

AMBER VANESSA YOUNG

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EDUCATION

- Northern Arizona University, Flagstaff, Arizona** June 2019-Present
Ph.D. Planetary Sciences & Astronomy Expected May 2023
Advisors: Dr. Tyler Robinson(Astronomy)
- Fisk University, Nashville, Tennessee** August 2017-June 2019
M.S. Physics CGPA: 3.41/4.00
Advisors: Dr. Keivan Stassun (Astronomy), Dr. Dina Myers Stroud (Biology)
- Pennsylvania State University, University Park, Pennsylvania** August 2012-May 2016
B.S. Planetary Sciences and Astronomy CGPA: 3.32/4.00
Advisors: Dr. Julia Kregenow (Astronomy), Dr. James Kasting (Geoscience), Dr. Chris Palma (Astronomy)

RESEARCH EXPERIENCE

- Fisk University, Nashville, Tennessee** August 2017-Present
Supervised by: Dr. Keivan Stassun, Dr. Dina Stroud, and Dr. Shawn Domagal-Goldman
- ❖ Researching potential sources and sinks for methane in the Martian atmosphere corresponding to measurements taken with SAM (Sample Analysis at Mars)
 - ❖ Simulating temporal variations of methane in the Martian atmosphere over the course of a Martian year
 - ❖ 1st author publication of this work is in review with the Journal of Geophysical Research (JGR)-Planets
- NASA Goddard Space Flight Center, Greenbelt, Maryland** August 2016-Present
Supervised by: Dr. Shawn Domagal-Goldman, Dr. Ravi Kopparapu, and Dr. Giada Arney
- ❖ Researching potential sources and sinks for methane in the Martian atmosphere corresponding to measurements taken with SAM (Sample Analysis at Mars)
 - ❖ Developed photochemical templates for Mars and Earth to be implemented in our 1D climate and photochemical models
 - ❖ Utilized expertise with Git language to assist team members with their code development
- NASA Goddard Space Flight Center, Greenbelt, Maryland** August 2016-July 2017
Supervised by: Dr. Avi Mandell
- ❖ Studied the observability for potential TESS planet candidates using photochemical and climate modeling
 - ❖ Analyzed five theoretical planetary cases orbiting an M star to examine the correlations (if any) between stellar insolation, planetary radius, and surface temperature
 - ❖ Provided simulation results to be presented at AAS meeting 2017
- Pennsylvania State University, University Park, Pennsylvania** October 2014-July 2016
Supervised by: Dr. James Kasting
- ❖ Investigated atmospheric solutions (using photochemical modeling) consistent with micrometeorites referenced in the Tomkins et al. Nature paper published in 2016
 - ❖ Examined the Deuterium production in the Martian atmosphere utilizing outputs from the quantum multiple scattering fragmentation (QMSFRG) model
 - ❖ Conducted an atmospheric study that disputed results published by Poulsen et al. 2015 on the role of oxygen in climate forcing during the Phanerozoic

FELLOWSHIPS, AWARDS and HONORS

NASA Recent Graduates Fellowship	August 2016-Present
Women In Science and Engineering (WISE) Scholarship	January 2015
President's Freshman Award	December 2012

ACADEMIC OUTREACH

NEXUS Orientation Leader Mentor to freshman astronomy students	July 2014-May 2016
Astronomy Club Member Demonstrated astronomy related activities to hundreds of attendees at AstroFest	August 2014-May 2016
Lion Ambassador Volunteer Provided personalized campus tours to prospective astronomy students	April 2016

TALKS AND PRESENTATIONS

- A. Britt**, "Simulated Exoplanet Observations with HabEx and LUVOIR: Preparing for the Hunt for Biosignatures", presented at the Astrobiology Graduate Conference, July, 2019
- A. Britt**, "Coronagraph Simulations with LUVOIR and HabEx: The New Era of Exoplanet Direct Imaging and Characterization", presented at the American Astronomical Society Meeting, January, 2019
- A. Britt**, "Coronagraph Simulations for HabEx", presented at the HabEx Community Meeting on Astrophysics, October, 2018
- A. Britt**, " Simulations of Methane on Mars Utilizing Curiosity Data," presented at the Comparative Climatology of Terrestrial Planet Atmospheres-3, August, 2018
- A. Britt**, "Simulations of Methane on Mars Using Curiosity Data," presented at the Astrobiology Graduate Conference, June, 2018
- A. Britt**, "Modeling MSL Measurements of Modern Martian Methane," presented at the Astrobiology Science Conference, April, 2017
- A. Britt**, "Making Martian Methane via Surface H Release," presented at the American Geophysical Union, December, 2016

PUBLICATIONS

- Young, A.**, Domagal-Goldman, S., Claire, M., Mahaffy, P., Trainer, M., Webster, C. "Photochemical Modeling of Martian Methane Constrained by Curiosity Data." *Journal of Geophysical Research-Planets*. In Review.
- Tremblay, L., **Britt, A.**, Batalha, N., Schwieterman, E., Arney, G., Domagal-Goldman, S., ... Virtual Planetary Laboratory. (2017). Exploring JWST's Capability to Constrain Habitability on Simulated Terrestrial TESS Planets (Vol. 229, p. 245.03). Presented at the American Astronomical Society Meeting Abstracts #229.
- Payne, R; **Britt, A**; Chen, H; Liu, J; Kasting, J; Catling, D (2016). "The Response of Earth's Surface Temperature to Variations in Oxygen Concentration in the Atmosphere." *Journal of Geophysical Research: Atmospheres*, 121(17), 10,089-10,096.