Curriculum Vitae (CV) of Mohammad Nazrul Islam, PhD

1. Name	**:**	Mohammad Nazrul Islam
2. Date of Birth	**:**	March 02, 1980
3. Nationality	**:**	Bangladeshi (By birth)
4. National ID	**:**	19806125221270832
5. Contact Address	**:**	Dr. Mohammad Nazrul Islam Professor Department of Biotechnology Sher-e-Bangla Agricultural University Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh Cell: +88-01797583951 E-mail: nazrul.sau.bd@gmail.com; nazrul2010@sau.edu.bd URL: http://sau.edu.bd/teacher/120
6. Area of Specialization	**:**	Molecular Biology, Genomics & Biotechnology
7. Educational History	**:**	

Name of School/College/ University/ Institute	Years attended		Name of Examination with subject offered	Division/ Class and place obtained	Year of obtaining certificate /Degree
	From	To			
University of Science and Technology, South Korea	2015	2020	**Ph.D. (Major of Marine Biotechnology):** Molecular and Cellular Biotechnology, Bioinformatics for Marine Genomics, Introduction to Marine Biotechnology, Marine Microbial Ecology, Genetics Technology Theory	Passed Cr. Earned: 42 cGPA: 4.02 (Out of 4.5) (94.67% marks)	2020
Bangladesh Agricultural University, Mymensingh	2004	2005	**M.S. in Biotechnology:** Molecular Cell Biology, Molecular Genetics, Gene Expression & Regulation, Biometry & Bioinformatics, Animal Cell Technology, Environmental Biotechnology & Biosafety, Recombinant DNA Technology, Genetic Engineering & Biotechnology, Molecular Markers & Diagnostics, Molecular Techniques, Enzymology & Enzyme Technology, Biopharming & Bioengineering.	Grade: A cGPA: 3.906 (Out of 4.0) (78.12% marks)	2005
Bangladesh Agricultural University, Mymensingh	1999	2002	**B.Sc. Fisheries (Hons.):** Fisheries Biology & Genetics, Fisheries Technology, Aquaculture, Fisheries Management, Oceanography & Marine Biology, Fish Pathology, Fisheries Microbiology, Statistics, Biochemistry etc.	First Class 12th position (69.09% marks)	2002 (Exam. held in 2004)
Notre Dame College, Dhaka	1995	1997	**HSC:** Bangla, English, Physics, Mathematics, Chemistry, Biology	First Division (74.50% marks)	1997

8. Research Interests :

- Functional genomics, Identification of important genes, cloning and functional studies by RNAi and CRISPR systems
- Marker assisted selection (MAS) and breeding, QTL mapping and Association studies

9. Expertise and Laboratory skills:

● Microsatellite Genotyping ● Gene Cloning ● Competent Cell Preparation ● Bacterial Transformation ● Cell Transfection ● DNA Marker Technology ● Site-Directed Mutagenesis ● Immunoprecipitation ● Sequencing ● SDS-PAGE ● Immunocytochemistry (ICC) ● FACS ● Rolling Circle Amplification (RCA) ● Proximity Ligation Assay (PLA) ● Knockdown by siRNA ● CRISPR-Cas Systems ● Protein-Protein Interaction ● Population Genetics & Genomics ● Silver Staining ● Western Blotting Techniques ● Polymerase Chain Reaction ● Quantitative RT-PCR ● Vector Design & Construction ● Plasmid Preparation ● Cell Culture ● Immunofluorescence (IF) ● Enhanced Chemiluminescence (ECL) ● Biosafety and Biosecurity Practices ● BCA Assay.

10. Current Professional experience (at Sher-e-Bangla Agricultural University):

- Professor at Department of Biotechnology, SAU Dhaka: February 23, 2023 to date
- Associate Professor at Department of Biotechnology, SAU Dhaka: February 23, 2019 to February 22, 2023
- Assistant Professor at Department of Biotechnology, SAU Dhaka: February 23, 2012 to February 22, 2019
- Lecturer at Department of Biotechnology, SAU Dhaka: February 23, 2010 to February 22, 2012

11. Classes taken and subject taught (at Sher-e-Bangla Agricultural University):

B.Sc. Ag. (Honours) Courses: Level 4, Semester II: Genetic Engineering (Theory, BIOT433)
Level 3, Semester I: *In vitro* Culture (Theory, BIOT359 and Practical, BIOT360)

B.Sc. Fisheries (Honours) Courses: Level-3, Semester II: Fundamentals of Molecular Biology and Biotechnology (Theory, COMB351 and Practical, COMB352)

MS in Biotechnology courses :Cellular and Molecular Biology (BIOT501), Nucleic Acids and Protein Biosynthesis (BIOT503), Recombinant DNA Technology (BIOT504), Molecular Markers & Molecular Breeding (BIOT505), Regulation of Gene Expression (BIOT506), Genetic Engineering & Transgenics (BIOT509), Fisheries Biotechnology (BIOT511).

