KERRIN G. 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

Response of Mars's Topside Ionosphere to Changing Solar Activity and Comparisons to Venus
Hensley, K. & Withers, P. *JGR: Space Physics*, in press.

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

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

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

The Chemistry of Planetary Nebulae in the Outer Regions of M31
Corradi, R.L.M., Kwitter, K.B., Balick, B., Henry, R.B.C., & **Hensley, K.** 2015, *ApJ*, 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

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

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

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

OUTREACH, MENTORING & SERVICE

Astronomy Department Representative 2019 – 2020
Boston University Graduate Student Organization

Pen Pal 2018 – 2020
Letters to a Pre-Scientist
I exchanged letters with middle school students from Illinois and California. The goal of LPS is to demystify science and make scientists more accessible, especially to students in low-income areas who may have little exposure to scientists.

Graduate Mentor 2016 – 2017
Grad. Women in Science and Engineering
I served as an academic and professional development mentor for Boston University biomedical engineering student Xiaoshan Ke.

Research Mentor 2016
BU Research in Science & Engineering
I mentored high school student Arthur Chen on a research project that used radio occultations to map the climate of the atmosphere of Venus.

SCIENCE WRITING

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