

## Kevin N. Hainline

---

CONTACT INFORMATION	Steward Observatory University of Arizona Room 256 933 North Cherry Avenue Tucson, AZ 85721	Voice: 1-714-865-5339 Email: kevinhainline@email.arizona.edu Website: <a href="http://www.kevinhainline.com">http://www.kevinhainline.com</a>
CURRENT POSITION	Postdoctoral Researcher, James Webb Space Telescope NIRCам Science Team	
RESEARCH INTERESTS	Galaxy Evolution, Active Galactic Nuclei, High-Redshift Galaxies, Science and Astronomy Education, Planetarium Education	
EDUCATION	<b>University of California, Los Angeles</b> , Los Angeles, CA USA Ph.D., Astrophysics, September 2006 - July 2012 <ul style="list-style-type: none"><li>• Thesis Topic: <i>Understanding Star Formation and AGN Activity at <math>z \sim 2 - 3</math></i></li><li>• Adviser: Professor Alice E. Shapley</li></ul> M.S., Astrophysics, May 2008 <ul style="list-style-type: none"><li>• Thesis Topic: <i>Mid-Infrared Line Diagnostics Of Seyfert Galaxies from the 12 <math>\mu\text{m}</math> Sample</i></li><li>• Adviser: Professor Matt A. Malkan</li></ul> <b>Harvey Mudd College</b> , Claremont, CA, USA B.S., Physics, June 2006 <ul style="list-style-type: none"><li>• With High Honors in Humanities</li><li>• Astronomy specialization (emphasis on observational astronomy)</li></ul>	
REFEREED JOURNAL PUBLICATIONS	<b>Hainline, K.N.</b> , Hickox, R.C., Carroll, Christopher M., Myers, DiPompeo, Michael, A., Trouille, Laura A Spectroscopic Survey of WISE-selected Obscured Quasars with the Southern African Large Telescope. <i>The Astrophysical Journal</i> , v.795, Issue 2, article id. 124 (2014). <b>Hainline, K.N.</b> , Hickox, R.C., Greene, J.E., Myers, A.C., Zakamska, N. L., Liu, G., Liu, X. Gemini Long-slit Observations of Luminous Obscured Quasars: Further Evidence for an Upper Limit on the Size of the Narrow-line Region. <i>The Astrophysical Journal</i> . v.787, Issue 1, article id. 65 (2014). <b>Hainline, K.N.</b> , Hickox, R.C., Greene, J.E., Myers, A.C., Zakamska, N. L. SALT Long-slit Spectroscopy of Luminous Obscured Quasars: An Upper Limit on the Size of the Narrow-line Region? <i>The Astrophysical Journal</i> . v.774, Issue 4, article id. 145 (2013). <b>Hainline, K.N.</b> , Shapley, A.E., Greene, J.E., Steidel, C.C., Reddy, N. A., Erb, D.K. Stellar Populations of Ultraviolet-selected Active Galactic Nuclei Host Galaxies at $z \sim 2 - 3$ . <i>The Astrophysical Journal</i> . v.760, Issue 1, article id. 74 (2012). <b>Hainline, K.N.</b> , Shapley, A.E., Greene, J.E., Steidel, C.C. The Rest Frame Ultraviolet Spectra of UV-Selected Active Galactic Nuclei at $z \sim 2 - 3$ . <i>The Astrophysical Journal</i> . v.733, Issue 1, article id. 31 (2011).	

