

# Vivian U

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## Professional Appointments

- 2020–Present\* **Assistant Research Astronomer**, UC Irvine.  
2018–2020 **Assistant Project Scientist**, UC Irvine.  
2017–2018 **Postdoctoral Scholar**, UC Irvine.  
2015–2017\* **University of California Chancellor’s Postdoctoral Fellow**, UC Riverside/Irvine.  
2012–2014\* **Thirty Meter Telescope Postdoctoral Scholar**, UC Riverside.

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## Education

- 2012 **Doctor of Philosophy**, *Astronomy*, University of Hawaii at Manoa, Honolulu, HI.  
Ph.D. Advisors: David Sanders and Giovanni Fazio  
2008 **Master of Science**, *Astronomy*, University of Hawaii at Manoa, Honolulu, HI.  
2006 **Bachelor of Science**, *Astrophysics*, California Institute of Technology, Pasadena, CA.  
Senior Thesis Advisor: Richard Ellis

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## Selected Telescope and Research Grants

(Summary: 4 JWST, 6 HST, 2 NuSTAR, 1 Chandra, 2 NASA ADAP, 1 NASA ADSPS, and 1 NSF AAG proposals as PI or Co-I)

- 2024–2026 **Chandra X-ray Observatory**, Cycle 26, 26700061, Co-I/Admin. PI (PI: Guo; \$14k).  
“Confirming a unique triple broad-line and radio-emitting AGN system at kpc-scale”  
2024–2027 **NASA**, *Astrophysics Decadal Survey Precursor Science*, PI (\$666k).  
“Probing Cosmic Ecosystems in the Far-Infrared: A Study of Gas, Dust, and Black Holes across Cosmic Time”  
2024–2027 **NSF**, *Astronomy and Astrophysics Research Grants*, PI (\$461k).  
“MAUNA: Multiphase Analysis of (U)LIRG Nuclear Activity”  
2023–2026 **NASA**, *Astrophysics Data Analysis Program*, Co-I/Inst. PI (PI: Medling; \$168k subaward).  
“Fueling the Fire: Tracing Black Hole Growth in Pre-Quasar Systems”  
2023–2024 **Hubble Space Telescope**, Mid-Cycle 30, GO-17285, PI (\$86k).  
“From Galactic Cores to the Cosmic Web – A Study of Feedback and Multiphase Galactic Winds with HST and JWST”  
2023–2025 **James Webb Space Telescope**, Cycle 1, GO-1717, PI (\$349k).  
“Feedback around Supermassive Black Holes in Dusty Nuclei”  
2023–2024 **Hubble Space Telescope**, Cyc 30, GO-17103/AR-17063, Co-I (PI: Bennert; \$30k subaward).  
“Calibrating the Black-Hole Mass Scaling Relations using Reverberation-Mapped Active Galaxies with Velocity-Resolved Measurements”  
2020–2022 **NASA**, *Astrophysics Data Analysis Program*, PI (\$279k).  
“Hunting for Light in the Dark: A Multiwavelength Guide to Obscured Supermassive Black Holes in Nearby Galaxy Mergers”

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\*Includes maternity leaves in 2013, 2016, and 2022

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## Selected Awards and Honors

- 2020 AAAS Newcomb Cleveland Prize
- 2019 National Academy of Sciences Kavli Frontiers of Science Fellow
- 2015–2017 University of California Chancellor's Postdoctoral Fellowship (\$110k<sup>†</sup>)
- 2014 Riverside Postdoctoral Association Symposium Oral Presentation Award
- 2013 *Earth, Planets and Space* Excellent Reviewer
- 2009–2012 NASA Harriett G. Jenkins Predoctoral Fellowship (\$114k)
- 2009–2012 Smithsonian Astrophysical Observatory Predoctoral Fellowship (\$20k)
- 2011 Achievement Rewards for College Scientists Fellowship (\$1k)
- 2010 University of Hawaii Graduate Division Achievement Scholarship (\$2.2k)
- 2010 NASA JPLP Mini Research Award, Jet Propulsion Laboratory (\$8k)
- 2009 Ford Foundation Diversity Fellowship – Honorable

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## Publications (H-index: 28; citations: 3,100+ from ADS as of Oct 2024)

Refereed (top 3 authorship; <sup>†</sup> indicates pubs led by students and postdocs I supervise)

