


Name	Dr. Mohammed Monirul Islam			
Specialization	Biochemistry, Molecular Biology, Biotechnology			
Current Position	Assistant Professor			
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Academic Qualifications	Degree/year/university/country	PhD. in Cellular & Molecular Pharmacology, 2012, Rutgers University, USA		
	Degree/year/university/country	MSc. in Biochemistry, 2000, University of Dhaka, Bangladesh		
Teaching Experience	<p>Assistant Professor, College of Clinical Pharmacy, King Faisal University, Al-Ahsa, KSA (Jan 2015- Current)</p> <p>Teaching Assistant, University of Medicine and Dentistry of New Jersey, NJ, USA, (Aug 2008-Jul 2009)</p> <p>Summer Mentor, Center for Advanced Biotechnology and Medicine, Piscataway, NJ, USA (May 2009-Jul 2009)</p>			
Courses Taught and Teaching in KFU	<ul style="list-style-type: none"> • Molecular Biology, 2016- Current • Pharmaceutical Biotechnology, 2017- Current • Research Seminar, 2021- Current • Biochemistry-1, 2015- 2023 • Biochemistry-2 (Metabolism), 2021-2022 • Clinical Biochemistry & Nutrition, 2021-2022 • Immunology, 2018-2021 • Microbiology, 2015-2018 			
Research Interests	<p>My research interests lie at the intersection of regulation of gene expression, biotechnology, drug design and delivery, healthcare, agriculture, pharmaceutical development, and pharmaceutical biotechnology. I am particularly intrigued by the intricate mechanisms governing gene expression and the potential applications of biotechnology in manipulating these processes for therapeutic purposes. Additionally, I am passionate about leveraging drug design and delivery strategies to enhance healthcare outcomes and advance pharmaceutical development.</p>			
Research Grants Received	<ol style="list-style-type: none"> 1. Design and Development of Anti-fungal Topical Gel Loaded with Solid Lipid Nanoparticles for Wound Healing. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. GRANT 4584. 2. From seeds to survival rates: investigating <i>Linum usitatissimum</i>'s potential against ovarian cancer through network pharmacology. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. GRANT 4381. 			

3. Optimization of process parameters for fabrication of electrospun nanofibers containing neomycin sulfate and *Malva sylvestris* extract for a better diabetic wound healing. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 748.**
4. Decision Tree-Based Ensemble Model for Predicting National Greenhouse Gas Emissions in Saudi Arabia. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **INST 043.**
5. A Multivariate Machine Learning Model of Adsorptive Lindane Removal from Contaminated Water. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 3415.**
6. Smart Eco-Friendly Mathematically Manipulated UV Spectroscopic Methods to Resolve Severely Overlapped Spectra of a Binary Mixture of Dapagliflozin with Sitagliptin and Vildagliptin. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **INST166.**
7. Investigation of Efficient Adsorption of Toxic Heavy Metals (Chromium, Lead, Cadmium) from Aquatic Environment Using Orange Peel Cellulose as Adsorbent. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 2898.**
8. Exposing Proximate Components of Some Selected Fishes Available in Coast of the Bay of Bengal. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **AN000226.**
9. Enhancement of Anti-Tumoral Properties of Paclitaxel Nano-Crystals by Conjugation of Folic Acid to Pluronic F127: Formulation Optimization, In Vitro and In Vivo Study. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 722.**
10. A Critical, Temporal Analysis of Saudi Arabia's Initiatives for Greenhouse Gas Emissions Reduction in the Energy Sector. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT1442.**
11. Polyphenol chrysin for management of skin disorders: Current status and future opportunities. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **NA000166.**
12. Greenhouse Gas Emissions in the Industrial Processes and Product Use Sector of Saudi Arabia—An Emerging Challenge. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 656.**
13. 1,5-Benzothiazepine Derivatives: Green Synthesis, In Silico and In Vitro Evaluation as Anticancer Agents. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **GRANT 1811019.**
14. Rapid Simultaneous Quantitative Analysis of Hypoglycemic agents by RP HPLC: Development, Validation and Application to Medicine. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. **NA00040.**
15. Sensitive Voltammetric Analysis of Cetirizine Using Electrochemical Sensor Based on Poly (methyl orange) Modified Carbon Nanotube Paste Electrode. Grant:

