

1. Name: Md. Hasanuzzaman Rani

2. Designation: Senior Scientific Officer

3. Present Address: Plant Breeding Division, Bangladesh Institute of Nuclear Agriculture (BINA), BAU Campus, Mymensingh-2202

4. Permanent Address: 134/1, Mozibur Rahman Sarak, Fultala, Chourhasah, Kushtia

5. Educational background: Completed B.Sc.Ag. (Hons.) in 2010 from Bangladesh Agricultural University; MS in Genetics & Plant Breeding in 2012 from Bangladesh Agricultural University and received Ph.D. in Crop Genetics & Breeding from the Chinese Academy of Agricultural Sciences in 2020.

6. Field of Specialization:

- Experienced in plant breeding, plant genomics, and plant genetics.
- Profound knowledge of primer designing, map-based cloning, and genome editing.
- Operational knowledge of using bioinformatics tools and database systems.

7. Research Interest: Interested in functional genomics and molecular breeding of rice for improving grain quality traits (head rice recovery, chalkiness, grain size and shape, grain color, grain aroma, and antioxidative properties) and abiotic stress tolerance (drought). Also interested in developing parent materials for constructing 2/3-line hybrid rice systems.

8. Achievements/Awards:

- Awarded NST-fellowship for MS study in Genetics & Plant Breeding.
- Awarded GSCAAS and Beijing Govt. Scholarship for Ph.D. study in Chinese Academy of Agricultural Sciences, China in the field of “Crop Genetics and Breeding”.
- Awarded third prize in 2019 Three-Minute Thesis (3MT) competition hold in China National Rice Research Institute (CNRRI), China.

9. Publications:

1. **Rani M H**, Liu Q, Yu N, Zhang Y, Wang B, Cao Y, Zhang Y, Islam M A, Zegeye W A, Cao L and Cheng S, 2020. *ES5* is involved in the regulation of phosphatidylserine synthesis and impacts on early senescence in rice (*Oryza sativa* L.). *Plant Molecular Biology*, 102:501–515. <https://doi:10.1007/s11103-019-00961-4>

2. Islam A, Zhang Y, Anis G, **Rani M H**, Anley W, Shen X, Cao L, Cheng S and Wu W, 2020. Mapping and validation of a major quantitative trait locus *qRN5a* associated with increasing root number under low potassium in rice. *Plant Growth Regulation*, 90:519–528. <https://doi.org/10.1007/s10725-020-00574-8>
3. Hussain K, Zhang Y, Anley W, Riaz A, Abbas A, **Rani M H**, Wang H, Shen X, Cao L and Cheng S, 2020. Association Mapping of QTL increases grain Size in an Introgression Line Derived by *Oryza ruffipogon* GRIFF. *Rice Science*, 27(3):246–254. <https://doi.org/10.1016/j.rsci.2020.04.007>
4. Yu N, Liu Q, Zhang Y, Zeng B, Chen Y, Cao Y, Zhang Y, **Rani M H**, Cheng S and Cao L, 2019. CS3, a Ycf54 domain-containing protein, affects chlorophyll biosynthesis in rice (*Oryza sativa* L.). *Plant Science*, 283:11-22. <https://doi.org/10.1016/j.plantsci.2019.01.022>
5. Islam A, Zhang Y, Anis G, **Rani MH**, Anley W, Yang Q, Liu L, Shen X, Cao L, Cheng S, Wu W. 2021. Fine mapping and candidate gene analysis of *qRN5a*, a novel QTL promoting root number in rice under low potassium. *Theoretical and Applied Genetics*, 134(1):213-227. <https://doi.org/10.1007/s00122-020-03692-z>
6. Ibrahim M A A, **Rani M H**, Begum S N, Akter M B and Islam M M. 2016. Performance of Rice Landraces under Salt Stress at the Reproductive Stage Using SSR Markers. *International Journal of Plant & Soil Science*, 13(2):1-11. <https://doi:10.9734/IJPSS/2016/27851>.
7. **Rani M H**, Kamruzzaman M, Ghanim A M A, Azad M A K and Akter M B. 2016. Comparative effect of gamma and X-ray irradiations on some characters of rice seedlings of Ashfal and Binadhan-14. *Journal of Bioscience and Agriculture Research*, 08(02), 739-745. <https://doi:10.18801/jbar.080216.88>.
8. Kamruzzaman M, Khatun S, Rakib A, Haque M I and **Rani M H**. 2015. Temporal variation in seed quality of indian spinach preserved in different containers. *International Journal of Agricultural Research, Innovation, and Technology*, 5 (2): 51-57.
9. Zegeye W A, Chen D, Islam M A, Wang H, Riaz A, **Rani M H**, Hussain K, Liu Q, Zhan X, Cheng S, Cao L, Zhang Y. 2022. *OsFBK4*, a novel GA insensitive gene positively regulates plant height in rice (*Oryza Sativa* L.). *Ecological Genetics and Genomics*, 23: 100115. <https://doi.org/10.1016/j.egg.2022.100115>.
10. **Rani MH**, Begum SN, Khanom MSR, Rahman MHS, Hasibuzzaman ASM, Shugandha JN, Shammy SA, Akram MW. 2021. Genotype-environment (G×E) interaction, stability, and adaptability study on grain yield in advanced rice lines. *Bangladesh Journal of Nuclear Agriculture*, 35: 9-20.
11. Khanom MSR, **Rani MH**, Rahman MHS, Shammy SA, Sharma AC, Akram MW, Begum SN, Islam MM. 2021. Evaluation of iron and zinc enriched rice (*Oryza sativa* L.) genotypes in different locations of Bangladesh. *Bangladesh Journal of Nuclear Agriculture*, 35: 21-28.

12. Azad M A K, Yesmine F, Kamruzzaman M, **Rani M H**, H A Begum. 2018. Development of climate change adaptable/resilient crop varieties through nuclear techniques. *FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology*. Vienna, Austria.
13. Azad M A K, **Rani M H**, Islam M M, Begum H A. 2018. Carbon ion beam irradiation technique shortens breeding cycle and induces novel mutants in rice. *FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology*. Vienna, Austria.
14. Azad M A K and **Rani M H**. 14-16 February 2017. Development of a high yielding rice mutant for rainfed dry direct seeded culture in *Aus* season in Bangladesh. 2nd Conference on Conservation Agriculture for Smallholders (CASH-II). Mymensingh, Bangladesh.
15. Azad M A K, Yasmine F, Kamruzzaman M, **Rani M H** and Hosne Ara Begum. 2021. Development of Climate-Adaptable/Resilient Crop Varieties Through Induced Mutation. In S. Sivasankar et al. (Edt) *Mutation Breeding, Genetic Diversity and Crop Adaptation to Climate Change* (pp 157-171), CABI. [10.1079/9781789249095.0000](https://doi.org/10.1079/9781789249095.0000)
16. Rani MH, Faruquee M, Khanom MSR, Begum SN (2022). Genetic variability and multivariate studies on the grain physical properties of rice (*Oryza sativa* L.) landraces. *SABRAO J. Breed. Genet.* 54(1): 1-10. <http://doi.org/10.54910/sabrao2022.54.1.1>