- 73. <sup>†</sup>Gao, T.M.; U, V. et al. "Nuclear Spectral Energy Distributions of Luminous Infrared Galaxies." 2024, submitted to ApJ
- 72. <sup>†</sup>Kader, J.; U, V. et al. "The Past, Present, and Future of a Precessing Jet-Driven Outflow in a Late-Type Disk Galaxy." 2024, Science, in review
- 71. <sup>†</sup>Bianchin, M.; U, V. et al. "GOALS-JWST: Gas Dynamics and Excitation in NGC 7469 revealed by NIRSpect." 2024, ApJ, 965, 103
- 70. <sup>†</sup>Gao, T.M.; U, V.; Song, Y. "Progress in Observational Studies of Local Luminous Infrared Galaxies." 2023, PrA, 41, 35
- 69. Armus, L.; Lai, T.; U, V. et al. "GOALS-JWST: Mid-Infrared Spectroscopy of the Nucleus of NGC 7469." 2023, ApJL, 942, L37
- 68. Lai, T.; Armus, L.; U, V. et al. "GOALS-JWST: Tracing AGN Feedback on the Star-Forming ISM in NGC 7469." 2022, ApJL, 941, L36
- 67. U, V. et al. "GOALS-JWST: Resolving the Circumnuclear Gas Dynamics in NGC 7469 in the Mid-Infrared." 2022, ApJL, 940, L5
- 66. U, V. "The Role of AGN in Luminous Infrared Galaxies from the Multiwavelength Perspective." 2022, Universe, 8, 392 (*Invited Review*)
- 65. U, V. et al. "The Lick AGN Monitoring Project 2016: Velocity-Resolved H $\beta$  Lags in Luminous Seyfert Galaxies." 2022, ApJ, 925, 52
- 64. U, V. et al. "Keck OSIRIS AO LIRG Analysis (KOALA): Feedback in the Nuclei of Luminous Infrared Galaxies." 2019, ApJ, 871, 166

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<sup>†</sup>Also provides five years of salary support for faculty appointment on UC Campus

63. Iwasawa, K.; U, V. et al. "Testing a Double AGN Hypothesis for Mrk 273." 2018, A&A, 611, 71
62. Davies, R.; Medling, A.; U, V. et al. "Reconstructing merger timelines using star cluster age distributions: the case of MCG+08-11-002." 2016, MNRAS, 458, 158
61. U, V. et al. "A Correlation Between Ly $\alpha$  Spectral Line Profile and Rest-Frame UV Morphology." 2015, ApJ, 815, 57
60. Medling, A.; U, V. et al. "Following Black Hole Scaling Relations Through Gas-Rich Mergers." 2015, ApJ, 803, 61
59. Medling, A.; U, V. et al. "Shocked gas in IRAS F17207-0014: ISM collisions and outflows." 2015, MNRAS, 448, 2301
58. Medling, A.; U, V. et al. "Stellar and Gaseous Nuclear Disks Observed in Nearby (U)LIRGs." 2014, ApJ, 784, 70
57. U, V. et al. "The Inner Kiloparsec of Mrk 273 with Keck Adaptive Optics." 2013, ApJ, 775, 115
56. U, V. et al. "Spectral Energy Distribution of Local Luminous and Ultraluminous Infrared Galaxies." 2012, ApJS, 203, 9
55. U, V. et al. "Distance Determination to M33 with FGLR." 2009, ApJ, 704, 1120
54. Conselice, C. J.; Bundy, K.; U, V. et al. "The faint and extremely red K-band selected galaxy population in the DEEP2/Palomar fields." 2008, MNRAS, 383, 1366

#### Other Refereed Publications

53. Winkel, N. et al., "Unified Black-Hole-Mass-Host-Galaxy Scaling Relations in Active and Quiescent Galaxies." 2024, ApJ, submitted
52. Linden, S. et al., "GOALS-JWST: Constraining the Emergence Timescale for Massive Star Clusters in NGC 3256." 2024, ApJL, in review
51. Alatalo, K. et al. "Characterizing the Molecular Gas in Infrared Bright Galaxies with CARMA." 2024, ApJ, accepted, arXiv:2409.09116
50. Bohn, T. et al., "GOALS-JWST: The Warm Molecular Outflows of the Merging Starburst Galaxy NGC 3256." 2024, ApJ, in review, arXiv:2403.14751
49. Zuo, W. et al., "The Intermediate-Mass Black Hole Reverberation Mapping Project: Initial Results for a candidate IMBH in a nearby Seyfert 1 Galaxy." 2024, ApJ, accepted, arXiv:2405.11750
48. Buiten, V. A. et al. "GOALS-JWST: Mid-Infrared Molecular Gas Excitation Probes the Local Conditions of Nuclear Star Clusters and the AGN in the LIRG VV 114." 2024, ApJ, 966, 166
47. Villafañá, L. et al. "Empirical models of the H $\beta$  broad emission line gas density field." 2024, ApJ, 966, 106
46. Woo, J.-H. et al. "The Seoul National University AGN Monitoring Project III: H $\beta$  lag measurements of 32 luminous AGNs and the high-luminosity end of the size–luminosity relation." 2024, ApJ, 962, 67

