

Sedona Price

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Research Interests

Galaxy evolution, high redshift galaxies, galaxy structure, gas and stellar kinematics

Education

2017 **Ph.D. Astrophysics**, *University of California, Berkeley*
Dissertation: Galaxies in the Young Universe: Structures, Masses, and Composition
of Star-Forming Galaxies at $z \sim 1.5 - 3$
Advisor: Mariska Kriek

2013 **M.A. Astrophysics**, *University of California, Berkeley*

2011 **B.S. Physics**, *with honors, California Institute of Technology*

Research Positions

2017-present Postdoctoral Scholar, Max-Planck-Institut für Extraterrestrische Physik, Garching, Germany

2011-2017 Graduate Student, UC Berkeley

2008-2010 Summer Undergraduate Research Fellow, Caltech

Fellowships & Awards

2012-2015 NSF Graduate Research Fellowship, UC Berkeley

2014 Outstanding Graduate Student Instructor Award, UC Berkeley

2010 Charles and Valerie Elachi Fellow (SURF), Caltech

2009 SURF Board SURF Scholar, Caltech

2009 Margie Lauritsen Leighton Prize, Caltech

2008 Larson Scholar (Summer Undergraduate Research Fellowship; SURF), Caltech

Observing Experience

W. M. Keck Observatory, Keck I 10 m telescope, MOSFIRE (10.5 nights), OSIRIS (3.5 nights), LRIS (0.5 night)

Teaching

2013 Astro C10, *Co-head GSI, Introductory course for non-majors*, UC Berkeley

2012 Astro 7b, *Introductory course for majors*, UC Berkeley

2011 Astro C10, *Introductory course for non-majors*, UC Berkeley

2010, 2011 Physics 6, *Sophomore physics major lab*, Caltech

Service

—— Referee, *The Astrophysical Journal (ApJ)*

2013-2016 Mentor Master, *co-head of grad student mentoring program*, UC Berkeley

2014-2015 Co-supervisor, *undergraduate student Meng Luo*, UC Berkeley

2013-2015 Mentor, *mentoring junior graduate student*, UC Berkeley

2012-2015 Graduate Student Representative, *Astronomy Department*, UC Berkeley

Outreach

2017 April Solar Activities, *Marin Elementary STEAM day*, UC Berkeley

2012-2017 Annual Cal Day, *Astronomy Department exposition*, UC Berkeley

2014-2017 Mentoring Group, *Society of Women in Physical Sciences*, UC Berkeley

2016 May Solar Viewing, *Ecology Center Festival*, UC Berkeley

2011-2015 Annual Bay Area Science Festival, *Science@Cal*, UC Berkeley

2013-2015 Annual Astronomy Demo Day, *Meher School 5th grade class*, UC Berkeley

2012-2014 Mentor, *Berkeley Compass Project*, UC Berkeley

2012 Expanding Your Horizons workshop, *for middle school girls*, UC Berkeley

Presentations

Conferences:

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| 2017 Jun | Talk, Ringberg Castle, <i>Advances in Galaxy Evolution</i> , Germany |
| 2016 Sep | Talk, Keck Science Meeting, Pasadena, CA |
| 2016 Aug | Talk, Santa Cruz Galaxy Workshop, Santa Cruz, CA |
| 2016 Jul | Talk, Munich Joint Conference, <i>Discs in Galaxies</i> , Garching, Germany |
| 2016 Apr | Poster, STScI Spring Symposium, <i>What Shapes Galaxies?</i> , Baltimore, MD |
| 2015 Aug | Talk, IAU Symposium 319, <i>Galaxies at High Redshift and Their Evolution over Cosmic Time</i> , Honolulu, HI |
| 2013 May | Talk, Lorenz Center Workshop, <i>Galaxy formation from $z=5$ to $z=0$</i> , Leiden, the Netherlands |

Seminars:

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| 2017 Jun | Invited Cosmology seminar, UC Davis, Davis, CA |
| 2016 Nov | Tea talk, Caltech, Pasadena, CA |
| 2016 Nov | Lunch seminar, Carnegie Observatories, Pasadena, CA |
| 2016 Nov | Invited seminar, CfA/Harvard, Cambridge, MA |
| 2016 Nov | Invited lunch talk, MIT, Cambridge, MA |
| 2015 Nov | Lunch talk, UC Berkeley, CA |
| 2013 Oct | Lunch talk, UC Berkeley, CA |

Collaborative Meetings:

3 talks at MOSDEF collaboration meetings; 2 talks at 3D-HST collaboration meetings

First Author Publications

1. **Price, S. H.**, Kriek, M., Feldmann, R., et al., “*Testing the Recovery of Intrinsic Galaxy Sizes and Masses of $z \sim 2$ Massive Galaxies Using Cosmological Simulations*,” 2017, [ApJL, 844, L6](#)
2. **Price, S. H.**, Kriek, M., Shapley, A. E., et al., “*The MOSDEF Survey: Dynamical and Baryonic Masses and Kinematic Structures of Star-Forming Galaxies at $1.4 \leq z \leq 2.6$* ,” 2016, [ApJ, 819, 80](#)
3. **Price, S. H.**, Kriek, M., Brammer, G. B., et al., “*Direct Measurements of Dust Attenuation in $z \sim 1.5$ Star-Forming Galaxies from 3D-HST: Implications for Dust Geometry and Star Formation Rates*,” 2014, [ApJ, 788, 86](#)

