Micaela B. Bagley
Curriculum Vitae

University of Texas at Austin   *E-mail:* mbagley@utexas.edu
Department of Astronomy   *Website:* micaelabagley.github.io
Austin, Texas 78712   *GitHub:* www.github.com/micaelabagley

EDUCATION

2018	**Ph.D.** in Astrophysics, University of Minnesota Advisor: Claudia Scarlata
2010	**B.S.** in Physics & Astronomy, University of Rochester Advisor: Alice C. Quillen

POSITIONS

2023–present	**Research Associate**, University of Texas at Austin
2018–2023	**Postdoctoral Fellow**, University of Texas at Austin
2012–2018	**Graduate Student Research Assistant**, University of Minnesota
2016	**Visiting Graduate Student Research Assistant**, IPAC/Caltech
2012–2014	**Graduate Student Teaching Assistant**, University of Minnesota
2010–2012	**Research Specialist**, Steward Observatory, University of Arizona Observing, data reduction, photometry in support of multiple programs
2009–2010	**Undergraduate Student Research Assistant**, University of Rochester

RESEARCH INTERESTS

Early galaxy formation and evolution; the epoch of reionization; star formation efficiency and feedback physics in the early universe; ionizing power in early galaxies; Lyman break galaxies; Lyman-α emitters; local analogs of high-redshift galaxies; Lyman continuum and Lyman-α photon escape; emission line galaxies; clustering and galaxy overdensities

DATA REDUCTION LEADERSHIP

Leading CEERS *JWST*/NIRCam imaging data reduction

PRODUCTS/RESOURCES DEVELOPED

- Highly robust simulated data products and reduction tools
- Custom steps and modifications to the Calibration Pipeline
- Reduced NIRCam mosaics for CEERS team and public release

IMPACT OF WORK

- Teaching techniques to colleagues and community before and after launch
- Enabling *60+ science papers* from the CEERS team
- Informing reduction procedures for NGDEEP and COSMOS-Web

SELECTED PRESENTATIONS

Nov 2023	**Invited Talk**, "CEERS NIRCam, NIRSpec and MIRI data challenges and methods", Improving JWST Data Products, STScI, Baltimore, Maryland
Nov 2023	**Colloquium**, "A Journey Through the High-Redshift Rest-UV Luminosity Function, Early JWST Lessos of High Redshift Galaxies", Minnesota Institute for Astrophysics, UMN, Minneapolis, Minnesota
Sept 2023	**Invited Talk**, "Galaxies in the Early Universe with CEERS and NGDEEP", The First Year of JWST Science, STScI, Baltimore, Maryland
June 2023	**Invited Talk**, "Surveys of Galaxies at High Redshift with JWST and Roman", Roman Science Inspired by JWST Results, STScI, Baltimore, Maryland
June 2023	**Contributed Talk**, "Bright Galaxies at $z \sim 9 - 11$ with JWST", First Light Conference, MIT, Boston, Massachusetts
Jan 2023	**Contributed Talk**, "CEERS NIRCam Reduction and Early Results of Galaxies at $z > 9$", AAS Meeting 241, Seattle, Washington
Sept 2022	**Invited Talk**, "Exploring Galaxies in the Early Universe with JWST CEERS", TACCSTER, the TACC Symposium for Texas Researchers, Texas Advanced Computing Center, Austin, Texas
Dec 2021	**Contributed Talk**, "Constraining Feedback Mechanisms in Galaxies Across Cosmic Time with NGDEEP", SAZARAC-SIP Early Galaxies Near and Far
Nov 2021	**Contributed Talk**, "UV luminosity functions at $z = 6 - 9$ in *Roman* deep fields", Roman Science Team Community Briefing
Oct 2020	**Contributed Talk**, "Going deep with *Roman*: the $z > 9$ UV luminosity function", Galaxy Formation & Evolution in the Era of the *Nancy Grace Roman Space Telescope*
July 2020	**Contributed Talk**, "A Search for Bright $z \sim 9$ Galaxies in Parallel", Summer All Zoom Epoch of Reionization Astronomy Conference
July 2019	**Contributed Talk**, "A Search for Bright $z \sim 9$ Galaxies in Parallel", Barefoot Reionization: Exploring the First Billion Years of the Universe, Cairns, Australia
Jan 2019	**Contributed Talk**, "A Search for Bright Galaxies at $z > 9$", The Growth of Galaxies in the Early Universe V, Sesto, Italy
June 2018	**Plenary Talk**, "Euclid Predictions from HST Grism Surveys", Euclid Consortium Annual Meeting, Bonn, Germany **Invited as recipient of the Euclid Special Talent And Recognition (STAR) Prize**
Jan 2018	**Dissertation Talk**, "Approaching reionization from two directions: high-redshift Lyman-alpha emitters and local analogs", AAS Meeting 231, National Harbor, Maryland
June 2017	**Plenary Talk**, "A Mini-Euclid: Predictions from HST Grism Surveys", Euclid Consortium Annual Meeting, London, England
June 2016	**Contributed Talk**, "Predictions for Euclid using WISP and 3DHST", Euclid Consortium Annual Meeting, Lisbon, Portugal

PUBLICATIONS (Link to my ADS)

SUMMARY— refereed: 59, submitted: 20, lead author: 6, citations: 1041, as of November 17, 2023

