

Lavender Elle Hanson

PhD student
Department of Earth & Planetary Science
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Education	Ph.D., Earth and Planetary Science	2020–2025 (expected)
	Johns Hopkins Univ, Baltimore, MD Advisor: Darryn D. Waugh	
	M.S., Atmospheric Science & Meteorology	2013–2018
	Penn State Univ, University Park, PA Advisor: Jerry Y. Harrington	
	B.A., Physics & Chemistry	2009–2013
	Luther College, Decorah, IA	
Research Experience	Modeling and image analysis of Titan ice clouds	2020–2025
	Johns Hopkins University advised by Darryn D. Waugh	
	Laboratory spectroscopy of Titan cloud ices	2020
	NASA Goddard Space Flight Center/University of Maryland advised by Carrie M. Anderson	
	Martian cloud and atmospheric dynamics using Mars Reconnaissance Orbiter imagery	2019
	NASA Goddard Space Flight Center/University of Maryland advised by Scott Guzewich	
Skills	Cloud microphysical theory and modeling	
	Planetary imagery analysis	
	Programming (primarily Python and Fortran 77–03)	
Professional Society Membership	American Astronomical Society, Division of Planetary Science	2023–present
	American Geophysical Union	2018–present
Teaching	Guided Tour: The Planets, TA	Spring 2023-24
	Principles of Atmospheric Measurement, co-instructor	Spring 2017
	Radiation and Climate, TA	Fall 2018
	Atmospheric Thermodynamics, TA	Fall 2014

Other Training	Various JHU teaching workshops	2020–2025
	Johns Hopkins Teaching Institute, May 29-31	Spring 2024
	“Grading and Anti-grading” (workshop series)	Spring 2024
	“Teaching Discomfort: Facilitating Challenging Discussions in the Classroom” (workshop series)	Fall 2023

Service	Newsletter Editor and Contributor, EPS	2024–
	Social Committee organizer, EPS	2020–2024
	Johns Hopkins Trans Awareness Task Force	2023–2024

Funding	NASA FINESST: <i>Mixed-species clouds in Titan's polar stratosphere</i> (as future investigator, PI: Darryn Waugh).	2021–2024
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| Publications | <ol style="list-style-type: none"> 1. Lavender E Hanson, Robert French, Darryn Waugh, Erika Barth, and Carrie M. Anderson, 2025: The Descent of Titan’s South Polar Cloud, (submitted to <i>Geophys Res Lett</i>).
preprint doi:10.22541/essoar.173152976.68313678/v1 2. Lavender E Hanson, Darryn Waugh, Erika Barth, and Carrie M. Anderson, 2023: Investigation of Titan's south polar HCN cloud during southern fall using microphysical modeling, <i>Planet Sci J</i>, 4, 237. doi:10.3847/PSJ/ad0837 3. Gwenore F Pokrifka, AM Moyle, Lavender E Hanson, and Jerry Y Harrington, 2020: Estimating Surface Attachment Kinetic and Growth Transition Influences on Vapor-Grown Ice Crystals, <i>J Atmos Sci</i>, 77, 2393. doi:10.1175/jas-d-19-0303.1 4. Jerry Y Harrington, Alfred Moyle, Lavender E Hanson, Hugh Morrison, 2019: On Calculating Deposition Coefficients and Aspect-Ratio Evolution in Approximate Models of Ice Crystal Vapor Growth, <i>J Atmos Sci</i>, 76, 1609. doi:10.1175/jas-d-18-0319.1 5. Alexander Harrison, Alfred M Moyle, Hanson, Jerry Y Harrington, 2016: Levitation diffusion chamber measurements of the mass growth of small ice crystals from vapor, <i>J Atmos Sci</i>, 73, 2743-2758. doi:10.1175/JAS-D-15-0234.1 6. EM Levin, R Hanus, Hanson, WE Straszheim, K Schmidt-Rohr, 2013: Thermoelectric properties of Ag₂Sb₂Ge_{46-x}Dy_xTe₅₀ alloys with high power factor, <i>Physica Status Solidi A</i>, 210, 2628-2637. doi:10.1002/pssa.201330217 |
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- Conference presentations**
1. Lavender E Hanson, E L Barth, C M Anderson, and D W Waugh. 2025: Benzene and HCN Ice Clouds in Titan's Polar Stratosphere. *LPSC 2025*, The Woodlands, TX, #1521.
 2. Lavender E Hanson, Darryn Waugh, Erika Barth, and Carrie Anderson. 2024: Observations and Modeling of Titan's Descending South Polar Cloud (poster). *AGU 2024*, Washington, DC, P43D-3038.
 3. Lavender E Hanson, Darryn Waugh, Carrie Anderson, and Erika Barth. 2024: The Slow Descent of Titan's South Polar Cloud (talk). *AAS/DPS 2024*, 208.02, Boise, ID.
 4. Lavender E Hanson, Darryn Waugh, Erika Barth, and Carrie M. Anderson. 2023: Investigating the evolution of Titan's high altitude south polar HCN cloud (talk). *AAS/DPS 2023*, 208.04, San Antonio, TX.
 5. Lavender E Hanson, Darryn Waugh, Erika Barth, and Carrie M. Anderson. 2023: Modeling the fall high altitude south polar HCN cloud (talk). *Titan Through Time 6*, Paris.
 6. Lavender E Hanson, Scott Guzewich, 2019: Orographic clouds in the Mars Arcadia province (poster). *AGU Fall Meeting 2019*, P41B-3405.
 7. Lavender E Hanson, Scott Guzewich, 2019: Using Machine Learning to Identify Clouds in Mars Daily Global Maps (poster), *Ninth International Conference on Mars*, Pasadena, CA.
 8. Hanson, Alfred Moyle, Jerry Harrington, 2016: Measurements of vapor growth and sublimation of individually levitated ice particles below -30°C (talk), *17th International Conference on Clouds & Precipitation*, Manchester, UK, S1.14.

Updated: January 6, 2025