

Kazi Fahim Reza Arko

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Education

SSC: Saint Joseph Higher Secondary School

HSC: Adamjee Cantonment College

University: BRAC University, Department of Mathematics and Physical Sciences, Merul Badda, Dhaka

Current Year: Senior Year (Expected Graduation Year: May, 2027)

Major: Bachelor of Science in Physics

Current CGPA: 3.66/4.0

Relevant Courses Completed:

Classical Electrodynamics [PHY 301], *Classical Mechanics and Special Theory of Relativity* [PHY 204], *Complex Variables and Fourier Analysis* [MAT 204], *General Theory of Relativity* [PHY 413], *Cosmology and Astrophysics* [PHY 403], *Black Holes* [PHY 419], *Group Theory* [MAT 301], *Linear Algebra and Differential Equations* [MAT 203], *Optics* [PHY 202], *Statistical Mechanics* [PHY 205], *Quantum Mechanics 01* [PHY 303], *Quantum Mechanics 02* [PHY 304], *Quantum Mechanics 03* [PHY 305], *Particle Physics* [PHY 401], *Mathematical Physics* [PHY 405]

N.B: The course codes are based on BRAC University curriculum

Work and Experience

2025-present: Research Assistant under Research Seed Grant Initiative (Grant ID: BRACURSGI25014), BRAC University

2026: Teaching Assistant: *Cosmology and Astrophysics* [PHY 403]

2025: Teaching Assistant: *General Theory of Relativity* [PHY 413]

2025: Delivered a talk on the platform of **Merul Badda Talks in Math and Physics**. Topic of the talk- "A Universe with Kasner". — 📄 View Full Talk Slides

2025: t-dependent Backgrounds in String Theory (ICTP PWF Summer Internship report) — 📄 View Full PDF

2025: A Holographic Approach to the Information Paradox: A Review of How does information emerge from a black hole? — 📄 View Full PDF

2024: Horndeski Theories and Scalar Fields: A Review of Linear perturbations in Horndeski theories with spatial curvature — 📄 View Full PDF

Ongoing Study and Work

Working on constructing *doubly warped backgrounds in string compactifications* with Ratul Mahanta (USTC) and Ahmed Rakin Kamal (Masaryk U.).

Workshops and Conferences Attended

2025: ICTP PWF: Physics for Bangladesh Online Summer Internship

2025: ICTP PWF: School on General Relativity, ICTP Physics Without Frontiers: Bangladesh

2025: ICTP PWF: School on Quantum Field Theory, ICTP Physics Without Frontiers: Bangladesh

2025: Jamal Nazrul Islam Memorial Winter School, Organized by BRAC University, and ICTP Physics Without Frontiers: Bangladesh

2024: Centennial Celebration of Bose-Einstein Statistics: A Legacy of Dhaka, Organized by University of Dhaka

2024: DPS IUB Summer School on Quantum Information, Organized by Independent University Bangladesh

2023: Vector Calculus Workshop, Organized by Community of Physics

Extra-Curricular Activities

Co-Founder & Organizing Committee Member: *Merul Badda Talks in Math & Physics*, BRAC University

Organizing Committee Member: *Jamal Nazrul Islam Memorial Winter School 2025*

Volunteer & Script Checker: *Bangladesh Physics Olympiad 2025*

Skills

Technical Skills:

-  Python
-  L^AT_EX
-  Mathematica

References

Mahbub Majumdar

Dean, School of Data and Computational Sciences, BRAC University

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Ratul Mahanta

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Sayed Tashnuba Jahan

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