

Vivian U

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Professional Appointments

- 2025–Present **Associate Scientist**, Caltech/IPAC.
2020–2025* **Assistant Research Scientist**, UC Irvine.
2017–2019 **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.

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

Selected Telescope and Research Grants

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

- 2025-2027 **Chandra X-ray Observatory**, Cycle 27, 27700050, Co-I/Admin PI (PI: Guo).
"Confirming dual active intermediate-mass black holes with kiloparsec separation"
2025-2027 **James Webb Space Telescope**, Cycle 4, GO-8391, PI (\$100k).
"A Triad Mystery: Deciphering a Triple Broad-Line Radio AGN System at Kpc Separation with JWST"
2025-2027 **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"
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"
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"
2023-2025 **James Webb Space Telescope**, Cycle 1, GO-1717, PI (\$349k).
"Feedback around Supermassive Black Holes in Dusty Nuclei"
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"

*Includes maternity leaves in 2013, 2016, and 2022

- 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”

Selected Awards and Honors

- 2025 Commended Faculty Mentor, UCI Campuswide Honors Collegium
- 2024 NASA Group Achievement Award for the Habitable Worlds Observatory Collaborative Team
- 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[†])
- 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

Publications (H-index: 32; citations: 3,900+ from ADS as of Oct 2025)

Refereed (top 3 authorship; * indicates pubs led by students and postdocs I supervise)

82. *Kader, J.; **U, V.** et al. “The Past, Present, and Future of a Precessing Jet-Driven Outflow in a Late-Type Disk Galaxy.” 2025, *Science*, all but accepted, <https://tinyurl.com/KaderVV340pdf>
81. *Remigio, R.; **U, V.** et al. “Spatially Resolved [O III] Emission Line Kinematics of Reverberation-Mapped AGNs with the Keck Cosmic Web Imager.” 2025, *ApJ*, 992, 42
80. *Kader, J.; **U, V.** et al. “Shockingly Effective: Cluster Winds as Engines of Feedback in Starburst Galaxy VV 114.” 2025, *ApJ*, 988, 230
79. *Gao, T.M.; **U, V.** et al. “Nuclear Spectral Energy Distributions of Luminous Infrared Galaxies.” 2025, *ApJ*, 988, 185
78. *Bianchin, M.; **U, V.** et al. “GOALS-JWST: Gas Dynamics and Excitation in NGC 7469 revealed by NIRSpec.” 2024, *ApJ*, 965, 103
77. Armus, L.; Lai, T.; **U, V.** et al. “GOALS-JWST: Mid-Infrared Spectroscopy of the Nucleus of NGC 7469.” 2023, *ApJL*, 942, L37
76. 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

[†]Also provides five years of salary support for faculty appointment on UC Campus

75. U, V. et al. "GOALS-JWST: Resolving the Circumnuclear Gas Dynamics in NGC 7469 in the Mid-Infrared." 2022, ApJL, 940, L5
74. U, V. "The Role of AGN in Luminous Infrared Galaxies from the Multiwavelength Perspective." 2022, Universe, 8, 392 (*Invited Review*)
73. U, V. et al. "The Lick AGN Monitoring Project 2016: Velocity-Resolved $H\beta$ Lags in Luminous Seyfert Galaxies." 2022, ApJ, 925, 52
72. U, V. et al. "Keck OSIRIS AO LIRG Analysis (KOALA): Feedback in the Nuclei of Luminous Infrared Galaxies." 2019, ApJ, 871, 166
71. Iwasawa, K.; U, V. et al. "Testing a Double AGN Hypothesis for Mrk 273." 2018, A&A, 611, 71
70. 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
69. U, V. et al. "A Correlation Between $Ly\alpha$ Spectral Line Profile and Rest-Frame UV Morphology." 2015, ApJ, 815, 57
68. Medling, A.; U, V. et al. "Following Black Hole Scaling Relations Through Gas-Rich Mergers." 2015, ApJ, 803, 61
67. Medling, A.; U, V. et al. "Shocked gas in IRAS F17207-0014: ISM collisions and outflows." 2015, MNRAS, 448, 2301
66. Medling, A.; U, V. et al. "Stellar and Gaseous Nuclear Disks Observed in Nearby (U)LIRGs." 2014, ApJ, 784, 70
65. U, V. et al. "The Inner Kiloparsec of Mrk 273 with Keck Adaptive Optics." 2013, ApJ, 775, 115
64. U, V. et al. "Spectral Energy Distribution of Local Luminous and Ultraluminous Infrared Galaxies." 2012, ApJS, 203, 9
63. U, V. et al. "Distance Determination to M33 with FGLR." 2009, ApJ, 704, 1120
62. 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

61. Johnstone, M. et al., "Molecular Gas in Major Mergers Hosting Dual and Single AGN at <10 kpc Nuclear Separations." 2025, ApJ, accepted, arXiv:2510.23742
60. Vidal, E. et al., "Modeling the JWST MIRI Counts, Insights Into the Source Properties and Role of Dust-Obscured AGN." 2025, ApJ, submitted, arXiv:2509.15331
59. Vazquez, C. et al., "A High Resolution Search for Dual AGNs in Mergers: Pushing the Frontier with Keck AO." 2025, ApJ, submitted, arXiv:2507.05250
58. Riesco, C. et al., "High-Resolution Optical IFU Spectroscopy of the Complex Galaxy Merger II Zw 096." 2025, ApJ, 990, 136

