SAM EDWARD CUTLER				
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EDUCATION	 Ph.D. in Astronomy, University of Massachusetts Amherst (September 2025) GPA: 3.963 / 4.0 Ph.D. Advisor: Kate Whitaker M.S. in Astronomy, University of Massachusetts Amherst (September 2023) B.S. in Physics & Mathematics, University of Connecticut (May 2019) GPA: 3.967 / 4.0 			
Positions	Graduate Research Assistant, Univ. of Massachusetts Amherst DAWN-IRES Graduate Researcher, Cosmic Dawn Center Undergraduate Research Assistant, Univ. of Connecticut SURF Intern, Dark Cosmology Center 2019–2025 Summer 2022 Summer 2017			
SKILLS	Data Handling: Photometry: aperture photometry (SourceExtractor/SEP, Aperpy, Photutils), PSF matching (empirical PSF generation, Grizli, shapelets, PyPHER), SED fitting (Prospector, Eazy) Morphology: profile fitting (GALFIT, statmorph)			
	Code: Python: numpy, matplotlib, sc	ipy, astropy (expert)		
TEACHING	Lecturer, UMass Amherst UMass Precollege Summer A Summer course for high school	stronomy Course 2020-2024 students with lab and lecture components		
	Graduate Researcher, Cosmic I DAWN-IRES Career Skills So Undergraduate seminars			
	Teaching Assistant, UMass Am Writing About Astronomy Undergraduate course for astro	Spring 2021 nomy majors		
	The Solar System Undergraduate course with lab	Fall 2020-Spring 2021 component for non-majors		

SAM CUTLER — CURRICULUM VITAE

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Student	Super	vision

Undergraduate: *UMass Amherst* - Leonardo Drake, Lilian Wright, Ayesha Abdullah; *Cosmic Dawn Center* - Allan Vanzandt, Eric Rumsfeld, Hanga Andras-

Letanovszky, Rebeca Reyes Carrión, Lauren Elicker

High School: Avery Minter

OUTREACH

Astronomy on Tap - Western Mass: Co-led the creation of the Western Massachusetts chapter of Astronomy on Tap, including finding a venue, organizing shows, managing the group's social media, hosting, and presenting at shows.

SPARK Camp: Held stargazing sessions and promoted STEM careers for SPARK, a youth camp for girls interested in STEM majors, in Summer 2018 and 2019.

HONORS & AWARDS

MA Space Grant Grad. Research Fellowship, NASA/MASGC	2021
Best Undergraduate Poster, Univ. of Connecticut	2018
Babbidge Scholar, Univ. of Connecticut	2016, 2018
CT Space Grant Undergrad. Research Fellowship, NASA/CTSGO	C = 2018
Michael Cantara Undergrad. Research Award, Univ. of Connectic	cut 2017
New England Scholar, Univ. of Connecticut	2017

SUCCESSFUL GRANTS & PROPOSALS

- Hubble Space Telescope Cycle 32 Medium Program GO-17730 "Fulfilling the UV Legacy of the Hubble and Webb Deep Public Frontier Field" (72 orbits; Co-I; July 2024-present)
- James Webb Space Telescope Cycle 3 Small Program GO-6405 "Clumpy Relics: The First Spectroscopic Confirmation of Globular Clusters at $z \sim 3$ " (20.3 hours; PI; November 2024 present)
- Hubble Space Telescope Cycle 28 Large Treasury Program GO-16259 "3D-DASH: A Wide Field WFC3/IR Survey of COSMOS" (259 orbits; Co-I; May 2021 April 2024)

PRESENTATIONS AND TALKS

Santa Cruz Galaxy Workshop, Santa Cruz, CA, poster.

