Curriculum Vitae

Name: Ashekul Islam, Ph.D.
Birth Place: Banskhali, Chattogram
Nationality: Bangladeshi

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Present Position:

Associate Professor and Principal Investigator, Laboratory of Vector-borne and Zoonotic Diseases, Biochemistry and Molecular Biology, Mawlana Bhashani Science and Technology University (MBSTU), Santosh 1902, Tangail, Bangladesh.

Collaborative Researcher, JSPS Core to Core Program B: Asia-Africa Platform, Ehime University, 10-13 Dogohimata, Matsuyama, Ehime 790-0825, Japan

Summary: Ashekul Islam holds a PhD in Vaccinology and Applied Immunology from Kanazawa University, Ishikawa 920-1192, Japan. His doctoral research focuses on the Anopheline anti-platelet protein (AAPP) in Asian malaria vector mosquitoes, revealing its role in blood feeding success, meal size, fecundity, survival fitness, and malaria transmission, paving the way for further exploration like protein-protein interactions, pathogen-transmission mechanisms, and the development of saliva protein targets for malaria vaccines and anti-platelet drugs. Following the successful completion of his PhD, Dr. Islam secured a prestigious Research Scientist position at the Biology Center CAS, within the Institute of Entomology in the Czech Republic, generously funded by the Czech Academy of Sciences. Presently, he serves as an Associate Professor in Biochemistry and Molecular Biology at Mawlana Bhashani Science and Technology University in Bangladesh. Dr. Islam is a prominent researcher in biomedical and entomological fields, working with Chittagong Medical College Hospital on clinical biochemistry, cancer biology, and chronic kidney diseases. He is jointly involved in the mosquito vector control strategies with University of Chittagong, Chattogram 4331 under funding from Chittagong City Corporation, Bangladesh. He also contributes to the characterization of bioactive compounds within seaweeds at the Bangladesh Oceanographic Research Institute (BORI), Cox's Bazar and has signed a Collaborative Research Agreement (CRA) with Ehime University Center for Marine Environmental Studies under the LaMer Research Project, Japan, for insecticide resistance status for mosquito vectors in Dhaka City, Bangladesh. More recently, he has been appointed as a "Foreign Teacher" under Faculty of Mathematics and Natural Sciences at Padang State University (Universitas Negeri Padang), Indonesia for the academic session of 2023-2024. His research portfolio includes drug resistance malaria, insecticide resistance, phytogenic repellent formulation, and evaluation of phytogenic compounds for mosquito control, and drug discovery and Nano-delivery in treating cancer and antibiotic resistances.

Academic degrees:

2019 Ph.D. in Vaccinology and Applied Immunology. Laboratory of Vaccinology and Applied Immunology (Yoshida Lab), Graduate School of Medical Sciences, Division of Pharmacy, Kanazawa University, Kakumamachi, Kanazawa, Ishikawa 920-1192, Japan.

2009 (Exam held 2011) M.S. in Biochemistry and Molecular Biology. Faculty of Biological Sciences, University of Chittagong, Chattogram 4331, Bangladesh.

2008 (Exam held 2010) B.Sc. (Hons) in Biochemistry and Molecular Biology. Faculty of Biological Sciences, University of Chittagong, Chattogram 4331, Bangladesh.

Previous positions:

- Research Assistant (January 2010 - June 2011) at Chattogram Maa-O-Shishu General Hospital Medical College, Chattogram, Bangladesh.
- Subject teacher (January 2012 - August 2014), Department of Biology and Human Biology, Chittagong Grammar School (CGS Upper School), Sarson road, Chattogram, Bangladesh
- Clinical Biochemist (June 2012 - June 2013) at *Labaid* diagnostic center, Chattogram branch, Bangladesh
- Deputy Head of Biology and Human Biology Department (September 2014- August 2016), Chittagong Grammar School (CGS Upper School), Sarson road, Chattogram, Bangladesh
- Postdoctoral fellow, Biology Center CAS, Laboratory of Insect Diapause, Institute of Entomology, Branišovská 1160/31, 370 05 České Budějovice, Czech Republic.
- Lecturer (February 2020–February 2021), Department of Biochemistry and Molecular Biology, Mawlana Bhashani Science and Technology University (MBSTU), Santosh 1902, Tangail, Bangladesh.
- Assistant Professor (February 2021–February 2024), Department of Biochemistry and Molecular Biology, Mawlana Bhashani Science and Technology University (MBSTU), Santosh 1902, Tangail, Bangladesh.
- Advisor (Jan 2022–Dec 2023), Mosquito Control Unit, Chittagong City Corporation, Chittagong, Bangladesh.
- Foreign Teacher (Jul 2023–Jun 2024), Faculty of Mathematics and Natural Sciences, Universitas Negeri Padang, Padang, Indonesia.

