

Tyler Foote

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Education

UNIVERSITY OF ARIZONA

Ph.D. Planetary Science

Relevant Coursework: Planetary Global Tectonics, Planetary Astrobiology

Tucson, AZ
August 2026 - Present

CORNELL UNIVERSITY

M.E. Earth Science and Engineering

Design Project: *Quantifying Earth Glacier Displacement to Inform Interpretation of Martian Glacial Landforms*

Relevant Coursework: Evolution of the Earth System, Planetary Atmospheres, Planetary Surface Processes

Ithaca, NY
May 2026

EASTERN UNIVERSITY

B.S. Environmental Science, Biology minor (Cum Laude)

Thesis: *Photomorphogenic Responses of Solanum lycopersicum 'Orange Hat' Under Varying Spectral Light Regimes*

Dean's List: Spring 2023 - Spring 2025, 4-Year Scholarship Recipient

St. Davids, PA
May 2025

Experience

UNIVERSITY OF ARIZONA, LUNAR AND PLANETARY LABORATORY

Graduate Research Assistant

- Conducting geophysical research to investigate glacial processes on Martian analogs
- Investigating the astrobiological potential for mid-latitude subsurface glaciers on Mars

Tucson, AZ
August 2026 – Present

UIO LANGUAGE LOGISTICS

Agriculture Science Intern

- Building a U.S.-based agricultural research organization with repeatable, evidence-based processes for literature review, objective setting, experimental design, grant development, pilot studies, data collection, and reporting
- Focusing research on the development of alternative, sustainable rubber sources for industry-scale

Remote
August 2026 – Present

NASA L'SPACE ACADEMY

LEAP Intern - Leadership Mentor, Astrobiology Specialization

- Guided interdisciplinary student teams in astrobiology mission design and preliminary development
- Provided subject matter knowledge and weekly office hours to support research for over 900 students
- Facilitated collaboration and project management aligned with NASA protocols
- Oversaw the first four phases of the NASA mission lifecycle and contributed to Standing Review Board evaluations

Remote
August 2024 – September 2025

CHURCHVILLE NATURE CENTER

Butterfly House Intern

- Managed butterfly husbandry using sterile techniques
- Identified arthropod species and tracked life cycles
- Maintained native plant habitats, and pollinator-friendly gardens
- Supported ecological health and educational programming through data collection and hands-on site work

Churchville, PA
June 2025 – August 2025

EASTERN UNIVERSITY BIOLOGY DEPARTMENT

Undergraduate Student Researcher

- Investigated *Solanum lycopersicum* phenotypic responses to varying light regimes with astrobiological implications
- Conducted independent research under faculty mentorship, utilizing fieldwork and computational skills
- Produced a comprehensive thesis paper and presentation

St. Davids, PA
January 2022 – May 2025

EASTERN UNIVERSITY BIOLOGY DEPARTMENT

Laboratory Teaching Assistant

- Guided students through experiments and lab equipment demonstrations for General Biology I & II, Introduction to Biology, and Geology
- Graded assignments and lab reports; maintained and calibrated laboratory equipment
- Delivered a guest lecture on Planetary Geology and Solar System Dynamics

St. Davids, PA
August 2022 – May 2025

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

Remote

Astrobiology Intern

May 2024 – August 2024

- Analyzed organic compounds in biomass and meteorite samples for the Laboratory for Agnostic Biosignatures
- Reviewed literature on global biomass chemistry; developed a preliminary database
- Integrated data to assess organic compound abundance and frequency

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

Greenbelt, MD

Environmental Management Intern

June 2023 – August 2023

- Conducted vegetation surveys and biodiversity assessments across multi-acre bioretention basins
- Applied statistical analysis and data science techniques, compiled findings, and presented them to the Environmental Management Division at NASA GSFC and NASA WFF
- Assisted with environmental audits, and reviewed EPA compliance and industrial policies

