**RESEARCH INTEREST**

* Pre-Formulation and Formulation Development
* Drug Product Development
* Pulmonary Drug Development.
* Liposomal Drug Delivery
* Target Drug Delivery Systems
* Nanu Emulsion.
* In-Vitro Cell Culture Assays and Techniques

# EDUCATION

**2023-Present** **Graduate Student, Industrial Pharmacy (PhD)**

Pharmaceutical Sciences College of Pharmacy and Health Sciences, St. John’s University, NY

**2016-2017** **Master of Pharmacy (M.Pharm**)

Department of Pharmaceutical Technology, University of Dhaka.

## 2011-2016 Bachelor of Professional Pharmacy (B.Pharm) (5 Years-Program)

Faculty of Pharmacy, University of Dhaka.

# PROFESSIONAL EXPERIENCES

* **Scientist,** Formulation Development, R&D, Jan’ 2022 – Jan’ 2023 . Square Pharmaceutical Ltd. (FDA Approved), Gazipur, Bangladesh.
* **Associate Scientist,** Formulation Development, R&D, Aug’ 2018- Dec’2021. Square Pharmaceutical Ltd. (FDA Approved), Gazipur, Bangladesh.
* **Product Executive**, Feb’2018 – Jul’2018, ACI Pharmaceuticals Ltd, Dhaka, Bangladesh.
* **Research Associate,** Jul’ 2017 – Jan’ 2018, Department of Pharmaceutical Technology, University of Dhaka

**RESEARCH EXPERIENCE**

**Graduate Student, Industrial Pharmacy (PhD),** St. John’s University, 2023- Present

**Mentor: Dr. Vivek Gupta**

Formulation of Solid dosages form

Liposomal Drug Delivery

**M.Pharm Thesis, 2016-2017**

Dissertation Title: Preparation and Evaluation of Cross-Linking Beads using Ibuprofen as Model Drug

**Supervisor**: Dr. Jakir Ahmed Chowdhury, Professor, Department of Pharmaceutical Technology, University of Dhaka.

**Undergraduate Project, 2015-2016**

Project: Usage Pattern of Angiotensin Converting Enzyme Inhibitors (ACEI) & Angiotensin Receptor Blockers (ARB) in Hospitalized and Ambulatory Patients in Dhaka City, Bangladesh.

**Supervisor:** Dr. Sitesh C Bachar, Professor & Dean of Department of Pharmacy. University of Dhaka.

**PUBLICATIONS:**

* Kandel,R., Saha, T., **Masum, Z.U.** and Chowdhury, J.A. 2020. Formulation and In vitro Release Behavior of Hydroxypropyl Methylcellulose (HPMC) Matrix Tablet Containing Poorly Soluble Fenofibrate. Bangladesh Pharmaceutical Journal. **23(1)**, 10-16.
* Rahman, S.M.M., Saha, T., **Masum, Z.U**. and Chowdhury, J.A. 2017. Evaluation of Physical Properties of Selected Excipients for Direct Compressible Tablet. Bangladesh Pharmaceutical Journal. **20(1)**, 34-38.
* Saha, T, Bhuiyan, R.H., **Masum, Z.U.**, Islam, M.R. and Chowdhury, J.A. 2017. Hospital Pharmacy Management System and Future Development Approaches in Bangladeshi Hospital. Bangladesh Pharmaceutical Journal. 20(2), 181-188.
* Saha, T., **Masum, Z.U.** and Ashrafi, S. 2018. Preparation and In-vitro Evaluation of Sodium Alginate Based Gastroretentive Floating Tablet of Domperidone. Galore International Journal of Health Sciences and Research. 3(1), 1-4.
* Saha, T., **Masum, Z.U.**, Mondal, S.K., Hossain, M.S., Jobaer, M.A., Shahin, R.I. and Fahad, T. 2018. Application of Natural Polymers as Pharmaceutical Excipients. Global J Sci Biol Res. 4(1), 1-11.
* Hossain, MS., Nijhum., N., Mondal., SK., **Masum., ZU,** Sovon., MSI, Khan., A, Bhowmick., A. and Saha., T. 2019. Phytochemical Analysis and Antioxidant, Thrombolytic, Astringent, Pro-Coagulant Properties Investigation of Tagetes Lucida. Pharmacologyonline. **3**, 203-210.
* Bhowmick., A., Saha., T., Mondal., S.K., Sovon., M.S.I., Khan., A., **Masum., Z.U.** and Hossain, M.S. 2019. Physicochemical Properties Analysis of Marketed Amitriptyline HCL Tablets Available in Bangladesh. Pharmacologyonline. 3, 220-223.

**INSTRUMENTAL SKILL**

* Silverson Homogenizer, Overhead & Hotplate stirrer, pH & DO meter, Headspace Gas analyzer.
* Dry, Wet, Rapid Mixer, High Speed Mixer, Fluid bed Granulator, Double cone oscillator and Blender, Rotary Tablet Press Machine, Film Coating Machine, Friabilator,Hardness Tester,Disintregration Tester, Moisture analyser etc.
* High-Pressure Liquid Chromatography (Waters).
* UV-Vis Spectroscopy (Shimadz).

**POSTER PRESENTATION:**

* Poster prepared on preparation and evaluation of polymer based of cross- linking beads using Ibuprofen as a model drug. for “**10th Hope Meetings with noble laureates**” Okohama Bay Hotel Tokyu (Yokohama, Japan).
* Poster presented (Experimental Studies) on Preparation and Evaluation of polymer based of cross- linking beads using Ibuprofen as a model drug. in “**ISE SFEC NATIONAL CONFERENCE 2017**” Nawab Ali Chowdhury Senate Building, University of Dhaka, Dhaka, Bangladesh. (2017).
* Poster presented on Future of Hospital Pharmacy in Bangladesh: Digitalization, Integration and Automation on **World Pharmacist Day-2016** in Faculty of Pharmacy, University of Dhaka, Bangladesh 2016.

**TRAINING:**

* Completed industrial internship at “**Beximco Pharmaceuticals Ltd., Bangladesh**” from February 2015 to March 2015.
* Worked as an ‘intern’ in “**Dhaka Medical College and Hospital, Dhaka, Bangladesh**” from July 2015 to December 2015 in Pharmacy, Surgery, Medicine, Nephrology, Cardiology and Pediatric departments.
* Completed training from “**Renata Limited**” under Quality Assurance Department over the Quality Control instruments from 19 September 2016 to 24 September 2016.

**CERTIFICATION:**

* In Plant training certificate from “**Beximco Pharmaceuticals Ltd., Bangladesh**” 2015.
* Internship certificate from “**Renata Limited**” 2016.
* Registered Pharmacist certificate from Pharmacy Council of Bangladesh (Reg. No. A-13541)

**AWARDS:**

* Won the **2nd prize** on quality from kaizen committee, Square Pharmaceutical Limited, Bangladesh for quality improvement of existing Moxifloxacin IV Infusion, 250 mL for Thailand and Malaysia market.
* Won the **Appreciation Letter** from kaizen committee, Square Pharmaceutical Limited, Bangladesh for the reducing materials cost and improving the dossier submission process for international markets as development an alternative source for the API of Sodium chloride for 13 existing products.
* **National Science and Technology (NST) Scholarship** by Bangladesh Government for M. Pharm Thesis.
* Won the **2nd prize** in poster presentation (Experimental Studies) in “ISE SFEC National Conference 2017.”
* Won the **3rd Prize** in Poster Competition organized by Faculty of Pharmacy, University of Dhaka on World Pharmacist Day-2016