Taylor Alexandra Hutchison

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Research Interests

Reionization, cosmic dawn, near-infrared spectroscopy, high-z spectroscopic tracers, galaxy formation & evolution, Lyman-α emitters, intergalactic medium, photoionization modeling, high-z analogs, spatially-resolved physical conditions (star formation, ionization, metallicity), gravitational lensing

Education

Ph.D. in Astronomy — August 2022
M.S. in Astronomy — May 2019
Texas A&M University (TAMU)
Department of Physics and Astronomy
College Station, TX 77843-4242
Advisor: Dr. Casey Papovich

B.S. in Physics, *Minor in Mathematics* — May 2016
Southwestern University
1001 E. University Ave.
Georgetown, TX 78626
Advisor: Dr. Mark Bottorff

Appointments

NASA Postdoctoral Fellow (with Dr. J. Rigby)	NASA Goddard, 2022 – present
Graduate Student (under Dr. C. Papovich)	Texas A&M, 2016 – 2022
Keck Visiting Scholar (under Dr. J. Walawender)	Keck Observatory, Fall 2019
Research Assistant (under Dr. M. Bottorff)	Southwestern, 2014 – 2016
King Creativity Scholar (under O.L. Fellows)	Southwestern, 2014 – 2015
King Creativity Scholar (under Dr. S. Alexander)	Southwestern, 2013 – 2014
Research Assistant (under Dr. S. Alexander)	Southwestern, Summer 2013

Honors & Awards

SOME FUNDED

NASA Postdoctoral Program Fellowship	2022 – 2025
NSF Graduate Research Fellowship	2018 – 2022
Texas A&M Prestigious Fellowship Scholar	2019 – 2022
Dr. Joseph Newton Graduate Service Award	Fall 2019
W. M. Keck Observatory Visiting Scholar	Fall 2019
Leadership in Equity and Diversity (LEAD) Award	Spring 2018
Texas A&M Graduate Diversity Excellence Fellowship	2016 – 2020
Ruter Scholar Award	2012 – 2016
Distinction Award	2012 – 2016
King Creativity Award	Spring 2014
King Creativity Scholar	2014, 2015

Awards & Grants

FY23-26	**NASA Postdoctoral Program (NPP) Fellowship**	$247K
FY21	NASA-Awarded Keck Principal Investigator Data Award	$17.2K
FY20	NASA-Awarded Keck Principal Investigator Data Award	$17.2K
FY20	Dr. Joseph Newton Graduate Service Award	$1K
FY20–22	Texas A&M University Prestigious Fellowship Scholar	$1K / yr
FY20	Mitchell Institute EPO: *Astronomy on Tap*	$1.2K
FY20	Mitchell Institute EPO: *Conferences for Undergraduate Women in Physics*	$30K
FY19	Office of Graduate and Professional Studies Travel Award	$750
FY19	Leadership in Equity and Diversity (LEAD) Award	$500
FY19	Mitchell Institute EPO: *Astronomy on Tap*	$600
FY19–22	**NSF Graduate Research Fellowship**	$138K
FY17–22	Dept. of Physics & Astronomy Diversity Grant *for The Society for the Under-represented in Physics & Astronomy*	$1.5K / yr
FY17–20	**Graduate Diversity Excellence Fellowship**	$127.7K
FY13–16	Ruter Scholar Award	$94K
FY13–16	Distinction Award	$40K
FY14	King Creativity Award	$1.5K
FY14,15	King Creativity Scholar	$2K x 2

Observing Programs / General Experience

Programs

W. M. Keck Observatory, HI – Keck I, 10-meter telescope
— **MOSFIRE, NIR Spectrograph** ..... **19 nights**
  ◦ primary/secondary science lead (14 n), engineering time (3 n)
— **LRIS, Optical Spectrograph** ..... **2 nights**

Cerro Tololo Inter-American Observatory, Chile – Blanco 4-meter telescope
— **DECam, Wide-Field CCD Imager** ..... **8 nights**
  ◦ Began Dark Energy Survey Year 6 Observations (5 n)

Madrona Peak Observatory, TX – Robotic 0.6-meter telescope
— Silicon Digital CCD, primary science lead ..... 10+ nights

Fountainwood Observatory, TX – 0.4-meter telescope
— Silicon Digital CCD, primary science co-lead ..... 40+ nights

General Experience

W. M. Keck Observatory, HI – Keck I & II, 10-meter telescopes
— **Various Instruments** ..... **3.5 nights**
  ◦ NIRSpec, NIR Spectrograph (0.5 n)
  ◦ MOSFIRE, NIR Spectrograph, shadowed E. Manjavacas (1 n)
  ◦ LRIS, Optical Spectrometer, shadowed J. Walawender (1 n)
  ◦ KCWI, Optical Integral Field Spectrograph, shadowed L. Rizzi (1 n)

McDonald Observatory, TX – 0.8-meter telescope
— **Silicon Digital CCD**, mentored TAMU REU students ..... **11 nights**
  ◦ as only graduate student (6 n), supporting fellow graduate student (5 n)

Whipple Observatory, AZ – 1.5-meter telescope
— **FAST, Optical Spectrograph**, assisted L. Macri ..... **3 nights**

Publications (link to my ads)

summary — refereed: 44, submitted: 13, lead author: 3, citations: 2,835, h-index: 32 (21-dec-2023)

Refereed Publications

First Author

TEMPLATES: A Robust Outlier Rejection Method for JWST/NIRSpec Integral Field Spectroscopy // arXiv:2312.12518
T. Hutchison, B. Welch, J. Rigby, G. Olivier, J. Birkin, K. Phadke, G. Khullar, B. Rauscher, K. Sharon, M. Aravena, M. Bayliss, L. Elicker, S. Kim, M. Solimano, J. Vieira, D. Vizgan

