


# Rodrigo E. L. Córdoba Rosado

Center for Astrophysics | Harvard & Smithsonian, 60 Garden Street, Cambridge, MA 02138  
rodrigo.cordova\_rosado@cfa.harvard.edu  rodelcr.github.io  
Osage Nation Tribal Enrollment No. 025118

<b>KEYWORDS</b>	Active Galactic Nuclei (16), Observational cosmology (1146), Gravitational Lensing (670)	
<b>EDUCATION</b>	<b>Princeton University</b> , Princeton, New Jersey, USA	
	Ph.D. in Astrophysical Sciences	Aug 2020 – May 2025
	<i>Dissertation Title:</i> “Black Holes and Dark Matter: On the Connection between Active Galactic Nuclei and their Halo Environments”	
	M.A. in Astrophysical Sciences	2022
	<b>University of Cambridge</b> , Cambridge, Cambridgeshire, UK	
	MPhil in Archaeology of the Americas	2019 – 2020
	<i>Dissertation Title:</i> “New Approaches to the Archaeoastronomy of Chaco Canyon”	
	<b>Harvard University</b> , Cambridge, Massachusetts, USA	
	<i>Cum Laude</i> Joint A.B. in Astrophysics-Physics	2015 – 2019
	Secondary in Archaeology	
<b>PROFESSIONAL APPOINTMENTS</b>	<b>AGEL Postdoctoral Fellow</b>	Aug 2025 - Present
	Smithsonian Astrophysical Observatory, Center for Astrophysics   Harvard & Smithsonian	
	<b>Resident Tutor</b>	
	Currier House, Harvard University	2025 – Present
	<b>Graduate Fellow</b>	
	Liechtenstein Institute on Self Determination (LISD), Princeton University	2023 – 2025
	Working with Prof. Danspeckgruber	
	<b>Non Resident Tutor</b>	
	Currier House, Harvard University	2022 – 2025
	<b>Graduate Assistant in Instruction</b>	
	Department of Astrophysical Sciences, Princeton University	
	AST 203 - The Universe (Spring 2022)   AST 205 - Planets of the Universe (Fall 2021)	
	<b>Resident Graduate Student</b>	
	Forbes College, Princeton University	2021 – 2025
	<b>Graduate Researcher</b>	
	Department of Astrophysical Sciences, Princeton University	2020 – 2025
	<b>Graduate Teaching Fellow</b>	
	Princeton University Preparatory Program ( <a href="#">PUPP</a> )	2020 – 2023
	<b>Gates Cambridge Scholar</b>	
	University of Cambridge	2019 – 2020
	<b>NASA/JPL Intern</b>	
	Caltech SURF Program, Jet Propulsion Laboratory, California Institute of Technology	2018
	<b>SAO Intern</b>	
	Event Horizon Telescope, Smithsonian Astrophysical Observatory, Harvard University	2017 – 2018
	<b>Clay Telescope Observer - Group Leader</b>	
	Harvard Observing Project – Center for Astrophysics   Harvard & Smithsonian	2016 – 2019
	<b>Affiliated Student - Banneker Institute</b>	
	Center for Astrophysics   Harvard & Smithsonian	2016 – 2017
	<b>Tutor - Bureau of Study Counsel</b>	
	Harvard University	2016 – 2019

## HONORS & AWARDS

Vera Rubin Visiting Postdoctoral Fellow, Dept. of Astronomy & Astrophysics, UC Santa Cruz	2026
Graduate Student Service Award, Association of Princeton Graduate Alumni	2025
Mentorship Award, Best of Access, Diversity and Inclusion Awards - Princeton University	2023
Group Programming Award, Best of Access, Diversity and Inclusion Awards - Princeton University	2023
Equity Award, Department of Astrophysical Sciences, Princeton University	2023
Ford Foundation Pre-Doctoral Fellowship, National Academies of Sciences, Engineering & Medicine	2022
Princeton Graduate Scholars Program (GSP)	2020
President's Fellowship - Princeton University Graduate School	2020
2020 Breakthrough Prize in Fundamental Physics Co-Recipient (EHT)	2019
Gates Cambridge Scholarship	2019
Caltech Summer Undergraduate Research Fellowship	2018
Harvard College Research Program Summer Research Fellowship	2017 & 2016
Eagle Scout	2012

## SELECTED PUBLICATIONS

A full list of publications can be found [here](#).

