

Nikko J. Cleri

Eberly Postdoctoral Fellow
The Pennsylvania State University

Summary

Research:	Galaxy Evolution, High-Redshift Galaxies, Emission-Line Galaxies, Interstellar Medium, Active Galactic Nuclei, Black Hole Seeds, Population III Stars, Star Formation, Dust Attenuation
Techniques:	UV/Optical/Near-IR Spectroscopy, Photoionization Modeling
Proposals:	As PI/Co-PI: 1 JWST, 1 HST, >300k USD awarded As Co-I: 11 JWST, 1 Gemini, >700 hours total awarded
Publications:	6 lead/co-lead author, 4 significant author, 68 coauthor, 4576 citations, 35 H-index
Presentations:	18 research, 12 outreach and professional development

Academic and Professional Appointments

2024-	Eberly Postdoctoral Fellow	Penn State
2021-24	Graduate Student (Advisor: Prof. Casey Papovich)	Texas A&M
2019-21	Graduate Student (Advisor: Prof. Jonathan Trump)	UConn
2017-20	Research Assistant (Advisor: Prof. Gerald Dunne)	UConn
2018	NSF REU Student (Advisor: Prof. Louis Strigari)	Texas A&M

Education

Ph.D. Astronomy	Texas A&M University	2021 - 2024
Advisor: Casey Papovich		
Thesis: <i>Spectroscopic Studies of Stars and Black Holes Across Cosmic Time</i>		
M.S. Physics	University of Connecticut	2019 - 2021
Advisor: Jonathan R. Trump		
Thesis: <i>CLEAR: Paschen-β Star Formation Rates and Dust Attenuation in Low Redshift Galaxies</i>		
B.S. Physics Mathematics Minor	University of Connecticut	2015 - 2019
Advisor: Gerald V. Dunne		
Undergraduate Research: <i>Resurgent trans-series for generalized Hastings-McLeod solutions</i>		

Awarded Proposals and Grants

Principal Investigator		2
2024	JWST-AR-5558: <i>A Census of Optical Diagnostics of Ionizing Sources Across Cosmic Time</i>	~\$174k
2021	HST-AR-16609: <i>Peering Through the Dust: Paschen-beta Indicators of Star Formation and Dust Attenuation</i>	~\$136k
Co-Investigator		12

2025	JWST-GO-8047: <i>Extremely massive galaxies in the early universe? Confirming the nature of the most model-breaking object by hunting for stellar absorption features</i> (PI: B. Wang and E. Nelson)	19.6 hours
2025	JWST-GO-7488: <i>Echoes of Silence: Absorption Line Spectroscopy of a Massive Quiescent Galaxy at $z=7.3$</i> (PI: A. Weibel)	14.1 hours
2025	JWST-GO-8559: <i>SPAM: Star-formation from Photometry through the Addition of Medium-bands</i> (PI: K. Davis and R. Larson)	62.8 hours
2025	JWST-GO-8410: <i>A Census of Galaxy Kinematics and Outflows to $z \sim 7$</i> (PI: R. Simons)	110.0 hours
2025	JWST-GO-8204: <i>Give me a break: the search for stars in a prototypical Little Red Dot</i> (PI: J. Greene and I. Labbe)	17.4 hours
2024	JWST-GO-5718: <i>A Spectroscopic Census of Faint, Broad-Line AGN at $z>5$</i> (PI: D. Kocevski and J. Guo)	20.49 hours
2024	JWST-GO-5943: <i>What really are the Physical Properties of Galaxies in the Epoch of Reionization?</i> (PI: C. Papovich and W. Hu, T. Hutchison)	61.83 hours
2024	JWST-GO-5407: <i>MEOW: The MIRI Early Obscured-AGN Wide Survey</i> (PI: G. Leung and R. Endsley, S. Finkelstein)	73.95 hours
2024	JWST-GO-5507: <i>Deep Spectroscopy of Galaxies at $z=4-14$: Uncovering Drivers of Early Galaxy Formation and Black Hole Growth</i> (PI: T. Hutchison and R. Larson)	23.29 hours
2024	JWST-GO-6368: <i>The CANDELS-Area Prism Epoch of Reionization Survey (CAPERS)</i> (PI: M. Dickinson)	293.21 hours
2023	JWST-GO-3703: <i>Breaking the $z=10$ barrier with MIRI: redshift confirmation and detection of rest-frame optical emission lines</i> (PI: J. Zavala)	24.33 hours
2023	GS-2023A-Q-136: <i>Optical Spectroscopy of JWST ERO Galaxies</i> (PI: B. Backhaus)	20 hours