Supervision of students:

Graduation students: Above 40 students

Teaching

- Teaches in several Curricular Units from B.Sc. (Hons) and M.S. and PhD programs at Mawlana Bhashani Science and Technology University (MBSTU), Santosh 1902, Tangail, Bangladesh.

Ongoing project

- Insecticide Resistance and Survivorship Study
- Dengue surveillance, infection dynamics and management strategies
- Drug resistance malaria
- Efficacy of Mosquito coils/Aerosol and Its Causative Health Effect
- Formulation of Phytogenic compounds for Mosquito Larvicidal/Adulticidal/Repellent Activity
- Characterization of Entomopathogenic Fungi/Bacteria for Mosquito Biocontrol Agents
- Reproductive interference in Mosquito Vector Control Strategies
- Exploring the lung/liver cancer reversing-efficacy of Phytogenic compounds

Achievements

- Primary scholarship (Talentpool) (1996) and Junior scholarship (Talent pool) (1999), Bangladesh Shishu Academy Prizes. Board Scholarship during intermediate studies (2002-2003) Chittagong Education Board.
- Achieved 3rd position in the *"Creative Essay Writing Competition*" organized by Bangladesh Shilpakala Academy.
- Best Biology and Human Biology teacher award (Cambridge Curriculum) in the year of 2015
- Awarded MEXT Scholarship in the year of 2016 (Fall)
- Awarded the travel grant from the Japan Society of Medical Entomology and Zoology
- Awarded the best presenter in the Annual meeting of the Japan Society of Medical Entomology and Zoology
- Awarded research grant from Czech Academy of Sciences (CAS), Czech Republic, for five years October, 2019 - September, 2024. [Refunded due to get a permanent faculty position in Bangladesh]
- Awarded research grant from 'MBSTU Research cell', Bangladesh for the fiscal year of 2020-2021, 2021-2022, 2022-2023 and 2023-2024.
- Awarded 'NST research fellowship' as Co-Principal Investigator for the fiscal year of 2022 and 2023 under Ministry of Science and Technology (MoST), Bangladesh.
- Awarded collaborative research fund (JSPS core-to-core Program) for fiscal year 2022, 2023 and 2024; LaMer, Ehime University, Matsuyama, Japan.
- Awarded 'UGC fellowship' as Principal Investigator for the fiscal year of 2023-2024 under University Grant Commission, Bangladesh.

Other Activities

- Member in association of Biochemistry and Molecular Biology, University of Chittagong.
- Member of the organizing committee and financial manager of departmental excursion as well as departmental picnic (During Studying in the Department)
- Member of the organizing committee of "*Charity Carnivals & Bengali New Year Celebration at Chittagong Grammar School."*
- General member of Graduate Biochemist Association (GBA).
- General member of Chittagong University Debating Society (CUDS).
- General member of the Japan Society of Medical Entomology and Zoology
- General member of the Japanese Society of Parasitology
- General member of the Pharmaceutical Society of Japan
- Director (Academic and Research) at Equal Human Rights Foundation**,** Chattogram, Bangladesh
- Founder Chairman and Chief Patron, Dr. Ashekul Islam Foundation, Chattogram, Bangladesh

Selected Publication(s)

Hira FA, **Islam A**, Mitra K, Bithi UH, Ahmed KS, Islam S, Abdullah SM, and Uddin MN (2024). Comparative Analysis of Phytochemicals and Antioxidant Characterization Among Different Parts of Catharanthus roseus: In Vitro and In Silico Investigation. Biochemistry Research International Volume 2024, Article ID 1904029, https://doi.org/10.1155/2024/1904029

