

CURRICULUM VITAE

Mahmud Hasan, PhD

Postdoctoral Fellow, Johns Hopkins University

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Professional Experience

- 2021-Present** Postdoctoral Fellow, Johns Hopkins School of Medicine
- 2022** Affiliated Instructor, Biology Department, Loyola University
- 2015-2020** Teaching Assistant, Duquesne University
- Mentored independent study students (1-5 students per semester)
 - Developed experimental protocols for the students
 - Conducted pharmacy (ABLE) labs (36 students per lab)
 - Developed instruction materials
- 2013-2015** Product Executive, Eskayef Pharmaceuticals Ltd., Dhaka, Bangladesh
- Managed anti-diabetic and neurology portfolios
 - Monitored sales and developed marketing strategy

Education

- 2015-2020** **PhD**, Pharmacology and Toxicology
Duquesne University, Pittsburgh, PA, USA
Dissertation: Pharmacological, mechanistic, and pharmacokinetic assessment of novel melatonin-tamoxifen drug conjugates as breast cancer drugs
Chair: Paula Witt-Enderby
Committee Members: Robert Stratford, David Johnson, Jane Cavanaugh, and Lauren O'Donnell
- 2013-2015** **Master's in Pharmacy**, Clinical Pharmacy and Pharmacology
University of Dhaka, Dhaka, Bangladesh
Thesis: Assessment of the antioxidant, thrombolytic, analgesic, anti-inflammatory, antidepressant, and anxiolytic activities of leaf extracts and fractions of *Tetracera sarmentosa* (L.) Vahl.
Advisor: Nazmul Qais
- 2013-2014** **Diploma in Computer Science and Application**
Bangladesh Open University, Dhaka, Bangladesh
- 2009-2012** **Bachelor's in Pharmacy**
University of Dhaka, Dhaka, Bangladesh

Publications

Original Research

10. International Journal of Radiation Oncology Biology Physics (submitted): Hasan M, Bastiannet R, Chhabra A, Liatsou I, Mishra A, Gupta K, Nimmagadda S, and Sgouros G. Cytotoxicity evaluation of ^{225}Ac targeted α -radiopharmaceutical therapy through its role in regulating necrosis/apoptosis and p53 expression in comparative 2D and 3D HER2-positive breast cancer models

9. European Journal of Nuclear Medicine and Molecular Imaging (2023): Liatsou I, Fu Y, Li Z, Hasan M, Guo X, Yu J, Piccolo J, Cartee A, Wang H, Du Y, Bryan J, Gabrielson K, Kraitchman DL, and Sgouros G. Therapeutic efficacy of an alpha-particle emitter labeled anti-GD2 humanized antibody against osteosarcoma—a proof of concept study

8. Frontiers in Public Health (2021): Amin MT, Hasan M, Bhuiya NMMA. Prevalence of Covid-19 Associated Symptoms, Their Onset and Duration, and Variations Among Different Groups of Patients in Bangladesh

7. Breast Cancer: Basic and Clinical Research (2020): Hasan M, Browne E, Guarinoni L, Darveau T, Hilton K, and Witt-Enderby P. Novel Melatonin, Estrogen, and Progesterone Hormone Therapy Demonstrates Anti-Cancer Actions in MCF-7 and MDA-MB-231 Breast Cancer Cells

6. Molecular Pharmacology (2019): Hasan M, Marzouk M, Adhikari S, Wright T, Miller B, Holzgrabe U, Zlotos D, Stratford R, and Witt-Enderby P. Pharmacological, mechanistic and pharmacokinetic assessment of novel melatonin-tamoxifen drug conjugates as breast cancer drugs

5. Frontiers in Oncology (2019): Dodda B, Bondi C, Hasan M, Clafshenkel W, Gallagher K, Kotlarczyk M, Sethi S, Buszko E, Latimer J, Cline J, Witt-Enderby P, and Davis V. Co-administering melatonin with an estradiol-progesterone menopausal hormone therapy represses mammary cancer development in a mouse model of HER2-positive breast cancer

4. Pharmacology Research & Perspectives (2018): Hasan M, Leak R, Stratford R, Zlotos D, and Witt-Enderby P. Drug conjugates—An emerging approach to treat breast cancer

3. Journal of Basic and Clinical Physiology and Pharmacology (2018): Uddin M, Kabir M, Hasan M, Mahmud Z, Bhuiya N, Ahmed F, Hasan M, Hosen M, Alam M. Assessment of the antioxidant, thrombolytic, analgesic, anti-inflammatory, antidepressant and anxiolytic activities of leaf extracts and fractions of *Tetracera sarmentosa* (L.) Vahl.

