APBA (African Plant Breeders Association) conference to be presented.

20) Abstract accepted by the scientific committee of the 9th International Nitrogen Conference (N2024) conference to be presented.

21. Sakura science exchange program fellowship in Japan 2025

Training: In Country

	Organization	Duration		Name of Program
		To	From	
01	Bangladesh Rice Research Institute, Gazipur-1701	30/08/2015	28/10/2015	Two-month Rice Production and Communication Training Course
02	Bangladesh Rice Research Institute, Gazipur-1701	01/01/2017	05/01/2017	Programming R for Experimental Design and Data Analysis
03	Bangladesh Rice Research Institute, Gazipur-1701	04/03/2017	06/03/2017	Modern Rice Production Training Course
04	Bangladesh Rice Research Institute, Gazipur-1701	08/04/2017	10/04/2017	Experimental Design and Data Analysis Training Course
05	Bangladesh Rice Research Institute, Gazipur-1701	05/11/2017	09/11/2017	Hybrid Rice Development and Seed Production Training Course
06	National Agriculture Training Academy (NATA)	07/04/2018	12/04/2018	Eco-friendly Plant Protection Technology
07	Bangladesh Rice Research Institute, Gazipur-1701	16/03/2019	21/03/2019	Basic Molecular Biology and Disease Resistance
08	National Agriculture Training Academy (NATA)	02/02/2020	06/02/2020	Rules and Regulations for Organizational Management
09	Bangladesh Rice Research Institute, Gazipur-1701	18/10/2020	22/10/2020	Scientific Report Writing Training Course
10	Bangladesh Rice Research	30/10/2021	04/11/2021	Advanced Research Data

Training Experience

	Institute, Gazipur-1701			Management using R Studio and Refresher of Scientific Report Writing Training Course
11	National Agriculture Training Academy (NATA)	19/09/2021	28/09/2021	Eco-friendly Plant Protection Techniques
12	PIU-BARC National Agricultural Technology Program Phase 2 Project	05/02/2022	09/02/2022	Scientific Report Writing Training Course
13	Bangladesh Rice Research Institute, Gazipur-1701	26/6/2022	30/6/2022	Hybrid Rice Cultivation and Seed Production Technologies
14	Bangladesh Rice Research Institute, Gazipur-1701	25/7/2022	28/07/2022	Integrated Pest Management Using Seamless Climate Information Training
15	National Agriculture Training Academy (NATA)	15/01/2023	19/01/2023	Crop Improvement through Plant Biotechnology
16	National Agriculture Training Academy (NATA)	29/10/2023	07/11/2023	English Language and Skills Development
17	Bangladesh Agricultural Research Council (BARC)	30/01/2024	01/02/2024	Technical Report Writing and Editing
18	Bangladesh Rice Research Institute, Gazipur-1701	24/04/2024	25/04/2024	Public Service Innovation
19	Bangladesh Agricultural Research Council (BARC)	25/05/2024	29/05/2024	Genome Editing of Agricultural Research
20	Bangladesh Rice Research Institute, Gazipur-1701	12/06/2024	30/06/2024	Bioinformatics for Future Rice

Training: Abroad

	Organization	**Duration**		**Name of Program**
		To	From	
01.	Yuan Longping High-tech Agriculture Co. Ltd, China	31/07/2018	28/09/2018	Training Course on Hybrid Rice Technology for Bangladesh,2108
02.	ICRISAT, Hyderabad, India	12/09/2022	17/09/2022	Gender-Responsive Plant Breeding and Seed Systems in South Asia
03	Yuan Longping High-tech Agriculture Co. Ltd, China	24/05/2023	06/06/2023	Training Course on Hybrid Rice Comprehensive Technology for Developing Countries (Online)
04	Yuan Longping High-tech Agriculture Co. Ltd, China	13/07/2023	26/07/2023	Training courses on post-harvest processing technology for developing countries (Online)
05	Japan Science and Technology Agency	21/02/2025	13/03/2025	SAKURA SCIENCE Exchange Program

Research programme developed, supervised and executed

Sl. No	Research programme name	PI	CI	Year of initiation	Remarks
1	Regional Yield Trial from Biotechnology Division, T. Aus 2015	PI	-	2015	Executed
2	Regional yield trial (RYT) from Biotechnology Division, T. Aman 2015	PI	-	2015	Executed
3	Regional yield trial (RYT) from Biotechnology Division, Boro 2015-16	PI	-	2015	Executed
4	Proposed variety trial, T. Aman 2015	PI	-	2015	Executed
5	Survey on indigenous rice products of BRRI varieties	-	CI	2015	Executed
6	Survey and monitoring of rice diseases in Sonagazi	-	CI	2015	Executed

