Curriculum vitae of Prof. Dr. Kazi Md. Kamrul Huda

1. General Information

Name	: **Dr. Kazi Md. Kamrul Huda (Grade 2)**
Father's Name	: Kazi A.S.M. Manzur Ahmed
Mother's Name	: Rokeya Begum
Date of Birth	: 07 July 1980
Nationality	: Bangladeshi
Religion	: Islam
Permanent Address:	: Vill.: Kayanizpara, P.O + P.S.: Saidpur, Upazilla: Saidpur District: Nilphamari
Present Address	: Professor, Dept. of Genetics and Plant Breeding Sher-e-Bangla Agricultural University Dhaka-1207, Bangladesh
Contact	: Mobile: 01783391872 E-mail: mashnul@gmail.com or hudakmk@sau.edu.bd

2. Education:

- **Ph.D in Life Science (Plant Molecular Biology),** International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi, India, (2010-2014). **Research topic:** Characterization of plasma membrane Ca^{2+}ATPase gene *OsACA6* from rice and its functional validation under abiotic stress

- **M.S. in Genetics and Plant Breeding,** Sher-e-Bangla Agricultural University, Bangladesh, (2006) **First class 2nd position, Research topic:** Optimization of in vitro plant regeneration protocol from cotyledons of Tossa Jute (*Corchorous olitorious*)

- **B.Sc. in Agriculture** (Honours), Sher-e-Bangla Agricultural University, Bangladesh, 2001 (exam held in 2004) **First class 1st position,**

3. Teaching/Research experiences

- **Part time teacher,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 25 August 2005 to 31 May 2006
- **Lecturer,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 01 June 2006 to 31 May 2008
- **Visiting Researcher,** Laboratory of Molecular Cell Biology of the Plants, Goethe-Universität, Frankfurt am Main, Germany for the period of four months, 2009
- **Assistant Professor,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 01 June 2008 to 25 May 2014
- **Associate Professor,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 26 May 2014 to 25 May 2018
- **Professor,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 26 May 2018 to till date
- **Post doctoral Researcher,** Ludwig-Maximilians-Universität (LMU) München, Germany for the period of two years 2015-2017
- **Visiting Scientist,** Institute of Horticultural Production Systems, Woody Plant and Propagation Physiology, Leibniz Universität Hannover, Germany for the period of six months, 2019

4. Administrative experiences

- **Chairman,** Dept. of Genetics and Plant Breeding, Sher-e-Bangla Agricultural University, Dhaka-1207 from 19 March 2019 to 18 March 2021
- **Associate Director**, Sher-e-Bangla Agricultural University Research System (SAURES), Sher-e-Bangla Agricultural University, Dhaka-1207 from 14 June 2021 to 28 Feb, 2023
- **Associate Director**, Dr. MA Wazed Mia Research Centre Sher-e-Bangla Agricultural University, Dhaka-1207 from 1 March 2023 to 10 Sep. 2024

5. Research experiences

Organized the Research System of Sher-e-Bangla Agricultural University as Associate Director of Sher-e-Bangla Agricultural University Research System (SAURES), SAU

Dhaka-1207. Research experience of 18 years. **Research carried out under different projects and successfully completed 12 (Twelve) research projects funded by The Alexander von Humboldt Foundation, Germany; International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy, UGC, MoST, SAURES and GoB.**

6. Professional Honors/Awards/Fellowship Received

- **Visiting Researcher Award from** from The Alexander von Humboldt Foundation (AvH), Germany, 2019
- **Return fellowships** from The Alexander von Humboldt Foundation (AvH), Germany From 2017-2018
- The Alexander von Humboldt Foundation (AvH) Research Award for **postdoctoral researchers,** Germany from 2015-2017
- **Research Fellowship** from Carl Friedrich von Siemens Foundation, Germany from 2015-2017
- **Gold medal** for outstanding academic performances, Faculty of Agriculture, 1st convocation of Sher-e-Bangla Agricultural University Dhaka-1207, in 2015
- **Pre-Doctoral Fellowship** from International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy, from 2010-2014
- **Travel grand for scientific** visit from Boehringer Ingelheim Fonds, Germany in 2009
- **Prime Minister Gold Medal Award,** For excellent result in B.Sc.Ag (Hons.) of faculty of Agriculture, Sher-e-Bangla Agricultural University, Bangladesh in 2005

