

Rodrigo E. L. Córdova Rosado

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Osage Nation Tribal Enrollment No. 025118

KEYWORDS	Active Galactic Nuclei (16), Observational cosmology (1146), Gravitaional Lensing (670)
EDUCATION	Princeton University , 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 University of Cambridge , Cambridge, Cambridgeshire, UK MPhil in Archaeology of the Americas 2019 – 2020 <i>Dissertation Title:</i> “New Approaches to the Archaeoastronomy of Chaco Canyon” Harvard University , Cambridge, Massachusetts, USA <i>Cum Laude</i> Joint A.B. in Astrophysics-Physics 2015 – 2019 Secondary in Archaeology
PROFESSIONAL APPOINTMENTS	AGEL Postdoctoral Fellow Aug 2025 - Present Smithsonian Astrophysical Observatory, Center for Astrophysics Harvard & Smithsonian
	Resident Tutor Currier House, Harvard University 2025 – Present
	Graduate Fellow Liechtenstein Institute on Self Determination (LISD), Princeton University 2023 – 2025 Working with Prof. Danspeckgruber
	Non Resident Tutor Currier House, Harvard University 2022 – 2025
	Graduate Assistant in Instruction Department of Astrophysical Sciences, Princeton University AST 203 - The Universe (Spring 2022) AST 205 - Planets of the Universe (Fall 2021)
	Resident Graduate Student Forbes College, Princeton University 2021 – 2025
	Graduate Researcher Department of Astrophysical Sciences, Princeton University 2020 – 2025
	Graduate Teaching Fellow Princeton University Preparatory Program (PUPP) 2020 – 2023
	Gates Cambridge Scholar University of Cambridge 2019 – 2020
	NASA/JPL Intern Caltech SURF Program, Jet Propulsion Laboratory, California Institute of Technology 2018
	SAO Intern Event Horizon Telescope, Smithsonian Astrophysical Observatory, Harvard University 2017 – 2018
	Clay Telescope Observer - Group Leader Harvard Observing Project – Center for Astrophysics Harvard & Smithsonian 2016 – 2019
	Affiliated Student - Banneker Institute Center for Astrophysics Harvard & Smithsonian 2016 – 2017
	Tutor - Bureau of Study Counsel 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", <i>The Astrophysical Journal</i> , 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", <i>The Astrophysical Journal</i> . Dec 2025. DOI: 10.3847/1538-4357/ae182e	
	Gottemoller, 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", <i>Submitted</i> . Oct 2025	
	Shajib, A., et al. "A supermassive black hole 7.1 gyr ago in the first Einstein Spiral gravitational lens,", <i>Submitted</i> .	
	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", <i>The Astrophysical Journal</i> , 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 ", <i>Submitted to The Astrophysical Journal</i> , Oct 2024. DOI: 10.48550/arXiv.2410.01884	
	Córdova Rosado, R. , Santini, L. M., "The Solstitial Axis: Solar Alignments in Ancient Mesoamerica", <i>Submitted to The Native American and Indigenous Studies Journal</i> .	
	Luo, Y., et at. , "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", <i>Monthly Notices of the Royal Astronomical Society</i> , 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", <i>The Astrophysical Journal</i> , Jan 2024. DOI: 10.3847/1538-4357/ad05cd	
	Raymond, A.; Palumbo, D.; Paine, S.; Blackburn, L. Córdova Rosado, R. ; Doeleman, S; et al., "Evaluation of New Submillimeter VLBI Sites for the Event Horizon Telescope," <i>The Astrophysical Journal, Supplemental Series</i> 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," <i>The Astrophysical Journal Letters</i> Apr 2019. DOI:10.3847/2041-8213/ab0ec7	
	Event Horizon Telescope Collaboration et al. , "First M87 Event Horizon Telescope Results. II. Array and Instrumentation," <i>The Astrophysical Journal Letters</i> 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 × 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
Confronting simulations with the real Universe , Napa CA	
Scientific Organizing Committee	2026
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 Guajataca Summer Program , San Sebastián, Puerto Rico	
Archaeology Instructor	2020
Gates Scholars’ Sustainability Working Group , University of Cambridge	

