

Dr. MOHAMMAD HOSSAIN SHARIARE

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PROFILE

Mohammad Shariare is working as an Associate Professor in the Department of Pharmaceutical Sciences, NSU. Mohammad Shariare did his PhD in Pharmaceutical Sciences from University of Bradford, UK under supervision of Professor Peter York. The title of his PhD dissertation was "The rational design of drug crystals to facilitate particle size reduction".

KEY SKILLS

- Experienced formulator with particular interest in poorly soluble, targeted drug delivery (**Nanotechnology**) and respiratory drug product development (**DPIs, MDIs**)
- Molecular level understanding in fundamentals of **material science** - particularly morphology, structure and mechanical properties of drug crystals
- Skilled in interpreting the mechanical processing behaviour and solid surface chemistry of powders using **computational molecular modeling methodology** (eg. Materials Studio 4.1)
- Pragmatic problem solving experience gained in industry, combined with a strong understanding of formulation science through PhD studies
- Proven ability to lead and mentor scientific projects

CAREER SUMMARY

Associate Professor Department of Pharmaceutical Sciences North South University	March, 2017 - Present
Assistant Professor Department of Pharmaceutical Sciences North South University	Jan, 2013 – Feb, 2017
Teaching (Lab) Assistance University of Bradford, UK	2009 – 2011
NOVO Healthcare and Pharma Ltd., Dhaka, Bangladesh Senior Development & Production Pharmacist	July 2005 – Aug 2007
<ul style="list-style-type: none">▪ Development and production of several drugs in pellet dosage forms using biodegradable polymers and matrix systems which have improved my knowledge on formulation.	

ACADEMIC CREDENTIALS

- **PhD in Pharmaceutical Sciences - University of Bradford, UK (2011)**
- **Bachelor of pharmacy - First Class, Jahangirnagar University, Bangladesh (2005)**

- **H.S.C. – First class, Dhaka Residential Model College, Bangladesh, (1998)**
- **S.S.C. – First class, Dhaka Residential Model College, Bangladesh, (1996)**

Research Articles Published and Presented

Research paper:

- Md. Anowar KhasruParvez, Karabi Saha, JuairiaRahman, Rahath Ara Munmun, Md. Atikur Rahman, Shuvra KantiDey, Md. ShahedurRahman, Sohedul Islam, Mohammad Hossain Shariare. (2019). Antibacterial activities of green tea crude extracts and synergistic effects of epigallocatechingallate (EGCG) with gentamicin against MDR pathogens. **Heliyon, 5 (7)**.
- M. H. Shariare, M. A. Altamimi, A. L. Marzan, R. Tabassum, B. Jahan, H.M.Reza, M. Rahman, G. U. Ahsan, M. Kazi. (2019). In vitro dissolution and bioavailability study of furosemide nanosuspension prepared using design of experiment (DoE). **Saudi Pharmaceutical Journal, 27: 96-105**.
- N. Akter, L. Chowdhury, J. Uddin, A. A. Ullah, M. H. Shariare and Md S. Azam. (2018). N-halamine functionalization of polydopamine coated Fe₃O₄ nanoparticles for recyclable and magnetically separable antimicrobial materials. **Mater. Res. Express, 5 (11)**
- A.L. Marzan, R. Tabassum, B. Jahan, M.H. Asif, M. Kazi, M. De Matas, M.H. Shariare*. (2018). Preparation and characterization of stable nanosuspensions for dissolution rate enhancement of Furosemide: A QbD Approach. **Current Drug Delivery, vol. 15**.
- M.H. Shariare*, S. Sharmin, I. Jahan, H.M. Reza. (2018). The impact of process parameters on carrier free paracetamol nanosuspension prepared using different stabilizers by antisolvent precipitation method. **Journal of Drug delivery Science and Technology, 43: 122- 128**.
- M. Kazi, Mohammad H. Shariare, Mshaan al-bgomi, muhammad delwar hussain and fars k alanzi. (2017) Simultaneous determination of curcumin (cur) and thymoquinone (thq) in lipid based self-nanoemulsifying systems and its application to the commercial product using UHPLc-uv-vis spectrophotometer. **Current pharmaceutical analysis, 13**.
- Zerine T.Rushmi, Nasrin Akter, Rabeya J.Mow, Merina Afroz, Mohsin Kazi, Marcel de Matas, Mahbubur Rahman, Mohammad H.Shariare. (2017). The impact of formulation attributes and process parameters on black seed oil loaded liposomes and their performance in animal models of analgesia. **Saudi Pharmaceutical Journal, 25: 404 -412**.
- Shariare, M.H., Blagden, N., De Matas, M., Leusen, F.J.J. & York, P. (2012). Influence of solvent on the morphology and subsequent comminution of ibuprofen crystals by air jet milling. **Journal of Pharmaceutical Science. 101 (3): 1108-1119**. <http://www.ncbi.nlm.nih.gov/pubmed/22161641>.
- Shariare, M.H., De Matas, M., Shao, Q. & York, P. (2011). The impact of material attributes and process parameters on micronisation of lactose monohydrate. **International Journal of Pharmaceutics. 408: 58-66**. <http://www.ncbi.nlm.nih.gov/pubmed/21295125>.
- Shariare, M.H., De Matas, M. & York, P. (2012) Effect of crystallisation conditions and feedstock morphology on the aerosolization performance of micronised salbutamol sulphate. **International Journal of Pharmaceutics. 415: 62-72**. <http://www.ncbi.nlm.nih.gov/pubmed/21683128>.
- Shariare, M.H., De Matas, M., Leusen, F.J.J., York, P. & Anwar, J. (2011). Prediction of the mechanical behaviour of crystalline solids. **Pharmaceutical Research; 29(1):319-31**, <http://www.ncbi.nlm.nih.gov/pubmed/21845506>.
- Shariare, M.H., De Matas, M. & York, P. (2010). Influence of crystallisation conditions on the morphology of Ibuprofen crystals. **Journal of Pharmacy and Pharmacology, 62 (10), 1337**.