45. Lai, T. S.-Y. et al. "GOALS-JWST: Small neutral grains and enhanced 3.3 micron PAH emission in the Seyfert galaxy NGC 7469." 2023, ApJL, 957, L26
44. Cho, H. et al. "The Seoul National University AGN Monitoring Project. IV. H $\alpha$  Reverberation Mapping of Six AGNs and the H $\alpha$  Size—Luminosity Relation." 2023, ApJ, 953, 142
43. Aravindan, A. et al. "A Comparison of Outflow Properties in AGN Dwarfs vs. Star Forming Dwarfs." 2023, ApJ, 950, 33
42. Villafañá, L. et al. "What Does the Geometry of the H $\beta$  BLR Depend On?" 2023, ApJ, 948, 95
41. Linden, S. et al. "GOALS-JWST: Revealing the Buried Star Clusters in the Luminous Infrared Galaxy VV 114." 2023, ApJL, 944, L55
40. Rich, J. et al. "GOALS-JWST: Pulling Back the Curtain on the AGN and Star Formation in VV 114." 2023, ApJL, 944, L50
39. Bohn, T. et al. "GOALS-JWST: NIRCам and MIRI Imaging of the Circumnuclear Starburst Ring in NGC 7469." 2023, ApJL, 942, L36
38. Evans, A. et al. "GOALS-JWST: Hidden Star Formation and Extended PAH Emission in the Luminous Infrared Galaxy VV 114." 2022, ApJL, 940, L8
37. Inami, H. et al. "GOALS-JWST: Unveiling the Heavily Dust Obscured Compact Sources in the Merging Galaxy IIZw096." 2022, ApJL, 940, L6
36. Song, Y. et al. "Characterizing Compact 15–33 GHz Radio Continuum Sources in Local U/LIRGs." 2022, ApJ, 940, 52
35. Montano, J. et al. "Optical Continuum Reverberation in the Dwarf Seyfert Nucleus of NGC 4395." 2022, ApJL, 934, L37
34. Villafañá, L. et al. "The Lick AGN Monitoring Project 2016: Dynamical Modeling of Velocity-Resolved H $\beta$  Lags in Luminous Seyfert Galaxies." 2022a, ApJ, 930, 52
33. Guo, H. et al. "The Paschen Jump as a Diagnostic of the Diffuse Nebular Continuum Emission in Active Galactic Nuclei." 2022, ApJ, 927, 60
32. Linden, S. et al. "Massive Star Cluster Formation and Destruction in Luminous Infrared Galaxies in GOALS II: An ACS/WFC3 Survey of Nearby LIRGs." 2021, ApJ, 923, 278
31. Cho, H. et al. "H $\alpha$  Reverberation Mapping of the Intermediate-Mass Active Galactic Nucleus in NGC 4395." 2021, ApJ, 921, 98
30. Ricci, C. et al. "A hard X-ray view of luminous and ultra-luminous infrared galaxies in GOALS - I. AGN obscuration along the merger sequence." 2021, MNRAS, 506, 5935
29. Song, Y. et al. "A Comparison between Nuclear Ring Star Formation in LIRGs and Normal Galaxies with the Very Large Array." 2021, ApJ, 916, 73
28. Liu, W. et al. "Integral-Field Spectroscopy of Fast Outflows in Dwarf Galaxies with AGN." 2020, ApJ, 905, 166

