

Curriculum Vitae of Dr. Borhan Ahmed

1. **Name** : Dr. Borhan Ahmed
2. **Father's name** : Md. Akhteruzzaman
3. **Mother's name** : Begum Hafiza Akhter
4. **Gender** : Male
5. **Present Address** : 126/4, BJRI Officers Quarters, BJRI, Manik Mia Avenue, Dhaka-1207
6. **Permanent Address** : Ka-87, Kalachandpur, Gulshan, Dhaka-1212
7. **Date of birth and age** : 30/12/1976
8. **Age** : 46 Years 2 days on 01-01-2023
9. **Email** : bahmedbjri@gmail.com
10. **Educational Qualification**

Degree/Diploma/Certificate	Class/Grade/Division	University/Institute/Board	Year
Ph.D	Awarded	Jahangirnagar University, Savar, Dhaka	2019
MS in Soil science	First	Bangladesh Agricultural University	2003
B. Sc. Ag	Second	Bangladesh Agricultural University	1998
H.S.C.	First	Dhaka Board	1994
S.S.C.	First	Dhaka Board	1991

11. Field of Specialization

i. Bioinformatic analysis

Structural and functional annotation, Genome wide identification and characterization, Syntenic relationship among the genome and in between the genome, Phylogenetic analysis, Sequence alignment analysis, Gene structure analysis, Domain Motif analysis, Transcriptome data analysis and heatmap generation.

ii. Pathway and network analysis

Construction of denovo biosynthesis and regulatory pathway, transcriptional regulation pathway, Construction and reconstruction of metabolic pathway, regulatory pathway, biosynthesis pathway, signaling pathway and network analysis,

iii. Molecular biology

High Molecular weight DNA Isolation, Polymerase Chain Reaction (PCR), Quantitative Real time PCR (qRT), Mutation breeding (Chemical mutagenesis), Microbial study (Isolation, identification and characterization), Fluorescence microscopic analysis of different plant organ and microbes.

iv. Soil Science and Agronomy

12. Training:

(a) In Country:

Organization	Year	Duration		Name of program
		Mos.	Days	
BJRI, Dhaka,	2008		2	Use of Fertilizer Recommendation Guide-2005
BARD, Comilla	2007	4		Foundation Training course for NARS scientists
BRDTI, Sylhet	2007		5	Rural Development and poverty Alleviation
SAU, Dhaka	2006	3		Post Graduate course on seed Technology
EADS, Dhaka	2006		30	Advanced Computer Training program
BJRI, Dhaka	2005		6	Orientation-cum-Technology Transfer Training Workshop
GTI, BAU	2010		14	Research methodology

Organization	Year	Duration		Name of program
		Mos.	Days	
BARC, Dhaka,	2008	0	02	Use of Fertilizer Recommendation Guide-2005
BJRI, Dhaka	2017	0	03	Procurement of goods, works and services
BARJ, Laboratory	2017	0	3	Product training on Eppendorf Fermentor Bioflo 415 (SIP)
NATA, Gazipur	2023	0	05	Crop Improvement through Biotechnology
CPTU, IMED, Ministry of planning, Dhaka	2021	0	05	Training on National e-Government Procurement (e-GP) System and Procuring Entity (PE) User.

(b1) Abroad:

Country	Year	Duration		Name of programme
		Mos.	Days	
Malaysia	2012		17	Advance training on pathway studio software
United Kingdom	2017		05	Network and Pathways

(b2). Abroad online (Bioinformatics and Genome, Transcriptome & Molecular biology)

