Md Nazmul Hassan

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Education

Military Institute of Science and Technology (MIST) Mirpur Cantonment, Dhaka
BSc, Nuclear Science and Engineering February, 2019 - April, 2023
Cumulative GPA: 3.43/4.00

Standardized Test Scores

GRE-(24th September 2023)			
Total	Quantitative	Verbal	Analytical
307	155	152	3.5

IELTS-(2nd & 4th November 2023)				
Overall	Listening	Reading	Writing	Speaking
7	8.5	7	6	6.5

Research Experience

- **Undergraduate Research work (Project)** July 2021 - January 2022
  - Project title: Development of a Radiation Detection and Assistant Robot.
    - Developed a remote radiation monitoring robot utilizing a GM counter, featuring real-time data telemetry, location tracking, and composite lead shielding for the control electronics and radiation source storage. This project was funded by the Department of Nuclear Science and Engineering at MIST, Dhaka.
  - Research Supervisor: Md. Sifatul Muktadir, Assistant Professor, Department of Nuclear Science and Engineering, MIST, Dhaka.

- **Undergraduate Research Work (Thesis)** January 2022 - March 2023
  - Thesis title: Synthesis and Characterization of Zinc and Yttrium doped Lithium Magnesium Borate ($LiMgBO_3$) for thermoluminescence dosimetry.
    - Synthesized Zinc and Yttrium-doped $LiMgBO_3$, assessed physical properties with XRD, FTIR, and TEM. After irradiating by a Co-60 (Gamma) source, the thermoluminescence (TL) response was studied using a TL reader, including glow curves, dose-response, and sensitivity.
  - Research Supervisor: Dr. Md. Al-Mamun, Principle Scientific Officer, Materials Science Division, Atomic Energy Center, Dhaka, Bangladesh Atomic Energy Commission.
  - Currently working as a research student at Dr. Mamun's lab, continuing the research.

Publications

- Muktadir, Md. Sifatul; **Hassan, Md. Nazmul**; Siddique, Md. Saimon; Nur, Dewan Nazmun; Hossain, Altab; and Chowdhury, Ahnaf Tahmid (2024) "Design and Development of a Radiation Survey and Rescue Robot with Shielding of Electronic Equipment from Radiation Damage with Image Radiation Mapping Facility," International Journal of Nuclear Security: Vol. 9: No. 2, Article 4.
- "Exploring the Effect of Zinc Doping on the Thermoluminescence Behavior of Lithium Magnesium Borate Exposed to Gamma Radiation": under review, Journal: Applied Radiation and Isotopes.
- "Optimized $LiZnBO_3$ Phosphor as a Promising Candidate for Low Dose Radiation Dosimetry": under review, Journal: Nuclear Engineering and Technology.

Skills and Interests

Engineering Software:	Autodesk Fusion 360, Origin, X'pert HighScore plus.
Programming:	C, Python, MATLAB, OpenMC.
Image processing software:	Adobe Lightroom, Adobe Photoshop, ImageJ.

Leadership/ Teamwork Experience

MIST Nuclear Engineering Club

President October 2022 – May 2023

- Led the coordination of a comprehensive nuclear and radiological case study competition involving diverse aspects of nuclear and radiological incidents.
- Led the planning and execution of the "Nuclear Marathon," an interactive event designed to foster teamwork and intellectual engagement among participants, involving fun activities like radiation source finding, nuclear quiz, and treasure hunt.

Additional Experience

- Attended the 4th International Conference on Energy and Power, published an abstract in the book of abstracts, and achieved 1st position in the poster presentation competition held in December 2022 at MIST, Dhaka.
- Completed the Medical Imaging and Radiography certification course focused on Quality Assurance, accompanied by an industrial visit to Ahsania Mission Cancer & General Hospital, Uttara, Dhaka, organized by the Department of Biomedical Engineering MIST, from October 25 to November 1, 2022.
- Attended and completed an industrial training program on Quality Assurance and Quality Control held on March 22, 2022, at SAJ Engineering & Trading Company.
- Attended and completed an industrial training program focused on Non-Destructive Testing (NDT) methods. Held at the NDT division, Atomic Energy Center, Dhaka, from March 13 to March 20, 2022.
- Attended and completed an industrial training program focused on the 3 MW TRIGA Mark 2 Research Reactor, conducted at the Atomic Energy Research Establishment (Center for Research Reactor), Dhaka, from February 27 to March 3, 2022.
- Participated in a workshop on 'Nuclear Power Plant, Safety and Social Awareness' organized by Bangladesh University of Engineering and Technology (BUET) Nuclear Engineering Club on September 4, 2019 at BUET.

Research Interest

- Radiation Damage in Materials.
- Nuclear Materials.
- Material Characterization.