27. Kool, E. et al. "AT 2017gbl: a dust obscured TDE candidate in a luminous infrared galaxy." 2020, MNRAS, 498, 2167
26. Treister, E. et al. "The Molecular Gas in the NGC 6240 Merging Galaxy System at the Highest Spatial Resolution." 2020, ApJ, 890, 149
25. Larson, K. L. et al. "Star-forming Clumps in Local Luminous Infrared Galaxies." 2020, ApJ, 888, 92
24. Fischer, T. et al. "A Dissection of Spatially Resolved AGN Feedback Across the Electromagnetic Spectrum." 2019, ApJ, 887, 200
23. Medling, A. M. et al. "How to Fuel an AGN: Mapping Circumnuclear Gas in NGC 6240 with ALMA." 2019, ApJL, 885, L21
22. Herrero-Illana, R. et al. "The Molecular Gas and Dust Properties of Galaxies from the Great Observatories All-sky LIRG Survey." 2019, A&A, 628, 71
21. Bannister, K. W. et al. "A single fast radio burst localized to a massive galaxy at cosmological distance." 2019, Science, 365, 565
20. Linden, S. T. et al. "A Very Large Array Survey of Luminous Extranuclear Star-Forming Regions in Luminous Infrared Galaxies in GOALS." 2019, ApJ, 881, 70
19. Liu, W. et al. "Elliptical Galaxy in the Making: The Dual Active Galactic Nuclei and Metal-enriched Halo of Mrk 273." 2019, ApJ, 872, 39
18. Torres-Albà, N. et al. "C-GOALS II. Chandra Observations of the Lower Luminosity Sample of Nearby Luminous Infrared Galaxies in GOALS." 2018, A&A, 620, 140
17. Treister, E. et al. "Optical, Near-IR and Sub-mm IFU Observations of the Nearby Dual AGN Mrk 463." 2018, ApJ, 854, 83
16. Riess, A. G. et al. "Type Ia Supernova Distances at  $z > 1.5$  From the Hubble Space Telescope Multi-Cycle Treasury Programs: The Early Expansion Rate." 2018, ApJ, 853, 126
15. Larson, K. L. et al. "Morphology and Molecular Gas Fractions of Local Luminous Infrared Galaxies as a Function of Infrared Luminosity and Merger Stage." 2016, ApJ, 825, 128
14. Stierwalt, S. et al. "Mid-infrared Properties of Luminous Infrared Galaxies. II. Probing the Dust and Gas Physics of the GOALS Sample." 2014, ApJ, 790, 124
13. Rodney, S. et al. "Type Ia Supernova Rate Measurements to Redshift 2.5 from CANDELS: Searching for Prompt Explosions in the Early Universe." 2014, AJ, 148, 13
12. Graur, O. et al. "Type-Ia Supernova Rates to Redshift 2.4 from CLASH: the Cluster Lensing And Supernova survey with Hubble." 2014, ApJ, 783, 28
11. Wang, J. et al. "Fast and Furious: Shock Heated Gas as the Origin of Spatially Resolved Hard X-ray Emission in the Central 5 kpc of the Galaxy Merger NGC 6240." 2014, ApJ, 785, 55
10. Mazzarella, J. et al. "Investigation of Dual Active Nuclei, Outflows, Shock-heated Gas, and Young Star Clusters in Markarian 266." 2012, AJ, 144, 125

9. Iwasawa, K. et al. "C-GOALS: Chandra observations of a complete sample of luminous infrared galaxies from the IRAS Revised Bright Galaxy Survey." 2011, A&A, 529, 106
8. Iwasawa, K. et al. "The location of an active nucleus and the soft X-ray shadowing by a tidal tail in the ULIRG Mrk 273." 2011, A&A, 528, 137
7. Petric, A. et al. "Mid-Infrared Spectral Diagnostics of Luminous Infrared Galaxies." 2011, ApJ, 730, 28
6. Haan, S. et al. "The Nuclear Structure in Nearby Luminous Infrared Galaxies: HST NICMOS Imaging of the GOALS Sample." 2011, AJ, 141, 100
5. Inami, H. et al. "The Buried Starburst in the Interacting Galaxy II ZW 096 as Revealed by the Spitzer Space Telescope." 2010, AJ, 140, 63
4. Howell, J. et al. "The Great Observatories All-Sky LIRG Survey: Comparison of Ultraviolet and Far-Infrared Properties." 2010, ApJ, 715, 572
3. Armus, L. et al. "GOALS: The Great Observatories All-sky LIRG Survey." 2009, PASP, 121, 559
2. Aspin, C. et al. "V1647 Orionis: Reinvigorated Accretion and the Re-Appearance of McNeil's Nebula." 2009, ApJ, 692, 67
1. MacArthur, L. A. et al. "The Evolutionary History of Galactic Bulges: Photometric and Spectroscopic Studies of Distant Spheroids in the GOODS Fields." 2008, ApJ, 680, 70

#### Selected Non-Refereed Publications

9. Vaccari, L. et al. "Sustainability and Inclusivity: An Interdisciplinary Conversation." 2023, Chemistry International, 45, 44
8. Koss, M.; U, V. et al. "Black Hole Growth in Mergers and Dual AGN." 2019, Astro2020 Decadal Survey, BAAS, 51, 504
7. Kelley, L. Z. et al. "Multi-Messenger Astrophysics with Pulsar Timing Arrays." 2019, Astro2020 Decadal Survey, BAAS, 51, 490
6. Gültekin, K. et al. "Black Holes Across Cosmic Time." 2019, Astro2020 Decadal Survey, BAAS, 51, 287
5. Lopez-Rodriguez, E. et al. "Tracing the Feeding and Feedback of Active Galaxies." 2019, Astro2020 Decadal Survey, BAAS, 51, 138
4. Skidmore, W. et al. "Thirty Meter Telescope Detailed Science Case: 2015." 2015, RAA, 15, 1945
3. Tan, Q.; Gao, Y.; Wang, Z.; U, V. "High resolution SMA imaging of (ultra)-luminous infrared galaxies." 2012, IAUS, 284, 471
2. U, V. et al. "High-Resolution Mapping of CO(3-2) in NGC 6240." 2011, ASPC, 446, 97
1. Morzinski, K. et al. "Circuit Design: An inquiry lab activity at Maui Community College." 2010, ASPC, 436, 295