First Author ─────────────────────────────────

2023	**M. B. Bagley**, N. Pirzkal, S. L. Finkelstein, C. Papovich, and 44 colleagues *The Next Generation Deep Extragalactic Exploratory Public (NGDEEP) Survey* arXiv:2302.05466, Submitted to ApJS; **(24 citations)**
2023	**M. B. Bagley**, S. L. Finkelstein, A. Koekemoer, H. C. Ferguson, and 36 colleagues *CEERS Epoch 1 NIRCam Imaging: Reduction Methods and Simulations Enabling Early JWST Science Results* ApJL, 946, L12, 2023; **(105 citations)**
2022	**M. B. Bagley**, S. L. Finkelstein, S. Rojas-Ruiz, J. Diekmann, and 6 colleagues *Bright $z \sim 9$ Galaxies in Parallel: The Bright End of the Rest-UV Luminosity Function from HST Parallel Programs* arXiv:2205.12980, Accepted for publication in ApJ; **(31 citations)**
2020	**M. B. Bagley**, C. Scarlata, V. Mehta, H. Teplitz, I. Baronchelli, and 6 colleagues *HST Grism-derived Forecasts for Future Galaxy Redshift Surveys* ApJ, 897, 98, 2020; **(18 citations)**
2017	**M. B. Bagley**, C. Scarlata, A. Henry, M. Rafelski, M. Malkan, and 14 colleagues *A High Space Density of Luminous Lyman Alpha Emitters at $z \sim 6.5$* ApJ, 837, 11, 2017; **(38 citations)**
2009	**M. Bagley**, I. Minchev, and A. C. Quillen *The morphology of galactic rings exterior to evolving bars: test-particle simulations* MNRAS, 395, 537, 2009; **(10 citations)**

CEERS Co-Author (as significant contributor, or enabled by NIRCam work) ──────

2023	S. L. Finkelstein, **M. B. Bagley**, H. C. Ferguson, S. M. Wilkins, and 63 colleagues *CEERS Key Paper. I. An Early Look into the First 500 Myr of Galaxy Formation with JWST* ApJL, 946, L13, 2023; **(189 citations)**
2023	D. Kocevski, G. Barro, E. McGrath, S. Finkelstein, **M. Bagley**, and 55 colleagues *CEERS Key Paper. II. A First Look at the Resolved Host Properties of AGN at $3 < z < 5$ with JWST* ApJL, 946, L14, 2023; **(19 citations)**
2023	J. S. Kartaltepe, C. Rose, B. N. Vanderhoof, E. J. McGrath, and 58 colleagues *CEERS Key Paper. III. The Diversity of Galaxy Structure and Morphology at $z = 3 - 9$ with JWST* ApJL, 946, L15, 2023; **(42 citations)**
2023	P. G. Pérez-González, G. Barro, M. Annunziatella, L. Costantin, and 51 colleagues *CEERS Key Paper. IV. A Triality in the Nature of HST-dark Galaxies* ApJL, 946, L16, 2023; **(57 citations)**

CEERS Co-Author (Continued) ——————————————————————————

2023	C. Papovich, J. W. Cole, G. Yang, S. L. Finkelstein, G. Barro, and 44 colleagues *CEERS Key Paper. V. Galaxies at $4 < z < 9$ Are Bluer than They Appear – Characterizing Galaxy Stellar Populations from Rest-frame 1 µm Imaging* ApJL, 949, L18, 2023; **(28 citations)**
2023	G. Yang, K. I. Caputi, C. Papovich, P. Arrabal Haro, **M. Bagley**, and 33 colleagues *CEERS Key Paper. VI. JWST/MIRI Uncovers a Large Population of Obscured AGN at High Redshifts* ApJL, 950, L5, 2023; **(18 citations)**
2023	A. Kirkpatrick, G. Yang, A. Le Bail, G. Troiani, E. F. Bell, and 31 colleagues *CEERS Key Paper. VII. JWST/MIRI Reveals a Faint Population of Galaxies at Cosmic Noon Unseen by Spitzer* arXiv:2308.09750, Submitted to ApJL; **(4 citations)**
2023	B. Backhaus, J. Trump, N. Pirzkal, G. Barro, S. Finkelstein, and 35 colleagues *CEERS Key Paper. VIII. Emission Line Ratios from NIRSpec and NIRCam Wide-Field Slitless Spectroscopy at $z > 2$* arXiv:2307.09503, Submitted to ApJL; **(1 citation)**
2023	S. Wilkins, J. Turner, **M. Bagley**, S. Finkelstein, R. Amorín, and 18 colleagues *Cosmic Evolution Early Release Science (CEERS) survey: The colour evolution of galaxies in the distant Universe* arXiv:2311.08065, Submitted to MNRAS
2023	S. Finkelstein, G. Leung, **M. Bagley**, M. Dickinson, H. Ferguson, and 50 colleagues *The Complete CEERS Early Universe Galaxy Sample: A Surprisingly Slow Evolution of the Space Density of Bright Galaxies at $z \sim 8.5\text{-}14.5$* arXiv:2311.04279, Submitted to ApJL; **(1 citation)**
2023	E. Ward, A. de la Vega, B. Mobasher, E. McGrath, K. Iyer, and 17 colleagues *Evolution of the Size-Mass Relation of Star-forming Galaxies Since $z = 5.5$ Revealed by CEERS* arXiv:2311.02162, Submitted to ApJ
2023	L. Costantin, P. G. Pérez-González, Y. Guo, C. Buttitta, S. Jogee, and 28 colleagues *A Milky Way-like barred spiral galaxy at a redshift of 3* Nature, 623, 499, 2023
2023	A. Calabrò, L. Pentericci, A. Feltre, P. A. Haro, M. Radovich, and 33 colleagues *Near-infrared emission line diagnostics for AGN from the local Universe to $z \sim 3$* A&A, 679, A80, 2023
2023	V. Pandya, H. Zhang, M. Huertas-Company, K. Iyer, E. McGrath, and 51 colleagues *Galaxies Going Bananas: Inferring the 3D Geometry of High-Redshift Galaxies with JWST-CEERS* arXiv:2310.15232, Submitted to ApJ; **(1 citation)**
2023	K. Ronayne, C. Papovich, G. Yang, L. Shen, M. Dickinson, and 31 colleagues *CEERS: 7.7 µm PAH Star Formation Rate Calibration with JWST MIRI* arXiv:2310.07766, Submitted toApJ; **(2 citations)**