Awards, Grants, and Fellowships

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

Awarded 2026

Astrobiology Early-Career Collaboration Award

- “*Field characterization of debris-covered glacial environments in Wyoming and their implications for the search for life on Mars*”

UNIVERSITY OF ARIZONA

Awarded 2026

Graduate Access Fellowship

NASA L'SPACE ACADEMY

Awarded 2025

LEAP Internship Mentor of the Semester

EASTERN UNIVERSITY BIOLOGY DEPARTMENT

Awarded 2025

Outstanding Internship Award

AMERICAN INSTITUTE FOR AERONAUTICS AND ASTRONAUTICS (AIAA)

Awarded 2023

ASCEND Event Diversity Scholarship (aka. *Rising Stars In Aerospace*)

Peer-Reviewed Publications

Tracking ground arthropod diversity in urban forests: Lessons learned from a new undergraduate long-term project

Alfaro, B., Porter, R.C., Foote, T.G., Lohmann, M.J., Herring, C., Blankley, K.E., Anemone, J.N., Madden, K., Unander, D.W., Alfaro, R.E., Urban Naturalist, 74, 1–10 (2024)

Manuscripts In Preparation

Photomorphogenic Responses of *Solanum lycopersicum* 'Orange Hat' Under Varying Spectral Light Regimes

Foote, T.G., Alfaro, B. (2025)

Presentations

- **LED It Grow: Phenotypic Shifts in Orange Hat Tomatoes Under Colored Light Treatments**
Eastern University Biology Department Senior Thesis Showcase, 2025
- **Biodiversity and Floristic Composition in Bioretention Basins at NASA GSFC**
Eastern University College of Health and Sciences 2025 Research Symposium
- **Integrating Biomass and Meteorite Data: A Database Approach to Analyzing Organic Compound Abundance and Frequency**
NASA Goddard Space Flight Center, Solar System Exploration Division, 2024
- **NASA L'SPACE Mission Concept Academy Preliminary Design Review: Enceladus South Tiger Stripe Research and Inorganic Polymers Exploration (E-STRIFE)** — Sheha, A., Foote, T.G., Harutyunyan, A., Aletto, J., Kautsch, S., Cherop, F., Naicker, H., Trivette, T., Budhathoki, B., Stacey, J.A., Nonna, M., Hong, M., 2023
NASA L'SPACE Academy Standing Review Board
- **Synergistic Assessment of Biodiversity and Floristic Composition of Bioretention Basins at GSFC**
NASA Wallops Flight Facility & NASA Goddard Space Flight Center, Environmental Management Division, 2023

Activities

PLANETARY RESEARCH COOPERATIVE	Remote
Member	2025-Present
OUT IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (oSTEM)	Remote
Member	2025-Present
AMERICAN GEOPHYSICAL UNION	Remote
Member	2024-Present
EASTERN UNIVERSITY	St. Davids, PA
University Club President	September 2023- May 2025
SIGMA ZETA HONORS SOCIETY (Alpha Chi Chapter)	St. Davids, PA
Member	2024-Present
NASA L'SPACE Mission Concept Academy	Remote
Chief Scientist	September 2023 – December 2023
• Led research and mission design on Enceladus habitability • Authored key NASA lifecycle documents (MCR, SRR, MDR, PDR) • Presented Preliminary Design Review to a Standing Review Board • Developed skills in technical writing, workforce development, and mission-relevant concepts	

Skills

- Statistical modeling & data processing (RStudio), MATLAB
- Spatial analysis, mapping, & remote sensing with optical/radar data (QGIS, JMARS, Google Earth Engine, ArcGIS Pro)
- Astrophotography & telescope image processing (TheSky64, MAXIM D/L,CCDSOFT)
- Field sampling, biodiversity assessments, organism identification & husbandry
- Spectrophotometry, HPLC, Spectroscopy, Analytical chemistry
- Technical scientific writing, Project management