7. Technology Generation/Research achievements

- Developed salinity stress tolerent transgenic rice expressing a DEAD-box RNA helicase, *OsDB10* [Published in Plant Molecular Biology (2023) 113:19–32]
- Developed marker free salinity stress tolerent transgenic rice by overexpressing *Psp68* gene [Published in Transgenic Research (2023) 32:293–304]
- Developed salinity stress tolerent transgenic rice expressing *OsBAT1* gene [Published in Plant Molecular Biology Reporter (2015) 33: 1192-1209]
- Developed salinity stress tolerent transgenic rice expressing *Psp68* gene [Published in Plant Molecular Biology Reporter (2015) 33(2): 221-238]

- Developed cadmium stress tolerent transgenic tobacco expressing *OsACA6* gene [Published in Planta (2014) 240:809–824]
- Developed cold stress tolerent transgenic tobacco expressing *OsACA6* gene [Published in Plant Physiology and Biochemistry (2014) 82:229-38]
- Developed salinity stress tolerent transgenic tobacco expressing Pea p68 gene [Published in PLoS ONE (2014) 9(5): e98287]
- Developed salinity and drought stress tolerent transgenic tobacco expressing *OsACA6* gene [Published in The Plant Journal (2013) 76:997–1015]
- Isolation and validation of the function of the promoter of OsACA6 in response to different stress treatments. This promoter is now widely used in plant biological research. [Published in PLoS ONE (2013) 8(3): e57803
- Isolation and validation of the function of the promoter of Psp68 in response to different stress treatments. This promoter is now widely used in plant biological research. [Published in Plant Signaling & Behavior (2014) 9, e28992]

8. Members of Academic Council and selection committee of Universities

- **Member** of the Academic Council of Sher-e-Bangla Agricultural University, Bangladesh since 2014
- **Hounrable Chancellor's Nominee as expart** member for the selection board of Associate Professor & Professor, Dept. of Genetic Engineering and Biotechnology, Shahjalal University of Science and Technology, Sylhet since 22 May 2022
- **Member,** scrutinizing committee for awarding Grants for Advanced Research (GARE) Ministry of Education since 2018
- **Expart member of cadere services (43 BCS)** of Bangladesh public service commission (BPSC), Dhaka, Bangladesh

9. Training Courses Attended

Several training courses attended in home and abroad like India, Germany, Italy.

10. Supervising Post graduate students

- No. of **MS** student already supervisied 8 (eight)
- No. of **MS** student already co-supervisied 10 (ten)
- No. of **MS** student currently supervising 7 (seven)
- No. of **MS** student currently co-supervising 6 (six)

10. Publications

- Research articles published in the reputed international and national journal: **38**
- Short communication: **01**
- Book chapter: **01**
- Popular scientific articles: **02**
- Research reports: **10**
- Total paper presented in seminar: **20**

11. Members of Professional organizations:

- Life member, Alexander von Humboldt Foundation Alumni Association, Germany
- Member, Ludwig-Maximilians-Universität (LMU) Alumni Association, München, Germany
- Member, Leibniz Universität Hannover Alumni Association, Germany
- Member, ICGEB Alumni Association, International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy
- Member, Jawaharlal Nehru University Alumni Association, New Delhi
- Life Member, Plant Breeding and Genetic Society of Bangladesh
- Member, Alumni Association, Sher-e-Bangla Agricultural University
- Member, Krishibid Institute of Bangladesh (KIB)
- Member, Plant Biotechnology Society of Bangladesh

12. Skills and Expertise:

Molecular Biology	Gene isolation, cloning and sub-cloning, Gate way cloning, Southern blot, Northern blot, Western blot, RT-PCR, qRT-PCR, ATPase and Helicase assays, protoplast isolation and transformation, GUS assay, Chloroplast isolation, Different antioxidant enzymes assay, *Agrobacterium* mediated genetic transformation of plants (tobacco, tomato, rice, maize, Jute and Arabidopsis) and Transient expression, Analysis of transgenic lines (biochemical and physiological), Random and Site detected mutagenesis and other basic works of molecular biology.

