

Md. Foysul Hossain

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PROFILE

Md. Foysul Hossain is an Assistant Professor at Sher-e-Bangla Agricultural University, Dhaka, and a PhD researcher in the Laboratory of Nutrition at the University of South Bohemia, Czech Republic. His work links freshwater ecology, limnology, and fish nutrition, with a current focus on amino acids in pond food webs and precision feeding for more efficient aquaculture.

Current affiliation	PhD Research Fellow, Laboratory of Nutrition, Institute of Aquaculture and Protection of Waters, Faculty of Fisheries and Protection of Waters (FFPW), University of South Bohemia in České Budějovice, Na Sádkách 1780, 370 05 České Budějovice, Czech Republic
Home institution	Assistant Professor, Department of Aquatic Environment and Resource Management, Faculty of Fisheries and Marine Science, Sher-e-Bangla Agricultural University (SAU), Sher-e-Bangla Nagar, Dhaka 1207, Bangladesh (on deputation)
Online profiles	ORCID: orcid.org/0000-0003-1034-1688 Scopus: Author ID 57878874600 Google Scholar ResearchGate
Languages	English: Cambridge B2 First (FCE), Pass at Grade B (speaking 186, C1 level); C1 (IELTS)

RESEARCH INTERESTS

Main areas: freshwater ecology, fish nutrition, and aquaculture.

Subordinate areas: aquatic animal nutrition and bioenergetics; nutritional ecology of freshwaters; nutrient use efficiency in ponds and eco-intensification of pond farming; reproductive biology and fish population dynamics.

Principal investigator of 6 grants (GAJU; SAURES; R&D, Ministry of Science and Technology, Bangladesh).

EDUCATION

2025 to present	PhD (Fishery), in progress. Faculty of Fisheries and Protection of Waters, University of South Bohemia in České Budějovice, Czech Republic. Project: amino acids in pond food webs and precision pond feeds to improve nutrient use efficiency.
2016 to 2017 (awarded 2018)	MS in Fisheries Biology and Aquatic Environment. Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur (now Gazipur Agricultural University), Bangladesh.
2013 to 2016 (awarded 2016)	BS in Fisheries. Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur (now Gazipur Agricultural University), Bangladesh.

PROFESSIONAL EXPERIENCE

5 May 2025 to present	PhD Student, Laboratory of Nutrition. Faculty of Fisheries and Protection of Waters, University of South Bohemia, Czech Republic. Research, collaboration, grant writing.
27 Dec 2020 to present	Assistant Professor. Department of Aquatic Environment and Resource Management, Faculty of Fisheries and Marine Science, Sher-e-Bangla Agricultural University, Dhaka. Research, teaching, grants, supervision, consultancy, leading a working group, international cooperation (on study leave since 21 April 2025).
28 Feb 2022 to 20 Apr 2025	Head (Chairman) of Department. Department of Aquatic Environment and Resource Management, Sher-e-Bangla Agricultural University. Academic leadership and HR management.
27 Dec 2018 to 26 Dec 2020	Lecturer. Department of Aquatic Environment and Resource Management, Sher-e-Bangla Agricultural University. Teaching and research.
1 Jun 2017 to 1 Jun 2018	Research Assistant. Department of Fisheries Biology and Aquatic Environment, BSMRAU. UGC-funded project on selected seaweed powder as a feed supplement for growth and immune response of Nile tilapia (<i>Oreochromis niloticus</i>).

