VICTORIA ABIGAIL BOEHM

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EDUCATION

Cornell University 2022-present
Department of Astronomy, 122 Sciences Drive, Ithaca, NY 14853
PhD — Astronomy and Space Sciences *in progress*
Master of Science — Astronomy and Space Sciences *conferred 2025 April*
Advisor: Nikole Lewis

Penn State University 2018-2022
Department of Astronomy and Astrophysics, 525 Davey Laboratory, University Park, PA 16802
Bachelor of Science – Astronomy and Astrophysics *conferred 2022 May*
Bachelor of Science – Physics *conferred 2022 May*
Minor – Mathematics *conferred 2022 May*
Thesis Supervisor: Danilo Marchesini (*Tufts University*)

RESEARCH EXPERIENCE

JWST-GO 12237 / HST-GO 18244 present
PI: V. Abby Boehm
Project title: "A Definitive Transmission Survey of the Atmosphere of 55 Cnc e"

JWST-GO 9033 2025-present
PI: Ryan MacDonald
Project title: "By the Ashes of Stars: A Chemical Census of a White Dwarf Planet"

JWST-GO 6456 / JWST-GO 9256 2024-present
PI: Natalie Allen & Néstor Espinoza
Project title: "Using stellar contamination proxy TRAPPIST-1 b to search for an atmosphere on TRAPPIST-1 e"

HST-GO 17183 2023-present
PI: Hannah Wakeford
Project title: "*Hubble* Ultraviolet-Optical Survey of Legacy Transiting Exoplanets (HUSTLE) Treasury Program"

JWST-GO 2358 2023-2025
PI: Ryan MacDonald
Project title: "Under the Light of a Dead Star: Revealing the Atmospheric Composition of a White Dwarf Planet"

Visiting and Early Research Scholars' Experience 2021-2022
PI: Danilo Marchesini
Project title: "Identifying Emission Line Galaxies in the FENIKS Pilot Survey via Spectral Energy Distribution Fitting with BAGPIPES"

Research Experience for Undergraduates 2019
PI: Robert Harmon
Project title: "Stellar Surface Imaging Via Light-Curve Inversion"

CONFERENCES and WORKSHOPS

Atmospheric Escape and Replenishment (AER) in Planetary Systems Workshop November 2025
3700 San Martin Drive, Baltimore, MD 21218
Contributed talk: "Characterizing Active Volcanism on Terrestrial Exoplanets Through Circumstellar Plasma Tori"

BOWIE+ Meeting 2025 September 2025
Tyndall Ave, Bristol BS8 1TL, UK

ExoClimes VII July 2025
2940 Chem. de Polytechnique, Montréal, QC H3T 1J4, Canada
Contributed poster: "The HUSTLE Program: The Importance of Ultraviolet Spectroscopy for Comparative Studies of Hot Jupiters"

Other Worlds Laboratory Exoplanet Summer Program July 2024
7487 Red Hill Rd, Santa Cruz, CA 95064
Contributed talk: "The HUSTLE Program: Overview of the Program and Updates From OWL"

ERES IX July 2024
231 Feeney Way, Ithaca, NY 14853
Contributed talk: "The HUSTLE Program: Towards a Uniform UVIS Analysis of 12 Hot to Ultra-Hot Jupiters"

AAS 243 January 2024
900 Convention Center Blvd, New Orleans, LA 70130
Contributed poster: "The HUSTLE Program: Searching for Sodium and Silicates in the Hubble WFC3/UVIS G280 Spectrum of WASP-127 b"

Sagan Summer Workshop July 2023
770 South Wilson Ave, Pasadena, CA 91125

AAS 235 January 2020
1801 Kalākaua Ave, Honolulu, HI 96815
Contributed poster: "Imaging Starspots on LO Pegasi, 2014-2019"

SOFTWARE DEVELOPMENT

`Juniper` *Language: Python 3.12.12*
Role: Lead Developer
Pipeline for reducing and extracting James Webb Space Telescope spectroscopic time-series observations of exoplanets.

