

# CURRICULUM VITAE

## KATHY L. COOKSEY

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### CONTACT INFORMATION

**Current Position:** Assistant Professor of Astronomy, University of Hawai'i at Hilo

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### EDUCATION

#### Graduate

2003–2009, University of California, Santa Cruz

Ph.D. Astronomy & Astrophysics

August 2009

*Probing the Chemical Composition of the  $z < 1$  Intergalactic Medium with Observations and Simulations* (advisor: Prof. J. Xavier Prochaska)

M.S. Astronomy & Astrophysics

June 2005

*Characterizing the Low-redshift Intergalactic Medium towards PKS1302–102* (advisor: Prof. J. Xavier Prochaska)

#### Undergraduate

1999–2003, Valparaiso University, Indiana

B.S. Physics with Honors, *Summa Cum Laude*

May 2003

Senior Honors Thesis: *The Formation of Substellar Companions due to Protostellar Disk Instabilities: Modeling the Effects of the Gravitational Environment* (advisor: Prof. Brian K. Pickett)

Christ College Scholar (interdisciplinary humanities-based honors program)

#### Secondary

1996–1999, Beaver Creek High School, Ohio

Diploma with Honors, Salutatorian (class of  $\approx 500$ )

June 1999

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### EMPLOYMENT HISTORY

- Assistant professor, Department of Physics & Astronomy, University of Hawai'i, Hilo, 2014–present
- National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow, MIT Kavli Institute, 2010–2013
  - Section Leader, 8.02t: “Physics II,” MIT, spring 2011
- Postdoctoral Fellow for Prof. Robert Simcoe, Department of Physics, MIT, 2009–2010
- Graduate Student Researcher with Prof. J. Xavier Prochaska, Department of Astronomy & Astrophysics, UCSC, 2004–2009
  - Instructor, AY5: “Introductory Astronomy—The Formation and Evolution of the Universe,” UCSC, summer 2008
  - Astronomy Lead Instructor (Cluster 7), California State Summer School for Mathematics and Science (COSMOS), UCSC, summers 2005–2007
  - Project Advisor (Cluster 7), COSMOS, UCSC, summer 2004
- Teaching Assistant, AY16: “Life in the Universe,” UCSC, fall 2003
- Northeastern University Research Experiences for Undergraduates (REU), CERN, summer 2002
- Laser Interferometer Gravitational-wave Observatory REU, Caltech, summer 2001
- Cerro Tololo Inter-American Observatory REU, Chile, winter 2001
- VU Department of Physics and Astronomy research assistant, summer 2000

**TEACHING EXPERIENCE****Undergraduate Mentoring:**

10. *Kenji Emerson* (astronomy & physics major, UH Hilo): Stacking analysis of Si IV-selected absorption-line systems in SDSS DR7; funded through NSF AST-1615296 (summer) and Hawai'i/NASA Space Grant Consortium (HSGC) Fellowship (fall): 2017–present
9. *Tino Wells* (astronomy & physics major, UH Hilo): Classifying multi-ion absorption-line systems in SDSS DR7 with non-parametric clustering analysis; funded through NSF AST-1615296 (summer) and HSGC Fellowship (fall): 2017–present
8. *Kyle Cannoles* (computer science major, UH Hilo class of 2017): Study of hierarchical clustering analysis for CS422: “Database Analytics”; spring 2017
7. *Chantelle Kiessner* (astronomy & physics major, UH Hilo): Analysis of high-resolution spectra, with VPFIT and CLOUDY, of strong CIV systems; funded through HSGC Traineeship; fall 2016
6. *Alex Hedglen* (astronomy & physics major, UH Hilo class of 2016): Organizing and processing spectra of 30 galaxy-quasar pairs; funded through HSGC Traineeship (academic year); summer 2015–spring 2016
5. *Jasmin Silva* (astronomy & physics major, UH Hilo class of 2017): Stacking analysis of multi-ion absorption-line systems in SDSS DR7; funded through HSGC Fellowship (spring–fall 2015) and UH Hilo Seed Grant (summer); spring 2015–spring 2016
4. *Iosefa Trainer* (math & astronomy major, UH Hilo): Classifying multi-ion absorption-line systems in SDSS DR7 with non-parametric clustering analysis; funded through UH Hilo Seed Grant; spring 2015
3. *Robert Ponga* (BA Physics & BS Astronomy, UH Hilo class of 2015): Analysis of high-resolution spectra, with VPFIT and CLOUDY, of strong CIV systems; funded as UCSC Jr. Specialist (summer 2014) and HSGC Fellowship (fall 2014); summer 2014–spring 2015
2. *Natalie Nagata* (physics major, UH Mānoa): Stacking analysis of absorption-line systems in SDSS DR7; funded/organized through Akamai Workforce Initiative Internship; summer 2014
1. *Eduardo Seyffert* (BS Aeronautical & Astronautical Engineering, MIT class of 2014): Survey for intergalactic Mg II absorbers in SDSS DR7 quasars; funded/organized through MIT Undergraduate Research Opportunity Program; 2011–2013
  - Publications: Matejek et al. 2013 (*ApJ*, 764, 9); Seyffert et al. 2013 (*ApJ*, 779, 161); and Gauthier et al. 2014 (*MNRAS*, 439, 342)

