Curriculum Vitae

Specialization: Plant Breeding, Genetics

1. Name: Dr. MD. RUHUL AMIN SARKER

2. **Field of Specialization:** Plant Breeding, Molecular Breeding (QTL mapping, QTL pyramiding and Marker-Assisted Backcrossing), Genetics, Varietal Development, Molecular Marker Application (SNPs and SSRs), Physiology of Abiotic Stresses and Farmer Participatory Approach

3. Father's name: Late Abdul Quddus Sarker Mother's name: Mrs. Rowsan Ara Begum

4. Address:

Permanent: Village- Sreekhandi, Post Office- Marirhat

Upazilla- Palashbari, District- Gaibandha

Present: Principal Scientific Officer

Plant Breeding Division,

Bangladesh Rice Research Institute

BRRI Regional Station, Bhanga, Faridpur, Bangladesh

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5. Date of birth: 1st December, 1974
6. Nationality: Bangladeshi by birth

7. Religion: Muslim (Sunni) 8. Marital status: Married

9. Educational Qualification

Name of degree	Name of Institution	Period of	Division/	Year of
obtained		Enrollment	Class	passing
			obtained	
PhD in Genetics	Bangladesh Agricultural	2009-2013	Successfully	2013
and Plant Breeding	University, Mymensingh		completed	
	(Research conducted at			
	IRRI, Philippines 2009-			
	2012)			
MS in Genetics and	Bangladesh Agricultural	2000-2001	First class	2001
Plant Breeding	University, Mymensingh			
B.Sc. in	Bangladesh Agricultural	1991-1995	First class	1995
Agriculture	University, Mymensingh			(Exam. held
				in 1999)

10. Dissertations

PhD: Identification of novel QTLs associated with salinity tolerance in rice and introgression of *Saltol* into a popular variety through marker assisted backcrossing

MS: Genetic analysis of seed yield in F2 diallel population of dry bean

Awards and Honors

i. Awarded IRRI Fellowship in PhD 2009 (April 2009-October 2012)

- **ii.** Crest of Honour with Second Position, 12th Foundation Training Course, BARD, Cumilla, 2005 (4 months)
- **iii.** Second position with Distinction in Rice Production Training Course, BRRI, Gazipur, 2007 (1 months)

11. Professional Training

a) National

Title	Location	Year	Duration	
			Month	Days
Breeder Seed Production	BRRI, Gazipur	2001		05
Hybrid Rice Seed Production	BRRI, Gazipur	2003		02
Foundation Training Course for NARS Scientists (Batch-12)	BARD, Comilla	2005	04	
Conservation and Utilization of Plant Genetic Resources	BARI, Gazipur	2007		04
Rice Production Training Course	BRRI, Gazipur	2008	01	
GCP Training Workshop on Marker Assisted Breeding for Bangladesh	BRRI, Gazipur	2008		10
Training Workshop on Research Proposal Preparation and Scientific Report Writing	BARC-CMD, Gazipur	2013		05
Molecular Biology Application in Plant Breeding	BRRI, Gazipur	2014		26
Design and Analysis of Breeding Trials using Plant Breeding Tools (PBTools)	BRRI, Gazipur	2017		04
Modern Rice Production Training Course	BRRI, Gazipur	2017		03
Experimental Design and Data Analysis Training Course	BRRI, Gazipur	2017		03
Breeding for Results (B4R)	BRRI, Gazipur	2018		03
Mutation Breeding of Field and Horticultural Crops	BINA, Mymensingh	2019		02
Agricultural Research Methodology Training Course	BRRI, Gazipur	2019		05
Rice Physiological Development through Trait Discovery Training Course	BRRI, Gazipur	2020		05
Application of Bioinformatics in Rice Improvement	BRRI, Gazipur	2020		10
Technical Report Writing and Editing	BARC, Dhaka	2022		05
Bioinformatics for Sustainable Development in Agriculture	BARC, Dhaka	2022		05

b) International

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Title	Location	Year	Duration	
			Month	davs

Rice Breeding Course: Laying the	IRRI, Philippines	2007		12
Foundation for the Second Green				
Revolution				
Scientific Writing Workshop	IRRI, Philippines	2009		06
Basic Bioinformatics Course	IRRI, Philippines	2009		02
SNP Data Analysis Training Course	IRRI, Philippines	2011		03
Breeding for Rice (B4R) on-line	IRRI, Philippines	2017	03	
data management system				
AGGRi Breeding4Results Training	IRRI, Philippines	2019		12