### PAPERS

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al. “Cross-correlation of Luminous Red Galaxies with ML-selected Active Galactic Nuclei in HSC-SSP. III. HOD Parameters for Type I and Type II Quasars”, *The Astrophysical Journal*, in press. Oct 2025. DOI:10.48550/arXiv.2510.11780

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al. “Cross-correlation of Luminous Red Galaxies with ML-selected Active Galactic Nuclei in HSC-SSP. II. AGN classification and clustering with DESI spectroscopy”, *The Astrophysical Journal*. Dec 2025. DOI: 10.3847/1538-4357/ae182e

Gottmoller, W., Sahu, N., **Córdova Rosado, R.**, Iwamoto, L., Watson, C., Tran, K.V., et al. “Most strong lensing deflectors in the AGEL survey are in group and cluster environments”, *Submitted*. Oct 2025

Shajib, A., **et al.** “A supermassive black hole 7.1 gyr ago in the first Einstein Spiral gravitational lens”, *Submitted*.

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al. “Cross-correlation of Luminous Red Galaxies with ML-selected Active Galactic Nuclei in HSC-SSP: Unobscured AGN residing in more massive halos”, *The Astrophysical Journal*, Dec 2024. DOI: 10.3847/1538-4357/ad8342

Danieli, S., **et al.** “Merian: A Wide-Field Imaging Survey of Dwarf Galaxies at  $z$  0.06-0.10”, *Submitted to The Astrophysical Journal*, Oct 2024. DOI: 10.48550/arXiv.2410.01884

**Córdova Rosado, R.**, Santini, L. M., “The Solstitial Axis: Solar Alignments in Ancient Mesoamerica”, *Submitted to The Native American and Indigenous Studies Journal*.

Luo, Y., **et al.**, “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”, *Monthly Notices of the Royal Astronomical Society*, Mar 2024. DOI: 10.1093/mnras/stae925

**Córdova Rosado, R.**, Hensley, B., Clark, S., Duivenvoorden, A., et al. “The Atacama Cosmology Telescope: Galactic Dust Structure and the Cosmic PAH Background in Cross-correlation with WISE”, *The Astrophysical Journal*, Jan 2024. DOI: 10.3847/1538-4357/ad05cd

Raymond, A.; Palumbo, D.; Paine, S.; Blackburn, L. **Córdova Rosado, R.**; Doleman, S; et al., “Evaluation of New Submillimeter VLBI Sites for the Event Horizon Telescope,” *The Astrophysical Journal, Supplemental Series* Feb 2021. DOI: 10.3847/1538-3881/abc3c3

Event Horizon Telescope Collaboration **et al.**, “First M87 Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole,” *The Astrophysical Journal Letters* Apr 2019. DOI:10.3847/2041-8213/ab0ec7

Event Horizon Telescope Collaboration **et al.**, “First M87 Event Horizon Telescope Results. II. Array and Instrumentation,” *The Astrophysical Journal Letters* Apr 2019. DOI:10.3847/2041-8213/ab0c96

## CONFERENCE POSTERS

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al.; “Stronger Clustering in Unobscured AGN with an HSC  $\times$  WISE Selection” at the *2024 Ford Fellows Conference*, Washington, D.C., USA, Jun 2024.