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## Media and Press Coverage

- May 2024 **New Scientist**, *Dead Planets Society* podcast, "Giving the Milky Way More Arms", <https://www.newscientist.com/podcasts/dead-planets-society-giving-the-milky-way-more-arms>.
- Feb 2023 **PBS Nova**, "*New Eye on the Universe*", <https://www.pbs.org/wgbh/nova/video/new-eye-on-the-universe>.
- Jan 2023 **AAS Press Briefings**, "*Unveiling the Dusty Hearts of Galaxies with JWST*", <https://aas.org/meetings/aas241/press-kit#briefings>.
- Nov 2022 **AAS NOVA**, "*Zooming In on an Active Galactic Nucleus Outflow with JWST*", <https://aasnova.org/2022/11/29/zooming-in-on-an-active-galactic-nucleus-outflow-with-jwst>.
- Nov 2022 **Irvine Weekly**, "*UCI Astronomers Leading James Webb Space Telescope Research*", <https://irvineweekly.com/uci-astronomers-leading-james-webb-space-telescope-research>.
- Nov 2022 **UCI**, "*UCI-led astronomers capitalize on early access to James Webb Space Telescope data*", <https://news.uci.edu/2022/11/14/uci-led-astronomers-capitalize-on-early-access-to-james-webb-space-telescope-data>.
- Aug 2022 **New Scientist**, "*JWST has caught two galaxies smashing together and sparking starbursts*", <https://www.newscientist.com/article/2332158-jwst-has-caught-two-galaxies-smashing-together-and-sparking-starbursts>.
- Jul 2022 **Nature**, "*Landmark Webb telescope releases first science image — astronomers are in awe*", <https://www.nature.com/articles/d41586-022-01906-6>.
- Jul 2022 **OnlySky**, "*An astonishing new tool reopens the question of human significance*", <https://onlysky.media/jhmckenna/an-astonishing-new-tool-reopens-the-question-of-human-significance>.
- Jul 2022 **Inverse**, "*How the Webb Telescope Will Unveil the Mysteries of Cosmic Star-Making Factories*", <https://www.inverse.com/science/webb-telescope-galaxy-mergers>.
- Feb 2022 **UCI**, "*Q&A With Vivian U*", <https://grad.uci.edu/2022/02/15/qa-with-vivian-u>.
- Dec 2021 **Nature**, "*The \$11-billion Webb telescope aims to probe the early Universe*", <https://www.nature.com/articles/d41586-021-03620-1>.
- Dec 2021 **California Science Center (podcast)**, "*...how scientists will use the James Webb Space Telescope*", <https://californiasciencecenter.org/funlab/ever-wonder/2021-12-08/how-scientists-will-use-the-james-webb-space-telescope-with-vivian-u>.
- Dec 2021 **Scientific American**, "*Galaxy Collisions Preview Milky Way's Fate*", <https://www.scientificamerican.com/article/galaxy-collisions-preview-milky-ways-fate>.
- Sep 2020 **UCI**, "*Extragalactic pioneer*", <https://news.uci.edu/2020/09/23/extragalactic-pioneer>.
- Sep 2020 **Webb Space Telescope**, "*NASA's Webb Will Explore the Cores of Merging Galaxies*", <https://webbtelescope.org/contents/news-releases/2020/news-2020-49>.

- Sep 2020 **NASA**, “*NASA’s Webb Will Explore the Cores of Merging Galaxies*”, <https://www.nasa.gov/feature/goddard/2020/nasas-webb-will-explore-the-cores-of-merging-galaxies>.
- Aug 2013 **Universe Today**, “*When do Black Holes Become Active? The Case of the Strangely-Shaped Galaxy Mrk 273.*”, <https://www.universetoday.com/104255/when-do-black-holes-become-active-the-case-of-the-strangely-shaped-galaxy-mrk-273>.

