

Md Marzan Sarkar

University of Georgia, USA

Former **Quality Control Officer** at Incepta Vaccine Ltd. Bangladesh

Former **Research Assistant** at Laboratory of Alternative Medicine and Behavioral Neurosciences

Email: marzan@uga.edu, Phone: 706-254-0498

Academic Background

PhD in Neuroscience

08/2021-Present

Institution: University of Georgia (UGA), USA

MSc in Biochemistry and Molecular Biology

04/2016-01/2018

Institution: Jahangirnagar University (JU), Dhaka, Bangladesh

Result: **3.70/4**

Thesis Title: Feeding of germinated rice powder ameliorates hypercholesterolemia in rat model

Scholarship:

- ❖ National Science and Technology Fellowship, 2017 [Based on master's thesis]
- ❖ University Merit Scholarship, 2018 [Based on academic records of post-graduate study]

BSc (Hons.) in Biochemistry and Molecular Biology

12/2011- 3/2016

Institution: Jahangirnagar University (JU), Dhaka, Bangladesh

Result: **3.68/4**

Scholarship:

- ❖ University Merit Scholarship, 2012-2015 [Based on academic records of graduate study]

Work Experiences

Quality Control Officer at Incepta Vaccine Limited

5/2018-06/2021

Duties:

- ❖ Biomolecular interaction analysis (by surface plasmon resonance method using Biacore T-200)
- ❖ Molecular size analysis (by gel filtration method using Akta Pure-25)
- ❖ Host cell DNA analysis by RT-PCR and Dot Blot Hybridization method
- ❖ Analysis of vaccines (e.g., Hepatitis B, Rabies, Meningitis, Influenza, typhoid, Cholera Vaccine etc.)
- ❖ Skilled in HPLC, TLC, ELISA, SDS-PAGE, Gel Electrophoresis, Western Blotting

Research Assistant at the Laboratory of Alternative Medicine and Behavioral Neurosciences, JU. 04/2016-04 /2018

Responsibilities:

- ❖ Designed research for submission to grant agencies
- ❖ Prepared manuscript for technical journals, project reports and research presentations

Graduate Research Assistant at the Laboratory of Alternative Medicine and Behavioral Neurosciences, JU. 09/2013-03/2016

Responsibilities:

- ❖ Prepared hepatotoxic, hypercholesterolemic, hypoxic, Alzheimer's and Parkinson's rat model
- ❖ Performed serum Biochemistry, LPO analysis of different parts of rat Brain, Liver, Kidney, Heart
- ❖ Histological tissue preparation and analysis, Immunohistochemistry
- ❖ Analyzed cognition related proteins by ELISA
- ❖ Expert User of Open field maze, Eight-arm radial maze, Water maze, Elevated plus and Rota rod.
- ❖ Experienced in Inbred animal's management, Surgery, Dissection, Drug-dose administration.

Publications

Research Article:

No. of Publications: 11 (Available at https://www.researchgate.net/profile/Marzan_Sarkar)

Selected original research papers (Peer review journal):

- 1) Hossain H, Ahmed R, Bhowmick S, **Sarkar M et al.** "Lablab purpureus (L) bean flour ameliorates plasma proteins and accretion of docosahexaenoic acid (DHA, 22:6, ω -3) in the plasma, liver, and brain of malnourished rats." *Legume Science*; 2020, [doi:10.1002/leg3.34](https://doi.org/10.1002/leg3.34). [Publisher- Wiley].
- 2) **Sarkar M et al.** "Cholesterol Lowering and Antioxidative Effect of Pregerminated Brown Rice in Hypercholesterolemic Rats" *Journal of Nutritional science and vitaminology*; 2019, [doi:10.3177/jnsv.65.S93](https://doi.org/10.3177/jnsv.65.S93). [Publisher- Center for Academic publications Japan, IF- 1.42].
- 3) Hossain S, Hussain J, Bhowmick S, **Sarkar M et al.** "Docosahexaenoic Acid (DHA, C22:6, ω -3) Composition of Milk and Mammary Gland Tissues of Lactating Mother Rats is Severely Affected by Lead (Pb) Exposure" *Biological Trace Element Research*; 2019, [doi:10.1007/s12011-019-01878-1](https://doi.org/10.1007/s12011-019-01878-1). [Publisher-Springer, IF- 3.73].
- 4) **Sarkar M et al.** "Evaluation of the Anti-oxidative, Erythrocyte Membrane Stabilizing Effect and Nutritional Status of Neolamarckia cadamba Fruit" *American Journal of Food and Nutrition*; 2019, [doi: 10.12691/ajfn-7-1-2](https://doi.org/10.12691/ajfn-7-1-2). [Publisher-Science & Education Publishing].
- 5) Shaon MAK, Islam N, Aziz S, Khatun N, Sarker SR, Hossain M, Hossen T, Morshed M and **Sarkar M et. Al.** "Fabrication of Xanthan gum: Gelatin (Xnt:Gel) Hybrid Composite Hydrogels for Evaluating Skin Wound Healing Efficacy" *Modern Applied Science*; 2019. [doi:10.5539/mas.v13n3p101](https://doi.org/10.5539/mas.v13n3p101). [Publisher-Canadian Center of Science and Education].
- 6) Hossain S, Bhowmick S; Jahan S, Rozario L, **Sarkar M et al.** "Maternal Lead exposure decreases the levels of brain development and cognition- related proteins with concomitant upsurges of oxidative stress, inflammatory response and apoptosis in the offspring rats." *NeuroToxicology*; 2016. [doi:10.1016/j.neuro.2016.07.013](https://doi.org/10.1016/j.neuro.2016.07.013). [Publisher-Elsevier, IF- 4.29].
- 7) Hossain S, Bhowmick S, **Sarkar M, et al.** "Rice germosprout extract protects erythrocytes from hemolysis, and the aorta, brain, heart and liver tissues from oxidative stress in vitro." *Evidence -*

Based Complementary and Alternative Medicine; 2016, doi:10.1155/2016/9587020. [Publisher-Hindawi, IF- 2.06].