MS in Fisheries Biology & Genetics courses: Fish Biotechnology & Genetic Engineering (FBGN505); Aquatic Microbial Biology and Biotechnology (FBGN512)

Extra duties & responsibilities :

- ❖ Chairman, Department of Biotechnology, SAU, Dhaka (December 24, 2020 to December 23, 2022)
- ❖ Chairman of MS Examination & Defense Committee (December 24, 2020 to December 23, 2022)
- ❖ Assistant Proctor, SAU, Dhaka (May 14, 2012 to May 13, 2014)
- ❖ Tabulator and Supervisor of different Examinations
- ❖ Evaluator of MS Theses and Seminar papers

12. Other Professional Experience:

Designation	:	Research Officer
Organization and Address	:	University Grants Commission (UGC) of Bangladesh, Dhaka
Duration	:	January 11, 2009 to February 22, 2010

13. Research projects and experience:

i. **Title of the project**: Mitochondrial genome sequencing and phylogenetic studies of feather back chital, *Chitala chitala*; Funded by: Sher-e-Bangla Agricultural University Research System (SAURES), SAU, Dhaka, Bangladesh; Year: 2021-22 [Involvement as **Principal Investigator**].

ii. **Title of the project**: DNA barcoding and exploring genetic diversity in the featherback chital (*Chitala chitala*) by mitochondrial DNA analysis; Funded by: University Grants Commission (UGC) of Bangladesh; Year: 2020-21 [Involvement as **Principal Investigator**].

iii. **Title of the project**: Diagnostics of white spot disease (WSD) in selected shrimp hatcheries and farms in Bangladesh; Funded by: Sher-e-Bangla Agricultural University Research System (SAURES), SAU, Dhaka, Bangladesh; Year: 2020-21 [Involvement as **Principal Investigator**].

iv. **Title of the project:** Population genetic structure and demographic history of *Tenualosa ilisha* (Hilsa shad) in Bangladesh and Indo-West Pacific: implications for conservation and breeding; Funded by: Grants for Advanced Research in Education (GARE) program of the Ministry of Education, Govt. of the People's Republic of Bangladesh; **Year:** 2013-14 [Involvement as **Co-Investigator**].

v. **Title of the project**: Molecular diversity analysis of guava (*Psidium guajava* L.); Funded by: Sher-e-Bangla Agricultural University Research System (SAURES), SAU, Dhaka, Bangladesh; Year: 2013-14 [Involvement as **Principal Investigator**].

vi. Expertise as **PhD researcher** at Marine Biotechnology Research Center (MBRC) of Korea Institute of Ocean Science and Technology (KIOST) in research project entitled "Development of Biomedical Materials Based on Marine Proteins" supported by the Ministry of Fisheries and Ocean Sciences (Duration: August 17, 2015 to February 29, 2020).

vii. Worked as **Sector Research Analyst** at the project entitled "Small and Medium Enterprise Sector Development Programme" of Maxwell Stamp Limited (MSL) under the Ministry of Industries of Bangladesh funded by SME Foundation and Asian Development Bank (ADB) (Duration: October, 2008 to January 10, 2009).

viii. Worked as **Research Associate** at the project of Seed Wing, Ministry of Agriculture, Government of the People's Republic of Bangladesh, with the assistance of Danish International Development Agency (DANIDA) and engaged in characterization and documentation of different varieties of 20 crops of Bangladesh (Duration: February, 2006 to April, 2008).