"The Structure and Formation Histories of Low-Mass Quiescent Galaxies in Abell 2744"

(8/2025)

UC Riverside Aurora Webinar, Virtual, invited talk. (3/2025)

"The Structure and Formation Histories of Low-Mass Quiescent Galaxies in Abell 2744"

Tufts Astronomy Seminar, Medford, MA, USA, invited talk. (2/2025) "The Structure and Formation Histories of Low-Mass Quiescent Galaxies in Abell 2744" **AAS 245 Par. Session**, Nat'l Harbor, MD, USA, contributed talk. (1/2025) "The Structure and Formation Histories of Low-Mass Quiescent Galaxies in Abell 2744"

Tinsley Workshop, New Haven, CT, USA, contributed talk. (10/2024) "The JWST Perspective of Low-Mass Quenching"

Extreme Galaxies Conference, Reykjavik, IS, poster. (6/2023) "Two Distinct Classes of Quiescent Galaxies Revealed by Sizes and Morphologies at Cosmic Noon in JWST PRIMER and UNCOVER"

AAS 243 Par. Session, New Orleans, LA, USA, contributed talk. (1/2024) "Low-Mass Quiescent Galaxy Sizes in the JWST PRIMER and UNCOVER Treasury Programs"

JWST First Light Conference, Cambridge, MA, USA, poster. (6/2023) "Low Masses, Small Sizes, More Excitement: Preliminary Low-Mass Quiescent Galaxy Sizes from JWST PRIMER and UNCOVER"

AAS 241 Par. Session, Seattle, WA, USA, contributed talk. (1/2023) "Measuring Star-Formation Histories at $z \sim 2$ with a Semi-Resolved Approach"

COSMOS Collaboration Meeting, Paris, FR, contributed talk. (7/2022) "Galaxy Structural Properties and Star-Formation Histories with 3D-DASH"

DAWN Cake Talk, Copenhagen, DK, invited talk. (6/2022) "The Resolved Star-Formation Histories of $z \sim 2$ Galaxies"

Second Year Presentation, Amherst, MA, USA, invited talk. (9/2021) "The Differential Assembly of the Centers and Outskirts of Main-Sequence Galaxies at $z \sim 2.3$ "

DAWN Cake Talk, Virtual, invited talk. (2/2021) "Diagnosing DASH: The COSMOS-DASH Morphological Catalog and Insights on the Low-Mass Size-Mass Relation"

AAS 237 Poster Session, Virtual, poster. (1/2021) "Diagnosing DASH: A Morphological Catalog for the COSMOS-DASH Survey"

First Year Presentation, Amherst, MA, USA, invited talk. (9/2020) "Diagnosing DASH: The COSMOS-DASH Morphological Catalog and Insights on the Low-Mass Size-Mass Relation"

UConn Physics Poster Session, Storrs, CT, USA, poster. (4/2019) "Examining High Redshift Rotation Curves and Dark Matter Profiles Outside the Local Universe"

Keene Astronomy Lecture, Keene, NH, USA, public lecture. (3/2018) "Dark Matter: Seeing the Unseeable"

AAS 231 Poster Session, National Harbor, MD, USA, poster. (1/2018)"Examining High Redshift Rotation Curves and Dark Matter Profiles Outside the Local Universe"

UConn Astronomy Seminar, Storrs, CT, USA, invited talk. (10/2017)"Examining High Redshift Rotation Curves and Dark Matter Profiles Outside the Local Universe"

RELEASES

- MEDIA & PRESS News Article, The Remarkable Hubble Space Telescope: 35 Years Observing the Unknown in Space (5/2025)
 - News Article, How UMass Astronomers Helped the Hubble Space Telescope Take the Widest Photo of the Universe Ever (6/2022)

