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	

Relevant 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
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**, Darryn Waugh, Erika Barth, and Carrie M. Anderson, 2024: The Descent of Titan's South Polar Cloud, *Geosci 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: August 12, 2024