CEERS Co-Author (Continued) ————————————————————————————

2023 | S. Mascia, L. Pentericci, A. Calabrò, P. Santini, L. Napolitano, and 27 colleagues
New insight on the nature of cosmic reionizers from the CEERS survey
arXiv:2309.02219, Submitted to A&A; **(4 citations)**

2023 | B. W. Holwerda, C.-C. Hsu, N. Hathi, L. Bisigello, A. de la Vega, and 18 colleagues
Cosmic Evolution Early Release Science Survey (CEERS): Multi-classing Galactic Dwarf Stars in the deep JWST/NIRCam
arXiv:2309.05835, Submitted to MNRAS; **(2 citations)**

2023 | G. Yang, C. Papovich, **M. Bagley**, H. Ferguson, S. Finkelstein, and 33 colleagues
CEERS MIRI Imaging: Data Reduction and Quality Assessment
ApJL, 956, L12, 2023; **(4 citations)**

2023 | A. Le Bail, E. Daddi, D. Elbaz, M. Dickinson, M. Giavalisco, and 24 colleagues
JWST/CEERS Sheds Light on Dusty Star-Forming Galaxies: Forming Bulges, Lopsidedness and Outside-In Quenching at Cosmic Noon
arXiv:2307.07599, Submitted to A&A; **(3 citations)**

2023 | B. Magnelli, C. Gómez-Guijarro, D. Elbaz, E. Daddi, C. Papovich, and 21 colleagues
CEERS: MIRI deciphers the spatial distribution of dust-obscured star formation in galaxies at $0.1 < z < 2.5$
A&A, 678, A83, 2023; **(9 citations)**

2023 | G. Barro, P. G. Perez-Gonzalez, D. D. Kocevski, E. J. McGrath, and 26 colleagues
Extremely red galaxies at $z = 5 − 9$ with MIRI and NIRSpec: dusty galaxies or obscured AGNs?
arXiv:2305.14418, Submitted to ApJ; **(32 citations)**

2023 | A. S. Long, J. Antwi-Danso, E. L. Lambrides, C. C. Lovell, and 29 colleagues
Efficient NIRCam Selection of Quiescent Galaxies at $3 < z < 6$ in CEERS
arXiv:2305.04662, Submitted to ApJ; **(13 citations)**

2023 | M. Huertas-Company, K. G. Iyer, E. Angeloudi, **M. B. Bagley**, and 25 colleagues
Galaxy Morphology from $z \sim 6$ through the eyes of JWST
arXiv:2305.02478, Submitted to A&A; **(11 citations)**

2023 | H. B. Akins, C. M. Casey, N. Allen, **M. B. Bagley**, M. Dickinson, and 56 colleagues
Two Massive, Compact, and Dust-obscured Candidate $z{\sim}8$ Galaxies Discovered by JWST
ApJ, 956, 61, 2023; **(24 citations)**

2023 | C. Gómez-Guijarro, B. Magnelli, D. Elbaz, S. Wuyts, E. Daddi, and 36 colleagues
JWST CEERS probes the role of stellar mass and morphology in obscuring galaxies
A&A, 677, A34, 2023; **(11 citations)**

2023 | P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, S. Fujimoto, and 44 colleagues
Spectroscopic Confirmation of CEERS NIRCam-selected Galaxies at $z \simeq 8 − 10$
ApJL, 951, L22, 2023; **(61 citations)**

CEERS Co-Author (Continued) ————————————————————————————————

2023 | P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, J. S. Kartaltepe, and 33 colleagues
Confirmation and refutation of very luminous galaxies in the early universe
Nature, 622, 707, 2023; **(74 citations)**

2023 | R. L. Larson, S. L. Finkelstein, D. D. Kocevski, T. A. Hutchison, and 47 colleagues
A CEERS Discovery of an Accreting Supermassive Black Hole 570 Myr after the Big Bang: Identifying a Progenitor of Massive $z > 6$ Quasars
ApJL, 953, L29, 2023; **(88 citations)**