**Academic Courses:**<sup>1</sup>

- *Assistant Professor*, University of Hawai'i at Hilo
  1. ASTR110L: “General Astronomy Lab”: lab component of the introductory astronomy for non-majors (S15: 17 students; F15: 21 and 15 students in 2 sections; S16: 17 and 13 in 2 sections)
  2. ASTR180: “Principles of Astronomy I”: introductory astronomy course for majors, covering properties of light, astronomical observing, orbital mechanics, and solar system properties with group problem-solving active learning techniques (F14: 36 students; F15: 33; F16: 23)
  3. ASTR181: “Principles of Astronomy II”: introductory astronomy course for majors, covering extragalactic astrophysics (e.g., stellar structure and evolution, formation and evolution of universe), using group problem-solving active-learning techniques (S14: 23 students; S15: 13; S16: 21; S17: 10)
  4. ASTR250: “Observational Astronomy”: introduction to modern observational techniques: statistics, instruments, data processing, etc. (S15: 10 students; S16: 7; F17: 12)

<sup>1</sup>Numbering tally total number of courses taught at UH Hilo; they do not reflect chronological order.

CURRICULUM VITAE — KATHY L. COOKSEY

5. ASTR260: “Computational Physics & Astronomy” (cross-listed w/PHYS260): introduction to scientific programming and numerical analysis (F15: 8 students; S17: 7)
  6. ASTR260L: “Computational Physics & Astronomy Lab” (cross-listed w/PHYS260L): lab component of ASTR/PHYS260, focused on the computer-programming elements (S17: 7)
  7. ASTR375: “Literature Review Practicum”: writing-intensive, upper-division course where students read and synthesize, in writing, a current astronomy or physics topic (F14: 9 students)
  8. ASTR394: “Spectroscopy in Astronomy”: experimental upper-division course covering how spectroscopy is used in modern astronomical research (S14: 9 students)
  9. ASTR495A/B: “Seminar”: natural sciences senior seminar (cross-listed with CHEM, GEOL, MATH, and PHYS); presentations include guest lecturers and 495B participants (S14: 15/20 students; S17: 8/9)
  10. ASTR399: “Directed Studies”
    - Advised student, Jennifer Solis, on an astrobiology literature review (S14)
    - Supervised student, Chantelle Kiessner, as ASTR110L lab assistant (S16)
  11. PHYS170: “General Physics I”: calculus-based introductory mechanics course (F17: 61 students)
  12. PHYS170L: “General Physics I Lab”: lab component of the introductory mechanics class (F14: 21 students; S15: 11)
  13. PHYS170“R”: “General Physics I” recitation (F16: 19 students; F17: 20)
  14. PHYS171L: “General Physics II Lab”: lab component of the introductory electromagnetism class (F14: 16 students; F17: 11)
  15. PHYS171/272“R”: “General Physics II” recitation (F16: 20 students; F17: 10 students)  
[course-number change in F17]
  16. PHYS331: “Optics”: upper-division physics course on optics, with focus on applications in astronomy (F14: 13 students; F16: 8)
- *Guest lecturer:*
    - “Is Science a Meritocracy?: Issues of Diversity & Equity,” natural sciences senior seminar (ASTR/CHEM/GEOL/MATH/PHYS495A/B), UH Hilo, 19 Sep. 2014, 25 Sep. 2015, and 16 Sep. 2016
    - “The Universe in Absorption,” Astronomy 101: “Techniques in Observational Astrophysics,” Pomona College, CA, 20 November 2012
  - *Section Leader:* 8.02t: “Physics II” (technology-enabled active learning version), MIT, spring 2011; instructor for one section of introduction to electromagnetism, content required for all MIT undergraduates ( $\approx 50$  students)
  - *Instructor:* Astronomy 005: “Introductory Astronomy—The Formation and Evolution of the Universe,” UCSC, summer 2008; 5-week introductory course for non-science majors (13 students)
  - *Astronomy Lead Instructor:* Cluster 7: “Stars and Cells,” California State Summer School for Mathematics and Science (COSMOS) at UCSC, 2007; month-long introductory course on astronomy, astrobiology, evolutionary biology, and paleontology for high-school students, focusing on inquiry-based teaching methods (17 students)
  - *Astronomy Lead Instructor:* Cluster 7: “Stars, Sight, and Science,” COSMOS at UCSC, 2005, 2006; month-long introductory course on astronomy and vision science for high-school students, focusing on inquiry-based teaching methods (15–17 students)
  - *Teaching Assistant:* Astronomy 016: “Life in the Universe,” UCSC, fall 2003, Laurence Doyle (instructor); introductory course for science majors ( $\approx 50$  students)