RNAi & Gene silencing	Gene silencing vector development and expression analysis.
Biochemistry	Protein expression and purification, Antibody generation, co-immunopricipitation, Biochemical characterization of proteins, Yeast two hybrid and BiFC
Proteomic	Proteomic mapping of different sub-cellular compartment using APEX2, Mass spectrometry
Plant Breeding	Different breeding methods for self- and cross-pollinated corps, Emasculation and plant hybridization, germplasms characterization, field experiments, plant phenotyping and elite genotype selection from segregating population. MS-STAT, GENE-STAT, Diallel, GXE interaction, heritability, genetic advance, genetic diversity, additive and dominance and epistasis analysis; mutation and mutant line selection
Bioinformatics	Database mining, Gene annotation, *Insilco* analysis of gene and Promoter, MacVector, CLC workbench, EMBOSS, BLAST, ClustalW, Expasy, Pfam, Primer3, MEGA5 etc.
Image analysis	Fluorescence microscopy and confocal microscopy and co-localization

13. List of published peer reviewed articles in international and national journals

A. Articles Published in the Reputed International Journal

1. Banu, M.S.A., **Huda, K.M.K.,** Rashid, M.H.R., Parveen, S., Islam, S.M.S., Tuteja, N. (2023) Phenotypic and microarray analysis reveals salinity stress-induced oxidative tolerance in transgenic rice expressing a DEAD-box RNA helicase, OsDB10. Plant Mol Biol. 113:19–32

2. Banu, M.S.A., **Huda, K.M.K.,** Harun-Ur-Rashid, M. Parveen, S., Tuteja, N. (2023) A DEAD box helicase Psp68 positively regulates salt stress responses in marker-free transgenic rice plants. Transgenic Res. 32:293–304

3. Tuteja, N., Sahoo, R.K., **Huda, K.M.K.,** Tula, S., Tuteja, R. (2015): *OsBAT1* augments salinity stress tolerance by enhancing detoxification of ROS and expression of stress-responsive genes in transgenic rice (*Oryza sativa* L. cv. IR64). Plant Mol Biol Rep, 33: 1192-1209

4. Banu, M.S.A., **Huda, K.M.K.,** Sahoo, R.K., Garg, B., Tula, S., Islam, S.M.S., Tuteja, R., Tuteja, N. (2015): Pea p68 imparts salinity stress tolerance in rice by scavenging of ROS-mediated H_2O_2 and interacts with argonaute. Plant Mol Biol Rep, 33(2): 221-238

5. Shukla, D.*, **Huda, K.M.K.*,** Banu, M.S.A., Gill, S.S., Tuteja, R., Tuteja, N. (2014): OsACA6, a P-type 2B Ca2+ATPase functions in cadmium stress tolerance in tobacco by reducing the oxidative stress load. Planta, 240:809–824. * equal contribution

6. **Huda, K.M.K.,** Banu, M.S.A., Yadav, S., Sahoo, R.K., Tuteja, R., Tuteja, N. (2014): Salinity and drought tolerant OsACA6 enhances cold tolerance in transgenic tobacco by interacting with stress-inducible proteins. Plant Physiol Biochem, 82:229-38

7. Tuteja, N., Banu, M.S.A., **Huda, K.M.K**., Gill, S.S., Jain, P., Pham, X.H., Tuteja, R. (2014): Pea p68, a DEAD-box helicase, provides salinity stress tolerance in transgenic tobacco by reducing oxidative stress and improving photosynthesis machinery. PLoS ONE 9(5): e98287. doi:10.1371/journal.pone.0098287

