Alexa R. Anderson

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Contact Information

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Education

Institute for Astronomy, University of Hawai'i at Manoa — 2020 – Present
Honolulu, HI, USA
M.S. in Astronomy — Fall 2022
Ph.D. in Astronomy — expected May 2026

Yale University — 2016–2020
New Haven, CT, USA
B.S. in Astrophysics
Thesis: Using Dark Molecular Clouds to Understand Distant Galaxies
Advisor: Hector Arce

Research Positions

Graduate Researcher, Institute for Astronomy — August 2022 – Present
Advisor: Jonathan Williams
Summary: Focused on mid-infrared spectroscopy of protoplanetary disks using Keck II NIRSPEC+AO and IRTF iSHELL.

Graduate Researcher, Institute for Astronomy — August 2021 – Present
Advisor: Eric Gaidos
Summary: Characterized the inner protoplanetary disk of a variable YSO using contemporaneous, multiwavelength (IR - X-ray) data; developed a photometry pipeline for infrared and optical instruments on the Rapid Eye Mount Telescope

Graduate Researcher, Institute for Astronomy — August 2020 – August 2021
Advisor: Jonathan Williams
Summary: Surveyed protoplanetary and protostellar disk masses in the Serpens region and analyzed evolutionary trends across different star-forming regions

NSF REU Researcher, Haystack Observatory, MIT — May 2019 – August 2019
Advisor: Jens Kauffmann
Summary: Created an algorithm to describe the density structure of molecular clouds with dendrograms; analyzed temperature, density, and star formation rates of clouds in the LEGO survey; created script for automatic cutouts from IRSA's IPAC database

Undergraduate Researcher, STARS II Fellow, Yale University — Oct 2018 - May 2020
Advisors: Marla Geha & Hector Arce
Summary: Analyzed kinematics of dwarf galaxies; characterized structure and star formation rate of IC 5146

Undergraduate Researcher, Yale University — May 2018 – Aug 2018
Advisor: Hector Arce
Summary: Mapped emission lines from molecular outflows for protostars in Perseus

Undergraduate Researcher, STARS Summer Fellow, Yale University — May 2017 – Aug 2017
Advisor: Marla Geha
Summary: Modeled satellite galaxy color evolution

Refereed Publications

1. **Anderson, A.R.**, Williams, J.P., van der Marel, N., et al. 2022 (*938, 55, ApJ*). *Protostellar and Protoplanetary Disk Masses in the Serpens Region*

Fellowships & Awards

Best Second-Year Project — Institute for Astronomy, 2022
Best First-Year Project — Institute for Astronomy, 2021

	Director's Research Excellence Award	Institute for Astronomy, 2020
	George Beckwith Prize for Outstanding Graduating Senior	Yale University, 2020
	Research Experience for Undergraduates (REU) Fellowship at MIT	NSF, 2019
	Science, Technology, and Research Scholars II Fellow	Yale University, 2018 – 2020
	Science, Technology, and Research Scholar Summer Fellow	Yale University, 2017

Presentations (*invited)

Joint ALMA Observatory Jets and Discs e-Study Meeting*	January 2023
235th Meeting of the American Astronomical Society	January 2020
Science, Technology, and Research Scholars at Yale II Program Symposium	November 2019
Columbia Undergraduate Science Journal Symposium	April 2019
Science, Technology, and Research Scholars at Yale II Program Symposium	April 2019
Science, Technology, and Research Scholars at Yale Program Summer Symposium	July 2017

Telescope Proposals

Keck Observatory (NIRSPEC+AO) - 2.5 nights awarded (Co-I)	UH 2023A
COnnecting the inner and outer regions of protoplanetary disks	
PI: Jonathan P. Williams	
Keck Observatory (NIRSPEC+AO) - 2.5 nights awarded (PI)	UH 2023A
Resolving protoplanetary disk kinematics to interpret JWST spectra	
Co-Is: Jonathan P. Williams, Adwin Boogert, Clara Ross	
NASA IRTF (SpeX) - 6 hours awarded (Co-I)	UH 2022B
Running Out of Gas Near the End of Planet Formation	
PI: Eric Gaidos; Co-I: Rena A. Lee	
Keck Observatory (NIRSPEC+AO) - 3 nights awarded (Co-I)	UH 2022B
Resolving protoplanetary disk kinematics to interpret JWST spectra	
PI: Jonathan P. Williams; Co-I: Adwin Boogert	

Observing Experience

Keck 2 (10 m) NIRSPEC: Ten 1/2 nights	2022
IRTF (3 m) iSHELL: 1/2 night	2022
IRTF (3 m) SpeX: 1/2 night	2020
IRAM Telescope (30 m): 3 nights	2020

Department Service

Office Space Representative	2022 - 2023
Faculty Mentor Working Group	2022
IfA Graduate Admissions Representative	2021 - 2022

Outreach

Maunakea Observatories Kona AstroDay	November 2022
Maunakea Scholars Program	September 2022 - Present
Hawaii Geek Meet	September 2022
Institute for Astronomy Open House and Invited Talk	April 2022
Maunakea Observatories Virtual AstroDay	April 2021

Mentorship (*Invited)

IfA Mentoring in Lower Years Mentor	2022 - Present
IfA REU Coffee Chat Mentor	2021 - Present
STARS Summer: Applying to Graduate School Panelist*	2020
Yale Engineering and Science Weekend Panelist*	2020
STARS II Senior Mentor	2019 - 2020