Stephanie M. Urbano Stawinski

Astrophysics Ph.D. Candidate · University of California, Irvine

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RESEARCH STATEMENT

I am an observational astronomer interested in the evolution of galaxies and their surroundings through emission-line and absorption-line spectroscopy. In the past I have worked significantly in studying the exchange of gas in the circumgalactic medium around distant galaxies. Currently I work on large spectroscopic surveys of Lyα emitters at high redshift ($z = 4-7$), including those targeting the most massive galaxies at z $\sim$ 5.

Aside from my research goals, I greatly value the work I do to run mentorship programs, astronomy outreach, and participate in astronomy communication. I aspire to inspire and encourage others of all levels and backgrounds to pursue science.

EDUCATION

University of California, Irvine — *Irvine, California*
Ph.D. in Physics — *September 2019 – 2025 (expected)*
Advisor: Dr. Michael Cooper
Thesis: *Spectroscopy of Intermediate- to High-z Galaxies*
GPA: 3.817/4.00

San Diego State University — *San Diego, California*
M.S. in Astrophysics — *August 2017 – May 2019*
Advisor: Dr. Kate Rubin
Thesis: *Probing the Circumgalactic Medium at z $\sim$ 2 using Close Quasar Pairs*
GPA: 3.72/4.00

Arizona State University — *Tempe, Arizona*
B.S. in Astrophysics & B.S. in Physics — *August 2013 – May 2017*
Minor: Spanish
Advisors: Dr. Sangeeta Malholtra, Dr. Evan Scannapieco, Dr. Rogier Windhorst
Major Thesis: *Measuring the Ratio of Dust to Metals in Damped Lyman α Systems*
Honors College Thesis: *Investigating Spectral Indices of Radio Galaxies at 140 MHz with LOFAR*
Overall GPA: 3.55/4.00

PUBLICATIONS

number of refereed 1st author papers: 3
number of refereed co-author papers: 8
h-index: 6

NASA ADS link

1st author

Spectroscopic Confirmation of an Ultra-Massive Galaxy in a Protocluster at $z \sim 4.9$
Stephanie M. Urbano Stawinski, *M. C. Cooper, Ben Forrest, Adam Muzzin, Danilo Marchesini, Gillian Wilson, Percy Gomez, Ian McConachie, Z. Cemile Marsan, Marianna Annuziatella, Wenjun Chang*

- 2024, OJA, 7, 46

Deeper than DEEP: A Spectroscopic Survey of $z>$ 3 Lyα Emitters in the Extended Groth Strip
***Stephanie M. Urbano Stawinski**, M. C. Cooper, Steven L. Finkelstein, Intae Jung, Pablo G. Pérez-González, Caitlin M. Casey, Olivia R. Cooper, Nimish P. Hathi, Benne W. Holwerda, Anton M. Koekemoer, Vital Fernández, Rebecca L. Larson, Ray A. Lucas, L. Y. Aaron Yung*

- 2024, MNRAS, 528, 4

On the Metallicities and Kinematics of the Circumgalactic Media of Damped Lyα Systems at $z\sim$2
***Stephanie M. Urbano Stawinski**, Kate H.R. Rubin, J. Xavier Prochaska, Joseph F. Hennawi, Nicolas Tejos, Michele Fumagalli, Marc Rafelski, Evan N. Kirby, Elisabeta Lusso, Zachary Hafen*

- 2023, ApJ, 951, 135

Nth author

Environmental Effects on the Stellar Mass Function in a $z\sim$ 3.3 Overdensity of Galaxies in the COSMOS Field
*Ben Forrest, Brian C. Lemaux, Ekta A. Shah, Priti Staab, Roy R. Gal, Lori M. Lubin, M. C. Cooper, Olga Cucciati, Denise Hung, Ian McConachie, Adam Muzzin, Gillian Wilson, Sandro Bardelli, Letizia P. Cassara, Wenjun Chang, Finn Giddings, Emmet Golden-Marx, Nimish Hathi, **Stephanie M. Urbano Stawinski**, and Elena Zucca*