- 8) Hossain S, Bhowmick S, Islam S, Rozario L, Jahan S, Hassan M, **Sarkar M**, et al. "Oral Administration of Ganoderma lucidum to Lead-Exposed Rats Protects Erythrocytes against Hemolysis: Implicates to Anti-Anemia." *Evidence-Based Complementary and Alternative Medicine*; 2015, doi:10.1155/2015/463703. [Publisher-Hindawi, IF- 2.06].

Conference Publications:

- 1) Hossain H, **Sarkar M** et al. "Anti-hypercholesterolemic and Anti-oxidative Effect of Germinated Rice in Rats". *The 3rd International Symposium on Rice Science in Global Health*, Kyoto Japan November 2018. ID; P1-B-1.
- 2) **Sarkar M** et al. "Acute Fear Stress Makes the Erythrocytes More Vulnerable to Oxidative Insults: a Study in Post-traumatic Stress Disorder Model (PTSD) Rats." *National Conference on Biochemistry and Molecular Biology for Life Sciences* at University of Dhaka, Bangladesh, December 2016.
- 3) Bhowmick S, **Sarkar M** et al. "Effects of Oral Administration of Curcuma Longa Extract on 6-Hydroxydopamine-Infused Parkinson's Disease (PD) Model Rats." *National Conference on Biochemistry and Molecular Biology for Life Sciences* at University of Dhaka, Bangladesh, December 2016.
- 4) Bhowmick S, Hassan M, **Sarkar M** et al. Antitumor activity of Curcuma longa extract. Conference: *International Conference on Biological Sciences: Food, Health and Environmental Perspectives*; At: Rajshahi University, August 2015.
- 5) Hassan M, Bhowmick S, **Sarkar M** et al. Anti-hypercholesterolemic effect of Auricularia polytricha (Ear mashroom). Conference: *International Conference on Biological Sciences: Food, Health and Environmental Perspectives*; At: Rajshahi University, August 2015.

Submitted Manuscripts:

- 1) Bhowmick S, Sarkar M et al. Curcuma longa extract ameliorates motor and cognitive deficits of 6-hydroxydopamine-infused Parkinson's disease model rats. *Journal of Traditional and Complementary Medicine*. [Publisher Elsevier].
- 2) Hossain S, Sarkar M et al. Acute cigarette smoke exposure induces oxidative damage and inflammation in wistar rat: impact on lung and erythrocytes. *African journal of biological sciences*. [Publisher- AASD].

Summarized Technical Skills

- ❖ **Molecular Biology:** PCR, RT-PCR, Primer design, DNA extraction and quantification
- ❖ **Proteomics:** SDS-PAGE, ELISA, Western blotting, Biomolecular interaction analysis (by Biacore T-200)
- ❖ **Biochemistry & Analytical Chemistry:** Absorbance (UV-Vis), fluorescence based end point and kinetic assay, Nano Drop Spectrophotometry, HPLC, Size exclusion & Anion-exchange chromatography, Immage-800 Immunochemistry system
- ❖ **Animal Physiology:** Inbred animal's management, Chemical/Surgery-induced model preparation, Histological analysis of tissue, Immunohistochemistry
- ❖ **Cell Biology:** Cell culture, Oxidative stress, Organelle health assay and Apoptosis assay.
- ❖ **Behavioral Study:** Used Open field maze, Eight-arm radial maze, Water maze, Elevated plus and Rota rod for behavioral study
- ❖ **Bioinformatics:** Hypothesis testing, Linear and nonlinear correlation analysis, Regression analysis
- ❖ **Software Skills:** Microsoft Word, Excel, PowerPoint, Adobe Photoshop, Graph Pad Prism, Citation Manager (EndNote)

Leadership and Voluntary Activities

- **Science and Research Secretary** of Biochemistry and Molecular Biology Alumni Association, JU. 5/2018-12/2020
- **President** of Jahangirnagar Biochemistry Journal Club, 11/2016-11/2017
- **Class Representative** of Batch-41 of Biochemistry and Molecular Biology Department, JU. 03/2015-01/2018
- **Senior Vice-President** of Rangpur District Student Welfare Association, JU. 1/2015-1/2016
- **Member**, Graduate Biochemist Association (GBA), Bangladesh

References

Shahdat Hossain, PhD

Professor
Department of Biochemistry of Molecular
Biology
Email: shahdat@juniv.edu
Phone: +8801817544672

Hussain Md. Shahjalal, PhD

Professor
Department of Biochemistry of Molecular
Biology
Email: shahjalal-bmb@juniv.edu
Phone: +8801712250112

Md. Ibrahim Khalil, PhD

Professor
Department of Biochemistry of Molecular
Biology
Email: drmikhalil@juniv.edu
Phone: +8801723919111