12. Research experience

- i) **2001-2004:** As Scientific Officer (Poverty Alleviation Through Rice Research Assistance-PETRRA Project) in the Genetic Resources and Seed Division (GRSD), Bangladesh Rice Research Institute (BRRI), Gazipur and worked on Breeder seed production and Distribution, Planning, designing and execution of research program on rice breeding and managing of rice gremplasm.
- ii) **2004-2009:** As Scientific Officer in the Plant Breeding Division, BRRI, Gazipur and worked under Varietal Improvement Program for the development of rice varieties for Tidal Wetlands, Flash Flood Submergence Tolerance, Insect Resistance, Water saving Rice technologies and Aerobic rice. Planning, designing and execution of research program on rice breeding i.e. hybridization, selection of segregating breeding materials, pedigree management. Evaluation of yield trials (OT, PYT, SYT, RYT/MLT), collaborative research with IRRI through International Network for Genetic evaluation of Rice (INGER) and report writing. Participatory variety selection (PVS) intervention for irrigated rice in haor areas of Bangladesh.
- iii) **2009-2012:** As PhD Research scholar at IRRI, Philippines and Research focused on (a) Identification of novel QTLs associated with salinity tolerance at seedling stage using Chikiram Patnai/Azucena cross, (b) Confirmation of one major QTL other than *Saltol* using FL478/IR29 NILs and (c) Introgression of *Saltol* QTL into BRRI dhan29 through marker-assisted backcrossing. Confirmation of the intrgressed *Saltol* lines are being tested under filed condition of Bangladesh.
- iv) **2012-2015:** Served as Senior Scientific Officer in the Plant Breeding Division, BRRI, Gazipur and worked as Program Leader for the Development of salt tolerant variety, upland *Aus* rice, Pyramiding of *Saltol* and *Sub1* loci into BRRI dhan49 through marker-assisted selection; conducted PVS for coastal saline environment, Insect Resistance Breeding and collaborative research (STRASA, CPWF & CURE) with IRRI. Hybridization, handling and selection of segregating breeding population and pedigree. Evaluation of yield trials (OT, PYT, SYT, RYT/MLT), collaborative research with IRRI through INGER and report writing.
- v) **2015-2017:** As Senior Scientific Officer at BRRI Regional Station, Rangpur in the Plant Breeding Division and involving in Planning, designing, implementation and monitoring of research program on rice breeding (Flash Flood Submergence, Cold and Drought Tolerance), managing segregating population and pedigree, evaluation of yield & adaptive trials, breeder seed production, developing local problem-based program and report writing. Conducting PVS for Flash Flood Submergence tolerance. Dissemination of

technology (Extension activities) and training of farmers and extension staffs, office management, collaborative work with IRRI (Transforming Rice Breeding-TRB-BRRI Project), NGOs and site visit with International and national scientists.

vi) **2018 to 2022:** As Senior Scientific Officer in the Plant Breeding Division, BRRI, Gazipur and working for the Development of Favorable Boro and Cold Tolerant Rice. Program Leader and PI for the Development of Insect Resistance Rice, DNA marker-assisted breeding for producing highly stress tolerant elite rice varieties for coastal Bangladesh by introgression of multiple salt tolerance loci (QTLs) into commercial cultivars. Hybridization, handling and selection of segregating breeding population. Evaluation of yield trials (OYT, PYT, AYT, RYT/MLT), collaborative research with IRRI through INGER and report writing.

V) 2023 to date: As Principal Scientific Officer and Head at BRRI Regional Station, Bhanga, Faridpur for involving Administrative and financial management. Planning, designing, implementation and monitoring of research program on rice breeding (Stagnant and semi deep-water environment, Single Boro ecosystem), managing segregating population and pedigree, evaluation of yield & adaptive trials (OYT, PYT, AYT, RYT/MLT, ALART, PVT), breeder seed and TLS production, developing local problembased program, collaborative research with IRRI through INGER and report writing. Program Leader and PI for the Development of Insect Resistance Rice in the Plant Breeding Division, BRRI, Gazipur. Organizing/coordinating the Training on "Rice Production Technique" for Farmers, Assistant Agricultural Extension Officer etc. at Faridpur region.

Supervision of MS/PhD thesis:

Serving Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur, Bangladesh, Bangladesh Agricultural University, Mymensingh, Bangladesh and National University, Gazipur, Bangladesh as "Research Supervisor/Committee member" for the students of the Department of Biotechnology; Department of Genetics and Plant Breeding, and Department of Botany since 2013. Two students received MS in Biotechnology, and Genetics & Plant Breeding degree from Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur, and one student received PhD in Botany from National University, Gazipur under my supervision.