Honors and Awards

2024	Dean's Climate and Diversity Award (Group)	Penn State
2022	Texas Space Grant Consortium Graduate Fellow - \$5K	Texas A&M
2018	NSF REU - \$5K	Texas A&M
2016	Dean's List - College of Liberal Arts and Sciences	UConn
2015-19	Governor's Scholarship - \$8.5K/yr	UConn
2015	Community Service Scholarship - \$1K	UConn

Teaching Experience

Instructor of Record

ASTRO 6: Stars, Galaxies, and the Universe	Penn State
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Teaching Assistant/Course Assistant

PHYS 1501: Physics for Engineers I	UConn
PHYS 1025: Introduction to Astronomy	UConn

Service

Physics & Astronomy Community

Referee – Astronomy & Astrophysics (A&A)

Referee – Astrophysical Journal (ApJ)

College

Astronomy Representative – Eberly College of Science Postdoctoral Council

Penn State

Department

Member – Climate and Diversity Committee

Penn State

Graduate Representative

Texas A&M

Organizer – Astronomy Journal Club

Texas A&M

Mentoring

Students Supervised

Primary mentor for 2 undergraduates at Penn State

2024-

Other Mentoring Activities

Primary Mentor – Penn State-Nanjing Exchange Program

Penn State

Coordinator – Mentoring and Advising Graduates in an Inclusive Community (MAGIC)

Texas A&M

Mentor – Mentoring and Advising Graduates in an Inclusive Community (MAGIC)

Texas A&M

Mentor – UConn Undergraduate Peer Mentoring

UConn

Outreach

Volunteer – Gateway to Graduate School

Texas A&M

Demonstrator – Physics and Engineering Festival

Texas A&M

High School Research Reviewer – Lumiere

Texas A&M

Presenter – Astronomy on Tap BCS 'In the News'

Texas A&M

Treasurer – Astronomy on Tap BCS

Texas A&M

Pen-Pal – Letters to a Pre-Scientist

Texas A&M

Volunteer – Mitchell Institute Star Party Group

Texas A&M

Technical Skills and Programming Languages

Programming

Fluent: Python, LaTeX

Familiar: SQL, Julia, C, C++, R, IDL, perl, Mathematica, MATLAB, HTML, CSS

Software

Fluent: Cloudy, PyNeb, LiMe

Familiar: grizli, DS9, IRAF, sbatch, slurm

Collaborations and Survey Membership

Co-Investigator

SPAM: Star-formation from Photometry through the Addition of Medium-bands	JWST
CAPERS: The CANDELS-Area Prism Epoch of Reionization Survey	JWST

Contributing Member

LEGGOS: Lensing and Galaxy Growth: Observing Substructures	JWST
POPPIES: The Public Observation Pure Parallel Infrared Emission-Line Survey	JWST
RUBIES: Red Unknowns: Bright Infrared Extragalactic Survey	JWST
NGDEEP: The Next Generation Deep Exploratory Public Survey	JWST
CEERS: The Cosmic Evolution Early Release Science Survey	JWST
CLEAR: The CANDELS Ly α Emission at Reionization Survey (inactive)	HST

Website Architect

Personal Website: njcleri.github.io

Mentoring and Advising Graduates in an Inclusive Community (MAGIC) (co-author): tx.ag/tamumagic

