

Jed McKinney

NASA HUBBLE FELLOW AT UT AUSTIN

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Summary

Research	Charting the role of dust in the growth and evolution of galaxies from the first galaxies through today. Probing dust content and properties to constrain their physical nature, including active galactic nuclei. Using optical, near-infrared, mid-infrared, far-infrared/sub-mm, and radio observations to measure baryonic properties and numerical simulations to build a complete evolutionary picture of galaxy evolution.
Mentoring	8 undergrad (4 to grad school), 2 grad, 2 postdocs. Awards received by mentees: Goldwater, NSF GRFP, NSF AAPF
Grants	\$992k in grant funding secured from NASA, NRAO, and Heising-Simons.
Publications	11 first-author, 35+ co-author
Observing	12 PI programs on <i>JWST</i> , ALMA, VLA, IRAM, LMT (230 total hours).
Talks	23 talks, 11 invited.
Leadership	NASA Advisory Council (IRSTIG), Mission Concept Science Affiliate & Working Group Lead (PRIMA), Science collaboration leadership roles (COSMOS-Web, choir), Astronomy on Tap host/organizer (Austin, TX).

Education

The University of Massachusetts, Amherst

Astronomy PhD. Advisor: Alexandra Pope

Amherst, MA

Sept 2017 - August 2022

Tufts University

BS Astrophysics, Math Minor. Advisor: Anna Sajina

Boston, MA

Sept 2013 - August 2017

Positions

NASA Hubble Fellow

Faculty sponsor: Caitlin Casey (2024-2025), Julian Munoz (2025-present)

UT Austin

Aug 2024 - Present

Postdoctoral Fellow

Faculty sponsor: Caitlin Casey

UT Austin

Sept 2022 - July 2024

Caltech/IPAC Visiting Graduate Fellow

Advisor: Lee Armus

Caltech

Sept 2022 - July 2024

Graduate Research Assistant

Advisor: Alexandra Pope (PhD), Anne Jaskot

UMass

Sept 2017 - July 2022

Undergraduate Research Assistant

Advisor: Anna Sajina

Tufts

2015 - 2017

Grants

Heising-Simons Foundation Conference Support funded for \$70k

New Results Challenging Underlying Assumptions in Galaxy Evolution and Beyond

UT Austin

2024

- Funds to host the inaugural conference for a science collaboration that I co-founded.
- Additional \$9k from the North American ALMA Science Center for junior participant travel support.

JWST Cycle 3 AR #5213 funded for \$326k

SCUBADive: A JWST Archival Analysis of the Most Dust-Obscured Galaxies Across Cosmic Time

UT Austin

2024

- Archival project to identify every JWST counterpart to bright sub-mm sources in all fields with JWST and sub-mm imaging.
- Two publications, two in-prep. 4 undergraduate projects, 2 current graduate theses, 3+ future graduate theses.

JWST Cycle 2 GO #3224 funded for \$554k

Measuring Dust Evolution Over the Past 10 Billion Years with 3 — 12 μm Spectra for 60 High- z Galaxies

UT Austin

2023

- The first MIRI LRS survey with JWST
- One published paper (McKinney et al., 2025c), three in-prep. 2 undergraduate projects, 1 graduate thesis, 2+ future graduate theses.

Archival ALMA Support SOSPADA-011 funded for \$34k

An archival analysis on the infrared sizes of distant, dust-obscured galaxies

UMass

2021

- Funded the final year of my dissertation with an archival research grant from the North American ALMA Science Center.

