

CURRICULUM VITAE

Murad Hossain, Ph.D.

Professor, Department of Pharmaceutical Sciences, North South University, Bangladesh
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EDUCATION

- 2010** **Doctor of Philosophy (Ph.D.) in Pharmacy**, Niigata University of Pharmacy and Applied Life Sciences (NUPALS), Japan.
- 2007** **Master of Science (M. Pharm.) in Pharmacy**, Niigata University of Pharmacy and Applied Life Sciences (NUPALS), Japan.
- 2001** **Bachelor of Science (B. Pharm.) in Pharmacy**, Faculty of Pharmacy, University of Dhaka, Bangladesh. (Exam was held in 2004 due to session jam)

TEACHING & RESEARCH EXPERIENCES

- 11/2023-Present** **Professor**, Department of Pharmaceutical Sciences, North South University, Bangladesh.
- 04/2018-11/2023** **Associate Professor**, Department of Pharmaceutical Sciences, North South University, Bangladesh.
- 06/2019-05/2021** **Superintendent**, NSU Model Pharmacy, Department of Pharmaceutical Sciences, North South University, Bangladesh.
- 11/2017-11/2018** **Assistant Proctor**, North South University, Bangladesh.
- 09/2014-03/2018** **Assistant Professor**, Department of Pharmaceutical Sciences, North South University, Bangladesh.
- 02/2014- 09/2014** **Assistant Professor**, Department of Pharmacy, University of Asia Pacific, Bangladesh.
- 11/ 2013-12/2013** **Postdoctoral Research Associate**, Department of Medicine, University of Illinois at Chicago, USA
- 11/2010 – 11/2013** **Postdoctoral Research Fellow**, Department of Basic Sciences, University of North Dakota, Grand Forks, ND, USA.
- 04/2010-11/2010** **Postdoctoral Research Associate**, Department of Fundamental and Experimental Pharmacology, Niigata University of Pharmacy & Applied Life Sciences, Niigata, Japan.
- 04/2005-04/2010** **Ph.D. Research Scholar**, Department of Pharmacology, Niigata University of Pharmacy & Applied Life Sciences, Niigata, Japan

TEACHING & MENTORING

PHR 114: Organic Pharmacy-I

PHR 121: Human Physiology-I

PHR 211: Human Physiology-II

PHR 214: Pharmacology and Clinical Pharmacy-I

PHR 215: Medicinal Chemistry-I

PHR 222: Medicinal Chemistry-II

PHR 320: Medicinal Chemistry-III

PHR 324: Pharmacology and Clinical Pharmacy-III

PHR 411: Pharmacology and Clinical Pharmacy-IV

PHR 426: Clinical Pharmacokinetics

PHR510: Functional Food and Nutraceuticals

PHR 5201: Drug Design

MEMBERSHIP

- Member of NSU Institutional Biosafety Committee, Bangladesh
- Treasurer of Bangladesh Neuroscience Society (BNSS), Bangladesh
- Member of the Self-Assessment Committee (SAC) of IQAC, Bangladesh
- Member of the Society for Neuroscience, USA
- Member of the Japanese Pharmacological Society (JPS), Japan
- Member of Bangladesh Society of Toxicology (BDSOT), Bangladesh
- Member of Bangladesh Pharmaceutical Society (BPS), Bangladesh
- Member of Japanese Universities Alumni Association in Bangladesh (JUAAB), Bangladesh
- Member of Rotary Yoneyama Memorial Foundation, Japan

ACADEMIC DUTIES

- Prepare and give lectures for the Pharmacy curriculum for both Undergraduate and Graduate students.
- Supply the teaching material or handout to the students for both Undergraduate and Graduate students.
- Taking and evaluating different quizzes, exams, assignments, and presentation for both undergraduate and graduate students
- Supervised project research for both undergraduate and graduate students.
- Manuscript writing and participating in research work at local or international conferences.
- Apply for research grants for the government and private sector in Bangladesh.
- Participate in department committee members, for example, members of the purchase committee, members of the biosafety committee, members of the Pharma Fest program in the department, etc.