- 2024, ApJ, 971, 169

The Web Epoch of Reionization Lyα Survey (WERLS). I. MOSFIRE Spectroscopy of $z\sim$ 7–8 Lyα Emitters
*Olivia R. Cooper, Caitlin M. Casey, Hollis B. Akins, Jake Magee, Alfonso Melendez, Mia Fong, **Stephanie M. Urbano Stawinski**, Jeyhan S. Kartaltepe, Steven L. Finkelstein, Rebecca L. Larson, Intae Jung, Ash Bista, Jaclyn B. Champagne, Oscar A. Chavez Ortiz, Sadie Coffin, M. C. Cooper, Nicole Drakos, Andreas L. Faisst, Maximilien Franco, Seiji Fujimoto, Steven Gillman, Ghassem Gozaliasl, Santosh Harish, Taylor A. Hutchison, Anton M. Koekemoer, Vasily Kokorev, Jitrapon Lertprasertpong, Daizhong Liu, Arianna S. Long, Casey Papovich, R. Michael Rich, Brant E. Robertson, Margherita Talia, Brittany N. Vanderhoof, Katherine E. Whitaker, and Jorge A. Zavala*

- 2024, ApJ, 970, 50

MAGAZ3NE: Massive, Extremely Dusty Galaxies at $z\sim$2 Lead to Photometric Overestimation of Number Densities of the Most Massive Galaxies at $3<z<4$
*Ben Forrest, M. C. Cooper, Adam Muzzin, Gillin Wilson, Danilo Marchesini, Ian McConachie, Percy Gomez, Marianna Annunziatella, Z. Cemile Marsan, Joey Braspenning, Wenjun Chang, Gabriella de Lucia, Fabio Fontanot, Michaela Hirschmann, Dylan Nelson, Annalisa Pillepich, Joop Schaye, **Stephanie M. Urbano Stawinski**, Mauro Stefanon, and Lizhi*

- Submitted to ApJ

Elentári: a massive proto-supercluster at $z\sim$ 3.3 in the COSMOS field
Ben Forrest, Brian C. Lemaux, Ekta Shah, Priti Staab, Ian McConachie, Olga Cucciati Roy R. Gal,

Denise Hung, Lori M. Lubin, Letizia P. Cassarà, Paolo Cassata, Wenjun Chang, M. C. Cooper, Roberto Decarli, Percy Gomez, Gayathri Gururajan, Nimish Hathi, Daichi Kashino, Danilo Marchesini, Z. Cemile Marsan, Michael McDonald, Adam Muzzin, Lu Shen, ***Stephanie Urbano Stawinski****, Margherita Talia, Daniela Vergani, Gillian Wilson, and Giovanni Zamoran*

- 2023, MNRAS, 526, 56

Rotation Curve Measurement of Dark Matter Content of a $z \sim 0.5$ Galaxy
Jake Magee, Caitlin M. Casey, Olivia R. Cooper, Alfonso Melendez, Mia Fong, Jeyhan Karltaltepe, Arianna S. Long, ***Stephanie Urbano Stawinski****, Jaclyn B. Champagne, M. C. Cooper, Andreas L. Faisst, Claudia Maraston, and The WERLS Collaboration*