SI No.	Name of the organization	Course Title	Course duration & year of completion
1.	Toronto University	Plant Bioinformatics	6 weeks of hands-on study, plus 2 evaluation weeks. Certificate earned on October 8, 2019
2.	Toronto University	Bioinformatic Methods I	8 weeks of hands-on study, Certificate earned on December 29, 2015
3.	Toronto University	Bioinformatic Methods II	8 weeks of hands-on study, Certificate earned on January 6, 2016
4.	Peking University	Bioinformatics: Introduction and Methods 生物信息学: 导论与方法	14 weeks of hands-on study, Certificate earned on April 26, 2016
5.	Tel Aviv University	Understanding Plants – Part I: What a Plant Knows	7 weeks of hands-on study, Certificate earned on October 22, 2016
6.	Tel Aviv University	Understanding Plants – Part II: Fundamentals of Plant Biology	7 weeks of hands-on study, Certificate earned on October 23, 2016
7.	Johns Hopkins University	Introduction to Genomic Technologies	4 weeks of hands-on study, Certificate earned on November 30, 2015

SI No.	Name of the organization	Course Title	Course duration & year of completion
8.	Johns Hopkins University	Genomic Data Science with Galaxy	4 weeks of hands-on study, Certificate earned on April 14, 2016
9.	Johns Hopkins University	Python for Genomic Data Science	4 weeks of hands-on study, Certificate earned on May 7, 2016
10	Johns Hopkins University	Algorithms for DNA Sequencing	4 weeks of hands-on study, Certificate earned on October 15, 2017
11.	Johns Hopkins University	Command Line Tools for Genomic Data Science	4 weeks of hands-on study, Certificate earned on November 19, 2017
12.	Duke University	Introduction to Genetics and Evolution	4 weeks of hands-on study, Certificate earned on April 11, 2016
13.	American Museum of Natural History	Evolution: A Course for Educators	4 weeks of hands-on study, Certificate earned on February 3, 2017
14.	Technical University of Denmark (DTU)	Whole genome sequencing of bacterial genomes – tools and applications	5 weeks of hands-on study, Certificate earned on December 14, 2017
15.	Technical University of Denmark (DTU)	Metagenomics applied to surveillance of pathogens and antimicrobial resistance	3 weeks of hands-on study, Certificate earned on December 27, 2018
16.	Icahn School of Medicine at Mount Sinai	Introduction to Systems Biology	10 weeks of hands-on study, Certificate earned on April 16, 2016
17.	Icahn School of Medicine at Mount Sinai	Experimental Methods in Systems Biology	8 weeks of hands-on study, Certificate earned on June 11, 2016
18.	Icahn School of Medicine at Mount Sinai	Network Analysis in Systems Biology	10 weeks of hands-on study, Certificate earned on January 4, 2018
19.	The University of Melbourne	Epigenetic Control of Gene Expression	7 weeks of hands-on study, Certificate earned on March 8, 2017
20.	University of Michigan	Programming for Everybody (Getting Started with Python)	7 weeks of hands-on study, Certificate earned on May 29, 2016
21.	Rice University	An Introduction to Interactive Programming in Python (Part 1)	5 weeks of hands-on study, Certificate earned on June 9, 2016
22.	Decode Life	Plant Bioinformatics	6 Days international workshop Certificate earned on December 6, 2020

13. Experience:

Position	Period		Total Yr/Mo
	Form	To	
Scientific Officer (SO) Agronomy Division Bangladesh Jute Research Institute	1/11/2004	30/11/2010	Six Years two Month
Biotechnologist Basic and Applied Research on Jute Project Bangladesh Jute Research Institute	01/01/2010	31/08/2015	Five Years Eight Month
Senior Biotechnologist Basic and Applied Research on Jute Project Bangladesh Jute Research Institute	20/09/2015	23/11/2015	Two Month 3days
Senior Scientific Officer (SSO) Agronomy Division Bangladesh Jute Research Institute	24/11/2015	30/12/2015	One Month Six days
Senior Biotechnologist Basic and Applied Research on Jute Project Bangladesh Jute Research Institute	31-12-2015	17-01-2022	Six Years Seven Days
Principal Scientific Officer Regional Station, Faridpur Bangladesh Jute Research Institute	18-01-2022	15-03-2022	One Month twenty eight days
Program Manager (Genomics) Senior Biotechnologist Basic and Applied Research on Jute Project Bangladesh Jute Research Institute	16-03-2022	15-09-2022	Six Month
Principal Scientific Officer Molecular Biology Department Bangladesh Jute Research Institute	25-09-2022	Till Now	---