AWARDS & RESEARCH GRANTS ACHIEVED

- **2025-2026** NSU CTRG 2024-2025 as Principal Investigator.
- **2024-2025** NSU CTRG 2024-2025 as Principal Investigator.
- **2023-2024** NSU CTRG 2023-2024 as Principal Investigator.
- **2020-2021** NSU CTRG 2020-2021 as Principal Investigator.
- **2020-2021** Research & Development of Technology Grant from Ministry of National Science and Technology, Government Bangladesh as Principal Investigator.
- **2019-2020** NSU CTRG 2019 as Principal Investigator.
- **2019-2020** Research & Development of Technology Grant from Ministry of National Science and Technology, Government Bangladesh as Principal Investigator.
- **2018-2020** BANBEIS Advance Research Grant from Education Ministry, Gov. of Bangladesh as Principal Investigator.
- **2018-2019** Research & Development of Technology Grant from Ministry of National Science and Technology, Government Bangladesh as Principal Investigator.
- **2016-2017** NSU CTRG in 2016-2017 as Co-Principal Investigator.

SCIENTIFIC PUBLICATIONS

1. Rahman R, Tishe ZH, Saha S, Hossain H, **Hossain M**, Jain P, Reza HM, Shill MC. Swertia chirayita ameliorates acrylamide-induced hepatorenal toxicities and oxidative damage through modulating biomarkers and pro-inflammatory genes. *Journal of Food Biochemistry*. 2026;9591831:14 pages. doi:10.1155/jfbc/9591831
2. Datta S, Alam KT, Asfie MI, Kapasia B, Simran FA, Hossain FA, Pavel MAM, Rahman MM, **Hossain M**, Mostaid MS. Meta-analysis reveals significant association between polymorphisms of CHRNA5-A3-B4 gene cluster with nicotine dependence. *Human Gene*. 2026;48:201546. doi:10.1016/j.humgen.2026.201546
3. Hasan MM, Mostaid MS, Bepari AK, Reza HM, **Hossain M**. Discovery of a novel KEAP1 inhibitor for neurodegeneration through virtual screening and molecular dynamics simulations. *PLoS One*. 2026;21(2):e0341965. doi:10.1371/journal.pone.0341965
4. Hasan MM, Shill MC, Bepari AK, Reza HM, **Hossain M**. Machine learning and molecular simulation-based virtual screening for the discovery of potent RIPK1 inhibitors. *In Silico Pharmacology*. 2026. doi:10.1007/s40203-026-00586-8
5. Miah MA, Sathi MA, Hasib MG, Rahman M, Mahmud N, Shill MC, Reza MH, **Hossain M**, Rahman MM, Mostaid MS. Rice bran oil ameliorates the symptoms of benign prostatic hyperplasia in male Wistar rats. *Avicenna Journal of Phytomedicine*. 2025. Epub ahead of print. doi:10.22038/ajp.2025.26244
6. Biswas AM, Emran T, Khan SI, Shabnam S, Jain P, Bepari AK, Shill MC, **Hossain M**, Reza HM. Transforming growth factor- β -mediated attenuation of cardio-renal oxidative stress, inflammation and fibrosis by L-arginine

in fludrocortisone acetate induced-hypertensive rats. *European Journal of Pharmacology*. 2025;996:177559. doi:10.1016/j.ejphar.2025.177559

