

JOY BHATTACHARYYA

ADDRESS:

Department of Astronomy,
Ohio State University, 140 W 18th Avenue
Columbus, Ohio 43210

LEGAL NAME: Souradip Bhattacharyya

PHONE: +1 (614) 965-9496

EMAIL: bhattacharyya.37@osu.edu

ORCID: [0000-0001-6442-5786](https://orcid.org/0000-0001-6442-5786)

EDUCATION

2022-2025 (tentative)	PHD CANDIDATE Ohio State University, Columbus, USA
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2020-2022	MASTER IN ASTRONOMY Ohio State University, Columbus, USA
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2018-2020	MASTER IN PHYSICS Presidency University, Kolkata, India
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2015-2018	BACHELOR IN PHYSICS Presidency University, Kolkata, India
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PUBLICATIONS

First Author

- *Dwarf Galaxies in the TNG50 Field: connecting their Star-formation with their Large-scale Environments* – **Joy Bhattacharyya** & Annika H.G. Peter, to be submitted to a journal soon.
- *Environmental Quenching of Low Surface Brightness Galaxies near Milky Way mass Hosts* – **J. Bhattacharyya**, A. H. G. Peter, P. Martini, B. Mutlu-Pakdil, A. Drlica-Wagner, D. Tanoglidis, D. M. Roberts, A. B. Pace, L. E. Strigari et al., submitted for review in *The Astrophysical Journal*.
- *Characterizing the hot circumgalactic medium of the Milky Way in and around the sightline of Mrk 421* – **J. Bhattacharyya**, S. Das, A. Gupta, & S. Mathur, 2023, *The Astrophysical Journal*, 952, 1.
- *The Signatures of Self-interacting Dark Matter and Subhalo Disruption on Cluster Substructure* – **J. Bhattacharyya**, S. Adhikari, A. Banerjee, S. More, A. Kumar, E. O. Nadler, & S. Chatterjee, 2022, *The Astrophysical Journal*, 932, 1.
- *Stationarity and Non-Linearity of Blazar Variability* – **J. Bhattacharyya**, R. Ghosh, R. Chatterjee, & N. Das, 2020, *The Astrophysical Journal*, 897, 1.

Contributing Author

- *A Non-Parametric Morphological Analysis of H α Emission in Bright Dwarfs Using the Merian Survey* - Abby Mintz, Jenny E. Greene, Erin Kado-Fong, Shany Danieli, Jiaxuan Li, Yifei Luo, Alexie Leauthaud, Vivienne Baldasarre, Song Huang, Annika H. G. Peter, **Joy Bhattacharyya**, Mingyu Li, and Yue Pan, submitted for review in *The Astrophysical Journal*.
- *The Merian Survey: Design, Construction, and Characterization of a Filter Set Optimized to find Dwarf Galaxies and Measure their Dark Matter Halo Properties*

with Weak Lensing - Y. Luo, A. Leauthaud, J. Greene, S. Huang, E. Kado-Fong, S. Danieli, T. S. Li, D. Blanco, E. Wasleske, J. Wick, A. H. G. Peter, V. Baldassare, A. Brooks, A. Banerjee, **J. Bhattacharyya**, Z. Cai, J. Gunn, B. D. Johnson, S. D. Johnson, L. Kelvin, S. Kim, J. Li, M. Li, X. Lin, R. Lupton, J. Read, R. C. Rosado, A. Sardone, 2024, *Monthly Notices of the Royal Astronomical Society*, 530, 4.