FIRST AUTHOR PUBLICATIONS (4) – ADS LIBRARY

- Cutler, Sam E., John R. Weaver, et al. (Apr. 2025). "The Structure and Formation Histories of Low-Mass Quiescent Galaxies in the Abell 2744 Cluster Environment". In: arXiv e-prints, arXiv:2504.10572, arXiv:2504.10572. DOI: 10.48550/arXiv.2504.10572. arXiv: 2504.10572 [astro-ph.GA].
- Cutler, Sam E., Katherine E. Whitaker, John R. Weaver, et al. (June 2024). "Two Distinct Classes of Quiescent Galaxies at Cosmic Noon Revealed by JWST PRIMER and UNCOVER". In: ApJL 967.2, L23, p. L23. DOI: 10.3847/ 2041-8213/ad464c. arXiv: 2312.15012 [astro-ph.GA].
- Cutler, Sam E., Mauro Giavalisco, et al. (Mar. 2023). "The Differential Assembly History of the Centers and Outskirts of Main-sequence Galaxies at z \sim 2.3". In: *ApJ* 945.2, 97, p. 97. DOI: 10.3847/1538-4357/acb5e9. arXiv: 2208.01653 [astro-ph.GA].
- Cutler, Sam E., Katherine E. Whitaker, Lamiya A. Mowla, et al. (Jan. 2022). "Diagnosing DASH: A Catalog of Structural Properties for the COSMOS-DASH Survey". In: ApJ 925.1, 34, p. 34. DOI: 10.3847/1538-4357/ ac341c. arXiv: 2111.14848 [astro-ph.GA].

OTHER PUBLICATIONS (41)

- Bodansky, Sarah et al. (July 2025). "JWST+ALMA reveal the build up of stellar mass in the cores of dusty star-forming galaxies at Cosmic Noon". In: arXiv *e-prints*, arXiv:2507.19472, arXiv:2507.19472. DOI: 10.48550 / arXiv. 2507.19472. arXiv: 2507.19472 [astro-ph.GA].
- Clausen, Maike, Ivelina Momcheva, et al. (Jan. 2025). "The Evolution of Half-Mass Radii and Color Gradients for Young and Old Quiescent Galaxies at 0.5 < z < 3 with JWST/PRIMER". In: arXiv e-prints, arXiv:2501.04788, arXiv:2501.04788. DOI: 10.48550/arXiv.2501.04788. arXiv: 2501. 04788 [astro-ph.GA].

- de Graaff, Anna et al. (Feb. 2025). "Efficient formation of a massive quiescent galaxy at redshift 4.9". In: *Nature Astronomy* 9, pp. 280–292. DOI: 10.1038/s41550-024-02424-3. arXiv: 2404.05683 [astro-ph.GA].
- Fujimoto, Seiji, Rachel Bezanson, et al. (June 2025). "DUALZ—Deep UNCOVER-ALMA Legacy High-Z Survey". In: *ApJS* 278.2, 45, p. 45. DOI: 10.3847/1538-4365/adc677. arXiv: 2309.07834 [astro-ph.GA].
- Furtak, Lukas J., Amy R. Secunda, et al. (June 2025). "Investigating photometric and spectroscopic variability in the multiply imaged little red dot A2744-QSO1". In: *A&A* 698, A227, A227. DOI: 10.1051/0004-6361/202554110. arXiv: 2502.07875 [astro-ph.GA].
- Hamadouche, M. L. et al. (July 2025). "JWST PRIMER: strong evidence for the environmental quenching of low-mass galaxies out to z≃ 2". In: *MNRAS* 541.1, pp. 463–475. DOI: 10.1093/mnras/staf971. arXiv: 2412.09592 [astro-ph.GA].
- Labbe, Ivo, Jenny E. Greene, Rachel Bezanson, et al. (Jan. 2025). "UNCOVER: Candidate Red Active Galactic Nuclei at 3 < z < 7 with JWST and ALMA". In: ApJ 978.1, 92, p. 92. DOI: 10.3847/1538-4357/ad3551. arXiv: 2306. 07320 [astro-ph.GA].
- Lorenz, Brian et al. (July 2025). "Measuring Emission Lines with JWST Mega-Science Medium Bands: A New Window into Dust and Star Formation at Cosmic Noon". In: *ApJL* 988.1, L20, p. L20. DOI: 10.3847/2041-8213/ade887. arXiv: 2505.10632 [astro-ph.GA].
- Ma, Yilun et al. (Mar. 2025). "UNCOVER: 404 Error—Models Not Found for the Triply Imaged Little Red Dot A2744-QSO1". In: *ApJ* 981.2, 191, p. 191. DOI: 10.3847/1538-4357/ada613. arXiv: 2410.06257 [astro-ph.GA].
- Miller, Tim B. et al. (Aug. 2025). "JWST UNCOVERs the Optical Size–Stellar Mass Relation at 4 < z < 8: Rapid Growth in the Sizes of Low-mass Galaxies in the First Billion Years of the Universe". In: ApJ 988.2, 196, p. 196. DOI: 10.3847/1538-4357/ade438. arXiv: 2412.06957 [astro-ph.GA].
- Mintz, Abby et al. (June 2025). "Taking a Break at Cosmic Noon: Continuum-selected Low-mass Galaxies Require Long Burst Cycles". In: *arXiv e-prints*, arXiv:2506.16510, arXiv:2506.16510. DOI: 10.48550/arXiv.2506.16510. arXiv: 2506.16510 [astro-ph.GA].
- Muzzin, Adam et al. (July 2025). "MINERVA: A NIRCam Medium Band and MIRI Imaging Survey to Unlock the Hidden Gems of the Distant Universe". In: *arXiv e-prints*, arXiv:2507.19706, arXiv:2507.19706. DOI: 10.48550/arXiv.2507.19706. arXiv:2507.19706 [astro-ph.GA].
- Pan, Richard et al. (Apr. 2025). "UNCOVER/MegaScience: No Evidence of Environmental Quenching in a z~2.6 Proto-cluster". In: *arXiv e-prints*, arXiv:2504.06334, arXiv:2504.06334. DOI: 10.48550/arXiv.2504.06334. arXiv: 2504.06334 [astro-ph.GA].