GRANTS AND FUNDED PROJECTS

Project	Funder	Year	Status
Trophic fractionation of amino acids, including toxic amino acids, as nutritional defence mechanisms of primary producers in pond food webs (GAJU 061/2026/P, role: PI)	Grant Agency of the University of South Bohemia	2026	Ongoing
Population parameters of the near-threatened reba carp (<i>Cirrhinus reba</i>) in the Ganges-Brahmaputra river system	Sher-e-Bangla Agricultural University	2024	Completed
Life history traits of Ganges river gizzard shad (<i>Gonialosa manmina</i>) in the Jamuna River	Ministry of Science and Technology, R&D	2024	Completed
Seasonal fish biodiversity and abundance in Chalan Beel in relation to environmental parameters and nutrients	Ministry of Science and Technology, R&D	2023	Completed
Antioxidant and anti-inflammatory activities of green seaweed <i>Ulva</i> sp. extracts from the Bangladesh coast	Ministry of Science and Technology, Special Allocation	2023	Completed
Climate-smart technologies for increasing shrimp farming productivity in the coastal ecosystem	Ministry of Science and Technology, Special Allocation	2022	Completed
Survival, growth, and proximate composition of Gulsha tengra (<i>Mystus cavasius</i>) at different salinities	Ministry of Science and Technology, R&D	2022	Completed
Brown seaweed as a feed additive for survival, growth, and immunity of pabda (<i>Ompok pabda</i>) in biofloc	Ministry of Science and Technology, R&D	2021	Completed
Hydrolyzed feather meal as a protein source for aquaculture and environment-friendly technology	Ministry of Science and Technology, Special Allocation	2019	Completed

PUBLICATIONS

Peer-reviewed work, newest first.

Journal articles

- Hossain, M.F., Sezimova, K., Mraz, J., Gebauer, R., Zabransky, L., and Roy, K. (2026). Amino acids in the natural food web of global fishponds: way forward for precision protein feeding in pond cyprinid aquaculture. *Reviews in Aquaculture*, 18(4), e70195. doi:10.1111/raq.70195
- Roy, K., Mandal, B., Hossain, M.F., Nahlik, V., Regenda, J., Roy, D.R., Penka, T., Kucera, V., Malinovskyi, O., Lepic, P., and Policar, T. (2026). Ecological stoichiometry and nutrient reduction strategies for intensive yet sustainable hybrid pond systems: concepts for regenerative aquaculture. *Aquacultural Engineering*, 102796. doi:10.1016/j.aquaeng.2026.102796
- Hasan, J., Shaha, D.C., Ahmed, M., Hoque, M.Z., Rasul, M.G., Hossain, M.F., Suhag, M., and Matsumoto, M. (2026). Ecological risk assessment of surface water through heavy metal contamination in the fish spawning Tetulia River Estuary of Bangladesh. *Journal of the Faculty of Agriculture, Kyushu University*, 71(1), 25-34. doi:10.5109/7407634
- Chakroborty, K., Lima, R.A., Hossain, M.F., and Rafiquzzaman, S.M. (2025). Biobased functional feed additives in Asian aquaculture: trends, impacts, and future directions. *Animal Feed Science and Technology*, 320, 116222. doi:10.1016/j.anifeedsci.2025.116222
- Hasan, A.M., Hossain, M.F., Uddin, M., Khan, M.T., Saif, U.M., Hamed, M., Martyniuk, C.J., and Chivers, D.P. (2025). Mechanistic insights into microplastic-induced reproductive toxicity in aquatic organisms: a comprehensive review. *Aquatic Toxicology*, 286, 107478. doi:10.1016/j.aquatox.2025.107478
- Hossain, M.F., Chakroborty, K., Lima, R.A., Reza, N.B., Bhuyain, S., Hossen, A., and Majumdar, B.C. (2025). Assessing growth, survival, and physiological responses of Gangetic mystus (*Mystus cavasius*) to incremental salinity levels: implications for aquaculture management in a changing climate. *Journal of Applied Ichthyology*, 2025(1), 4079811. doi:10.1155/jai/4079811
- Hossain, M.F., Chakroborty, K., Nabil, T.A., Bhuyain, S., Reza, N.B., and Rafiquzzaman, S.M. (2025). Integrating seaweed into aquafeeds: current knowledge and future perspectives. *AACL Bioflux*, 18(6), 2846-2869.
- Hossain, M.F., Chakroborty, K., Chowdhury, G., Bhuyain, S., Hossain, A., Ritu, M.M.K., and Jahan, R. (2025). Assessing aquatic plant diversity and management potential in wetlands in northwestern and southwestern Bangladesh. *Environment and Natural Resources Journal*, 23(6), 581-594. doi:10.32526/enrj/23/20240287
- Chakroborty, K., Lima, R.A., Hossain, M.F., Islam, M.S., Al Mamun, S.A., and Rafiquzzaman, S. (2025). Upcycling approaches of invasive suckermouth catfish as a control strategy: translating global practices to Bangladesh. *Asian Fisheries Science*, 38(3). doi:10.33997/j.afs.2025.38.3.006
- Islam, R., Mithun, M.H., Rashid, I., and Hossain, M.F. (2025). Microbial analysis of vended fruit juices and sauces consumed in restaurants in Narsingdi City, Bangladesh. *Asian Journal of Microbiology and Biotechnology*, 10(1), 1-11.
- Jahan, R., Mahmud, M.N., Sefat, H.R., Hossain, M.F., Hossain, J., and Barman, A.C. (2025). Diversity and community structure of marine fishes in the Lower Meghna River Estuary, Bangladesh: a case study in Hatiya and Nijhum Dwip. *Egyptian Journal of Aquatic Biology and Fisheries*, 29(3), 1199-1216. doi:10.21608/ejabf.2025.429595

