

Farzana Hossain

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EDUCATION:

- Ph.D. in Chemistry (GPA: 3.20) Fall 2014- Present (Expected: August 2019)
University of Toledo, OH, USA
- M.S. in Organic Chemistry (GPA: 3.87) September 2010 - January 2012
University of Dhaka, Bangladesh
- B.S. in Chemistry (GPA: 3.82) May 2005 - July 2010
University of Dhaka, Bangladesh

WORK EXPERIENCE:

Graduate Assistant (Research Assistant/Teaching Assistant) August 2014- Present
The University of Toledo, Department of Chemistry and Biochemistry, OH, USA.

- Solution and solid-phase synthesis and purification of linear, cyclic peptides and glycopeptides.
- Synthesis of aminoxy Tn antigen (tumor antigen).
- Culture, isolation, purification and characterization of zwitterionic polysaccharide, PS A1 from anaerobic *Bacteroides fragilis*.
- Conjugation of aminoxy Tn antigen and glycopeptide antigens with PS A1 to access vaccines.
- Synthesis of different linkers to conjugate with PS A1 and tumor antigens.
- Structure characterization with the application of spectroscopic methods.
- Monitor the in-house laboratory waste management and safety.
- Prepare updates/ presentation for group meeting and discuss organic synthesis in journal club.
- Conduct teaching in chemistry at undergraduate levels (Organic Chemistry Lab; General Chemistry Lab; General Chemistry Recitation).

Lecturer January 2014 - July 2014
Fareast International University, Department of Chemistry, Bangladesh

- Lectured undergrad organic and general chemistry classes.

Adjunct Lecturer November 2013- January 2014
Northern University of Bangladesh, Bangladesh

- Discussed organic chemistry at undergraduate and graduate level.
- Graded assignments, presentations, examinations and developed learning aids, course materials, quizzes, and assisted in result organization.

- Trained students in chemicals testing and illustrated chemical reactions.

Quality Control Officer

April 2011- October 2013

Beximco Pharmaceuticals Ltd., Bangladesh

- Performed complete chemical and physical analysis of In-process and finished samples of OSD (oral solid dosage form) according to Standard operating procedure (SOP) and Standard Test Procedure (STP).

VOLUNTEER EXPERIENCE

Moderator, Midwest Graduate Research Symposium, The University of Toledo

Vice President, Bangladeshi Student Association (BSA), The University of Toledo

PhD COURSE WORK

- Advanced Organic Chemistry
- Advanced Analytical Chemistry
- Medicinal Chemistry
- Advanced Organic Synthesis
- Advanced Bio-Chemistry
- Advanced Immunology

PUBLICATION:

- “Synthesis of Malformin C and Analogs for Targeted Anti-Cancer Drug Delivery”, Hossain, F.; Nishat, S; Andreana, P. R. (Manuscript in preparation).
- “Synthesis of monosaccharide mimics of PS A1 repeating unit to evaluate regioselective conjugation and zwitterionic stability of Tn-PS A1”, Hossain, F., Nishat, S.; Ghosh, S.; Boga, S.; Andreana, P. R. (Manuscript in preparation).
- “Tn-PV-PS A1 Vaccine: A Novel Approach to Induce Tn Antigen”, Nishat, S.; Hossain, K; Hossain, F.; Wall, K., Andreana, P. (Manuscript in preparation).
- “Recent Achievements in Carbohydrate-based Therapeutics for Cancer Treatment”, Hossain, F.; Andreana, P. (Manuscript in preparation).
- “Synthesis of a Tn-MUC1-PS A1 Conjugate Vaccine and Evaluation of MHC I Dependent Immune Responses”, Hossain, F., Nishat, S.; Hossain, K; Wall, K., Andreana, P. R. (Manuscript in preparation)

Projects Works

- “Determination of Purity of Commercial Modern pesticide Chlorpyrifos: Durban and Pichlorex”.
- “Analysis of Organochlorine Pesticide (DDTs’) Residues and Fatty Acids Compositions in different parts of Ruhi Fish Sample”.

PRESENTATION:

- “Synthesis of Malformin C and Analogs for Targeted Anti-Cancer Drug Delivery”, Hossain, F.; Nishat, S; Andreana, P. R. 12th Midwest Carbohydrate and Glycobiology Symposium (Poster).
- “Synthesis of Malformin C and Analogs for Targeted Anti-Cancer Drug Delivery”, Hossain, F.; Nishat, S; Andreana, P. R., 2017 Midwest Graduate Research Symposium (Poster).
- “Synthesis of a Tn-PS A1 conjugate via hydrazone linkage and evaluation of the regioselectivity of conjugation and stability of the pyruvate acetal present in the core structure of PS A1”, Hossain, F., Nishat, S.; Ghosh, S.; Boga, S.; Andreana, P. R., Glass City Chemistry Conference-ACS, 2018 (Talk).

SKILLS

- Proficient with software program like Microsoft Word, Excel, PowerPoint, Chemdraw etc.
- Handle analytical tools like NMR, ESI-MS, HPLC, GC, UV, IR spectroscopy.

CERTIFICATE

2019 Advance leadership academy (ALA),

The University of Toledo, College of Business and Innovation

- Participated in training sessions on building up of leadership skill.