- Price, Sedona H. et al. (Mar. 2025). "The UNCOVER Survey: First Release of Ultradeep JWST/NIRSpec PRISM Spectra for \sim 700 Galaxies from z \sim 0.3–13 in A2744". In: *ApJ* 982.1, 51, p. 51. DOI: 10.3847/1538-4357/adaec1. arXiv: 2408.03920 [astro-ph.GA].
- Setton, David J., Jenny E. Greene, et al. (Mar. 2025). "A confirmed deficit of hot and cold dust emission in the most luminous Little Red Dots". In: *arXiv e-prints*, arXiv:2503.02059, arXiv:2503.02059. DOI: 10.48550/arXiv. 2503.02059. arXiv: 2503.02059 [astro-ph.GA].
- Siegel, Jared C. et al. (May 2025). "UNCOVER: Significant Reddening in Cosmic Noon Quiescent Galaxies". In: *ApJ* 985.1, 125, p. 125. DOI: 10.3847/1538-4357/adc7b7. arXiv: 2409.11457 [astro-ph.GA].
- Treiber, Helena et al. (May 2025). "UNCOVERing the High-redshift AGN Population among Extreme UV Line Emitters". In: *ApJ* 984.1, 93, p. 93. DOI: 10.3847/1538-4357/adc38f. arXiv: 2409.12232 [astro-ph.GA].
- Whitaker, Katherine E. et al. (Jan. 2025). "Discovery of Ancient Globular Cluster Candidates in The Relic, a Quiescent Galaxy at z=2.5". In: *arXiv e-prints*, arXiv:2501.07627, arXiv:2501.07627. DOI: 10.48550/arXiv.2501.07627. arXiv: 2501.07627 [astro-ph.GA].
- Zhang, Yunchong et al. (Aug. 2025). "RUBIES spectroscopically confirms the high number density of quiescent galaxies from **2** < **z** < **5**". In: *arXiv e-prints*, arXiv:2508.08577, arXiv:2508.08577. DOI: 10.48550/arXiv.2508.08577. arXiv: 2508.08577 [astro-ph.GA].
- Atek, Hakim et al. (Feb. 2024). "Most of the photons that reionized the Universe came from dwarf galaxies". In: *Nature* 626.8001, pp. 975–978. DOI: 10.1038/s41586-024-07043-6. arXiv: 2308.08540 [astro-ph.GA].
- Bezanson, Rachel et al. (Oct. 2024). "The JWST UNCOVER Treasury Survey: Ultradeep NIRSpec and NIRCam Observations before the Epoch of Reionization". In: *ApJ* 974.1, 92, p. 92. DOI: 10.3847/1538-4357/ad66cf. arXiv: 2212.04026 [astro-ph.GA].
- Burgasser, Adam J. et al. (Feb. 2024). "UNCOVER: JWST Spectroscopy of Three Cold Brown Dwarfs at Kiloparsec-scale Distances". In: *ApJ* 962.2, 177, p. 177. DOI: 10.3847/1538-4357/ad206f. arXiv: 2308.12107 [astro-ph.SR].
- Chemerynska, Iryna et al. (Nov. 2024). "The Extreme Low-mass End of the Mass-Metallicity Relation at $z \sim 7$ ". In: *ApJL* 976.1, L15, p. L15. DOI: 10. 3847/2041-8213/ad8dc9. arXiv: 2407.17110 [astro-ph.GA].
- Clausen, Maike, Katherine E. Whitaker, et al. (Aug. 2024). "3D-DASH: The Evolution of Size, Shape, and Intrinsic Scatter in Populations of Young and Old Quiescent Galaxies at 0.5 < z < 3". In: *ApJ* 971.1, 99, p. 99. DOI: 10. 3847/1538-4357/ad528a. arXiv: 2405.09354 [astro-ph.GA].
- Fujimoto, Seiji, Bingjie Wang, et al. (Dec. 2024). "UNCOVER: A NIRSpec Census of Lensed Galaxies at z = 8.50-13.08 Probing a High-AGN Frac-