Near-Infrared Spectroscopy of Galaxies During Reionization: Measuring C III] in a Galaxy at $z = 7.5$ // arXiv:1905.08812 **(54 citations)**
The Astrophysical Journal, Volume 879, Issue 2, article id. 70, 16 pg. (2019)
T. Hutchison, C. Papovich, S. Finkelstein, M. Dickinson, I. Jung, A. Zitrin, R. Ellis, S. Malhotra, J. Rhoads, G. Roberts-Borsani, M. Song, V. Tilvi

2nd–4th Co-Author

JWST Early Release Science Program TEMPLATES: Targeting Extremely Magnified Panchromatic Lensed Arcs and their Extended Star formation // arXiv:2312.10465
J. Rigby, J. Vieira, K. Phadke, **T. Hutchison**, B. Welch, J. Cathey, J. Spilker, A. Gonzalez, P. Adhikari, M. Aravena, and 26 colleagues

Spectral Templates Optimal for Selecting Galaxies at $z > 8$ with JWST arXiv:2211.10035
The Astrophysical Journal, Volume 958, Issue 2, article id. 141, 12 pg. (2023) **(44 citations)**
R. Larson, **T. Hutchison**, M. Bagley, S. Finkelstein, A. Yung, R. Somerville, M. Hirschmann, G. Brammer, B. Holwerda, C. Papovich, and 2 colleagues

JWST's TEMPLATES for Star Formation: The First Resolved Gas-Phase Metallicity Maps of Dust-Obscured Star-Forming Galaxies at $z \sim 4$ // arXiv:2307.10412 **(3 citations)**
The Astrophysical Journal, Volume 958, Issue 1, article id. 64, 10 pg. (2023)
J. Birkin, T. Hutchison, B. Welch, J. Spilker, M. Aravena, M. Bayliss, J. Cathey, S. Chapman, A. Gonzalez, G. Gururajan, and 16 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 **(101 citations)**
The Astrophysical Journal, Volume 953, Issue 2, article id. L29, 26 pg. (2023)
R. Larson, S. Finkelstein, D. Kocevski, **T. Hutchison**, J. Trump, P. Haro, V. Bromm, N. Cleri, M. Dickinson, S. Fujimoto, and 42 colleagues

Using [NeV]/[NeIII] to Understand the Nature of Extreme-ionization Galaxies // arXiv:2301.07745
The Astrophysical Journal, Volume 953, Issue 1, article id. 10, 13 pg. (2023) **(15 citations)**
N. Cleri, G. Olivier, **T. Hutchison**, C. Papovich, J. Trump, R. Amorn, B. Backhaus, D. Berg, V. Fernndez, S. Finkelstein, and 7 colleagues

New $z > 7$ Lyman-alpha Emitters in EGS: Evidence of an Extended Ionized Structure at $z \sim 7.7$ // arXiv:2212.09850 **(16 citations)**
I. Jung, S. Finkelstein, R. Larson, **T. Hutchison**, A. Straughn, M. Bagley, M. Castellano, N. Cleri, M. Cooper, M. Dickinson, and 14 colleagues

Searching for Islands of Reionization: A Potential Ionized Bubble Powered by a Spectroscopic Overdensity at $z = 8.7$ // arXiv:2203.08461 **(39 citations)**
The Astrophysical Journal, Volume 930, Issue 2, article id. 104, 19 pg. (2022)
R. Larson, S. Finkelstein, **T. Hutchison**, C. Papovich, M. Bagley, M. Dickinson, S. Rojas-Ruiz H. Ferguson, I. Jung, M. Giavalisco, A. Grazian, L. Pentericci, S. Tacchella

Texas Spectroscopic Search for Lyα Emission at the End of Reionization III. The Lyα Equivalent-width Distribution and Ionized Structures at $z > 7$ // arXiv:2009.10092 **(98 citations)**
The Astrophysical Journal, Volume 904, Issue 2, article id. 144, 27 pg. (2020)
I. Jung, S. Finkelstein, M. Dickinson, **T. Hutchison**, R. Larson, C. Papovich, L. Pentericci, A. Straughn, Y. Guo, S. Malhotra, J. Rhoads, M. Song, V. Tilvi, I. Wold

Texas Spectroscopic Search for Lyα Emission at the End of Reionization II. The Deepest Near-Infrared Spectroscopic Observation at $z > 7$ // arXiv:1901.05967 **(21 citations)**
The Astrophysical Journal, Volume 877, Issue 2, article id. 146, 9 pg. (2019)
I. Jung, S. Finkelstein, M. Dickinson, **T. Hutchison**, R. Larson, C. Papovich, L. Pentericci, M. Song, H. Ferguson, Y. Guo, S. Malhotra, B. Mobasher, J. Rhoads, V. Tilvi, I. Wold

Co-Author

The Next Generation Deep Extragalactic Exploratory Public Near-Infrared Slitless Survey Epoch 1 (NGDEEP-NISS1): Extra-Galactic Star-formation and Active Galactic Nuclei at $0.5 < z < 3.6$ // arXiv:2312.09972
N. Pirzkal, B. Rothberg, C. Papovich, L. Shen, G. C. K. Leung, M. Bagley, S. Finkelstein, J. Lotz, A. Koekemoer, N. Hathi, and 42 colleagues including **T. Hutchison**

Evidence for a Shallow Evolution in the Volume Densities of Massive Galaxies at $z = 4$ to 8 from CEERS // arXiv:2311.14804
K. Chworowsky, S. Finkelstein, M. Boylan-Kolchin, E. McGrath, K. Iyer, C. Papovich, M. Dickinson, A. Taylor, L. Y. A. Yung, and 30 colleagues including **T. Hutchison**

Confirmation and refutation of very luminous galaxies in the early universe // arXiv:2303.15431
Nature, Volume 622, Issue 7984, article id. 707, 5 pg. (2023)
P. Arrabal Haro, M. Dickinson, S. Finkelstein, J. Kartaltepe, C. T. Donnan, D. Burgarella, A. Carnall, F. Cullen, J. Dunlop, V. Fernndez, and 26 colleagues including **T. Hutchison**