**Innovative Teaching and Outreach:**

- *Volunteer:*
  - Upward Bound Program panelist with undergraduate researchers Emerson & Wells, UH Hilo, 5 July 2017
  - After-school Python programming class at Kamehameha High School, Kea‘au, organized by Michelle Correia (chemistry and astronomy), fall 2015–spring 2016
  - Amelia Earhart Girls Engineering Day speaker, co-sponsored by Waiakea High Robotics Club and Hilo Zonta Club, 10 October 2015
  - “Labor Pains: Fighting for Women in Science” panelist, AAUW-Hilo & UH Hilo’s Women’s Studies co-sponsored event, 23 April 2015
  - Thirty Meter Telescope panelist, HawaiiCon 2014, 14 September 2014
  - Maunakea Astronomy Outreach Committee Annual AstroDay at local mall:
    - \* 6 May 2017: organized and manned all-day “Ingredients of an Observatory” demonstrations (e.g., optical path, spectroscopy, infrared camera)
    - \* 30 April 2016: supported students leading astrobiology demonstration and telescopes
    - \* 2 May 2015: organized and manned all-day 6-in telescopes demonstration
    - \* 3 May 2014: organized and manned all-day “Color, Light, & Spectra” demonstration (e.g., gas emission tubes, spectroscopy)
  - Gemini Observatory “Journey through the Universe”:
    - \* 14, 16 March 2017: visited one 2<sup>nd</sup> and four 6<sup>th</sup>-grade classrooms to teach about galaxies, at Chiefess Kapi‘olani Elementary School ( $\approx 20$  students), Hilo Union Elementary ( $\approx 20$ ), and Waiakea Intermediate School (three periods,  $\approx 25$ –30 each)
    - \* 9, 10 March 2016: visited 2<sup>nd</sup>, 3<sup>rd</sup>, and 5<sup>th</sup>-grade classrooms to teach about galaxies, at E. B. DeSilva Elementary School ( $\approx 20$  students), Chiefess Kapi‘olani Elementary School ( $\approx 20$ ), and Waiakea Elementary School ( $\approx 30$ ), respectively
    - \* 3, 4 March 2015: visited 5<sup>th</sup>-grade and 7<sup>th</sup>-grade classrooms to teach about galaxies, at Ha‘aheo Elementary ( $\approx 30$  students) and Waiakea Intermediate ( $\approx 30$ ), respectively
    - \* 11 March 2014: visited three kindergarten classrooms to teach about galaxies; two at Waiakea Elementary ( $\approx 40$  students total) and one at Ha‘aheo Elementary ( $\approx 30$ )
  - Ellison Onizuka Science Day at UH Hilo Campus Center:
    - \* 28 January 2017: interactive scale model of Solar System
    - \* 30 January 2016: demonstrated simple reflecting telescopes
    - \* 24 January 2015: answered questions and led activities for the Department of Physics & Astronomy table; activities included galaxy classification, solar observing, and angular momentum demonstration
    - \* 25 January 2014: *ibid.*
  - Astronomy Open House @ MIT, 30 April 2011: demonstrate optical versus ultraviolet light with UV-sensitive beads; field questions from community
- *Discussion Leader:* Organized and led discussion on issues of imposter syndrome for MIT Department of Physics Diversity & Inclusion Luncheon series, December 2011
  - Described discussion in *SPECTRUM* (see Publications:Other)
  - MIT School of Science Infinite Kilometer Award 2012
- *Mentor:* MIT Office of Minority Education Mentor Advocate Partnership, 2011–2012; paired with freshman to assist her transition to undergraduate life
  - MAP “Titanium” Mentor Award 2012