14. Award:

Gold Medal Award: Awarded Khurshida-Muslim Gold Medal of the Bangladesh Academy of Agriculture (BAG) on August 23, 2008 as one of the associates of a research team for unique contribution in introducing genetic fingerprinting of crop varieties of Bangladesh covering 157 varieties of 20 crop species as recorded and documented in the book on "Plant Varieties of Bangladesh: Morphological and Molecular Characterization, Volume-1"

15. Conferences Attended:

- Participated as an Invited Speaker at the 23rd National Conference of the Zoological Society of Bangladesh (ZSB) held on the 28th of January 2023 at Nabab Nawab Ali Chowdhury Senate Bhaban and Department of Zoology, University of Dhaka, Dhaka.
- Participated as an Invited Speaker in 3-days "The 1st BSMIAB-COB International Conference on COVID-19 Pandemic" organized by Bangladesh Society of Microbiology, Immunology & Advanced Biotechnology (BSMIAB) and Community of Biotechnology (COB) held on 6-8 November, 2020 at online platform.
- Participated in 2-days International Conference of Bangladesh Bioethics Society (BBS) organized by Bangladesh Bioethics Society (BBS) and UNESCO held on 15-16 March, 2010 at University Grants Commission (UGC) of Bangladesh, Dhaka, Bangladesh.
- Participation at 15th International Congress on Biotechnology in Animal Reproduction (ICBAR) held on 6-7 August, 2008 in BAU, Mymensingh jointly organized by Association of ICBAR, Japan and Bangladesh Agricultural University, Mymensingh.
- Participation and presentation at International Biotechnology Conference on "Biotechnology for Food Security, Renewable Energy and Poverty Alleviation" held on 7-8 June, 2008 in Dhaka, Bangladesh and organized by Bangladesh Association for Biotechnology and Genetic Engineering (BABGE).

16. List of Research Publications:

Peer-reviewed articles:

1. MJ Hasan, S Sultana, MN Khan, HR Islam, & **MN Islam** (2024). Molecular diagnosis appended by histopathological signature delineates the white spot syndrome virus (WSSV) infection in penaeid shrimps. Comparative Immunology Reports, (6) 200138.https://doi.org/10.1016/j.cirep.2024.200138.
2. MS Alam, **MN Islam**, M Das, SF Islam, MG Rabbane, E Karim, A Roy, MS Alam, R Ahmed, ASM Kibria (2023). RNAi-Based Therapy: Combating Shrimp Viral Diseases. *Viruses*, 15(10): 2050.
3. **MN Islam** and S Sultana (2022) Codon usage bias and purifying selection identified in *Cirrhinus reba* mitogenome. *Journal of Advanced Biotechnology & Experimental Therapeutics*, 5(3): 605-614.
4. KA Habib, K Nam, Y Xiao, J Sathi, **MN Islam**, SK Panhwar, AHMS Habib (2022) Population structure, phylogeography and demographic history of *Tenualosa ilisha* populations in the Indian Ocean region inferred from mitochondrial DNA sequence variation. *Regional Studies in Marine Science*, 54: 102478, Elsevier Publisher, Impact Factor: 2.166; https://doi.org/10.1016/j.rsma.2022.102478.
5. **MN Islam**, KS Hossain, PP Sarker, J Ferdous, MA Hannan, MM Rahman, DT Chu, MJ Uddin (2020). Revisiting pharmacological potentials of *Nigella sativa* seed: a promising option for COVID-19 prevention and cure. *Phytotherapy Research*, 2020; 1–16. Peer-reviewed Open Access, John Wiley & Sons Publisher, Impact Factor: 5.88, https://doi.org/10.1002/ptr.6895.

