CURRICULUM VITAE

RYAN P KEENAN

Contact Information

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Education

2017-Present	University of Arizona
	Ph.D., Astronomy and Astrophysics (expected June 2023)
	Advisor: Dan Marrone
	M.S., Astronomy and Astrophysics (2020)
2013-2017	University of Michigan
	B.S., Applied Mathematics, Astronomy and Astrophysics, Physics (2017)
	Advisor: Sally Oey — Thesis: Lyman Continuum Escape From Haro 11

Fellowships, Awards, and Honors

2021	University of Arizona Departmental Graduate Student Award for Excellence in Service
2019-Present	National Science Foundation Graduate Research Fellowship
2017	University of Michigan Departmental Award for Best Senior Thesis in Astronomy
2014-2017	College Honors, University of Michigan
2013-2017	Stamps Leadership Scholar
2016	Honors Travel Grant for thesis-related work
2016	Sigma Pi Sigma Honors Society Inductee
2013	Energy Solutions Scholarship Recipient

Leadership in Diversity Equity and Inclusion

2022-present	Advisor for Mentorship and Education in SCIence for Tucson (MESCIT)
2022	Mentor for Arizona's Science, Engineering, and Math Scholars Program (ASEMS)
2020-2021	Graduate Student Representative, Steward Observatory Diversity, Equity and Inclusion Initiative Task Force on Mentorship
2020	Coordinator for Tucson Initiative for Minority Engagement in Science and TEchnology Program (TIMESTEP) Summer Internship
2018-2022	Coordinator for Mentorship and Education in SCIence for Tucson (MESCIT)
2014-2019	Research/Writing Coach at Stegner Young Writing Scholar's Institute

Telescope Time Obtained As Primary Investigator

IRAM 30M/22Delta	"When is CO(2-1) a Total Molecular Gas Tracer?"
	Awarded Time: 49 hours (A Rank)
NOEMA/22W	"Exploring a CO-selected Galaxy with No Optical/IR Counterpart at z=2.3"
	Awarded Time: 3 hours (B Rank)
ARO SMT/22A	"Connecting Low- and High-Redshift Studies of Molecular Gas with AMISS"
	Awarded Time: 320 hours

ARO SMT/21A	"Connecting Low- and High-Redshift Studies of Molecular Gas with AMISS" Awarded Time: 624 hours
ARO SMT/20B	"Continuing the Arizona Molecular ISM Survey with the SMT" Awarded Time: 250 hours
ARO SMT/20A	"Arizona Molecular ISM Survey with the SMT (AMISS)" Awarded Time: 255 hours
MMT/20A	"Star formation in the largest molecular gas reservoirs at $z \sim 2$" Awarded time: 1.5 nights
Bok 2m/20A	"A measurement of molecular gas in normal star forming galaxies during the peak of cosmic star formation" Awarded time: 4 nights, program not observed due to COVID-19
ARO 12m/19B	"Survey of CO Emitters During the Epoch of Peak Star Formation" Awarded time: 217 hours

Publications

Refereed First Author Publications

1. "AMISS II: Variations in the CO(2-1)/CO(1-0) Line Ratio Across the Nearby Galaxy Population", **R. P. Keenan**, G. K. Keating & D. P. Marrone 2022, in preparation
2. "AMISS I: Survey Design, Data Reduction, and Public Release of the Arizona Molecular ISM Survey with the SMT", **R. P. Keenan**, D. P. Marrone & G. K. Keating 2022, in preparation
3. "An Intensity Mapping Constraint on the CO-Galaxy Cross Power Spectrum at Redshift $\sim$ 3", **R. P. Keenan**, G. K. Keating & D. P. Marrone 2022, *The Astrophysical Journal*, 927, 161
4. "Biases and Cosmic Variance in Molecular Gas Abundance Measurements at High Redshift", **R. P. Keenan**, D. P. Marrone, & G. K. Keating 2020, *The Astrophysical Journal*, 904, 127
5. "Haro 11: Where is the Lyman Continuum Source?", **R. P. Keenan**, M. S. Oey, A. E. Jaskot, & B. L. James 2017, *The Astrophysical Journal*, 848, 12