- 2023, RNAAS, 7, 5

CEERS Key Paper IV: Galaxies at $4 < z < 9$ are Bluer than They Appear – Characterizing Galaxy Stellar Populations from Rest-Frame ∼1 micron Imaging
Casey Papovich, Justin W. Cole, Guang Yang, Steven L. Finkelstein, Guillermo Barro, Véronique Buat, Denis Burgarella, Pablo G. Pérez-González, Paola Santini, Lise-Marie Seillé, Lu Shen, Pablo Arrabal Haro, Micaela B. Bagley, Eric F. Bell, Laura Bisigello, Antonello Calabrò, Caitlin M. Casey, Marco Castellano, Katherine Chworowsky, Nikko J. Cleri, M. C. Cooper, Luca Costantin, Mark Dickinson, Henry C. Ferguson, Adriano Fontana, Mauro Giavalisco, Andrea Grazian, Norman A. Grogin, Nimish P. Hathi, Benne W. Holwerda, Taylor A. Hutchison, Jeyhan S. Kartaltepe, Lisa J. Kewley, Allison Kirkpatrick, Dale D. Kocevski, Anton M. Koekemoer, Rebecca L. Larson, Arianna S. Long, Ray A. Lucas, Laura Pentericci, Nor Pirzkal, Swara Ravindranath, Rachel S. Somerville, Jonathan R. Trump, ***Stephanie M. Urbano Stawinski****, Benjamin J. Weiner, Stephen M. Wilkins, L. Y. Aaron Yung, and Jorge A. Zavala*

- 2023, ApJ, 949, 18

MAGAZ3NE: High Stellar Velocity Dispersions for Ultra-Massive Quiescent Galaxies at $z \gtrsim 3$
Ben Forrest, Gillian Wilson, Adam Muzzin, Danilo Marchesini, M. C. Cooper, Z. Cemile Marsan, Marianna Annunziatella, Ian McConachie, Kumail Zaidi, Percy Gomez, ***Stephanie M. Urbano Stawinski****, Wenjun Chang, Gabriella de Lucia, Francesco La Barbera, Lori Lubin, Julie Nantais, Theodore Pena, Paolo Saracco, Jason Surace, and Mauro Stefanon*

- 2022, ApJ, 938, 109

Additional Multicolor Photometric Observations of the Latest Eruption of the Recurrent Nova M31N 2008-12a
P. A. Wysocki, Q. Socia, M. A. Engesser, M. Yenawine, ***S. M. Stawinski****, A. W. Shafter*

- 2018, ATel, 12190, 1

SÍGAME Simulations of the [CII], [OI], and [OIII] Line Emission from Star-forming Galaxies at $z \simeq 6$
Karen Olsen, Thomas R. Greve, Desika Narayanan, Robert Thompson, Romeel Davé, Luis Niebla Rios, and ***Stephanie Stawinski***

- 2017, ApJ, 846, 105

AWARDS AND HONORS

AAS National Osterbrock Fellow	*Fall 2021-Present*
UCI Physics Diversity and Equity Inclusion Fellow	*Fall 2021/ Winter 2022*
Ruth and Clifford Smith Astronomy Fellowship	*Fall 2018-Spring 2019*
Reginald F. Buller Endowment Scholarship	*Fall 2018-Spring 2019*
William F. Lucas San Diego Astronomy Association Memorial Scholarship	*Fall 2018-Spring 2019*
Barrett, the Honors College Graduate	*May 2017*
College of Liberal Arts and Sciences Student Leader Award	*October 2016*

RESEARCH TALKS

galFRESCA at Carnegie — *September 2024*
MAKING MONSTERS: Spectroscopic Survey of Ultra-Massive Galaxies at z>4 — *Pasadena, California*

Keck Science Meeting at Caltech — *September 2024*
MAKING A MONSTER: Spectroscopic Confirmation of a Ultra-Massive Galaxy at z ∼ 4.9 using Keck/DEIMOS — *Pasadena, California*

galFRESCA at UCR — *September 2023*
MAKING MONSTERS: Spectroscopic Confirmation of a Ultra-Massive Galaxy in a z ∼ 4.9 Protocluster — *Riverside, California*

COSMOS 2022 Meeting (Invited) — *July 2022*
Making Monsters: Unraveling the Formation of Ultra-Massive Galaxies at z > 4 — *Paris, France*

240th Meeting of the American Astronomical Society — *July 2022*
Spectroscopic Survey of Rare Ultra-Massive Galaxies at z > 4 — *Pasadena, California*