ALMA FIR View of Ultra-high-redshift Galaxy Candidates at $z \sim 11 - 17$: Blue Monsters or Low-z Red Interlopers? // arXiv:2211.03896
The Astrophysical Journal, Volume 955, Issue 2, article id. 130, 21 pg. (2023)
S. Fujimoto, S. Finkelstein, D. Burgarella, C. Carilli, V. Buat, C. Casey, L. Ciesla, S. Tacchella, J. Zavala, G. Brammer, and 43 colleagues including **T. Hutchison**

High-redshift Galaxy Candidates at z = 9-10 as Revealed by JWST Observations of WHL0137-08 // arXiv:2210.01777
The Astrophysical Journal, Volume 955, Issue 1, article id. 13, 15 pg. (2023)
L. Bradley, D. Coe, G. Brammer, L. Furtak, R. Larson, V. Kokorev, F. Andrade-Santos, R. Bhatawdekar, M. Brada, T. Broadhurst, and 18 colleagues including **T. Hutchison**

The Web Epoch of Reionization Lyman-α Survey (WERLS) I. MOSFIRE Spectroscopy of $z \sim 7 - 8$ Lyman-α Emitters // arXiv:2309.06656

O. Cooper, C. Casey, H. Akins, J. Magee, A. Melendez, M. Fong, S. Urbano Stawinski, J. Kartaltepe, S. Finkelstein, R. Larson, and 26 colleagues including **T. Hutchison**

NGDEEP Epoch 1: The Faint-End of the Luminosity Function at $z \sim$ 9-12 from Ultra-Deep JWST Imaging // arXiv:2306.06244
The Astrophysical Journal, Volume 954, Issue 2, article id. L46, 17 pg. (2023)
G. Leung, M. Bagley, S. Finkelstein, H. Ferguson, A. Koekemoer, P. Perez-Gonzalez, A. Morales, D. Kocevski, G. Yang, R. Somerville, and 19 colleagues including **T. Hutchison**

Hidden Little Monsters: Spectroscopic Identification of Low-mass, Broad-line AGNs at $z > 5$ with CEERS // arXiv:2302.00012
The Astrophysical Journal, Volume 954, Issue 1, article id. L4, 17 pg. (2023)
D. Kocevski, M. Onoue, K. Inayoshi, J. Trump, P. Haro, A. Grazian, M. Dickinson, S. Finkelstein, J. Kartaltepe, M. Hirschmann, and 31 colleagues including **T. Hutchison**

Uncovering a Massive $z \sim 7.65$ Galaxy Hosting a Heavily Obscured Radio-Loud QSO Candidate in COSMOS-Web // arXiv:2308.12823
E. Lambrides, M. Chiaberge, A. Long, D. Liu, H. Akins, A. Ptak, I. Taufik Andika, A. Capetti, C. Casey, J. Champagne, and 35 colleagues including **T. Hutchison**

Spectroscopic Confirmation of CEERS NIRCam-selected Galaxies at z 8-10 // arXiv:2304.05378
The Astrophysical Journal, Volume 951, Issue 1, article id. L22, 19 pg. (2023)
P. Arrabal Haro, M. Dickinson, S. Finkelstein, S. Fujimoto, V. Fernndez, J. Kartaltepe, I. Jung, J. Cole, D. Burgarella, K. Chworowsky, and 38 colleagues including **T. Hutchison**

JWST's PEARLS: TN J1338-1942 - I. Extreme jet-triggered star formation in a $z = 4.11$ luminous radio galaxy // arXiv:2212.09769
Monthly Notices of the Royal Astronomical Society, Volume 522, Issue 3, article id. 4548, 17 pg. (2023)
K. J. Duncan, R. Windhorst, A. Koekemoer, H. Rttgering, S. H. Cohen, R. Jansen, J. Summers, S. Tompkins, **T. Hutchison**, C. J. Conselice, and 18 colleagues

The FENIKS Survey: Spectroscopic Confirmation of Massive Quiescent Galaxies at $z \sim 3-5$ // arXiv:2307.09590
J. Antwi-Danso, C. Papovich, J. Esdaile, T. Nanayakkara, K. Glazebrook, **T. Hutchison**, K. Whitaker, Z. Marsan, R. Diaz, D. Marchesini, and 6 colleagues

TEMPLATES: Characterization of a Merger in the Dusty Lensing SPT0418-47 System // arXiv:2307.10115
J. Cathey, A. Gonzalez, S. Lower, K. Phadke, J. Spilker, M. Aravena, J. Birkin, S. Birrer, S. Chapman, H. Dahle, and 15 colleagues including **T. Hutchison**

JWST Reveals a Possible $z \sim 11$ Galaxy Merger in Triply Lensed MACS0647-JD // arXiv:2210.14123
The Astrophysical Journal, Volume 949, Issue 2, article id. L34, 21 pg. (2023)
T. Y.-Y. Hsiao, D. Coe, Abdurro'uf, L. Whitler, I. Jung, G. Khullar, A. Meena, P. Dayal, K. Barrow, L. Santos-Olmsted, and 56 colleagues including **T. Hutchison**

CEERS Key Paper. V. Galaxies at 4 ¡ z ¡ 9 Are Bluer than They Appear – Characterizing Galaxy Stellar Populations from Rest-frame 1 m Imaging // arXiv:2301.00027
The Astrophysical Journal, Volume 949, Issue 2, article id. L18, 23 pg. (2023)
C. Papovich, J. Cole, G. Yang, S. Finkelstein, G. Barro, V. Buat, D. Burgarella, P. Prez-Gonzlez, P. Santini, L.-M. Seill, and 39 colleagues including **T. Hutchison**

CEERS Key Paper. VI. JWST/MIRI Uncovers a Large Population of Obscured AGN at High Redshifts // arXiv:2303.11736
The Astrophysical Journal, Volume 950, Issue 1, article id. L5, 11 pg. (2023)
G. Yang, K. Caputi, C. Papovich, P. Arrabal Haro, M. Bagley, P. Behroozi, E. Bell, L. Bisigello, V. Buat, D. Burgarella, and 28 colleagues including **T. Hutchison**

