

Wynne Turner

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RESEARCH INTERESTS

Cosmology, dark energy, high- z universe, high- z spectroscopic tracers, Lyman- α forest, intergalactic medium, machine learning

EDUCATION

The Ohio State University	2020 – present
<i>Advisor: Paul Martini</i>	
Ph.D. , Astronomy	(expected) June 2026
M.S. , Astronomy	April 2024
University of California, Los Angeles	2016–2018
<i>Honors College</i>	
B.S. , Physics	Dec. 2018

HONORS & AWARDS

Three Minute Thesis (3MT) University Finalist	2025
David J.P. Will Prize in Computational, Survey & Data Science (\$1000)	2024
Edward F. Hayes Advanced Research Forum, 2 nd place winner (\$400)	2024
<i>Mathematical & Physical Sciences, Oral Presentations</i>	
OSU University Fellowship (\$28,000)	2020 – 2021
UCLA Honors College	2017 – 2018

CONFERENCE & SEMINAR PRESENTATIONS

Invited Talks

Seminar <i>University College London</i>	Oct. 2025
Seminar <i>Institute of Cosmology and Gravitation (Portsmouth)</i>	Oct. 2025
Seminar <i>IFAE</i>	Sept. 2025
Talk <i>Ohio Cosmic Connections Workshop</i>	Apr. 2025
Talk <i>Lyman-alpha Workshop (OSU)</i>	Oct. 2024
Plenary <i>DESI Collaboration Meeting (Marseille)</i>	July 2024

Contributed Talks

Parallel Talk <i>COSMO-25 (Pittsburgh)</i>	Oct. 2025
Parallel Talks (5) <i>DESI Collaboration Meetings</i>	Dec. 2023 – July 2025
Poster <i>Astrophysical Frontiers (Portland)</i>	June 2018

+ several local and internal DESI talks

SERVICE & OUTREACH

Activities

DESI Education & Public Outreach Committee	Aug. 2024 – present
Co-Chair <i>Broadening the accessibility of DESI's science and results through the DESI website, the development of paper guides, and coordinating efforts across the 700-member collaboration</i>	Aug. 2025 – present
DESI Support Observer (in-person at Kitt Peak)	7 half-nights, May 2025
OSU Polaris Undergraduate Mentorship Program <i>Mentored undergraduates in astrophysics and advised research projects that resulted in poster presentations.</i>	Mentor, 2021 – 2025
Polygence Mentorship Program <i>Mentored high school students in research projects that led to submission to a high school journal.</i>	Mentor, 2022 – 2023
SciAccess Zenith Mentorship Program <i>Mentored a low-vision high school student in an astronomy project.</i>	Mentor, 2020 – 2021

Talks & Panels

Cesar Chavez High School (Arizona) <i>Virtual panel on careers in academia to a Title I high school</i>	Jan. 2024
Queen Elizabeth High School (Zimbabwe) <i>Virtual presentation on my research to a girls' high school physics class in Africa (more information)</i>	June 2023

PUBLICATIONS ([LINK TO MY ADS LIBRARY](#))

Lead Author

1. **W. Turner**, A. Cuceu, P. Martini et al., *Probing the limits of cosmological information from the Lyman- α forest 2-point correlation functions* (2025) | [arXiv:2509.14322](#)
2. **W. Turner**, P. Martini, N. Karacayli et al., *New Measurements of the Lyman- α Forest Continuum and Effective Optical Depth with LyCAN and DESI Y1 Data* (2024), *ApJ*, 976, 143 | [doi:10.3847/1538-4357/ad8239](#)

Contributing Author

3. DESI Collaboration: M. Abdul-Karim, J. Aguilar, and 147 additional authors including **W. Turner**, *DESI DR2 Results I: Baryon Acoustic Oscillations from the Lyman Alpha Forest* (2025) | [arXiv:2503.14739](#)
4. DESI Collaboration: M. Abdul-Karim, J. Aguilar, and 184 additional authors including **W. Turner**, *DESI DR2 Results II: Measurements of Baryon Acoustic Oscillations and Cosmological Constraints* (2025) | [arXiv:2503.14738](#)
5. DESI Collaboration: M. Abdul-Karim, A. G. Adame, and 275 additional authors including **W. Turner**, *Data Release 1 of the Dark Energy Spectroscopic Instrument* (2025) | [arXiv:2503.14745](#)
6. L. Casas, H. K. Herrera-Alcantar, J. Chaves-Montero, and 95 additional authors including **W. Turner**, *Validation of the DESI DR2 Ly α BAO analysis using synthetic datasets* (2025) | [arXiv:2503.14741](#)