## Talks and Seminars

### Invited Talks and Colloquia

- Nov 2024 Colloquium, Institute of Astronomy & Astrophysics, Academia Sinica, Taipei, Taiwan
- Sep 2024 Special seminar, Caltech / IPAC (virtual)
- Aug 2024 Colloquium, Aspen Center for Physics, Aspen, CO
- Apr 2024 Colloquium, Space Telescope Science Institute / Johns Hopkins University, Baltimore, MD
- Jun 2023 Roman Science Inspired by Emerging JWST Results, STScl, Baltimore, MD
- May 2023 Olympian Symposium, Paralia Katerini, Mt. Olympus, Greece
- May 2023 Astrophysics Seminar, IA-FORTH – University of Crete, Heraklion, Crete, Greece
- May 2023 Colloquium, University of California, Irvine, Irvine, CA
- Dec 2022 Infrared Science Interest Group Monthly Seminar (virtual)
- Apr 2022 Keck Diffraction-Limited Visible-Light Workshop (virtual)
- Mar 2022 Astrophysics Seminar, UC San Diego – San Diego State University (virtual)
- Jul 2021 Multi-institutional AGN Seminar Series, George Mason University (virtual)
- Apr 2021 Astronomy seminar, University of Bath / Bristol / Cardiff (virtual)
- Apr 2020 ARC seminar, Queen’s University Belfast (virtual)
- Feb 2020 Special colloquium, New Mexico State University, Las Cruces, NM
- Feb 2020 Joint NRAO/UVa Colloquium, NRAO / University of Virginia, Charlottesville, VA
- Sep 2019 Astrophysics Colloquium, University of California, Santa Barbara, Santa Barbara, CA
- Sep 2019 Astronomy Seminar, Texas A&M University, College Station, TX
- Jun 2019 Special colloquium, National Optical Astronomy Observatory, Tucson, AZ
- Apr 2019 Special colloquium, University of Melbourne, Victoria, Australia
- Feb 2019 Colloquium, Pomona College, Claremont, CA
- Feb 2019 Special colloquium, University of Chicago, Chicago, IL
- Feb 2019 Special colloquium, University of Kansas, Lawrence, KS
- Feb 2019 Special colloquium, Rochester Institute of Technology, Rochester, NY
- Jun 2018 TAPIR Seminar, California Institute of technology, Pasadena, CA
- Feb 2018 Astrophysics seminar, University of California, Irvine, Irvine, CA
- Feb 2018 Special colloquium, University of California, Santa Cruz, Santa Cruz, CA
- Oct 2017 Bash Symposium, University of Texas, Austin, Austin, TX
- Sep 2017 Lunch Talk, Carnegies Observatories, Pasadena, CA
- Aug 2017 Special colloquium, University of Southern California, Los Angeles, CA
- Mar 2017 Cosmology seminar, University of California, Davis, Davis, CA



Mar 2017 Special colloquium, Space Telescope Science Institute, Baltimore, MD  
 Feb 2017 Astronomy seminar, University of California, Riverside, Riverside, CA  
 Feb 2017 Special colloquium, University of Missouri, Columbia, MO  
 Mar 2016 Synergistic Science in the Radio Regime, Carnegie Observatories, CA  
 Mar 2016 CASS Seminar, University of California, San Diego, San Diego, CA  
 May 2015 Colloquium, National Central University, Taiwan  
 Apr 2015 Seminar, The University of Hong Kong, Hong Kong  
 Apr 2015 Colloquium, National Tsing Hua University, Taiwan  
 Apr 2015 Colloquium, Academia Sinica Institute of Astrophysics and Astronomy, Taiwan  
 Nov 2014 Science talk, Canada-France-Hawaii Telescope, Kamuela, HI  
 Apr 2013 Seminar, University of Groningen, The Netherlands  
 Apr 2013 FIRSED2013, Amsterdam, The Netherlands  
 Dec 2011 Special seminar, Submillimeter Array, Cambridge, MA  
 Nov 2011 Extragalactic seminar, University of California, Los Angeles, Los Angeles, CA  
 Nov 2011 Lunch talk, Carnegie Observatories, Pasadena, CA  
 Nov 2011 Astronomy seminar, University of California, Riverside, Riverside, CA  
 Nov 2011 Tea talk, California Institute of Technology, Pasadena, CA  
 Aug 2011 Lunch talk, National Radio Astronomy Observatory, Charlottesville, VA  
 Aug 2011 OIR seminar, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA  
 May 2010 Seminar, Purple Mountain Observatory, Nanjing, China  
 Mar 2010 Science talk, Canada-France-Hawaii Telescope, Kamuela, HI

#### Contributed Talks

Dec 2023 Resolving Galaxy Ecosystems Across All Scales, Chinese University of Hong Kong, Hong Kong  
 Aug 2023 Observing the Evolving Universe, Caltech, Pasadena, CA  
 Mar 2023 Extreme Black Holes, Aspen, CO  
 Jan 2023 American Astronomical Society 241<sup>st</sup> Meeting, Seattle, WA  
 Jul 2021 European Astronomical Society Annual Meeting 2021, S10: The many faces of black hole accretion, Virtual  
 Jan 2020 American Astronomical Society 235<sup>th</sup> Meeting, Honolulu, HI  
 Sep 2019 Keck Science Meeting, UCLA, Los Angeles, CA  
 Jan 2019 Extremely Big Eyes on the Early Universe, UCLA, Los Angeles, CA  
 Jan 2019 American Astronomical Society 233rd Meeting, Seattle, WA  
 Dec 2018 Thirty Meter Telescope Science Forum, Pasadena, CA  
 Jul 2018 Chinese Academy of Sciences - The National Academies 8<sup>th</sup> Forum for New Leaders in Space Science, Pasadena, CA  
 Jan 2018 Chinese Academy of Sciences - The National Academies 7<sup>th</sup> Forum for New Leaders in Space Science, Guangzhou, China  
 Aug 2017 Galaxy Formation and Evolution in Southern California, Caltech, Pasadena, CA

