

MICAELA B. BAGLEY
CURRICULUM VITAE

University of Texas at Austin
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EDUCATION

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| 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

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| 2018–present | 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 *30+ science papers* from the CEERS team
- Informing reduction procedures for NGDEEP and COSMOS-Web

SELECTED PRESENTATIONS

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 NIRCcam 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 <i>Roman</i> deep fields”, Roman Science Team Community Briefing
Oct 2020	Contributed Talk , “Going deep with <i>Roman</i> : the $z > 9$ UV luminosity function”, Galaxy Formation & Evolution in the Era of the <i>Nancy Grace Roman Space Telescope</i>
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: 44, submitted: 20, lead author: 6, citations: 1671, as of July 12, 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; **(9 citations)**
- 2023 **M. B. Bagley**, S. L. Finkelstein, A. Koekemoer, H. C. Ferguson, and 36 colleagues
*CEERS Epoch 1 NIRC*am* Imaging: Reduction Methods and Simulations Enabling Early JWST Science Results*
[ApJL](#), 946, L12, 2023; **(66 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](#), Submitted to ApJ; **(27 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

- 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; **(125 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; **(11 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; **(21 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; **(31 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 $1\ \mu\text{m}$ Imaging
[ApJL, 949, L18, 2023](#); (17 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](#); (7 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 $0.1 < z < 2.5$
[arXiv:2305.19331](#), Submitted to A&A; (3 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; (4 citations)
- 2023 A. S. Long, J. Antwi-Danso, E. L. Lambrides, C. C. Lovell, and 29 colleagues
Efficient NIRCам Selection of Quiescent Galaxies at $3 < z < 6$ in CEERS
[arXiv:2305.04662](#), Submitted to ApJ; (1 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; (3 citations)
- 2023 H. B. Akins, C. M. Casey, N. Allen, **M. B. Bagley**, M. Dickinson, and 54 colleagues
Two massive, compact, and dust-obscured candidate $z \sim 8$ galaxies discovered by JWST
[arXiv:2304.12347](#), Submitted to ApJL; (11 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
[arXiv:2304.08517](#), Submitted to A&A; (4 citations)
- 2023 P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, S. Fujimoto, and 44 colleagues
Spectroscopic Confirmation of CEERS NIRCам-selected Galaxies at $z \simeq 8 - 10$
[ApJL, 951, L22, 2023](#); (23 citations)
- 2023 P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, J. S. Kartaltepe, and 32 colleagues
Spectroscopic verification of very luminous galaxy candidates in the early universe
[arXiv:2303.15431](#), Submitted to Nature; (41 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
[arXiv:2303.08918](#), Accepted for publication in ApJ; (42 citations)

CEERS Co-Author (Continued)

- 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
[arXiv:2302.12270](#), Accepted for publication in A&A; **(5 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
[arXiv:2302.08960](#), Submitted to A&A; **(1 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; **(4 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
[arXiv:2302.00012](#), Accepted for publication in ApJL; **(34 citations)**
- 2023 S. Fujimoto, P. Arrabal Haro, M. Dickinson, S. L. Finkelstein, and 39 colleagues
*CEERS Spectroscopic Confirmation of NIRC*am*-selected $z \gtrsim 8$ Galaxy Candidates with JWST/NIRSpec: Initial Characterization of Their Properties*
[ApJL, 949, L25, 2023](#); **(42 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](#); **(4 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](#); **(16 citations)**
- 2023 C. Rose, J. S. Kartaltepe, G. F. Snyder, V. Rodriguez-Gomez, and 22 colleagues
*Identifying Galaxy Mergers in Simulated CEERS NIRC*am* Images Using Random Forests*
[ApJ, 942, 54, 2023](#); **(5 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](#); **(66 citations)**
- 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](#); **(12 citations)**

CEERS Co-Author (Continued)

- 2023 Á. García-Argumán, 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](#); (141 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](#); (14 citations)

Other Co-Author

- 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
[arXiv:2306.06244](#), Submitted to ApJ; (1 citations)
- 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
[arXiv:2302.01345](#), Submitted to ApJS; (2 citations)
- 2023 O. A. Chavez 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
[arXiv:2304.03258](#), Accepted for publication in ApJ; (0 citations)
- 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
[arXiv:2304.10437](#), Accepted for publication in ApJ; (2 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](#); (59 citations)