- *Co-Facilitator*: “Three-kinds of Hands-on Learning” activity, ED212A: “Science Learning and Teaching in Elementary Classrooms,” UCSC, January 2007, Jerome Shaw (instructor); teaching inquiry techniques to undergraduate education majors
- *Co-Facilitator*: “Color and Light Inquiry,” physics/engineering lab, December 2004 & 2005, Maui Community College, Mark Hoffman (instructor); teaching properties of light and additive and subtractive color mixing with inquiry
- *Project Advisor*: “Stars, Sight, and Science,” COSMOS at UCSC, 2004; small-group, inquiry-based project on variable stars (3 students)

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## PRESENTATIONS

### Colloquia and Seminars:

18. “Precious Metals (or Lack Thereof) in SDSS Quasar Spectra,” Galaxy Journal Club, Space Telescope Science Institute, Baltimore, MD, May 2017
17. “Designing Undergraduate Research Projects: A Case Study,” IfA Mānoa Colloquium, 29 March 2017 (invited)
16. “Precious Metals (or Lack of) in SDSS Quasar Spectra,” IfA Mānoa Colloquium, 8 April 2015 (invited)
  - “Precious Metals in SDSS Quasar Spectra”
    15. Gemini Observatory North, 23 October 2014 (invited)
    14. Subaru Observatory, 4 August 2014 (invited)
    13. IfA Hilo Tech Talk, 29 January 2014 (invited)
    12. IfA Mānoa WEDGE, 22 April 2013
  - “Tracking the Evolution of Strong,  $1.5 < z < 4.5$  C IV Absorbers with Thousands of Systems”
    11. UC Irvine *Astrophysics Seminar*, January 2013
    10. Caltech *Tea Talk*, November 2012
    9. UCLA Journal Club, October 2012
    8. Carnegie Observatories, September 2012
    7. Leiden Observatory, August 2012 (invited)
    6. MPIA *Galaxy Coffee*, July 2012
    5. LERMA, Observatoire de Paris, July 2012
    4. Yale Center for Astronomy and Astrophysics, May 2012 (invited)
  - “The Last Eight-Billion Years of Intergalactic C IV and Si IV Evolution”
    3. CTIO, 19 November 2010
    2. Brown University, 10 November 2010 (invited)
    1. Boston University, 1 November 2010 (invited)

### Conferences and Symposia:

12. “Precious Metals (or Lack Thereof) in SDSS Quasar Spectra,” *From Wall to Web*, Max Planck Institute for Astronomy, Berlin, Germany, July 2016 (invited)
11. “Precious Metals in SDSS QSOs: The Hunt for Intergalactic C IV in DR7,” *MKI Postdoc Symposium*, MIT, April 2012
  - “The Last Eight-Billion Years of Intergalactic C IV and Si IV Evolution”
    10. *Santa Cruz Galaxy Workshop 2011*, Santa Cruz, CA, August 2011
    9. *The Cosmic Odyssey of the Baryons*, Marseilles, France, June 2011
    8. *Gas in Galaxies: From Cosmic Web to Molecular Clouds*, Kloster Seeon, Germany, June 2011
    7. *MKI Postdoc Symposium*, April 2011