The Local Group Astronomy Club Meeting (Invited) — *August 2020*
The Dark Space Between Galaxies — *Virtual*

SDSU Astronomy Department Colloquium — *April 2018*
Probing the Circumgalactic Medium at z∼2 using Close Quasar Pairs — *San Diego, California*

2017 NASA Space Grant Symposium — *April 2017*
Studying the Spectral Index of Radio Galaxies — *Tempe, Arizona*

ASU NSF Research Presentation — *April 2017*
Cleaning and Imaging a Field Using LOFAR — *Tempe, Arizona*

POSTERS

243th Meeting of the American Astronomical Society — *January 2024*
Making Monsters: Spectroscopic Confirmation of a Ultra-Massive Galaxy in a z ∼ 4.9 Protocluster — *New Orleans, Louisiana*

SDSU Student Research Symposium — *March 2018*
Probing the Circumgalactic Medium at z∼2 using Close Quasar Pairs — *San Diego, California*

Barrett, the Honors College Thesis Symposium — *April 2017*
Studying the Spectral Index of Radio Galaxies — *Tempe, Arizona*

NASA Undergraduate Research Symposium — *February 2017*
Studying Galaxy Magnetism with the LOFAR Telescope — *Tempe, Arizona*

229th Meeting of the American Astronomical Society — *January 2017*
Dust to Metal Ratios in Quasar Absorption Line Systems from 1.9 < z < 3.3 — *Grapevine, Texas*

OBSERVING EXPERIENCE

Keck Observatory/LRIS	*13 nights*	WERLS Survey	*Lead*
Keck Observatory/LRIS	*7 nights*	Massive Galaxies at $z > 4$	*Lead*
Keck Observatory/MOSFIRE	*2 nights*	WERLS Survey	*Co-I*
Keck Observatory/MOSFIRE	*9 nights*	Massive Galaxies at $z > 3$	*Co-I*
Keck Observatory/DEIMOS	*8 nights*	Lyman α emitters in the EGS	*Lead*
Keck Observatory/KCWI	*2 nights*	Mapping Gas around Galaxies	*Co-I*
Mount Laguna Observatory/40 inch	*12 nights*	Novae and Supernovae	*Lead*
Mt Wilson Observatory/CHARA	*1 night*	Binary system in the open cluster	*Co-I*
Kitt Peak Observatory/Mayall	*2 nights*	Search for Lyman α emitters	*Co-I*

MENTOR/LEADERSHIP EXPERIENCE

UCI Physics & Astronomy Community Excellence (PACE) — *September 2020-Present*
Serves as program Leadership Chair

- 1-on-1 graduate student peer mentorship program
- Created and ran biweekly workshops for physics graduate student success
- Trained incoming mentors and leadership team members

UCI Physics & Astronomy Physics Graduate Caucus (PGC) — *September 2021-Present*
Serves as PACE/Blog Representative

- PGC runs graduate student community initiatives
- Communicates with the department to better the graduate program

UCI Astronomy Journal Club — *Fall 2022-Present*
Co-lead organizer

- Plans and runs weekly journal club for the department

SDSU Astronomy Lead Teaching Associate — *September 2018-May 2019*
Leader of 6 Teaching Associates

- Designed and Assigned teaching positions amongst TAs

- Lead TA meetings and assisted other TAs in their classes
- Setup labs weekly

ASU SESE Undergraduate Peer Mentorship *August 2014-May 2017*
Volunteered as peer mentor for incoming undergraduate class

- Advised incoming students in the department about research, coursework, and the University
- Worked in group and 1-on-1 settings
- Guided incoming students on how to initiate research with a professor

TEAM PARTICIPATION

The Webb Epoch of Reionization Lyman-alpha (WERLS) Team *August 2021-Present*
The Massive Ancient Galaxies at $z > 3$ NEar-infrared (MAGAZ3NE) Team *March 2021-Present*