Publications

Lead/Co-Lead Author

6. **Cleri, N. J.**, Olivier, G. M., Backhaus, B. E., et al. 2025, *Optical Strong Line Ratios Cannot Distinguish Between Stellar Populations and Accreting Black Holes at High Ionization Parameters and Low Metallicities*, arXiv e-prints, arXiv:2506.21660
5. Backhaus, B. E., **Cleri, N. J.**, et al. 2025, *Emission-Line Diagnostics at $z > 4$: $[OIII]\lambda 4363/H\gamma$* , arXiv e-prints, arXiv:2502.03519
4. **Cleri, N. J.**, Olivier, G. M., Hutchison T. A., et al. 2023, *Using $[Ne V]/[Ne III]$ to Understand the Nature of Extreme-Ionization Galaxies*, ApJ, 953, 10
3. **Cleri, N. J.**, Yang, G., Papovich, C., et al. 2023, *CLEAR: High-Ionization $[Ne V] \lambda 3426$ Emission-line Galaxies at $1.4 < z < 2.3$* , ApJ, 948, 112
2. **Cleri, N. J.**, Trump, J. R., Backhaus, B. E., et al. 2022, *CLEAR: Paschen- β Star Formation Rates and Dust Attenuation of Low Redshift Galaxies*, ApJ, 929, 3
1. **Cleri, N. J.**, Dunne, G. V., 2020, *Resurgent trans-series for generalized Hastings-McLeod solutions*, Journal of Physics A: Mathematical General, 53, 355203

Significant Author

4. Larson, R. L., Finkelstein, S. L., Kocevski, D. D., Hutchison, T. A., Trump, J. R., Arrabal Haro, P., Bromm, V., **Cleri, N. J.**, et al. 2023, *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
3. Backhaus, B. E., Bridge J. S., Trump, J. R., **Cleri, N. J.**, et al. 2023, *CLEAR: Detecting Low-Luminosity Active Galactic Nuclei at $0.6 < z < 1.3$ via Spatially Resolved Hubble Space Telescope Grism Emission Line Ratios*, ApJ, 943, 37
2. Prescott, M. K. M., Finlator, K. M., **Cleri, N. J.**, et al. 2022, *Using Multiple Emission Line Ratios to Constrain the Slope of the Dust Attenuation Law*, ApJ, 928, 71
1. Backhaus, B. E., Trump, J. R., **Cleri, N. J.**, et al. 2022, *CLEAR: Emission Line Ratios at Cosmic High Noon*, ApJ, 926, 161

Co-Author: Published

58. Brooks, M., et al. 2024, *Here There Be (Dusty) Monsters: High-redshift Active Galactic Nuclei Are Dustier than Their Hosts*, ApJ, 986, 177
57. Taylor, A. J., et al. 2024, *Broad-line AGNs at $3.5 < z < 6$: The Black Hole Mass Function and a Connection with Little Red Dots*, ApJ, 986, 165
56. Kocevski, D. D., et al. 2024, *The Rise of Faint, Red Active Galactic Nuclei at $z > 4$: A Sample of Little Red Dots in the JWST Extragalactic Legacy Fields*, ApJ, 986, 126
55. Wang, B., et al. 2025, *RUBIES: JWST/NIRSpec Confirmation of an Infrared-luminous, Broad-line Little Red Dot with an Ionized Outflow*, ApJ, 984, 121
54. de Graaff, A., et al. 2024, *RUBIES: a complete census of the bright and red distant Universe with JWST/NIRSpec*, A&A, 697, A189,
53. Finkelstein, S. L., et al. 2025, *The Cosmic Evolution Early Release Science Survey (CEERS)*, ApJL, 983, L4
52. Weibel, A., et al. 2025, *RUBIES Reveals a Massive Quiescent Galaxy at $z=7.3$* , ApJ, 983, 11