13. Salient Research accomplishments (in brief):

Sl#	Developed	Type of technology	Working as	Year	of
	technologies			release	
1.	BRRI dhan47	Salt tolerant Boro rice variety	Co-investigator	2007	
2.	BRRI dhan48	Transplanted Aus rice variety	Co-investigator	2008	,
3.	BRRI dhan61	Salt tolerant Boro rice variety	Co-investigator	2013	
4.	BRRI dhan65	Broadcast Aus rice variety	Principal Investigator	2014	
5.	BRRI dhan67	Salt tolerant Boro rice variety	Principal Investigator	2014	
6.	BRRI dhan72	Zn enriched T. Aman Rice variety	Co-investigator	2015	
7.	BRRI dhan73	Salt tolerant T. Aman rice variety	Principal Investigator	2015	
8.	BRRI dhan75	Short duration T. Aman Rice	Co-investigator	2016)
		variety			
9.	BRRI dhan78	Tidal Submergence and Saline	Co-investigator	2016	
		tolerant T. Aman rice variety			

10.	BRRI dhan79	Flash flood submergence tolerant	Co-investigator	2017
10.	DKKI ullali / 9		Co-mvestigator	2017
		T. Aman rice variety		
11.	BRRI dhan80	Premium Quality T. Aman Rice	Co-investigator	2017
		variety		
12.	BRRI dhan81	Short duration Boro rice variety	Co-investigator	2017
13.	BRRI dhan82	Transplanted Aus rice variety	Co-investigator	2017
14.	BRRI dhan84	Zn enriched Boro Rice variety	Co-investigator	2017
15.	BRRI dhan88	Short duration Boro rice variety	Co-investigator	2019
16.	BRRI	Salt tolerant Boro rice lines	Principal Investigator	MABC
	dhan29-Saltol			product
17.	BRRI	Salt tolerant T. Aman rice lines	Principal Investigator	MABC
	dhan49-Saltol			product
18.	BRRI dhan63,	Salt tolerant Boro rice lines	Principal Investigator	MABC
	BRRI dhan67			product
	and BRRI			
	dhan74			
	multiple salt			
	tolerant QTLs			
	(RL, K ⁺ and			
	Saltol) lines			

Handling of the project

R & D project (s) pursued as PI/Co-PI

Principal Investigator

- 1. Stress tolerant rice for poor farmers in Africa and South-Asia (STRASA-Salinity)
- 2. G2: Productive, profitable and resilient agriculture and aquaculture systems (CPWF)
- 3. Site Coordinator: Consortium for Unfavorable Rice Environments (CURE-Breeding Salinity)
- 4. Pyramiding salinity and submergence tolerance genes into BRRI dhan49 through marker-assisted selection (NATP-1)
- 5. Asian Food and Agriculture Cooperation Initiative (AFACI Food Security Project-Salinity) Funded by South Korea
- 6. Integrated Agricultural Productivity Project (IAPP-Breeding Salinity)
- 7. Introgression of multiple salt tolerant QTLs into BRRI dhan63, BRRI dhan67 and BRRI dhan74 through KASP genotyping (NATP-2, Project ID-010)
- 8. Insect Resistance-TRB BRRI Project funded by BMGF

14. Publications:

A. Journal paper (Full Paper)

- 1) Sarker, M. R. A. and Newaz, M.A. 2004. Combining Ability of Seed Yield and component characters of dry bean. Progress. Agric. 15 (1): 247-251.
- 2) Sarker, M. R. A., Newaz, M. A. and Bashar, M. K. 2004. Genetic Analysis of Seed Yield and yield contributing characters of dry bean (*Phaseolus vulgaris L*). Bangladesh J. Prog. Sci. and Tech. 2 (1): 55-58.
- 3) Ahamed, M. S., Bashar, M. K., Khalequzzaman, M., **Sarker, M. R. A.** and Akter, K. 2004. Rice Diversity evaluation through participatory variety selection Southwest Bangladesh. Bangladesh J. Prog. Sci. and Tech. 2 (1): 39-42.