- Hainline, K.N.**, Shapley, A.E., Kornei, K.A., Pettini, M., Buckley-Geer, E., Allam, S.S.; Tucker, D.L., Rest-Frame Optical Spectra of Three Strongly Lensed Galaxies at  $z \sim 2$ . *The Astrophysical Journal*. v.701, Issue 1, pp.52-65 (2009).
- Marsan, Z.C., Marchesini, D., Brammer, G.B., Stefanon, M., Muzzin, A., Fernandez-Soto, A., **Hainline, K. N.**, Labbe, I., Toft, S., van Dokkum, P.G. Spectroscopic Confirmation of an Ultra Massive and Compact Galaxy at  $z=3.35$ : A Detailed Look at an Early Progenitor of Local Most Massive Ellipticals. *ArXiv e-prints 1406.0002*. (2014).
- DiPompeo, M. A., Myers, A. D., Hickox, R. C., Geach, J. E., **Hainline, K. N.** The angular clustering of infrared-selected obscured and unobscured quasars. *Monthly Notices of the Royal Astronomical Society*. v.442, Issue 4 (2014)
- Hickox, R.C., Mullaney, J.R., Alexander, D.M., Chen, C.J., Civano, F.M., Goulding, A.D., **Hainline, K.N.** Black hole variability and the star formation-AGN connection: Do all star-forming galaxies host an AGN? *The Astrophysical Journal*. v.782, Issue 1, article id. 9 (2014).
- Geach, J.E., Hickox, R.C., Bleem, L.E., Brodwin, M., Holder, G.P., Aird, K.A., Benson, B.A., Bhattacharya, S., Carlstrom, J.E., Chang, C.L., Cho, H-M., Crawford, T.M., Crites, A.T., de Haan, T., Dobbs, M.A., Dudley, J., George, E.M., **Hainline, K.N.**, Halverson, N.W., Holzappel, W.,L., Hoover, S., Hou, Z., Hrubes, J.D., Keisler, R., Knox, L., Lee, A.T., Leitch, E. M., Lueker, M., Luong-Van, D., Marrone, D.P., McMahon, J.J., Mehl, J., Meyer, S.S., Millea, M., Mohr, J.J., Montroy, T.E., Myers, A.D., Padin, S., Plagge, T., Pryke, C., Reichardt, C.L., Ruhl, J.E., Sayre, J.T., Schaffer, K.K., Shaw, L., Shirokoff, E., Spieler, H.G., Staniszewski, Z., Stark, A.A., Story, K.T., van Engelen, A., Vanderlinde, K., Vieira, J.D., Williamson, R., Zahn, O. A direct measurement of the linear bias of mid-infrared-selected quasars at  $z \sim 1$  using cosmic microwave background lensing. *The Astrophysical Journal*. v.776, Issue 2, article id. L41 (2013).
- Kulas, K.R., Shapley, A.E., Kollmeier, J.A., Zheng, Z., Steidel, C.C., **Hainline, K.N.** The Kinematics of Multiple-Peaked Ly-alpha Emission in Star-Forming Galaxies  $z \sim 2 - 3$ . *The Astrophysical Journal*. v.745, Issue 1, article id. 33 (2012).
- Tommasin, S., Spinoglio, L., **Hainline, K.N.**, Malkan, M. A., Smith, H. Seyfert Galaxies in the Local Universe: Analysis of Spitzer Spectra of a Complete Sample. *Memorie della Societa Astronomica Italiana*. v.79, p.1275 (2008).

ACCEPTED  
OBSERVING  
PROPOSALS

South African Large Telescope, 10 m: Observing campaign to examine the narrow-line region size of an IR-luminous Type 2 quasar. Observing campaign to examine spatially resolved line emission from CO-detected obscured quasars.

Keck Observatory, Keck II 10 m: 4 half nights using the NIRSPEC instrument to observe rest-frame optical emission lines.

Magellan Observatory, Baade 6.5 m: 3 nights using the newly commissioned FIRE instrument to observe rest-frame optical emission lines.

Gemini North, 8.1 m: GMOS-IFU Observations of local IR-bright obscured quasars. 3 nights of classical time with GNIRS to observe rest-frame optical emission lines for  $z \sim 2-3$  UV-selected AGNs.

CONFERENCE  
PUBLICATIONS

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C.C. The Rest Frame Ultraviolet Composite Spectrum of UV-Selected Active Galactic Nuclei at  $z \sim 2 - 3$ . In: *American Astronomical Society, AAS Meeting #217; Bulletin of the American Astronomical Society, Vol. 43*, (2011). Poster Abstract.

Kulas, K.; Shapley, A.; **Hainline, K.N.** The Kinematics Of Multiple-peaked Lyman $\alpha$  Emission In Star-forming Galaxies At  $z \sim 2 - 3$ . In: *American Astronomical Society, AAS Meeting #216*, (2010). Poster Abstract.