Sultana A, Islam A, Hosna A, Tahsin A & **Islam A** The impact of urbanization on the proliferation of Aedes aegypti (diptera: culicidae) mosquito population in Dhaka city, Bangladesh. Bangladesh Journal of Zoology, 52(2),000–000. (Acdepted In Production)

Hasan, T., Afrin, S., Sultana, A. & **Islam, A***. Asymmetrical reproductive interference between *Aedes aegypti* and *Aedes albopictus*: Implications for coexistence. *Journal of Vector Borne Diseases*, 10.4103/JVBD.JVBD_4140_4124, doi:10.4103/jvbd.jvbd_40_24 (9900).

Sultana, A., **Islam, A**., & Hasan,T. (2024). Temperature effects on the reproductive performance of *Aedes aegypti* (Diptera: Culicidae) mosquitoes in Dhaka City, Bangladesh. Bangladesh Journal of Zoology, 51(3), 361–369. https://doi.org/10.3329/bjz.v51i3.72069

Islam, A*, Chowdhury D, et al., Serum creatinine phosphokinase: A potential prognostic marker in assessing clinical severity with organophosphorus poisoning. *Journal of Clinical Laboratory Analysis* **n/a**, e24980, doi:https://doi.org/10.1002/jcla.24980.

Nishat A, Farjana A H et al., Antibiotic resistance pattern in the bacterial strains of urinary tract infection in Tangail city, Bangladesh. J Adv Biotechnol Exp Ther. 2023; 6(2): 419-428.

Nobel, F. A. et al. Isolation of multidrug resistance bacteria from the patients with wound infection and their antibiotics susceptibility patterns: A cross-sectional study. Annals of Medicine and Surgery 84, 104895, doi:https://doi.org/10.1016/j.amsu.2022.104895 (2022).

Akter, M. et al. Antibiotics resistance pattern of food-borne bacteria isolated from ice-cream in Bangladesh: A multi-disciplinary study. Journal of Food Quality (2022).

Islam S et al., Assessment and comparison of cardiovascular disease risk factors and biochemical parameters among men and women: A cross-sectional study. J Adv Biotechnol Exp Ther. 2022; 6(1): 25-34.

Chowdhury, MFF, **Islam, A***, Palit, PK, et al. RLLB/Alb ratio: A promising noninvasive diagnostic marker in assessing esophageal varices in cirrhotic patients. J Clin Lab Anal. 2022; 36:e24589. doi: 10.1002/jcla.24589

Palit, P. K., **Islam A*** et al. Poor glycemic control enhances the disease activity in the RA patients with undiagnosed diabetes—A cross-sectional clinical study. Egyptian Rheumatology and Rehabilitation 48, 50, doi:10.1186/s43166-021-00097-8 (2021)

Nobel FA et al., Prevalence of multidrug resistance patterns of Escherichia coli from suspected urinary tract infection in Mymensingh city, Bangladesh. J Adv Biotechnol Exp Ther. 2021; 4(3): 256-264.

Mamun AA et al., Epidemiological Information about COVID-19 Outbreak in Bangladesh: A Descriptive Study. EAS Journal of Parasitology and Infectious Diseases. DOI: 10.36349/EASJPID. 2020. v02i04.001

Yusuf Y et al., A viral-vector multi-stage malaria vaccine with protective and transmission-blocking efficacies. Frontiers in Immunology DOI: 10.3389/fimmu.2019.02412

Islam A et al., Correlation of Apgar score with serum glucose, calcium and electrolytes on the asphyxiated neonates. International Journal of Scientific Reports 5 (5) DOI: http://dx.doi.org/10.18203/issn.2454-2156.IntJSciRep20191859

Islam A et al., Anopheline antiplatelet protein from mosquito saliva regulates blood feeding behavior. Scientific reports 9, 3129, doi:10.1038/s41598-019-39960-2 (2019)

Yusuf Y et al., Adeno-Associated Virus as an Effective Malaria Booster Vaccine following Adenovirus Priming. Frontiers in Immunology, doi: 10.3389/fimmu.2019.00730

Amelia F et al., Down-selecting circumsporozoite protein-based malaria vaccine: a comparison of malaria sporozoite challenge model. Parasite Immunology e12624, doi:10.1111/pim.12624 (2019)

