

ZOBAYDA FARZANA HAQUE

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EDUCATION

- PhD; Nutritional Sciences, College of Health and Human Sciences, Texas Tech University, Lubbock, Texas- May 2026
- MS; Veterinary Public Health and Food Hygiene, Department of Microbiology and Hygiene, Bangladesh Agricultural University, Mymensingh-2018
- Doctor of Veterinary Medicine (DVM); Faculty of Veterinary Science, Bangladesh Agricultural University, Mymensingh-2017

TEACHING EXPERIENCE

- Lecturer, Department of Microbiology and Hygiene, Bangladesh Agricultural University, Mymensingh; March 2020–May 2026. Courses taught: Introduction to Microbiology; Veterinary Public Health.
- Graduate Part-time Teaching Assistant, Department of Nutritional Sciences, Texas Tech University, Lubbock, Texas; August 2021–December 2024. Courses: Science of Nutrition Lab, Medical Terminology.
- Graduate Part-time Teaching Assistant, Department of Biology, Texas Tech University, Lubbock, Texas; January–May 2021. Course: Plant Biology.
- Teaching interests: Microbiology, Immunology, Human Anatomy & Physiology, Nutrition Science, Public Health courses within the Biology curriculum.

PROFESSIONAL EXPERIENCE

- Research Assistant, Neurobiology of Nutrition Lab, Texas Tech University, Lubbock, Texas; January 2025–May 2026.
- UN Volunteer, FAO Bangladesh; June 2019–September 2019.
- Research Assistant, University Grants Commission funded research project, Bangladesh; November 2017–November 2018.

RESEARCH SKILLS

- Microbiology: media preparation, culture, isolation, identification of bacteria, fungi & viruses; antibiotic sensitivity testing
- Molecular & Cell Biology: PCR, qRT-PCR, Western Blot, Cell Culture
- Immunology: ELISA, HA, HI assays; Immunohistochemistry & Microscopy
- Behavioral Neuroscience: Y-maze, NOR, Morris Water Maze, Rotarod test

PUBLICATIONS

- **Haque ZF**, Islam MS, Sabuj AA, Pongit A, Sarkar AK, Hossain MG, Saha S. Molecular detection and antibiotic resistance of *Vibrio cholerae*, *Vibrio parahaemolyticus*, and *Vibrio alginolyticus* from shrimp (*Penaeus monodon*) and shrimp environments in Bangladesh. *Aquaculture Research*, 2023; 2023(1): 5436552.
- Mullins CA, Gannabam RB, Kramer A, Shah H, **Haque ZF**, Ramezan M, Dehghani F, Palaniyappan AK, Bowers F, MohanKumar SMJ, MohanKumar PS, Shin AC. Early branched-chain amino acid reduction delays the onset of cognitive decline in a mouse model of Alzheimer's disease. *Journal of Alzheimer's Disease*, 2025; 108(4): 1567–1583.