CEERS Spectroscopic Confirmation of NIRCam-Selected $z > 8$ Galaxy Candidates with JWST/NIRSpec: Initial Characterization of their Properties // arXiv:2301.09482
The Astrophysical Journal, Volume 949, Issue 2, article id. L25, 18 pg. (2023)
S. Fujimoto, P. Arrabal Haro, M. Dickinson, S. Finkelstein, J. Kartaltepe, R. Larson, D. Burgarella, M. Bagley, P. Behroozi, and 32 colleagues including **T. Hutchison**

Spatial variations in aromatic hydrocarbon emission in a dust-rich galaxy // arXiv:2306.03152
Nature, Volume 618, Issue 7966, article id. 708, 4 pg. (2023)
J. Spilker, K. Phadke, M. Aravena, M. Archipley, M. Bayliss, J. E. Birkin, M. Béthermin, J. Burgoyne, J. Cathey, S. Chapman, and 29 colleagues including **T. Hutchison**

Efficient NIRCam Selection of Quiescent Galaxies at $3 < z < 6$ in CEERS // arXiv:2305.04662
A. Long, J. Antwi-Danso, E. Lambrides, C. Lovell, A. de la Vega, F. Valentino, J. Zavala, C. Casey, S. Wilkins, L. Yung, and 23 colleagues including **T. Hutchison**

CLEAR: High-Ionization [Ne V] λ3426 Emission-line Galaxies at $1.4<z<2.3$ // arXiv:2209.06247
The Astrophysical Journal, Volume 948, Issue 2, article id. 112, 15 pg. (2023)
N. Cleri, G. Yang, C. Papovich, J. Trump, B. Backhaus, V. Estrada-Carpenter, S. Finkelstein, M. Giavalisco, **T. Hutchison**, Z. Ji, and 6 colleagues

JWST NIRSpec spectroscopy of the triply-lensed $z = 10.17$ galaxy MACS0647−JD // arXiv:2305.03042
T. Hsiao, Abdurro'uf, D. Coe, R. Larson, I. Jung, M. Mingozzi, P. Dayal, N. Kumari, V. Kokorev, A. Vikaeus, and 31 colleagues including **T. Hutchison**

CEERS: Diversity of Lyman-Alpha Emitters during the Epoch of Reionization // arXiv:2304.05385
I. Jung, S. Finkelstein, P. Arrabal Haro, M. Dickinson, H. Ferguson, **T. Hutchison**, J. Kartaltepe, R. Larson, R. Simons, C. Papovich, and 22 colleagues

First Look at $z > 1$ Bars in the Rest-frame Near-infrared with JWST Early CEERS Imaging
The Astrophysical Journal, Volume 945, Issue 1, article id. L10, 13 pg. (2023) // arXiv:2210.08658
Y. Guo, S. Jogee, S. Finkelstein, Z. Chen, E. Wise, M. Bagley, G. Barro, S. Wuyts, D. Kocevski, J. Kartaltepe, and 38 colleagues including **T. Hutchison**

CEERS Key Paper. II. A First Look at the Resolved Host Properties of AGN at $3 < z < 5$ with JWST // arXiv:2208.14480
The Astrophysical Journal, Volume 946, Issue 1, article id. L14, 14 pg. (2023)
D. Kocevski, G. Barro, E. J. McGrath, S. Finkelstein, M. Bagley, H. Ferguson, S. Jogee, G. Yang, M. Dickinson, N. Hathi, and 50 colleagues including **T. Hutchison**

CEERS Epoch 1 NIRCam Imaging: Reduction Methods and Simulations Enabling Early JWST Science Results // arXiv:2211.02495
The Astrophysical Journal, Volume 946, Issue 1, article id. L12, 23 pg. (2023)
M. Bagley, S. Finkelstein, A. Koekemoer, H. Ferguson, P. Arrabal Haro, M. Dickinson,

J. Kartaltepe, C. Papovich, P. Prez-Gonzlez, and 28 colleagues including **T. Hutchison**

The Physical Conditions of Emission-Line Galaxies at Cosmic Dawn from JWST/NIRSpec Spectroscopy in the SMACS 0723 Early Release Observations // arXiv:2207.12388
The Astrophysical Journal, Volume 945, Issue 1, article id. 35, 11 pg. (2023)
J. Trump, P. Arrabal Haro, R. Simons, B. Backhaus, R. Amorn, M. Dickinson, V. Fernndez, C. Papovich, D. Nicholls, and 55 colleagues including **T. Hutchison**

CEERS Key Paper I: An Early Look into the First 500 Myr of Galaxy Formation with JWST // arXiv:2211.05792
The Astrophysical Journal, Volume 946, Issue 1, article id. L13, 35 pg. (2023)
S. Finkelstein, M. Bagley, H. Ferguson, S. Wilkins, J. Kartaltepe, C. Papovich, A. Yung, P. Arrabal Haro, P. Behroozi, M. Dickinson, and 57 colleagues including **T. Hutchison**

Dusty Starbursts Masquerading as Ultra-high Redshift Galaxies in JWST CEERS Observations // arXiv:2208.01816
The Astrophysical Journal, Volume 943, Issue 2, article id. L9, 14 pg. (2023)
J. Zavala, V. Buat, C. Casey, S. Finkelstein, D. Burgarella, M. Bagley, L. Ciesla, E. Daddi, M. Dickinson, H. Ferguson, and 115 colleagues including **T. Hutchison**

The Next Generation Deep Extragalactic Exploratory Public (NGDEEP) Survey // arXiv:2302.05466
M. Bagley, N. Pirzkal, S. Finkelstein, C. Papovich, D. Berg, J. Lotz, G. Leung, H. Ferguson, A. Koekemoer, M. Dickinson, and 38 colleagues including **T. Hutchison**