7. Ahmed A, Rawshan AEM, Tishe ZH, Shawkat S, Popy MN, Shohag MH, **Hossain M**, Mostaid MS. Association of CD58 rs12044852 and rs2300747 polymorphisms with the risk of multiple sclerosis: a systematic review and meta-analysis. *Multiple Sclerosis and Related Disorders*. 2024;82:105411. doi:10.1016/j.msard.2023.105411
8. Shill MC, Rakib AA, Islam SK, **Hossain M**, Alam S, Hossain H, Kumar UK, Bhuia MS, Shahriar M, Reza HM, Sarkar C, Güner SE, Sharifi-Rad J, Butnariu M, Islam TM. Polyphenol-standardized Aphanamixis polystachya leaf extract ameliorates diabetes, oxidative stress, inflammation, and fibrosis in streptozotocin-induced diabetic rats. *Journal of Food Biochemistry*. 2024;2024:9441968. doi:10.1155/2024/9441968
9. Shohag MH, Kuddus SA, Brishty EMS, Chowdhury SS, Hossain MT, Hasan M, Khan SI, **Hossain M**, Reza HM. Post-market quality assessment of 22 ciprofloxacin brands by HPLC available in Bangladesh market. *Heliyon*. 2023;9(6):e17180. doi:10.1016/j.heliyon.2023.e17180
10. Shaswati M, Oeishy FH, Mumu SB, Zahid MZI, **Hossain M**, Haque MA, Reza HM, Mostaid MS. Interleukin-6 (IL-6) genetic polymorphisms and susceptibility to cervical cancer in Bangladeshi women: a case-control study. *Health Science Reports*. 2023;6(5):e1238. doi:10.1002/hsr.2.1238
11. **Hossain M**, Suchi TT, Samiha F, Islam MMM, Tully FA, Hasan J, Rahman MA, Shill MC, Bepari AK, Rahman GMS, Reza HM. Coenzyme Q10 ameliorates carbofuran induced hepatotoxicity and nephrotoxicity in Wistar rats. *Heliyon*. 2023;9(2):e13727. doi:10.1016/j.heliyon.2023.e13727
12. Shill MC, Mohsin MNAB, Showdagar U, Hasan SN, Zahid MZI, Khan SI, **Hossain M**, Rahman GMS, Reza HM. Microbial sensitivity of the common pathogens for UTIs are declining in diabetic patients compared to non-diabetic patients in Bangladesh: an institution-based retrospective study. *Heliyon*. 2023;9(1):e12897. doi:10.1016/j.heliyon.2023.e12897
13. Rahman MA, Shuvo AA, Bepari AK, Hasan Apu M, Shill MC, **Hossain M**, Uddin M, Islam MR, Bakshi MK, Hasan J, Rahman A, Rahman GMS, Reza HM. Curcumin improves D-galactose and normal-aging associated memory impairment in mice: in vivo and in silico-based studies. *PLoS One*. 2022;17(6):e0270123. doi:10.1371/journal.pone.0270123
14. Emran T, Chowdhury NI, Sarker M, Bepari AK, **Hossain M**, Rahman GMS, Reza HM. L-carnitine protects cardiac damage by reducing oxidative stress and inflammatory response via inhibition of tumor necrosis factor- α and interleukin-1 β against isoproterenol-induced myocardial infarction. *Biomedicine & Pharmacotherapy*. 2021;143:112139. doi:10.1016/j.biopha.2021.112139
15. Akash SZ, Lucky FY, **Hossain M**, Bepari AK, Rahman GMS, Reza HM, Sharker SM. Remote temperature-responsive parafilm dermal patch for on-demand topical drug delivery. *Micromachines*. 2021;12(8):975. doi:10.3390/mi12080975
16. Shill MC, Bepari AK, Khan M, Tasneem Z, Ahmed T, Hasan MA, Alam MJ, **Hossain M**, Rahman MA, Sharker SM, Shahriar M, Rahman GMS, Reza HM. Therapeutic potentials of Colocasia affinis leaf extract for the

alleviation of streptozotocin-induced diabetes and diabetic complications: in vivo and in silico-based studies. *Journal of Inflammation Research*. 2021;14:443–459. doi:10.2147/JIR.S297348