14. Publication:

a. Full Scientific Paper as principal author

- i. **Borhan Ahmed**, Mobashwer Alam, Nasima Aktar, Md. Sabbir Hossain, Md. Wali Ullah, Kazi Khairul Bashar, Shah Md. Tamim Kabir, Emdadul Mannan Emdad and Md. Shahidul Islam, 2023. Genome-wide investigation of aquaporin genes in *Corchorus* spp and their role in organ development and abiotic stress tolerance. *Plant gene*, 100410, Volume 24, doi.org/10.1016/j.plgene.2023.100410.
- ii. **Borhan Ahmed**, Fakhruul Hasan, Anika Tabassum, Rasel Ahmed, Rajnee Hassan, Md. Ruhul Amin, Mobashwer Alam, 2023. Genome-wide investigation of SnRK2 gene family in two jute species: *Corchorus olitorius* and *Corchorus capsularis*. *Journal of Genetic Engineering and Biotechnology*. 18;21(1):5, 10.1186/s43141-022-00453-x
- iii. **Borhan Ahmed**, Mobashwer Alam, Fakhruul Hasan, Emdadul Mannan Emdad, Shahidul Islam and Nazibur Rahman, 2020. Jute CDPK genes and their role in stress tolerance and fiber development: A genome-wide bioinformatic investigation of *Corchorus capsularis* and *C. olitorius*. *Plant gene*, Volume 24, <https://doi.org/10.1016/j.plgene.2020.100252>.

b. Full Scientific Paper as associate author

- i. Md. Shahidul Islam, Jennifer A. Saito, Emdadul Mannan Emdad, **Borhan Ahmed**, Mohammad Moinul Islam, Abdul Halim, Quazi Md Mosaddeque Hossen, Md Zakir Hossain, Rasel Ahmed, Md Sabbir Hossain, Shah Md Tamim Kabir, Md Sarwar Alam Khan, Md Mursalin Khan, Rajnee Hasan, Nasima Aktar, Ummay Honi, Rahin Islam, Md Mamunur Rashid, Xuehua Wan, Shaobin Hou, Taslima Haque, Muhammad Shafiul Azam, Mahdi Muhammad Moosa, Sabrina M. Elias, A. M. Mahedi Hasan, Niaz Mahmood, Md Shafiuddin, Saima Shahid, Nusrat Sharmeen Shommu, Sharmin Jahan, Saroj Roy, Amlan Chowdhury, Md Kamal Uddin, Md Sharifur Rahman, Md Samiul Haque, Md Monjurul Alam, Haseena Khan and Maqsudul Alam, 2017. Comparative genomics of two jute species and insight into fibre biogenesis. *Nature Plants* 3, 16223 (2017). <https://doi.org/10.1038/nplants.2016.223>.
- ii. Md. Shahidul Islam, Md Samiul Haque, Mohammad Moinul Islam, Emdadul Mannan Emdad, Abdul Halim, Hossen, Quazi Md Mosaddeque Hossen, Md Zakir Hossain, **Borhan Ahmed**, Sifatul Rahim, Md Sharifur Rahman, Md Monjurul Alam, Shaobin Hou, Xuehua Wan, Jennifer A. Saito and Maqsudul Alam 2012. Tools to kill: Genome of one of the most destructive plant pathogenic fungi *Macrophomina phaseolina*. *BMC Genomics*,13:493. doi: <https://doi.org/10.1186/1471-2164-13-493>.
- iii. Md. Sabbir Hossain, **Borhan Ahmed**, Md. Wali Ullah, Md. Samiul Haque, Md. Shahidul Islam. 2021 Genome-wide Identification and Characterization of Expansin Genes in Jute. *Trop.Plant Biol.* Doi: <https://doi.org/10.1007/s12042-021-09296-1>
- iv. Md Sabbir Hossain, **Borhan Ahmed**, [Md Wali Ullah](#), [Nasima Aktar](#), [Md Samiul Haque](#), [Md Shahidul Islam](#). 2020. Genome-wide identification of fasciclin-like arabinogalactan proteins in jute and their expression pattern during fiber formation. *Mol Biol Rep.* doi: [10.1007/s11033-020-05858-w](https://doi.org/10.1007/s11033-020-05858-w).
- v. Shah Md Tamim Kabir, Md. Sabbir Hossain, Kazi Khayrul Bashar, Ummay Honi, **Borhan Ahmed**, Emdadul Mannan Emdad, Md. Monjurul Alam, Md. Samiul Haque and Md. Shahidul Islam. *Genome-wide identification and expression profiling of AP2/ERF superfamily genes under stress conditions in dark jute (Corchorus olitorius L.)*. 2021; *Industrial Crops and Products*, 166 (113469). doi; <https://doi.org/10.1016/j.indcrop.2021.113469>.