**Córdova Rosado, R.**, Masters, D., Rhodes, J., “Constraints on the Dark Energy Survey’s Photometric Galaxy Redshifts,” at the *233rd American Astronomical Society Meeting*, Seattle, Washington, USA, Jan 2019. Online Poster: <https://goo.gl/1ZosGD>

**Córdova Rosado, R.**, et al., “Joint Meteorological Statistics of Observing Sites for the Event Horizon Telescope,” at the *231st American Astronomical Society Meeting*, Washington, D.C., USA, Jan 2018. Press Discussion: <https://goo.gl/awSb7S>

## PUBLIC-FACING WRITING

See translations and full text [here](#).

**Córdova Rosado, R.** “Huye Luna, Luna, Luna”, Jul 2023, [Article link](#).

**Córdova Rosado, R.** “Homo naledi, seres de la estrella creciente”, Jun 2023, [Article link](#).

**Córdova Rosado, R.** “Cuatro minutos: Starship y el inicio de una nueva era de exploración espacial”, *El Nuevo Día*, Apr 2023, [Article link](#).

**Córdova Rosado, R.** “Universos paralelos de dos telescopios boricuas”, *El Nuevo Día*, Oct 2022, [Article link](#).

**Córdova Rosado, R.** “El telescopio espacial James Webb y el futuro de la astronomía puertorriqueña”, *El Nuevo Día*, Jul 2022, [Article link](#).

## SERVICE & LEADERSHIP

**Responsible Siting Working Group**, Black Hole Initiative, Harvard University

Co-Lead

2025 – Present

Member

2024 – Present

**Honors Committee**, Society of Indigenous Physicists

Committee Member

2024 – Present

**Princeton American Indian & Indigenous Studies Working Group**, Princeton University

Organizing Board

2023 – 2025

Co-Coordinator

2024 – 2025

**Native Graduate Students of Princeton**, Princeton University

Organizing Board

2022 – 2025

President

2024 – 2025

**Public Observing Program**, Princeton Department of Astrophysical Sciences

Telescope Trainer

2022 – 2025

Co-Coordinator

2022

**National Program Subcommittee**, Order of the Arrow, Boy Scouts of America

Board Member

2021 – 2024

**The Peoples’ Sky Conference**, Council of Science and Technology, Princeton University

Co-Lead Organizer

2023 – 2024

**National Scholarship Committee**, 2023 National Jamboree, Boy Scouts of America

Director

2022 – 2023

**Climate Committee**, Princeton Department of Astrophysical Sciences

Graduate Student Representative

2021 – 2023

**Graduate Student Committee**, Princeton Department of Astrophysical Sciences

Graduate Student Representative

2020 – 2022

**Advisory Group to the Diversity and Inclusion National Committee**, Boy Scouts of America

Founding Member

2020 – 2023

**Camp Guajataka Summer Program**, San Sebastián, Puerto Rico

Archaeology Instructor

2020

**Gates Scholars’ Sustainability Working Group**, University of Cambridge

External Action Group Leader

2019 – 2020

<b>Student Astronomers of Harvard-Radcliffe (STahr)</b> , Harvard University President & Observatory Director	2018 – 2019
<b>Harvard College Astrophysical Society</b> , Harvard University Co-President	2017 – 2018
<b>Harvard Archery Team</b> , Harvard University President/ USA Archery Level 2 Instructor	2016 – 2018