17. Jain P, Hossain KR, Islam T, Tasnim GZ, **Hossain M**, Reza HM. Antioxidant and antibacterial activities of different solvent extracts of Citrus acida leaf and correlation with phenolic content. *Medicinal Plants*. 2021;13(2):302–312. doi:10.5958/0975-6892.2021.00034.4
18. Valladares DT, Kudumala S, **Hossain M**, Carvelli L. Caenorhabditis elegans as an in vivo model to assess amphetamine tolerance. *Brain, Behavior and Evolution*. 2020;95:247–255. doi:10.1159/000514858
19. Khan F, Kuddus SA, Shohag MH, Reza HM, **Hossain M**. Astaxanthin, the natural antioxidant, reduces reserpine induced depression in mice. *Current Bioactive Compounds*. 2020;16(9). doi:10.2174/1573407216666200512115403
20. Islam MM, Jarna RN, Jain P, Alam MA, Reza HM, **Hossain M**, Paul S, Kabir SMR, Rahman M. Potential anti-diabetic medicinal plants in Bangladesh: a comprehensive review. *World Journal of Pharmaceutical Research*. 2019;8(6):140–150. doi:10.20959/wjpr20196-14849
21. Al-Amin MM, Chowdury MIA, Saifullah ARM, Alam MN, Jain P, **Hossain M**, Alam MA, Kazi M, Ahmad A, Raish M, Alqahtani A, Reza HM. Levocarnitine improves AlCl₃-induced spatial working memory impairment in Swiss albino mice. *Frontiers in Neuroscience*. 2019;13:278. doi:10.3389/fnins.2019.00278
22. Alam MN, **Hossain M**, Rahman MM, Subhan N, Mamun MAA, Ulla A, Reza HM, Alam MA. Astaxanthin prevented oxidative stress in heart and kidneys of isoproterenol-administered aged rats. *Journal of Dietary Supplements*. 2018;10:1–13. doi:10.1080/19390211.2017.1355866
23. Ulla A, Mohamed MK, Sikder B, Rahman AT, Sumi FA, **Hossain M**, Reza HM, Rahman GMS, Alam MA. Coenzyme Q10 prevents oxidative stress and fibrosis in isoprenaline induced cardiac remodeling in aged rats. *BMC Pharmacology and Toxicology*. 2017;18(1):29. doi:10.1186/s40360-017-0136-7
24. Alam MA, Subhan N, Hossain H, **Hossain M**, Reza HM, Rahman MM, Ullah MO. Hydroxycinnamic acid derivatives: a potential class of natural compounds for the management of lipid metabolism and obesity. *Nutrition & Metabolism*. 2016;13:27. doi:10.1186/s12986-016-0080-3
25. Safratowich BD, **Hossain M**, Bianchi L, Carvelli L. Amphetamine potentiates the effects of β -phenylethylamine through activation of an amine-gated chloride channel. *Journal of Neuroscience*. 2014;34(13):4686–4691. doi:10.1523/JNEUROSCI.3100-13.2014
26. **Hossain M**, Wickramasekara RN, Carvelli L. β -Phenylethylamine requires the dopamine transporter to increase extracellular dopamine in Caenorhabditis elegans dopaminergic neurons. *Neurochemistry International*. 2014;73:27–31. doi:10.1016/j.neuint.2013.10.010
27. **Hossain M**, Muntasir HA, Ishiguro M, Bhuiyan MA, Rashid M, Sugihara T, Nagatomo T. Mechanism of inverse agonist action of sarpogrelate at the constitutively active mutant of human 5-HT_{2A} receptor revealed by molecular modeling. *Biological & Pharmaceutical Bulletin*. 2012;35(9):1553–1559. doi:10.1248/bpb.b12-00401

28. Hao J, Chen B, Yao Y, **Hossain M**, Nagatomo T, Yao H, Kong L, Sun H. Practical access to four stereoisomers of naftidrofuryl and their binding affinity towards 5-hydroxytryptamine 2A receptor. *Bioorganic & Medicinal Chemistry Letters*. 2012;22(10):3441–3444. doi:10.1016/j.bmcl.2012.03.093
29. Bhuiyan MA, **Hossain M**, Ishiguro M, Nakamura T, Nagatomo T. Engineered mutation of some important amino acid in angiotensin II type 1 (AT1) receptor causes increase in binding affinity of AT1 receptor antagonists. *Journal of Pharmacological Sciences*. 2010;113:57–65. doi:10.1254/jphs.09361fp
30. Bhuiyan MA, **Hossain M**, Nakamura T, Ozaki M, Nagatomo T. Internalization of constitutively active N11G mutant of AT1 receptor induced by angiotensin II receptor antagonist candesartan, losartan, and telmisartan: comparison with valsartan. *Journal of Pharmacological Sciences*. 2010;112:459–462. doi:10.1254/jphs.09343sc
31. **Hossain M**, Bhuiyan MA, Nagatomo T. Pharmacological and molecular studies for the regulation of β 1-adrenergic receptor that reveals activation and inactivation. *Pharmacometrics*. 2010;78(1/2):1–9.
32. Bhuiyan MA, **Hossain M**, Masanobu W, Nagatomo T. Selectivity of valsartan to the human angiotensin II type one receptor as assessed by binding affinity, functional activity and molecular modeling. *Pharmacometrics*. 2010;78(1/2):11–20.
33. **Hossain M**, Bhuiyan MA, Nakamura T, Ozaki M, Nagatomo T. Mutagenesis of important amino acid reveals unconventional homologous internalization of β 1-adrenergic receptor. *Life Sciences*. 2009;85:339–344. doi:10.1016/j.lfs.2009.06.015
34. Bhuiyan MA, **Hossain M**, Miura S, Nakamura T, Ozaki M, Nagatomo T. Constitutively active mutant N111G of AT1 receptor induces homologous internalization through mediation of AT1 receptor antagonist. *Journal of Pharmacological Sciences*. 2009;111(3):227–234. doi:10.1254/jphs.09202fp
35. Aly SAR, **Hossain M**, Bhuiyan MA, Nakamura T, Nagatomo T. Assessment of binding affinity to 5-HT_{2A} receptor and inverse agonist activity of naftidrofuryl: comparison with those of sarpogrelate. *Journal of Pharmacological Sciences*. 2009;110:445–450. doi:10.1254/jphs.09124fp
36. Bhuiyan MA, Ishiguro M, **Hossain M**, Nakamura T, Ozaki M, Miura S, Nagatomo T. Binding sites of valsartan, candesartan and losartan with angiotensin II receptor 1 subtype by molecular modeling. *Life Sciences*. 2009;85(3–4):136–140. doi:10.1016/j.lfs.2009.05.001
37. **Hossain M**, Ahmed M, Bhuiyan MA, Ishiguro M, Nakamura T, Ozaki M, Nagatomo T. Mutation of important amino acid residue of Asp104Lys in human β 1-adrenergic receptor triggers functional and constitutive inactivation. *Biological & Pharmaceutical Bulletin*. 2008;31(8):1517–1522. doi:10.1248/bpb.31.1517
38. Nagaoka Y, Ahmed M, **Hossain M**, Bhuiyan MA, Ishiguro M, Nakamura T, Watanabe M, Nagatomo T. Amino acids of the human α 1d-adrenergic receptor involved in antagonist binding. *Journal of Pharmacological Sciences*. 2008;106(1):114–120. doi:10.1254/jphs.fp0071412