7. A. Brodzeller, M. Wolfson, D. M. Santos, and 96 additional authors including **W. Turner**, *Construction of the Damped Ly α Absorber Catalog for DESI DR2 Ly α BAO* (2025) | [arXiv:2503.14740](#)
8. U. Andrade, E. Paillas, J. Mena-Fernández, and 116 additional authors including **W. Turner**, *Validation of the DESI DR2 Measurements of Baryon Acoustic Oscillations from Galaxies and Quasars* (2025) | [arXiv:2503.14742](#)
9. K. Lodha, R. Calderon, W. L. Matthewson, and 122 additional authors including **W. Turner**, *Extended Dark Energy analysis using DESI DR2 BAO measurements* (2025) | [arXiv:2503.14743](#)
10. W. Elbers, A. Aviles, H. E. Noriega, and 116 additional authors including **W. Turner**, *Constraints on Neutrino Physics from DESI DR2 BAO and DR1 Full Shape* (2025) | [arXiv:2503.14744](#)
11. E. Tsai, A. Palla, A. Norris, and 36 additional authors including **W. Turner**, *Remote sensing of electron precipitation mechanisms enabled by ELFIN mission operations and ADCS* (2025), *AdSpR*, 75, 9 | [doi:10.1016/j.asr.2024.07.008](#)
12. V. Angelopoulos, X. J. Zhang, A. V. Artemyev, and 83 additional authors including **W. Turner**, *Energetic Electron Precipitation Driven by Electromagnetic Ion Cyclotron Waves from ELFIN's Low Altitude Perspective* (2023), *Space Sci Rev*, 219, 37 | [doi:10.1007/s11214-023-00984-w](#)
13. V. Angelopoulos, E. Tsai, C. Wilkins, and 80 additional authors including **W. Turner**, *Atmospheric scattering of energetic electrons from near-Earth space* (2021) | [doi:10.21203/rs.3.rs-319558/v1](#)
14. V. Angelopoulos, E. Tsai, L. Bingley, and 79 additional authors including **W. Turner**, *The ELFIN Mission* (2020), *Space Sci Rev*, 216, 103 | [doi:10.1007/s11214-020-00721-7](#)

RESEARCH POSITIONS

Graduate Student Researcher (OSU)	2020 – present
Advisor: Paul Martini	
<i>Lyman-alpha forest cosmology with DESI</i>	
Lab Scientist (UCLA)	2018 – 2020
Advisor: Vassilis Angelopoulos	
<i>Electron Losses and Fields Investigation (ELFIN) science team</i>	
Lab Scientist (UCLA)	2019
Advisor: Matt Malkan	
<i>Extragalactic astrophysics using HSC and Keck data</i>	
Research Assistant (UCLA)	2017 – 2018
Advisor: Steven Furlanetto	
<i>Dust extinction modeling at high-z</i>	
Research Assistant (UCLA)	Summers 2017; 2018
Advisor: Jean-Luc Margot	
<i>Asteroid radar database technology</i>	

 ADVISING & MENTORING

Undergraduate Students (7)

Deeti Patel <i>primary advisor</i>	May 2025 – present
Elle Moore <i>Polaris Program</i>	Fall 2024 – Spring 2025
Abigail Falk <i>co-advised with Paul Martini</i>	Summer 2024
Jane Torma <i>Polaris Program</i>	Fall 2023 – Spring 2024
Kwasie Bobie <i>Polaris Program</i>	Fall 2022 – Spring 2023
Anya Phillips <i>Polaris Program</i>	Fall 2021 – Spring 2022
Hirak Basu <i>Polaris Program</i>	Fall 2021 – Spring 2022

High School Students (2)*Polygence Mentorship Program*

Haarika M.	Mar. 2023 – Jan. 2023
Amir A.	Apr. 2022 – Dec. 2022

 TEACHING

Graduate Teaching Associate (OSU)

ASTR 2142: Black Holes, <i>taught by D. Weinberg</i> (including one guest lecture)	Spring 2025
ASTR 2141: Life in the Universe, <i>taught by M. Pinsonneault</i>	Spring 2025
ASTR 1101: From Planets to the Cosmos, <i>Lab</i>	Fall 2024
ASTR 1221: Astronomy Data Analysis, <i>taught by J. Wang</i>	Fall 2024
ASTR 5550: Adv. Astronomy Data Analysis, <i>taught by P. Martini</i> (including two guest lectures)	Spring 2024
ASTR 1143: Cosmology, <i>taught by C. Hirata</i>	Spring 2024

Grader (UCLA)

Spring 2017 – Fall 2018

 COLLABORATION & SOCIETY MEMBERSHIPS

Dark Energy Spectroscopic Instrument (DESI)	2020 – present
American Astronomical Society (AAS)	2025 – present

 PROGRAMMING LANGUAGES & SKILLS

Fluent: Python, L^AT_EX, bash, GitHub**Proficient:** high-performance computing, deep learning, IDL, R, SQL, Mathematica