**KERRIN HENSLEY**
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## EDUCATION

**Boston University**, Boston, MA
*PhD*, Astronomy, in progress
*MA*, Astronomy, May 2017

**Williams College**, Williamstown, MA
*BA*, Astrophysics and Chinese, *cum laude*, June 2014

## RESEARCH POSITIONS

**Graduate Research Assistant** 2016 – Present
*Boston University; Dr. Paul Withers*

**Sally Ride Undergraduate Research Intern** 2014
*Jet Propulsion Laboratory; Dr. Bonnie Buratti*

**Undergraduate Research Assistant** 2013 – 2014
*Williams College; Dr. Karen Kwitter*

## RESEARCH INTERESTS

My research focuses on a layer of charged particles in the upper atmosphere of Venus and Mars called the ionosphere. In particular, I want to understand how solar activity—solar flares, the 11-year solar cycle, etc.—affects the density, extent, and composition of the ionospheres of Venus and Mars.

## HONORS & AWARDS

**Venus Exploration and Analysis Group (VEXAG) Travel Grant** 2019
**Future Investigators in NASA Earth and Space Science and Technology (FINESST) Grant** 2019
**Massachusetts Space Grant Consortium Graduate Fellowship** 2019
**AAAS Mass Media Science & Engineering Fellowship** 2019
**AAS Media Fellowship** 2018
**Ewha-Luce International Seminar** 2017
**Clare Boothe Luce Graduate Fellowship** 2016
**Departmental Honors in Astrophysics** 2014
**Fulbright English Teaching Assistantship** 2014
**Linen Grant** 2012

## REFEREED PUBLICATIONS

**Hensley, K.** & Withers, P. (2021) Response of Mars's Topside Ionosphere to Changing Solar Activity and Comparisons to Venus, *Journal of Geophysical Research: Space Physics* doi:10.1029/2020JA028913

Withers, P., **Hensley, K.**, Vogt, M., & Hermann, J. (2020) Recovery and Validation of Venus Ionospheric Electron Density Profiles from Pioneer Venus Orbiter Radio Occultation Observations, *Planetary Science Journal*, 1, 78. doi:10.3847/PSJ/abcaf9 [pdf]

Withers, P., **Hensley, K.**, Vogt, M., & Hermann, J. (2020) Recovery and Validation of Venus Neutral Atmospheric Density Profiles from Pioneer Venus Orbiter Radio Occultation Observations, *Planetary Science Journal*, 1, 79. doi:10.3847/PSJ/abc476 [pdf]

**Hensley, K.**, Withers, P., Girazian, Z., Paetzold, M., Tellmann, S., & Hausler, B. (2020) Dependence of Dayside Electron Densities at Venus on Solar Irradiance, *Journal of Geophysical Research: Space Physics*, 125, 2. doi:10.1029/2019JA027167 [pdf]

Corradi, R.L.M., Kwitter, K.B., Balick, B., Henry, R.B.C., & **Hensley, K.** (2015) The Chemistry of Planetary Nebulae in the Outer Regions of M31, *Astrophysical Journal*, 807, 181. doi:10.1088/0004-637X/807/2/181 [pdf]

## INVITED TALKS

Williams College Physics and Astronomy Colloquium Series
Postponed due to COVID–19

Living with a Star: From the Sun to Proxima Centauri
BU Center for English Language and Orientation Programs, Boston, MA, Feb. 2019
BU Center for English Language and Orientation Programs, Boston, MA, Aug. 2018

## SELECTED PRESENTATIONS

Solar Activity Variations of the Ionospheres of Venus and Mars
American Geophysical Union Fall Meeting, San Francisco, CA, December 2019

Variations in the Topside Venus Ionosphere
Mars/Venus Express Radio Science Team Meeting, Truckee, CA, October 2017

Radio Occultation Science Experiment (ROSE)
Mars/Venus Express Radio Science Team Meeting, Truckee, CA, October 2017

Terrestrial Planet Ionospheres & Emerging Issues in Astronomy
Ewha-Luce International Seminar, Seoul, South Korea, July 2017

Titan's North Polar Lakes
NASA Summer Research Intern Final Presentation, Pasadena, CA, July 2014

Planetary Nebulae as Tracers of the Chemical History of Andromeda

Physics and Astronomy Honors Thesis Presentation, Williamstown, MA, May 2014

## BOSTON UNIVERSITY PRESENTATIONS

A Tale of Two Planets: Ionospheres of Venus and Mars
Boston University Student Seminar, Boston, MA, November 2020

From Science to SciComm
Boston University Student Seminar, Boston, MA, November 2019

Response of the Venusian Ionosphere to Solar Cycle Variations
Boston University Student Seminar, Boston, MA, April 2019

Variations of the Topside Venus Ionosphere
Boston University Oral PhD Qualifying Exam, Boston, MA, May 2018

Characterizing Ionospheric Variability at Venus
Boston University Student Seminar, Boston, MA, March 2017

## PUBLISHED ABSTRACTS

**Hensley, K.**, Withers, P., Girazian, Z., Paetzold, M., Tellmann, S., & Hausler, B. (2018) Response of Venus's Topside Ionosphere to Changes in Solar Activity, DPS Meeting Abstracts, 50, 119.09

**Hensley, K.**, Kwitter, K., Corradi, R., Galera-Rosillo, R., Balick, B., & Henry, R.B.C. (2014) Abundances in Eight M31 Planetary Nebulae, AAS Meeting Abstracts, 224, 121.08

Balick, B., Kwitter, K., Corradi, R., **Hensley, K.**, & Henry, R.B.C. (2014) Using PNe to Explore the History of M31's Extended Disk, AAS Meeting Abstracts, 224, 121.14

## OUTREACH, MENTORING, & SERVICE

**Astronomy Department Representative** 2019 – 2020
Served as the department representative to BU's Graduate Student Organization.

**Letters to a Pre-Scientist Pen Pal** 2018 – 2020
Exchanged letters with middle school students. The goal of Letters to a Pre-Scientist is to demystify science and make it more accessible, especially to students from low-income backgrounds who may have less exposure to scientists.

**BU Graduate Women in Science and Engineering Mentor** 2016 – 2017
Served as an academic and professional development mentor for Boston University undergraduate biomedical engineering student Xiaoshan Ke.

**BU Research in Science & Engineering (RISE) Mentor** 2016
Served as a research mentor for high school student Arthur Chen on a project that used radio occultations to map the atmosphere of Venus.

## SCIENCE WRITING

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| **The College Board** | 2020 – 2021 |
| **Voice of America** [12 articles] | 2019 |
| **AAS Nova** [40 articles] | 2018 – 2019 |
| **Astrobites** [18 articles] | 2017 – 2018 |
| **Baen Books Free Nonfiction** [Small Stars; Plasma Frequency] | 2018, 2019 |