## PRESENTATIONS

### INVITED TALKS

<b>FLASH Talk</b> <i>Department of Astronomy &amp; Astrophysics, University of California, Santa Cruz</i>	Feb 2026
<b>Astronomy &amp; Astrophysics Colloquium</b> <i>Department of Astronomy &amp; Astrophysics, University of California, Santa Cruz</i>	Feb 2026
<b>Astronomy Seminar</b> <i>Department of Physics &amp; Astronomy, Dartmouth College</i>	Dec 2025
<b>UMBRELA Dialogue Presentation</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Oct 2025
<b>Suyu Research Group</b> <i>Max Planck Institute for Astrophysics – Garching</i>	Oct 2025
<b>Hernquist Research Group</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Oct 2025
<b>Galaxy Group Lunch</b> <i>Steward Observatory – University of Arizona Astronomy Department</i>	Nov 2024
<b>KIPAC Tea Talk</b> <i>Kavli Center for Astrophysics and Cosmology, Stanford University</i>	Nov 2024
<b>Friday Lunch Seminar</b> <i>Black Hole Initiative, Harvard University</i>	Oct 2024
<b>ITC Luncheon</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Oct 2024
<b>Galaxy Lunch</b> <i>Astronomy Department, Yale University</i>	Oct 2024
<b>Monday Afternoon Talk</b> <i>MIT Kavli Institute for Astrophysics and Space Research</i>	Oct 2024
<b>Oral Presentation</b> <i>Seminar in honor of HSH, The Hereditary Prince Alois of Liechtenstein &amp; HRH, The Hereditary Princess Sophie of Liechtenstein, LISD, Princeton University</i>	Sep 2023
<b>Gravity Group Presentation</b> <i>Department of Physics, Princeton University</i>	Oct 2023

### CONTRIBUTED TALKS AND OTHER ACADEMIC ENGAGEMENTS

<b>Dissertation Talk:</b> <b>Black holes and dark matter: new insights from wide-field cosmological surveys</b> <i>247<sup>th</sup> Meeting of the American Astronomical Society, Phoenix, AZ</i>	Jan 2026
<b>Paper Presentation: The Solstitial Axis: Solar Alignments in Ancient Mesoamerica</b> <i>Native American and Indigenous Studies Association Annual Conference, Oklahoma City, OK</i>	Jun 2025
<b>Oral Presentation: Black hole growth and connections to dark matter halos: new insights from wide-field cosmological surveys</b> <i>245<sup>th</sup> Meeting of the American Astronomical Society, National Harbor, MD</i>	Jan 2025
<b>Oral Presentation: Teotihuacan, Quasars, and Indigenous Astronomy in the 21st Century</b> <i>The Peoples' Sky Symposium, Princeton University</i>	Nov 2024

<b>Oral Presentation</b> <i>The Origin and Evolution of Supermassive Black Holes Conference, Sexten Center for Astrophysics, Sexten, Italy</i>	Jul 2024
<b>Oral Presentation</b> <i>Asterisms: The Relations among their Verbal, Numerical, and Visual Representations Across Cultures in Research and Public Outreach, Institute for Advanced Study, Princeton</i>	Feb 2024
<b>Panel Discussion after screening of <i>Killers of the Flower Moon</i></b> <i>Princeton University</i>	Nov 2023
<b>CMB Group Meeting Presentation</b> <i>Astronomy Department, Harvard University</i>	Jul 2023
<b>Oral Presentation</b> <i>From the Galaxy to the Big Bang Conference, Bayuls Sur Mer, France</i>	Jun 2023
<b>Oral Presentation</b> <i>CMB Foregrounds and Galactic Science Workshop, Tenerife, Spain</i>	Dec 2022
<b>Panel Discussion with Osage Nation Principal Chief, Geoffrey Standing Bear</b> <i>Department of Anthropology, Princeton University</i>	Nov 2022
<b>Collaboration Meeting Presentation</b> <i>Atacama Cosmology Telescope Collaboration</i>	Oct 2022
<b>Collaboration Meeting Presentation</b> <i>Atacama Cosmology Telescope Collaboration</i>	Jul 2021
<b>Dissertation Presentation</b> <i>Department of Archaeology, University of Cambridge</i>	Mar 2020
<b>Senior Thesis Presentation</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Apr 2019
<b>JPL Astrophysics Summer Intern Colloquium</b> <i>Jet Propulsion Laboratory, California Institute of Technology</i>	Aug 2018
<b>GUEST LECTURES</b>	
<b>Archaeoastronomy of North America and Ancient Mexico (2 Lecture Series)</b> <i>An Overview of Ancient Astronomy Around the World (FRS 155), Princeton University</i>	Nov 2024
<b>Osage History, Literature, Past, Present, and Future</b> <i>Native American Literature: An Introduction (ETHN 0090D), Brown University</i>	Oct 2024
<b>Solstices and Hilltops: A Brief Overview of Indigenous Astronomy</b> <i>Native American History (HIS 271 / AMS 271), Princeton University</i>	Sep 2023
<b>PUBLIC TALKS</b>	
<b>Ongoing series on Astronomy, Physics, and Archaeoastronomy</b> <i>Daposka Ahnkodapi (Our School), Osage Nation, Pawhuska, OK</i> Recent review articles: <a href="#">2024</a> , <a href="#">2025</a>	2022 – Present
<b>Explore the Universe: Featuring Astrophysicist Rodrigo Córdova Rosado, a Native American Heritage Month Event</b> <i>Museum of Science, Boston</i>	Nov 2024
<b>The History of the Universe, as Told by Dark Matter</b> <i>TEDxMahwah, Mahwah, New Jersey</i> Video accessible <a href="#">here</a> .	Aug 2024
<b>From Puerto Rico to the Study of Quasars</b> <i>Hispanics Inspiring Students' Performance and Achievement (HISPA) Kick-off Event</i>	Sep 2023
<b>Escuchando el vacío: La búsqueda de vida extraterrestre y Arecibo</b> <i>Arecibo Observatory, Puerto Rico</i>	Oct 2022
<b>Los agujeros negros: qué son y cómo los observamos</b> <i>Arecibo Observatory, Puerto Rico</i>	May 2022
<b>The History of the Universe</b> <i>STEAM Teaching at Arecibo Academy, Arecibo Observatory, Puerto Rico</i>	Apr 2022