2023 | L. Bisigello, G. Gandolfi, A. Grazian, G. Rodighiero, L. Costantin, and 19 colleagues
Delving deep: a population of extremely dusty dwarfs observed by JWST
A&A, 676, A76, 2023; **(10 citations)**

2023 | R. T. Coogan, E. Daddi, A. Le Bail, D. Elbaz, M. Dickinson, and 23 colleagues
A $z = 1.85$ galaxy group in CEERS: evolved, dustless, massive intra-halo light and a brightest group galaxy in the making
A&A, 677, A3, 2023; **(3 citations)**

2023 | J. Vega-Ferrero, M. Huertas-Company, L. Costantin, and 26 colleagues
On the nature of disks at high redshift seen by JWST/CEERS with contrastive learning and cosmological simulations
arXiv:2302.07277, Submitted to ApJ; **(12 citations)**

2023 | D. Kocevski, M. Onoue, K. Inayoshi, J. Trump, P. Arrabal Haro, and 32 colleagues
Hidden Little Monsters: Spectroscopic Identification of Low-Mass, Broad-Line AGN at $z > 5$ with CEERS
ApJL, 954, L4, 2023; **(87 citations)**

2023 | S. Fujimoto, P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, and 39 colleagues
CEERS Spectroscopic Confirmation of NIRCam-selected $z \gtrsim 8$ Galaxy Candidates with JWST/NIRSpec: Initial Characterization of Their Properties
ApJL, 949, L25, 2023; **(73 citations)**

2023 | L. Shen, C. Papovich, G. Yang, J. Matharu, X. Wang, and 36 colleagues
CEERS: Spatially Resolved UV and Mid-infrared Star Formation in Galaxies at $0.2 < z < 2.5$: The Picture from the Hubble and James Webb Space Telescopes
ApJ, 950, 7, 2023; **(11 citations)**

2023 | Y. Guo, S. Jogee, S. L. Finkelstein, Z. Chen, E. Wise, and 43 colleagues
First Look at $z > 1$ Bars in the Rest-frame Near-infrared with JWST Early CEERS Imaging
ApJL, 945, L10, 2023; **(32 citations)**

2023 | C. Rose, J. S. Kartaltepe, G. F. Snyder, V. Rodriguez-Gomez, and 22 colleagues
Identifying Galaxy Mergers in Simulated CEERS NIRCam Images Using Random Forests
ApJ, 942, 54, 2023; **(9 citations)**

2023 | J. A. Zavala, V. Buat, C. M. Casey, S. L. Finkelstein, and 121 colleagues
Dusty Starbursts Masquerading as Ultra-high Redshift Galaxies in JWST CEERS Observations
ApJL, 943, L9, 2023; **(85 citations)**

CEERS Co-Author (Continued) ———————————————————————————

2023	L. Costantin, P. G. Pérez-González, J. Vega-Ferrero, and 16 colleagues *Expectations of the Size Evolution of Massive Galaxies at $3 \leq z \leq 6$ from the TNG50 Simulation: The CEERS/JWST View* ApJ, 946, 71, 2023; **(19 citations)**
2023	Á. García-Argumánez, P. Pérez-González, A. de Paz, G. Snyder, and 19 colleagues *Probing the Earliest Phases in the Formation of Massive Galaxies with Simulated HST+JWST Imaging Data from Illustris* ApJ, 944, 3, 2023; **(3 citations)**
2022	S. Finkelstein, **M. Bagley**, P. Haro, M. Dickinson, H. Ferguson, and 117 colleagues *A Long Time Ago in a Galaxy Far, Far Away: A Candidate $z \sim 12$ Galaxy in Early JWST CEERS Imaging* ApJL, 940, L55, 2022; **(195 citations)**
2021	G. Yang, C. Papovich, **M. B. Bagley**, V. Buat, D. Burgarella, and 12 colleagues *JWST/MIRI Simulated Imaging: Insights into Obscured Star Formation and AGNs for Distant Galaxies in Deep Surveys* ApJ, 908, 144, 2021; **(18 citations)**

Co-Author (non-CEERS work) ———————————————————————————

2023	A. Morales, S. Finkelstein, G. C. K. Leung, **M. Bagley**, N. Cleri, and 12 colleagues *Rest-Frame UV Colors for Faint Galaxies at $z \sim 9 - 16$ with the JWST NGDEEP Survey* arXiv:2311.04294, Submitted to ApJL; **(2 citations)**
2023	L. Shen, C. Papovich, J. Matharu, N. Pirzkal, W. Hu, and 19 colleagues *NGDEEP Epoch 1: Spatially Resolved $H\alpha$ Observations of Disk and Bulge Growth in Star-Forming Galaxies at $z \sim 0.6$-2.2 from JWST NIRISS Slitless Spectroscopy* // arXiv:2310.13745, Submitted to ApJL
2023	X. Wang, H. Teplitz, B. Smith, R. Windhorst, M. Rafelski, and 72 colleagues *The Lyman Continuum Escape Fraction of Star-forming Galaxies at $2.4 \lesssim z \lesssim 3.7$ from UVCANDELS* arXiv:2308.09064 **(1 citation)**
2023	M. Franco, H. Akins, C. Casey, S. Finkelstein, M. Shuntov, and 45 colleagues *Unveiling the distant Universe: Characterizing $z \geq 9$ Galaxies in the first epoch of COSMOS-Web* arXiv:2308.00751, Submitted to ApJ; **(12 citations)**
2023	K. Chworowsky, S. Finkelstein, J. Spilker, G. Leung, **M. Bagley**, and 9 colleagues *ALMA 1.1 mm Observations of a Conservative Sample of High-redshift Massive Quiescent Galaxies in SHELA* ApJ, 951, 49, 2023; **(2 citations)**
2023	G. C. K. Leung, **M. B. Bagley**, S. L. Finkelstein, H. C. Ferguson, and 25 colleagues *NGDEEP Epoch 1: The Faint-End of the Luminosity Function at $z \sim 9$-12 from Ultra-Deep JWST Imaging* ApJL, 954, L46, 2023; **(19 citations)**