- Shah H, Gannaban RB, **Haque ZF**, Dehghani F, Kramer A, Bowers F, Maniates A, Shin AC. BCAAs acutely drive dysregulation and insulin resistance: Role of AgRP neurons. *Nutrition & Diabetes - Nature*, 14, 40 (2024).
- Shah H, Dehghani F, Ramezan M, Gannaban RB, **Haque ZF**, Rahimi F, Abbasi S, Shin AC. Revisiting the role of vitamins and minerals in Alzheimer's disease. *Antioxidants*, 2023 Feb 8; 12(2): 415.
- **Haque ZF**, Sabuj AAM, Mahmud MM, Pongit A, Islam MA, Saha S. Characterization of *Staphylococcus aureus* from milk and dairy products sold in some local markets of Mymensingh district of Bangladesh. *Journal of Nutrition and Food Sciences*, 2018; 8: 1000743.
- Sobur A, Islam MS, **Haque ZF**, Orubu ESF, Toniolo A, Choudhury M, Rahman MT. Higher seasonal temperature enhances the occurrence of methicillin resistance of *Staphylococcus aureus* in house flies (*Musca domestica*) under hospital and environmental settings. *Folia Microbiologica*, 2022; 67(1): 109-119.
- Noman Z, Anika TT, **Haque ZF**, Rahman AKMA, Ward MP, Martinez Lopez B. Risk factors for rabid animal bites: A study in domestic ruminants in Mymensingh district, Bangladesh. *Epidemiology and Infection*, 2021; 149: e76, 1-6.
- Anisuzzaman, **Haque ZF**, Hossain MT. COVID-19 pandemic: Animal cross talk, and comparison between nSARS-CoV-2 and animal coronaviruses. In: Chatterjee S, ed. *COVID-19: Tackling Global Pandemics through Scientific and Social Tools*. Elsevier, 2021.
- Islam MS, Sabuj AAM, **Haque ZF**, Pongit A, Hossain MG, Saha S. Seroprevalence and risk factors of avian reovirus in backyard chickens in different areas of Mymensingh district in Bangladesh. *Journal of Advanced Veterinary and Animal Research*, 2020; 7(3): 546-553.
- Sabuj AAM, **Haque ZF**, Younus MI, Pongit A, Barua N, Hossain MG, Islam MA, Saha S. Microbial risk assessment of ready-to-eat fast foods from different street-vended restaurants. *International Journal of One Health*, 2020; 6(1): 41-48.
- Akter S, Sabuj AAM, **Haque ZF**, Rahman MT, Kafi MA, Saha S. Detection of antibiotic-resistant bacteria and their resistance genes from houseflies. *Veterinary World*, 2020; 13(2): 266-274.
- Younus MI, Sabuj AAM, **Haque ZF**, Sayem SM, Majumder S, Parvin MS, Islam MA, Saha S. Microbial risk assessment of ready-to-eat mixed vegetable salads from different restaurants of Bangladesh Agricultural University campus. *Journal of Advanced Veterinary and Animal Research*, 2020; 7(1): 34-41.
- Sabuj AAM, **Haque ZF**, Barua N, Islam MA, Saha S. Assessment of bacteriological quality of street-vended fast foods and their antimicrobial resistance. *International Journal of Current Microbiology and Applied Science*, 2018; 7: 3049-3059.
- Pongit A, **Haque ZF**, Sabuj AAM, Khan MSR, Saha S. Characterization of *Staphylococcus aureus* isolated from chicken and quail eggshell. *Journal of Advanced Veterinary and Animal Research*, 2018; 5: 466-471.
- Sobur A, **Haque ZF**, Sabuj AAM, Levy S, Rahman AMMT, Zowalaty MEE, Rahman T. Molecular detection of multidrug and colistin-resistant *Escherichia coli* isolated from houseflies in various environmental settings. *Future Microbiology*, 2019; 14(1).
- Islam MA, Biswas P, Sabuj AAM, **Haque ZF**, Saha CK, Alam MM, Rahman MT, Saha S. Microbial load in bio-slurry from different biogas plants in Bangladesh. *Journal of Advanced Veterinary and Animal Research*, 2019; 6: 376-383.
- Neepa SF, **Haque ZF**, Sabuj AAM, Islam MA, Saha S. Serological detection of avian reovirus in different poultry flocks of Gazipur and Mymensingh districts of Bangladesh. *Veterinary World*, 2019; 12: 1126-1131.