12. Hossain, M.F., Ghosh, A., Hossain, J., Tasnim, N., and Jahan, R. (2025). Population parameters of the stinging catfish, *Heteropneustes fossilis*, in a semi-enclosed wetland ecosystem: an insight from the Arial Beel, Bangladesh. *Egyptian Journal of Aquatic Biology and Fisheries*, 29(3), 1175-1198. doi:10.21608/ejabf.2025.429593
13. Hossain, M.F., Rahman, M.M., Truong, N.P.D., Chakroborty, K., and Majumdar, B.C. (2024). Fish availability, market conditions, and livelihood status of traders in a dry fish market in northern Bangladesh. *Ege Journal of Fisheries and Aquatic Sciences*, 41(2), 115-125. doi:10.12714/egejfas.41.2.05
14. Hossain, M.F., Asha, A.A., Chakroborty, K., Truong, N.P., Yasmin, H., and Hasan, J. (2024). Impact of contemporary management practices in pond fish farming on the socio-economic condition of fish farmers in north-central Bangladesh. *AACL Bioflux*, 17(5), 1852-1868.
15. Shahabuddin, A.M., Hannan, M.A., Hossain, M.F., Hemal, S., Khanam, R., Afroz, T., and Mustafa, A. (2024). Evaluation of ethanolic extract of red seaweed (*Gracilariopsis lemaneiformis*) on growth and haematological parameters of Nile tilapia (*Oreochromis niloticus*). *Aquaculture, Fish and Fisheries*, 4(6), e70011. doi:10.1002/aff2.70011
16. Majumdar, B.C., Haque, M.F., Kabir, I.E., Hossain, M.F., Mukul, M.N.A., Sheikh, A.H., Shovon, M.N.H., and Bhuyain, A.S.M. (2024). Examining the diversity and abundance of zooplankton across different gateways in the south-western estuary of Bangladesh. *Jordan Journal of Biological Sciences*, 17(2), 223-233. doi:10.54319/jjbs/170202
17. Hossain, M.F., Chowdhury, G., Nabil, T.A., Hossain, A., Bhuyain, S., Mithi, M.M.F., Begum, N., and Hossen, A. (2024). Diversity, abundance, and seasonal variation of aquatic macrophytes in southeastern Bangladesh. *Asian Journal of Fisheries and Aquatic Research*, 26(7), 55-66. doi:10.9734/ajfar/2024/v26i7783
18. Shahabuddin, A.M., Al-Munim, S.M., Hossain, M.F., Anny, S.A., Hemal, S., Rifat, M.A.R., and Sutrodhar, S. (2024). Feather meal as a sustainable protein source for aquaculture in Bangladesh: economic implications. *Journal of Aquatic Research and Sustainability*, 1(1), 21-28. doi:10.69517/jars.2024.01.01.0005
19. Akter, A., Sobuj, M.K.A., Islam, M.S., Chakroborty, K., Tasnim, N., Ayon, M.H., Hossain, M.F., and Rafiquzzaman, S.M. (2024). Seaweed polysaccharides: sources, structure and biomedical applications with special emphasis on antiviral potentials. *Future Foods*, 10, 100440. doi:10.1016/j.fufo.2024.100440
20. Majumdar, B.C., Ahammad, B., Kabir, I.E., Mollik, J.R., Baidya, A., Hossain, M.F., Asadujjaman, M., Roy, T.K., and Paul, S.I. (2023). Sensorial, physicochemical and microbial quality evaluations of sun-dried marine fishes available in the Bay of Bengal of Bangladesh. *Applied Food Research*, 3(2), 100369. doi:10.1016/j.afres.2023.100369
21. Nadia, Z.M., Roy, P., Hossain, J., Hossain, M.F., Rahman, M., Salam, M.A., and Jahan, R. (2022). Fish availability and market channel in Rajbari, Bangladesh. *Heliyon*, 8(9), e10526. doi:10.1016/j.heliyon.2022.e10526
22. Islam, T., Hossain, F., Rana, M., Sufian, A., and Rabbane, G. (2020). Marketing channel of the freshwater mud eels in northern region of Bangladesh and its pre-export processing activities. *Journal of Aquaculture and Fisheries*, 4, 026.
23. Kar, D., Hossen, S., Sharker, M.R., Hossain, M.F., Hannan, M.A., Zannat, L.K., Ali, M.M., Roy, P., and Al Faisal, M.A. (2020). Impact of island on fish diversity and fisherman community in Palordi River, Bangladesh. *Middle-East Journal of Scientific Research*, 28(4), 286-295.
24. Nur, A., Hossain, M.F., Hasan, M.N., Zannat, S., Chakroborty, K., and Rafiquzzaman, S.M. (2020). Effect of selected seaweed powder as a fish feed on growth and immune system of tilapia (*Oreochromis niloticus*). *International Journal of Fisheries and Aquatic Studies*, 8(4), 24-30.
25. Rahman, M.M., Hossain, M.F., Mamun, M., Shaha, D.C., and Sheikh, A.H. (2020). Minimizing feed ration of *Oreochromis niloticus* in pond culture using vermicompost. *AACL Bioflux*, 13(5), 3188-3202.
26. Hasan, T., Hossain, M., Mamun, M., Alam, M., Salam, M.A., and Rafiquzzaman, S.M. (2018). Reproductive biology of *Puntius sophore* in Bangladesh. *Fishes*, 3(2), 22.