Other Co-Author (Continued) —————————————————————————————————

2023 | M. Revalski, M. Rafelski, M. Fumagalli, M. Fossati, N. Pirzkal, and 16 colleagues
The MUSE Ultra Deep Field (MUDF). III. Hubble Space Telescope WFC3 Grism Spectroscopy and Imaging
ApJS, 265, 40, 2023; **(3 citations)**

2023 | Ó. A. Chávez Ortiz, S. L. Finkelstein, D. Davis, G. Leung, and 23 colleagues
Introducing the Texas Euclid Survey for Lyman Alpha (TESLA) Survey: Initial Study Correlating Galaxy Properties to Lyman-Alpha Emission
ApJ, 952, 110, 2023; **(1 citation)**

2023 | J. B. Champagne, C. Casey, S. Finkelstein, **M. Bagley**, O. Cooper, and 3 colleagues
A Mixture of LBG Overdensities in the Fields of Three $6 < z < 7$ Quasars: Implications for the Robustness of Photometric Selection
ApJ, 952, 99, 2023; **(4 citations)**

2023 | J. R. Trump, P. Arrabal Haro, R. C. Simons, B. E. Backhaus, and 62 colleagues
The Physical Conditions of Emission-line Galaxies at Cosmic Dawn from JWST/NIRSpec Spectroscopy in the SMACS 0723 Early Release Observations
ApJ, 945, 35, 2023; **(72 citations)**

2023 | L. Y. A. Yung, R. S. Somerville, S. L. Finkelstein, P. Behroozi, and 10 colleagues
Semi-analytic forecasts for Roman - the beginning of a new era of deep-wide galaxy surveys
MNRAS, 519, 1578, 2023; **(11 citations)**

2023 | S. Fujimoto, S. L. Finkelstein, D. Burgarella, C. L. Carilli, and 48 colleagues
ALMA FIR View of Ultra High-redshift Galaxy Candidates at $z \sim 11\text{-}17$: Blue Monsters or Low-z Red Interlopers?
ApJ, 955, 130, 2023; **(33 citations)**

2023 | C. M. Casey, J. S. Kartaltepe, N. E. Drakos, M. Franco, S. Harish, and 81 colleagues
COSMOS-Web: An Overview of the JWST Cosmic Origins Survey
ApJ, 954, 31, 2023; **(60 citations)**

2022 | I. Jung, S. L. Finkelstein, R. L. Larson, T. A. Hutchison, and 20 colleagues
New $z > 7$ Lyman-alpha Emitters in EGS: Evidence of an Extended Ionized Structure at $z \sim 7.7$
arXiv:2212.09850, Submitted to ApJ; **(14 citations)**

2022 | I. H. Laseter, S. L. Finkelstein, **M. Bagley**, D. M. Davis, and 6 colleagues
A Search for Lensed Lyα Emitters within the Early HETDEX Data Set
ApJ, 940, 9, 2022; **(1 citation)**

2022 | R. L. Larson, T. A. Hutchison, **M. Bagley**, S. L. Finkelstein, and 8 colleagues
Spectral Templates Optimal for Selecting Galaxies at $z > 8$ with JWST
arXiv:2211.10035, Accepted for publication in ApJ; **(41 citations)**

2022 | L. Y. A. Yung, R. S. Somerville, H. C. Ferguson, S. L. Finkelstein, and 5 colleagues
Semi-analytic forecasts for JWST - VI. Simulated light-cones and galaxy clustering predictions
MNRAS, 515, 5416, 2022; **(30 citations)**

Other Co-Author (Continued) —————————————————————————————

2022   S. L. Finkelstein and **M. B. Bagley**
On the Coevolution of the AGN and Star-forming Galaxy Ultraviolet Luminosity Functions at $3 < z < 9$
ApJ, 938, 25, 2022; **(34 citations)**

2022   T. Treu, G. Roberts-Borsani, M. Bradac, G. Brammer, and 42 colleagues
The GLASS-JWST Early Release Science Program. I. Survey Design and Release Plans
ApJ, 935, 110, 2022; **(139 citations)**

2022   A. Battisti, **M. Bagley**, I. Baronchelli, Y. S. Dai, A. Henry, and 10 colleagues
The average dust attenuation curve at $z \sim 1.3$ based on HST grism surveys
MNRAS, 513, 4431, 2022; **(4 citations)**

2022   R. Larson, S. Finkelstein, T. Hutchison, C. Papovich, **M. Bagley**, and 8 colleagues
Searching for Islands of Reionization: A Potential Ionized Bubble Powered by a Spectroscopic Overdensity at $z = 8.7$
ApJ, 930, 104, 2022; **(36 citations)**