ORAL PRESENTATIONS

- “*Environmental Quenching of Low Surface Brightness Galaxies near Milky Way mass Hosts*”, Dark Energy Survey Collaboration Meeting, UIUC, Illinois, October 12th, 2023 (remote).
- “*Environmental Quenching of Low Surface Brightness Galaxies near Milky Way mass Hosts*”, Galactic Frontiers: Dwarf Galaxies in the Local Volume and Beyond, New York City, USA, July 26th, 2023.
- “*Low Surface Brightness Backsplash Galaxies*”, 241st Meeting of the American Astronomical Society, Seattle, USA, January 12th, 2023
- “*The Signatures of Self-interacting Dark Matter and Subhalo Disruption on Cluster Substructure*”, 32nd Meeting of the Indian Association for General Relativity and Gravitation, IISER- Kolkata, India, December 20th, 2022
- “*Non-stationarity in Blazars*”, Young Physicists’ Colloquim, Saha Institute of Nuclear Physics, Kolkata, India, August 22nd, 2019.

POSTER PRESENTATIONS

- “*Field Dwarf Galaxies: their environments and contents in TNG50*”, Dwarf Galaxies, Star Clusters, and Streams in the LSST Era, KICP, Chicago, USA, July 2024.
- “*Field Dwarf Galaxies: their environments and contents in TNG50*”, Cosmic Signals of Dark Matter Physics: New Synergies, KITP, UC Santa Barbara, USA, July 2024.
- “*Detecting a super-virial component of the Milky Way’s circumgalactic medium around the sightline of Mrk 421*”, 19th Divisional Meeting of the High Energy Astrophysics Division of the AAS, Pittsburgh, USA, March 2022
- “*Stationarity and Non-Linearity of Blazar Variability*”, 38th Annual Meeting of the Astronomical Society of India, IISER Tirupati, India, February 2020

OBSERVING EXPERIENCE

- Fall 2022-, Blanco 4m Telescope, 60 hours of remote observation, “*Merian Survey*”, PI: Alexie Leauthaud.
- Spring 2021, Green Bank Telescope, 10 hours of remote observation, “*Is circumgalactic HI ubiquitous? A deep search around 4 nearby galaxies*” PI: Sanskriti Das.

AWARDS & FELLOWSHIPS

- Graduate Affiliate at KITP Program, *Dark Matter Theory, Simulation, and Analysis in the Era of Large Surveys*, May-June 2024.
- Ohio State University Edward J. Ray Travel Award, February 2024.
- Ohio State University Career Development Grant, February 2024.

- Ohio State University Graduate Fellowship, August 2020.
- INSPIRE Scholarship by Dept. of Science & Technology, Govt. of India, December 2015.
- Jagadish Bose National Talent Search Scholarship, December 2015.

TEACHING EXPERIENCE

- Graduate Teaching Assistant, Astronomy 1101 (General Education), Spring 2024, Fall 2021.
- Graduate Teaching Assistant, Astronomy 1142 (General Education), Fall 2023.
- Graduate Teaching Assistant, Astronomy 1143 (General Education), Fall 2023.
- Graduate Teaching Assistant, Astronomy 5682 (Upper Division Astronomy Majors), Fall 2023.
- Instructor for *Python Bootcamp*, Department of Astronomy, Ohio State University, 2023-2024.
- Graduate Teaching Assistant, Astronomy 5682 (Upper Division Astronomy Majors), Spring 2023.

SERVICE & OUTREACH

- Science Volunteer at 8th April Solar Eclipse Viewing at Ohio State University- Marion Campus, 2024.
- Convener of Gender Minorities Lunch Hour, Department of Astronomy, Ohio State University, 2022-2024.
- Co-mentor to Nicole Fedor for the *Summer Undergraduate Research Program in Astrophysics* at Ohio State University, 2023.
- Mentor to Dylan Wells and Kara DiLudovico for the *Polaris Program* at Ohio State University, 2021-2023..
- Journal Peer Reviewer for MNRAS, 2022.

LEADERSHIP ROLES

- Graduate Student Representative, Department of Astronomy, Ohio State University, 2023-2024.
- Member of Scientific Organising Committee, Undergraduate Physics Symposium, Presidency University, 2019-2017.
- Class Representative, Department of Physics, Presidency University, 2017-2018.