

Nazifa Tasnim Ahmad

Dhaka, Bangladesh

ahmadnazifatasnim@gmail.com

[LinkedIn](#) | (+880)1768611080

Education

Bachelor of Science in Biomedical Engineering

Bangladesh University of Engineering and Technology (BUET), Dhaka

CGPA: 3.41/4.00

Research Interest

- Biomaterials
- Drug Loading and Delivery
- Bionanotechnology
- Tissue Engineering
- Regenerative Medicine

Standardized Tests

GRE: 331

Quant: 168 (90th percentile)

Verbal: 163 (92nd percentile)

AWA: 4.0 (54th percentile)

TOEFL: 115

Reading: 30 Listening: 30

Speaking: 28 Writing: 27

Research Experience

Undergraduate Thesis

Amino Functional Group Based Prophylactic Antibiotic Loaded Hydrogel for Surgical Site Infection in Spine Surgery

Supervisor: Dr. Jahid Ferdous, Assistant Professor, Department of Biomedical Engineering, BUET

- Prepared injectable hydrogels from Chitosan and Polydextran Aldehyde with loaded antibiotics
- Performed characterization studies on the prepared hydrogels
- Analyzed and compared the release kinetics of different antibiotics from the hydrogels

Academic Projects

Developing a Web Application for digitalization of ICU Communication system | [Presentation](#)

- Collected data from critical care units to identify current problems in the system and identified the need of a complete communication system for ICUs
- Built a web application using JavaScript (Vue JS, Nuxt JS) and Firebase
- The web application featured integrated database, communication system and different, easy-to-use user interfaces for the patients' attendants and the medical service providers

Developing a Low Cost, User-Friendly Nebulizer | [Presentation](#) | [Report](#)

- Designed and 3D printed the aerosolizing chamber of a nebulizer
- Designed a timer unit for automated switch off of the device after desired amount of time using Arduino

Relevant Workshop and Training Attended

Training on Laboratory Animal for Designing Animal Experiments

Organized by ICDDR,B

- Learned how to handle lab animals and the hygiene, breeding, gavaging, and blood collection procedures from the models.
- Learned about the ethical considerations and AEC guidelines on handling the animal model.

Workshop on Research Methodology and Technical Writing

Organized by Applied Bioengineering Research Incubator (ABRI) & Department of Chemical Engineering, BUET

- Learned about devising efficient research methodology, writing abstract, conducting effective literature review, using citation management tools and consideration of research ethics

Technical Skills

Programming Languages

- C
- MATLAB
- Arduino
- HTML, CSS, JavaScript

Design and Simulation Software

- Solidworks
- Simulink
- COMSOL Multiphysics

Others

- Firebase
- Microsoft Office
- Adobe Creative Studio

Skills in Area of Interest

- | | | | | |
|---------------------------|-------------|----------------|----------------|-----------|
| • UV-Visible Spectrometer | • HPLC | • Incubator | • 3D Printer | • In vivo |
| • Antibacterial Study | • FTIR | • Freeze-Drier | • UV- Chamber | Animal |
| • Biocompatibility Study | • Autoclave | • Centrifuge | • Cell Culture | study |

Leadership and Extracurricular

President, BUET Film Society

Managed the club, organized and conducted multiple online and offline seminars and workshops

May 2019 –
November 2021

Assistant General Secretary, BUET Film Society

Aided in running the logistics of the club and worked as a crew in multiple short film productions

July 2018 –
May 2019

Publication Secretary (Design), Murchhona: BUET

Designed and published the annual magazine of this club along with my team. Responsibilities included collecting submissions and managing sponsorships and advertisements

May 2021 –
May 2022

Class Representative, Department of BME, BUET

Managed the routine and class schedules of my class and maintained liaison with the professors throughout this time

March 2017 –
May 2022

Achievements

- First Runner Up, Bangladesh National Biology Olympiad 2016
- Education Board Scholarship (2009-2011, 2017-2020)

References

Dr. Jahid Ferdous
Assistant Professor
Department of BME, BUET
Email:
ferdousj@bme.buet.ac.bd

Dr. Muhammad Tarik Arafat
Professor
Department of BME, BUET
Email:
tarikarafat@bme.buet.ac.bd

Dr. Taufiq Hasan
Associate Professor
Department of BME, BUET
Email: taufiq@bme.buet.ac.bd