Observing

Pioneering empirical constraint on dust in the early Universe

1 approved JWST program: Cycle 2 GO #3224

Spectroscopic diagnostics of cold gas fueling star-formation

4 approved ALMA programs: 2021.1.00953.S, 2022.1.00101.S, 2023.1.00462.S, 2024.1.00538.S

2 approved VLA programs: 19B-254, 21A-036

1 approved IRAM program: 168-22

Dust continuum surveys of sub-millimeter galaxies in JWST legacy extragalactic fields

1 approved JWST AR program: Cycle 3 AR #5213

2 approved ALMA programs: 2023.1.00170.S, 2025.1.00869.S

1 approved LMT program: 2023-S2-US-16

Approved programs that I contributed to as co-investigator:

- 15 ALMA (over 300 hours), 9 JWST (over 300 hours), and several other LMT, GBT, SOFIA, SMA, and VLA programs.

Mentoring

Postdoctoral Fellows

2 former UT grad student mentees who I hired as postdocs before they departed for prize fellowships.

- **Olivia Cooper** Former UT Postdoc, now NSF AAPF at CU Boulder. Regular meetings to discuss science and professional development.
- **Lindsay House** Former UT Postdoc, now SkAI Preceptor (joint position between UChicago, the SkAI Institute, and Chicago State University).

Graduate Students

Funded through GO #3224 and AR #5213

- **Miriam Eleazer** UMass grad, thesis on GO #3224. Regular meetings to discuss science and career goals.
- **Dhruv Zimmerman** UFlorida grad, visiting grad research fellow at UT under my supervision (begins Jan 2026).

Undergraduate Students

4 to grad school, 4 1st-author publications, Goldwater and NSF GRFP recipients

- **Elaine Gammon** (2023-Present). UGA undergrad, UT REU. Undergrad advisee receiving Goldwater and GRFP. Now externally advised UW grad.
- **Camila Silva** (2024 - 2025). UChicago Undergrad, UT REU. Now UCSC graduate student. Published AAS Research Note.
- **Virginia Vanicek** (2024 - Present) UT Undergrad applying to grad school with advanced ApJ Letter in prep.
- **Cassidy Novack** (2025 - Present) Whitman undergrad, UT Summer RA. Applying to grad school with in prep RNAAS.
- **Leo Sajkov** Tufts undergrad, worked on GO #3224. 1st author publication, now graduate student at Stanford.
- **Meredith Stone** (2018-2022) 1st author publication as UMass undergrad, Goldwater scholar. Now UArizona grad student.
- **Rucellie Jimenez** (2021-2022) UMass undergrad.
- **Owen Henry** (2019-2020) UMass undergrad, 1st author RNAAS.

Teaching

UT Introductory Astronomy for non-majors

Guest lectured extragalactic modules for 100+ undergrads.

UT Austin

2023

Summer Pre-College Astronomy

Designed and delivered lectures for rising freshman.

UMass

2018-2019

Computer Science Workshops for Undergrads

Built astronomy-oriented coding bootcamp for undergrads.

UMass

2018

Outreach and Service

Astronomy on Tap, Austin TX

Host and Organizer

UT Austin

2023 - Present

- Host of monthly show with crowds reaching 150+. One of the longest running and largest Astronomy on Tap show in the country.

Junior Scientist Working Group Lead

COSMOS-Web collaboration

Virtual

2022 - 2024

- Led Junior Scientist working group of largest JWST Cycle 1 collaboration. Ran monthly meetings, led creation of code of conduct.

Conference Organizing

Organizer role in 3 conferences

UT Austin

2023 - 2025

- (SOC/LOC, grant coPI) Inaugural **choir** conference on science and mentoring.
- 8th (SOC/LOC) and 9th (SOC) New Horizons Bash Symposium. UT Austin conferences highlighting excellence in postdoctoral research.

Media Appearances

Public television news, podcasts

Austin, TX

2023 - Present

- Telemundo Odessa TV Interview. Television feature on JWST.
- Season 2 Episode 3 of Paradise City Podcast, “Paradise Is... A Starry Night” . Interview on the joy of discovery and community in Astronomy.