Jun 2017 Institute for Astronomy 50<sup>th</sup> Anniversary, Kaneohe, HI  
 Apr 2017 President's Postdoctoral Fellowship Program Academic Retreat, Lake Arrowhead, CA  
 Jan 2017 American Astronomical Society 229<sup>th</sup> Meeting, Grapevine, TX  
 Aug 2016 Mapping the Pathways of Galaxy Transformation Across Time and Space, Avalon, CA  
 Nov 2015 50 years of Infrared Astronomy, Caltech, Pasadena, CA  
 Mar 2015 Unveiling the AGN-Galaxy Evolution Connection, Puerto Varas, Chile  
 Jan 2015 American Astronomical Society 225<sup>th</sup> Meeting, Seattle, WA  
 Sep 2014 Riverside Postdoctoral Association Symposium, UC Riverside, Riverside, CA  
 Jul 2014 Thirty Meter Telescope Science Forum, Tucson, AZ  
 Nov 2012 Binary Black Holes & Dual AGN, Tucson, AZ  
 Jan 2012 American Astronomical Society 219<sup>th</sup> Meeting, Austin, TX  
 Oct 2011 Galaxy Mergers in an Evolving Universe, Hualien, Taiwan  
 Sep 2011 Keck Science Meeting, Caltech, Pasadena, CA  
 Jul 2011 NASA Harriett Jenkins Fellowship Annual Meeting, NASA Ames, Moffett Field, CA  
 Oct 2010 Galaxy Evolution: Infrared to Millimeter Wavelength Perspective, Guilin, China  
 Jan 2010 American Astronomical Society 215<sup>th</sup> Meeting, Washington, DC  
 Aug 2008 Asian-Pacific Regional IAU Meeting, Kunming, China

## Mentoring, Outreach, Teaching

### Research Mentoring

2023-Present **Hajar Aziz**, *UCI undergrad*, Honors Senior Thesis.  
 2022-Present **Marina Bianchin**, *UCI postdoc*, IAU Gruber Foundation Fellow.  
 2022-Present **Justin Kader**, *UCI postdoc*.  
 2021-Present **Raymond Remigio**, *UCI grad*, co-advising with Aaron Barth, Doctoral Committee.  
 2020-2024 **Tianmu Gao**, *Beijing Normal University grad*, Masters Thesis, (grad at Australian National University).  
 2023 **Judson Leary**, *UCI undergrad*.  
 2021 Fall **Nikki Azarafza**, *University High School*.  
 2020-2021 **Liam Hunt**, *UCI undergrad*, Senior Thesis, (grad at University of Maryland Baltimore County).  
 2021 Summer **Daphne Ghazizadeh**, *George Washington University undergrad*, co-advised with Hengxiao Guo.  
 2021 Summer **Jeffrey Gong**, *Diamond Bar High School*, co-advised with Hengxiao Guo.  
 2020 Summer **Akshay Gowrishankar**, *Caltech SURF Program*, co-advised with George Privon.  
 2019-2020 **Ansh Vashisth**, *Orange County School of the Arts*, (undergrad at UC Berkeley).  
 2019-2020 **Bailey Liu**, *Orange County School of the Arts*, Regeneron Top 300 Scholar, (Woodrow Wilson Undergrad Research Fellow at Johns Hopkins University).  
 2016-2017 **Alex Vogler**, *UCI undergrad*, co-advised with Aaron Barth.

- 2013-2015 **Laura DeGroot née Green**, *UCR grad*, co-advised with Bahram Mobasher, (Assistant Professor of Physics at The College of Wooster).
- 2012-2015 **Shoubaneh Hemmati**, *UCR grad*, co-advised with Bahram Mobasher, (staff at IPAC).
- 2013-2015 **Armeen Mobasher**, *Riverside STEM Academy*, co-advised with Laura DeGroot.
- 2013-2015 **Alex Herrera**, *Riverside STEM Academy*, co-advised with Laura DeGroot.
- 2014-2015 **Elizabeth Fletes**, *Riverside STEM Academy*, co-advised with Laura DeGroot.
- 2013 Summer **Nathan Sherrier**, *Riverside STEM Academy*, co-advised with Laura DeGroot.
- 2009 Summer **Michele Dufault**, *Yale undergrad*, *IfA REU Program*, (deceased).