57. Sun, J. et al. "The Intermediate-Mass Black Hole Reverberation Mapping Project: First Detection of Mid-Infrared Lags in Prototypical IMBHs in NGC 4395 and POX 52." 2025, ApJL, 989, L26
56. Donnelly, G. P. et al., "A Spectroscopically Calibrated Prescription for Extracting PAH Flux from JWST MIRI Imaging." 2025, ApJ, 983, 79
55. Wang, S. et al., "Seoul National University AGN Monitoring Project. V. Velocity-resolved $H\beta$ Reverberation Mapping and Evidence of Kinematics Evolution." 2025, ApJ, 983, 45
54. Saravia, A. et al., "The Arp 240 Galaxy Merger: A Detailed Look at the Molecular Kennicutt-Schmidt Star Formation Law on Sub-kpc Scales." 2025, ApJ, 979, 217
53. Winkel, N. et al., "Unified Black-Hole-Mass-Host-Galaxy Scaling Relations in Active and Quiescent Galaxies." 2025, ApJ, 978, 115
52. Bohn, T. et al., "GOALS-JWST: The Warm Molecular Outflows of the Merging Starburst Galaxy NGC 3256." 2024, ApJ, 977, 36
51. Alatalo, K. et al. "Characterizing the Molecular Gas in Infrared Bright Galaxies with CARMA." 2024, ApJ, 975, 241
50. Linden, S. et al., "GOALS-JWST: Constraining the Emergence Timescale for Massive Star Clusters in NGC 3256." 2024, ApJL, 974, L27
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, 974, 288
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

11. U, V. et al. "Unveiling Intermediate-Mass Black Holes through Reverberation Mapping with the Habitable Worlds Observatory." 2025, ASP, Science with HWO
10. U, V. et al. "Total Eclipse of the Heart of Galaxies with Roman CGI." 2025, Roman Community Participation Program
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

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

- Jul 2025 Colloquium, University of Hawai'i at Manoa, Honolulu, HI

Jan 2025 Colloquium, George Mason University, Fairfax, VA
 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

Oct 2025 Infrared Spectroscopy from Space, Pasadena, CA
 Jul 2025 Towards the Habitable Worlds Observatory: Visionary Science and Transformational Technology, Washington DC
 Jun 2025 American Astronomical Society 246th Meeting, Anchorage, AK
 May 2025 PRIMA and the Future of Far-Infrared Science, Caltech / IPAC, Pasadena, CA
 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 241st 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 235th 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 8th Forum for New Leaders in Space Science, Pasadena, CA
 Jan 2018 Chinese Academy of Sciences - The National Academies 7th 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 50th Anniversary, Kaneohe, HI
 Apr 2017 President's Postdoctoral Fellowship Program Academic Retreat, Lake Arrowhead, CA

Jan 2017 American Astronomical Society 229th 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 225th 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 219th 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 215th Meeting, Washington, DC
 Aug 2008 Asian-Pacific Regional IAU Meeting, Kunming, China

Mentoring, Outreach, Teaching

Research Mentoring

2025-Present **Benjamin Metha**, *IPAC postdoc*.
 2025-Present **Justin Peterson**, *Cal State Bakersfield*, co-advised with Justin Kader and Asantha Cooray.
 2024-Present **Max Abrina**, *UCI undergrad*.
 2023-Present **Yiqing Song**, *ESO Fellow*.
 2021-Present **Raymond Remigio**, *UCI grad*, co-advising with Aaron Barth, Doctoral Committee.
 2022-2025 **Justin Kader**, *UCI postdoc*.
 2022-2025 **Marina Bianchin**, *UCI postdoc*, IAU Gruber Foundation Fellow, (Juan de la Cierva Scholar at the Instituto de Astrofísica de Canarias).
 2023-2025 **Hajar Aziz**, *UCI undergrad / Postbacc*, Honors Senior Thesis, (Grad at UC Riverside).
 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 Rochester).
 2021 Summer **Daphne Ghazizadeh**, *George Washington Uni 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, (Visiting 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

- 2022–Present **Breakthrough Junior Challenge**, *Judge*, *virtual*.
- Apr 2025 **NASA Community College Network Shapley Lectures**, *Chandler-Gilbert Community College & Scottsdale Community College*, Phoenix, AZ.
- Feb 2025 **Astronomy on Tap**, *Aspen, CO*.
- 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*.
- 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**, *Riverside, CA*.

Formal Teaching

- 2025 **Phys 138 Guest Lecturer**, *UCI*, Gave a 1.5-hour guest lecture on galaxy mergers and incorporated interactive activity.
- 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.

Professional Society Membership and Service

- 2025–Present Habitable Worlds Observatory Science Interest Group Leadership Council (Chairperson: 2025–)
- 2025–Present JWST Users Committee
- 2024–Present AAS Nominating Committee
- 2022–Present AGN Science Interest Group Leadership Council (Co-Chair: 2024–)
- 2022–Present US Liaison Committee for the International Union of Pure and Applied Physics, Commission on Astrophysics C19 (Secretary: 2025–)
- 2021–Present IAU Member
- 2020–Present AAAS Member
- 2017–Present Panel Reviewer and Chair, *NASA ADAP, NSF AAG/AAPF, HST, Swift, JWST, TMT IRIS-DRS, UC Keck, JPAC*
- 2014–Present Thirty Meter Telescope International Science Development Team
- 2010–Present Journal Reviewer, *Astr. & Space Sci., EPS, ApJ, MNRAS, A&A, Nature, SPIE*
- 2008–Present AAS Member
 - 2022–2025 AAS Agent at UCI
 - 2024–2025 Habitable Worlds Observatory AGN Working Group co-chair
 - 2017–2025 UCI Committee on Inclusive Excellence / APS-IDEA Team
 - 2024 Scientific Organizing Committee, Evolution of Dust and Gas throughout Cosmic Time, *Hiroshima, Japan*
 - 2022–2024 UC Keck Time Allocation Committee, Nearby Galaxies panel (3-year term)
 - 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*