51. Cooper, O. R., et al. 2024, *RUBIES: JWST/NIRSpec resolves evolutionary phases of dusty star-forming galaxies at $z \sim 2$* , ApJ, 982, 125
50. de Graaff, A., et al. 2024, *Efficient formation of a massive quiescent galaxy at redshift 4.9*, Nature Astronomy 9, 280
49. Shen, L., et al. 2024, *NGDEEP: The Star Formation and Ionization Properties of Galaxies at $1.7 < z < 3.4$* , ApJL, 980, L45
48. Cole, J. W., et al. 2025, *CEERS: Increasing Scatter along the Star-forming Main Sequence Indicates Early Galaxies Form in Bursts*, ApJ, 979, 193
47. Zavala, J., et al. 2024, *A luminous and young galaxy at $z = 12.33$ revealed by a JWST/MIRI detection of $H\alpha$ and $[O III]$* , Nature Astronomy, 9, 155
46. Cheng, Y., et al. 2024, *Unveiling the Dark Side of UV/Optical Bright Galaxies: Optically Thick Dust Absorption*, ApJ, 979, 71
45. Bisigello, L., et al. 2024, *Spectroscopic confirmation of a dust-obscured, metal-rich dwarf galaxy at $z \sim 5$* , A&A, 693, L18
44. Rose, C., et al. 2024, *CEERS Key Paper. IX. Identifying Galaxy Mergers in CEERS NIRCам Images Using Random Forests and Convolutional Neural Networks*, ApJL, 976, L8
43. Llerena, M., et al. 2024, *Physical properties of extreme emission-line galaxies at $z \sim 4 - 9$ from the JWST CEERS survey*, A&A, 691, A59
42. Gupta, A. R., et al. 2024, *Emission-Line Ratios and Ionization Conditions of CEERS Star-Forming Galaxies with JWST/NIRSpec*, Research Notes of the American Astronomical Society, 8, 266
41. Calabró, A., et al. 2024, *The evolution of the star formation rate and Σ_{SFR} of galaxies in cosmic morning ($4 < z < 10$)*, A&A, 690, A290
40. Davis, K., et al. 2024, *A Census from JWST of Extreme Emission-line Galaxies Spanning the Epoch of Reionization in CEERS*, ApJ, 974, 42
39. Chworowsky, K., et al. 2024, *Evidence for a Shallow Evolution in the Volume Densities of Massive Galaxies at $z = 4$ to 8 from CEERS*, AJ, 168, 113
38. Seillé, L.-M., et al. 2024, *Physical properties of strong $1 < z < 3$ Balmer and Paschen lines emitters observed with JWST*, A&A, 689, A102
37. Hu, W., et al. 2024, *Characterizing the Average Interstellar Medium Conditions of Galaxies at $z \sim 5.6-9$ with UV and Optical Nebular Lines*, ApJ, 971, 21
36. Napolitano, L., et al. 2024, *'Peering into cosmic reionization: the $Ly\alpha$ visibility evolution from galaxies at $z = 4.5-8.5$ with JWST*, A&A, 688, A106
35. Ronayne, K., et al. 2024, *CEERS: $7.7 \mu m$ PAH Star Formation Rate Calibration with JWST MIRI*, ApJ, 970, 61
34. Wang, B., et al. 2024, *RUBIES: Evolved Stellar Populations with Extended Formation Histories at $z \sim 7 - 8$ in Candidate Massive Galaxies Identified with JWST/NIRSpec*, ApJL, 969, L13
33. Finkelstein, S. L., et al. 2024, *The Complete CEERS Early Universe Galaxy Sample: A Surprisingly Slow Evolution of the Space Density of Bright Galaxies at $z \sim 8.5 - 14.5$* , ApJL, 969, L2
32. Pirzkal, N., et al. 2024, *The Next Generation Deep Extragalactic Exploratory Public Near-Infrared Slitless Survey Epoch 1 (NGDEEP-NISS1): Extra-Galactic Star-formation and Active Galactic Nuclei at $0.5 < z < 3.6$* , ApJ, 969, 90
31. Jung, I., et al. 2024, *CEERS: Diversity of Lyman-Alpha Emitters during the Epoch of Reionization*, ApJ, 967, 73
30. Mascia, S. et al. 2024 *New insight on the nature of cosmic reionizers from the CEERS survey* A&A, 685, A3