7	Stability analysis of BRRI varieties, T. Aman 2015 and Boro 2015-16	PI	-	2015	Executed
8	Regional yield trial (PQR-1) for development of Premium Quality Rice (Kalizira type), T. Aman, 2016	PI	-	2016	Executed
9	Regional yield trial (PQR-2) for Development of Premium Quality Rice in T. Aman 2016	PI	-	2016	Executed
10	Regional yield trial (PQR-3) for Premium Quality Rice in Aman 2016	PI	-	2016	Executed
11	Regional yield trial for Micronutrient Enriched Rice, T. Aman 2016	PI	-	2016	Executed
12	Regional yield trial for (RYT-Bio), T. Aman 2016	PI	-	2016	Executed
13	Regional yield trial (MER-1) for Micronutrient Enriched Rice during Boro 2016-17.	PI	-	2016	Executed
14	Regional yield trial (MER-2) for the development of Micronutrient Enriched Rice during Boro, 2016-17.	PI	-	2016	Executed
15	Regional yield trial for the development of Disease Resistant Rice (DRR) during Boro 2016-17	PI	-	2016	Executed
16	Survey and monitoring of rice diseases in Chittagong region during Boro 2016-17	PI	-	2016	Executed
17	Effect of Integrated Nutrient Management on Growth and Yield of Aus Rice in Charland Area	-	CI	2016	Developed
18	Regional yield trial (RYT-Bio) for the development of Favorable Boro Rice during Boro 2017-18 season.	PI	-	2017	Executed
19	RYT (Breeding) for development of Favorable Boro Rice	PI	-	2017	Executed
20	Agronomic and phenotypic characterization of event GR2E-5 and Non-Transgenic Control Rice, BRRI dhan29, in Confined Field Trials at BRRI Barishal during Boro 2017-18	-	CI	2017	Developed
21	Chemical approach to manage rice blast disease	-	CI	2017	Developed
22	Rice disease status at Barishal region	-	CI	2017	Executed
23	Incidence of insect pest and natural enemy in light trap at BRRI Barishal during 2017-2018	-	CI	2017	Supervised
24	Long-term missing element trial for diagnosing limiting nutrient in BRRI Sagordi Barishal Farm	-	CI	2017	Supervised
25	Effect of planting date on growth and yield of BRRI released varieties in Boro seasons in different regions of Bangladesh.	PI	-	2017	Developed
26	Evaluation of bio-organic fertilizer in soil plant system	PI	-	2017	Developed
27	Demonstration, seed production and scaling up of BRRI rice varieties under SPIRA Project	-	CI	2017	Executed
28	Varietal Replacement through Head-to-Head Trial for Boro'17-18 under TRB	-	CI	2017	Executed
29	Stability and Adaptability Analysis of BRRI released variety in Aus 2018	-	CI	2018	Executed
30	Stability Analysis of BRRI released variety in Aman 2018	-	CI	2018	Executed
31	Screening of chemicals for controlling blast disease of rice, T. Aman 2018	-	CI	2018	Developed
32	Survey and monitoring of rice diseases in selected areas	-	CI	2018	Executed
33	Demonstration on the management options of blast disease at farmers' field of Barishal region.	PI	-	2018	Executed
34	Rice production using no or minimum use of insecticides	-	CI	2018	Executed
35	Varietal Replacement through Head-to-Head Trial for T. Aman18 under TRB	-	CI	2018	Executed
36	Demonstration, seed production and scaling up of BRRI rice varieties	-	CI	2018	Executed