2022   S. Tacchella, S. L. Finkelstein, **M. Bagley**, M. Dickinson, and 17 colleagues
On the Stellar Populations of Galaxies at $z = 9 - 11$: The Growth of Metals and Stellar Mass at Early Times
ApJ, 927, 170, 2022; **(94 citations)**

2022   S. L. Finkelstein, **M. Bagley**, M. Song, R. Larson, C. Papovich, and 19 colleagues
A Census of the Bright $z = 8.5 - 11$ Universe with the Hubble and Spitzer Space Telescopes in the CANDELS Fields
ApJ, 928, 52, 2022; **(80 citations)**

2021   I. Baronchelli, C. M. Scarlata, L. Rodríguez-Muñoz, M. Bonato, and 18 colleagues
Identification of Single Spectral Lines in Large Spectroscopic Surveys Using UMLAUT: an Unsupervised Machine-learning Algorithm Based on Unbiased Topology
ApJS, 257, 67, 2021;

2021   Y. S. Dai, M. M. Malkan, H. I. Teplitz, C. Scarlata, A. Alavi, and 18 colleagues
Spectroscopically Identified Emission Line Galaxy Pairs in the WISP Survey
ApJ, 923, 156, 2021; **(3 citations)**

2021   A. Henry, M. Rafelski, B. Sunnquist, N. Pirzkal, C. Pacifici, and 22 colleagues
The Mass-Metallicity Relation at $z \sim 1 - 2$ and Its Dependence on the Star Formation Rate
ApJ, 919, 143, 2021; **(19 citations)**

2020   A. Alavi, J. Colbert, H. I. Teplitz, B. Siana, C. Scarlata, and 6 colleagues
Lyman Continuum Escape Fraction from Low-mass Starbursts at $z = 1.3$
ApJ, 904, 59, 2020; **(16 citations)**

2020   I. Baronchelli, C. Scarlata, G. Rodighiero, L. Rodríguez-Muñoz, and 12 colleagues
Identification of Single Spectral Lines through Supervised Machine Learning in a Large HST Survey (WISP): A Pilot Study for Euclid and WFIRST
ApJS, 249, 12, 2020; **(5 citations)**

Other Co-Author (Continued) ————————————————————————————

2020 | S. Rojas-Ruiz, S. L. Finkelstein, **M. B. Bagley**, M. Stevans, and 4 colleagues
Probing the Bright End of the Rest-frame Ultraviolet Luminosity Function at $z = 8 - 10$ with Hubble Pure-parallel Imaging
ApJ, 891, 146, 2020; **(43 citations)**

2015 | M. M. Kiminki, J. S. Kim, **M. B. Bagley**, W. H. Sherry, and G. H. Rieke
The O- and B-Type Stellar Population in W3: Beyond the High-Density Layer
ApJ, 813, 42, 2015; **(15 citations)**

2015 | V. Mehta, C. Scarlata, J. W. Colbert, Y. S. Dai, A. Dressler, and 10 colleagues
Predicting the Redshift 2 Hα Luminosity Function Using [OIII] Emission Line Galaxies
ApJ, 811, 141, 2015; **(39 citations)**

2015 | T. J. Jones, **M. Bagley**, M. Krejny, B.-G. Andersson, and P. Bastien
Grain Alignment in Starless Cores
AJ, 149, 31, 2015; **(66 citations)**

2011 | A. C. Quillen, J. Dougherty, **M. B. Bagley**, I. Minchev, and J. Comparetta
Structure in phase space associated with spiral and bar density waves in an N-body hybrid galactic disc
MNRAS, 417, 762, 2011; **(120 citations)**

Research Notes ————————————————————————————————————

2023 | K. Wang, **M. B. Bagley**, and S. L. Finkelstein
Selecting $z \sim 8$ Galaxies with JWST Photometry in CEERS
RNAAS, 7, 109, 2023;

2019 | O. A. Chavez Ortiz and **M. B. Bagley**
Six Local Analogs for High Redshift Galaxies
RNAAS, 3, 180, 2019;

2018 | H. Dickinson, C. Scarlata, L. Fortson, **M. Bagley**, V. Mehta, and 10 colleagues
Galaxy Nurseries: Crowdsourced Analysis of Slitless Spectroscopic Data
RNAAS, 2, 120, 2018; arXiv:1807.01687

TEACHING AND MENTORING EXPERIENCE

2022–2023 | **Trained** Gene C. K. Leung (NGDEEP) and Maximilien Franco (COSMOS-Web)
JWST/NIRCam reduction techniques

2022 | **Mentor** to Lailyn Borum, University of Michigan
REU Scholar, summer research project at University of Texas at Austin

2022 | **Presenter** for JWebbinar 13: CEERS NIRCam and MIRI Imaging, demonstrating step-by-step reduction of *JWST*/NIRCam simulated images (Access JWebbinars)

2021–2022 | **Mentor** to Aubrey Medrano, University of Texas at Austin, Postbaccalaureate researcher

TEACHING AND MENTORING EXPERIENCE (CONTINUED)

