

Curriculum Vitae

Dr. Murchana Khusroo

Assistant Professor, Department of Physics

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Google Scholar ResearchGate ORCID

Educational Qualifications

Ph.D. (Physics)	Gauhati University, Assam	2020
M.Sc. (Physics)	Gauhati University, Assam	2012

Research Interests

- Solar Physics, Magnetospheric and Astrophysical Plasma
- Nonlinear plasma processes and solitons
- Spacecraft Data Analysis (Aditya L1, PSP, SOHO, STEREO, WIND, Cluster II)
- Solar Wind, Coronal Mass Ejections, and Geomagnetic Storms

Teaching Experience

- Assistant Professor, USTM (Feb 2023 – Present)
- Assistant Professor, St. John College, Nagaland (Feb–July 2021)

Publications (Selected)

- [1] M. Das, M. Khusroo, M. P. Bora, *Eur. Phys. J. Plus*, 140, 91 (2025).
- [2] S. Sarma, M. Khusroo, *J. Phys. Conf. Ser.*, 2919, 012030 (2024).
- [3] M. Khusroo, M. P. Bora, *Phys. Rev. E*, 99, 013205 (2019).
- [4] M. Khusroo, M. P. Bora, *Plasma Phys. Control. Fusion*, 57, 115005 (2015).
- [5] M. Khusroo, M. P. Bora, *Europhysics Conf. Abstracts (EPS)*, 43C (2019).

Book Chapters

- [1] “Plasma processes in Earth’s magnetosphere,” Selected Topics in Physics Research, ISBN: 978-93-90919-64-2 (2021).
- [2] “Solitons in a protoplanetary disk,” Purbayon Publication, ISBN: 978-93-89940-94-7 (2020).
- [3] “Probing the magnetosphere,” Purbayon Publication, ISBN: 978-93-89940-96-1 (2020).

Awards and Fellowships

International

- Newton-Bhabha Fellow (RAL and University of York, 2017)

National

- UGC-BSR JRF/SRF (2013–2018)
- DST-SERB International Travel Support, 2017
- INSC Young Researcher Award 2023

Supervision

M.Sc. Dissertation

- Ankita Thapa: Solar solitons using multi-spacecraft missions – Completed
- Shyamalima Sarma: Role of solitons in geomagnetic storms – Published

Internships Supervised

- Kutsuno Dozo (NIT Rourkela): Solitary waves in the solar wind
- Yimnasangla (IIT Mandi): Geomagnetic storm studies using Cluster II

Conferences Attended

International

- EPS Conferences (2017, 2019)
- IOP Plasma Physics, UK (2016)
- ASPNF, Bangkok (2016)

National

- PSSI, PANE, COSPAR, and IUCAA events (2012–2024)

Skills

Programming: Python, Jupyter

Tools: QSAS, Cluster Science Archive (CSA), NASA CDAWeb, Mathematica, gnuplot, 4D Orbit Viewer

Students interested in pursuing research in space physics under my guidance are welcome to contact me directly for further information and collaboration opportunities.

Date: 04 April 2025

Place: USTM, Meghalaya