

**Curriculum Vitae
of
Mohammad Didare Alam Muhsin, PhD**

Professor

Department of Pharmacy
Jahangirnagar University
Savar, Dhaka-1342, Bangladesh
Email: muhsin_ju@juniv.edu, muhsin_ju@yahoo.com
Cell# +8801866489828



PERSONAL INTRODUCTION

I am a research-focused academic in the field of pharmacy with current focus on polymer-based controlled drug delivery micro-/ nanoparticulate formulation of APIs (Active Pharmaceutical Ingredients). I had long experience of teaching and research at university level that started as a Lecturer of the Department of Pharmacy, University of Science & Technology Chittagong (USTC) in March 1996. Later, I joined as an Assistant Professor in the Department of Pharmacy, Jahangirnagar University (JU) in 2002 and was promoted to the posts of Associate Professor and Professor in 2008 and 2015, respectively. I had been in charge of the Chairman, Department of Pharmacy from 16 June 2021 to 15 June 2024. Currently, I am serving as a Grade-2 Professor of the Department of Pharmacy, JU.

Meanwhile, I completed my PhD in Pharmacy from Queensland University of Technology (QUT), Brisbane, Australia in 2014. It was an interdisciplinary work entitled 'Preparation and *In Vitro* Evaluation of a Polymer Based Controlled Release Dry Powder Inhaler Formulation for Pulmonary Delivery' that covered 3 (three) different areas including synthesis of an L-leucine conjugate of the natural polymer chitosan, preparation of the controlled release drug-loaded nano-particulate Dry Powder Inhaler (DPI) formulation using both chitosan and the synthesized derivative and evaluation of their release and pulmonary deposition performance *in vitro*, and toxicological study of the polymer, its derivative and the prepared nanoparticulate formulations on cell lines. The work produced a number of conference and journal publications and was selected for 2013 International Pharmaceutical Excipients Council (IPEC) Foundation Graduate Student Scholarship Award offered in American Association of Pharmaceutical Scientists (AAPS) Annual Meeting and Exposition that was held in November 2013 in San Antonio, Texas, USA. Earlier, prior to my PhD research, I was involved as the investigator/ co-investigator/ guide in numerous research in the area of phytochemistry and antimicrobial activity of plant extracts that produced 10 articles published in refereed journals.

I had experiences of teaching various pharmacy courses including pharmaceuticals, pharmaceutical chemistry, pharmaceutical microbiology, physiology, biochemistry and pharmacology at Bachelor's and Master's levels in a number of public/ private universities in Bangladesh. I also conducted pharmaceuticals practicals as a sessional staff at undergraduate

level in QUT during my PhD period. I also helped some PhD students at QUT in their research aimed at designing chitosan-based DPI formulations for pulmonary delivery of drugs.

Currently, I am concentrating on building up in my department a Drug Delivery Research Lab focusing principally on the quality assessment of marketed drug products and development of drug loaded micro-and nano-particle formulation for controlled release. The latter is a new area to be developed here and involves state-of-the art pharmaceutical technology but, provided continued effort and availability of necessary administrative and financial support is assured, it holds a great prospect for my department as well as the country as a whole.

ACADEMIC QUALIFICATIONS

2014	PHD IN PHARMACY Majoring in Pharmaceutics Queensland University of Technology (QUT) International Postgraduate Research Scholar (IPRS) 2013 International Pharmaceutical Excipients Council (IPEC) Foundation Graduate Student Scholarship Award Winner (in 2013 AAPS - American Association of Pharmaceutical Scientists Annual Meeting and Exposition)
1992	MASTER OF PHARMACY (Thesis Group) Jahangirnagar University First Class
1991	BACHELOR OF PHARMACY (HONOURS) Jahangirnagar University First Class

