KERRIN HENSLEY
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EDUCATION

Boston University, Boston, MA
PhD, Astronomy, September 2021
MA, Astronomy, May 2017

Williams College, Williamstown, MA
BA, Astrophysics (with honors) and Chinese, *cum laude*, June 2014

RESEARCH POSITIONS

Graduate Research Assistant 2016 – 2021
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

Withers, P., Felici, M., **Hensley, K.**, Mendillo, M., Oudrhiri, K., Kahan, D., & Girazian Z. (accepted) The Ionosphere of Mars from Solar Minimum to Solar Maximum: Dayside Electron Densities from MAVEN and Mars Global Surveyor Radio Occultations, *Icarus*.

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

Solar Irradiance Effects on Ionospheric Composition at Venus and Mars
University of Kansas Astronomy and Space Physics Seminar Series, Oct. 2021

From Science to SciComm
Li, Nishimura, and Walsh Research Group Meeting, Apr. 2021

Williams College Physics and Astronomy Colloquium Series
Canceled 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

Dayside Ion Composition at Mars Under Changing Solar Irradiance
MAVEN Project Science Group Meeting, Virtual, Apr. 2021

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

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

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

SELECTED BOSTON UNIVERSITY PRESENTATIONS

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

Response of the Venusian Ionosphere to Solar Cycle Variations
Boston University Student Seminar, Boston, MA, Apr. 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, Mar. 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

AAS Nova [>40 articles] 2018 – 2019, 2021 – Present
Sky Telescope **Magazine** 2021
Highland Outdoors **Magazine** [Wild, Wonderful, and Radio Quiet] 2021
The College Board 2020 – 2021
Voice of America [12 articles] 2019
Astrobites [18 articles] 2017 – 2018
Baen Books Free Nonfiction [Small Stars; Plasma Frequency] 2018, 2019