6. “The Cosmic Enrichment Cycle: Probing the Galaxy-IGM Boundary,” *MKI Postdoc Symposium*, MIT, March 2010
5. “The Last Eight-Billion Years of Intergalactic CIV Evolution,” *The Chemical Enrichment of the Intergalactic Medium*, Leiden, the Netherlands, May 2009
4. “Metals in the Low-redshift Universe: From Galaxies to the Intergalactic Medium,” *213th Meeting of the American Astronomical Society*, Long Beach, California, January 2009 (dissertation-year talk)
3. “Properties of Metal-line Absorption Systems and Their Neighboring Galaxies,” *The Cosmic Odyssey of the Elements*, Aegina, Greece, June 2008
2. “Metal-Line System Survey: Characterizing the Low- $z$  IGM,” *Space Astronomy: The UV Window to the Universe*, El Escorial, Spain, May 2007
1. “Gravitational-wave Signal Simulation for LIGO,” *16th National Conference of Undergraduate Research*, U. of Wisconsin–Whitewater, April 2002

### Public Lectures:

5. “The Universe in Absorption,” UH Hilo Faculty Lecture Series, 15 July 2015
  - “Is Science a Meritocracy?: Issues of Diversity & Equity”
    4. American Association of Undergraduate Women, Hilo branch, 21 January 2015 (invited)
    3. UH Hilo Department of Physics & Astronomy, 23 October 2014
  - “The Universe in Absorption”
    2. *The Universe Tonight* series, Mauna Kea Visitor Information Station, 4 October 2014
    1. *What Physicists Do* series, Sonoma State University, CA, 15 October 2012 (invited)

## PUBLICATIONS

### Refereed Articles:

21. Rubin, K. H. R., O’Meara, J. M., **Cooksey, K. L.**, et al. (+7) 2017. “Andromeda’s Parachute: A Bright Quadruply Lensed Quasar at  $z = 2.377$ .” arXiv:1707.05873, *submitted to ApJ*.
20. Chen, S-F. S.,<sup>†</sup> Simcoe, R. A., Torrey, P., Bañados, E., **Cooksey, K. L.**, et al. (+10) 2016. “Mg II Absorption at  $2 < z < 7$  with Magellan/FIRE, III: Full Statistics of Absorption towards 100 High-Redshift QSOs.” arXiv:1612.02829, *submitted to ApJ*.
19. Murphy, M. T. & **Cooksey, K. L.** 2017. “Subaru Telescope limits on cosmological variations in the fine-structure constant.”, *MNRAS*, 471, 4930.
  - Murphy, M. T. & **Cooksey, K. L.** “Subaru quasar spectra and absorption profile fits for limiting fine-structure constant variations,” doi:10.5281/zenodo.574904.
18. Glidden, A.,<sup>†</sup> Cooper, T. J.,<sup>‡</sup> **Cooksey, K. L.**, et al. (+2) 2016. “Predominantly Low Metallicities Measured in a Stratified Sample of Lyman Limit Systems at  $z = 3.7$ .” *ApJ*, 833, 270.
17. Cooper, T. J.,<sup>‡</sup> Simcoe, R. A., **Cooksey, K. L.**, et al. (+2), 2015. “The Incidence of Low-Metallicity Lyman-Limit Systems at  $z \sim 3.5$ : Implications for the Cold-Flow Hypothesis of Baryonic Accretion.” *ApJ*, 812, 58.
16. Crighton, N. H. M., Hennawi, J. F., Simcoe, R. A., **Cooksey, K. L.**, et al. (+4) 2015. “Metal-enriched, Sub-kiloparsec Gas Clumps in the Circumgalactic Medium of a Faint  $z = 2.5$  Galaxy.” *MNRAS*, 446, 18.
15. Gauthier, J.-R., Chen, H.-W., **Cooksey, K. L.**, et al. (+3) 2014. “Halo Masses of Mg II absorbers at  $z \sim 0.5$  from Sloan Digital Sky Survey Data Release 7.” *MNRAS*, 439, 342.

<sup>†</sup>Undergraduate or post-baccalaureate student at time of publication.

<sup>‡</sup>Graduate student at time of publication.