- vi. Md. Sabbir Hossain, Rasel Ahmed, Md. Wali Ullah, Shah Md Tamim Kabir, Md. Zablul Tareq and **Borhan Ahmed**, 2020. Genome wide analysis and expression profiling of Hydroxycinnamoyl CoA: Shikimate Hydroxycinnamoyl Transferase (HCT) in jute (*Corchorus olitorius*). IJBSSR, Vol: 08 Issue: 03 Page No: 92–97.
- vii. Rasel Ahmed, Md. Sabbir Hossain, Shah Md. Tamim Kabir, **Borhan Ahmed**, Rajnee Hasan, Mohammad Saiful Alam Sarker, Md. Zablul Tareq, Emdadul Mannan Emdad and Md. Shahidul Islam. 2020. Whole transcriptome sequencing and analysis of jute (*Corchorus olitorius*) fiber cell. Journal of Bioscience and Agriculture Research, 26(02), (2020):2204-2210. DOI: <https://doi.org/10.18801/jbar.260220.269>
- viii. Md. Sabbir Hossain, Rasel Ahmed, Md. Wali Ullah, Ummay Honi, Md. Zablul Tareq, Mohammad, **Borhan Ahmed** and Md. Shahidul Islam. 2020. Phenylalanine ammonia-lyase gene family (PAL): Genome wide characterization and transcriptional expression in jute (*Corchorus olitorius*). Journal of Bioscience and Agriculture Research, 26(02), pp. 2185-2191. DOI: <https://doi.org/10.18801/jbar.260220.267>
- ix. M. Shaheb Ali, M. Hossen, **B. Ahmed**, M. Nasimul Gani and M. Mahabubul Islam. 2017. Jute Seed Yield Response to Irrigation and Nitrogen Fertilization in Field-Grown Environment. American J. of Agril. Sci. 4(6): 149-153.
- x. M.F. Hasan, **B. Ahmed**, M.A. Rahman, M.M. Alam and M.M.H. Khan. 2005. Environmental Effect on Growth and Yield of Tomato. J. of Biol. Sci. 5 (6): 759-767. DOI: [10.3923/jbs.2005.759.767](https://doi.org/10.3923/jbs.2005.759.767)
- xi. M. S. H. Khan, M. M. Ali, **B. Ahmed**, C. K. Saha and M. M. M. Hossain. 2010. Study on age and spacing for quality jute seed production from o-9897 stem Cutting. Intl.J. Sustain. Agril. Tech. 6(2) : 53-55.
- xii. M.M. Ali, M. S. H. Khan, **B. Ahmed**, M. H. Rashid and R. K. Ghosh. 2009. Dry matter assimilation at different ages of *Corchorus capsularis* varieties. . Intl.J. Sustain. Agril. Tech. 5(4): 72-74.
- xiii. Syeda Farah Deeba, M. Afruza Begum, A. S. M. Kamruzzaman, **B. Ahmed** and M. S. H. Khan. 2009. Effect of raising seedlings under netting and spraying insecticide on the prevalence of tomato purple vein virus (TPVV) and its impact on growth of tomato. Intl.J. Sustain. Agril. Tech. 5(5): 78-84.
- xiv. M.S. H. Khan, M. M. Ali, **B. Ahmed**, M. M. M. Hossain and A. K. M. Shamsuddin. 2009. A quantitative method of karyotypic analysis of wheat (*Triticum aestivum* L.) VAR. sonalika. Intl.J. Sustain. Agril. Tech. 5(4) : 82-86.
- xv. Shima Saha, M. Afruza Begum, **B. Ahmed**, N. Pervin and G. K. M. N. Haque. 2009. Effects of sowing date and different level of nitrogen dose on the yield of french bean. Intl.J. Sustain. Agril. Tech. 5(8): 45-50.
- xvi. M. Afruza Begum, M. S. H. Khan, **B. Ahmed**, N. Pervin and G. K. M. N. Haque. 2009. Interaction between time of sowing and nitrogen on the growth of french bean. Intl.J. Sustain. Agril. Tech. 5(8): 34-38.
- xvii. M. Afruza Begum, Syeda Farah Deeba, **B. Ahmed**, A. M. Akanda and Izaz Ahmed. 2009. Impact of okra yellow vein clearing mosaic virus (OkYVCMV) on growth contributing characters of okra production. Intl.J. Sustain. Agril. Tech.5(4): 134-140.
- xviii. M. Shahadat Hossain, Izaz Ahmed, **Borhan Ahmed**, M.S.H. Bhuiyan and M.A. Alam 2008. Integrated use of organic matter and inorganic nitrogen fertilizer on dry matter production and leaf area index of transplant aman rice at different growing stages. Intl.J. Sustain. Agril. Tech. 4 (1): 38-43.

