

# Hollis Akins

✉ [hollis.akins@gmail.com](mailto:hollis.akins@gmail.com)  
📄 [hollisakins.github.io](https://hollisakins.github.io)  
Updated January 29, 2023

## Education

- June 2022 – **University of Texas at Austin**, *Harrington Graduate Fellow*, Austin, TX.  
Present Ph.D. Astronomy, expected May 2027
- Aug 2018 – **Grinnell College**, *Dean's Scholar*, Grinnell, IA.  
May 2022 B.A. Physics (with Honors) GPA: 4.00/4.00
- Aug 2014 – **The Early College at Guilford**, Greensboro, NC.  
May 2018 Public high-school dual-enrollment program with Guilford College GPA: 3.95/4.00

## Research Experience

- June 2022 – **Harrington Graduate Research Fellow**, UT Austin Dept. of Astronomy, Austin, TX.  
Present *Observing galaxies at the epoch of reionization with JWST and ALMA* Advisor: Dr. Caitlin Casey
- May 2019 – **Research Assistant**, Grinnell College Dept. of Physics, Grinnell, IA.  
May 2022 *Environmental quenching of simulated dwarf satellite galaxies* Advisor: Dr. Charlotte Christensen
- May 2021 – **DAWN-IRES Scholar**, Cosmic Dawn Center Copenhagen, Denmark.  
Aug 2021 *The multiphase ISM of a  $z > 7$  galaxy observed with ALMA* Advisor: Dr. Seiji Fujimoto
- May 2020 – **REU Student**, University of Florida Dept. of Astronomy, Gainesville, FL.  
Aug 2020 *Impacts of dust on mock observations of the UVJ diagram* Advisor: Dr. Desika Narayanan
- May 2018 – **Research Assistant**, Guilford College Cline Observatory, Greensboro, NC.  
Aug 2018 *An automated image calibration and stellar photometry pipeline* Advisor: Dr. Don Smith

## Awards & Recognitions

- June 2022 Donald D. Harrington Fellowship UT Austin College of Natural Sciences
- May 2022 Andrew W. Archibald Prize for Highest Scholarship Grinnell College
- May 2022 H. George Apostle Prize in Physics Grinnell College
- Mar 2021 Barry M. Goldwater Scholarship Goldwater Foundation
- Feb 2021 Chambliss Astronomy Achievement Award (Honorable Mention) American Astronomical Society
- May 2020 Joseph F. Wall  $\Phi$ 41 Phi Beta Kappa Scholar's Award Phi Beta Kappa of Iowa
- Aug 2018 Dean's Scholarship Grinnell College
- Aug 2018 National Merit Scholarship Grinnell College
- Mar 2018 Mathworks Math Modeling Challenge (Honorable Mention) SIAM

## Publications

*1st-authored* Total citations on first-authored publications: 25, *h*-index: 2

[Link to ADS page](#)

- Nov 2021 **Akins, H. B.**, Fujimoto, S., Finlator, K. et al. "ALMA reveals extended cool gas and hot ionized outflows around a typical star-forming galaxy at  $z = 7.13$ " (submitted to ApJ, under review; [PDF available](#))
- May 2021 **Akins, H. B.**, Narayanan, D., Whitaker, K. E. et al. "Quenching and the UVJ diagram in the SIMBA cosmological simulations." *The Astrophysical Journal*, 929 , 94, doi: [10.3847/1538-4357/ac5d3a](https://doi.org/10.3847/1538-4357/ac5d3a)
- Mar 2021 **Akins, H. B.**, Christensen, C. R., Brooks, A. M. et al. "Quenching timescales of dwarf satellites around Milky Way-mass hosts." *The Astrophysical Journal*, 909 , 139, doi: [10.3847/1538-4357/abe2ab](https://doi.org/10.3847/1538-4357/abe2ab)
- May 2018 **Akins, H. B.** & Smith, D. A. "Imaging planets from imaginary worlds." *The Physics Teacher*, 56 (7), 486–487. doi: [10.1119/1.5055339](https://doi.org/10.1119/1.5055339)