14. Seyffert, E. N.,<sup>†</sup> **Cooksey, K. L.**, et al. (+4) 2013. “Precious Metals in SDSS Quasar Spectra II. Tracking the Evolution of Strong,  $0.4 < z < 2.3$  Mg II Absorbers with Thousands of Systems.” *ApJ*, 779, 161.
13. Cucchiara, A., Prochaska, J. X., Zhu, G., Ménard, B., Fynbo, J. P. U., Fox, D. B., Chen, H.-W., **Cooksey, K. L.**, et al. (+9) 2013. “An Independent Measurement of the Incidence of Mg II Absorbers along Gamma-Ray Burst Sightlines: the End of the Mystery?” *ApJ*, 773, 82.
12. Matejek, M. S.,<sup>‡</sup> Simcoe, R. A., **Cooksey, K. L.**, et al. (+1) 2013. “Mg II Absorption at  $2 < z < 6$  with Magellan/FIRE. II: A Longitudinal Study of HI, Metals, and Ionization in Galactic Haloes.” *ApJ*, 764, 9.
11. **Cooksey, K. L.**, et al. (+4) 2013. “Precious Metals in SDSS Quasar Spectra I. Tracking the Evolution of Strong,  $1.5 < z < 4.5$  CIV Absorbers with Thousands of Systems.” *ApJ*, 763, 37.
10. Simcoe, R. A., Sullivan, P.,<sup>‡</sup> **Cooksey, K. L.**, et al. (+3) 2012. “Extremely Metal-Poor Gas at a Redshift of  $z = 7$ .” *Nature*, 492, 79.
9. Simcoe, R. A., **Cooksey, K. L.**, et al. (+10) 2011. “Constraints on the Universal CIV Mass Density at  $z \sim 6$  from Early IR Spectra Obtained with the Magellan FIRE Spectrograph.” *ApJ*, 743, 21.
8. Prochaska, J. X., Weiner, B., Chen, H.-W., Mulchaey, J. S., & **Cooksey, K. L.** 2011. “Probing the IGM/Galaxy Connection V: Associating Galaxies and Their Local Environments with Ly $\alpha$  and O VI Absorption at  $z < 0.2$ .” *ApJ*, 740, 91.
7. Prochaska, J. X., Weiner, B., Chen, H.-W., **Cooksey, K. L.** et al., (+1) 2011. “Probing the IGM/Galaxy Connection IV: The LCO/WFCCD Galaxy Survey of 20 Fields Surrounding UV Bright Quasars.” *ApJS*, 193, 28.
6. **Cooksey, K. L.**, et al. (+3) 2011. “The Last Eight-Billion Years of Intergalactic Si IV Evolution.” *ApJ*, 729, 87.
5. **Cooksey, K. L.**, et al. (+3) 2010. “The Last Eight-Billion Years of Intergalactic CIV Evolution.” *ApJ*, 708, 868.
4. Lehner, N., Prochaska, J. X., Kobulnicky, H. A., **Cooksey, K. L.**,<sup>‡</sup> et al. (+3) 2009. “The Connection Between a Lyman Limit System, a Very Strong O VI Absorber, and Galaxies at  $z \sim 0.203$ .” *ApJ*, 694, 734.
3. **Cooksey, K. L.**,<sup>‡</sup> et al. (+4) 2008. “Characterizing the Low-Redshift Intergalactic Medium towards PKS1302–102.” *ApJ*, 676, 262.
2. Alcalá, J. M., Wachter, S., Covino, E., Sterzik, M. F., Durisen, R. H., Freyberg, M. J., Hoard, D. W., & **Cooksey, K.**<sup>‡</sup> 2004. “Multi-wavelength Observations of the Star-forming Region in L1616.” *A&A*, 516, 677.
1. Day, A., Layden, A. C., Hoard, D. W., Brammer, G.,<sup>†</sup> **Cooksey, K.**,<sup>†</sup> et al. (+4) 2002. “Light and Color Curves of Six Field RR Lyrae Variable Stars.” *PASP*, 114, 645.