EMPLOYMENT HISTORY

ACADEMIC & ADMINISTRATIVE POSITIONS HELD	DURATION
Professor (Grade-2) Department of Pharmacy, JU	23 May 2019 to date
Chairman Department of Pharmacy, JU	16 June 2021 - 15 June 2024
Student Advisor, Seminar Library In-Charge & Sports Teacher Department of Pharmacy, JU	01 August 2019 - 31 July 2020
Professor (Grade-3) Department of Pharmacy, JU	23 May 2015 - 22 May 2019
Sessional Staff Pharmacy Discipline, Queensland University of Technology (QUT), Australia	July 2010 - December 2011
Associate Professor Department of Pharmacy, JU	31 January 2008 - 23 May 2015
Assistant Professor Department of Pharmacy, JU	21 August 2002 - 30 January 2008
House Tutor Al-Beruni Hall, JU	September 2002 - June 2009
Course Instructor (Part-time) Stamford University Bangladesh (SUB) and Prime Asia University (PAU)	August 2002 - June 2009

Assistant Professor Department of Pharmacy, USTC	01 March 2002 - 20 August 2002
Lecturer Department of Pharmacy, USTC	03 March 1996 - 28 February 2002

RESEARCH & PUBLICATIONS

Research Experience

- i) **PhD Research:** Performed an interdisciplinary work entitled 'Preparation and *In Vitro* Evaluation of a Polymer Based Controlled Release Dry Powder Inhaler Formulation for Pulmonary Delivery' that covered 3 (three) different areas including synthesis of L-leucine conjugate of the natural polymer chitosan, preparation of the controlled release drug-loaded nano-particulate Dry Powder Inhaler (DPI) formulation using both chitosan and the synthesized derivative and evaluation of their release and pulmonary deposition performance *in vitro*, and toxicological study of the polymer, its derivative and the prepared nanoparticulate formulations on cell lines. The work produced a number of conference and journal publications and was selected for 2013 International Pharmaceutical Excipients Council (IPEC) Foundation Graduate Student Scholarship Award in American Association of Pharmaceutical Scientists (AAPS) Annual Meeting and Exposition held in November 2013 in San Antonio, Texas, USA.
- ii) Supervised quite a few projects and theses of Bachelor's and Master's students, respectively, during my long service as a teacher in different positions in the Department of Pharmacy, JU and earlier in the Department of Pharmacy, USTC.
- iii) Worked as the investigator/ co-investigator in numerous research in the area of phytochemistry and antimicrobial activity of plant extracts.
- iv) Undertook a thesis carrying a total of 150 marks entitled 'Phytochemical Studies on Some Local Plants Traditionally Used in Diabetes' as part of the courses & curricula of M. Pharm. (Thesis Group).
- v) Undertook a research project carrying a total of 50 marks entitled 'Adsorption Properties of Diclofenac Sodium on Activated Charcoal' as part of the courses & curricula of B. Pharm. (Honours) Part-III.

Research Expertise

- Polymeric synthesis based on the carbohydrate polymer, chitosan
- Preparation of nanoparticle formulation based on chitosan and its L-leucine conjugate for pulmonary drug delivery
- *In vitro* toxicological assessment of chitosan, its L-leucine conjugate and their nanoparticles on pulmonary epithelial cell lines
- Phytochemical and antimicrobial screening of plant extracts.

Popular Writings

Published in recent years more than 80 articles in leading National Dailies (both Bengali and English) on various health concerns (including COVID-19) and current affairs.

Publications

PhD Thesis

Preparation and *In Vitro* Evaluation of a Polymer Based Controlled Release Dry Powder Inhaler Formulation for Pulmonary Delivery