Emran TB et al., Baculovirus-Induced Fast-Acting Innate Immunity Kills Liver-Stage Plasmodium. J Immunol 201: 2441-2451
Dash R et al., In silico-based vaccine design against Ebola virus glycoprotein. Advances and applications in bioinformatics and chemistry: AABC 10: 11-28
Dash R et al., Molecular docking analysis of known flavonoids as duel COX-2 inhibitors in the context of cancer. Bioinformation 11: 543-9
Islam A et al., Virtual screening for potential COX-inhibiting constituents from Mimosa pudica. Journal of Applied Pharmaceutical Science Volume: 5, Issue: 7. DOI: 10.7324/JAPS.2015.50712
Dash R et al., In silico analysis of indole-3-carbinol and its metabolite DIM as EGFR tyrosine kinase inhibitors in platinum resistant ovarian cancer vis a vis ADME/T property analysis. J Appl Pharm Sci Volume: 5, Issue: 11. DOI:10.7324/JAPS.2015.501112
Dash R et al., Molecular docking of fisetin with AD associated AChE, ABAD and BACE1 proteins. Bioinformation 10: 562-8

Presentation/ Conference(s)

- **Ashekul Islam**, Prof. Md. Alauddin, Robiul Hossain Bhuiyan, Sayedul Islam, Nasreen Chowdhury (2014). Co-Relation among serum Glucose, Calcium and Electrolytes on the patients suffering from Neonatal Asphyxia. *Conference of the Bangladesh Pediatric Association (BPA), BSMMU, Shahbag, Dhaka- 1000.*

- **Ashekul Islam**, Daisuke Yamamoto, Mitsuhiro Iyori, Fitri Amelia, Yenni Yusuf, Nobuko Tuno, Shigeto Yoshida (2017) Transgene mediated inhibition of collagen-induced platelet aggregation by Anopheline Anti-Platelet Protein (AAPP), regulates probing time and blood feeding success in malaria vector mosquito *Anopheles stephensi*. *35th Hokuriku Conference of Zoonotic Diseases, Uchinada, Ishikawa, Japan.*

- **Ashekul Islam,** Mitsuhiro Iyori, Daisuke Yamamoto, Nobuko Tuno, Fitri Amelia, Yenni Yusuf, Henrique Silveira, Shigeto Yoshida (2017) Transgene mediated inhibition of collagen-induced platelet aggregation by Anopheline Anti-Platelet Protein (AAPP), regulates probing time and blood feeding success in malaria vector mosquito *Anopheles stephensi. 73rd Japan Parasitological Society West Branch Conference, Osaka, Japan.*

- Yenni Yusuf, Mitsuhiro Iyori, Hiroaki Mizukami, Asrar Alam, Fitri Amelia, **Ashekul Islam**, Shigeto Yoshida (2017) Development of Viral-vectored Plasmodium vivax circumsporozoite vaccines and its evaluation system in murine a model. *73rd Japan Parasitological Society West Branch Conference, Osaka, Japan.*

- Fitri Amelia, Mitsuhiro Iyori, Kento Genshi, Yutaro Onoue, Talha Bin Emran, Yenni Yusuf, **Ashekul Islam**, Shigeto Yoshida (2018) Evaluation of the immunogenicity and vaccine efficacy of recombinant truncated protein PfCSP region in murine malaria model. *73rd Japan Parasitological Society West Branch Conference, Osaka, Japan.*

- **Ashekul Islam**, Mitsuhiro Iyori, Daisuke Yamamoto, Talha Bin Emran, Nobuko Tuno , Ririka Yamaguchi, Henrique Silveira, Shigeto Yoshida (2018) Inhibition of collagen-induced platelet aggregation by Anopheline Anti-Platelet Protein, regulates probing time and blood feeding success in malaria vector mosquito *Anopheles stephensi. 138th Pharmaceutical Society Conference, Kanazawa, Japan.*