- Barua N, Sabuj AAM, **Haque ZF**, Das M, Hossain MT, Saha S. Survey of bacterial contamination and antibiotic resistance pattern of Bangladeshi paper currency notes in Mymensingh city. *African Journal of Microbiology Research*, 2018; 13: 206-213.
- Das M, Sabuj AAM, **Haque ZF**, Barua N, Pondit A, Mahmud MM, Khan MFR, Saha S. Characterization of *Staphylococcus aureus* isolated from human dental infection. *African Journal of Microbiology Research*, 2019; 13: 273-278.
- Sobur MA, Ievy S, **Haque ZF**, Nahar A, Zaman SB, Rahman MT. Emergence of colistin-resistant *Escherichia coli* in poultry, houseflies, and pond water in Mymensingh, Bangladesh. *Journal of Advanced Veterinary and Animal Research*, 2019; 6: 50-53.
- Sabuj AAM, Rahman M, Barua N, **Haque ZF**, Pondit A, Islam K, Hassan MM. Seroprevalence of *Salmonella* infection in commercial layer chickens in Cox's Bazar district, Bangladesh. *American Journal of Microbiological Research*, 2019; 7: 19-23.
- Talukdar B, Chakma F, Sabuj AAM, **Haque ZF**, Rahman MT, Saha S. Identification, prevalence, and antimicrobial susceptibility of major pathogenic bacteria in exportable shrimp (*Penaeus monodon*) of southern Bangladesh. *International Journal of Fisheries and Aquatic Studies*, 2019; 7: 96-99.
- Chakma F, Sabuj AAM, **Haque ZF**, Pondit A, Talukdar B, Kabir SML, Saha S. Isolation and characterization of *Vibrio* sp. from semi-processed shrimp. *Journal of Research in Biology*, 2018; 8: 2566-2573.

TITLE OF PhD THESIS

Branched Chain Amino Acids (BCAAs) can be a potential predictive and/or diagnostic biomarker for Alzheimer's Disease (AD)

TITLE OF MS THESIS

Microbial Risk-assessment of MRSA Bacteria Present in the Milk and Dairy Products Sold in Some Local Markets in Mymensingh District of Bangladesh

CONFERENCE PRESENTATIONS

- "Can branched-chain amino acids (BCAAs) serve as early indicators for Alzheimer's disease progression?" (Poster), Gordon Research Conference, 2025
- "Circulating Branched Chain Amino Acids (BCAAs) are Linked to Alzheimer's Disease Related Cognitive Deficits" (Poster), 23rd Graduate Research Poster Competition, TTU, 2024
- "Circulating Branched Chain Amino Acids (BCAAs) are Linked to Alzheimer's Disease Related Cognitive Deficits" (Poster), Obesity Research Institute (ORI)- 9th Annual Meeting - One Health: Metabolic Health, 2024
- "Circulating Branched Chain Amino Acids (BCAAs) are Linked to Alzheimer's Disease Related Cognitive Deficits" (Poster), Neuroscience 2024, Society For Neuroscience (SFN)
- "Dose-response of BT2 on AD mouse models" (Poster), Neurodegenerative Diseases: Biology & Therapeutics meeting, Cold Spring Harbor Laboratory (December 4th, 2024)
- "Effects of Aqua Soluble DDQ on Adipocyte Mitochondrial Function" (Poster), 22nd Graduate Research Poster Competition, TTU, 2023
- "Detection of Antibiotic Resistance Bacteria and their Resistance Genes from Houseflies" (oral), 26th BSVER Annual International Scientific Conference, March 2020
- "Seroprevalence of Avian Reovirus in Different Poultry Flocks of Gazipur and Mymensingh District of Bangladesh" (Poster), WPSA-BB 11th International Poultry Seminar, September 2018

- "Characterization of *Staphylococcus aureus* from Milk and Dairy Products Sold in Some Local Markets of Mymensingh District of Bangladesh" (oral), 9th One Health Bangladesh Conference, September 2017

MEMBERSHIP

- American Society for Microbiology, USA. Membership ID Number: 200123464
- Microbiology Society, UK. Membership No: C027868
- Bangladesh Bio safety and Bio security association (BBBA), Student member
- Bangladesh AMR Response Alliance (BARA)
- Bangladesh Society for Safe Food (BSSF)
- World's Poultry Science Association Bangladesh Branch (WPSA BB, International ID : 25505, Local ID : S00120)
- International Society to Advance Alzheimer's Research and Treatment (ISTAART)
- Society for Neuroscience (SFN) (ID: C-062646)

