

Ahmad Al-Imtiaz

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EDUCATION

Master of Science in Physics [CGPA: 3.56 (out of 4)] **Nov, 2024**
Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh

Bachelor of Science in Physics [CGPA: 3.28 (out of 4)] **Oct, 2022**
Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh

RESEARCH INTEREST

Strong gravitational lensing, galaxy evolution and formation, spectra analysis, high-redshift Universe, transient astronomy, computational astrophysics, and observational astrophysics.

RESEARCH EXPERIENCE

Publications

- Adnan, S. M. R.[†], Hasan, M. J. [†], **Imtiaz, A. A.**[†], Robin, S. H.[†], Shwadhin, F. R.[†], Shajib, A. J., Nahid, M. H., Tanver, M. H., Akter, T., Jahan, N., Jafar, Z., Rashid, M., Biswas, A., Chowdhury, A. A., Feardous, J., Rahaman, A., Ridwan, M., Sharma, R. D., Chowdhury, Z., Hossain, M. S.. [Investigating the relation between the environment and internal structure of massive elliptical galaxies using strong lensing | Astronomy & Astrophysics \(arXiv\)](#) [[†] these authors contributed equally to this work.]

Active Projects

Metallicity gradients estimation of the stellar populations on AGEL0014 **Expected: Oct 25**

I am analyzing the stellar population of the lensed quiescent galaxy AGEL0014 using data from Gemini/GSAOI, HST, and Keck/MOSFIRE. The work involves image reduction using *dragons*, lens modeling with *Lenstronomy*, spectral reduction (PypeIt), and spectral fitting (alf). Intensive computations are being performed on the HPC cluster at NARIT.

Supervisor: **Dr. Nicha Leethochawalit, NARIT, Thailand.**

SKILLS

Research Tools: Mathematica, GitHub, Overleaf, ADQL, TOPCAT, APT, ds9, dragons (GSAOI-reduction pipeline), PypeIt (MOSFIRE), MS Office 365

Programming language: Python, C, MATLAB

Operating Systems: Windows, Linux, HPC Cluster

Languages: Bengali (Native), English (IELTS-6.5)

Telescopes:

- Celestron CGEM II 800 SCT - 8" on CGEM II Computerized Equatorial Mount
- EvoStar 80ED Apo Refractor on MEADE LX85 Computerized Equatorial Mount

PROFESSIONAL & OTHER EXPERIENCES

- Research Intern**, ICTP PWF Bangladesh: Summer Internship Program [Remote] Jul 2025 – Present
I am working with Dr. Lamiya Mowla on a project titled “Star Clusters Since Cosmic Dawn.”
- Instructor, Stellar Light & Cosmic Bends: Data-Driven Astronomy Workshop** 27-28 July 2025
Led a hands-on session on galaxy–galaxy strong lens modeling.
- Lecturer, Dept. of CSE, Daffodil International University (Full-time)** [Contractual] Feb-Apr 2025
I taught PHY101 (Mechanics, Waves and Oscillations, Thermodynamics, Optics), PHY102 (Electricity and Magnetism, Modern Physics), and PHY103 (Lab), which are junior undergraduate-level courses.
- Asst. Teacher – Science (Middle School) (Full-time)** [Permanent] Apr 2024–Feb 2025
Member of the Corporate Social Responsibility team at Epyllion Group, Dhaka
- Instructor, AstroCode Intensive** Mar 08–09, 2024
Conducted a hands-on session on astronomical image reduction techniques.
- President, 9th Executive Committee, CAM-SUST** Mar 2021–Jul 2022
- Study Circle Secretary, 8th Executive Committee, CAM-SUST** Aug 2019–Mar 2021

CONFERENCE

- “Exploring the Mass-Metallicity Relation in Open Clusters inside the Milky Way” Nov 13–17, 2023
Poster at Metal Production and Distribution in a Hierarchical Universe – II, ESO Santiago, Chile
- “Stellar Multiplicity-dependent Neptunian Desert Boundary” Sep 23–26, 2022
Poster at International Conference of Physical Sciences by School of Physical Sciences, SUST

LEARNING EXPERIENCES

Schools and Workshops

- CASSA Workshop 1: Unclouding the Thousand Eyes of an Array Radio Telescope, 2025 [In-person]
- JWST Data Analysis and Processing Workshop (South East Asia) 2024 [In-person]
Organized by COSPAR & NARIT, CHIANG MAI, THAILAND
- Astro101: Hands on Workshop on Optical Astronomy 2023 (Hackathons Winner) [In-person]
Organized by NARIT, CHIANG MAI, THAILAND
- 8th Byurakan International Summer School (8BISS) for Young Astronomers, 2022
BYURAKAN ASTROPHYSICAL OBSERVATORY, ARMENIA
- Introduction to Computational Astrophysics, 2021 (NUEVACAMP, SPSB, MASLAB, BANGLADESH)
- Introduction to HR Diagram with LCO (2021), Prof. S N Hasan and Dr Priya Hasan
MAULANA AZAD NATIONAL URDU UNIVERSITY, INDIA
- HPC for Astrophysics and Astronomy, 2021 (SKA- INDIA CONSORTIUM & IIT, KHARAGPUR)
- Introduction to MATLAB, 2021 (IEEE NSU PES, STUDENT BRANCH CHAPTER)
- Introduction to Stars, 2021 (BREAKTHROUGH SCIENCE SOCIETY INDIA)
- Machine Learning, 2021 (Andrew Ng, Coursera)
- 13th Radio Astronomy Winter School 2020 (IUCAA, PUNE, INDIA)
- Astronomical Data Analysis by TOPCAT, 2019 (CAM-SUST, Sylhet, Bangladesh)

Competitions

- 15th position in International Theoretical Physics Olympiad for Undergraduate Students, 2019 (Online)
- Winner in University Physics Olympiad 2019, organized by CAM-SUST, Sylhet, Bangladesh (In-person)
- Accomplished Competitor in The University Physics Competition 2018 (Online)
- Accomplished Competitor in The University Physics Competition 2019 (Online)

OUTREACH

Volunteer & consultant , CAM-SUST, Astro-Carnival, SUST (More than 700 Students attended)	Sep 2023
Volunteer , CAM-SUST, Astronomy School Program, Jaflong (Around 200 students attended)	Mar 2022
Convener , CAM-SUST, Astronomy School Program, Sunamganj (Around 130 Students attended)	Mar 2020
Volunteer , CAM-SUST, Astronomy School Program, Sonargaon (Around 150 students attended)	Jan 2020
Convener , CAM-SUST, Astronomy School Program, Brahmanbaria (About 500 Students attended)	Oct 2019
Volunteer , Physics Olympiad, National Round, BDPhO (Around 700 Students attended)	Mar 2019

Oral Presentation

- Image Reduction on an off-line Study Circle of CAM-SUST Jan 2024
- Introduction to Stars- II on an off-line Study Circle of CAM-SUST Mar 2023
- Introduction to Stars- I on an online Study Circle of CAM-SUST Oct 2022
- Celestial Coordinate System on an online Study Circle of CAM-SUST Oct 2020
- Detection of Exoplanets, at a School Program Organized by CAM-SUST Oct 2019

REFERENCES

Dr. Anowar J. Shajib

NFHP Einstein and KICP Fellow,
University of Chicago
Email: ajshajib@uchicago.edu

Dr. Nicha Leethochawalit

Researcher,
National Astronomical Research Institute of Thailand
Email: nicha@narit.or.th