	<p>Deanship of Scientific Research, King Faisal University, Saudi Arabia. Nasher Track GRANT 206032.</p> <p>16. Electrochemical sensor based on poly (aspartic acid) modified carbon paste electrode for paracetamol determination. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. Nasher Track GRANT 206033.</p> <p>17. The Race to Replace PDE5i: Recent Advances and Interventions to Treat or Manage Erectile Dysfunction: Evidence from Patent Landscape (2016–2021). Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. AN000173.</p> <p>18. Hydroxychloroquine Metabolites – An Exploratory Computational Study. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. Nasher Track GRANT 206027.</p> <p>19. Development and Validation of Rapid RP-HPLC and Green Second-Derivative UV Spectroscopic Methods for Simultaneous Quantification of Metformin and Remogliflozin in Formulation Using Experimental Design. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. IFT20122.</p> <p>20. Analysis of Codon Usage and Nucleotide Bias in Middle East Respiratory Syndrome Coronavirus Genes. Grant: Deanship of Scientific Research, King Faisal University, Saudi Arabia. Nasher Track GRANT 186245.</p>
<p>Publications (selected)</p>	<ol style="list-style-type: none"> 1. Islam, M. M. and Zhang, CL. (2014) TLX: The master regulator for neural stem cell maintenance and neurogenesis. <i>Biochimica et Biophysica Acta (BBA) - Gene Regulatory Mechanisms</i>. Volume 1849, Issue 2, February 2015, Pages 210–216. doi:10.1016/j.bbagr.2014.06.001. 2. Islam, M. M., Smith, DK., Niu, W., Fang, S., Iqbal N., Sun, G., Shi, Y. and Zhang, CL. (2015) Enhancer Analysis Unveils Genetic Interactions between TLX and SOX2 in Neural Stem Cells and In Vivo Reprogramming. <i>Stem Cell Reports</i>, Volume 5, Issue 5, 805 – 815. 3. Islam, M.M., Varshini, H.R., Bhavani, P.D., Goudanavar, P.S., Naveen, N.R., Ramesh, B., Fattepur, S., Shiroorkar, P.N., Habeebuddin, M., Meravanige, G. and Telsang, M., (2022). Optimization of process parameters for fabrication of electrospun nanofibers containing neomycin sulfate and Malva sylvestris extract for a better diabetic wound healing. <i>Drug Delivery</i>, 29(1), pp.3370-3383. 4. M Attimarad, REE Elgorashe, R Subramaniam, MM Islam, KN Venugopala, S Nagaraja, AA Balgoname (2020), Development and Validation of Rapid RP-HPLC and Green Second-Derivative UV Spectroscopic Methods for Simultaneous Quantification of Metformin and Remogliflozin in Formulation Using Experimental Design. <i>Separations</i> (2020), 7(4), 59; https://doi.org/10.3390/separations7040059. 5. Islam, M. M., Li, Y., Luo, H., Xiang, M. and Cai, L. (2013) Meis1 regulates Foxn4 expression during retinal progenitor cell differentiation. <i>Biology Open</i>. doi: 10.1242/bio.20132279. 6. Islam, M. M., Doh, S. T. and Cai, L. (2012) <i>In-ovo</i> electroporation in embryonic chick retina. <i>J. Vis. Exp.</i> 60, 3792. doi: 10.3791/3792

7. S Hussain, P Shinu, **MM Islam**, MS Chohan, ST Rasool (2020) Analysis of codon usage and nucleotide bias in middle east respiratory syndrome coronavirus genes, *Evolutionary Bioinformatics* 16, 1176934320918861.
8. **Islam, M.M.**, N. Sreeharsha, et al. (2023). "From Seeds to Survival Rates: Investigating *Linum usitatissimum*'s Potential Against Ovarian Cancer Through Network Pharmacology." *Frontiers in Pharmacology* 14: 1285258.
9. NR Naveen, AH Asif, SH Nagaraja, **MM Islam** et al. (2024). Design and Development of Anti-fungal Topical Gel Loaded with Solid Lipid Nanoparticles for Wound Healing. *Ind. J. Pharm. Edu. Res*, Vol-58, Issue-1, pages 131-138.
10. M Attimarad, **MM Islam**, S Shafi, M David, A Rahman, EIIP Molina. Smart eco-friendly mathematically manipulated UV spectroscopic methods to resolve severely overlapped spectra of a binary mixture of dapagliflozin with sitagliptin and vildagliptin, *Microchemical Journal* (2023), 190, 108700.
11. **MM Islam**, S Nagaraja, NE Hafsa, G Meravanige, (2022). Polyphenol chrysin for management of skin disorders: Current status and future opportunities. ... - *Journal of King Saud University-Science*,
12. **Islam, M.M.**, Singh, P.S. and Rushd, S., (2022). Hydroxychloroquine Metabolites—An Exploratory Computational Study. *Indian Journal of Pharmaceutical Education and Research*, 56(1), pp.215-223.
13. Rahman, A.; Yoshida, K.; **Islam, M.M.**; Kobayashi, G. Investigation of Efficient Adsorption of Toxic Heavy Metals (Chromium, Lead, Cadmium) from Aquatic Environment Using Orange Peel Cellulose as Adsorbent. *Sustainability* (2023), 15, 4470.
14. Sreeharsha, N., Prasanthi, S., Mahalakshmi, S.V.V.N.S., Goudanavar, P.S., Naveen, N.R., Gowthami, B., Fattepur, S., Meravanige, G., Asdaq, **Islam, M.M.**, S.M.B., Anwer, M.K. and Aldhubiab, B., (2022). Enhancement of Anti-Tumoral Properties of Paclitaxel Nano-Crystals by Conjugation of Folic Acid to Pluronic F127: Formulation Optimization, In Vitro and In Vivo Study. *Molecules*, 27(22), p.7914.
15. Rahman, M.M., Hasan, M.A., Shafiullah, M., Rahman, M.S., Arifuzzaman, M., Islam, M.K., **Islam, M.M.** and Rahman, S.M., (2022). A critical, temporal analysis of Saudi Arabia's initiatives for greenhouse gas emissions reduction in the energy sector. *Sustainability*, 14(19), p.12651.
16. **Islam, M.M.**, Hafsa, N.E., Rahman, M.M., Arifuzzaman, M.D. and Rushd, S., (2022). Sensitive Voltammetric Analysis of Cetirizine Using Electrochemical Sensor Based on Poly (methyl orange) Modified Carbon Nanotube Paste Electrode. *International Journal of Electrochemical Science*, 17(3), p.220310.
17. **Islam, M.M.**, Naveen, N.R., Anitha, P., Goudanavar, P.S., Rao, G.S.N., Fattepur, S., Rahman, M.M., Shiroorkar, P.N., Habeebuddin, M., Meravanige, G. and Telsang, M., (2022). The race to replace PDE5i: recent advances and interventions to treat or manage erectile dysfunction: evidence from patent landscape (2016–2021). *Journal of Clinical Medicine*, 11(11), p.3140.