2020–present	**Postdoc Leader** of *JWST* subgroup in the Vertically-Integrated Projects (VIP) research program on galaxy evolution, mentoring 8 undergraduate students through multi-year research projects, University of Texas at Austin
2020	**Organizer and Leader** of two *JWST* proposal planning workshops, as a *JWST* Master Class graduate, University of Texas at Austin and Texas A&M University ([Workshop Website](#))
2019	**Mentor** to Oscar Chavez Ortiz, University of California, Berkeley TAURUS Summer research project at University of Texas at Austin
2019	**Guest Lecturer** AST307 — Introductory Undergraduate Astronomy Course, University of Texas at Austin
2017	**Mentor** to Aliza Beverage, University of Minnesota Undergraduate research project
2016	**Mentor** to Ali Swancutt, University of Minnesota Undergraduate senior thesis
2014–2015	**Mentor** to Jett Priewe, University of Minnesota Two undergraduate research projects
2012–2014	**Teaching Assistant**, "Exploring the Universe," University of Minnesota Head Teaching Assistant 2014 Awarded Best TA all semesters from student feedback/course evaluations

AWARDED PROPOSALS & ARCHIVAL FUNDING

Principal Investigator ———

2022–2024	TACC Frontera Supercomputer, Director Discretionary Allocation – "Cosmic Evolution Early Release Science Survey Mosaics", 9000 node hours, PI: **M. Bagley**
2021	*JWST* Archival, Cy1 – "Leveraging Early Public JWST Data to Measure Luminosity Functions and Rest-UV Slopes from $6 < z < 12$", $114,600 in funding, PI: **M. Bagley**, PID: 2687
2021	*JWST*/NIRSpec, Cy1 – "Spectroscopic Confirmation and Characterization of Bright Galaxies at $z \sim 9$", 18 hours, $143,000 in funding, PIs: **M. Bagley** and S. Rojas-Ruiz, PID: 2426
2019	NASA Keck/NIRES – "Spectroscopic Characterization of the Brightest Known Galaxy Candidate at $z > 9$", 1 night, $12,350 in funding, PI: **M. Bagley**
2011	U. of Arizona – "A Survey of YSOs in the W3 and W4 Star-Forming Regions," MMT/Hectospec (3 nights), LBT/MODS (1 night), Bok 2.3m/90Prime (3 nights) PI: **M. B. Bagley**

Selected Proposals as Co-Investigator —————————————————————————

2022–2023	NASA Keck/MOSFIRE – Webb Epoch of Reionization Lyα Survey (WERLS) 29 nights over 4 semesters, PI: C. Casey, J. Kartaltepe
2022	ALMA, Cy9 – "Dust in galaxies at z=8-11" 20 hours, PI: S. Fujimoto
2021	*JWST*/NIRISS+NIRCam, Cy1 – "The Next Generation Deep Extragalactic Exploratory Public (NGDEEP) Survey: Feedback in Low-Mass Galaxies from Cosmic Dawn to Dusk," 122 hours, PIs: S. Finkelstein, C. Papovich, N. Pirzkal, PID: 2079
2021	*JWST*/NIRSpec, Cy1 – "Confirming a Potential Ultra-Massive Galaxy at z=10.57" 2.6 hours, PI: S. Finkelstein, PID: 1758
2019	*HST*/WFC3, Cy27 – "Confirmation of a Large, Robust Sample of $z = 9 - 10$ Galaxies in the CANDELS Fields" 14 orbits, PI: S. Finkelstein, PID: 15862
2019	*HST*/WFC3, Mid-Cy26 – "Photometric Confirmation of the Brightest Known Galaxy Candidate at $z >$" 2 orbits, PI: S. Finkelstein, PID: 15697
2019	NASA Keck/MOSFIRE – "Islands of Reionization" 4 nights over two semesters, PI: R. Larson
2016	"Lyα Emitters at $z\sim7$," Magellan/LDSS3 (2 nights), PI: P. McCarthy
2016	"Spectroscopic Follow-up of $z \sim7$ Lyα-emitters," LBT/MODS (0.5 nights) PI: C. Scarlata
2015	"Emission Line Galaxy Constraints from HST: Towards Accurate Forecasts for WFIRST and Euclid", HST Cycle 23 Archival Proposal, PI: C. Scarlata

PROFESSIONAL SERVICE

Referee for the *Astrophysical Journal*, *Astrophysical Journal Letters*

2024	**Member** of the *Roman* High Latitude Wide Area Survey Definition Committee, defining observational strategies to maximize community science potential
2024	**Member** of External Panel for *JWST* Cycle 3 TAC
2023–present	**Member** of the *Roman* Software Working Group, discussing strategies and algorithms for processing data from the Wide Field Instrument
2022–2023	**Creator** of CEERS public data products, including NIRCam imaging mosaics and ceers-nircam, a GitHub repository of reduction scripts and documentation
June 2022–present	**Co-Lead** of CEERS Imaging Instrument working group with Dr. Guang Yang, leading and coordinating image reduction process and validation
June 2020	**Local Organizing Committee**, Summer All Zoom Epoch of Reionization Astronomy Conference (SAZERAC)

PROFESSIONAL SERVICE (CONTINUED)

Jan–Feb 2020	**Organizer and leader** of two local *JWST* proposal planning workshops, as a *JWST* Master Class graduate The University of Texas at Austin and Texas A&M
Oct 2019	**Science Organizing Committee**, Bash Fest, University of Texas at Austin