External Action Group Leader	2019 – 2020
Student Astronomers of Harvard-Radcliffe (STAHR) , Harvard University President & Observatory Director	2018 – 2019
Harvard College Astrophysical Society , Harvard University Co-President	2017 – 2018
Harvard Archery Team , Harvard University President/ USA Archery Level 2 Instructor	2016 – 2018

PRESENTATIONS

INVITED TALKS

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

CONTRIBUTED TALKS AND OTHER ACADEMIC ENGAGEMENTS

Dissertation Talk: Black holes and dark matter: new insights from wide-field cosmological surveys 247 th Meeting of the American Astronomical Society, Phoenix, AZ	Jan 2026
Paper Presentation: The Solstitial Axis: Solar Alignments in Ancient Mesoamerica Native American and Indigenous Studies Association Annual Conference, Oklahoma City, OK	Jun 2025
Oral Presentation: Black hole growth and connections to dark matter halos: new insights from wide-field cosmological surveys 245 th Meeting of the American Astronomical Society, National Harbor, MD	Jan 2025

Oral Presentation: Teotihuacan, Quasars, and Indigenous Astronomy in the 21st Century		
<i>The Peoples' Sky Symposium, Princeton University</i>		Nov 2024
Oral Presentation		
<i>The Origin and Evolution of Supermassive Black Holes Conference, Sexten Center for Astrophysics, Sexten, Italy</i>		Jul 2024
Oral Presentation		
<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
Panel Discussion after screening of Killers of the Flower Moon		
<i>Princeton University</i>		Nov 2023
CMB Group Meeting Presentation		
<i>Astronomy Department, Harvard University</i>		Jul 2023
Oral Presentation		
<i>From the Galaxy to the Big Bang Conference, Bayuls Sur Mer, France</i>		Jun 2023
Oral Presentation		
<i>CMB Foregrounds and Galactic Science Workshop, Tenerife, Spain</i>		Dec 2022
Panel Discussion with Osage Nation Principal Chief, Geoffrey Standing Bear		
<i>Department of Anthropology, Princeton University</i>		Nov 2022
Collaboration Meeting Presentation		
<i>Atacama Cosmology Telescope Collaboration</i>		Oct 2022
Collaboration Meeting Presentation		
<i>Atacama Cosmology Telescope Collaboration</i>		Jul 2021
Dissertation Presentation		
<i>Department of Archaeology, University of Cambridge</i>		Mar 2020
Senior Thesis Presentation		
<i>Center for Astrophysics Harvard & Smithsonian</i>		Apr 2019
JPL Astrophysics Summer Intern Colloquium		
<i>Jet Propulsion Laboratory, California Institute of Technology</i>		Aug 2018
GUEST LECTURES		
Archaeoastronomy of North America and Ancient Mexico (2 Lecture Series)		
<i>An Overview of Ancient Astronomy Around the World (FRS 155), Princeton University</i>		Nov 2024
Osage History, Literature, Past, Present, and Future		
<i>Native American Literature: An Introduction (ETHN 0090D), Brown University</i>		Oct 2024
Solstices and Hilltops: A Brief Overview of Indigenous Astronomy		
<i>Native American History (HIS 271 / AMS 271), Princeton University</i>		Sep 2023
PUBLIC TALKS		
Ongoing series on Astronomy, Physics, and Archaeoastronomy		
<i>Daposka Ahnkodapi (Our School), Osage Nation, Pawhuska, OK</i>		2022 – Present
Recent review articles: 2024 , 2025		
Explore the Universe: Featuring Astrophysicist Rodrigo Córdova Rosado, a Native American Heritage Month Event		
<i>Museum of Science, Boston</i>		Nov 2024
The History of the Universe, as Told by Dark Matter		
<i>TEDxMahwah, Mahwah, New Jersey</i>		Aug 2024
Video accessible here .		
From Puerto Rico to the Study of Quasars		
<i>Hispanics Inspiring Students' Performance and Achievement (HISPA) Kick-off Event</i>		Sep 2023
Escuchando el vacío: La búsqueda de vida extraterrestre y Arecibo		
<i>Arecibo Observatory, Puerto Rico</i>		Oct 2022
Los agujeros negros: qué son y cómo los observamos		
<i>Arecibo Observatory, Puerto Rico</i>		May 2022

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