**Contributed** Total citations on all  $n$ -th authored publications: 41

- Oct 2021 Whitaker, K. E., Narayanan, D., Williams, C. et al. (including **Akins, H. B.**) "Exotic molecular gas to dust mass ratios predicted in quiescent galaxies." *The Astrophysical Journal Letters*, 922, L30, doi: [10.3847/2041-8213/ac399f](https://doi.org/10.3847/2041-8213/ac399f)
- Aug 2021 Bakx, T. J. L. C., Sommovigo, L., Carniani, S. et al. (including **Akins, H. B.**) "Accurate dust temperature determination in a  $z = 7.13$  galaxy." *Monthly Notices of the Royal Astronomical Society: Letters*, 508, 1, doi: [10.1093/mnrasl/slab104](https://doi.org/10.1093/mnrasl/slab104)
- Dec 2019 Smith, D. A. & **Akins, H. B.** "Automated data reduction at a small college observatory." *Journal of the American Association of Variable Star Observers (JAAVSO)*, 47 (2), 248–253.

## Presentations

- June 2022 "ALMA reveals extended cool gas and hot ionized outflows around a typical star-forming galaxy at  $z = 7.13$ ." Poster session presented at the 240th meeting of the American Astronomical Society (Pasadena, CA)
- Sept 2021 "ALMA reveals multiphase gas outflows in an individual star-forming galaxy at Cosmic Dawn." Talk presented at the Physics Department Seminar, Grinnell College (Grinnell, IA)
- Sept 2021 "ALMA reveals extended gas and dust emission around the  $z = 7.13$  galaxy A1689-zD1." Talk presented at the Cosmic DAWN Center "Cake Talks" (remote)
- Jan 2021 "Quenching and the UVJ diagram in cosmological simulations." Poster session presented at the 237th Meeting of the American Astronomical Society (remote)
- Aug 2020 "Quenching timescales of dwarf satellites in cosmological simulations of Milky Way-mass galaxies." Poster session presented at the STScI Symposium, "The Local Group: Assembly and Evolution" (remote)
- Jul 2020 "Star formation quenching and the UVJ diagram in the SIMBA cosmological simulations." Talk presented to the University of Florida Department of Astronomy and REU cohort (remote)
- Feb 2020 "Quenching timescales of dwarf satellites around Milky Way-mass host galaxies," Talk presented at the Physics Department Seminar, Grinnell College (Grinnell, IA)
- Jan 2020 "Quenching timescales of dwarf satellites around Milky Way-mass hosts." Poster session presented at the 235th Meeting of the American Astronomical Society (Honolulu, HI)

## Teaching Experience

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|-------------|-----------------------------------------------------------------------------|------------------|
| Spring 2022 | <b>Lab Assistant</b> for PHY-337: Optics & Wave Phenomena Lab               | Grinnell College |
| 2018–2020   | <b>Student Mentor</b> , <i>Data Analysis and Social Inquiry Lab (DASIL)</i> | Grinnell College |
| Fall 2020   | <b>Course Mentor</b> for PHY-116: <i>The Universe and its Structure</i>     | Grinnell College |

Spring 2020 **Lab Assistant** for PHY-234: *Mechanics* (computational lab) Grinnell College  
Fall 2019,2020 **Teaching Assistant** for SST-125: *Introduction to Geographic Information Systems* Grinnell College  
Fall 2017 **Teaching Assistant** for ART-130: *Photography I* Guilford College

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### *Outreach*

2018–2020 **Member**, *Grinnell Astronomy Group*.  
Spring 2019 **Instructor** for *Observational Astronomy*, Grinnell Experiential College Program.  
Spring 2019 **Science Editor**, *Grinnell Undergraduate Research Journal*.

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### *Professional Memberships*

since Sept 2021 Member, Society of Physics Students (SPS)  
since July 2020 Member, N-body Shop Collaboration  
since Oct 2019 Undergraduate Member, American Astronomical Society (AAS)