### Outreach

- Nov 2024 **TEDxManhattanBeach**, *Manhattan Beach, CA*.
- Jul 2023 **Regents Point Senior Living Community**, *Irvine, CA*.
- Feb 2023 **NAS BISO 2023 Global Women's Breakfast**, *virtual*, <https://www.nationalacademies.org/event/02-14-2023/board-on-international-scientific-organizations-2023-global-womens-breakfast-an-interdisciplinary-conversation-on-sustainability-and-inclusivity>.
- Dec 2022 **Classroom Visit with Students in Galaxies and Cosmology**, *Bates College (virtual)*.
- Sep 2022 **UCI Celebrate Physical Sciences Event**, *UC Irvine, CA*.
- Apr 2022 **UCI Foundation Trustee Engagement Event**, *UC Irvine, CA*.
- 2022–2023 **Breakthrough Junior Challenge**, *Judge, virtual*.
- Oct 2021 **Challenger Learning Center of Alaska**, *virtual*.
- Aug 2021 **NASA Universe of Learning Science Briefing**, *virtual*.
- Jul 2021 **2021 Breakthrough Junior Challenge**, *Judge, virtual*.
- 2019-2021 **Letters to a Pre-Scientist Program**.
- Aug 2019 **Lick Observatory Summer Series: Evening with the Stars**, *Mount Hamilton, CA*.
- Aug 2018 **Lick Observatory Summer Series: Music of the Spheres**, *Mount Hamilton, CA*.
- Jul 2018 **Riverside Astronomical Society**, *La Sierra University, Riverside, CA*.
- Mar 2015 **Public lecture, Journey Through The Universe**, *Hilo, HI*.
- Dec 2014 **Public lecture, University of California**, *Riverside, CA*.

### Formal Teaching

- 2024 **SC 208 Guest Lecturer**, *UCI Osher Lifelong Learning Institute*, Gave a 2-hour guest lecture on galaxy evolution and supermassive black holes, showcasing recent JWST results.
- 2009 **Astronomy 110 Instructor**, *University of Hawaii at Manoa*, Co-taught an introductory summer course including designing a curriculum with inquiry-based activities.
- 2009 **ISEE/CfAO Professional Development Program**, *Maui Community College*, Attended workshops and designed an inquiry-based lab activity for electrical engineers.

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## Professional Society Membership and Service

- 2024–Present **Habitable Worlds Observatory AGN Working Group** co-chair
- 2024–Present **AAS Nominating Committee**
- 2022–Present **AAS Agent at UCI**

2022–Present AGN Science Interest Group Leadership Council

2022–Present US Liaison Committee for the International Union of Pure and Applied Physics, Commission on Astrophysics (C19)

2021–Present IAU Member

2020–Present AAAS Member

2017–Present Panel Reviewer and Chair, *NASA ADAP, NSF AAG, HST, Swift, JWST, TMT IRIS-DRS, UC Keck*

2017–Present UCI Committee on Inclusive Excellence / APS-IDEA Team

2014–Present Thirty Meter Telescope International Science Development Team

2010–Present Journal Reviewer, *Astr. & Space Sci., EPS, ApJ, MNRAS, A&A, Nature*

2008–Present AAS Member

2024 Scientific Organizing Committee, Evolution of Dust and Gas throughout Cosmic Time, *Hiroshima, Japan*

2022–2024 UCI School of Physical Science Climate Council

2023 Session Chair, Resolving Galaxy Ecosystems Across All Scales, *Hong Kong, China*

2020–2021 UCI Astrophysics Seminar Series organizer

2015–2021 UCI Women in Physics and Astronomy Executive Committee

2017–2020 UCI Advisory Council on Campus Climate, Culture, and Inclusion

2012–2018 Thirty Meter Telescope IRMS Science Team

2020 Scientific Organizing Committee and Session Chair, Keck Science Meeting, *Pasadena, CA*

2020 Scientific Organizing Committee and Session Chair, Galaxy Formation and Evolution in the Era of Roman Space Telescope, *Baltimore, MD*

2020 Leader and Organizer, JWST Training Workshop, *Irvine, CA*

2020 Scientific Organizing Committee Chair, Extreme Galactic Nuclear Activity – Ultraluminous Starbursts and AGN, *Honolulu, HI* (North American ALMA Science Center Conference and Workshop Grant, \$7.7k)

2019–2020 Organizing Committee, *CUWiP 2020, Irvine, CA*

2019 External Reviewer, *Canadian Time Allocation Committee*

2019 Session Chair, *Extremely Big Eyes on the Early Universe, UCLA, Los Angeles, CA*

2018–2019 US Extremely Large Telescope Program: Galaxy Evolution Workgroup

2018 Session Chair, *TMT Science Forum, SMBH session, Pasadena, CA*

2016 External Reviewer, *China's Telescope Access Program TAC*

2006–2012 Graduate Education and Public Outreach Committee, *IfA*

2011 Harvard-Smithsonian Graduate Student Committee, *CfA*

2009 Time Allocation Committee, *IfA*

2009 Graduate Admissions Committee, *IfA*

2007 Local Organizing Committee, *IAU 250, Kauai, HI*

2003–2006 Student for the Exploration and Development of Space, Executive Committee, *Caltech*

2004–2005 Student Faculty Conference Committee: Physics, Applied Physics, and Astronomy, *Caltech*