Contributing Author Publications

1. Sanders, R. L., Shapley, A. E., Kriek, M., et al., including **SHP**, “*The MOSDEF survey: a stellar mass-SFR-metallicity relation exists at $z \sim 2.3$* ,” 2017, [arXiv:1711.00224](#)
2. Shivaee, I., Reddy, N. A., Siana, B., et al., including **SHP**, “*The MOSDEF Survey: Direct Observational Constraints on the Ionizing Photon Production Efficiency, ξ_{ion} , at $z \sim 2$* ,” 2017, [arXiv:1711.00013](#)
3. Freeman, W. R., Siana, B., Kriek, M., et al., including **SHP**, “*The MOSDEF Survey: Broad Emission Lines at $z = 1.4-3.8$* ,” 2017, [arXiv:1710.03230](#)
4. Shapley, A. E., Sanders, R. L., Reddy, N. A., et al., including **SHP**, “*The MOSDEF Survey: First Measurement of Nebular Oxygen Abundance at $z > 4$* ,” 2017, [ApJL, 846, L30](#)
5. Leung, G. C. K., Coil, A., Azadi, M., et al., including **SHP**, “*The MOSDEF Survey: the prevalence and properties of galaxy-wide AGN-driven outflows at $z \sim 2$* ,” 2017, [arXiv:1703.10255](#)
6. Shivaee, I., Reddy, N. A., Shapley, A. E., et al., including **SHP**, “*The MOSDEF Survey: Metallicity dependence of the PAH emission at High Redshift and Implications for 24 micron-inferred IR luminosities and star formation rates at $z \sim 2$* ,” 2017, [ApJ, 837, 157](#)
7. Azadi, M., Coil, A. L., Aird, J., et al., including **SHP**, “*The MOSDEF survey: AGN multi-wavelength identification, selection biases and host galaxy properties*,” 2017, [ApJ, 835, 27](#)
8. Momcheva, I. G., Brammer, G. B., van Dokkum, P. G., et al., including **SHP**, “*The 3D-HST Survey: Hubble Space Telescope WFC3/G141 Grism Spectra, Redshifts, and Emission Line Measurements for $\sim 100,000$ Galaxies*,” 2016, [ApJS, 225, 27](#)

9. Sanders, R. L., Shapley, A. E., Kriek, M., et al., including **SHP**, “*The MOSDEF Survey: Detection of [OIII] λ 4363 and the Direct-method Oxygen Abundance of a Star-forming Galaxy at $z = 3.08$* ,” 2016, [ApJL](#), 825, L23
10. Shivaiei, I., Kriek, M., Reddy, N. A., et al., including **SHP**, “*The MOSDEF Survey: The Strong Agreement between H α and UV-to-FIR Star Formation Rates for $z \sim 2$ Star-forming Galaxies*,” 2016, [ApJL](#), 820, L23
11. Sanders, R. L., Shapley, A. E., Kriek, M., et al., including **SHP**, “*The MOSDEF Survey: Electron Density and Ionization Parameter at $z \sim 2.3$* ,” 2016, [ApJ](#), 816, 23
12. Shivaiei, I., Reddy, N. A., Shapley, A. E., et al., including **SHP**, “*The MOSDEF Survey: Dissecting the Star Formation Rate versus Stellar Mass Relation Using H α and H β Emission Lines at $z \sim 2$* ,” 2015, [ApJ](#), 815, 98
13. Kriek, M., Shapley, A. E., Reddy, N. A., et al., including **SHP**, “*The MOSFIRE Deep Evolution Field (MOSDEF) Survey: Rest-frame Optical Spectroscopy for ~ 1500 H-selected Galaxies at $1.37 < z < 3.8$* ,” 2015, [ApJS](#), 218, 15
14. Reddy, N. A., Kriek, M., Shapley, A. E., et al., including **SHP**, “*The MOSDEF Survey: Measurements of Balmer Decrements and the Dust Attenuation Curve at Redshifts $z \sim 1.4$ -2.6*,” 2015, [ApJ](#), 806, 259
15. Shapley, A. E., Reddy, N. A., Kriek, M., et al., including **SHP**, “*The MOSDEF Survey: Excitation Properties of $z \sim 2.3$ Star-forming Galaxies*,” 2015, [ApJ](#), 801, 88
16. Coil, A. L., Aird, J., Reddy, N., et al., including **SHP**, “*The MOSDEF Survey: Optical Active Galactic Nucleus Diagnostics at $z \sim 2.3$* ,” 2015, [ApJ](#), 801, 35
17. Sanders, R. L., Shapley, A. E., Kriek, M., et al., including **SHP**, “*The MOSDEF Survey: Mass, Metallicity, and Star-formation Rate at $z \sim 2.3$* ,” 2015, [ApJ](#), 799, 138
18. Skelton, R. E., Whitaker, K. E., Momcheva, I. G., et al., including **SHP**, “*3D-HST WFC3-selected Photometric Catalogs in the Five CANDELS/3D-HST Fields: Photometry, Photometric Redshifts, and Stellar Masses*,” 2014, [ApJS](#), 214, 24
19. Bergé, J., **Price, S.**, Amara, A., & Rhodes, J., “*On point spread function modelling: towards optimal interpolation*,” 2012, [MNRAS](#), 419, 2356

Grants

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| 2016 | AAS International Travel Grant, Munich Joint Conference |
| 2015 | AAS International Travel Grant, IAU Symposium 319 |
| 2012-2015 | NSF Graduate Research Fellowship, UC Berkeley |