8. Banu, M.S.A., **Huda, K.M.K.,** Tuteja, N. (2014): Isolation and functional characterization of the promoter of a DEAD-box helicase Psp68 using *Agrobacterium*-mediated transient assay. Plant Signaling & Behavior9:e28992

9. **Huda, K.M.K.,** Banu, M.S.A., Garg, B., Tula, S., Tuteja, R., Tuteja, N. (2013): OsACA6, a P-type IIB Ca2+ATPase promotes salinity and drought stress tolerance in

tobacco by ROS scavenging and enhancing the expression of stress-responsive genes. The Plant Journal 76:997–1015

10. **Huda, K.M.K.,** Banu, M.S.A., Tuteja, R., Tuteja, N. (2013): Global calcium transducer P-type Ca^{2+}ATPases open new avenues for agriculture by regulating stress signalling. Journal of Experimental Botany 64 (11): 3099–3109.

11. **Huda, K.M.K.,** Banu, M.S.A., Pathi, K.M., Tuteja, N. (2013): Reproductive organ and vascular specific promoter of the rice plasma membrane Ca^{2+}ATPase mediate environmental stress responses in plants. PLoS ONE 8(3): e57803

12. **Huda, K.M.K.,** Yadav, S., Banu, M.S.A., Trivedi, D.K., Tuteja, N. (2013): Genome-wide analysis of plant-type II Ca2+ATPases gene family from rice and Arabidopsis: Potential role in abiotic stresses. Plant Physiology and Biochemistry 65:32-47

13. Pathi, K.M., Tula, S., **Huda, K.M.K.,** Srivastava, V.K., Tuteja, N. (2013): An efficient and rapid regeneration via multiple shoot induction from mature seed derived embryogenic and organogenic callus of Indian maize (*Zea Mays* L.). Plant Signaling & Behavior 8:10, e25891

14. **Huda K. M. K**., Bhuiyan M. S. R., Zeba N., Banu S.A., Mahmud F., Khatun A. (2009) Effect of FeSO4 and pH on shoot regeneration from the cotyledonary explants of Tossa Jute. Plant Omics Journal 2(5):190-196

15. Mohammad Saiful Islam, Kazi Md. Kamrul Huda, Firoz Mahmud, Sufara Akhter Banu, and Myeong-Hyeon Wang. (2009) Regeneration and genetic transformation of Tossa Jute (*Corchorus olitorius* L.). Australian Journal of Crop Science 3(5): 287-293

16. **KMK Huda**, MSR Bhuiyan, MH Kabir, AFM Jamal Uddin, A Khatun. (2007) *In vitro* plant regeneration protocol of tossa jute (*Corchorus olitorius*). International Journal of Integrative Biology 1(2): 96-101

B. Articles Published in the Reputed National Journal

17. M.A. Zabbar, S. Parveen, , M.A. Rahim, , **K.M.K. Huda**, M.A.I. Arif, M.R. Sharif, , I. Jahan, M. Harun-Ur-Rashid (2024) Morphological characterization and genetic diversity analysis of yield and yield contributing parameters in brinjal (*Solanum melongena* L.) genotypes. SAARC J. Agric., 22(1): 59-71.

18. M. A. Rahim, A. Hossain, A. M. Ara, M. N. Islam, **K. M. K. Huda** (2024) Explicating the salinity tolerance of cowpea (*Vigna unguiculata* L. walp.) genotypes at seed germinating stage. Bangladesh J. Agri. 2024, 49(1): 117-127.

