

# Rodrigo E. L. Córdoba Rosado

Department of Astrophysical Sciences, Princeton University, 4 Ivy Lane, Princeton, NJ, 08540

rodrigoc@princeton.edu 

Osage Nation Tribal Enrollment No. 025118

<b>EDUCATION</b>	<b>Princeton University</b> , Princeton, New Jersey, USA	
	Ph.D. in Astrophysical Sciences	2020 – <i>Present</i>
	M.A. in Astrophysical Sciences	2022
	<b>University of Cambridge</b> , Cambridge, Cambridgeshire, UK	
	MPhil in Archaeology of the Americas	2019 – 2020
	Dissertation: “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>Graduate Fellow</b>	
	Lichtenstein Institute on Self Determination (LISD), Princeton University	2023 – <i>Present</i>
	<b>Non Resident Tutor</b>	
	Currier House, Harvard University	2022 – <i>Present</i>
	<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 – <i>Present</i>
	<b>Graduate Researcher</b>	
	Department of Astrophysical Sciences, Princeton University	2020 – <i>Present</i>
	<b>Graduate Teaching Fellow</b>	
	Princeton University Preparatory Program (PUPP)	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>	
	Center for Astrophysics   Harvard & Smithsonian	2016 – 2019
<b>HONORS &amp; AWARDS</b>	<b>Affiliated Student - Banneker Institute</b>	
	Center for Astrophysics   Harvard & Smithsonian	2016 – 2017
	<b>Tutor - Bureau of Study Counsel</b>	
	Harvard University	2016 – 2019
	Mentorship Award, Best of Access, Diversity and Inclusion Awards - Princeton University Graduate School	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

## SELECTED PUBLICATIONS

### PAPERS

**Córdova Rosado, R.**, “The Solstitial Axis: Solar Alignments in Ancient Mesoamerica”, *Submitted*. Available [here](#).

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al. “Cross-correlation of Luminous Red Galaxies with ML-selected AGN in HSC-SSP: Unobscured AGN residing in more massive halos”, *Submitted to The Astrophysical Journal*.

**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](https://doi.org/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,” *The Astrophysical Journal, Supplemental Series* Feb 2021. DOI: [10.3847/1538-3881/abc3c3](https://doi.org/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](https://doi.org/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](https://doi.org/10.3847/2041-8213/ab0c96)

### IN PREPARATION

**Córdova Rosado, R.**, Goulding, A., Greene, J., et al. “Cross-correlation of Luminous Red Galaxies with ML-selected AGN in HSC-SSP and DESI: A Spectroscopic Analysis.”

**Córdova Rosado, R.**, Fuentes, A., “The Role of Celestial Ecology in Early Hominin Development.”

### CONFERENCE POSTERS

**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>

### DATA RELEASES

Bieryla, A.; Carmichael, T; Challis, P.; **Cordova, R.**; Finkbeiner, D.; Gilchrist, R.; Komorowski, E.; Alonso-Monsalve, E. “spectral ID of supernova AT2017cjb ” 2017. <http://www.astronomerstelegam.org/?read=10178>

**Cordova, R.**; Cummins, K. “Transit Observation of HAT-P-37-b ” 2016. <http://var2.astro.cz/tresca/transit-detail.php?id=1461173881>

### 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 APPOINTMENTS

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

Organizing Board	2023 – Present
Vice President/Treasurer	2024 – Present
<b>Native Graduate Students of Princeton</b> , Princeton University	
Organizing Board	2022 – Present
President	2024 – Present
<b>Public Observing Program</b> , Princeton Department of Astrophysical Sciences	
Telescope Trainer and Co-Coordinator	2022 – Present
<b>National Program Subcommittee</b> , Order of the Arrow, Boy Scouts of America	
Board Member	2021 – Present
<b>National Scholarship Committee</b> , 2023 National Jamboree, Boy Scouts of America	
Director	2022 – 2023
<b>Climate Committee</b> , Princeton Department of Astrophysical Sciences	
Graduate Student Representative	2021 – 2023
<b>Graduate Student Committee</b> , Princeton Department of Astrophysical Sciences	
Graduate Student Representative	2020 – 2022
<b>Advisory Group to the Diversity and Inclusion National Committee</b> , Boy Scouts of America	
Founding Member	2020 – 2023
<b>Camp Guajataka Summer Program</b> , San Sebastián, Puerto Rico	
Archaeology Instructor	2020
<b>Gates Scholars’ Sustainability Working Group</b> , 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 ACADEMIC ENGAGEMENTS

### Oral Presentation

*Asterisms: The Relations among their Verbal, Numerical, and Visual Representations Across Cultures in Research and Public Outreach*, Institute for Advanced Study, Princeton Feb 2024

### Panel Discussion after screening of *Killers of the Flower Moon*

Princeton University Nov 2023

### Gravity Group Presentation

Department of Physics, Princeton University Oct 2023

### Oral Presentation

Seminar in honor of HSH, The Hereditary Prince Alois of Liechtenstein & HRH, The Hereditary Princess Sophie of Liechtenstein, LISD, Princeton University Sep 2023

### CMB Group Meeting Presentation

Astronomy Department, Harvard University Jul 2023

### Oral Presentation

From the Galaxy to the Big Bang Conference, Bayuls Sur Mer, France Jun 2023

### Oral Presentation

CMB Foregrounds and Galactic Science Workshop, Tenerife, Spain Dec 2022

### Panel Discussion with Osage Nation Principal Chief, Geoffrey Standing Bear

Department of Anthropology, Princeton University Nov 2022

### Collaboration Meeting Presentation

Atacama Cosmology Telescope Collaboration 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>Astrophysics Laboratory Research Presentation</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Apr 2018
<b>Junior Thesis Presentation</b> <i>Center for Astrophysics   Harvard &amp; Smithsonian</i>	Dec 2017

#### GUEST LECTURES

<b>Solstices and Hilltops: A Brief Overview of Indigenous Astronomy</b> <i>Native American History (HIS 271 / AMS 271), Princeton University</i>	Sep 2023
-----------------------------------------------------------------------------------------------------------------------------------------------------	----------

#### PUBLIC TALKS

<b>Ongoing series on Astronomy, Physics, and Archaeoastronomy</b> <i>Daposka Ahnkodapi (Our School), Osage Nation, Pawhuska, OK</i> See <a href="#">here</a> for recent review article.	2022 – Present
<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>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>Student Observing Night and Presentation</b> <i>Forbes College, Princeton University</i>	Sep 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

#### LANGUAGES

Spanish & English: Bilingual.  
Osage: Beginner-Intermediate.

Ancient Greek: Intermediate (reading); basic (speaking, writing).

## **SKILLS**

Python, Linux/Unix, L<sup>A</sup>T<sub>E</sub>X, MATLAB, Mathematica, C, Adobe Lightroom, American Mountain Guide Association Certified Climbing Instructor