WORKSHOP & TRAINING

- A training course on **Principles and Practices of Biosafety and Biosecurity, Biological Waste Management, Biological Safety Cabinets Selection, Installation, Certification and Maintenance, Biosafety and Biosecurity in Teaching Laboratories, Biosafety and Biosecurity in Pharmaceutical Industry** during 10 to 11 October 2018 organized by Bangladesh Biosafety and Biosecurity Society
- A 30 hours introductory course on **Statistical Analysis of Veterinary Research Data (SAVRD)** during 16 to 26 April, 2018 arranged by Prof. Dr. Md. Taohidul Islam, Department of Medicine, Bangladesh Agricultural University, Mymensingh-2202
- A workshop on **Handling and Operation on State-of-the Art Equipment Used for Molecular Microbiology Techniques** during 24 to 25 January, 2018 under CP-07 for innovative research on livestock and poultry vaccines arranged by Department of Microbiology and Hygiene, Bangladesh Agricultural University, Mymensingh-2202
- A training course on **Data Analysis: SAS and SPSS** during 31 December 2017 to 11 January 2018 offered by the Graduate Training Institute (GTI), Bangladesh Agricultural University, Mymensingh-2202
- A workshop on **Molecular Tools for Detection of Emerging and Reemerging, Endemic, Cross and Transboundary Microbial Agents** during 27 to 29 July, 2017 under CP-07 for innovative research on livestock and poultry vaccines arranged by Department of Microbiology and Hygiene, Bangladesh Agricultural University, Mymensingh-2202
- An advanced course on **Communicative English** during April to May, 2017 arranged by the Department of Languages, Bangladesh Agricultural University, Mymensingh-2202
- A training on **Planning, Administration and Management** during 12 to 17 March, 2017 arranged by the Graduate Training Institute (GTI), Bangladesh Agricultural University, Mymensingh-2202
- Successful completion of full-time **Veterinary Medical Internship** (attending at various Internship Training Centers in home and abroad) for 6 months during July to December, 2016 in partial fulfillment of the requirements for the degree of DVM. During this internship training program, successfully completed the **Clinical Internship Training Program** at Madras Veterinary College, Chennai and Veterinary College and Research Institute, Namakkal of Tamil Nadu Veterinary and Animal Sciences University from 10th to 30th November 2016

- A training course on **Basics of MS Office** during 8 May to 19 May, 2016 offered by the Graduate Training Institute (GTI), Bangladesh Agricultural University, Mymensingh-2202
- A 6-day long training course on **Extension Field Trip** from 06 December to 11 December, 2015 at Sarishabari Upazila of Jamalpur District under the Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh-2202
- THE RCR FOR BIOMEDICAL INVESTIGATORS - Biological Science Responsible Scholarship (RECR) Course (ID 44809)-2022
- Human Subjects TTU Biomedical Investigators - Basic/Refresher (ID 55651)-2021
- Conflict of Interest mini-course - Conflict of Interest (ID 60204) 2021
- Texas Tech - Biological Safety 2022
- Bloodborne Pathogens (BBP)-2024
- Recombinant DNA-2024
- Introduction to Radiation Safety-2021
- Hazardous Materials Transportation: Handling Non-Bulk Packages-2024

AWARDS/ FELLOWSHIP

- TTU Three Minute Thesis Competition 2024- Finalist
- Trainee Professional Development Award, Society for Neuroscience (SFN), 2024
- TTU Graduate School TEACH Fellow 2023-2024
- TTU Graduate Research Poster Competition 2023- winner 2nd Place
- SREB-State Doctoral Scholars Program award recipient for 2021-2022
- TTU COHS Doctoral Fellowship, 2021-2022 (\$10,000)
- TTU *C. R. Hutcheson* Doctoral Fellowship, 2021-2022 (\$10,000)
- Bangladesh Society for Veterinary Education and Research (BSVER) Young Scientist Best Presentation Award-2019
- National Science and Technology Fellowship, MoST, Government of Bangladesh, 2017-2018 (\$700)
- Noor Jahan-Kubbad Memorial Scholarship, Bangladesh Agricultural University, 2013-2014 (\$80)

TECHNICAL AND SOFTWARE SKILLS

- Statistical Software: SPSS Statistics 22, GraphPad Prism, R
- Imaging/Analysis: ImageJ, ANY-maze, BioRender
- Design/Productivity: MS Office, Adobe Illustrator, Adobe Photoshop, Adobe Acrobat