- 4) Khalequzzaman, M., Akter, K., Khatun, S., **Sarker, M. R. A.** and Habib, S. H. 2005. Multivariate Analysis on the quantitative characters of rice germplasm collected from Southwest of Bangladesh. Int. J. Sustain. Agril. Tech. 1 (3): 10-15.
- 5) Ahamed, H. U., **Sarker, M. R. A.**, Khatun, S. and Salam, M. A. 2008. Identification of genotypes suitable for different ecosystem of Bangladesh. Intl. J. BioRes 4(6): 17-21.
- 6) Dewan, M. M. R., Talukder, M. S. A., Hossen, M. A., **Sarker, M. R. A.** and Islam, S. A. 2008. A study on Mustard seed quality in different storage containers. Ecofriendly Agril. J. 1(4): 198-201.
- 7) Sarker, M. R. A., Islam, S. A., Mannan, A. M., Dewan, M. M. R. and Hossen, M. A. 2009. Influence of different rates of Nutrients and Planting Density on the Yield of BRRI dhan44. Intl. J. BioRes 6(1): 7-11. 3)
- 8) Sharma, N., **M. R. A. Sarker,** M. A. Rahman and M. R. Islam. 2013. Participatory varietal selection of modern T. Aman rice varieties in salt affected coastal area of Bangladesh. Eco-frindly Agril. J. 6(08): 141-145.
- 9) Sharma, N., **M. R. A. Sarker**, M. A. Rahman and M. R. Islam. 2013. Varietal evaluation of rice for improving productivity in southern Bangladesh. Intl. J. BioRes. 15(4): 7-13.
- 10) Akter, S., R. Yasmeen, H. U. Ahmed, **M. R. A. Sarker** and M. S Rahman. 2014. Salinity tolerance of some elite rice breeding lines at reproductive stage. Bangladesh Rice J. 18 (1 & 2) 35-40.
- 11) Hoque, A. B. M. Z., M. A. Haque, **M. R. A. Sarker** and M A. Rahman. 2015. Marker-assisted introgression of *Saltol* locus into genetic background of BRRI dhan-49. Int. J. Biosci. Vol. 6, No. 12: 71-80.
- 12) Islam, M. R., **M. R. A. Sarker**, N. Sharma, M. A. Rahman, B. C. Y. Collard, G. B. Gregorio, A. M. Ismail. 2015. Assessment of adaptability of recently released salt tolerant rice varieties in coastal regions of South Bangladesh. Field Crops Res. http://dx.doi.org/10.1016/j.fcr.2015.09.012.
- **13**) **Sarker, M. R. A.,** Sharma, N., Rahman, M. A., Islam, M. R., Islam, S. A., Khanom, M. R. and Khan, M. A. I. 2018. Identification of Modern Aman Rice Varieties Suitable for Salt Affected Satkhira region of Bangladesh. The Experiment 46(3): 2632-2642.
- 14) Rahman, M. A., Quddus, M. R., Jahan, N., Rahman, M. A., **Sarker, M. R. A.**, Hossain, H. and Iftekharuddaula, K. M. 2019. Field Rapid Generation Advance: An Effective Technique for Industrial Scale Rice Breeding Program The Experiment 47(2): 2659-2670
- 15) Biswas, P. S, M. M. E. Ahmed, W. Afrin, A. Rahman, A. K. M. Shalahuddin, R. Islam, F. Akter, M. A. Syed, **M. R. A. Sarker**, K. M. Ifterkharuddaula and M. R. Islam. 2023. Enhancing genetic gain through the application of genomic selection in developing irrigated rice for the favorable ecosystem in Bangladesh. Frontiers in Genetics. DOI 10.3389/fgene.2023.1083221.

Journal paper (Short Communication)

- 16) Salam, M. A., Rahman, M. A., Bhuiyan, M. A. R., Uddin, K., **Sarker, M. R. A.** Yasmeen, R. and Rahman, M. S. 2007. BRRI dhan47: a salt-tolerant variety for the boro season. International Rice Research Notes (IRRN). 32.1: 42-43.
- 17) Rahman, M. A.; **M. R. A. Sarker**, N. Sharma, M. R. Islam, G. B. Gregorio and E. Humphreys. 2013. Turning adversity into opportunity. *CURE Matters* 3(1): page 16.