6. **MN Islam**, S Sultana, MJ Alam (2020) Sequencing and annotation of the complete mitochondrial genome of a threatened labeonine fish, *Cirrhinus reba*. *Genomics & Informatics*, 18(3):e32. Peer-reviewed Open Access, Publisher: Korea Genome Organization, SJR Impact Score: 1.62 based on Scopus; https://doi.org/10.5808/GI.2020.18.3.e32.
7. Bae J, Lee KW, **Islam MN**, Yim HS, Park H, Rho M. 2018. iMGEins: detecting novel mobile genetic elements inserted in individual genomes. *BMC Genomics*, 19: 944.
8. Sultana S, Hossain MS, **Islam MN**, Bhuiyan MSI, Salimullah M, Alam J. (2018) Molecular characterization and phylogenetic analysis of two minnows, *Puntius sarana* and *Barbodes gonionotus*. *Journal of Advanced Biotechnology and Experimental Therapeutics*. 1(3): 83-87. 10.5455/jabet.2018.d15.
9. S Sultana, **MN Islam** and ME Hoque (2018) DNA fingerprinting and molecular diversity analysis for the improvement of brinjal (*Solanum melongena* L.) cultivars. *Journal of Advanced Biotechnology and Experimental Therapeutics*, 1(1): 01-06.
10. **MN Islam**, KW Lee, HS Yim, SH Lee, HC Jung, JH Lee and JY Jeong (2017) Optimizing T4 DNA polymerase conditions enhances the efficiency of one-step sequence- and ligation-independent cloning. *BioTechniques*, 63(3): 125-130.
11. KA Habib, **MN Islam**, S Sultana, YH Lee (2015) Genetic variation and population structure of spottybelly greenling (Hexagrammos agrammus) in Korean coasts analyzed by DNA markers emphasizing on microsatellites. *International Journal of Aquatic Biology*, 3(3): 183-190.
12. S Sultana, **MN Islam**, KA Habib, MAR Hossain and MS Alam (2015) Population Genetics of Stinging Catfish (*Heteropneustes fossilis*) in Bangladesh Analyzed by Microsatellite DNA Markers. *World Journal of Fish and Marine Sciences*, 7(1): 38-44.
13. **MN Islam**, MR Molla, L Rahman (2013) Genetic characterization of sesame varieties through RAPD fingerprinting technique in Bangladesh. *Journal of Sher-e-Bangla Agricultural University*, 7(1): 1-5.
14. **MN Islam**, MR Molla, MM Raohman, M Hasanuzzaman, SMN Islam and L Rahman (2012) DNA fingerprinting and genotyping of cotton varieties using SSR markers. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, 40(2): 261-265.
15. MR Molla, **MN Islam**, MM Rohman, I Ahmed, and L Rahman (2011) DNA fingerprinting of Rape seed (*Brassica rapa* L.) varieties of Bangladesh using SSR markers. *Nature and Science*, 9(5): 222-228.
16. S Ahmed, L Yeasmin and **MN Islam** (2011) *In vitro* Performance of Sweet Potato (*Ipomoea batatus* L.) in Bangladesh. *International Journal of Bioresources and Stress Management*, 2(2): 209-214.
17. MR Molla, **MN Islam**, MM Rohman and L Rahman (2010) Microsatellite allele size profiling to determine varietal identity and genetic diversity among groundnut varieties in Bangladesh. *Nature and Science*, 8(12): 123-129.
18. MR Molla, **MN Islam**, MM Rohman, RU Choudhury and L Rahman (2010) The Use of SSR DNA Markers to Reveal the Polymorphism at Ploidy Level in Cultivated Rapeseed Varieties in Bangladesh. *Global Journal of Biotechnology & Biochemistry*, 5(2): 141-144.

19. Saha D, M Nahiduzzaman, S Akter, **MN Islam**, MAR Hossain & MS Alam (2010) Bottleneck in the endangered kalibaus, *Labeo calbasu* (cyprinidae: cypriniformes) populations in Bangladesh revealed by microsatellite DNA marker analysis. *Genes & Genomes*, 32: 45-51.
20. S Nasren, **MN Islam,** MGQ Khan, MS Islam & MS Alam (2009) Genetic variation and differentiation in the Stinging catfish *Heteropneustes fossilis* (Bloch) populations assessed by heterologous microsatellite DNA markers. *Indian Journal of Biotechnology,* 8: 85-90.
21. MS Islam, M Shah-E-Alam, MM Islam, **MN Islam** (2008) Genetic diversity analysis of groundnut genotypes using micosatellite markers. *Journal of Bangladesh Agricultural University*, 6(1): 17-25.
22. L Rahman, **MN Islam**, MS Rahman, MS Islam, M Shah-E-Alam & MK Bashar (2008) Characterization of 94 rice (*Oryza sativa* L.) varieties of Bangladesh based on microsatellite loci. *Bangladesh Journal of Agricultural Science,* 35(1): 97-112.
23. **MN Islam,** MS Islam and MS Alam (2007) Genetic Structure of Different Populations of Walking Catfish (*Clarias batrachus* L.) in Bangladesh. *Biochemical Genetics*, 45(9-10): 647- 662.
24. **MN Islam**, MR Molla & L Rahman (2007) Microsatellite allele size profiling to identify and distinguish soybean cultivars in Bangladesh. *Progressive Agriculture*, 18 (1): 9-17.
25. MR Molla, **MN Islam** & L Rahman (2007) DNA fingerprinting of maize (*Zea mays* linn.) cultivars of Bangladesh using SSR markers. *Bangladesh Journal of Crop Science,* 18 (1): 63-72.
26. KK Ghosh, L Rahman, **MN Islam** & MS Haque (2006) *Alternaria* blight severity and RAPD analysis of *Brassica* progeny and parental lines. *Molecular Biology and Biotechnology Journal,* 4: 31-36.
27. L Rahman, MR Molla, S Sultana, **MN Islam**, … … owla, M Shah-E-Alam, & MS Alam (2006) Plant Varieties of Bangladesh-Morphological and Molecular characterization for plant variety protection. *Bangladesh Journal of Agricultural Sciences*, 33 (2): 215-225.
28. **MN Islam,** MS Alam, MG Hussain & MS Islam (2005) Genetic variation in wild and hatchery stocks of walking catfish based on microsatellite loci. *Molecular Biology & Biotechnology Journal, 3*: 45-49.