19. Kundu, P.K., Parveen, S., Banu, M.S.A., Rashid, M. H., **Huda, K.M.K.** 2023. Morphological variations in some brinjal (*Solanum melongena* L.) genotypes. Bangladesh J. Agri. 2023, 48(1): 123-129. DOI: **(Short communication)**

20. Banu, M. S. A., **Huda K. M. K**. Tuteja N. 2022. Overexpression of a DEAD box helicase *Psp68* gene and its mutant confers salinity stress tolerance in bacteria. Bangladesh J. Agri. 2022, 47(2): 17-26

21. **Huda, K.M.K**., Banu, M.S.A. Rashid, M.H.U, Parveen, S. (2019-2021) Effect of temperature stress on *Brassica rapa* genotypes during germination and reproductive growth. Bangladesh J. Agriculture. 44-46: 19-29

22. Jomadder, M.N., Huda, K.M.K., Jony, M., Islam, M.S**., Banu, M.S.A**., Rashid, M.H.U., Parveen, S. (2019-2021) Genetic evaluation of some boro rice (*Oryza sativa* L.) genotypes under irrigated and rainfed conditions. Bangladesh J. Agri. 44-46: 77-87.

23. Banu, M.S.A., Ahmed, B., Parveen, S., Rashid, M.H.U., **Huda, K.M.K.** (2021) *Agrobacterium*-mediated Genetic Transformation of Rice var. BRRI Dhan 58. Plant Tissue Cult. & Biotech. 31(1): 71-80

24. Banu, M.S.A., **Huda, K.M.K.,** Parveen, S., Robbani, G.M., Ahmed, B., Rashid, M.H.U. (2021) Isolation, expression and purification of pea ascorbate peroxidase (pea-apx) in Escherichia coli. J. Expt. Biosci. 12(1): 69-74

25. Ahmed, B., Sultana, M., Banu, M.S.A., Rashid, M.H.U**., Huda, K.M.K.** (2021) Effect of different levels of salinity on grasspea genotypes. J. Expt. Biosci. 12(1):1-8

26. Banu, M.S.A., Ahmed, B., Sultana, M., **Huda, K.M.K.** (2020) Performance of some selected lentil genotypes under drought in different locations of Bangladesh. J. Expt. Biosci. 11(2):21-26

27. Rifat, M.M.H., **Huda, K.M.K.,** Islam, M.S. (2020) *In vitro* screening of salt tolerate genotypes based on morphological traits under different salinity levels in onion. J. Multidiscip. Sci. 2(2):40-48

28. Rahman, M.S., Parveen, S., Akter, R., Hossain, A.Y., **Huda, K.M.K.,** Banu, M.S.A., Arif, M.A.I., Rashid, M.H. (2019) Variability of morphological and nutritional traits of tomato germplasm. J. of Sher-e-Bangla Agril. Uni. 10(1&2):43-50

29. **Huda, K.M.K.,** Siddikee, M. A. (2017): A simple method for the isolation of protoplasts from the leaves of *Nicotiana benthamiana*. J. Expt. Biosci. 8(1):9-12

30. Siddikee, M. A., Zereen, M. I., M. A. Rahim, M. A., **Huda K. M. K.,** Chowdhury, M. A. Z., M. S. R. Bhuiyan, M. S. R. (2015): Heterosis and genetic variability in intergenotypic crosses of Oleiferous *Brassica rapa* L. J. Expt. Biosci, 6(1): 65-72

31. **K. M. K. Huda**, S. A. Banu, K. Moyazzama, N. Zeba (2010) Genetic variability, correlation and path analysis of reproductive abscission, seed yield and yield components in mungbean. Journal of Experimental Biosciences 1(1):83-88

32. F. Mahmud, M. Z. Ullah, **K. M. K. Huda** (2007) Genotype-Environment interaction for seed yield and yield contributing characters in Chickpea (*Cicer arietinum* L.). Bangladesh Journal of Plant Breeding and Genetics 20(1):9-12

33. H. K. Sarker, M. H. Kabir, **K. M. K. Huda**, A. F. M. J. Uddin, M. F. Mondal (2007) Growth and production of onion Crop (*Allium Cepa* L) cultivated under controlled planting time and bulb size. Journal of Agricultural Sciences and Technology 8 (2):37-44

34. **K. M. K. Huda**, M. A. Siddikee, M. S. Hossain, F. Mahmud (2006) Effect of radiation on calli and plant regeneration from fine grain rice (*Oryza sativa* L.) genotype. Journal of Agricultural Sciences and Technology 7(1&2):31-35