Department Roles

4 committees, including UT Graduate Admissions

UT, UMass

2020 - Present

- UT Austin 2023 Graduate Admissions Committee
- UMass Astronomy DEI committee chair
- UMass Freshman undergraduate Astronomy advisor
- UMass Graduate student recruitment committee

Membership

Science Collaborations

- choir, Leadership Council and Founding Member (2024 - Present)
- The Cosmic Evolution Survey (COSMOS), and COSMOS-Web (2022 - Present)
- The Cosmic Evolution Early Release Science (CEERS) Survey (2022 - Present)
- The Great Observatories All-sky LIRG Survey (GOALS, 2021 - Present)

Professional Organizations

- PRIMA Science Affiliate, Galaxy Evolution Working Group Lead (2025 - Present)
- PRIMA Galaxy Evolution Science Working Group Member (2023 - Present)
- NASA IR Science and Technology Integration Group Leadership Council (2022 - Present)
- New Great Observatories Science Analysis Group (2023 - Present)
- American Astronomical Society (2016 - Present)

Talks

2026	Upcoming - invited , Leiden Lorentz Workshop on Cosmic Noon	NL
2025	Upcoming - contributed , Dust Universes 2025: the Fifth Pan Dust Conference	AZ, USA
2025	Contributed , NASA Hubble Fellowship Symposium	MD, USA
2025	Organizer Review Lecture , New Data that Challenge Underlying Assumptions in Galaxy Evolution	ME, USA
2025	Contributed , Infrared Fine-Structure Lines	MN, USA
2025	Contributed , Cosmic Frontiers Center Inaugural Conference	TX, USA
2025	Contributed , PRIMA Working Meeting	CA, USA
2025	Invited , UW Galaxy Evolution Seminar	WA, USA
2024	Contributed , Physical Simulations of PAH Emission in Galaxies II	VA, USA
2024	Contributed , CFC-CCA Workshop	TX, USA
2024	Invited , University of Maryland Colloquium	MD, USA
2024	Contributed , NASA Hubble Fellowship Symposium	CA, USA
2024	Invited , Cosmic Odysseys	Crete
2024	Contributed , The Physics and Impact of Astrophysical Dust	CO, USA
2024	Invited , IA-FORTH Astronomy Seminar	virtual
2024	Contributed , AAS 243	LA, USA
2023	Contributed , 10 Years of ALMA: Past, Present, and Future	Chile
2023	Invited , Texas A&M Astronomy Colloquium	TX, USA
2023	Contributed , COSMOS Team Meeting	NY, USA
2023	Contributed , CEERS Team Meeting	TX, USA
2023	Invited , NOIRLab FLASH Astronomy Seminar	AZ, USA
2023	Contributed , AAS 240	WA, USA
2022	Invited , Tufts Astronomy Seminar	virtual
2022	Invited , IRSTIG Webinar Seminar	virtual
2022	Contributed , IR Science and Technology Workshop	CO, USA
2022	Invited , Princeton Galread Seminar	virtual
2022	Invited , UConn Astronomy Seminar	CT, USA
2022	Invited , Caltech Tea Talk Series	virtual
2021	4 invited, 5 contributed , between 2018-2021	

First-Author Publications

11 first-author publications since 2019 with 173 citations (removing self-references).