A Long Time Ago in a Galaxy Far, Far Away: A Candidate $z \sim 12$ Galaxy in Early JWST CEERS Imaging // arXiv:2207.12474
The Astrophysical Journal, Volume 940, Issue 2, article id. L55, 15 pg. (2022)
S. Finkelstein, M. Bagley, P. Haro, M. Dickinson, H. Ferguson, J. Kartaltepe, C. Papovich, D. Burgarella, D. Kocevski, M. Huertas-Company, and 112 colleagues including **T. Hutchison**

JWST Imaging of Earendel, the Extremely Magnified Star at Redshift z=6.2 // arXiv:2208.09007
The Astrophysical Journal, Volume 940, Issue 1, article id. L1, 12 pg. (2022)
B. Welch, D. Coe, E. Zackrisson, S. E. de Mink, S. Ravindranath, J. Anderson, G. Brammer, L. Bradley, J. Yoon, P. Kelly, and 53 colleagues including **T. Hutchison**

On the Stellar Populations of Galaxies at $z = 9 - 11$: The Growth of Metals and Stellar Mass at Early Times // arXiv:2111.05351
The Astrophysical Journal, Volume 927, Issue 2, article id. 170, 29 pg. (2022)
S. Tacchella, S. Finkelstein, M. Bagley, M. Dickinson, H. Ferguson, M. Giavalisco, L. Graziani, and 14 colleagues including **T. Hutchison**

A Census of the Bright $z = 8.5$–11 Universe with the Hubble and Spitzer Space Telescopes in the CANDELS Fields // arXiv:2106.13813
The Astrophysical Journal, Volume 928, Issue 1, article id. 52, 38 pg. (2022)
S. Finkelstein, M. Bagley, M. Song, R. Larson, C. Papovich, M. Dickinson, K. Finkelstein, and 17 colleagues including **T. Hutchison**

Space Telescope and Optical Reverberation Mapping Project. IX. Velocity-Delay Maps for Broad Emission Lines in NGC 5548
The Astrophysical Journal, Volume 907, Issue 2, article id. 76, 19 pp. (2021)

K. Horne, G. De Rosa, B. M. Peterson, A. J. Barth, B. M. Peterson, and 153 additional authors, including **T. Hutchison**.

Space Telescope and Optical Reverberation Mapping Project. XII. Broad-Line Region Modeling of NGC 5548
The Astrophysical Journal, Volume 902, Issue 1, article id. 74, 26 pg. (2020)
P. R. Williams, A. Pancoast, T. Treu, B. J. Brewer, B. M. Peterson, A. J. Barth, and 153 colleagues including **T. Hutchison**.

The properties of He II 1640 emitters at z∼2.5-5 from the VANDELS survey // arXiv:1911.09999
The Astronomy & Astrophysics Journal, Volume 636, eid. A47, 21 pg. (2020)
A. Saxena, L. Pentericci, M. Mirabelli, D. Schaerer, R. Schneider, F. Cullen, R. Amorin, A. Bolzonella, A. C. Bongiorno, and 17 colleagues including **T. Hutchison**

Space Telescope and Optical Reverberation Mapping Project. VIII. Time Variability of Emission and Absorption in NGC 5548 Based on Modeling the Ultraviolet Spectrum
The Astrophysical Journal, Volume 881, Issue 2, article id. 153, 36 pg. (2019)
G. A. Kriss, G. De Rosa, J. Ely, B. M. Peterson, J. Kaastra, and 163 additional authors, including **T. Hutchison**.

Velocity-resolved Reverberation Mapping of Five Bright Seyfert 1 Galaxies // arXiv:1807.04784
The Astrophysical Journal, Volume 866, Issue 2, article id. 133, 20 pg. (2018)
G. De Rosa, M. Fausnaugh, C. Grier, B. Peterson, K. Denney, K. Horne, M. Bentz, S. Ciroi, E. Dalla Bont, M. Joner, and 92 colleagues including **T. Hutchison**

Continuum Reverberation Mapping of the Accretion Disks in Two Seyfert 1 Galaxies
The Astrophysical Journal, Volume 854, Issue 2, article id. 107, 24 pg. (2018)
M. Fausnaugh, D. Starkey, K. Horne, C. Kochanek, B. Peterson, and 67 additional authors, including **T. Hutchison**.

Space Telescope and Optical Reverberation Mapping Project. VII. Understanding the Ultraviolet Anomaly in NGC 5548 with X-Ray Spectroscopy
The Astrophysical Journal, Volume 846, Issue 1, article id. 55, 24 pg. (2017)
S. Mathur, A. Gupta, K. Page, R. Pogge, Y. Krongold, M. Goad, and 144 additional authors, including **T. Hutchison**.

Reverberation Mapping of Optical Emission Lines in Five Active Galaxies
The Astrophysical Journal, Volume 840, Issue 2, article id. 97, 27 pg. (2017)
M. Fausnaugh, C. Grier, M. Bentz, K. Denney, G. De Rosa, B. Peterson, and 65 additional authors, including **T. Hutchison**.

Space Telescope and Optical Reverberation Mapping Project. V. Optical Spectroscopic Campaign and Emission-line Analysis for NGC 5548 // arXiv:1702.01177
The Astrophysical Journal, Volume 837, Issue 2, article id. 131, 21 pg. (2017)
L. Pei, M. Fausnaugh, A. Barth, B. Peterson, M. Bentz, G. De Rosa, K. Denney, M. Goad, C. Kochanek, K. Korista, and 146 colleagues including **T. Hutchison**

Space Telescope and Optical Reverberation Mapping Project.VI. Reverberating Disk Models for NGC 5548 // arXiv:1611.06051
The Astrophysical Journal, Volume 835, Issue 1, article id. 65, 15 pg. (2017)
D. Starkey, K. Horne, M. Fausnaugh, B. Peterson, M. Bentz, C. Kochanek, K. Denney,

R. Edelson, M. Goad, G. De Rosa, and 83 colleagues including **T. Hutchison**

Space Telescope and Optical Reverberation Mapping Project. IV. Anomalous Behavior of the Broad Ultraviolet Emission Lines in NGC 5548
The Astrophysical Journal, Volume 824, Issue 1, article id. 11, 10 pg. (2016)
M. Goad, T. Korista, G. De Rosa, A. Kriss, and 96 colleagues including **T. Hutchison**.