B. Books/Monographs/Bulletins

- **18)** Sarker, M. R. A., 2001. Genetic Analysis of Seed Yield in F₂ Diallel population of Dry Bean, M. S. Thesis in Genetics and Plant Breeding. Bangladesh Agriculture University, Mymensingh-2202. Pp1-93.
- **19) Sarker, M. R. A.,** 2013. Identification of novel QTLs associated with salinity tolerance in rice and introgression of *SALTOL* into a popular variety using marker assisted backcrossing. PhD Thesis in Genetics and Plant Breeding. Bangladesh Agriculture University, Mymensingh-2202. Pp1-172.
- 20) Sarker, M. R. A.; K. M. Iftekharuddaula and M. A. Rahman. SPGR Sub-Project Completion Report on Pyramiding Salinity and Submergence tolerance genes into BRRI dhan49 through Marker Assisted Selection. June 2014. PIU-BARC, NATP: Phase-I, BRAC Complex, Framgate, Dhaka-1215, Bangladesh. Pp1-30.
- 21) Sarker, M. R. A.; M. S. Rahman, Z. I. Seraj and K. M. Iftekharuddaula. DNA marker-assisted breeding for producing highly stress tolerant elite rice varieties for coastal Bangladesh by introgression of multiple salt tolerance loci (QTLs) into commercial cultivars (ID-010), Sub-Project Completion Report, September 2021. PIU-BARC, NATP: Phase-2, BRAC Complex, Framgate, Dhaka-1215, Bangladesh.
- **22**) Kamruzzaman, M.; E. S. M. H. Rashid; **M. R. A. Sarker** and M. Khalequzzaman. 2003. Participatory Variety Selection in Rice: In the context of South-west of Bangladesh. (In: *Bengali*). (ED.) M.K. Bashar. Published by Genetic Resources and Seed Division, Bangladesh Rice Research Institute, Gazipur-1701. Pp1-20.
- 23) Islam, M. S.; M. R. A. Sarker, S. Pramanik, M. M. Hasan and M. E. Haque. 2016. Modern Rice Cultivation Farmer's Training Manual (In Bengali). In M. S. Islam and M. R. A. Sarker (Eds). Publication No. 217. Bangladesh Rice Research Institute, Regional Station, Rangpur, Bangladesh. Pp1-44.
- 24) Ali, M. G.; M. S. Islam, B. P. Roy; S. M. Sharier; M. S. Mia; M. A. Badsha; M. R. Hasan; M. R. A. Sarker; M. M. Hasan and S. Pramanik. 2016. Comprehensive Report of IAPP BRRI Rangpur: July 2012-June 2016. In M. S. Islam and M. R. A. Sarker (Eds). Integrated Agricultural Productivity Project (IAPP)-BRRI. Bangladesh Rice Research Institute, Regional Station, Rangpur, Bangladesh. Pp1-56.
- 25) Sarker, M. R. A.; N. Sharma, M. A. Rahman, M. R. Islam, H. U. Ahmed. 2014. Cultivation Procedure of Aus and Boro seasons suitable Rice Variety BRRI dhan55 (In Bengali). Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh.
- **26**) **Sarker, M. R. A.;** N. Sharma, M. A. Rahman, M. R. Islam, H. U. Ahmed. 2014. Cultivation Procedure of Salt Tolerant Rice Variety BRRI dhan61 (In Bengali). Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh.
- 27) Sarker, M. R. A.; M. S. Rahman, M. A. Rahman, R. Karim, Z. I. Seraj and K. M. Iftekharuddaula. 2021. The use of fluorescence-labeled SNP marker in Rice Breeding: Application of this method for introgression of salt tolerant QTLs (In Bengali & English). A booklet jointly published by the Plant Breeding Division, BRRI, Gazipur, and Department of Biochemistry and Molecular Biology, Dhaka University, Bangladesh. April 2021.
- 28) Fatema, K.; S. H. Habib; M. R. A. Sarker and E. S. M. H. Rashid. 2003. Booklet on planning workshop on sustainable rice seed network held on 18 may 2003. (*In: Bengali*) Edited by Bashar, M.K. and M. Khalequzzaman. Published by Genetic Resources and Seed Division, Bangladesh Rice Research Institute, Gazipur-1701 in August 2003. Pp1-15.

- 29) Bashar, M. K.; A. A. Tutu, S. Sen, M. Kamruzzaman, M. Khalequzzaman, M. S. Ahmed, E. S. M. H. Rashid and M. R. A. Sarker. 2004. Final Evaluation report on Rice diversity and production in the Southwest of Bangladesh: Using Diversity and Local Knowledge to create sustainable livelihoods in the coastal Area of Bangladesh. Published by Genetic Resources and Seed Division, Bangladesh Rice Research Institute. Pp1-122
- 30) Bashar, M. K.; M. Khalequzzaman, M. S. Ahmed, E. S. M. H. Rashid, M. R. A. Sarker; K. Fatema and D. A. N. Majumder. 2004. Completion report of the project on "Sustainable Rice seed Network." Published by Genetic Resources and Seed Division, Bangladesh Rice Research Institute, Gazipur-1701. Pp1-65.
- 31) Basher, M. K.; M. S. Ahmed, K. Akhter, E. S. M. H. Rashid, M. R. A. Sarker and K. Fatema. 2002. Completion report on Breeder Seed Production and Distribution. An Improved Uptake Pathway Sub-project of PETRRA. Genetic Resources and Seed Division, Bangladesh Rice Research Institute, Gazipur-1701.
- **32**) Ahmed, G. J. U.; M. K. A. Bhuiyan and **M. R. A. Sarker**. Weed Management Research and technology developed at BRRI (1974-2004). Agronomy Division, Bangladesh Rice Research Institute, Gazipur-1701.
- 33) Rahman, M. A.; M. R. A. Sarker, M. Khatun, T. L. Aditya and K. M. Iftekharuddaula. 2016. Cultivation Procedure of Drought Tolerant Broadcast Aus Rice Variety BRRI dhan65 (In Bengali). Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh
- 34) Rahman, M. A.; M. R. A. Sarker, N. Jahan, T. L. Aditya and K. M. Iftekharuddaula. 2016. Cultivation Procedure of Salt Tolerant Boro Rice Variety BRRI dhan67 (In Bengali). Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh
- 35) Rahman, M. A.; M. R. A. Sarker, N.Sharma, M. A. Hossain, S. Maniruzzaman and Nurat Jahan. 2016. Participatory varietal selection (PVS) and validation of newly released varieties/lines in south-central region through IAPP: a glimpse of four years activities. Integrated Agricultural Productivity Project (IAPP)-BRRI. Plant Breeding Division. Bangladesh Rice Research Institute, Bangladesh
- **36**) Aditya, T. L.; M. Anisuzzaman, A. Rahman, M. A. Kadeer and **M. R. A. Sarker**. 2018. BRRI dhan81: The complementary variety of popular BRRI dhan28 and local Zira for Boro season (In Bengali). Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh.
- 37) Promee, R. J; A. B. M. Mostafizur, M. I. M. Akhand and M. R. A. Sarker. 2023. Suitable rice varieties for Aus and Aman seasons and production technologies at Faridpur region (In Bangla). Bangladesh Rice Research Institute, Regional Station, Bhanga, Faridpur, Bangladesh.

