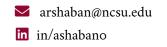
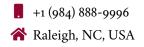
Ahmed Shaban



- () ashabano.github.io
- 🖓 github.com/ashabano



Education

2018 – 2024	Doctor of Philosophy (PhD) in Physics, North Carolina State University.
	Thesis title: "Spatially Resolved Galactic Outflows in Gravitationally Lensed Galaxies"
	Advisor: Dr. Rongmon Bordoloi
2018 – 2020	Master of Science (MS) in Physics, North Carolina State University.
2014 – 2018	Bachelor of Science (BSc) in Physics, Zewail City of Science and Technology, Egypt.
	Concentration: Astrophysics.

Employment History

2025 - · · · ·	Postdoctoral Research Scholar, North Carolina State Universit Advisor: Dr. Rongmon Bordoloi	у.
2019 – 2024	Graduate Research Assistant (RA), North Carolina State Unive	ersity.
2018 – 2022	Graduate Teaching Assistant (TA), North Carolina State Unive	rsity.
	 TA & guest lecturer for the Solar system Astronomy class (1 Training students on using Telescopes in the Senior Physics TA for introductory physics curriculum development. TA for the graduate Astrophysics class. Instructor for E&M Lab (total: 152 Students). Tutor at the Physics Tutorial Center (PTC). Online tutor for E&M for Engineers and Scientists. 	
2018–2018	Teaching Assistant (TA), Zewail City of Science and Technology	v, Egypt.
	• Teaching Assistant for PEU 331 (Stellar Structure & Evolution	on) Spring 2018

Research Publications

Journal Articles

- **A. Shaban**, R. Bordoloi, J. M. O'Meara, *et al.*, "Spatially Resolved Circumgalactic Medium Around a Star-Forming Galaxy Driving a Galactic Outflow at $z \approx 0.8$," *Sumitted to ApJ*, Jan. 2025. arXiv: 2501.17940 [astro-ph.GA].
- N. Giertych, A. Shaban, P. Haravu, and J. P Williams, "A statistical primer on classical period-finding techniques in astronomy," *Reports on Progress in Physics*, vol. 87, no. 7, 078401, p. 078401, Jul. 2024.
 Ø DOI: 10.1088/1361-6633/ad4586. arXiv: 2205.10417 [astro-ph.EP].

A. Shaban, R. Bordoloi, J. Chisholm, *et al.*, "Dissecting a 30 kpc galactic outflow at $z \sim 1.7$," Monthly Notices of the Royal Astronomical Society, vol. 526, no. 4, pp. 6297–6320, Dec. 2023. O DOI: 10.1093/mnras/stad3004.arXiv: 2306.07328 [astro-ph.GA].

- R. Bordoloi, J. M. O'Meara, K. Sharon, et al., "Resolving the H I in damped Lyman α systems that power star formation," Nature, vol. 606, no. 7912, pp. 59–63, May 2022. & DOI: 10.1038/s41586-022-04616-1. arXiv: 2205.08554 [astro-ph.GA].

A. Shaban, R. Bordoloi, J. Chisholm, *et al.*, "A 30 kpc Spatially Extended Clumpy and Asymmetric Galactic Outflow at z 1.7," The Astrophysical Journal, vol. 936, no. 1, 77, p. 77, Sep. 2022. O DOI: 10.3847/1538-4357/ac7c65.arXiv: 2109.13264 [astro-ph.GA].

Conference Proceedings

- **A. Shaban**, "Spatially Resolved Galactic Outflow at $z \sim 2$ Using Gravitational Lensing," in *Oases in the* Cosmic Desert: Understanding the Structure of the Circumgalactic Medium, Arizona State University, Feb. 2023.
- **A. Shaban**, R. Bordoloi, and J. O'Meara, "Small Scale Variation of Circumgalactic Medium Using Gravitational Lensing Tomography," in American Astronomical Society Meeting Abstracts, ser. American Astronomical Society Meeting Abstracts, vol. 241, Jan. 2023, 327.01, p. 327.01.
- A. Darekar, **A. Shaban**, R. Bordoloi, and J. O'Meara, "Probing the circumgalactic medium using a quadruply lensed quasar system," in American Astronomical Society Meeting Abstracts, ser. American Astronomical Society Meeting Abstracts, vol. 54, Jun. 2022, 141.08, p. 141.08.
 - A. Shaban and R. Bordoloi, "A Spatially Resolved Study of Galactic Outflows in a Gravitationally Lensed Galaxy," in American Astronomical Society Meeting Abstracts #236, ser. American Astronomical Society Meeting Abstracts, vol. 236, Jun. 2020, 307.01, p. 307.01.

Invited Talks

Feb. 2024	<i>"Studying Galactic Winds via Gravitational Lensing"</i> , Invited talk at NC State University for visiting undergraduate students from UNC-Pembroke, Raleigh, NC.
Apr. 2023	"Spatially Resolving Galactic Outflow at High- z ", Invited Talk at Dr. Fabian Heitsch's group retreat at UNC-Chapel Hill, Durham, NC.
Oct. 2023	<i>"Cosmic Lens on Galactic Winds"</i> , Invited talk at the Galaxies and AGN journal club at the Space Telescope Science Institute (STScI), Baltimore, Maryland.
	<i>"Dissecting a 30 kpc Galactic Outflow"</i> , Invited talk at the Astro-coffee Journal Club at the Johns Hopkins University, Baltimore, Maryland.
	"Spatially Resolving Galactic Outflows and the CGM using Gravitational Lensing", Invited talk at the Low-Density Universe subgroup at the Space Telescope Science Institute (STScI), Baltimore, Maryland.

Observing

Observing Experience

- W. M. Keck Observatory, Keck II Telescope (Total: 9 nights):
 - Keck Cosmic Web Imager (KCWI): 8 nights.
 - Echellette Spectrograph & Imager (ESI): 1 night.

Observing Proposals as a Co-Investigator

■ NASA Keck Time 2024A: "Spatially Resolved CGM metallicity maps at z>z", PI: R. Bordoloi, ID: 25/2024A_N110, Total Time Awarded: 2 nights using KCWI on Keck Telescope II.

Mentoring

2021–2024 Ayesha Darekar, Undergraduate student, North Carolina State University. I co-advised Ayesha, alongside Dr. Rongmon Bordoloi, on her undergraduate research project, where she studied the absorbing system in the foreground of a gravitationally lensed quasar using KCWI.

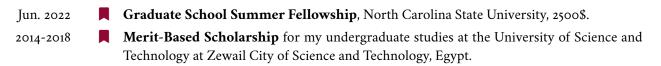
Service and Public Outreach

2019 – · · ·	Co-organizer of the weekly Astrophysics journal club, NC State University.
Oct. 2024	Co-organizer of star gazing event at NC State University.
Feb. 2024	Juror at The 2024 US Invitational Young Physicists Tournament, Raleigh, NC.
Jan. 2023	Volunteer at the Astronomy Days event at NC Museum of Natural Sciences.
Sept. 2022	Organizing a stargazing event in Oak Island with Egyptian students from NC State University.
Nov. 2019	Organizing an event to observe the 2019 Transit of Mercury at NC State University.

Skills

Astrophysics Softwares	DS9, QFitsView, and Astropy.
Operating Systems	Linux, Mac OS, and Windows.
Web Dev	HTML and CSS.
Programming	Python (Astropy, matplotlib, numpy, scipy, Pandas, Sckikit-Learn, Tensorflow, Keras), Mathematica, Matlab, R, Java, Julia, and SQL.

Awards and Achievements



References

Available Upon Request