

Stephanie H. Ho

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RESEARCH INTEREST

- The circumgalactic medium
- Gas accretion and outflows
- Galaxy formation and evolution
- Quasar absorption-line
- Coupling simulations and observations

EDUCATION

Ph.D. in Physics, with Astrophysics Emphasis <i>University of California, Santa Barbara</i> – Advisor: Prof. Crystal L. Martin – Thesis: How Do Galaxies Get Their Gas?	2013 – 2019
B.Sc. in Physics/Enrichment Stream in Theoretical Physics <i>The Chinese University of Hong Kong</i>	2009 – 2013
Reciprocity student of UC Education Abroad Program <i>University of California, Santa Barbara</i>	2011 – 2012

POSITIONS & ACADEMIC APPOINTMENTS

NSF Astronomy and Astrophysics Postdoctoral Fellow – Host Institution: New Mexico State University	2022 – present
– Scientific Advisor: Prof. Christopher W. Churchill	
Postdoctoral Research Associate, Texas A&M University – Supervisor: Prof. Robert C. Kennicutt Jr.	2019 – 2022
Graduate Student Researcher, UC Santa Barbara	2013 – 2019
Teaching Assistant, UC Santa Barbara	2013 – 2015, 2016 – 2017, 2019

GRANTS, HONORS, AND AWARDS

NSF Astronomy and Astrophysics Postdoctoral Fellowship	\$320,000	2022 – present
NASA/STScI grant; HST Cycle 29 GO-16742, PI	\$106,945	2022 – 2025
NASA/STScI grant; HST Cycle 27 GO-15866, PI	\$164,946	2020 – 2023
Rodger Doxsey Travel Prize (Honorable Mention), 233 rd AAS Meeting, <i>AAS</i>	\$260	2019
UC LEADS Program Fellowship (Mentoring), <i>UC Santa Barbara</i>	2×\$1,500	2018, 2019
Graduate Opportunity Fellowship, <i>UC Santa Barbara</i>	\$24,000	2017 – 2018
Doctoral Student Travel Grant, <i>UC Santa Barbara</i>	\$1,350	2017 – 2018
Graduate Research Mentorship Program Fellowship, <i>UC Santa Barbara</i>	\$24,000	2015 – 2016
Travel Award for Excellence in Graduate Research, <i>American Physical Society</i>	\$500	2015
Worster Summer Research Fellowship (Mentoring), <i>UC Santa Barbara</i>	2×\$1,000	2014, 2016
Outstanding Teaching Assistant Award, <i>UC Santa Barbara</i>		2014 – 2015
Yzurdiaga Graduate Fellowship, <i>UC Santa Barbara</i>	\$7,000	2013 – 2014
Herbert P. Broida Fellowship, <i>UC Santa Barbara</i>	\$3,000	2013 – 2014
Yasumoto International Exchange Scholarship, <i>CUHK</i>	(\$3,000 HKD)	\$385
		2011

APPROVED OBSERVING PROGRAMS

As PRINCIPAL INVESTIGATOR

- Apache Point Observatory, KOSMOS, 2023Q1/Q2/Q3, 2024Q1/Q2/Q3, 2025Q2/Q3
Resolving the 3D Orientation of Galactic Disks: New Constraints on Circumgalactic Gas Flow 16 half-nights
- HST, WFC3, Cycle 29: HST-GO-16742 (Grant awarded: \$106,945)
Resolving the 3D Orientation of Galactic Disks: New Constraints on Circumgalactic Gas Flow 17 orbits

- VLA, 2020A: VLA/20A-400
HI Observations of z=0.2 Galaxies with Corotating Circumgalactic Gas 36 hours
- HST, COS, Cycle 27: HST-GO-15866 (Grant awarded: \$164,946)
Angular Momentum of the Warm-Hot Circumgalactic Medium 25 orbits
- Gemini Observatory, GMOS-N, 2015A: GN-2015A-Q-60
Studying Galaxy Disk Structures and its Relation with Gas Accretion in z=0.15-0.3 Galaxies 7.2 hours