39. Ahmed M, **Hossain M**, Bhuiyan MA, Ishiguro M, Tanaka T, Muramatsu I, Nagatomo T. Mutational analysis of the α 1a-adrenergic receptor binding pocket of antagonists by radioligand binding assay. *Biological & Pharmaceutical Bulletin*. 2008;31(4):598–601. doi:10.1248/bpb.31.598
40. Takahashi K, **Hossain M**, Ahmed M, Bhuiyan MA, Ohnuki T, Nagatomo T. Asp125 and Thr130 in transmembrane domain 3 are major sites of α 1b-adrenergic receptor antagonist binding. *Biological & Pharmaceutical Bulletin*. 2007;30(10):1891–1894. doi:10.1248/bpb.30.1891
41. Muntasir HA, **Hossain M**, Bhuiyan MA, Komiyama T, Nakamura T, Ozaki M, Nagatomo T. Identification of a key amino acid of the human 5-HT_{2B} serotonin receptor important for sarpogrelate binding. *Journal of Pharmacological Sciences*. 2007;104(3):274–277. doi:10.1254/jphs.sc0060241
42. Ahmed M, Muntasir HA, **Hossain M**, Ishiguro M, Komiyama T, Muramatsu I, Kurose H, Nagatomo T. Beta-blockers show inverse agonism to a novel constitutively active mutant of β 1-adrenoceptor. *Journal of Pharmacological Sciences*. 2006;102(2):167–172. doi:10.1254/jphs.fp0060640
43. Muntasir HA, Takahashi J, Rashid M, Ahmed M, Komiyama T, **Hossain M**, Kawakami J, Nashimoto M, Nagatomo T. Site-directed mutagenesis of the serotonin 5-hydroxytryptamine_{2c} receptor: identification of amino acids responsible for sarpogrelate binding. *Biological & Pharmaceutical Bulletin*. 2006;29(8):1645–1650. doi:10.1248/bpb.29.1645
44. Ahmed M, Muntasir HA, Ishiguro M, Komiyama T, Muramatsu I, **Hossain M**, Takahashi N, Nagatomo T. Pharmacological and molecular characterization of novel SWR-compounds for β 1-adrenergic receptors as assessed by molecular modeling, site-directed mutagenesis, binding affinity and functional activity. *Pharmacometrics*. 2006;71(1/2):1–20.
45. **Hossain M**, Ali MS, Saha A, Alimuzzaman M. Antinociceptive activity of whole plant extracts of *Paederia foetida*. *Dhaka University Journal of Pharmaceutical Sciences*. 2006;5:67–69. doi:10.3329/dujps.v5i1.232