<i>A JWST MIRI LRS Survey of 37 Massive Star-Forming Galaxies and AGN at Cosmic Noon – Overview and First Results</i>	2025
McKinney et al., 2025, arXiv:2510.07365	
<i>Modeling Galaxies in the Early Universe with Supernova Dust Attenuation</i>	2025
McKinney et al., 2025, ApJL, 985, 21.	
<i>SCUBADive I: JWST+ALMA Analysis of 289 Sub-millimeter Galaxies in COSMOS-Web</i>	2024
McKinney et al., 2024, ApJ, 979, 229	
<i>A Near-Infrared Faint, Far-Infrared-Luminous Dusty Galaxy at $z \sim 5$ in COSMOS-Web</i>	2023
McKinney et al., 2023, ApJL, 956, 72	
<i>Broad Emission Lines in Optical Spectra of Hot Dust-obscured Galaxies can Contribute Significantly to JWST/NIRCam Photometry</i>	2023
McKinney et al., 2023, ApJL, 946, 39	
<i>The IR Compactness of Dusty Galaxies Set Star-formation and Dust Properties at $z \sim 0 - 2$</i>	2023
McKinney et al., 2023, ApJ, 955, 136	
<i>Measuring the Total Ultraviolet Light from Galaxy Clusters at $z = 0.5 - 1.6$: The Balance of Obscured and Unobscured Star-Formation</i>	2022
McKinney et al., 2022, ApJ, 928, 88	
<i>Dust-Enshrouded AGN can Dominate Host-Galaxy-Scale Cold-Dust Emission</i>	2021
McKinney et al., 2021, ApJ, 921, 55	
<i>Regulating Star Formation in Nearby Dusty Galaxies: Low Photoelectric Efficiencies in the Most Compact Systems</i>	2021
McKinney et al., 2021, ApJ, 908, 238	
<i>Measuring the Heating and Cooling of the Interstellar Medium at High Redshift: PAH and [C II] Observations of the Same Star-forming Galaxies at $z \sim 2$</i>	2020
McKinney et al., 2020, ApJ, 892, 119	
<i>Neutral Gas and Lyα Escape in Extreme Green Pea Galaxies</i>	2019
McKinney et al., 2019, ApJ, 874, 52	

Co-Author Publications

Top 40 of 63 total co-author papers since 2017, 40% in 2025.

Harish et al., 2025, ApJ, 992, 45	2025
Silverman et al., 2025, arXiv:2509.20548	2025
Akins et al., 2025, arXiv:2503.00998	2025
Akins et al., 2025, ApJ, 980, 29	2025
Greta et al., 2025, arXiv:2509.08040	2025
Liu et al., 2025, MNRAS, 542, 397	2025
Casey et al., 2025, ApJ, 990, 61	2025
Akins et al., 2025, arXiv:2508.06607	2025
Abedini et al., 2025, arXiv:2506.04138	2025
Gozaliasl et al., 2025, arXiv:2506.04031	2025
Franco et al., 2025, arXiv:2506.03256	2025
Sajina et al., 2025, ApJ, 985, 201	2025
Manning et al., 2025, arXiv 2505.09730	2025
Toni et al., 2025, A&A, 697, 197	2025
Gentile et al., 2025, A&A, 697, 46	2025
Akins et al., 2025, ApJ, 991, 37	2025
Cooper et al., 2025, ApJ, 982, 125	2025
Paquereau et al., 2025, arXiv:2501.11674	2025
Faisst et al., 2025, ApJ, 980, 204	2025