C. Seminar/Workshop/Symposium Proceedings/Abstracts/Book Chapter/Others

- **38) Sarker**, **M. R. A.**; M. A. Newaz, M. J. Thomson, A. M. Ismail. Identification of novel QTLs associated with salinity tolerance in rice and introgression of *SALTOL* into a popular variety using marker assisted backcrossing. Paper presented at BRRI Thursday seminar on 5 June 2014. BRRI. Gazipur.
- 39) Sarker, M. R. A.; N. Sharma, M. H. Kabir, R. Yasmeen, H. U. Ahmed and T. L. Aditya. 2015. Progress of salt tolerant rice variety development for the coastal regions of Bangladesh. In M A Saleque, M A Kashem, M A Ali and M S Kabir (Eds.) Bangladesh Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh.

- **40**) **Sarker, M. R. A.;** W. Afrin, P. S. Biswas and K. M. Iftekharuddaula. 2019. Progress of Favorable Boro and Cold Tolerant Rice Variety Development. Paper presented at BRRI Thursday seminar on 31st October 2019. BRRI Gazipur.
- **41) Sarker, M. R. A.;** S. J. Ahamed, M. S. Rahman and M. A. Haque. 2019. Genetic Diversity Analysis of Rice Genotypes using Microsatellite Markers associated with the *Saltol QTL* region of Chromosome 1. 11th Biennial Conference 2019. Plant Breeding and Genetics Society of Bangladesh. Held on 28-29 December 2019, ACI Center, 245 Tejgaon, Dhaka.
- 42) Sarker, M. R. A.; M. A. Rahman, N. Sharma, M. R. Islam, M. K. Mondal, G. B. Gregorio, E. Humphreys and T. P. Tuong. 2015. Performance of improved *aman* rice varieties in the coastal zone of Bangladesh. In Humphreys, E., T. P. Tuong, M. C. Buisson, I. Pukinskis and M. Phillips (Eds). 2015. Revitalizing the Ganges Coastal Zone: Turning Science into Policy and Practices Conference Proceedings. Colombo, Sri Lanka: CGIAR Challenge Program on Water and Food (CPWF). 600pp.
- **43) Sarker, M. R. A.;** M. A. Newaz, M. P. de Ocampo, M. J. Thomson, A. M. Ismail. Introgression of the *Saltol QTL* into BRRI dhan29, a popular variety in Bangladesh, using marker assisted backcrossing. Abstract presented at the 4th International Rice Congress (IRC2014). Held on 27 October-1 November, 2014, Bangkok International Trade and Exhibition Center (BITEC), Bangkok, Thiland.
- **44) Sarker, M. R. A.;** M. A. Newaz, M. P.de Ocampo, M. J. Thomson, A. M. Ismail. Identification of novel QTLs associated with salinity tolerance in rice at seedling stage using Chikiram Patnai/Azucena cross. Abstract presented at the 7th International Rice Genetics Symposium (RG7). Held on 5-8 November, 2013, Manila, Philippines.
- **45**) **Sarker, M. R. A.**; N. Sharma, M. A. Rahman, H. U. Ahmed, M. K. Mondal, M. R. Islam, G. B. Gregorio, T. P. Tuong, E. Humphreys. Identification of suitable boro varieties to intensify crop production in salt affected coastal zone of Bangladesh. Abstract presented at international conference on "Revitalizing the Ganges Coastal zone: Tuning into Policy and Practices". Challenge Program on Water and Food (CPWF). Held on 21-23 October, 2014. Dhaka, Bangladesh.
- 46) Sarker, M. R. A.; M. A. Rahman, M. S. Rahman, R. Yesmeen, K. M. Iftekharuddaula and T. L. Aditya. Development and release of salt tolerant Boro rice variety BRRI dhan67 for southern coastal zone of Bangladesh. Abstract presented at International Conference on Sustainable Agriculture and Rural Development: Road to SDGs. Held on 23-24 January, 2020. Sylhet Agricultural University, Sylhet, Bangladesh.
- 47) Sarker, M. R. A.; T. Azim, Y. F. Chowdhury, G.M. N. A. Jewel, M. S. Rahman, H. A. Hossain, Z. I. Seraj and K. M. Iftekharuddaula. 2023. Introgression of multiple salt tolerant QTLs into BRRI dhan63 using fluorescent-labeled SNP marker through KASP genotyping. International symposium for the 50 years of BRRI. Held on 24th February 2023, Bangladesh Rice Research Institute, Gazipur-1701, Bangladesh.
- **48) Sarker, M. R. A.;** T. Azim, Y. F. Chowdhury, G.M. N. A. Jewel, M. S. Rahman, H. A. Hossain, Z. I. Seraj and K. M. Iftekharuddaula. 2023. Multiple salt tolerant QTLs introgression into three BRRI varieties using fluorescent-labeled SNP marker through KASP genotyping. 2nd International and 12th Biennial Conference 2023. Plant Breeding and Genetics Society of Bangladesh. Held on 18-19 February 2023, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh.