SCIENTIFIC PRESENTATION

1. Humaira KT, Tully FA, Reza HM, **Hossain M**. Neuroprotective role of hesperidin on carbofuran induced autism mice model. *2nd International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. June 26–28, 2022. Abstract published (PHP-059).
2. Shibli MR, Suchi TT, Shill MC, Bepari AK, Rahman GMS, Reza HM, **Hossain M**. Coenzyme Q10 ameliorates carbofuran induced hepatotoxicity and nephrotoxicity in Wistar rats. *2nd International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. June 26–28, 2022. Abstract published (PTP-004).
3. Shetu HJ, Reza HM, **Hossain M**. Effect of *Sida cordifolia* on chronic restraint stress induced depressive mice model. *18th International Congress of the International Society for Ethnopharmacology*. Poster presentation. Department of Pharmacy, Faculty of Pharmacy, University of Dhaka. 13–15 January 2018. Abstract published (ISE-SFEC 18/P-95).

4. Mahbub SB, Ritchil P, Alam MA, Reza HM, **Hossain M**. Effect of astaxanthin on chronic restraint stress induced depressive mice. *1st International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. May 15, 2017. Abstract published (PTP-019).
5. Sultana K, Mohsina US, Saha P, Reza HM, **Hossain M**. Effect of rice bran oil on chronic restraint stress induced depressive mice. *1st International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. May 15, 2017. Abstract published (PTP-020).
6. Ahmed S, Tania AF, Moon NJ, Alam MA, Reza HM, **Hossain M**. Effect of coenzyme Q10 on chronic restraint stress (CRS) induced depressive mice. *1st International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. May 15, 2017. Abstract published (PTP-021).
7. Akhter A, Al-Mamun, **Hossain M**. Appraisal of MTHFR C677T gene polymorphism related to miscarriage risk during pregnancy in the perception of Bangladesh. *1st International Conference on Genomic, Nanotech & Bioengineering*. Poster presentation. School of Health & Life Sciences. May 15, 2017. Abstract published (GHP-019).
8. Quader SM, **Hossain M**, Rahman MM, Reza HM, Alam MA. Effect of superoxide dismutase mimetic, tempol, on carbon tetrachloride induced hepatic inflammation and fibrosis in the liver of rats. *National Conference on Biochemistry and Molecular Biology for Life Sciences*. Oral presentation. Bangladesh Society for Biochemistry and Molecular Biology. December 10, 2016.
9. Alam MN, Rahman MM, Ulla A, **Hossain M**, Reza HM, Alam MA. Evaluation of astaxanthin in isoprenaline induced cardiac remodeling in aged rats. *National Conference on Biochemistry and Molecular Biology for Life Sciences*. Poster presentation. Bangladesh Society for Biochemistry and Molecular Biology. December 10, 2016.
10. **Hossain M**, Safratwich BD, Carvelli L. Multiple exposures to amphetamine induced desensitization of the dopaminergic system in living animals. *Society for Neuroscience 41st Annual Meeting*. Poster presentation. Washington DC Convention Center. November 12–16, 2011. Abstract published (444.08/D22).
11. **Hossain M**, Bhuiyan MA, Nagatomo T. Mutagenesis of important amino acid reveals unconventional homologous internalization of β 1-adrenergic receptor. *83rd Annual Meeting of the Japanese Pharmacological Society*. Oral presentation. Osaka Grand Cube Convention Center. March 16–18, 2010. Abstract published (AS2C-2-3).
12. **Hossain M**, Bhuiyan MA, Nagatomo T. Assessment of binding affinity to 5-HT_{2A} receptor and inverse agonist activity of naftidrofuryl: comparison with those of sarpogrelate. *11th Oyo Yakuri/Pharmacometrics Conference*. Poster presentation. Niigata University of Pharmacy and Applied Life Sciences. September 26, 2009.
13. Bhuiyan MA, **Hossain M**, Nagatomo T. Angiotensin II receptor antagonists induce homologous internalization in constitutively active mutant N111G of AT₁ receptor. *60th Conference of the Japanese Pharmacological Society*. Oral presentation. Toyama, Japan. September 27, 2009. Abstract published (B-II-1).