2. Journal of Natural Products (2017): Hasan M, Genovese S, Fiorito S, Epifano F, and Witt-Enderby P. Oxypropylated phenylpropanoids bind to MT1 melatonin receptors and inhibit breast cancer cell proliferation and migration

1. Journal of Complementary and Integrative Medicine (2017): Bhuiya N, Hasan M, Mahmud ZA, Qais N, Kabir M, Ahmed F, and Uddin M. In vivo analgesic, antipyretic and anti-inflammatory potential of leaf extracts and fractions of *Eria javanica*

Book Chapter

- 1. The ADME Encyclopedia, Springer (2021): Hasan M, Stratford R.** Biopharmaceutical Drug Products: An Overview of Physicochemical Properties and Their Modification, The ADME Encyclopedia. A Comprehensive Guide on Biopharmacy and Pharmacokinetics

Fiction

- 1. Krantikaler golpo (2021):** Collection of short stories in Bangla, Pearl Publication, Dhaka, Bangladesh.

Abstracts

- 13. GRC, Maine (2022):** Assessing the role of X-ray radiation in combination with a DNA-PK inhibitor on cellular activity and adhesion using an in vitro HER2-positive breast cancer model
- 12. AACR Annual Meeting, New Orleans (2022):** Assessing the role of X-ray radiation in combination with a DNA-PK inhibitor on cellular activity and adhesion using an in vitro HER2-positive breast cancer model
- 11. DPhG-Jahrestagung, Germany (2021):** O-linked Melatonin-Tamoxifen Drug Conjugates as Potential Agents against Breast Cancer
- 10. FASEB Journal (2020):** Anti-cancer Effects of Melatonin, Estrogen, and Progesterone Hormone Therapy in MCF-7 and MDA-MB-231 Breast Cancer Cells
- 9. AACR Annual Meeting, Atlanta (2019):** Melatonin-tamoxifen drug conjugates: Mechanism against breast cancer cells, and pharmacokinetic assessment in female mice
- 8. Hillman Cancer Center Scientific Retreat, UPMC (2018):** Effects of different melatonin-tamoxifen hybrid ligands on breast cancer
- 7. AACR Annual Meeting, Chicago (2018):** (i) Effects of different melatonin-tamoxifen hybrid ligands on breast cancer. (ii) Dual inhibition of the PI3K/Akt/mTOR and Effects of different melatonin-tamoxifen hybrid ligands on breast cancer
- 6. GSR Symposium, Duquesne University (2018):** Assessing the efficacy of novel melatonin-tamoxifen hybrid ligands on breast cancer
- 5. UPCI Scientific Retreat, UPMC (2017):** Effects of different melatonin-tamoxifen hybrid ligands on breast cancer
- 4. AACR Annual Meeting (2017):** Dual inhibition of the PI3K/Akt/mTOR and MEK5/ERK5 pathways in tamoxifen-resistant breast cancer
- 3. German Pharmaceutical Society, Germany (2016):** Melatonin-tamoxifen hybrid ligand as potent agent against breast cancer
- 2. PSR Symposium, Duquesne University (2016):** Novel combination melatonin, estrogen, and progesterone hormone therapy on mammary gland differentiation and breast cancer

1. UPCI Scientific Retreat, UPMC (2016): Novel estrogen, progesterone, and melatonin hormone therapy actions on breast cancer

Reviewer

1. Editorial Review Board Member: Technology in Cancer Research & Treatment, Sage

2. Reviewer:

1. Frontiers in Oncology, Frontiers
2. Cancers, MDPI
3. International Journal of Molecular Sciences, MDPI
4. Diagnostics, MDPI
5. Healthcare, MDPI
6. Journal of Personalized Medicine, MDPI
7. Journal of Clinical Medicine, MDPI
8. Frontiers in Pharmacology, Frontiers
9. Clinical Pharmacokinetics, Springer
10. Journal of Advanced Research, Elsevier
11. EC Pharmacology and Toxicology, Ecronicon
12. Journal of Herbal Medicine, Elsevier

Membership

1. Associate Member, American Association for Cancer Research

Workshops Attended

1. Teaching Academy, Johns Hopkins University (May 2022): A four-day intensive workshop designed to address common themes and challenges in teaching and education at the post-secondary level

2. Center for Teaching Excellence University (2017-2019):

- Designing your course and syllabus
- Hitting Pause: 65 lecture breaks to refresh and reinforce learning
- “Pauses” as a SPARK to your lecture
- Crafting your first (and lasting) impression
- Approaches to peer writing workshops
- Student learning and mental health
- Fueling student persistence and learning

3. IMS Health, Malaysia (December 2014): Marketing Best Practices

Community Service

1. Volunteer, American Association of Pharmaceutical Scientists SciTech Day, Pittsburgh, PA
2. Poster Judge, Undergraduate Research Symposium, Duquesne University, Pittsburgh, PA

Awards

- 2022** Travel Award, Gordon Research Center,
2020 Mentoring Network Travel Award, ASPET, Bethesda, MD, USA
2017 Bangladesh-Sweden Trust Fund Travel Grant, Government of Bangladesh
2015 National Science and Technology Fellowship, Government of Bangladesh

Skills

α -emitter therapy
HPLC method development and validation
Pre-clinical pharmacokinetics
RNA-sequencing
Proteomics
RT-PCR
ELISA
C++, Python, R