- tion and Ionized Bubbles in the Shadow". In: *ApJ* 977.2, 250, p. 250. DOI: 10.3847/1538-4357/ad9027. arXiv: 2308.11609 [astro-ph.GA].
- Furtak, Lukas J., Ivo Labbé, et al. (Apr. 2024). "A high black-hole-to-host mass ratio in a lensed AGN in the early Universe". In: *Nature* 628.8006, pp. 57–61. DOI: 10.1038/s41586-024-07184-8. arXiv: 2308.05735 [astro-ph.GA].
- Greene, Jenny E. et al. (Mar. 2024). "UNCOVER Spectroscopy Confirms the Surprising Ubiquity of Active Galactic Nuclei in Red Sources at z ¿ 5". In: *ApJ* 964.1, 39, p. 39. DOI: 10.3847/1538-4357/adle5f. arXiv: 2309.05714 [astro-ph.GA].
- Kokorev, Vasily, Karina I. Caputi, et al. (June 2024). "A Census of Photometrically Selected Little Red Dots at 4 < z < 9 in JWST Blank Fields". In: ApJ 968.1, 38, p. 38. DOI: 10.3847/1538-4357/ad4265. arXiv: 2401.09981 [astro-ph.GA].
- Kriek, Mariska et al. (May 2024). "The Heavy Metal Survey: Star Formation Constraints and Dynamical Masses of 21 Massive Quiescent Galaxies at z = 1.3–2.3". In: *ApJ* 966.1, 36, p. 36. DOI: 10.3847/1538-4357/ad2df9. arXiv: 2311.16232 [astro-ph.GA].
- Labbe, Ivo, Jenny E. Greene, Jorryt Matthee, et al. (Dec. 2024). "An unambiguous AGN and a Balmer break in an Ultraluminous Little Red Dot at z=4.47 from Ultradeep UNCOVER and All the Little Things Spectroscopy". In: *arXiv e-prints*, arXiv:2412.04557, arXiv:2412.04557. DOI: 10.48550/arXiv.2412.04557. arXiv: 2412.04557 [astro-ph.GA].
- Setton, David J., Gourav Khullar, et al. (Oct. 2024). "UNCOVER NIRSpec/PRISM Spectroscopy Unveils Evidence of Early Core Formation in a Massive, Centrally Dusty Quiescent Galaxy at z spec = 3.97". In: *ApJ* 974.1, 145, p. 145. DOI: 10.3847/1538-4357/ad6a18. arXiv: 2402.05664 [astro-ph.GA].
- Suess, Katherine A. et al. (Nov. 2024). "Medium Bands, Mega Science: A JWST/NIRCam Medium-band Imaging Survey of A2744". In: *ApJ* 976.1, 101, p. 101. DOI: 10.3847/1538-4357/ad75fe. arXiv: 2404.13132 [astro-ph.GA].
- Wang, Bingjie, Joel Leja, et al. (Mar. 2024). "Quantifying the Effects of Known Unknowns on Inferred High-redshift Galaxy Properties: Burstiness, IMF, and Nebular Physics". In: *ApJ* 963.1, 74, p. 74. DOI: 10.3847/1538-4357/ad187c. arXiv: 2310.06781 [astro-ph.GA].
- Weaver, John R. et al. (Jan. 2024). "The UNCOVER Survey: A First-look HST + JWST Catalog of 60,000 Galaxies near A2744 and beyond". In: *ApJS* 270.1, 7, p. 7. DOI: 10.3847/1538-4365/ad07e0. arXiv: 2301.02671 [astro-ph.GA].
- Wright, Lillian et al. (Mar. 2024). "Remarkably Compact Quiescent Candidates at 3 < z < 5 in JWST-CEERS". In: ApJL 964.1, L10, p. L10. DOI: 10.3847/2041-8213/ad2b6d. arXiv: 2311.05394 [astro-ph.GA].
- Goulding, Andy D. et al. (Sept. 2023). "UNCOVER: The Growth of the First Massive Black Holes from JWST/NIRSpec-Spectroscopic Redshift Confir-