#### Monograph:

1. **Cooksey, K. L.**<sup>‡</sup> 2009. “Probing the Chemical Composition of the  $z < 1$  Intergalactic Medium with Observations and Simulations” (Ph.D. thesis):  
[http://guavanator.uhh.hawaii.edu/~kcooksey/MLSS/thesis\\_kcooksey\\_pub.pdf](http://guavanator.uhh.hawaii.edu/~kcooksey/MLSS/thesis_kcooksey_pub.pdf).

#### Conference Proceedings:

4. **Cooksey, K. L.**, et al. (+5) 2010. “The CfAO’s Astronomy Course in COSMOS: Curriculum Design, Rationale, and Application.” *ASPCS*, 436, 381 (also arXiv:1011.0752).
3. Quan, T. K., Dorighi, K. M., & **Cooksey, K. L.** 2010. “Astrobiology: Identifying Bacteria from Extreme Environments.” *ASPCS*, 436, 264.
2. **Cooksey, K. L.**<sup>‡</sup> & Prochaska, J. X. 2008. “Metal-line System Survey: Characterizing the Low-redshift IGM.” *Ap&SS*, 320, 31.

1. Alcalá, J. M., Covino, E., Wachter, S., Hoard, D. W., Sterzik, M. F., Durisen, R. H., Freyberg, M. J., & Cooksey, K.<sup>†</sup> 2003. “X-ray and Optical Observations of NGC1788.” *ASPCS*, 287, 140.

**Other:**

1. Cooksey, K. L. 2014. “Imposter: Understanding, Discussing, and Overcoming Imposter Syndrome,” *SPECTRUM*, the AAS Committee on the Status of Minorities in Astronomy newsletter, January, [https://csma.aas.org/sites/csma.aas.org/files/SPECTRUM/spectrum\\_Jan14.pdf](https://csma.aas.org/sites/csma.aas.org/files/SPECTRUM/spectrum_Jan14.pdf).

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**GRANTS and OBSERVING PROPOSALS<sup>2</sup>**

17. **PI**, 2017 Cottrell Scholar Award by Research Corporation for Science Advancement, “Studying Evolution of Galaxies through Their Circumgalactic Gas, while Training Diverse STEM Professionals,” pre-proposal (*accepted*), \$100,000 award (*under consideration*)
- 16.<sup>+</sup> **PI**, University of Hawai‘i at Hilo observing time, semesters 2017A (1 n Keck I), 2017B (1 n Keck I)
- 15.<sup>+</sup> **PI**, University of Hawai‘i observing time, semesters 2014B (2 n UH88, 3 n Subaru, 1.5 n Keck II), 2015A (2 n Keck II), 2015B (1 n Keck I), 2016A (1 n Keck I), 2016B (0.5 n Keck I, 0.5 n Keck II), 2017A (1 n Keck I, 2 n Keck II)
14. Co-I, *Hubble Space Telescope (HST)* Cycle 25 (2017): “COS Ultraviolet Baryon Survey (CUBS)” (PI: H.-W. Chen; GO-15163; 145 orbits)
13. Surprise Grant from UH Hilo’s College of Arts & Sciences Dean’s Council, Spring 2017 (one of 10 \$700 awards for research)
12. University of Hawai‘i at Hilo Research Council Travel Award 2016 to *From Wall to Web* (\$2200)
11. Co-I, *HST* Cycle 24 (2016): “Birth of the Col: Galaxies and their Neighborhoods Approaching the Epoch of Reionization” (PI: R. Simcoe; 20 orbits, *declined*)
10. Co-I, *HST* Cycle 24 (2016): “COS Ultraviolet Baryon Explorer (COS UBER)” (PI: H.-W. Chen; 359 orbits, *declined*)
  - **PI**, National Science Foundation Astrophysics Research Grant (AAG 12-589) through Research in Undergraduate Institutions (RUI 14-579): “RUI/AAG—Precious Metals in SDSS Quasar Spectra: Observing Galaxy Evolution in Absorption”
    9. 2015: AST-1615296; 3 yr (2016–2019), \$138,300 (Excellent and Excellent/Very Good preliminary ratings)
    8. 2014: 3 yr, \$195,518; *declined* (Excellent and Very Good)
7. **PI**, University of Hawai‘i at Hilo Seed Money Grant (2014): “Observing Galaxy Evolution in Absorption” (1 yr, \$11,565)
6. Co-I, *HST* Cycle 21 (2013): “The Structure of MgII Absorbing Galaxies at  $z = 2$ : Linking CGM Physics and Stellar Morphology During Galaxy Assembly” (PI: R. Simcoe; GO-13303; 27 orbits)
5. Co-I, *HST* Cycle 19 (2011): “Probing the Warm-Hot Intergalactic Medium using Weak, Distributed Metal Absorption” (PI: M. Pieri; AR-12643)
- 4.<sup>+</sup> **PI**, Magellan Clay 6.5-m Telescope, semesters 2009B (3 n), 2010A (2 n), 2010B (2.25 n), 2011A (2.7 n), 2012A (24 hr), 2012B (8 hr), 2013A (2 n)
- 3.<sup>+</sup> Co-I, Magellan Baade & Clay 6.5-m Telescopes, semesters 2010B (8.5 n), 2012A (8 n), 2013A (2 n)
  - **PI**, National Science Foundation Astronomy & Astrophysics Postdoctoral Fellowship (NSF 08-581): “Seeking the Lost Interstellar Medium of Red-Sequence Galaxies”
    2. 2009: AST-1003139; 3 yr (2010–2013), \$253,000 (Excellent and Good preliminary ratings)
    1. 2008: 3 yr, \$249,000; *declined* (two Very Good’s)