Books Published by the Government of the Peoples' Republic of Bangladesh:

29. L Rahman, **MN Islam,** MS Rahman, MS Islam, MR Molla, S Sultana, NU Ahmed, MS Rahman, M Nazim-ud-Dowla, M Shah-E-Alam, L Hassan, MS Alam & MK Bashar (2009) RICE VARIETIES OF BANGLADESH: Morphological and Molecular Characterization, Published by Seed Wing, Ministry of Agriculture, Government of the Peoples' Republic of Bangladesh, 1st Edition, 56p.
30. L Rahman, MR Molla, S Sultana, **MN Islam,** NU Ahmed, MS Rahman, M Nazim-ud-Dowla, M Shah-E-Alam, L Hassan & MS Alam (2007) PLANT VARIETIES OF BANGLADESH: Morphological and Molecular Characterization. Published by Seed Wing, Ministry of Agriculture, Government of the Peoples' Republic of Bangladesh, Vol. 1, 486 p. [ISBN: 984-300-001120-8].
31. L Rahman, **MN Islam,** MS Rahman, MS Islam, M Shah-E-Alam, L Hassan & MK Bashar (2008) PLANT VARIETIES OF BANGLADESH: Morphological and Molecular Characterization. Published by Seed Wing, Ministry of Agriculture, Government of the Peoples' Republic of Bangladesh, Vol. 2, 300 p. [ISBN: 984-300-001120-8].

PhD & MS Dissertations:

32. **MN Islam** (2020) The Study on the Function of FGF11 in Apoptosis Mediated by GSK3β in Osteosarcoma U2OS Cells. A PhD thesis submitted to the University of Science and Technology, South Korea.
33. **MN Islam** (2005) Study of genetic variation in wild and hatchery stocks of walking catfish (*Clarias batrachus* L.) using microsatellite DNA markers. An MS (Master's) thesis submitted to the Department of Biotechnology, Bangladesh Agricultural University, Mymensingh, Bangladesh.

GenBank Accessions (Published at National Center for Biotechnology Information, NCBI website):

34. **MN Islam**, M Akter, S Sultana, MJ Alam (2022) *Chitala chitala* mitochondrion, complete genome 16248 bp circular DNA, ON764424.1 (https://www.ncbi.nlm.nih.gov/nuccore/ON764424.1).
35. **MN Islam**, S Sultana, MJ Alam (2020) *Cirrhinus reba* mitochondrion, complete genome 16597 bp circular DNA, MN862482.1 (https://www.ncbi.nlm.nih.gov/nuccore/MN862482).

17. Extra curricular activities and professional memberships:

A. Cadetship:

Attended and completed training as a Senior Cadet on Bangladesh National Cadet Corps (BNCC) from 1999 to 2002 at Bangladesh Agricultural University Platoon under Ramna Regiment, BNCC, Dhaka.

B. Professional memberships:

a. Life Member, Bangladesh Bioethics Society (BBS)
b. Life Member, Bangladesh Biosafety and Biosecurity Society (BBBS) (LM# BBBA32)
c. Life Member, Bangladesh Association for Biotechnology and Genetic Engineering (BABGE)
d. Donor Member, Nature Study Society of Bangladesh (NSSB), (DM# 0121DM01)
e. Member, Bangladesh Society of Microbiology, Immunology & Advanced Biotechnology (BSMIAB)
f. Member, Community of Biotechnology (COB)

18. Name and address of referees:

Jung-Hyun Lee, Ph.D.
Professor
Department of Marine Biotechnology
University of Science & Technology (UST), Daejeon, South Korea, 34113
and
Korea Institute of Ocean Science & Technology (KIOST), 385, Haeyang-ro, Yeongdo-gu,
Busan Metropolitan City, South Korea 49111.
Email: jlee@kiost.ac.kr

Professor Dr. Lutfur Rahman (Retired)
Department of Genetics & Plant Breeding
Bangladesh Agricultural University
Mymensingh, Bangladesh
Mobile: 01717-177192
Email: rahman.gpb@gmail.com

_____(Dated: 18-11-2024)_____

(Professor Dr. Mohammad Nazrul Islam)