As CO-INVESTIGATOR

- MMT, Red Channel Spectrograph, 2021A; PI: Rob Kennicutt 1 night
- MMT, Red Channel Spectrograph, 2020A; PI: Rob Kennicutt 1 night
- HST, WFC3, Cycle 24: HST-GO-14754; PI: Crystal Martin 10 orbits
- Keck II, NIRC2/LGSQAO, 2017A; PI: Crystal Martin 1 night
- Keck II, NIRC2/LGSQAO, 2016B; PI: Crystal Martin 1 night
- Keck I, LRIS, 2015A; PI: Crystal Martin 2 nights
- Keck I, LRIS, 2014A; PI: Crystal Martin 2 nights

TEACHING

COURSES TAUGHT AS INSTRUCTOR OF RECORD

ASTR1115G Introduction to Astronomy, New Mexico State University Fall 2023

COURSES TAUGHT AS GUEST LECTURER

ASTR1115G Introduction to Astronomy, New Mexico State University Fall 2025
ASTR 600 Order-of-Magnitude Astrophysics, Texas A&M University Fall 2020 (Nov)

COURSES TAUGHT AS TEACHING ASSISTANT

PHYS 1 Basic Physics, UCSB Winter 2015/2017/2019
PHYS 2 Basic Physics, UCSB Spring 2017
ASTRO 1 Basic Astronomy, UCSB Fall 2014/2016
PHYS 6CL Introductory Experimental Physics, UCSB Fall 2013

STUDENT MENTORING

GRADUATE STUDENTS MENTORED

Erick Aguirre, NMSU Summer 2023
Ezra Huscher, NMSU Summer 2023

UNDERGRADUATE STUDENTS MENTORED

Yuan Li, UCSB (SURF Fellow) Summer 2021 – Winter 2022
Adam Tedeschi, UCSB Summer 2019
Haley Bowden, UCSB (UC LEADS scholar) 2018 – 2019
Eric Miller, UCSB Spring 2018
Austen Trout, UCSB Winter 2017 – Fall 2017
Yi Guo, UCSB (Worster Fellow) Summer 2016 – Winter 2017
Anton Shvets, UCSB Winter 2016 – Spring 2016
Joseph Wong, UCSB (Worster Fellow) Summer 2014

ACADEMIC SERVICE AND OUTREACH

Referee for ApJ, ApJ Letters, MNRAS, A&A, Nature Astronomy, and Science Advances 2019 – present
Co-organizer, Astronomy On Tap – Las Cruces, NM 2023 – present
Review Panelist, Astronomy and Astrophysics Grants, NSF 2025
Discussion Panelist, Cycle 32 Hubble Space Telescope Proposals, STScI May – Jun 2024
External Panelist, Cycle 31 Hubble Space Telescope Proposals, STScI Apr – Jun 2023
Search Committee Member, Tombaugh Postdoctoral Fellowship, NMSU Feb – May 2023
Discussion Panelist, Cycle 30 Hubble Space Telescope Proposals, STScI Apr – Jun 2022

Co-organizer, Astronomy Seminar, Texas A&M University	2019 – 2022
Co-organizer, Astrosymposium, Texas A&M University	Aug 2020
External Reviewer, Cycle 28 Hubble Space Telescope Proposals, STScI	Mar – Apr 2020
Panelist, APS Conference for Undergraduate Women in Physics	Jan 2019
Judge, Chambliss Astronomy Achievement Student Awards, AAS	Jan 2019
Graduate Mentor, UC LEADS Program, UCSB	2018, 2019
Graduate Research Mentor, Worster Summer Research Fellowship Program, UCSB	Summer 2014/2016
Co-organizer, Physics Undergraduate Summer Research Symposium, UCSB	2016