Refereed Collaborator Authored Publications

1. "Probing Cosmic Reionization and Molecular Gas Growth with TIME", G. Sun, T.-C. Chang, B. D. Uzgil, J. Bok, C. M. Bradford, V. Butler, C.-C. Tessalie, Y.-T. Cheng, A. Cooray, A. T. Crites, S. Hailey-Dunsheath, N. Emerson, F. Clifford, B. L. Hoscheit, J. R. Hunacek, **R. P. Keenan**, C.-T. Li, P. Madonia, D. P. Marrone, L. Moncelsi, C. Shiu, I. Trumper, A. Turner, A. Weber, T.-S. Wei, M. Zemcov 2020, *The Astrophysical Journal*, 915, 33
2. "An Intensity Mapping Detection of Aggregate CO Line Emission at 3 mm", G. K. Keating, D. P. Marrone, G. C. Bower, & **R. P. Keenan** 2020, *The Astrophysical Journal*, 901, 141
3. "Mapping Lyman Continuum Escape in Tololo 1247-232", G. Micheva, M. S. Oey, **R. P. Keenan**, A. E. Jaskot, & B. L. James 2018, *The Astrophysical Journal*, 867, 1

Technical Memos

1. "ARO Memo: ARO Memo: The Beam Size of the ARO Receivers", **R. P. Keenan** August 2022
2. "ARO Memo: The Focus of the Submillimeter Telescope", **R. P. Keenan** March 2022
3. "ARO Memo: The Focus of the 12M ALMA Prototype Antenna", **R. P. Keenan** March 2022

Talks and Posters

Research Talks and Posters

1. Cornell Galaxy Lunch, Ithaca, New York, USA, October 2022: "Tools for Measuring the Cosmic History of Molecular Gas" (talk)
2. SMA Seminar at Harvard & Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA, September 2022: "The AMISS Survey: Understanding CO(2-1) as a Molecular Gas Tracer" (talk)
3. Special Colloquium at Max Planck Institute for Radio Astronomy, Bonn, Germany, September 2022 "The AMISS Survey: Understanding CO(2-1) as a Molecular Gas Tracer" (talk)
4. XXXIst General Assembly of the IAU, Busan, Korea, August 2022: "Tools for Measuring the Cosmic History of Molecular Gas" (talk)
5. XXXIst General Assembly of the IAU, Busan, Korea, August 2022: "From CO Emission to Molecular Gas: How Excitation of CO Impacts the Sub/millimeter Observational Frontier" (poster)
6. SMA Seminar at Harvard & Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA, February 2022: "Tools for Measuring the Cosmic Molecular Gas History" (talk)
7. Steward Observatory Early Career Scientist Talk, Tucson, Arizona, USA, October 2021: "A Constraint on the CO-Galaxy Cross Power Spectrum at Redshift 3" (talk)
8. UChicago/KICP Line Intensity Mapping Workshop, July 2021: "A Constraint on the CO-Galaxy Cross Power Spectrum at Redshift 3" (talk)
9. UChicago/KICP Line Intensity Mapping Workshop, July 2021: "IMSim: An Intensity Mapping Simulation Pipeline" (talk)
10. Max Planck Institute for Astronomy Galaxy Coffee, Heidelberg, Germany, October 2020: "Quantifying Effects of Cosmic Variance on our Understanding of the Cosmic Abundance of Molecular Gas" (talk)
11. NOIRLab Friday Lunch Astronomy Seminar Hour, Tucson, Arizona, USA, October 2020: "Quantifying Effects of Cosmic Variance and Measurement Bias on our Understanding of the Cosmic Abundance of Molecular Gas" (talk)
12. Lines in the Large Scale Structure, Marseille, France, July 2019: "Simulating Future Intensity Mapping Fields" (talk)
13. University of Michigan Undergraduate Poster Session, Ann Arbor, Michigan, USA, April 2017: "Haro 11: Where is the Lyman Continuum Source?" (poster)
14. 229th Meeting of the American Astronomical Society, Grapevine, Texas, USA, January 2017: "Haro 11: Where is the Lyman Continuum Source?" (poster)

Outreach-Related Talks

1. Tucson Area Physics Teachers Breakfast, Tucson, Arizona, USA, October 2020: "Mentorship and Education in SCIence for Tucson" (talk, given with I. Shivaei and E. Schlawin)
2. NOAO Friday Lunch Astronomy Seminar Hour, Tucson, Arizona, USA, December 2019: "Mentorship and Education in SCIence for Tucson" (talk, given with I. Shivaei and E. Schlawin)

Teaching

2021 Spring	University of Arizona, ASTR302 Introduction to Observational Astronomy, Teaching Assistant
2020 Fall	University of Arizona, ASTR300A Dynamics in Astrophysics, Teaching Assistant
2017 Spring	University of Michigan, ASTRO 104 Alien Skies: A Tour Through the Universe, Grader
2016 Fall	University of Michigan, PHYSICS 453 Quantum Mechanics, Grader
2015 Fall, 2016 Spring	University of Michigan, PHYSICS 140 General Physics I, Learning Assistant