Oral Presentation:

- "A rapid method for predicting the mechanical behaviour of active pharmaceutical ingredients", Presented at ***CMP seminar, University of Bradford, UK, March, 2011.***
- "Towards a rapid method for predicting the mechanical behaviour of active pharmaceutical ingredients", Presented at '***APS Materials by design***', **University of Nottingham, UK**, June 22-23, 2011.
- "Milling to achieve the appropriate particle properties for inhalation, how can we rank or predict?" Presented at '***APS Inhalation***' **University of Bath, UK**, July 4-6, 2011.

"Best poster presentation award from the selected abstract"

- "Phospholipid Based Nano Drug Delivery systems of Phytoconstituents". Presented at International Seminar on '***Intervention of Nanotechnology in Targeted Drug delivery System***' Sinhgad College of Pharmacy, Savitribai Phule Pune University, Pune, India. Jan 13-14, 2020.

Poster presentation:

- **Comparative Study of Lipid-Based Nano Drug Delivery System Using MSP1D1 Protein and Poloxamer 407.** Presented at Pharma Fiesta, 2020, University of Asia Pacific, Dhaka.
- **Lipid Based Nano Drug delivery System of Curcumin Using MSP1D1 Protein and Poloxamer 407.** Presented at International Seminar on '***Intervention of Nanotechnology in Targeted Drug delivery System***' Sinhgad College of Pharmacy, Savitribai Phule Pune University, Pune, India. Jan., 2020.
- **A Comparative Study of Lipid-Based Nano Drug Delivery System Using MSP1D1 Protein and Poloxamer 407.** Accepted for presentation at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2019.**
- **Liposomal drug delivery of *Blumea lacera* leaf extract using phospholipid from different Egg Sources.** Presented at Pharma Fiesta, 2018, University of Asia Pacific, Dhaka.
- **Preparation and development of Liposomal drug delivery of *Blumea lacera* leaf extract using phospholipid from different egg sources.** Accepted for presentation at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2018.**