- **49**) Bashar, M. K.; M. Khalequzzaman, M. S. Ahmed, E. S. M. H. Rashid and **M. R. A. Sarker** (2004). Rice diversity Evaluation and Utilization in Southwest of Bangladesh. Pp285-298. Proceeding of the workshop on Technology Development. Organized by PETRRA-IRRI and BRRI, Gazipur, Bangladesh, Held on 23-24 May 2004, 338p.
- 50) Iftekharuddaula, K. M.; S. Ghosal, M. R. A. Sarker and T. L. Aditya. 2015. Development of short duration submergence tolerant rice varieties through marker assisted breeding. In M A Saleque, M A Kashem, M A Ali and M S Kabir (Eds.) Bangladesh rice research abstract 2014. Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh.
- 51) Biswas, P. S., M. R. A. Sarker, W. Afrin, K. M. Iftekharuddaula, M. A. Rahman, M. Khatun, M. A. Kader, T. L. Aditya, M. R. Islam, G. N. Atlin and M. S. Kabir. 2019. Estimation of Breeding Values and use in Parental Selection Decision Accelerates Genetic Gain in Rice. 11th Biennial Conference 2019. Plant Breeding and Genetics Society of Bangladesh. Held on 28-29 December 2019, ACI Center, 245 Tejgaon, Dhaka.
- 52) Afrin, W., M. R. A. Sarker., P. S. Biswas and K. M. Iftekharuddaula. 2019. Quality control (QC) genotyping of parental lines for precision rice breeding. 11th Biennial Conference 2019. Plant Breeding and Genetics Society of Bangladesh. Held on 28-29 December 2019, ACI Center, 245 Tejgaon, Dhaka.
- 53) Rahman, M. A.; M. R. A. Sarker, N. Sharma, M. K. Mondal, M. R. Islam, G. B. Gregorio, E. Humphreys and T. P. Tuong. 2015. Challenges and opportunities for *aman* rice cultivation in *ghers* used for brackish water shrimp production. In Humphreys, E., T. P. Tuong, M. C. Buisson, I. Pukinskis and M. Phillips (Eds). 2015. Revitalizing the Ganges Coastal Zone: Turning Science into Policy and Practices Conference Proceedings. Colombo, Sri Lanka: CGIAR Challenge Program on Water and Food (CPWF). 600pp.
- 54) Islam, M. R.; M. A. Rahman, M. R. A. Sarker, N. Sharma, M. K. Mondal, G. B. Gregorio, T. P. Tuong, E. Humphreys. Performance of improved Aman rice varieties in the coastal regions of Bangladesh. Abstract presented at international conference on "Revitalizing the Ganges Coastal zone: Tuning into Policy and Practices". Challenge Program on Water and Food (CPWF). Held on 21-23 October, 2014. Dhaka, Bangladesh.
- 55) Rahman, M. A.; M. R. A. Sarker, N. Sharma, M. K. Mondal, M. R. Islam, G. B. Gregorio, T. P. Tuong, E. Humphreys. Challenges and opportunities for *aman* rice in *ghers* used for brackish water shrimp production. Abstract presented at international conference on "Revitalizing the Ganges Coastal zone: Tuning into Policy and Practices". Challenge Program on Water and Food (CPWF). Held on 21-23 October, 2014. Dhaka, Bangladesh.
- **56)** Iftekharudduala, K. M.; P. S. Biswas, M. A. Rahman, M. Khatun, M. A. Kader, **M. R. A. Sarker**, S. Ghosal, M. A. Latif, R. Yasmeen, T. L. Aditya and M. S. Kabir. 2019. Molecular Rice Breeding at BRRI: Progress and Way Forward. Abstract presented at 4th Innovations in Plant & Food Sciences (IPFS) and International Conference on Biotechnology in Helth & Agriculture (ICBHA). Held on 11-13 November, 2019. Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Dhaka, Bangladesh. 1-180pp.
- 57) Rahman, M. S.; M. R. A. Sarker, A. Biswas, M. A. Rahman, R. Yasmeen, J. K. Biswas and Z. I. Seraj. 2019. Mapping QTLs from Bangladeshi salinity tolerant rice landrace Ashfalbalam. Abstract presented at 4th Innovations in Plant & Food Sciences (IPFS) and International Conference on Biotechnology in Helth &