14. **Hossain M**, Bhuiyan MA, Aly SAR, Shoe S, Nagatomo T. Evaluation of binding and functional potency of naftidrofuryl to human recombinant 5-HT_{2A} receptor: comparison with sarpogrelate. *14th Serotonin Conference*. Oral presentation. Tokyo, Japan. February 7, 2009. Abstract published (I-1).
15. Bhuiyan MA, **Hossain M**, Aly SAR, Ishiguro M, Miura S, Nagatomo T. Assessment of valsartan for binding affinity and functional potency towards angiotensin II type 1 (AT₁) receptors. *59th Conference of the Japanese Pharmacological Society*. Oral presentation. Sendai, Japan. September 27, 2008. Abstract published (C-II-5).
16. Muntasir HA, Bhuiyan MA, **Hossain M**, Nagatomo T. Evaluation of mechanism of inverse agonist action of sarpogrelate by molecular modeling. *13th Serotonin Conference*. Oral presentation. Tokyo, Japan. February 2, 2008. Abstract published (I-1).
17. **Hossain M**, Bhuiyan MA, Nagatomo T. Inverse agonism of β -blockers to a novel constitutively active mutant of β ₁-adrenergic receptor. *5th International Symposium on Receptor Mechanisms, Signal Transduction and Drug Effects*. Oral presentation. Grandship (Shizuoka Convention and Art Center), Shizuoka, Japan. May 10–11, 2007. Abstract published (P22).
18. **Hossain M**, Ahmed M, Ishiguro M, Nagatomo T. Beta-adrenergic antagonists show inverse agonism to a novel constitutively active mutant of β ₁-adrenergic receptor. *50th Japan Pharmaceutical Seminar*. Oral presentation. Niigata, Japan. October 14–15, 2006. Abstract published (H05).
19. Muntasir HA, Bhuiyan MA, **Hossain M**, Kawakami J, Ishiguro M, Komiyama T, Nagatomo T. Inverse agonist activity of several 5-HT_{2A} receptor antagonists at the constitutively active human 5-HT_{2A} receptor. *34th Symposium on Structure Activity Relationship*. Oral presentation. Niigata, Japan. November 14–15, 2006. Full paper and abstract published (KP07).

INDUSTRIAL TRAINING

In-plant training completed as part of the B.Pharm curriculum at Sanofi Aventis Limited (multinational pharmaceutical company), arranged by the Faculty of Pharmacy, University of Dhaka. Observed manufacturing and quality control operations for tablets, capsules, injectables (antibiotic and non-antibiotic), ointments, toiletries, and liquid preparations.

JOURNAL EDITOR

- Associate Editor of Pharmaceutical Drug Regulatory Affairs Journal (PDRAJ)

ORGANIZER

- Organizing committee member of 1st International Conference of Genomic, Nanotech, & Biotechnology (ICGNB) in Bangladesh organized by NSU School of Health and Life Sciences. (2017)
- Organizing committee member of 2nd International Conference of Genomic, Nanotech, & Biotechnology (ICGNB) in Bangladesh organized by NSU School of Health and Life Sciences. (2022)

ANALYTICAL & TECHNICAL SKILLS

Computer-Aided Drug Design (CADD) & Bioinformatics

- Virtual screening and molecular docking: AutoDock Vina, MGLTools, PyMOL, UCSF Chimera
- Machine learning for drug discovery: Python and R (RStudio) for data-driven predictive modelling
- Molecular dynamics simulation: GROMACS, for protein–ligand complex stability analysis

Molecular Techniques

- Isolation of genomic DNA, plasmid, RNA and protein; Southern, Northern and Western blotting; PCR-based site-directed mutagenesis; DNA sequencing; PCR and qRT-PCR; co-immunoprecipitation; ELISA

Biochemical and Microscopic Techniques

- Electrophoresis; chromatographic techniques; colorimetric and enzyme assays; fluorescence and confocal microscopy

Culture Techniques

- Bacterial cell culture and plasmid transformation; mammalian cell culture, isolation, passaging and transfection

Behavioural Experiments

- Forced swim test; tail suspension test; maze tests (elevated plus, radial arm, Morris water); social interaction test; novel object recognition test

Animal Handling

- Mice, rats, and nematode (*C. elegans*)