35. F. Mahmud, M. Z. Ullah, J. Rahman, **K. M. K. Huda** (2006) Mixing ability and inter-genotypic competition from uniblends and biblends of five lentil (*Lens culinaris* Medik) cultivars. The Agriculturists 4 (1&2):44-49

36. F. Mahmud, M. J. Ullah, **K. M. K. Huda,** A. K. M. S. Hossain, M. A. Rahim (2006) Genetic variability and character association for yield and its components in chickpea (*Cicer arietinum* L.). Bangladesh Journal of Plant Breeding and Genetics 19(2):53-56

37. F. Mahmud, **K. M. K. Huda,** M. Z. Ullah, M. A. Rahim, A. K. Bhadra (2006) Stability analysis for seed yield in Chickpea (*Cicer arietinum* L.). Journal of Agricultural Education and Technology 9(1&2):59-62

38. F. Mahmud, M. Z. Ullah**, K. M. K. Huda,** M. A. Rahim (2005) Genetic divergence analysis in chickpea (*Cicer arietinum* L.) genotypes. Journal of Agricultural Sciences and Technology 6(1&2):7-11.

C. Book Chapter

39. Trivedi, D.K., **Huda, K.M.K.,** Tuteja, N. (2014): Molecular chaperone: Structure, function and role in plant under abiotic stress tolerance. In "Climate change and abiotic stress tolerance". Narendra Tuteja and SS Gill (Eds.), Wiley Wiley-VCH Verlag GmbH & Co. Weinheim, Germany

14. List of projects completed so far

- Genome-wide survey and expression analysis of the early light inducible proteins (ELIPs) in rice and Arabidopsis. For the year 2023-24, Ministry of Science and Technology (MoST), Bangladesh.
- Isolation, cloning and functional characterization of plasma membrane Ca^{2+}Atpase promoter OsACA5 from rice using agrobacterium-mediated transient assay. For the year 2022-23, Ministry of Science and Technology (MoST), Bangladesh.

- Screening of mungbean genotypes under salt stress on the basis of physiological and biochemical attributes. For the year 2021-22, Ministry of Science and Technology (MoST), Bangladesh.

- Screening of mungbean (*Vigna radiata* L. Wilczek) genotypes against water stress mediated through polyethylene glycol. For the year 2021-22, Sher-e-Bangla Agricultural University, Bangladesh.

- Molecular cloning and development of salinity stress tolerant rice plants by overexpressing p68 gene. For the year 2020, University Grant Commission of Bangladesh.

- The effect of temperature on oil seed Brassica. For the year 2020-21, Sher-e-Bangla Agricultural University, Bangladesh.

- Equipment subsidy from the Alexander von Humboldt Foundation, Germany (2019)

- Modification of phytoalexin biosynthesis in apple by knockout of the biphenyl 4 hydroxylase genes using CRISPR/Cas9 genome editing. For the year 2019, Alexander von Humboldt Foundation, Germany.

- Equipment subsidy from the Alexander von Humboldt Foundation, Germany (2018)

- The effect of rising temperature on fertility and yield in turnip rape: from pollen development to seed formation. For the year 2017-18, Alexander von Humboldt Foundation, Germany.

- Defining the functional role of the chloroplast intermembrane space proteome and one of its mature proteins, Tic22. For the year 2015-17, Alexander von Humboldt Foundation, Germany.

- Isolation, cloning and functional characterization of plasma membrane Ca^{2+}ATPase gene OsACA6 from rice and its functional validation under abiotic stress. For the year 2010-14, International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy.

15. Other activities

- **Questions setup for BCS-44, 45 and 46 subject: General Science and Technology (both written and preliminary),** Bangladesh public service commission (BPSC), Dhaka, Bangladesh
- **Question setter,** Dept. of Botany, Dhaka University
- **Member**, sports organizing committee of Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh

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(Prof. Dr. Kazi Md. Kamrul Huda)