Refereed Published Manuscripts

- 1) **Muhsin, M.**, George, G., Beagley, K., Ferro, V., Wang, H. and Islam, N., **2016**, Effects of chemical conjugation of L-leucine to chitosan on dispersibility and controlled release of drug from a nanoparticulate dry powder inhaler formulation. *Molecular Pharmaceutics*, 13(5): 1455–1466
- 2) Haque, T., **Muhsin, M. D. A.**, Akhter, T., Haq, M. E., Begum, R., & Chowdhury, S. F. U. A., **2016**, Antimicrobial and analgesic activity of leaf extracts of *Phyllanthus reticulatus* Poir. (Family- Euphorbiaceae). *Jahangirnagar University Journal of Biological Sciences*, 5(1), 81–85
- 3) Islam, M.S., **Muhsin, M.D.A.** and Chowdhury, A.Y.S.F.U.A., **2015**, Quality gradient of salbutamol sulphate preparations available in Bangladesh markets. *Jahangirnagar University Journal of Biological Sciences*, 4:1, 85-89
- 4) **Muhsin, M.D.A.**, George, G., Beagley, K., Ferro, V., Armitage, C. and Islam, N., **2014**, Synthesis and toxicological evaluation of a chitosan-L-leucine conjugate for pulmonary drug delivery applications, *Biomacromolecules*, 15: 3596–3607
- 5) Akter, M., Khan, M.A.I., **Muhsin, M.D.A.**, Hamid, K., Ullah, M.O., Bulbul, I.J., Firoz, A., Uddin, M.B. and Urmi, K.F., **2012**, *In vitro* studies on antibacterial, antifungal, and cytotoxic properties of *Leucas aspera*, *Biology and Medicine*, 4 (4): 183–187
- 6) Mazumder, M.E.H., Alam, B., Alam, A., Jamila, M., **Muhsin, M.D.A.**, **2009**, Investigations of secondary metabolites, antioxidant and cytotoxic activities of the leaf extract of *Portulaca oleracea* L., *Bangladesh Journal of Life Sciences*, 21(1): 17-22
- 7) Mazumder, M.E.H., Alam, B., Alam, M. A., Jamila, M. and **Muhsin, M.D.A.**, **2009**, Investigations of secondary metabolites, antioxidant and cytotoxic activities of the leaf extract of *Portulaca oleracea* L., *Bangladesh Journal of Life Sciences*, 21(1): 17-22
- 8) Mazumder, M.E.H., Alam, B., Alam, M.A., Jamila, M., Ullah, M.O., **Muhsin, M.D.A.**, **2008**, DPPH free radical scavenging and brine shrimp lethality bioassay of *Enhydra fluctuans* leaf extract, *Southeast University Journal of Science & Engineering*, 1(1): 26-31
- 9) Siraj, S, Mazumder, M.E.H., **Muhsin, M.D.A.** & Chowdhury, A.Y.S.F.U.A., **2007**, Phytopharmacological investigation of the petroleum ether extract of *Uraria lagopodiodes* DC. stems for anti-inflammatory principles, *Bangladesh Journal of Life Sciences*, 19(1): 1-6
- 10) **Muhsin, M.D.A.**, Mazumder, M.E.H., Chowdhury, J.A. and Chowdhury, A.A., **2005**, *In vitro* Antibacterial Activity of the ethanol extract of *Nigella sativa* L. Seeds, *Bangladesh Journal of Life Sciences*, 17(1): 135-138. [Short Communication]
- 11) Jamila, M., Mazumder, M.E.H., **Muhsin, M.D.A.** and Ghani, A., **2004**, Antimicrobial and cytotoxic activities of the extracts of *Tabernaemontana divaricata* L., *Bangladesh Journal of Life Sciences*, 16(2): 31-36
- 12) Saha, R.K., Chowdhury, A.Y.S.F.U.A, **Muhsin, M.D.A.** and Mazumder M.E.H., **2003**, Antiinflammatory Property of the Leaf Extracts of *Adenanthera pavonina* Linn, *Dhaka University Journal of Pharmaceutical Sciences*, 2(2): 77-80.
- 13) Chowdhury, G.H.M.R.N., Chowdhury, J.A., Chowdhury, A.A., Mazumder, M.E.H. and **Muhsin, M.D.A.**, **2003**, Antibacterial activity of the ethanol extract of *Adhatoda vasica* Nees. Leaf, *Bangladesh Journal of Life Sciences*, 15(2): 143-146. [Short Communication]
- 14) Rahman, M.S., **Muhsin, M.D.A.** & Anwar, M.N., **2001**, Antimicrobial activity of crude alkaloids of *Holarrhena antidysenterica* Wall. root bark, *Bangladesh Journal of Life Sciences*, 13(1&2): 193-196.
- 15) Marzban, M, Haider, S.S. & **Muhsin, M.D.A.**, **1998**, Labeling pattern of ophthalmic products available in Bangladesh. *Bangladesh Journal of Life Sciences*, 10(1&2): 19-24.