- mation of an X-Ray Luminous AGN at z = 10.1". In: *ApJL* 955.1, L24, p. L24. DOI: 10.3847/2041-8213/acf7c5. arXiv: 2308.02750 [astro-ph.GA].
- Kokorev, Vasily, Seiji Fujimoto, et al. (Nov. 2023). "UNCOVER: A NIRSpec Identification of a Broad-line AGN at z=8.50". In: *ApJL* 957.1, L7, p. L7. DOI: 10.3847/2041-8213/ad037a. arXiv: 2308.11610 [astro-ph.GA].
- Park, Minjung et al. (Aug. 2023). "Rapid Quenching of Galaxies at Cosmic Noon". In: *ApJ* 953.1, 119, p. 119. DOI: 10.3847/1538-4357/acd54a. arXiv: 2210.03747 [astro-ph.GA].
- Wang, Bingjie, Seiji Fujimoto, et al. (Nov. 2023). "UNCOVER: Illuminating the Early Universe-JWST/NIRSpec Confirmation of z ¿ 12 Galaxies". In: *ApJL* 957.2, L34, p. L34. DOI: 10.3847/2041-8213/acfe07. arXiv: 2308.03745 [astro-ph.GA].
- Zhang, Junkai et al. (Sept. 2023). "Dust attenuation, dust content, and geometry of star-forming galaxies". In: *MNRAS* 524.3, pp. 4128–4147. DOI: 10.1093/mnras/stad2066. arXiv: 2307.02568 [astro-ph.GA].
- Mowla, Lamiya A. et al. (July 2022). "3D-DASH: The Widest Near-infrared Hubble Space Telescope Survey". In: *ApJ* 933.2, 129, p. 129. DOI: 10.3847/1538-4357/ac71af. arXiv: 2206.01156 [astro-ph.GA].