	<p>18. Islam, M.M., Arifuzzaman, M.D., Rushd, S., Islam, M.K. and Rahman, M.M., (2022). Electrochemical sensor based on poly (aspartic acid) modified carbon paste electrode for paracetamol determination. <i>International Journal of Electrochemical Science</i>, 17(2), p.220230.</p> <p>19. Rahman, M.M., Rahman, M.S., Chowdhury, S.R., Elhaj, A., Razzak, S.A., Abu Shoaib, S., Islam, M.K., Islam, M.M., Rushd, S. and Rahman, S.M., (2022). Greenhouse gas emissions in the industrial processes and product use sector of Saudi Arabia—An emerging challenge. <i>Sustainability</i>, 14(12), p.7388.</p> <p>20. Haroun, M., Chobe, S.S., Alavala, R.R., Mathure, S.M., Jamullamudi, R.N., Nerkar, C.K., Gugulothu, V.K., Tratratt, C., Islam, M.M., Venugopala, K.N. and Habeebuddin, M., (2022). 1, 5-Benzothiazepine Derivatives: Green Synthesis, In Silico and In Vitro Evaluation as Anticancer Agents. <i>Molecules</i>, 27(12), p.3757.</p>
<p>Presentations And abstracts</p>	<ol style="list-style-type: none"> 1. How Brain Talks With the Brain, Professional Development Activity, College of Clinical Pharmacy, KFU (Oct, 2024) 2. COVID-19 vaccines, Professional Development Activity, College of Clinical Pharmacy, KFU (Feb, 2021) 3. Jojoba- the natural source of medicine in the desert, Professional Development Activity, College of Clinical Pharmacy, KFU (Oct, 2019) 4. Jojoba- the natural source of medicine in the desert, Professional Development Activity, College of Clinical Pharmacy, KFU (Oct, 2019) 5. Regulation of Foxn4 expression during retinal progenitor cell differentiation, New Jersey Stem Cell Research Symposium, Piscataway, NJ, USA (2011) 6. Dif and Dorsal NFkB proteins regulate sleep in Drosophila, CABM Scientific Retreat, Rutgers University, Piscataway, NJ, USA (2009)
<p>Workshops / Seminars attended</p>	<ul style="list-style-type: none"> • <i>Academic Advising that Generates Excellence</i> by Deanship of Development and Quality Assurance (DDQA), KFU (Aug, 2020) • <i>Focus, Remember, Think: Using Technology to Put Cognitive Principles into Practice</i> by DDQA, KFU (Aug, 2020) • <i>Important ingredients of research project and strategies to publish in world class journals</i> by DDQA, KFU, (Feb, 2020) • <i>21st Century Skills – What University Instructors can do to Prepare Tomorrow’s Workforce</i> by DDQA, KFU (Aug, 2019) • <i>Flipping the classroom: Maximizing in-class practice and opportunities for collaborative learning</i> by DDQA, KFU (Aug, 2019) • <i>Teaching and Learning in the Modern Era</i> by DDQA, KFU (Aug, 2019) • <i>Enhancing Student Learning Through Inter-teaching</i> by DDQA, KFU (Aug, 2019) • <i>Program Specification and Report</i> by DDQA, KFU (Nov, 2018) • <i>Blackboard System: Skills and Tools</i> by DDQA, KFU (Oct, 2018) • <i>Course Design</i> by DDQA, KFU (Aug, 2018) • <i>Problem-Solving Learning</i> by DDQA, KFU (Aug, 2018) • <i>Project-Based Learning</i> by DDQA, KFU (Aug, 2018) • <i>Managing Active Classroom</i> by DDQA, KFU (Jul, 2018)