Other Co-Author (Continued)

- 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](#); (5 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; (12 citations)
- 2022 I. H. Laseter, S. L. Finkelstein, **M. Bagley**, D. M. Davis, and 6 colleagues
A Search for Lensed Ly α Emitters within the Early HETDEX Data Set
[ApJ, 940, 9, 2022](#); (1 citations)
- 2022 S. Fujimoto, S. L. Finkelstein, D. Burgarella, C. L. Carilli, and 48 colleagues
ALMA FIR View of Ultra High-redshift Galaxy Candidates at $z \sim 11-17$: Blue Monsters or Low- z Red Interlopers?
[arXiv:2211.03896](#), Submitted to ApJ; (26 citations)
- 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](#), Submitted to ApJ; (29 citations)
- 2022 C. M. Casey, J. S. Kartaltepe, N. E. Drakos, M. Franco, S. Harish, and 80 colleagues
COSMOS-Web: An Overview of the JWST Cosmic Origins Survey
[arXiv:2211.07865](#), Accepted for publication in ApJ; (26 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](#); (24 citations)
- 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](#); (24 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](#); (114 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](#); (3 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](#); (29 citations)

Other Co-Author (Continued)

- 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](#); (**74 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](#); (**65 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](#); (**17 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](#); (**13 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**)
- 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](#); (**41 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](#); (**14 citations**)
- 2015 V. Mehta, C. Scarlata, J. W. Colbert, Y. S. Dai, A. Dressler, and 10 colleagues
Predicting the Redshift 2 H α 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](#); (**62 citations**)

Other Co-Author (Continued)

- 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; (115 citations)

White Papers

- 2019 | A. Koekemoer, R. J. Foley, D. N. Spergel, **M. Bagley**, and 48 colleagues
Ultra Deep Field Science with WFIRST
[BAAS](#), 51, 550, 2019; [arXiv:1903.06154](#)

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
- 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](#))

TEACHING AND MENTORING EXPERIENCE (CONTINUED)

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

2022–2023	TACC Frontera Supercomputer, Director Discretionary Allocation – “Cosmic Evolution Early Release Science Survey Mosaics”, 6500 node hours, PI: M. Bagley
2021	<i>JWST</i> Archival, Cy1 – “Leveraging Early Public <i>JWST</i> Data to Measure Luminosity Functions and Rest-UV Slopes from $6 < z < 12$ ”, \$114,600 in funding, PI: M. Bagley , PID: 2687
2021	<i>JWST</i> /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 Ly α 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

Selected Proposals as Co-Investigator (Continued)

2021	<i>JWST</i> /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	<i>JWST</i> /NIRSpec, Cy1 – “Confirming a Potential Ultra-Massive Galaxy at $z=10.57$ ” 2.6 hours, PI: S. Finkelstein, PID: 1758
2019	<i>HST</i> /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	<i>HST</i> /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	“Ly α Emitters at $z \sim 7$,” Magellan/LDSS3 (2 nights), PI: P. McCarthy
2016	“Spectroscopic Follow-up of $z \sim 7$ Ly α -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*

2023	Member of the <i>Roman</i> 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)
Jan–Feb 2020	Organizer and leader of two local <i>JWST</i> proposal planning workshops, as a <i>JWST</i> 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 <i>JWST</i> results with undergraduates in “Ask an Astronomer” segment, University of Kansas
Sept 2022	Austin Forum on Technology and Society Presentation on <i>JWST</i> 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–present	Ultraviolet Imaging of the CANDELS Fields (UVCANDELS, PI: H. Teplitz) Leading undergraduate team working on target validation for UV slope β analysis
2019–2021	<i>Roman Space Telescope</i> Cosmic Dawn Science Investigation Team (PI: Rhoads) Led Trade Study of <i>Roman</i> Ultra Deep Field Survey Strategies

MEMBERSHIPS AND COLLABORATIONS (CONTINUED)

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 Ly α -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 (NIRSPEC); 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, SQL

Tools

Multi-Instrument Ramp Generator (Mirage)

JWST Calibration Pipeline

aXe/aXe SIMulation (aXeSIM)

TIPS, *Euclid* NISP detector simulator

Website Architect

Personal website: michaelabagley.github.io

CEERS website: ceers.github.io

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

TECHNICAL SKILLS AND SOFTWARE EXPERIENCE (CONTINUED)

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
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