Lambrides et al., 2024, arXiv:2409.13047

Gentile et al., 2024, ApJ, 973

Casey et al., 2024, 975, 4

Mizener et al., 2024, ApJ, 970, 30

Sajkov et al., 2024, ApJ, 977, 115

Zavala et al., 2025, Nature Astronomy, 155

Long et al., 2024, ApJ, 970, 68

Casey et al., 2024, ApJ, 965, 98

Franco et al., 2024, ApJ, 973, 23

Bianchin et al., 2024, ApJ, 965, 103

Young et al., 2023, ApJ, 958, 5

Akins et al., 2023, ApJ, 956, 61

Fujimoto et al., 2023, ApJ, 955, 130

Casey & Kartaltepe et al., 2023, ApJ, 954, 31

Kirkpatrick et al., 2023, ApJ, 959, 7

Popescu et al., 2023, ApJ, 958, 12

Pope et al., 2023, ApJL, 951, 46

Rich et al., 2023, ApJ, 944, 50

Armus et al., 2023, ApJ, 942, 37

Lai et al., 2022, ApJL, 941, 36

U et al., 2022, ApJ, 940, 5

Song et al., 2022, ApJ, 940, 52

Stone et al., 2022, ApJ, 934, 27

Song et al., 2021, ApJ, 916, 73

Stacey et al., 2021, MNRAS, 501, 1970

Henry et al., 2019, RNAAS, 3, 199

Jaskot et al., 2019, ApJ, 885, 96

Bonato et al., 2017, ApJ, 836, 171

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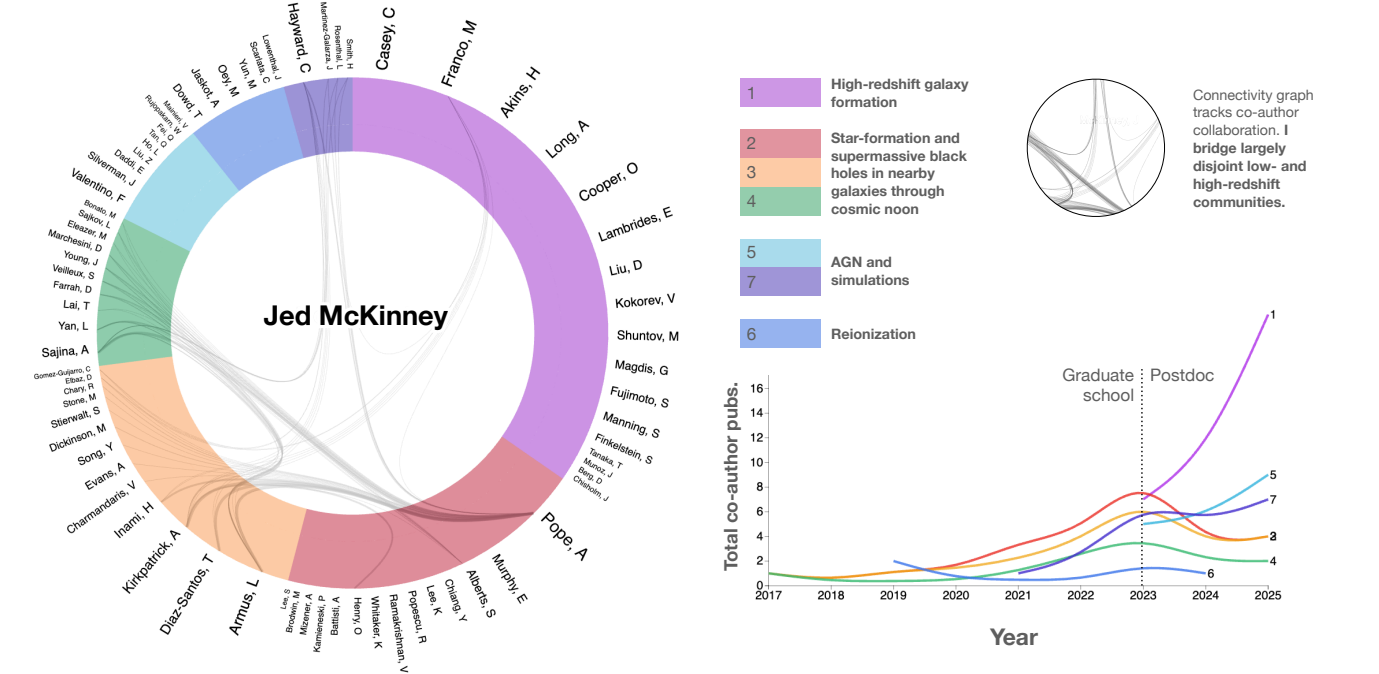
2021

2021

2019

2019

2017



ADS author network graph visualizing the inter-connectivity between myself and my collaborators, who are each grouped by their own mutual connectivity that generally tracks with sub-field. While starting my postdoc in late 2022 I began to bridge largely disjoint low- and high-redshift galaxy evolution communities.