Lavender Elle Hanson

PhD student
Department of Earth & Planetary Science
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Education	**Ph.D., Earth and Planetary Science**, Johns Hopkins Univ. Advisor: Darryn D. Waugh	2020–2025 (expected)
	M.S., Atmospheric Science & Meteorology, Penn State Univ. Advisor: Jerry Y. Harrington	2013–2018
	B.A., Physics & Chemistry, Luther College	2009–2013
Research Experience	**Modeling and image analysis of Titan ice clouds** Johns Hopkins University advised by Darryn D. Waugh	2020–2025
	Laboratory spectroscopy of Titan cloud ices NASA Goddard Space Flight Center/University of Maryland advised by Carrie M. Anderson	2020
	Martian cloud and atmospheric dynamics using Mars Reconnaissance Orbiter imagery NASA Goddard Space Flight Center/University of Maryland advised by Scott Guzewich	2019
Skills	Cloud microphysical theory and modeling	
	Planetary imagery analysis	
	Programming (primarily Python and Fortran 77–95)	
Professional Society Membership	American Astronomical Society, Division of Planetary Science	2023–present
	American Geophysical Union	2018–present
Teaching	Guided Tour: The Planets, TA	Spring 2024
	Guided Tour: The Planets, TA	Spring 2023
	Principles of Atmospheric Measurement, co-instructor	Spring 2017
	Radiation and Climate, TA	Fall 2018
	Atmospheric Thermodynamics, TA	Fall 2014

Other Training	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 Contributor and Editor, EPS	2024
	Social Committee organizer, EPS	2020–2024
	Johns Hopkins Trans Awareness Task Force	2023–2024
Funding	NASA FINESST: *Mixed-species clouds in Titan's polar stratosphere* (as future investigator, PI: Darryn Waugh).	2021–2024

Publications

1. **Lavender E Hanson**, Robert French, Darryn Waugh, Erika Barth, and Carrie M. Anderson, 2024: The Descent of Titan's South Polar Cloud, *Geophys Res Lett* (in prep).
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, *Planet Sci J*, 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, *J Atmos Sci*, 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, *J Atmos Sci*, 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, *J Atmos Sci*, 73, 2743-2758. doi:10.1175/JAS-D-15-0234.1

Conference presentations

1. 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.
2. 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.
3. Lavender E Hanson, Scott Guzewich, 2019: Orographic clouds in the Mars Arcadia province (poster). AGU *Fall Meeting 2019*, P41B-3405.

4. 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.
5. 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: October 22, 2024