TEACHING EXPERIENCE

University of California, Irvine September 2019-Present
P20E Life in the Universe (TA)
P20A Introduction to Astronomy (TA)
P61C Introduction to Astrophysics (TA)
P20B Cosmology (TA)
P3LC Basic Physics Laboratory - Optics (TA)
P3A Basic Physics I (TA)

San Diego State University August 2017-May 2019
ASTR 109 Astronomy Lab (Course Instructor)
ASTR 101 Introduction to Astronomy (Guest Lecturer)

Arizona State University January 2016-May 2017
AST 113/114 Astronomy Lab (Course Instructor)

SKILLS

Programming Languages	Python, Linux/Unix, HTML, SQL, Fortran, C
Tools	`PypeIt`, `Ds9`, Git, `Linetools`, `Pyigm`, `Specdb`, LaTeX, Excel, TOPCAT
Soft Skills	Mentorship, Project Management/Leadership, Teaching at various levels/backgrounds

OUTREACH AND SCIENCE COMMUNICATION

UCI Physics and Astronomy Blog team member *Fall 2019-Present*
University of California, Irvine, California

- In charge of graduate student spotlight articles
- helped write JWST research articles (undergraduate+)

- acted in educational astronomy videos (elementary+)

Community Astronomy Lecturer *2017-2020*
Lancaster Woodland Preserve, California

- Created interactive presentations about the moon and planets for children of all ages

Astronomy Night at Clay Elementary School Presenter *November 2018*
San Diego, California

- Gave presentation about meteorites to elementary school students

Planetarium Show Presenter (10+ shows) *2018-2019*
San Diego State University, California

- Created and performed planetarium shows for the community
- Trained others to run planetarium shows

Mount Laguna Observatory Summer Visitors Program (8 nights) *July 2018/2019*
Mount Laguna Observatory, California

- Operated telescopes (21 inch Buller Telescope), performed a night sky tour, and gave lecture to the public

High School Camping Trip Sky Tour Presenter *April 2018*
Mt Palomar, California

- Conducted a night sky tour/telescope viewing for high school students in San Diego

SDSU Telescope Nights Volunteer Presenter (4 nights) *April 2018*
San Diego State University, California

- Setup and ran telescopes and answered questions about the night sky for college students

Earth and Space Exploration Day (2 days) *Fall 2015, 2016*
Arizona State University, Arizona

- Set up event, hosted tables with information about rockets and spectroscopy for the public

SESE/ASU Open House Telescope Operator (7 nights) *November 2014, 2015, 2016*
Arizona State University, Arizona

- Set up and operated telescopes (8 inch Meades) for public outreach nights

WORKSHOPS ATTENDED

`PypeIt` Data Reduction Workshop *August 2020, February 2022*
Updates and usage of `PypeIt` *data reduction pipeline* *Virtual*

JWST Proposal Training Workshop at UCI *February 2020*
Hands-on workshop to run ETC, APT, and other tools needed writing JWST proposals *Irvine, California*

Farmer-Trimble Observational Astronomy Workshop at UCO/Lick *October 2019*
Interactive observation planning sessions and hands-on observing experiences *Mt. Hamilton, California*

MEDIA HIGHLIGHTS

UCI Physics Department Student Org. Series October 2022
Author: Hana Schiff

Meet the UCI School of Sciences DEI Fellows February 2022
Author: Lucas Van Wyk Joel

PAST EMPLOYMENT

Griffith Observatory Museum Guide *July 2015-July 2018*
Griffith Observatory, California

- Gave public astronomy talks and answers questions for the public

REFERNCES

Dr. Michael C. Cooper
Professor at University of California, Irvine
cooper [at] uci.edu
1-949-824-6485

Dr. Kate H. R. Rubin
Professor at San Diego State University
krubin [at] sdsu.edu
1-619-594-2623

Dr. Caitlin M. Casey
Professor at University of Texas, Austin
cmcasey [at] utexas.edu
1-512-471-6449