- xix. M. Saheb Ali, M. M. Ali, **B. Ahmed** and M. A. Alim. 2008 Standardization of fertilizer application on deshi jute (*Corchorus capsularis* L.) varieties for seed production in conventional way. Intl.J. Sustain. Agril. Tech. 4(3): 10-13.
- xx. M. Saheb Ali, **B. Ahmed**, M. M. Ali and A. K. M. Maqsubul Alam. 2008. Effect of integrated nutrient on the growth and yield of fibre production of the variety O-72. Intl.J. Sustain. Agril. Tech. 4 (3): 05-09.
- xxi. M. Mahabub Ali, S.M.A. Haque, S.M. **Ahmed**, **B. Ahmed** and M.H. Rashid. 2008 Biochemical composition and cooking quality of Faba Bean (*Vicia faba* L). Intl.J. Sustain. Agril. Tech. 4 (2): 65-70.
- xxii. M. Saheb Ali, **B. Ahmed**, M.M. Ali, M.A. Alim and A.K.M. Maqsubul Alam. 2007. Effect of split application of nitrogen fertilizer on seed yield and yield contributing characters of jute. Intl.J. Sustain. Agril. Tech.3 (4): 24-29.
- xxiii. S. M. A. Haque, M. Saheb Ali, Izaz Ahmed, **B. Ahmed** and M. H. Rashid. 2007. Effect of moisture on germination and pathogen contamination in different containers for storability of jute seed. Intl.J. Sustain. Agril. Tech. 4(4): 19-23.
- xxiv. M. M. Islam, K. Sultana, S. M. A. Haque, H. Q. M. Mosaddeque and **B. Ahmed**. 2007. Frequency of occurrences of pathogenic fungi in jute seeds. Intl.J. Sustain. Agril. Tech. 3(1): 01-06.
- xxv. S. M. Ahmed, S. M. A. Haque, **B. Ahmed**, M. M. Ali and M. S. Islam. 2007. Comparative efficacy of some seed extracts and furadan 5G against root-knot nematode (*Meloidogyne javanica*) of tomato. Intl.J. Sustain. Agril. Tech. 3(4): 50-53.
- xxvi. M. Saheb Ali, Naznin Pervin, **B. Ahmed**, M. A. Alam and S. M. A. Haque. 2007. Combined effect of cowdung with urea super granule on yield and nutrient uptake by BRRIDhan30. Intl.J. Sustain. Agril. Tech. 3(2): 11-14.
- xxvii. Shima Saha, M. Afruza Begum, N. Pervin, G. K. M. N. Haque and **B. Ahmed**. 2009. Impact of different level of nitrogen on the growth of French bean. Intl.J. Sustain. Agril. Tech. 5(7): 65-70.
- xxviii. Syeda Farah Deeba, M. Afruza Begum, **B. Ahmed**, M. S. H. Khan and A. S. M. Kamruzzaman, 2009. Effect of sowing dates on the prevalence of Tomato Purple Vein Virus (TPVV) and its impact on growth contributing characters of tomato. Intl.J. Sustain. Agril. Tech. 5(5):89-95.
- xxix. Syeda Farah Deeba, M. Afruza Begum, **B. Ahmed**, A. M. Akanda and Izaz Ahmed. 2009. Effect of Okra Yellow Vein Clearing Mosaic Virus (OkYVCMV) on yield contributing characters of Okra Production. Intl.J. Sustain. Agril. Tech. 5(4):52-58.
- xxx. M. Afruza Begum, **B. Ahmed**, M.S.H. Khan, Bilkish Begum and M.H. Rashid. 2009. Effect of the time of sowing and Nitrogen on Yield of French Bean. Intl.J. Sustain. Agril. Tech. 5(8):11-17.
- xxxi. M. Afruza Begum, Syeda Farah Deeba, **B. Ahmed**, A. M. Akanda and Izaz Ahmed. 2009. Prevalence and spread of Okra Yellow Vein Clearing Mosaic Virus (OkYVCMV) in the field. Intl.J. Sustain. Agril. Tech. 5(4):102-108.