**Hainline, K.N.**, Shapley, A.E., Pettini, M., Allam, S.S., Tucker, D.L. Optical Spectra For Three Strongly Lensed Galaxies At  $z \sim 2$ . In: *American Astronomical Society, AAS Meeting #213; Bulletin of the American Astronomical Society, Vol. 41, p.249*, (2009). Poster Abstract.

Spinoglio, L., Tommasin, S., Malkan, M. A., **Hainline, K.N.** Spitzer Spectra of Seyfert Galaxies. In: *ASP Conference Series: The Starburst-AGN Connection*, (2009).

**Hainline, K.N.**, Malkan, M., Spinoglio, L., Smith, H. Mid-infrared Line Diagnostics Of Seyfert Galaxies From The 12  $\mu$ M Sample. In: *American Astronomical Society, AAS Meeting #211; Bulletin of the American Astronomical Society, Vol. 39, p.793*, (2007). Poster Abstract.

TALKS

**Hainline, K.N.**, Hickox, R.C., Carroll, C.M, Myers, A.D., Trouille, L., DiPompeo, M.A. Searching for Obscured Quasars with WISE and the Southern African Large Telescope In: *American Astronomical Society, AAS Meeting #224*, (2014).

**Hainline, K.N.**, Hickox, R. C., Greene, J. E., Myers, A. D., Zakamska, N. L., Liu, G. The NLR Size - IR Luminosity Relationship: An Upper Limit on the Size of the Narrow-Line Region? In: *Multiwavelength-surveys: Galaxy Formation and Evolution from the early universe to today, Dubrovnik Croatia*, (2014).

**Hainline, K.N.**, Hickox, R. C., Greene, J. E., Myers, A. D., Zakamska, N. L., Liu, G. The NLR Size - IR Luminosity Relationship: An Upper Limit on the Size of the Narrow-Line Region? In: *American Astronomical Society, AAS Meeting #223*, (2014).

**Hainline, K.N.**, Hickox, R.C., Greene, J.E., Myers, A.D., Zakamska, N.L., Shapley, A.E., Greene, J.E., Steidel, C.C. The Relationship Between AGNs and their Host Galaxies At Low And High Redshift In: *University of Durham, Seminar*, (2013). In: *University of Manchester, Seminar*, (2013). In: *University of Sheffield, Seminar*, (2013).

**Hainline, K.N.**, Hickox, R.C., Greene, J.E. SALT Longslit Spectroscopy of Luminous Obscured Quasars In: *American Astronomical Society, AAS Meeting #221; Bulletin of the American Astronomical Society, Vol. 45*, (2012).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C.C. UV selected AGN at  $z \sim 2 - 3$  In: *Columbia University, Invited Talk*, (2012).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C.C. The Host Galaxies Of UV-selected AGNs at  $z \sim 2 - 3$  In: *Black Hole Feedback 2012, Dartmouth College*, (2012).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C.C. The Host Galaxies Of UV-selected AGNs at  $z \sim 2 - 3$ . In: *American Astronomical Society, AAS Meeting #219; Bulletin of the American Astronomical Society, Vol. 44*, (2012).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C. The Host Galaxies of Active Galactic Nuclei at  $z \sim 2 - 3$ . *University of California, Santa Barbara, Invited Talk*, (2011).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E., Steidel, C. The Host Galaxies of Active Galactic Nuclei at  $z \sim 2-3$ . *Keck Science Meeting, California Institute of Technology*, (2011).

**Hainline, K.N.**, Shapley, A.E., Greene, J.E. The Host Galaxies of Active Galactic Nuclei at  $z \sim 2-3$ . In: *American Astronomical Society, AAS Meeting #215; Bulletin of the American Astronomical Society, Vol. 42, p.597*, (2010).

REFEREE SERVICE

- *Astrophysical Journal*
- *Astronomy & Astrophysics*

TEACHING AND  
SERVICE  
EXPERIENCE

### **Dartmouth College, Hanover, NH**

*Professor* **Summer 2015**

- Astro 1, Exploration of the Solar System

*Teaching Assistant* **Fall 2012; Spring, Fall 2013, Spring, Fall 2014**

- Astro 2/3, Order-of-Magnitude Estimation Workshop

### **Montshire Museum, Norwich, VT**

*Science Explainer* **2012 - Present**

- I run weekly science workshops for the guests at the museum along with weekly night sky shows.