29. Morales, A. M., et al. 2024, *Rest-Frame UV Colors for Faint Galaxies at $z \sim 9 - 16$ with the JWST NGDEEP Survey*, ApJL, 964, L24
28. Cheng, Y., et al. 2024, *Exploring the Gas-Phase Metallicity Gradients of Star-forming Galaxies at Cosmic Noon*, ApJ, 964, 94
27. Shen, L., et al. 2024, *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*, ApJL, 963, L49
26. Barro, G., et al. 2023, *Extremely Red Galaxies at $z = 5-9$ with MIRI and NIRSpec: Dusty Galaxies or Obscured Active Galactic Nuclei?*, ApJ, 963, 128
25. Backhaus, B. E., et al. 2023, *CEERS Key Paper. VIII. Emission-line Ratios from NIRSpec and NIRCам Wide-Field Slitless Spectroscopy at $z > 2$* , ApJ, 962, 195
24. Kirkpatrick, A., et al. 2023, *CEERS Key Paper VII: JWST/MIRI Reveals a Faint Population of Galaxies at Cosmic Noon Unseen by Spitzer*, ApJL, 959, L7
23. Calabró, A., et al. 2023, *Near-infrared emission line diagnostics for AGN from the local Universe to redshift 3*, A&A, 679, A80
22. Fujimoto, S., et al. 2023, *ALMA FIR View of Ultra High-redshift Galaxy Candidates at $z \sim 11-17$: Blue Monsters or Low- z Red Interlopers?*, ApJ, 955, 130
21. Kocevski, D. D., et al. 2023, *Hidden Little Monsters: Spectroscopic Identification of Low-Mass, Broad-Line AGN at $z > 5$ with CEERS*, ApJL, 954, L4
20. Arrabal Haro, P., et al. 2023, *Spectroscopic confirmation of CEERS NIRCам-selected galaxies at $z \simeq 8 - 10$* , ApJL, 951, L22
19. Estrada-Carpenter, V., et al. 2023, *CLEAR: The Morphological Evolution of Galaxies in the Green Valley*, ApJ, 951, 115
18. Yang, G., et al. 2023, *CEERS Key Paper VI: JWST/MIRI Uncovers a Large Population of Obscured AGN at High Redshifts*, ApJL, 950, L5
17. Papovich, C., et al. 2023, *CEERS Key Paper IV: Galaxies at $4 < z < 9$ are Bluer than They Appear – Characterizing Galaxy Stellar Populations from Rest-Frame ~ 1 micron Imaging*, ApJL, 949, L18
16. Simons, R. C., et al. 2023, *CLEAR: Survey Overview, Data Analysis and Products*, ApJS, 266, 13
15. Constantin, L. et al. 2023, *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
14. Perez-Gonzalez, P. G., et al. 2022, *CEERS Key Paper V: A triality on the nature of HST-dark galaxies*, ApJL, 946, L16
13. Kocevski, D. D., et al. 2023, *CEERS Key Paper II: The Resolved Host Properties of AGN at $3 < z < 5$ with JWST*, ApJL, 946, L14
12. Finkelstein, S. L., et al. 2023, *CEERS Key Paper I: An Early Look into the First 500 Myr of Galaxy Formation with JWST*, ApJL, 946, L13
11. Guo, Y. et al. 2023, *First Look at $z > 1$ Bars in the Rest-Frame Near-Infrared with JWST Early CEERS Imaging*, ApJL, 945, L10
10. Trump, J. R. et al. 2023, *The Physical Conditions of Emission-Line Galaxies at Cosmic Dawn from JWST/NIRSpec Spectroscopy in the SMACS 0723 Early Release Observations*, ApJ, 945, 35
9. García-Argumánez, A. et al. 2023, *Probing the earliest phases in the formation of massive galaxies with simulated HST+JWST imaging data from Illustris*, ApJ, 944, 3
8. Zavala, J. et al. 2023, *Dusty starbursts masquerading as ultra high redshift galaxies in JWST observations*, ApJL, 943, L9

7. Rose, C. et al. 2023, *Identifying Galaxy Mergers in Simulated CEERS NIRCам Images using Random Forests*, ApJ, 942, 54
6. Finkelstein, S. L. et al. 2022, *A Long Time Ago in a Galaxy Far, Far Away: A Candidate $z \sim 14$ Galaxy in Early JWST CEERS Imaging*, ApJL, 940, L55
5. Papovich, C. et al. 2022, *CLEAR: The Ionization and Chemical-Enrichment Properties of Galaxies at $1.1 < z < 2.3$* , ApJ, 937, 22
4. Matharu, J. et al. 2022, *CLEAR: The Evolution of Spatially Resolved Star Formation in Galaxies between $0.5 \leq z \leq 1.7$ using $H\alpha$ Emission Line Maps*, ApJ, 937, 16
3. Jung, I. et al. 2022, *CLEAR: Boosted $Ly\alpha$ Transmission of the Intergalactic Medium in UV bright Galaxies*, ApJ, 933, 87
2. Simons, R. C. et al. 2021, *CLEAR: The Gas-Phase Metallicity Gradients of Star-Forming Galaxies at $0.6 < z < 2.6$* , ApJ, 923, 203
1. Estrada-Carpenter, V. et al. 2020, *CLEAR II: Evidence for Early Formation of the Most Compact Quiescent Galaxies at High Redshift*, ApJ, 880, 2