Space Telescope and Optical Reverberation Mapping Project. III. Optical Continuum Emission and Broadband Time Delays in NGC 5548
The Astrophysical Journal, Volume 821, Issue 1, article id. 56, 25 pg. (2016)
M. Fausnaugh, K. Denney, A. Barth, M. Bentz, M. Bottorff, and 92 colleagues including **T. Hutchison**.

SPIE Conference Proceedings

First Author

Flexure updates to MOSFIRE on the Keck I telescope // arXiv:2012.09308 **(3 citations)**
Proc. SPIE 11447, Ground-based and Airborne Instrumentation for Astronomy VIII, 114476A
T. Hutchison, J. Walawender, S. H. Kwok // Paper No. 11447-114

White Papers

Co-Author

Strongly lensed [O III] emitters at Cosmic Noon with Roman: Characterizing extreme emission line galaxies on star cluster complex scales (100 pc) // arXiv:2307.01247
K. J. Kim, M. Bayliss, H. Dahle, **T. Hutchison**, K. Sharon, and 3 additional authors

UV Diagnostics of Galaxies from the Peak of Star-Formation to the Epoch of Reionization
C. Papovich, D. Stark, S. Finkelstein, S. Ravindranath, D. Berg, M. Bradac, and 16 additional authors, including **T. Hutchison**. // arXiv:1903.04524

Spatially-resolved studies of star-forming galaxies in the reionization epoch
S. Ravindranath, C. Papovich, B. James, G. Snyder, A. Jaskot, H. Ferguson, and 12 additional authors, including **T. Hutchison**. // article link

Unveiling the Phase Transition of the Universe During the Reionization Epoch with Lyman-alpha
S. Finkelstein, M. Bradac, C. Casey, M. Dickinson, R. Endsley, and 13 colleagues including **T. Hutchison**. // arXiv:1903.04518

Research Notes

Co-Author

TEMPLATES: Tests of NIRSpec Observing Strategy, using SGAS1723
Research Notes of the AAS, Volume 7, Issue 1, article id. 17, pg. (2023)
B. Welch, J. Rigby, and T. Hutchison

Service & Outreach

International Level

Co-Chair: Junior Scientist Working Group, CEERS Collaboration	since Spring 2022
#UniqueScientists, Editing Director	2019 – 2022

National Level

JWST Subject Matter Expert	2021–2023
Warrior Scholar Project*: STEM Week TA	TAMU, 2018 – 2021
Letters to a Pre-Scientist Pen Pal	2018 – 2019

State Level

Texas Section APS Executive Committee	APS, since Spring 2021

University / Institution Level

RetainU Undergraduate Mentoring Program	TAMU, 2017 – 2018
March for Science, *Meet a Scientist*	TAMU, April 2017
King Creativity Grant Allocation Committee	Southwestern, Fall 2014

Department / Division Level

NASA-PEER: Post-Bacc Mentoring Progam *Code 600; Co-founder, current mentor*	NASA GSFC, since 2023
Departmental Graduate Records Committee	TAMU, 2020 – 2022
Mentoring & Advising Graduates in an Inclusive Community ⊙ *Co-founder, mentor*	TAMU, 2019 – 2022
Astronomy Graduate Student Representative (for Faculty)	TAMU, 2018 – 2021
Departmental Climate and Diversity Committee	TAMU, 2018 – 2020
Society for the Under-represented in Physics & Astronomy ◇ *Co-founder, grant-funded*	TAMU, 2016 – 2022
TAMU Physics & Engineering Festival (annual event)	TAMU, 2017 – 2021
Dept. Moving Transition Team Member	Southwestern, 2015 – 2016

Local Community Level

Astronomy Outreach, *Astronomy on Tap* (monthly event)	TAMU, 2018 – 2022
Astronomy Outreach, *Camp For All* (annual event)	TAMU, 2017 – 2019
TAMU Star Parties (occasional volunteer)	TAMU, Fall 2016
Fountainwood Observatory Public Nights	Southwestern, 2012 – 2016
Physics Outreach, Williamson County Middle Schools	Southwestern, 2013 – 2016
Seaperch Program Mentor	Southwestern, 2014 – 2015

* warrior-scholar.org ⊙ MAGIC – tamu-magic.github.io
◇ SUPA – tx.ag/supa

Awarded Telescope Time // Archival Funding

Principal Investigator

- NASA Keck Observatory/MOSFIRE 2020B – *Using Nebular UV Metal Lines to Probe Redshifts*

and Physical Conditions in Galaxies During Reionization; 2 nights, Oct/Dec 2020 **[COVID-19]**

- NASA Keck Observatory/MOSFIRE 2020A – *Using Nebular UV Metal Lines to Probe Redshifts and Physical Conditions in Galaxies During Reionization*; 2 nights, Feb 2020
- (Co-PI) IRAM/NOEMA – *A Physical Study of the Galaxy z7_GND_42912 at the End of Reionization (z=7.51)*; 30 hours, 2019 (not observed)

