

Curriculum Vitae

Stephen Kerby

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Education

Pennsylvania State University

Department of Astronomy and Astrophysics (2019-present)

M.S. in Astronomy and Astrophysics (2021)

Case Western Reserve University

Department of Physics, Department of Astronomy

B.S. in Physics (2019), B.S. in Astronomy (2019)

Awards & Honors

Willaman Distinguished Graduate Fellow PSU Eberly College of Science (2019-2020)

Homer F. Braddock Scholarship PSU Eberly College of Science (2019-2020)

Michelson-Morley Scholarship Case Western Reserve University (2015-2019)

John Schoff Millis Award Case Western Reserve University (2019)

Leslie L. Foldy Prize CWRU Department of Physics (2019)

Polykarp Kusch Prize CWRU Department of Physics (2019)

Richard L. Garwin Prize CWRU Department of Physics (2019)

Albert A. Michelson Prize CWRU Department of Physics (2018)

Courses Taught

ASTRO 1: The Astronomical Universe Summer 2022

An introductory course intended for non-majors focusing on the scientific method, observational and theoretical astronomy, and current topics of astronomy and astrophysics research.

ASTRO 6: Stars and Galaxies Fall 2023

An introductory course for non-majors focusing on stellar and galactic astronomy, including qualitative and quantitative problem-solving of current astronomical research. This course is organized around Specifications Grading.

Professional Employment

Argonne National Laboratory Research Assistant (2017)

Fermi National Accelerator Laboratory Research Assistant (2013-2016)

Mentoring & Outreach

PSU Graduate & Professional Student Association - Delegate (2022)

PSU Dept. of Astronomy and Astrophysics Graduate Mentor (2021-2022)

Mentee: Karthik Yadavalli (2021)

Mentee: Timothy Emeigh (2022)

PSU Astro on Tap Organizing Committee (2021-present)

PSU Dept. of Astronomy and Astrophysics Undergraduate Mentor

Mentee: Natchanun Phonthiptokun (2020)

PSU Dept. of Astronomy and Astrophysics Outreach Committee (2019-present)

CWRU Department of Physics Teaching Assistant (2016)

Publications in Refereed Journals: Major Contributor or First Author

1. “*On the Prospect of Using the Maximum Circular Velocity of Halos to Encapsulate Assembly Bias in the Galaxy-Halo Connection*”: Zehavi, **Kerby**, Contreras et al. (2019), The Astrophysical Journal 887 17
2. “*X-Ray Spectra and Multiwavelength Machine Learning Classification for Likely Counterparts to Fermi 3FGL Unassociated Sources*”: **Kerby**, Kaur, Falcone et al. (2021), The Astronomical Journal 161 154
3. “*Stellar Gravitational Lens Engineering for Interstellar Communication and Artifact SETI*”: **Kerby** & Wright (2021), The Astronomical Journal 162 6
4. “*Multiwavelength Spectral Analysis and Neural Network Classification of Counterparts to 4FGL Unassociated Sources*”: **Kerby**, Kaur, Falcone et al. (2021), The Astrophysical Journal 923 1
5. “*Using Neural Networks to Differentiate Newly Discovered BL Lacs and FSRQs among the 4FGL Unassociated Sources Employing Gamma-ray, X-ray, UV/Optical and IR Data*”: Kaur, **Kerby**, & Falcone (2022), The Astronomical Journal

Publications in Refereed Journals: Minor Contributor

1. “*Probing the origin of 4FGL J0822.8–4207: cosmic ray illumination from the SNR Puppis A and the Herbig-Haro object HH219*”: Araya, Guti, & **Kerby** (2021), MNRAS 21 3147
2. “*A Search for Radio Tehnosignatures at the Solar Gravitational Lens Targeting Alpha Centauri*”: Tusay, Huston, Dedrick, **Kerby** et al. (2022)

Poster Presentations

1. *V_{\max} as Primary Dark Halo Property*: Case Western Reserve University Senior Thesis Poster Conference, May 2019
2. *Machine Learning in X-ray Astronomy*: Institute for Foundations of Data Science 2021 Summer School, July 2021
3. *Counterpart Detection, Spectral Analysis, and ML Classification of 4FGL Unassociated Sources*: AAS 239 Salt Lake City, January 2022 (canceled due to pandemic)
4. *Counterpart Detection, Spectral Analysis, and ML Classification of 4FGL Unassociated Sources*: HEAD 19 Pittsburgh, March 2022
5. *New Discoveries and Classifications from Swift-XRT Follow-up at 4FGL Unassociated Sources*: AAS 240 Pasadena, June 2022 (remote due to pandemic)

Conference Talks and Presentations

1. *Stellar Gravitational Lens Engineering for Artifact SETI*: 2021 Assembly of the Order of the Octopus, State College PA, July 2021
2. *Deciphering Gamma-ray Mysteries with Swift-XRT*: 42nd Central Pennsylvania Consortium Astronomer's Meeting, Gettysburg PA, April 2022
3. *Dim Blazars in the Fermi Unassociated Sources*: MARLAM 9, Baltimore PA, October 2022

Public and Department Talks

1. *ET Phone Home!: SETI and Exploration with Gravitational Lensing*: PSU Astro on Tap, December 2020
2. *A Multiwavelength Hunt for Pulsars and Blazars*: PSU Dept. of A&A Tuesday Lunch Talk, April 2021
3. *Blazars of the Fermi-LAT Unassociated Sources*: PSU Dept. of A&A Tuesday Lunch Talk, November 2022
4. *Surprising Supercharged Science with Swift*: Space Telescope Science Institute Public Lecture Series, December 2022