Co-Author: Submitted

10. Hviding, R. E., et al. 2025, *RUBIES: A Spectroscopic Census of Little Red Dots; All V-Shaped Point Sources Have Broad Lines*, arXiv e-prints, arXiv:2506.05459
9. Papovich, C., et al. 2025, *Galaxies in the Epoch of Reionization Are All Bark and No Bite – Plenty of Ionizing Photons, Low Escape Fractions*, arXiv e-prints, arXiv:2505.08870
8. Burgarella, D., et al. 2025, *CEERS: Forging the First Dust Grains in the Universe? A Population of Galaxies with spectroscopically-derived Extremely Low Dust Attenuation (GELDA) at $4.0 < z < 11.4$* , arXiv e-prints, arXiv:2504.13118
7. Kokorev, V., et al. 2025, *CAPERS Observations of Two UV-Bright Galaxies at $z > 10$. More Evidence for Bursting Star Formation in the Early Universe*, arXiv e-prints, arXiv:2504.12504
6. Setton, D. J., et al. 2025, *A confirmed deficit of hot and cold dust emission in the most luminous Little Red Dots*, arXiv e-prints, arXiv:2503.02059
5. Mascia, S., et al. 2025, *Little impact of mergers and galaxy morphology on the production and escape of ionizing photons in the early Universe*, arXiv e-prints, arXiv:2501.08268
4. Leung, G. C. K., et al. 2024, *Exploring the Nature of Little Red Dots: Constraints on AGN and Stellar Contributions from PRIMER MIRI Imaging*, arXiv e-prints, arXiv:2411.12005
3. Setton, D. J., et al. 2024, *Little Red Dots at an Inflection Point: Ubiquitous “V-Shaped” Turnover Consistently Occurs at the Balmer Limit*, arXiv e-prints, arXiv:2411.03424
2. Katz, H., et al. 2024, *21 Balmer Jump Street: The Nebular Continuum at High Redshift and Implications for the Bright Galaxy Problem, UV Continuum Slopes, and Early Stellar Populations*, arXiv e-prints, arXiv:2408.03189
1. Jung, I., et al. 2022, *New $z > 7$ Lyman-alpha Emitters in EGS: Evidence of an Extended Ionized Structure at $z \sim 7.7$* , arXiv e-prints, arXiv:2212.09850