Co-Investigator

- NASA Keck Observatory/MOSFIRE 2022A–2023B – *Webb Epoch of Reionization Lyα Survey (WERLS)*; 29 nights over 4 semesters
- JWST Cy1 – *Probing the Interstellar Medium of Galaxies in the Early Universe*; archival
- JWST Cy1 – *Spectroscopic Confirmation and Characterization of Bright Galaxies at z∼9*; 18.1 hours prime
- JWST Cy1 – *Leveraging Early Public JWST Data to Measure Luminosity Functions and Rest-UV Slopes from 6<z<12*; archival
- JWST Cy1 – *Confirming a Potential Ultra-Massive Galaxy at z=10.57*; 2.6 hours prime
- JWST Cy1 – *The First Observations of the Ionizing Luminosity of Galaxies within the Epoch of Reionization*; 22.2 hours prime
- NASA Keck Observatory/MOSFIRE 2021A – *CEERS proposal to target z>7 Lyα (z∼4-5 rest-UV) in the EGS field*; 2 nights, Apr 2021
- NSF NOIRLab Gemini/GNIRS 2021A – *Near-Infrared Spectroscopy of an Extremely-Large Equivalent-width Lyman-alpha Emitter at z=7.608*; 5 hours, 2021 (not observed, **[COVID-19]**)
- LBT/LUCI 2020A – *Detection of C III] and Lyα at high redshifts through near-infrared spectroscopy*; 15 hours, Jan 2020
- NASA Keck Observatory/MOSFIRE 2019B – *Islands of Reionization*; 2 nights, Dec 2019
- NASA Keck Observatory/MOSFIRE 2019A – *Islands of Reionization*; 2 nights, Mar 2019
- NASA Keck Observatory/MOSFIRE 2018B – *Islands of Reionization*; 2 nights, Nov 2018
- NASA Keck Observatory/MOSFIRE 2018A – *Islands of Reionization*; 2 nights, Apr 2018
- JWST Early Release Science – *The Cosmic Evolution Early Release Science (CEERS)*, 2017

NOTE: any activities that were affected by COVID-19 & occurred virtually are marked by **[COVID-19]**

Conferences & Presentations

Science Presentations

Invited Talk: UIUC Colloquium (urbana, il)	11 April 2023
Talk: American Astronomical Society #241 (seattle, wa)	12 January 2023

Invited Talk: Joint STScI & JHU Seminar	14 July 2022
Invited Talk: Cosmic DAWN Center CakeTalk Virtual Seminar	24 March 2022
Talk: MIT Brown Bag Virtual Seminar	14 March 2022
Talk: Caltech Tea Talk Virtual Seminar	22 November 2021
Talk: JPL Virtual Seminar	15 November 2021
Talk: UCLA Virtual Seminar	19 October 2021
Poster: Keck Science Meeting (interactive)	9-10 September 2021
Talk: TAMU Astrosymposium (COLLEGE STATION, TX)	27 August 2021
Talk: SAZERAC 2.0 Virtual Conference (recording)	15 July 2021
Invited Talk: EURECA Virtual Seminar, UofA	16 April 2021
Poster: SPIE Telescopes & Instrumentation (interactive) **[COVID-19]**	14 December 2020
Invited Talk: TAMU Nuclear+Astro Seminar **[COVID-19]**	25 September 2020
Poster: Keck Science Meeting (interactive) **[COVID-19]**	24-25 September 2020
Talk: TAMU Astrosymposium **[COVID-19]**	17 August 2020
Talk: SAZERAC Virtual Conference (recording)	6 July 2020
Invited Talk: Lancaster XGAL Seminar (UK) **[COVID-19]**	14 April 2020
Invited Talk: Gemini Headquarters (HILO, HI)	24 February 2020
Talk: American Astronomical Society #235 (HONOLULU, HI)	5 January 2020
Talk: Keck Summit Talk (MAUNAKEA)	9 December 2019
Talk: Keck Visiting Scholar: Exit Talk (WAIMEA, HI)	24 October 2019
Talk: Keck Visiting Scholar: Entrance Talk (WAIMEA, HI)	2 October 2019
Talk: Keck Science Meeting, UCLA (LOS ANGELES, CA)	20 September 2019
Talk: TAMU Astrosymposium (COLLEGE STATION, TX)	23 August 2019
Talk: Barefoot in the EoR (FITZROY ISLAND, QLD, AU)	17 July 2019
Talk: Extremely Large Telescopes Conf., UCLA (LOS ANGELES, CA)	29 January 2019
Talk: TAMU Astrosymposium (COLLEGE STATION, TX)	24 August 2018
Talk: 2-min; DES Collaboration Meeting (COLLEGE STATION, TX)	17 May 2018
Talk: CEERS Team Meeting (MAGNOLIA, TX)	1 February 2018
Talk: Star Formation in Era of JWST (COLLEGE STATION, TX) *Led by D. Calzetti & R. Kennicutt*	1 November 2017
Poster: Frank N. Bash Symposium (AUSTIN, TX)	24–25 October 2017
Talk: 1-min; Frank N. Bash Symposium (AUSTIN, TX)	24 October 2017
Talk: TAMU Astrosymposium (COLLEGE STATION, TX)	25 August 2017
Talk: ZFOURGE Team Meeting (MAGNOLIA, TX)	24-28 October 2016
Talk: TAMU Astrosymposium (COLLEGE STATION, TX)	26 August 2016

Professional Development Presentations

Talk: Telescope Proposals, a "How To" Guide (recording)	5 March 2021
Talk: GLASS, `matplotlib` & Effective Plotting (recording)	9 October 2020
Talk: MAGIC+GLASS, Grants & Opportunities (& Finding Them)	14 August 2020
Talk: MAGIC, Conferences & Presentations (Making a Good One)	10 July 2020
Talk: MAGIC+GLASS, Crafting Your CV/Resume (recording)	24 June 2020
Talk: MAGIC, Building Your Professional Website (recording)	3 April 2020

Outreach Presentations

Invited: First Year of *JWST* STScI Outreach Panel	12 July 2023
Talk: NASA Hyperwall, American Astronomical Society #241	11 January 2023
Talk: *Astronomy on Tap* (DC)	10 October 2022
Talk: *Astronomy on Tap* (BRYAN, TX)	25 May 2022

