

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 2019

and Technology (FINESST) Grant

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

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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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 – Present

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