Refereed Conference Abstracts

- 1) **Muhsin, M.**, George, G., Beagley, K., Ferro, V. and Islam, N., **2013**, Effect of chemical conjugation of L-leucine to chitosan on the dispersibility and drug release of a dry powder inhaler nanoparticle formulation. A poster abstract accepted for presentation at **American Association of Pharmaceutical Scientists (AAPS) Annual Meeting and Exposition 2013** held November 10-14, 2013 in San Antonio, Texas.

- 2) **Muhsin, M.**, George, G., Beagley, K., Ferro, V. and Islam, N., **2012**, *In vitro* biocompatibility study of chitosan, its L-leucine conjugate and their nanoparticles for pulmonary delivery using the human bronchial epithelial cell line, BEAS-2B. A poster presentation in **IHBI Inspires Postgraduate Conference 2012** held November 22-23, 2012 at Gold Coast, Australia.
- 3) **Muhsin, M.**, George, G., Beagley, K., Ferro, V. and Islam, N., **2010**, Preparation of a leucine-conjugated chitosan for use in dry powder inhaler (DPI) formulations. An oral presentation in **Australian Pharmaceutical Science Association (APSA) Annual Conference 2010** held December 6-9, 2010 at Brisbane, Australia.

Research Grants and Awards

- 2013** *International Pharmaceutical Excipients Council (IPEC) Foundation Graduate Student Scholarship Award* offered by IPEC Foundation at *American Association of Pharmaceutical Scientists (AAPS) Annual Meeting and Exposition 2013* held November 10-14, 2013 in San Antonio, Texas, USA
- 2009-2013** *International Postgraduate Research Scholarship (IPRS)*, offered by Department of Education, Employment & Workplace Relations (DEEWR), Australia and *Queensland University of Technology Postgraduate Research Award (QUT PRA)* offered by QUT.
- 2005-2008** Research grant for the project entitled 'Bioassay guided screening of Bangladeshi medicinal plants for antibacterial, antifungal and cytotoxic properties' funded by the Faculty of Biological Sciences, Jahangirnagar University, Bangladesh
- 2003-2004** Research grant for the project entitled 'Bioactivity guided evaluation of anti-inflammatory properties of some Bangladeshi medicinal plants' funded by the Ministry of Science, Information & Communication Technology, Dhaka, Bangladesh
- 1988-1992** *Jahangirnagar University Undergraduate and Postgraduate Scholarship* for excellent academic results in BPharm (Honours) and MPharm (by research)

PERSONAL INFORMATION

Name	: Mohammad Didare Alam Muhsin
Father's Name	: Late Mohammad Zahurul Alam
Mother's Name	: Late Musammat Nur Jahan Begum
Sex	: Male
Date of birth	: 10 January 1971
Religion	: Islam
Nationality	: Bangladeshi (By birth)
Marital Status	: Married
Blood Group	: B +ve
Present address	: House #33/1 (2 nd Floor), Road #06, Adabor, Dhaka-1207
Permanent address	: Vill. - Fashia Khali, P.O. - Barabakia, Upazilla – Pekua, Dist. – Cox's Bazar
Office/ Contact Address:	Professor, Department of Pharmacy, Jahangirnagar University, Savar, Dhaka-1342

REFERENCES

1) Prof. Choudhury Mahmood Hasan, PhD

Director (Technical & Finance), Ibn Sina Pharmaceuticals Ltd.
 Professor (Rtd.), Department of Pharmaceutical Chemistry, DU
 Professor Emeritus, Department of Pharmacy, MIU
 Ex- Vice Chancellor, MIU
 Ex-Chairman, BCSIR
 Ex-Director, DGDA
 Ex-Dean, Faculty of Pharmacy, DU
 Mobile: 01819253698
 Email: cmhasan@gmail.com

2) Prof Md. Mahfuzur Rahman, PhD

Pro-Vice Chancellor (Academic), JU

Professor & Ex-Chairman, Department of Botany, JU.

Phone: 880-02-7791035 (Office)

Mobile: +8801879625889, +8801818339614

Email: mmrahman1518@juniv.edu, mmrahman1518@gmail.com

Dated: 10 October 2024



Dr Mohammad Didare Alam Muhsin

Professor of Pharmacy

Jahangirnagar University

Savar, Dhaka - 1342