	<b>Astronomía y la Arqueoastronomía</b>	
	<i>STEAM Teaching at Arecibo Academy, Arecibo Observatory, Puerto Rico</i>	Mar 2021 & 2022, Oct 2022
	<b>Cosmología y Agujeros Negros</b>	
	<i>Colegio San Antonio &amp; Colegio San Ignacio, San Juan, Puerto Rico</i>	Aug 2022
	<b>La Historia de Día de los Muertos</b>	
	<i>Day of the Dead Event, Office of Access, Diversity &amp; Inclusion, Princeton University</i>	Nov 2021
	<b>Astronomía como Carrera Científica</b>	
	<i>Centro CRECE, San Juan, Puerto Rico</i>	Nov 2021
	<b>Cosmología Moderna</b>	
	<i>STEAM Teaching at Arecibo (STAR) Academy, Arecibo Observatory, Puerto Rico</i>	May 2021
	<b>Archaeoastronomy of the American Southwest</b>	
	<i>Internal Symposium, Sidney Sussex College, Cambridge, UK</i>	Feb 2020
	<b>The Archaeoastronomy of Chaco Canyon</b>	
	<i>Internal Symposium, Gates Cambridge Scholars, University of Cambridge</i>	Feb 2020
	<b>La Primera Sombra de un Hoyo Negro</b>	
	<i>Colegio San Ignacio de Loyola, San Juan, Puerto Rico</i>	Sep 2019
	<b>Public Observing Night with PBHA Mission Hill Afterschool Program</b>	
	<i>Loomis-Michael Observatory, Harvard University</i>	Mar 2019
	<b>Eclipse Solar 2017</b>	
	<i>Colegio San Ignacio de Loyola, San Juan, Puerto Rico</i>	Aug 2017
<b>PROFESSIONAL ASSOCIATIONS</b>	American Astronomical Society (AAS) Society of Indigenous Physicists (SIP) Native American and Indigenous Studies Association (NAISA)	
<b>LANGUAGES</b>	Spanish & English: Bilingual. Osage: Beginner-Intermediate. Ancient Greek: Intermediate (reading); basic (speaking, writing).	
<b>SKILLS</b>	Python, Linux/Unix, L <sup>A</sup> T <sub>E</sub> X, MATLAB, Mathematica, C, Adobe Lightroom, American Mountain Guide Association (AMGA) Certified Climbing Instructor	