Book chapters

1. Hossain, M.F., Hossain, J., and Jahan, R. (2022). Application of marine biofilms: an emerging thought to explore. In *Microbial Biofilms*. CRC Press, pp. 219-251.
2. Hossain, J., Hossain, M.F., and Jahan, R. (2022). Anammox processes in marine environment: deciphering the roles and applications. In *Development in Wastewater Treatment Research and Processes*. Elsevier, pp. 297-318.

Conference presentations

1. Hossain, M.F., Mandal, B., Sezimova, K., Nahlik, V., Kuebutornye, F.A.K., Nikl, O., Baten, M.A., Tomcala, A., Machova, Z., Gebauer, R., Franta, P., Lepic, P., Vrba, J., Blaha, M., Zabransky, L., Mraz, J., and Roy, K. (2026). Amino acids supply-demand pitfalls in European carp ponds and its fulfillment by precision pond feed. Oral presentation, Aquaculture Europe 2026, 28 September to 1 October 2026, Ljubljana, Slovenia.
2. Ghosh, A., Hossain, J., Hossain, M.F., Ferdous, A., and Jahan, R. (2022). Length-weight and length-length relationships and condition factors of *Xenotodon cancila*, *Anabas testudineus* and *Heteropneustes fossilis* in Arial Beel, Bangladesh. 9th Biennial Fisheries Conference and Research Fair, p. 100.
3. Khanam, R., Hossain, M.F., Sajib, N.M.K., Farhad, N.M., Bhuiyan, M.S., Afroz, T., and Shahabuddin, A.M. (2022). Culture practice and nutritional composition of red seaweed (*Gracilaria tenuistipitata*) in the coast of the Bay of Bengal. 9th Biennial Fisheries Conference and Research Fair, p. 11.
4. Rafiquzzaman, S.M. and Hossain, M.F. (2019). Red seaweed (*Hypnea musciformis*) powder as a fish feed supplement for growth and immune elicitor of Asian catfish (*Heteropneustes fossilis*). Poster, 8th Biennial Fisheries Conference and Research Fair, BARC, Dhaka.