c. List of seminar Papers/Workshop proceedings (Presented/published)

- i. Borhan Ahmed, Emdadul Mannan Emdad, Rasel Ahmed, Sabbir hossenDr. Shahidul Islam, Dr. Samiul Haque, Dr. Hasina Khan and Prof. Maqsubul Alam 2019 Genomic approach to unfold the bast fibre biosynthesis in jute. International Union of Forest Research Organizations (IUFRO), Dhaka, Bangladesh. 5-7 December, 2019.

- ii. Borhan Ahmed, Md. Shahidul Islam and Md. Nazibur Rahman 2020. Elucidation of salt tolerance mechanisms in jute. 9th International Plant tissue Culture and Biotechnology Conference, Dhaka, Bangladesh. February 8 - 10, 2020.
- iii. Borhan Ahmed, Genomic approach to unfold the bast fibre biosynthesis in jute Bangladesh Jute Research Institute, 28th December, 2020.
- iv. Borhan Ahmed, Elucidation of signaling pathways and metabolic reconstruction of salt tolerance genes in jute. Bangladesh Jute Research Institute, 30th, 2019.
- v. Sadia Noor Mou, Rasel Ahmed, Borhan Ahmed, Md Sabbir Hossain, Shah Md Tamim Kabir, Emdadul Mannan Emdad and Shahidul Islam, Comparative transcriptomics of jute fiber cell provides insight into bast fiber development, BSBMB-SABC_OMC International Conference, Dhaka, Bangladesh, 4-5 February, 2023.
- vi. Borhan Ahmed , Fakhrul Hasan and Mobashwer Alam, Genome-wide scanning of Aquaporin gene family in two jute species: *Corchorus olitorius* and *Corchorus capsularis*, 2nd international and 12th Biennial Conference of PBGSB 2023, Dhaka, Bangladesh, 18-19 February, 2023

15. Research achievement

(i) No of technology developed : 04

(ii) No of Research Program

(a) Developed : 43


(b) Supervised : 66

(c) Executed : 66

16. Outstanding achievement

i. Achievement -05

ii. Patent registered: 02



22.03.2023

Signature of Applicant:

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