

Mohammad Abu Jasem

MSc. Student | Physics Discipline | Khulna University, Khulna-9208, Bangladesh

jasem211712@gmail.com | +880 1863 144 659 | majasem.com | [ORCID](#) | [Google Scholar](#)

RESEARCH AREAS AND INTERESTS

1. Spintronics
2. Magnetization dynamics
3. FM, AFM, NcAFM & Altermagnets
4. Skyrmion & Domain wall dynamics

EDUCATION

Khulna University, Khulna, Bangladesh

Ongoing

MS in Physics

Khulna University, Khulna, Bangladesh

22 Feb 2022 – 28 Dec 2025

BS in Physics

CGPA: 3.66 / 4.00

Milestone College, Dhaka, Bangladesh

2020

Higher Secondary Certificate (Science)

GPA: 5.00 / 5.00

Ataturk Govt. Model High School, Feni, Bangladesh

2018

Secondary School Certificate (Science)

GPA: 5.00 / 5.00

PUBLICATIONS

1. **Mohammad A. Jasem**, Y. Liu, M. T. Islam, M. A. S. Akanda, X. R. Wang, T. Min “*Alternating current triggered exchange-mediated picosecond switching of cylindrical magnetic tunnel junctions*” (Under Review, Phys. Rev. B)
2. M. T. Islam*, **Mohammad A. Jasem***, Y. Liu, X. S. Wang, X. R. Wang, T. Min, “*Reversal of Noncollinear Antiferromagnets with an Octupole Moment by Chirped Spin–Orbit Torque*,” *Phys. Rev. B* **113**, 054415 (2026)
Accepted: 17 Dec, 2025 ; Published: 9 Feb, 2026

*These authors contributed equally to this work.

CONFERENCES

1. Awarded the **Best Presenter Award** at the *International Conference on Physics–2026*, Bangladesh Physical Society, University of Dhaka, Bangladesh. *9–11 April 2026*
2. **Oral Presentation** — “Field-Free Ultrafast Reversal of Noncollinear Antiferromagnets with Octupole Moment Driven by Chirped Spin–Orbit Torque,” at *2nd International Conference on Frontiers in Science: Innovation and Technology for Greener Industry (2nd ICFS:ITGI)*, BUET, Dhaka, Bangladesh. *15–16 Jan 2026*
3. Attended the **National Conference on Physics for the 21st Century**, Physics Discipline, Khulna University, Bangladesh. *May 2024*

WORKSHOPS

1. Attended the **3rd Workshop on Relativity**, University of Dhaka, organised by the Community of Physics. *Oct 2022*
2. Conducted the **Workshop on MATLAB and Python**, Fermion Physics Club, Khulna University. *Sept 2024*

RESEARCH & TEACHING EXPERIENCE

1. **Research Assistant — Spintronics Lab, Khulna University** *Oct 2024 – Present*
Supervisor: Prof. Dr. Md. Torikul Islam.
2. **Teaching Assistant — Physics Discipline, Khulna University** *Jan 2026 – June 2026*

CO-CURRICULAR ACTIVITIES

1. **Internship Coordinator** *Feb 2025 – Present*
Institution for Theoretical and Computational Physics Research (ITCPR).
2. **Volunteer — Bangladesh Astronomy and Astrophysics Olympiad (BDOAA)** 2024
Organised Olympiad events in the Khulna Region
3. **Volunteer — Bangladesh Youth Environmental Initiative (BYEI)** 2023
4. **Divisional Coordinator — National Earth Olympiad (NEO)** 2023

SOFTWARE SKILLS

Operating Systems	Windows, Linux
Simulation	MuMax3, Vampire
Programming	Python, MATLAB, JavaScript
Typesetting	L ^A T _E X, MS Word
Data Analysis	Matplotlib, Pandas, OriginLab, Gnuplot
Graphics & Visualisation	VESTA, Jmol, POV-Ray, Blender, Adobe Illustrator (basic)
Web Development	HTML, CSS, JavaScript

CERTIFICATES & AWARDS

1. **Silver Honor** — *International Astronomy and Astrophysics Competition* [[Certificate](#)] 2023
2. **University Merit Scholarship** (×4) 2022–2025
3. *From the Big Bang to Dark Energy* — University of Tokyo [[Certificate](#)] 2023
4. *Introduction to Programming with MATLAB* — Vanderbilt University [[Certificate](#)] 2023
5. *Getting Started with Python & Python Data Structures* — University of Michigan [1], [2] 2023
6. *Linear Algebra* — Johns Hopkins University [[Certificate](#)] 2023

LANGUAGES

Bengali	Native
English	proficient

REFEREES

Dr. Md. Torikul Islam
Professor (Supervisor)
Physics Discipline
Khulna University, Bangladesh
torikul@phy.ku.ac.bd
+880 1767 277 654
Personal Webpage

Dr. Md. Ahasan Habib
Professor,
Physics Discipline
Khulna University, Bangladesh
ahabib@phy.ku.ac.bd
+880 1719 164590
Personal Webpage