Presentations

Research Presentations

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|-----|--|-------------------|
| 19. | Talk: <i>A Census of Optical Diagnostics of Ionizing Sources Across Cosmic Time</i> , Bergen, Netherlands | 8 May 2025 |
| 18. | Talk: <i>High-Redshift Diagnostics of Star Formation and Active Galactic Nuclei</i> , The Pennsylvania State University, State College, Pennsylvania, USA | 10 February 2025 |
| 17. | Talk: <i>High-Redshift Diagnostics of Star Formation and Active Galactic Nuclei</i> , The Pennsylvania State University, State College, Pennsylvania, USA | 17 September 2024 |
| 16. | Talk: <i>High-Redshift Diagnostics of Ionizing Sources</i> , University of Wisconsin, Madison, Wisconsin, USA | 17 July 2024 |
| 15. | Discussion Chair: <i>Active Galactic Nuclei and Little Red Dots</i> , San Lorenzo de El Escorial, Spain | 13 May 2024 |
| 14. | Talk: <i>Diagnostics of Ionizing Sources at High-z using Models and Observations</i> , San Lorenzo de El Escorial, Spain | 13 May 2024 |
| 13. | Talk: <i>Diagnostics of AGN, Black Hole Seeds, and Population III Stars with JWST</i> at the AAS 243rd Meeting, New Orleans, Louisiana, USA | 10 January 2024 |
| 12. | Poster: <i>Emission Line Ratio Diagnostics of AGN, Black Hole Seeds and Population III Stars with JWST</i> at the First Year of JWST Science Conference, Space Telescope Science Institute, Baltimore, Maryland, USA | 11 September 2023 |
| 11. | Talk: <i>Diagnostics of Exotic Ionizing Sources with JWST</i> at Texas A&M Astrosymposium, College Station, Texas, USA | 17 August 2023 |
| 10. | Talk: <i>Diagnostics of Exotic Ionizing Sources Across Cosmic Time - High-Ionization Emission-Line Ratios: Ne53</i> at University of Texas, Austin, Texas, USA | 10 May 2023 |
| 9. | Poster: <i>High-Ionization [Ne V] Emission-Line Galaxies at Cosmic Noon and the Epoch of Reionization</i> at AAS 241st Meeting, Seattle, Washington, USA | 12 January 2023 |
| 8. | Talk: <i>Using [Ne V] to Constrain the Sources of Highly-Energetic Photoionization Across Cosmic Time: Exploring the "Mystery of Neon" with HST and JWST</i> at Texas A&M University, College Station, Texas, USA | 2 December 2022 |
| 7. | Talk: <i>Extreme High-Ionization Emission-Line Galaxies at Cosmic Noon and the Epoch of Reionization: Exploring the "Mystery of Neon" with HST and JWST</i> at Texas A&M University, College Station, Texas, USA | 18 August 2022 |
| 6. | Talk: <i>The Evolution of Spectroscopy from HST to JWST: Implications for the Epoch of Reionization</i> at Texas A&M University, College Station, Texas, USA | 22 July 2022 |
| 5. | Poster: <i>HST Grism Observations of Paschen-Line Star-Formation and Dust Attenuation: A Precursor to the JWST Era</i> at AAS 240th Meeting, Pasadena, California, USA | 14 June 2022 |
| 4. | Talk: <i>Paschen-β Star Formation Rates and Dust Attenuation with HST and JWST</i> at Texas A&M Astrosymposium, College Station, Texas, USA | 27 August 2021 |
| 3. | Poster: <i>CLEAR: Paschen-β Star Formation Rates and Dust Attenuation in Low Redshift Galaxies</i> at AAS 237th Meeting, Virtual | 13 January 2021 |
| 2. | Poster: <i>Modeling ^8B Solar Neutrino Detection with CEνNS</i> at AAS 233rd Meeting, Seattle, Washington, USA | 9 January 2019 |

1. Poster: *Modeling 8B Solar Neutrino Detection with $CE\nu NS$* at TAMU Undergraduate Research Poster Session, College Station, Texas, USA 1 August 2018

Outreach Presentations

4. Talk: *Astronomy and You: The Impacts of Astronomy on Everyday Life* at Astronomy on Tap State College, State College, Pennsylvania, USA 20 March 2025
3. Talk: *The Evolving Universe Through JWST's Eyes* at the Pennsylvania State University, State College, Pennsylvania 1 February 2025
2. Talk: *The Origin of the Elements: Chemistry Across Cosmic Time* at Astronomy on Tap State College, State College, Pennsylvania, USA 19 September 2024
1. Talk: *Beyond the Telescope: Unraveling Mysteries with AI in Astronomy* at Astronomy on Tap B/CS, Bryan, Texas, USA 24 April 2024

Professional Development Presentations

9. Panel: *Applying to Postdocs* at The Pennsylvania State University, State College, Pennsylvania, USA 24 March 2025
8. Panel: *GLASS Postdoc Panel* at Texas A&M University, College Station, Texas, USA 8 March 2024
7. Talk: *How to Be A Referee* at Texas A&M University, College Station, Texas, USA 10 November 2023
6. Panel: *How to Get Into Grad School* at Texas A&M University, College Station, Texas, USA 28 July 2023
5. Talk: *Data Visualization in Astronomy: More Important than the Science Itself?* at Texas A&M University, College Station, Texas, USA 11 November 2022
4. Panel: *How to Get Into Grad School* at Texas A&M University, College Station, Texas, USA 29 July 2022
3. *Data Visualization in Astronomy: More Important than the Science Itself?* at Texas A&M University, College Station, Texas, USA 2 June 2022
2. Workshop: *Matplotlib: The Champion of Plotting in Python* at Texas A&M University, College Station, Texas, USA 2 June 2022
1. Workshop: *pandas: Your Best Friend for Data Analysis in Python* at Texas A&M University, College Station, Texas, USA 1 June 2022

References

Postdoctoral Mentor

Prof. Joel Leja

Penn State

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Davey Laboratory, State College, PA, 16802
joel.leja@psu.edu

PhD Advisor

Prof. Casey J. Papovich

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