



Md Mubassherul Islam

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SKILLS

- Docking & Virtual Screening
- Drug design and simulation software: SeeSAR, Infinisee, Molecular Operating Environment (MOE), MOEsaic, YASARA
- Good knowledge of different biological databases (gene to population-level)
- Knowledge of various machine learning algorithms.
- Database: SQL
- Programming: R
- Experiences with Hadoop
- OS: Windows, Linux
- MS Office (MS-Word, MS-Excel, PowerPoint)
- Video Editing (DaVinci Resolve)
- GitHub, GitLab

LANGUAGES

- German: B1(Telc)
- English: B2
- Bengali: Mother tongue

DRIVING LICENSE

Class B

HOBBIES

- Traveling
- Video editing
- Model car collection

EDUCATION

MSc-Life Science Informatics

Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

October 2017 – December 2021

Completed all the courses of the master's program, mostly focusing on Structural Biology, Molecular Modeling and Drug Design, Statistics, Bioinformatics, Cheminformatics, Biological Databases, Computer Sciences, Data Mining and Machine Learning, Data Visualization, and Programming Languages.

Thesis: Virtual Screening of small molecule inhibitors against the activation path of Coagulation Factor XIII on the BioSolveIT platform.

Bachelor of Pharmacy (Hons.)

Stamford University Bangladesh

July 2009 – June 2013

Subjects named chemistry, biology, human physiology, microbiology, biochemistry and cellular Biology, medicinal chemistry, clinical pathology, pharmacology, biotechnology and Immunology, clinical pharmacy, toxicology and drug interaction, regulatory affairs were studied.

Thesis: Comparison of physical and chemical properties of six branded metformin hydrochloride tablets.

WORK EXPERIENCES

Research Assistant

Structural Bioinformatics and FXIII group, Institute for Experimental Hematology and Transfusion medicine (IHT), Universitätsklinikum Bonn, Germany

June 2022 – Present

The work is focused on developing pharmaceutical inhibitors against Transglutaminase. It is computer-aided drug research and development including model generation, simulations, modification of small molecules, and comparison with existing and similar kinds of drugs or drug-like molecules. We have used both well-known operating systems Windows and Linux for this project. The software SeeSAR, InfiniSee, YASARA, Gromacs, Coot, CryoSPARC, and Chimera is used. Additionally, the yield of potential drug like molecules is further improvised and modified according to expert knowledge.

Student Intern in Computational and Structural Biology

UKB-Universitätsklinikum Bonn, Germany

May 2021 – March 2022

The work was focused on molecular modeling and drug design, especially in docking. It includes a screening of potential inhibitors for protein coagulation Factor XIII collected from biological databases and further docking and MD simulation studies of the ligands against zymogenic, activated, and transition states of coagulation Factor XIII. It also includes the formation of transition states between the zymogenic and activated form of FXIII using the ANMPATHWAY web server.

The most promising ligands will be used to define the chemical space on InfiSee. Finally, the most promising ligands are determined based on Hyde scores and stereochemical as well as other qualities all such computations will be done on SeeSAR and InfiSee platforms. These ligands will subsequently be tested on the bench for their ability to Coagulation inhibit FXIII.

Contributed to several projects in the Drug research and development pipeline. The modeling of the protein and development was carried out using different tools and software i.e. Molecular Operating Environment, MoSaic, Yasara, Pymol, Autodoc, etc. BioSolveIT platform SeeSAR, InfiSee, Command line tools FlexX, and HyDe are also used for the modification and development of drug-like molecules.

Research and Development Officer

Orion pharma ltd. Bangladesh

January 2016 – September 2017

Job responsibilities were to perform product development planning and implementation of new and existing drug products of different dosage forms. Besides, performing raw material selection, and new source development, packaging materials of the new drug products, including the selection of packaging materials. Along with that, actively liaised between such departments such as analytical development, production, commercial, quality operation, material management, and product management department for smooth product launching. Furthermore, prepare and update all documents i.e. BMR, BPR, Research & development-related SOPs. After successfully validating batch stable product finally handover it over to the production department through proper documentation, prepare annexure, registration documents, and stability data.

Patient Counselor (Hospital Pharmacy)

Dhaka Eye Care Hospital

January 2015 – November 2015

Diagnosed patients who have eye-related disorders. Developed a treatment plan for the patients that included counseling, recommending medications, diet, and exercises, explaining precautions, side effects, adverse effects, and contraindication of the drugs. Supervised the recommended treatments and observed the patient's conditions. Worked in purchasing and inventory management department which comprised purchasing products, control on purchase, storage and setting up the patient's bed with necessary supplies, and managing hospital's inventory.

In-plant training (Internship)

Orion pharma ltd. Bangladesh

September 2013 – December 2013

Worked in the production of the solid, capsule, semi-solid, and liquid dosage forms, and ophthalmic drugs. Additionally, assisted in the quality control and quality assurance departments to control and assure the quality of dosage form for batch-wise production. Served in the R&D department of pilot products before commercial production.

CERTIFICATIONS

- Online course “**Practical Regulatory Affairs 2020 - European Medical Devices**”, was completed from Udemy (Certificate no. UC-68ce1350-7621-4224-a655-cc308dacf6e0).
- Biotechnology courses named **fermentation and industrial biotechnology, genomics, medical biotechnology** was successfully completed at **BRAC University Bangladesh**.
- Registered **Pharmacist** (registration No. A5027) by Bangladesh Pharmacy Council.

Publication

“**Virtually screening the conformational landscape of coagulation factor XIII activation to identify novel small molecule inhibitors against it**” published in GTH-2022 (Society for Thrombosis and Haemostasis Research e.V. (GTH) and the German Association for Blood Coagulation Research (DAB)) in Leipzig, Germany.

“**Virtually screening for novel small molecule inhibitors against the conformational landscape of coagulation factor XIII activation-path**” was presented in the International Society on Thrombosis and Hemostasis (ISTH) in London in 2022.