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<sup>2</sup>Items numbered with a plus (+) indicate multiple semesters of successful observing proposals.



**SERVICE**

- Department of Physics & Astronomy representative to CAS→CNHS Transition Team, fall 2017
  - Akamai Workforce Initiative Internship Program Selection Committee expert reviewer: 2017
  - Department of Physics & Astronomy hiring committee (job #83815), UH Hilo: 2016
  - Optical/Infrared/Submillimeter Time Allocation Committee, University of Hawai‘i: 2015–2018
  - *The Astrophysical Journal* referee: 2011 (1 article), 2012 (1), 2016 (1), 2017 (1)
  - National Science Foundation proposal-review panelist: 2013 (2 panels); 2014 (1); 2016 (1)
  - *Hubble Space Telescope* proposal-review panelist: Cycles 19 (2011); 21 (2013); 22 (2014); 24 (2016; external reviewer)
  - University of Hawai‘i at Hilo Seed Money Grant proposal reviewer: 2015
  - *The Astrophysical Journal Supplement* referee: 2015 (1 article)
  - Kavli in Astrophysics Symposium delegate for MIT Kavli Institute, 15–18 July 2012, Kavli Royal Society International Centre at Chicheley Hall, UK
  - NSF Astronomy & Astrophysics Postdoctoral Fellows Symposium co-organizer, 7–8 January 2012, Austin, TX
  - MIT Kavli Institute morning coffee founder and organizer, 2010–2012
  - MIT Kavli Institute Postdoc Symposium co-organizer, 13–15 April 2011
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**PROFESSIONAL DEVELOPMENT**

- Physics and Astronomy New Faculty Workshop, 23–26 June 2014: training in active-learning techniques, with attention to education research; organized by American Association of Physics Teachers
  - ISEE/Akamai Mentor Workshop, 25–26 April 2014: develop plan for projects and learn/discuss mentoring-related issues in preparation for Akamai Workforce Initiative interns; organized Institute for Scientist and Engineer Educators, UC Santa Cruz
  - Summer School in Statistics for Astronomers VIII, 4–8 June 2012: overview of statistics as applied in astronomy, with hands-on training in R statistics software; organized by Center for Astrostatistics, Pennsylvania State University
  - Center for Adaptive Optics Professional Development Workshop, 2004–2008; trained in inquiry-based teaching methods, assumed advanced roles in 2005–2008 to help teach other participants; organized by (now) ISEE, UC Santa Cruz
  - Heidelberg Summer School on the Interstellar Medium, 25–29 September 2006: series of lectures and training activities pertaining to research in the gas in galaxies; organized by International Max Planck Research School for Astronomy and Cosmic Physics, University of Heidelberg
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**PROFESSIONAL ASSOCIATIONS**

- American Astronomical Society: junior member 2001–2013; full 2014–present
- Delta Epsilon Iota Academic Honor Society, 2002–present