PUBLIC OUTREACH

Aug 2019 –Jan 2021	**Astronomy on Tap ATX** Organizer and co-host, Austin, Texas
Oct 2022	**Introductory Astronomy for Non-Majors** Discussion about early *JWST* results with undergraduates in "Ask an Astronomer" segment, University of Kansas
Sept 2022	**Austin Forum on Technology and Society** Presentation on *JWST* and early results, Austin, Texas ([Video of event](#))
Aug 2020	**Austin Astronomical Society**, Educational organization of amateur Astronomers, Presentation on early galaxy evolution at the society's general meeting, Austin, Texas
Jan 2019	**Astronomy on Tap ATX #52** Presentation on galaxies during the epoch of reionization, Austin, Texas
2012–2018	**Minnesota Institute for Astrophysics Public Outreach** Two to three events each semester, including presenting talks and observing at local schools, astronomy clubs, science fairs, and state parks
2015	**Jet Propulsion Lab Open House** Discussing Infrared Astronomy and IPAC missions, running interactive activities with an infrared camera
2012–2014	**Minnesota Institute for Astrophysics Public Observing** Presenting short talks followed by observing with department telescopes, once a month during the school semester

MEMBERSHIPS AND COLLABORATIONS

2021–present	Public Release IMaging for Extragalactic Research (PRIMER, PI: J. Dunlop) Creator of simulated NIRCam imaging for full COSMOS observations
2020–present	Next Generation Deep Extragalactic Exploratory Public Survey (NGDEEP, PIs: S. Finkelstein, C. Papovich, N. Pirzkal) Significant contributions to program design and NIRCam reduction

2020–present	COSMOS-Web The JWST Cosmic Origins Survey (PI: C. Casey, J. Kartaltepe)
	     Significant contributions to NIRCam reduction and target validation for
	     Keck/MOSFIRE auxiliary spectroscopic observations

2019–2022	Ultraviolet Imaging of the CANDELS Fields (UVCANDELS, PI: H. Teplitz)
	     Leading undergraduate team working on target validation for UV slope β
	     analysis

MEMBERSHIPS AND COLLABORATIONS (CONTINUED)

2019–2021	*Roman Space Telescope* Cosmic Dawn Science Investigation Team (PI: Rhoads) Led Trade Study of *Roman* Ultra Deep Field Survey Strategies
2018–present	Cosmic Evolution Early Release Science Survey (CEERS, PI: S. Finkelstein) Program Architect, NIRCam Dataset Architect, Website Architect, Co-Lead of Imaging Instrument Working Group, Creator of reduced mosaics and pre-launch simulations
2016–present	Euclid Consortium
2016–present	American Astronomical Society
2013–2019	WFC3 Infrared Spectroscopic Parallel Survey (WISP, PI: M. Malkan) Significant contributions to data reduction, emission line finding and validation; analysis of Lyα-emitters at high-redshift
2012–2017	Women in Physics and Astronomy Executive Board Member 2016-2017
2010	Phi Beta Kappa

OBSERVING EXPERIENCE

JWST (NIRCam, NIRSpec, MIRI, NIRISS) ; *Hubble Space Telescope* (ACS, WFC3); *Spitzer Space Telescope* (IRAC); Keck (NIRES); Large Binocular Telescope (MODS, LUCI); MMT Observatory (Hectospec, Blue & Red Channel Spectrographs); Magellan Telescopes (FIRE, LDSS3); Palomar Observatory (LFC, DoubleSpec); Bok Telescope (90Prime)

TECHNICAL SKILLS AND SOFTWARE EXPERIENCE

Languages ————————————————————————————————

Fluent: `Python`, TeX, HTML/CSS

Experience with: `C++`, bash, `IDL`, `R`, `IRAF`, SQL

Tools ————————————————————————————————————

Multi-Instrument Ramp Generator (Mirage)

JWST Calibration Pipeline

JWST Data Analysis Visualization (Jdaviz)

aXe/aXe SIMulation (aXeSIM)

TIPS, *Euclid* NISP detector simulator

Website Architect ———————————————————————————

Personal website: micaelabagley.github.io

CEERS website: ceers.github.io

Central Texas JWST Proposal Planning Workshops: jwst-texas-master-scholars.github.io

Contributions to Collaboration Data Products —————————————————————————

CEERS	NIRCam imaging data reduction; Reduction scripts and documentation ceers-nircam; NIRCam imaging simulations with CEERS observing specifications; Zooniverse project for target validation
NGDEEP	NIRCam imaging alignment; Diagnostic tests to identify causes of missing NIRCam sensitivity; NIRCam imaging simulations with NGDEEP observing specifications
PRIMER	NIRCam imaging simulations with PRIMER observing specifications
WISP	Multi-component sky subtraction in WFC3 grisms; PSF-matched photometry on optical and Near-IR images; Validation of automatic detection algorithm for emission lines; Simulations for imaging and spectroscopic completeness analysis; Full reduction pipeline, flux calibration, and astrometric solutions for Palomar LFC imaging data
Euclid	NISP Grism simulations with TIPS software
LBT program Co-Is	Long-slit spectroscopic reduction pipeline for MODS observations, including trace detection, 2D sky subtraction and wavelength calibration, optimal extraction, and flux calibration