- Yenni Yusuf, Kunitaka Yoshida, Mitsuhiro Iyori, Tatsuya Yoshii, Hiroki Hashizume, Satoshi Shimada, Hiroaki Mizukami, Daisuke S Yamamoto, Shinya Fukumoto, **Ashekul Islam**, Shigeto Yoshida (2018) Plasmodium malaria vaccine based on heterologous prime-boost

immunization regimen using adenovirus and adeno-associated virus. *138th Pharmaceutical Society Conference, Kanazawa, Japan.*

- Fitri Amelia, Mitsuhiro Iyori, Kento Genshi, Talha Bin Emran, Yenni Yusuf, **Ashekul Islam**, Shigeto Yoshida (2018) Evaluation of the immunogenicity and vaccine efficacy of recombinant truncated protein PfCSP region in murine malaria model. *138th Pharmaceutical Society Conference, Kanazawa, Japan.*

- **Ashekul Islam**, Mitsuhiro Iyori, Daisuke Yamamoto, Nobuko Tuno, Ririka Yamaguchi, Fitri Amelia, Yenni Yusuf, Henrique Silveira, Shigeto Yoshida (2018) Transgenic expression of anti-AAPP antibody in salivary glands, regulates probing time and blood feeding success in malaria vector mosquito *Anopheles stephensi*. *The 70th Annual Meeting of the Japan Society of Medical Entomology and Zoology, Obihiro, Japan.*

- **Ashekul Islam**, Mitsuhiro Iyori, Daisuke Yamamoto, Nobuko Tuno, Ririka Yamaguchi, Henrique Silveira, Shigeto Yoshida (2019). Anopheline antiplatelet protein (AAPP) plays a critical role in mosquito blood feeding. *38th Hokuriku Conference of Zoonotic Diseases, Kanazawa, Ishikawa, Japan.*

- **Ashekul Islam**, Mitsuhiro Iyori, Daisuke Yamamoto, Nobuko Tuno, Ririka Yamaguchi, Henrique Silveira, Shigeto Yoshida (2019). Anopheline Anti-Platelet Protein, a novel saliva protein, involves in blood meal acquisition. *West Japan Parasitological Society Meeting, Kanazawa, Japan.*

- **Ashekul Islam**, Bahni Chakraborty, Pushpita Chakraborty, Prof. Ranjan Kumar Nath, H M Hamidullah Mehedi, Rowshan Ara Begum, Prof. Nasreen Chowdhury (2021). Correlation between clinical features and severity of COVID-19 infected patients: Report from two COVID dedicated government hospitals of Bangladesh. *2nd International Conference of Advancements of Life Sciences (2nd ICALS), Mawlana Bhashani Scince and Technology University, Tangail-1902, Bangladesh.*

- **Ashekul Islam**, (2022). Insecticide resistance status and future insecticide choices for vector control strategies in Bangladesh. *International Seminar on One Health Toward Mosquito-borne Disease Control and Antimicrobial Resistance; Ehime University, Japan.*

- **Ashekul Islam**, (2023). Larvicidal Activity of Green Synthesized Silver Nanoparticles using Phytogenic Extracts for Effective and Sustainable Mosquito Control: A Laboratory Based Study. *JSPS Core-to-Core Program Asia-Africa Science Platforms "Mosquito-borne Disease Control from Ecological Approaches"; Tagaytay city, Philippines.*

- **Ashekul Islam**, (2024). Entomopathogenic Fungus as Biocontrol Agents in Mosquito Control. Seminar on 'Molecular Basis of Diseases'; Dept. of Biochemistry and Molecular Biology, MBSTU, Tangail 1902, Bangladesh.

- **Ashekul Islam**, (2024). Assessing Mosquito Repellency of Herbal Essential Oils and Synthetic Alternatives Against *Aedes aegypti* (Linn.) and *Culex* spp. *JSPS Core-to-Core Program Asia-Africa Science Platforms: One Health Approaches to Chemical Risk Management; Ehime University, Matsuyama, Japan.*

- **Ashekul Islam** (2024). Asymmetrical Reproductive Interference Between *Aedes aegypti* and *Aedes albopictus*: Implications for Coexistence, LaMer Symposium on Metabolomics and Advanced Analytical Technologies in the Study of Insects, Vector-Borne Diseases and Biological Control; Ehime University, Matsuyama, Japan.

Referee(s)

Prof. Shigeto Yoshida
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Global Health and Tropical Medicine
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