PUBLICATIONS

Total of 9 published peer reviewed journal articles; 1 article to be submitted; 7 (8) first (and second) author papers with 245 (341) citations, 444 total citations; h-index = 8 [retrieved from ADS; December 26, 2025]

10. **Ho, S. H.**, Stern, J., Martin, C. L. & Kacprzak, G. G., *The Spin Parameter of $z \approx 0.2$ Multiphase Circumgalactic Medium of Star-forming Galaxies*. 2025, ApJL (to be submitted; draft available)
9. **Ho, S. H.**, Martin, C. L., Nataf, H., Kacprzak, G. G. & Stern, J., *Kinematics of Circumgalactic O VI Gas and Disk Rotation of $z \approx 0.2$ Star-forming Galaxies*. 2025, ApJ (accepted); arxiv:2507.11664
8. Sameer, Charlton, J. C., Wakker, B. P., Kacprzak, G. G., Nielsen, N. M., Churchill, C. W., Richter, P., Muzahid, S., **Ho, S. H.**, Nataf, H., Rosenwasser, B., Narayanan, A. & Ganguly, R., *Cloud-by-cloud multiphase investigation of the circumgalactic medium of low-redshift galaxies*. 2024, MNRAS, 530, 3827
7. **Ho, S. H.**, Martin, C. L. & Schaye, J., *How Identifying Circumgalactic Gas by Line-of-sight Velocity instead of the Location in 3D Space Affects O VI Measurements*. 2021, ApJ, 923, 137
6. **Ho, S. H.**, Martin, C. L. & Schaye, J., *Morphological and Rotation Structures of Circumgalactic Mg II Gas in the EAGLE Simulation and the Dependence on Galaxy Properties*. 2020, ApJ, 904, 76
5. **Ho, S. H.** & Martin, C. L., *Resolving 3D Disk Orientation Using High-resolution Images: New Constraints on Circumgalactic Gas Inflows*. 2020, ApJ, 888, 14
4. Martin, C. L., **Ho, S. H.**, Kacprzak, G. G. & Churchill, C. W., *Kinematics of Circumgalactic Gas: Feeding Galaxies and Feedback*. 2019, ApJ, 878, 84
3. **Ho, S. H.**, Martin, C. L. & Turner, M. L., *How Gas Accretion Feeds Galactic Disks*. 2019, ApJ, 875, 54
2. **Ho, S. H.**, Martin, C. L., Kacprzak, G. G. & Churchill, C. W., *Quasar Probing Galaxies: I. Signatures of Gas Accretion at Redshift $z \approx 0.2$* . 2017, ApJ, 835, 267
1. Kacprzak, G. G., Martin, C. L., Bouché, N., Churchill, C. W., Cooke, J., LeReun, A., Schroetter, I., **Ho, S. H.** & Klimek, E., *New Perspective on Galaxy Outflows from the First Detection of Both Intrinsic and Traverse Metal-line Absorption*. 2014, ApJL, 792, L12

SEMINARS AND TALKS

(* invited presentations)

Astronomy on Tap – Las Cruces, NM	Aug 2025
Cosmic Ecosystems, Perimeter Institute for Theoretical Physics Waterloo, ON, Canada	Jul 2025
* South-Asian Astrophysics Summer School <i>[online]</i>	Jul 2025
* Physics Colloquium, University of Kentucky, KY	Feb 2025
* Resolving the CGM and its Impact on Galaxy Evolution, Santa Cruz, Colchagua Valley, Chile	Nov 2024
Toward a Holistic Understanding of the Multi-scale, Multiphase CGM, Aspen, CO	Aug 2024
“Some Like It Hot!” A Journey from the Hot IGrM to the Multiphase CGM, MIAPbP, Germany	Apr 2024
* Arthur M. Wolfe Symposium 2024, UC San Diego, CA	Mar 2024
243 rd Winter AAS Meeting, New Orleans, LA	Jan 2024
The Evolution of Gas in and around Galaxies, Stanley, ID	Jul 2023
* Seminar, Diffuse Gas in Cosmic Ecosystems Science Interest Group <i>[online]</i> <i>[link]</i>	Jul 2023
* Ringberg Conference – The Multiphase Circumgalactic Medium, Ringberg Castle, Germany	Feb 2023
Oases in the Cosmic Desert: Understanding the Structure of the CGM, Tempe, AZ	Feb 2023
241 st Winter AAS Meeting, Seattle, WA	Jan 2023
* Cake Talk, The Cosmic Dawn Center (DAWN), Denmark <i>[online]</i>	Nov 2022
* Astronomy Colloquium, New Mexico State University, NM	Sept 2022

