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TRENT B. THOMAS

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EDUCATION

- **University of Washington, Seattle, WA (UW)**.
  Dual-Title Ph.D. in Earth and Space Sciences and Astrobiology. In Progress.
  Advisor: Professor David C. Catling.
- **University of California, Los Angeles, CA (UCLA)**.
  B.S. in Astrophysics. September 2016 – June 2020.

PROFESSIONAL EXPERIENCE

- **Research Assistant** (September 2020 – Present)
  Department of Earth and Space Sciences, University of Washington, Seattle, WA.
  Advisor: Professor David C. Catling.
- **Course Development Assistant** (August 2022 – Present)
  Department of Earth and Space Sciences, University of Washington, Seattle, WA.
  Advisor: Provost & Professor Mark Richards.
- **Research Intern** (October 2018 – February 2023)
  Exoplanet Discovery and Science Group, NASA Jet Propulsion Laboratory, Pasadena, CA.
  Advisor: Dr. Renyu Hu.

ACADEMIC AWARDS AND FELLOWSHIPS

- AAS Division for Planetary Sciences Hartmann Travel Grant, $2.2K, 2022.
- Lunar and Planetary Institute Career Development Award, $1K, 2022.
- **National Science Foundation Graduate Research Fellowship, $147K, 2020-2023**.
- UCLA Dean's Prize for Excellence in Undergraduate Research, 2020. 42 students selected from UCLA student body.
- Phi Beta Kappa Honor Society, 2020.
- NASA Astrobiology Institute Early Career Collaboration Award, $2.9K, 2019.
- UCLA Department of Physics and Astronomy Rudnick-Abelmann Scholarship, $3K, 2019.

PEER-REVIEWED PUBLICATIONS

Summary: 2 publications, 6 citations (Google Scholar).

Published:

1. **Thomas, T. B.,** Hu, R., and Lo, D. Y. (2023), Constraints on the Size and Composition of the Ancient Martian Atmosphere from Coupled CO_2-N_2-Ar Isotopic Evolution Models. *Planetary Science Journal,* 4, 41, DOI: https://doi.org/10.3847/PSJ/acb924
2. Hu, R., and **Thomas, T. B.** (2022), A Nitrogen-Rich Atmosphere on Ancient Mars Consistent with Isotopic Evolution Models, *Nature Geoscience*, 15, 106–111, DOI: https://doi.org/10.1038/s41561-021-00886-y

In Review/In Preparation:

- **Thomas, T. B.,** and Catling, D. C. A Self-Consistent Model for Generating Marinoan Cap Carbonates and Constraining Neoproterozoic Climate. *In preparation.*

PRESENTATIONS AND TALKS

Conference Presentations (* = Oral [7]; ^ = Poster [1]):

1. ***Thomas, T. B.,** Hu, R., and Lo, D. Y. (2022). Constraints on the Evolution and Ancient Composition of the Martian Atmosphere from Coupled CO_2-N_2-Ar Isotopic Evolution Models. *54th Division for Planetary Science Conference, London, Ontario, Canada*.
2. ***Thomas, T. B.,** and Catling, D. C. (2022). A Self-Consistent Model for Generating Marinoan Cap Carbonates and Constraining Neoproterozoic Climate. *Astrobiology Science Conference, Atlanta, Georgia*.
3. ***Thomas, T. B.** (2022). A Self-Consistent Model for Generating Marinoan Cap Carbonates and Constraining Neoproterozoic Climate. *UW Earth and Space Science Research Gala, Seattle, Washington*.
4. ***Thomas, T. B.,** Hu, R., and Lo, D. Y. (2022). Joint Models for the Evolutionary History of Carbon, Nitrogen, and Argon in the Martian Atmosphere. *53rd Lunar and Planetary and Science Conference, The Woodlands, Texas*.
5. ***Thomas, T. B.,** and Hu, R. (2020). A Nitrogen-Rich Atmosphere on Ancient Mars Indicated by Isotopic Evolution. *2020 AGU Fall Meeting, virtual.*
6. ***Thomas, T. B.,** and Hu, R. (2020). A Nitrogen-Rich Atmosphere on Ancient Mars Indicated by Isotopic Evolution. *52nd Division for Planetary Science Conference, virtual.*
7. ***Thomas, T. B.,** and Hu, R. (2020). A Nitrogen-Rich Atmosphere on Ancient Mars Indicated by Isotopic Evolution. *UCLA Undergraduate Research Week, virtual.*
8. ^**Thomas, T. B.,** and Hu, R. (2019), Evolutionary History of the Isotopic Composition of Nitrogen in the Martian Atmosphere, *9th International Conference on Mars, Pasadena, California.*

Invited Talks

- NASA Virtual Planetary Laboratory, Task C Group Meeting, 2023.
- NASA Jet Propulsion Laboratory, High Performance Computing User Group Meeting, 2022.
- NASA Goddard Institute for Space Science, ROCKE-3D GCM Journal Club, 2022.
- California Institute of Technology, Mars Atmosphere Journal Club, 2020.

TEACHING EXPERIENCE

The following course took place at the University of Washington, Seattle.

- **ESS 103**: **Earth's Origin and Transformation over 4.6 Billion Years.**
  Developed syllabus, lectures, and other course material for a new undergraduate course with an emphasis on accessibility and universal design, 2022-2023.

ADDITIONAL TRAINING

- Origin of Life Fieldwork Workshop, UW Astrobiology, 2022.
- Storytelling Fellows Podcasting Workshop, UW Libraries, 2022.

- Planetary Exploration Mission Design Workshop, UW Astrobiology, 2022.
- VPLanet Developers Workshop, Virtual Planetary Laboratory, 2021.
- ROCKE-3D GCM Tutorial, NASA Goddard Institute for Space Science, 2021.
- Quantitative Habitability Workshop, NASA Nexus for Exoplanet System Science, 2020.
- Exoclimes Simulation Platform Summer School, University of Bern, 2019.

OUTREACH AND SERVICE

- Science Communication Working Group, NASA Nexus for Exoplanet System Science, 2022-Present.
- Communication and Organization Team, NASA Network for Life Detection, 2022-Present.
- Graduate Student Mentor, Geosciences Education and Mentorship Support, 2022.
- Speaker at Astronomy on Tap, Seattle, 2022.
- Volunteer Teacher for 6th grade classes at Nelson Middle School: “Is There Life on Mars?”, 2022.
- Creator of the Wikipedia page “Prebiotic Atmosphere”, 2022.
- Guest Speaker at Delran School System K-12 STEM Family Engagement Night, 2022.
- Social Media Manager for UW Astrobiology, 2021-Present.
- Departmental Award Committee, UW Earth and Space Sciences, 2021-2022.
- Graduate-nominated Colloquium Speaker Committee, UW Earth and Space Sciences, 2021-2022.
- Computing Committee Graduate Representative, UW Earth and Space Sciences, 2021-2022.
- Peer Mentor, UW Earth and Space Sciences, 2021-2022.
- Organizer, Moderator, and Panelist for UW Astrobiology Public Science Panel Series, 2021.
- Volunteer Guide, UCLA Planetarium, 2019-2020.
- Volunteer Scientist, UCLA K-12 Exploring Your Universe, 2019.