- **The Impact of Different Stabilizers in the Preparation and Development of Nanosuspension for Different Drugs.** Accepted for presentation at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2018.**
- **Liposomal Drug Delivery System of *Corchorus olitorius* Leaf Extract.** Presented at International Conference on Genomics, Nanotech and Bioengineering, 2017, North South University, Dhaka.
- **Liposomal Drug Delivery System of *Corchorus olitorius* Leaf Extract Containing Oleic Acid And Phytol.** Presented at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, USA. **2017.**
- **Formulation and Optimization of Epigallocatechin Gallate (EGCG) Nano Drug Delivery System Using QbD Approach.** Presented at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2016.**
- **Preparation and Characterization of Graphene Oxide Nanoparticle Based Suspension for Optimized Drug Delivery.** Presented at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2016.**
- **Formulation and Optimization of Furosemide Nanosuspension by Anti-solvent Precipitation.** Presented at American Association of Pharmaceutical scientists (AAPS) Annual Meeting and Exposition, **USA. 2016.**
- **"Oral Delivery of Insulin using Nano-emulsion Approach'** Presented at American Association of Pharmaceutical scientists (AAPS) annual Meeting and Exposition, **USA, 2015.**
- **'Preparation and characterization of Gliclazide Nanosuspension'** Presented at American Association of Pharmaceutical scientists (AAPS) annual Meeting and Exposition, **USA, 2015.**
- 'Preparation and characterization of Black Seed Oil loaded liposomes' Presented at **American Association of Pharmaceutical scientists (AAPS) annual Meeting and Exposition, 2014.**
- 'PREPARATION AND CHARACTERIZATION OF CARRIER FREE PARACETAMOL NANOSUSPENSION' Accepted for presentation at **American Association of Pharmaceutical scientists (AAPS) annual Meeting and Exposition, 2014.**
- "Influence of solvent properties on the morphology of Ibuprofen crystals and its impact on particle size reduction". Presented at *FIP Pharmaceutical Sciences world congress in association with American Association of Pharmaceutical scientists (AAPS), 2010.*
- Effect of crystallisation conditions and feedstock morphology on the aerosolization performance of micronized salbutamol sulphate delivered by DPI. **Drug delivery to Lung (DDL) Conference, Edinburgh, UK, 2010.**

- The impact of morphology and process parameters on micronisation of salbutamol sulphate. **EUPAT 4, Finland, 2010.**
- Influence of crystallisation conditions on the morphology of Ibuprofen crystals. Presented at **UKPharmSci conference, Nottingham, UK, 2010.**
- "Particle process optimisation for enhanced respiratory drug delivery". Presented at **American Association of Pharmaceutical scientists (AAPS) conference, 2009.**
- Particle optimisation for enhanced respiratory drug delivery. Presented at: **BPC conference, UK, 2009.**

Ongoing Research

- A Comparative Study of Lipid-Based Nano Drug Delivery System Using MSP1D1 Protein and Poloxamer 407
- Development and optimization of phospholipid based nano drug delivery system for anticancer drugs
- Development and optimization of phospholipid based nano drug delivery system for neurodegenerative disease
- Development and optimization of phospholipid based nano drug delivery system for antibiotic resistance.

Award and Grant

Award:

- Samson H Chowdhury Memorial Young scientist Award", 2019 on Bangladesh Pharmaceutical industry and current issues of Pharmaceutical Sciences
- Best poster presentation award from the selected abstract, Presented at '*APS Inhalation*' University of Bath, UK, July 4-6, 2011
- First runner-up award on Poster Presentation, University of Asia Pacific, 2020
- Champion award on Poster presentation, University of Asia Pacific, 2018
- Champion award on Poster presentation, North south University, 2018
- First Prize on Poster presentation, ICGNB, North South University, 2017
- Champion award on Poster presentation, North South University, 2016

Grant:

- NSU Research Grant for Fiscal year 2016-17
- NSU Research Grant for Fiscal year 2018-19
- NSU Research Grant for Fiscal year 2019-20
- R & D project Ministry of Science and Technology, Bangladesh, 2018-19
- Education Ministry Project (BANBEIS), Bangladesh, 2019

TRAINING PROGRAMMES

- **The UK Professional standards frameworks for teaching and learning** in higher education (Standard descriptor 1)
- Short course on **stability testing** of pharmaceuticals (**Royal Pharmaceutical Society of GB, 2011**)
- Workshop on Inhalation and nasal drug delivery (**Academy of Pharmaceutical Science GB, 2011**)
- Workshop on Quality by design (**QBD**) and process analytical technology (**PAT**)
- Course on control of substances hazardous to health (**COSHH**) assessment