* Arthur M. Wolfe Symposium 2022, UC Santa Cruz, CA	Mar 2022
* Physics Colloquium, North Carolina State University, NC	Feb 2022
* CRAL Seminar, Centre de Recherche Astrophysique de Lyon, France [<i>COVID-19/online</i>]	Apr 2021
* Nuclear and Astronomy Seminar, Texas A&M University, TX [<i>COVID-19/online</i>]	Dec 2020
* Astronomy Lunch Talk, University of Washington, WA [<i>COVID-19/online</i>]	Oct 2020
* 2 nd CGM@ND workshop, Dublin & Kylemore, Ireland [<i>COVID-19/postponed</i>]	Aug 2020
Galaxy Group Lunch Talk, Steward Observatory, AZ	Feb 2020
7 th Annual GMT Community Science Meeting, Carlsbad, CA	Sept 2019
* Astronomy Seminar, Texas A&M University/Mitchell Institute, TX	Sept 2019
Astro Lunch Talk, UC Santa Barbara, CA	Apr 2019
Astronomy on Tap – Santa Barbara, CA	Mar 2019
233 rd Winter AAS Meeting, Seattle, WA (<i>dissertation talk</i>)	Jan 2019
* Lunch Seminar, Leiden Observatory, Netherlands	Nov 2018
Astro Lunch Talk, UC Santa Barbara, CA	May 2018
The Galaxy Ecosystem, ESO Garching, Germany	July 2017
Astro Lunch Talk, UC Santa Barbara, CA	Apr 2017
* Astro Pizza Lunch Talk, New Mexico State University, NM	Feb 2017
Observational Evidence of Gas Accretion onto Galaxies Workshop, NRAO Headquarters, VA	Oct 2015
Keck Science Meeting, UC Los Angeles, CA	Sept 2015

OBSERVING EXPERIENCE

Keck Observatory, Keck I, LRIS	5 nights
Keck Observatory, Keck II, NIRC2/LGSAO	3 nights
MMT Observatory, Blue Channel Spectrograph	1 night
MMT Observatory, Red Channel Spectrograph	1 night
Apache Point Observatory, 3.5m, DIS	3 half nights
Apache Point Observatory, 3.5m, KOSMOS	16 half nights
McDonald Observatory, 2.7m, Virus-W	3 nights

PRESS RELEASE

- *Astronomer joins NMSU with NSF fellowship to research how galaxies evolve*, New Mexico State University News, Sept 16, 2022. [[link](#)]
- *Cool Halo Gas Caught Spinning Like Galactic Disks*, Keck Observatory Science News, based on Martin, Ho, Kacprzak & Churchill (2019) ApJ article, Jun 18, 2019. [[link](#)]
- *Faint Galactic Halos*, The Current—UC Santa Barbara News, based on Martin, Ho, Kacprzak & Churchill (2019) ApJ article, Jun 18, 2019. [[link](#)]
- *Opportunity Knocks*, The Current—UC Santa Barbara News featuring the Worster Summer Research Fellowship program, an undergraduate summer research program supervised by graduate mentors, Sept 25, 2014. [[link](#)]