Other outputs

- Roy, K., Mandal, B., Hossain, F., Nahlik, V., Regenda, J., and Baxa, M. (2025). Role of plant fibres in safeguarding hybrid fishponds against eutrophication. *Eurofish Magazine*, (4).
- Open-access Shiny app for exploring proteinogenic amino acids in fish gill-filterable natural food webs for pond aquaculture (v1.0), output of the 2026 *Reviews in Aquaculture* paper. Zenodo record 21667824.

TEACHING AND SUPERVISION

At the Faculty of Fisheries and Marine Science, Sher-e-Bangla Agricultural University, he taught three BS courses, each with theory and practical components, and designed course curricula for the department between 2021 and 2025:

- Freshwater Ecology and Wetland Ecosystem (AERM 101/102)
- Limnology (AERM 151/152)
- Fish Population Dynamics (AERM 401/402)

From 2021 to 2025 he supervised 8 Bachelor theses and acted as thesis consultant for 1 Master thesis. Topics covered fish biometric indices, growth and condition factors, reproductive biology, river water quality, dry fish markets, and pond fish farming practices.

AWARDS AND SCHOLARSHIPS

2026	Certificate of Professional Competence for Designing Experiments (valid until 2033), Ministry of Agriculture, Czech Republic
2025	Finalist, Falling Walls Lab Wrocław, University of Wrocław, Poland
2023	Best Societal Impact Research Award, ASIAME 3 (CNRS, France)
2017	Prime Minister Gold Medal, University Grants Commission, Bangladesh, for the highest CGPA in the BS (3.99 out of 4.00) in the Faculty
2017 to 2018	National Science and Technology (NST) Fellowship, Ministry of Science and Technology, Bangladesh
2017 to 2018	Merit Scholarship for outstanding performance in the MS, BSMRAU; Structural Engineering Limited (SEL) Merit Scholarship
2013 to 2016	Merit Scholarship for ranking 1st in the BS batch, Faculty of Fisheries, BSMRAU
2016	Champion, interfaculty debate competition, BSMRAU
2011 to 2012	Grameen Bank Merit Scholarship; perfect attendance certificate (2012), Notre Dame College

WORKSHOPS AND TRAINING

1 to 5 Feb 2026	Fish Nutrition Workshop, Wageningen Institute of Animal Sciences (WIAS), The Netherlands
8 Feb to 13 Mar 2024	Supervised GIS training, ResearchWay
19 to 29 Jun 2023	ASIAME 3, Third South Asia Workshop in Aquatic Microbial Ecology, Quy Nhon, Vietnam (organized and funded by CNRS, France)
2019	Training on teaching, learning, assessment, and outcome-based curriculum, Institutional Quality Assurance Cell, SAU
24 Jul 2019	Training on scientific paper writing and publications, SAU
16 to 17 Jan 2019	Training on responsibilities of teachers and outcome-based education, Directorate of Outreach Program, SAU

MEMBERSHIPS AND SERVICE

- European Aquaculture Society (2026 to present)
- Global Youth Constituency on Fisheries and Aquaculture (2026 to present)
- Sher-e-Bangla Agricultural University Teachers Association, general member (2019 to present)
- Alumni Association of the Faculty of Fisheries, BSMRAU, general member and organizing secretary (2018 to present)
- Krishibid Institution Bangladesh, member (2017 to present)
- South Asian Youth Research Initiatives for Development (SAYRID) (2016 to present)
- Adviser, Sher-e-Bangla Agricultural University Debating Society (2024 to present)