Talk: [§] SPS Distinguished Public Lecture, TLU (SEGUIN, TX)	4 November 2021
Invited: *Semana Mundial del Espacio*, ITESM Virtual Masterclass	6 October 2021
Talk: *Astronomy on Tap* (BRYAN, TX)	22 September 2021
Invited: W. M. Keck Observatory Virtual Public Talk (recording)	9 December 2020
Talk: *Astronomy on Tap* (BRYAN, TX) **[COVID-19]** (recording)	16 September 2020
Invited: *The Earth is Flat on Planet Pluto*, David Sobral (recording)	1 July 2020
Talk: Warrior Scholar Project (COLLEGE STATION, TX) **[COVID-19]**	26 June 2020
Talk: *Astronomy on Tap* (BRYAN, TX) **[COVID-19]** (recording)	24 June 2020
Talk: *Astronomy on Tap* (AUSTIN, TX) **[COVID-19]** (recording)	31 March 2020
Talk: Society for Physics Students (COLLEGE STATION, TX) **[COVID-19]**	24 March 2020
Talk: *Astronomy on Tap* (BRYAN, TX)	14 August 2019
Talk: Warrior Scholar Project (COLLEGE STATION, TX)	27 June 2019
Talk: Warrior Scholar Project (COLLEGE STATION, TX)	28 June 2019
Talk: *Astronomy on Tap* (BRYAN, TX)	11 October 2018
Talk: Warrior Scholar Project (COLLEGE STATION, TX)	29 June 2018
Talk: Warrior Scholar Project (COLLEGE STATION, TX)	28 June 2018
Talk: *Camp For All* (BURTON, TX)	21 April 2018

Undergraduate Presentations

Talk: Creative Works Symposium, Senior Capstone (GEORGETOWN, TX)	12 April 2016
Poster: [⋆] Creative Works Symposium (GEORGETOWN, TX)	April 2015
Poster: [⋆] King Creativity Symposium (GEORGETOWN, TX)	April 2015
Poster: APS March Meeting (SAN ANTONIO, TX)	March 2015
Poster: CUWiP [◇] (BROWNSVILLE, TX)	January 2015
Poster: APS Meeting; Texas Section (COLLEGE STATION, TX)	October 2014
Poster: [⋆] Creative Works Symposium (GEORGETOWN, TX)	April 2014
Poster: [⋆] King Creativity Symposium (GEORGETOWN, TX)	April 2014

[§] *JWST* Subject Matter Expert speaking event
[⋆] Poster paired with Display Table

Supervision / Mentoring

High School Students (2)
Independent Study & Mentorship Program, Frisco ISD
—— N. Sathishkumar (2020 – 2022)
—— A. Kothuri (Spring 2021)

Mentoring under-represented students for applying to graduate school
—— (3) Recent grads of Talented & Gifted Magnet (2016–2018)
—— (4) Recent grads of Southwestern University (2016–2018)

Teaching Experience

Workshops

— Pitt-TAMU Python Camp, instructor	(virtual) 24–26 May 2021
— Co-organizer of local JWST proposal planning workshops; STScI JWST master scholars	UT Austin & Texas A&M Spring 2020

Assistant

— Warrior Scholar Project: STEM Week	TAMU, Summer 2018, 2019, [COVID-19] 2020, 2021
— Teaching Assistant, Astronomy	TAMU, 2016–2018
— Advisor, Independent Study	Southwestern, 2016
— Undergraduate Astronomy	Southwestern, Fall 2014

Conference/Meeting Leadership

First Year of Science with *JWST*, SOC	11-14 September 2023
Royal Astronomy Society Specialist Discussion, SOC (website)	14 January 2022
APS CUWiP 2020 Organizing Committee for TAMU (website)	17-19 January 2020

Programming

Languages

Fluent: `Python`, Tex, html
Experience with: `C++`, bash, `IDL`, `R`, CSS

Website Architect

Personal website: aibhleog.github.io, created starting websites for (5) colleagues
JWST Cosmic Spring Collaboration (with Dr. D. Coe): cosmic-spring.github.io
TAMU Astronomy website (with other grads): tamu-astro.github.io
GLASS, Astronomy Graduate Professional Development Program: tamu-glass.github.io
JWST Texas Master Scholars (with Dr. M. Bagley): jwst-texas-master-scholars.github.io
Mentoring & Advising Graduates in an Inclusive Community (MAGIC): tamu-magic.github.io
Conference for Undergraduate Women in Physics (CUWiP) at TAMU: cuwip.tamu.edu
Society for the Under-represented in Physics & Astronomy (SUPA): tx.ag/supa

Certificates

CIRTL Associate Certificate – Evidenced-Based Teaching Practices	April 2021
OGAPS Intermediate Leadership Development Certificate	4 May 2017
OGAPS Basic Leadership Development Certificate	4 May 2017

Panels

(invited) Graduate Students, APS April Meeting	[COVID-19], 18 April 2020
Activism & Outreach, TAMU CUWiP 2020	TAMU, 18 January 2020
Undergraduate Advice, Intro. to Physics Seminar	TAMU, 26 April 2017

Circulars & Telegrams

ASASSN-17bq: Discovery of A Supernova in GALEXASC J072538.14+590010.5
L. Macri, **T. Hutchison**, R. A. Koff et al. 2017, ATel. 10027, 1

Press Coverage

NASA Early Career Scientist Spotlight, "Dr. Taylor Hutchison" – March 2023

PBS NOVA, "New Eye on the Universe" – February 2023

The Point of Becoming You, BestColleges, "From Bartender to NASA Astrophysicist: The Point of Becoming Taylor" – January 2023

Constellations with host Sarafina Nance, Seeker, "How Space-Time Works When You Look at the Stars" – Episode 3, January 2021

The STEM Squad, *Making Space* Award Nominee, September 2019

Texas A&M Today, "Stargazing", July 2019
Texas A&M University: Science, "Texas A&M NSF Graduate Research Fellow Taylor Hutchison Finds Focus in Studying Universe's Earliest Stars and Sharing Passion for Science", June 2019

Professional Societies

SPIE: The International Society for Optics & Photonics	2020 – present
American Astronomical Society	2019 – present
Sigma Xi, The Scientific Research Honor Society	2018 – present
American Physical Society	2014 – present
Alpha Delta Pi (academic sorority)	2015 – present