*Earth & Space Science Day* **2013**

- I helped to plan and run the Montshire Earth & Space Science Day, which included extensive astronomy-related science workshops.

### **UCLA, Los Angeles, CA**

As a Teaching Assistant, I oversaw two to three discussion sections a week, depending on the course. I was also responsible for examination and some homework grading, as well as assisting students outside of class with extensive office hours. I oversaw examination review sessions, created study guides, and in some cases, conducted lectures for professors.

*Teaching Assistant* **Fall 2006; Spring 2007; Fall, Summer 2007; Fall 2010**

- Astro 4: Black Holes and Cosmic Catastrophes

*Teaching Assistant* **Summer 2008**

- Astro 5: Life in the Universe

*Teaching Assistant* **Winter 2008**

- Honors 35: A Critical Inquiry into the Question of Extraterrestrial Life

*Teaching Assistant*

**Winter 2007**

- Astro 6: Life in the Universe

*Teaching Assistant*

**Spring 2007**

- Astro 3: Nature of the Universe

*UCLA Planetarium Coordinator and Presenter*

**2008 to 2012**

- The planetarium coordinator is responsible for the UCLA Planetarium, which involves both planetarium upkeep and administering shows. The planetarium offers free weekly public shows, as well as private shows for school groups throughout the year. I had to coordinate with parents and teachers interested in shows, as well as with our graduate student presenters. I also developed multiple new educational planetarium shows on a variety of topics (star clusters, AGN, telescopes and light, astronomical imaging, among others), and delivered hundreds of shows.

*UCLA TA Coordinator*

**2007 - 2008**

- I was partly responsible for making sure that new Teaching Assistants in the astronomy department were trained. This involved helping to coordinate a training course with the physics department, as well as personal coaching with the individual graduate students.

*Judge, Intel International Science and Engineering Fair*

**May 2011**

- I was one of three judges responsible for awarding the Astronomical Society of the Pacific Bart and Priscilla Bok Award.

**826LA**, Los Angeles, CA

*Workshop Creation*

**2008 to 2012**

- Through 826LA, a non-profit writing and tutoring center, I have created and run multiple science and writing workshops for youth of various ages. These workshops, which were written and run by myself and the aid of volunteers, were attended by 20 to 30 participants each.

*STEM to Story: Enthralling and Effective Lesson Plans for Grades 5-8*

**2015**

- I created and contributed a science writing workshop “The Science of Saving Daylight” to a book of lesson plans for teaching science through creative writing activities, to be published in early 2015.

REFERENCES  
AVAILABLE TO  
CONTACT

**Dr. Alice E. Shapley** (e-mail: [aes@astro.ucla.edu](mailto:aes@astro.ucla.edu); phone: +1-310-206-3768; WWW: <http://www.astro.ucla.edu/~aes/>)

- Professor, Department of Astronomy, University of California, Los Angeles
- ◊ UCLA Department of Physics and Astronomy, 430 Portola Plaza, Los Angeles, CA 90095-1547
- ★ *Dr. Shapley was my graduate adviser.*

**Dr. Ryan C. Hickox** (e-mail: [Ryan.C.Hickox@dartmouth.edu](mailto:Ryan.C.Hickox@dartmouth.edu); phone: +1-603-646-2962; WWW: <http://www.dartmouth.edu/~hickox/>)

- Assistant Professor, Department of Physics and Astronomy, Dartmouth College
- ◊ Dartmouth College Department of Physics and Astronomy, 241 Wilder Laboratory, Hanover, NH 03755

**Dr. Jenny E. Greene** (e-mail: [jgreene@astro.princeton.edu](mailto:jgreene@astro.princeton.edu); phone: +1-609-258-0764;  
WWW: <http://www.princeton.edu/astro/people/faculty/jenny-greene/>)

- Assistant Professor, Department of Astrophysical Sciences, Princeton University,  
Princeton

◇ Department of Astrophysical Sciences, 4 Ivy Lane, Princeton, NJ 08544