

Nathalie K. Jones

CIERA Board of Visitors Fellow
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Education

Northwestern University
Ph.D. Student, Astronomy

Evanston, IL
September 2022 - Present

Northwestern University
M.S., Astronomy

Evanston, IL
August 2025

Bard College
B.A., Physics Major

Annandale-on-Hudson, NY
August 2017 - May 2021

[Senior Project Thesis](#): “Brightening of the Bridge: Reflections of a Past Sgr A* Outburst in Galactic Center Molecular Clouds”

Research Experience

Candidate Companions and Survey Statistics for the Gemini Planet Imager
April 2024 - Present

Northwestern University & Center for Interdisciplinary Research and Exploration in Astrophysics (CIERA)

Advisor: Jason Wang

- Create master detection table, categorize detected objects, select candidate threshold, astrometry and spectral extraction of candidates.
- Perform astrometric and spectral extraction using `pyKLIP` package.
- Develop spectral fitting `Python` routine, compare template spectra (`SpeX Prism Library`, `PHOENIX`) to Gemini Planet Imager Exoplanet Survey (`GPIES`) data to spectroscopically characterize detected objects.

Nebular Emission Line Diagnostics of $z \sim 0.7$ Pathfinder Galaxy Sample
January - September 2023

Northwestern University & CIERA

Advisor: Allison Strom

- Developing custom spectral fitting `Python` script in order to analyze pathfinder observations of $z \sim 0.7$ galaxies.
- Collect information on similar spectroscopic surveys, including data availability; Access archival data.
- Creating emission diagnostic diagrams for new `MOSFIRE` observations, including `N2BPT`, `S2BPT`, Mass-Excitation Diagram, and Stellar Mass (M_*) vs. $[NII]/H\alpha$.

Monitoring the Bridge Molecular Cloud Over 20-years

September 2021 - June 2022

Bard College Physics Program, Post-Baccalaureate Researcher

Advisor: Shuo Zhang

- Analyze and access archival `XMM-Newton` observations of the “Bridge” cloud in order to supplement `NuSTAR` data.
- Fit models to X-ray spectra.
- Produce images, plots for publication.
- Write paper draft for submission in `ApJ`.

X-Ray Reflections in Galactic Center Molecular Clouds

July 2020 - May 2021

Bard College, Senior Thesis Project

Advisors: Shuo Zhang, Matthew Deady

- Analyzing new and archival data from the Nuclear Spectroscopic Telescope Array (NuSTAR) of Galactic Center Molecular Cloud “Bridge”.
- Creating plots of X-Ray brightening trends of the Bridge Cloud over 8 years.
- Writing senior thesis.

Professional Experience

Program Coordinator; *CIERA REACH*

2024, 2025

- Plan and schedule Astro 101 lectures, activities, and panels. Recruit volunteer presenters, activity leaders.
- Manage students and volunteers. Facilitate talks, program transitions, and daily schedule to ensure program runs successfully.
- Present Astro 101 talks, lead activities such as ‘Ask me anything’ panel and ‘Introduction to Cosmology’.
- Utilize and manage Google Drive materials including presentations, schedules and student resources.

Virtual Summer Camp Instructor; *Lavner Education, Philadelphia*

2021

- Instruct students ages 6-13 in wide range of STEM related topics, including:
- Coding in Scratch and Python, Math Olympics and Virtual Science Lab camps, advanced gameplay and worldbuilding in Minecraft, Roblox, and Kerbal Space Program.
- Full-time instructor over Zoom.

Publications

HD 143811 AB b: A Directly Imaged Planet Orbiting a Spectroscopic Binary in Sco-Cen

Jones, N. K., et al. 2025 ApJL 995 L41

Selected Posters & Presentations

Old Data, New Planet: Finding Candidate Companions from the Gemini Planet Imager Exoplanet Survey

Contributed talk; February 2026; Spirit of Lyot 6, California Institute of Technology

The Gemini Planet Imager Exoplanet Survey:

Analysis of Candidate Companions

Poster; October 2025; 51 Peg b 30th Birthday Conference,

Observatoire de Haute-Provence

GPIES Candidate Companions & Observational Astronomy in Hawaii

Presentation; May 2025; CIERA Observers Meeting

GPIES Candidates Update & Prelim. Analysis

Presentation; November 2024; GPI Data Telecon

Observing and Understanding Intermediate z Galaxies and Star Formation History

Presentation; March 2023; CIERA Observers Meeting

Brightening of the Bridge: Reflections of a Past Sgr A* Outburst in Galactic Center Molecular Clouds

Virtual Presentation; May 2022; [ASNY Undergraduate Writing Prize Talk](#)

Reflections: Reprocessed X-Ray Emission in the Galactic Center and Life After Bard

Undergraduate Seminar; April 2022; [Bard College Department of Physics](#)

20-Year-Long Time Variability of Galactic Center Molecular Cloud “Bridge” Revealed by NuSTAR and XMM-Newton

iPoster; January 2022; #239 AAS Conference

Continuing Brightening of a Sgr A Complex Molecular Cloud: Revealing More Details about Past Sgr A* Activities,

iPoster; June 2021; #238 AAS Conference

Media & Press Releases

Nathalie Jones & Jason Wang, Rare image of Tatooine-like planet is closest to its twin stars yet; [Northwestern Now](#)

Shuo Zhang, **Nathalie Jones,** & Field Rogers, *Giant Molecular Clouds: Storytellers of the Galactic Center’s History in the Past Few Hundred Years;* [#239 AAS Conference](#)

Awards & Honors

CIERA Board of Visitors Fellowship 2025-2026
UN CIFAL/NSF Certificate of Completion, GIS for Sustainability and Resilience in the Pacific, Foundations Course 2024
Chaminade Univeristy, Honolulu
NSF ALL-SPICE Alliance Scholarship (\$1500), 2024
Chaminade University, Honolulu
Undergraduate Writing Prize (\$500), Astronomical Society of New York 2022
Fulbright Scholarship Alternate 2021
Bard Scholarship, Bard College 2017 - 2021
Bard Summer Research Institute Scholarship, Bard College 2019 & 2020

Additional Teaching Experience

Teaching Assistant: PHYS 136-2 & 3, 2024 - 2025
Northwestern University
Planetary Astrophysics: ASTRON 314/414 Grader, 2025
Northwestern University
Introduction to Physics II Tutor, Bard College 2020
Global Energy Tutor, Bard College 2020

Outreach & Leadership

Invited Guest Lecturer; January 2026
International Youth Astronomy Society (Virtual)
Indigenous Graduate Student Collective President; May 2025 - Present
Northwestern University
CIERA Astronomer Evening Lecturer; Dearborn Observatory March 2025
DEI, Teaching Assistant Committees; [Northwestern PAGSC](#) 2024 - Present
Annual Public Lecture Volunteer; [CIERA](#) 2024
Astronomy Night Out Volunteer; [CIERA](#) 2023, 2024
Activity Leader; [CIERA REACH](#) 2023

Mentorship

Christopher Hays & Warit Wijitworasart;
Physics Masters Students
[Northwestern PAGSC Mentorship Program](#)

2024 - 2025