	under GOB, SPIRA and other Projects				
37	Effect of planting date on growth and yield of BRRI released varieties in Aman season	PI	-	2018	Developed
38	Long term missing element trial for diagnosing limiting nutrient in BRRI Sagardi Barishal Farm in Aman 2018	-	CI	2018	Supervised
39	Proposed variety evaluation trial of hybrid rice, T. Aman 2019	-	CI	2019	Executed
40	Proposed variety evaluation trail of hybrid rice, Boro 2019-2020	PI	-	2019	Executed
41	Screening of available pesticides for controlling blast disease of rice, Boro 2019-2020	PI	-	2019	Developed
42	Demonstration on the management options of blast disease at farmers' field of Barishal region.	PI	-	2019	Developed
43	Advanced Line Adaptive Research Trial (ALART) in T. Aman 2019	PI	-	2019	Executed
44	Advanced Line Adaptive Research Trial (ALART) in Boro 2019-2020	PI	-	2019	Executed
45	Demonstration, seed production and scaling up of BRRI rice varieties under SPIRA Projects	PI	-	2019	Executed
46	Proposed variety evaluation trial of hybrid rice, T. Aman 2020	PI	-	2020	Executed
47	Proposed variety evaluation trial of hybrid rice, Boro 2020-21	PI	-	2020	Executed
48	Screening of available pesticides for controlling blast disease of rice, Aman 2020	PI	-	2020	Executed
49	Survey and monitoring of rice diseases in selected areas of Barishal region	PI	-	2020-21	Executed
50	Screening of available pesticides for controlling blast disease of rice, Boro 2020-21	PI	-	2021	Developed
51	Advanced Line Adaptive Research Trial (ALART) in T. Aus 2020	PI	-	2020	Executed
52	Advanced Line Adaptive Research Trial (ALART) in Boro 2020-2021	PI	-	2020	Executed
53	Demonstration, seed production and scaling up of BRRI rice varieties under SPIRA Projects	PI	-	2020-21	Executed
54	Survey and monitoring of rice diseases in different agro-ecological zones	-	CI	2021	Executed
55	Improvement of differential system for rice blast disease in Bangladesh	-	CI	2021	Developed
56	Etiology, epidemiology and management of Bacterial Panicle Blight (BPB): an emerging and climate sensitive rice disease in bangladesh	-	CI	2021	Developed
57	Evaluation of BB and blast resistant advance lines in multilocation trial	-	CI	2021	Developed
58	Development of multiple disease resistant (blast and bacterial blight) pre-breeding materials using gene pyramiding approach (Long Duration)	-	CI	2021	Developed
59	Development of multiple disease resistant (blast and bacterial blight) medium growth duration pre-breeding materials for Boro 2021-22	-	CI	2021	Developed
60	Development of Bacterial blight resistant pre-breeding materials using gene pyramiding approach (Long Duration)	-	CI	2021	Developed
61	Development of Bacterial blight resistant medium duration pre-breeding materials for Boro 2021-22	-	CI	2021	Developed
62	Pyramiding of blast and Bacterial blight resistant Genes into the Genetic Background of BRRI dhan63	-	CI	2021	Developed
63	Pyramiding of blast and Bacterial blight resistant Genes into the Genetic Background of BRRI dhan81	-	CI	2021	Developed
64	Gene pyramiding for bacterial blight (BB) resistance	-	CI	2021	Developed
65	Development of pre-breeding materials of BB and False smut resistance in the background of BRRI dhan49	-	CI	2021	Developed
66	Improvement of high yielding varieties for resistance to blast and bacterial blight diseases using marker assisted backcross breeding	-	CI	2021	Developed
67	Crop loss assessment of rice due to major diseases in Bangladesh	-	CI	2021	Developed
68	Environmental variation affects rice blast outbreak in Bangladesh	-	CI	2021	Developed
69	Sustainable management of blast, sheath blight and bacterial blight diseases of rice through nano-particles (NPs) (KGF Project)	-	CI	2021	Developed
70	Farmers training on integrated rice disease management	-	CI	2021-22	Executed
71	Survey and monitoring of rice diseases in different agro-ecological zones	-	CI	2022-23	Executed
72	Digitization of disease surveillance system and visualization at BRRI website	-	CI	2022-23	Developed
73	Development of Early Warning System (EWS) of rice blast disease	-	CI	2022-23	Developed
74	Improvement of differential system and selection of candidate gene for	-	CI	2022-23	Developed

	rice blast disease resistance in Bangladesh (JIRCAS)				
75	Re-ALART of short duration blast resistant rice (BRR) in Boro 2022-23	-	CI	2022-23	Executed
76	ALART of long duration blast resistant rice in Boro 2022-23	-	CI	2022-23	Executed
77	Introgression of multiple resistance genes for BB and Blast in the genetic background of elite BRRI varieties	-	CI	2022-23	Developed
78	Advanced yield trail of short duration Blast and Bacterial blight resistant materials	-	CI	2022-23	Developed
79	Regional Yield Trial (RYT) for Bacterial blight resistant advanced lines (MD) in Boro 2022-23	-	CI	2022-23	Developed
80	Regional Yield Trial (RYT) for Blast and Bacterial blight resistant advanced lines (LD) in Boro 2022-23	-	CI	2022-23	Developed
81	Development of pre-breeding materials of BB and False smut resistance in the background of BRRI dhan49	-	CI	2022-23	Developed
82	Development of bacterial blight resistant pre-breeding materials for T. Aus	-	CI	2022-23	Developed
83	Screening of advanced breeding lines against bacterial blight (BB) disease during Aman 2022 and Boro 2022-23	PI	-	2022-23	Executed
84	Development of blast resistant varieties using differential system and molecular markers (JIRCAS)	-	CI	2022-23	Developed
85	Detection of novel QTLs for blast and bacterial blight resistance revealed by genome-wide association studies in 112 rice landraces from Bangladesh	-	CI	2022-23	Developed
86	Determination of residual effect of fungicides in rice grain	-	CI	2022-23	Developed
87	Farmers training on integrated rice disease management	-	CI	2022-23	Executed
A total of research program developed As Principal Investigator: 5 As Co-Investigator: 32					
A total of research program Supervised As Principal Investigator: As Co-Investigator: 03					
A total of research program Executed As Principal Investigator: 30 As Co-Investigator: 17					