`HUSTLE-tools` *Language: Python 3.11.3*
Role: Co-lead Developer
Pipeline for reducing and extracting Hubble Space Telescope WFC3-UVIS G280 spectroscopic time-series observations.

PUBLICATIONS

V. A. Boehm, C. Gascón, D. Grant, H. R. Wakeford, N. K. Lewis, and A. Campbell (accepted). "HUSTLE-tools: a one stop shop for Hubble WFC3-UVIS/G280 spectral reduction." *JOSS Letters*.

R. J. MacDonald, C. E. O'Connor, **V. A. Boehm**, E. M. May, D. K. Sing, E. Mullens, L. C. Mayorga, T. O. Foote, S. Blouin, L. A. Pearce, N. K. Lewis, J. Valenti, N. E. Batalha, S. Jenkins, M. Lally, J. D. Lothringer, M. S. Marley, I. Mishra, and S. E. Mulally (2026). "Aerosols and Hydrocarbons in the Atmosphere of a White Dwarf Planet". *Nature*.

N. H. Allen, N. Espinoza, **V. A. Boehm**, C. I. Cañas, K. B. Stevenson, N. K. Lewis, R. J. MacDonald, B. M. Morris, E. Agol, K. Colón, H. Diamond-Lowe, A. Glidden, A. Gressier, J. Huang, Z. Lin, D. Long, D. R. Louie, M. A. MacGregor, L. Pueyo, B. V. Rackham, S. Ranjan, S. Seager, G. Tovar Mendoza, J. A. Valenti, D. Valentine, R. P. van der Marel, and H. R. Wakeford (2026). "JWST TRAPPIST-1 e/b Program: Motivation and First Observations". *AJ*.

C. Gascón, M. López-Morales, R. J. MacDonald, J. K. Barstow, **V. A. Boehm**, H. R. Wakeford, M. K. Alam, L. Alderson, N. E. Batalha, C. E. Fairman, D. Grant, N. K. Lewis, M. S. Marley, S. E. Moran, K. Ohno, G. Anglada-Escudé, and I. Ribas (2025). "The HUSTLE Program: The UV to Near-IR Transmission Spectrum of the Hot Jupiter KELT-7b". *AJ*.

V. A. Boehm, D. Z. Seligman, and N. K. Lewis (2025). "Constraining Ongoing Volcanic Outgassing Rates and Interior Compositions of Extrasolar Planets with Mass Measurements of Plasma Tori". *ApJL*.

V. A. Boehm, N. K. Lewis, C. E. Fairman, S. E. Moran, C. Gascón, H. R. Wakeford, M. K. Alam, L. Alderson, J. Barstow, N. E. Batalha, D. Grant, M. López-Morales, R. J. MacDonald, M. S. Marley, and K. Ohno (2025). "The HUSTLE Program: The UV to Near-infrared HST WFC3/UVIS G280 Transmission Spectrum of WASP-127b". *AJ*.

PUBLIC OUTREACH and MEDIA

"'Bizarre' planet orbiting dead star may preview fate of our solar system" (2 July 2026), in CNN.

ACCOLADES

2026: Teaching Assistant Award for outstanding performance as teaching assistant for ASTRO 2212 at Cornell University.
2026: JWST Cycle 5 proposal awarded (JWST-GO 12237/HST-GO 18244: 6.8 hours JWST + 4 orbits HST).
2024: Graduate School Conference Grant awarded to present research at AAS 243.
2023: Cornell University Fellowship awarded to fund tuition and stipend for nine months.
2022: Graduated *summa cum laude* from Penn State for consistent academic excellence.
2022: Student Marshal of the Department of Physics at Penn State awarded for outstanding performance in academics and research in the Department of Physics at Penn State.
2018-2022: Millennium Scholars Program at Penn State Scholarship awarded to fund tuition and boarding for four years.