- Agriculture (ICBHA). Held on 11-13 November, 2019. Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Dhaka, Bangladesh. 1-180pp.
- 58) Azim, T.; Y. F. Ria, S. M. Elias, T. Haque, G. M. N. A. Jewel, M. R. A. Sarker, M. S. Rahman and Z. I. Seraj. Competitive Allele Specific PCR (KASP) as an effective and convenient tool in Marker assisted backcrossing (MAB) for introducing salt tolerance traits in high-yielding background. Abstract presented at 4th Innovations in Plant & Food Sciences (IPFS) and International Conference on Biotechnology in Helth & Agriculture (ICBHA). Held on 11-13 November, 2019. Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Dhaka, Bangladesh. 1-180pp.
- **59**) Rahman, M. A., H. Khatun, **M. R. A. Sarker,** H. Hossain, M. R. Quddus, K. M. Iftekharuddaula and M. S. Kabir. Enhancing Abiotic Stress Tolerance to Develop Climate-Smart Rice Using Holistic Breeding Approach. 2021. DOI: http://dx.doi.org/10.5772/intechopen.97283
- 60) Rahman, M. A.; M. R. A. Sarker, M. S. Rahman, M. A. Rahman and M. G. Rasul. 2023. Introgression of *Saltol QTL* for the development of backcross inbred lines for salt tolerance through marker assisted backcrossing approach. International symposium for the 50 years of BRRI. Held on 24th February 2023, Bangladesh Rice Research Institute, Gazipur-1701, Bangladesh.
- 61) Rahman, M. A.; M. R. A. Sarker, M. Khatun, M. N. Jahan, S. K. Debsharma, M. R. Quddus, R. F. Disha, K. M. Iftekharuddaula and M. S. Kabir. 2023. Salinity tolerant rice varieties recently developed by BRRI. International symposium for the 50 years of BRRI. Held on 24th February 2023, Bangladesh Rice Research Institute, Gazipur-1701, Bangladesh.
- 62) Rahman, M. A.; K. M. Iftekharuddaula, M. Khatun, M. A. Kader, M. R. A. Sarker, P. S. Biswas, H. Khatun, M. Khalequzzaman, M. R. Islam, G. N. Atlin and M. S. Kabir. 2023. Field rapid generation advance (FRGA): An appropriate tool for step-change breeding in rice variety development. International symposium for the 50 years of BRRI. Held on 24th February 2023, Bangladesh Rice Research Institute, Gazipur-1701, Bangladesh.
- 63) Iftekharuddaula, K. M.; P. S. Biswas, M. A. Hossain, M. A. Rahman, M. Khatun, M. A. Kader, M. R. A. Sarker, S. Ghosal, R. R. Majumder, M. E. Ahmed, S. K. Debsharma, N. Jahan and M. Y. Khan. 2023. Translation of genetics to farmer's fields: Transformational progress and prospects. International symposium for the 50 years of BRRI. Held on 24th February 2023, Bangladesh Rice Research Institute, Gazipur-1701, Bangladesh.

Membership of the professional association

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- b) Life member, Bangladesh Association for the Advancement of Science (BAAS)

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- c) Member, Krishibid (Agriculturist) Institution of Bangladesh.
- d) Member, BRRI Scientists Association (BRRISA).

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