Audrey Claire Martin, PhD.
She/Her | California Institute of Technology | Division of Geological and Planetary Sciences
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EDUCATION

2015 – 2022 ***Ph.D.*** *Northern Arizona University (NAU)*[1]*, Department of Astronomy and Planetary Sciences (APS)*. Advisor: Dr. Joshua Emery
Dissertation: Mid-Infrared spectral studies of Jovian Trojan Asteroids and the effects of regolith porosity

2011 – 2015 ***B.S.*** *Saint Louis University (SLU), Physics Department.* Minors: Geology, Engineering-Mathematics. Advisor: Dr. Ian Redmount
Thesis: Einstein Field equations, and Freidman equations applied to a hypothetical tachyon dominated universe.

PROFESSIONAL EXPERIENCE

Professional and Academic Positions

2025 – *Present*	California Institute of Technology	Research Scientist
2024 – 2025	University of Central Florida	STEM Postdoctoral Scholar
2022 – 2024	University of Central Florida	Postdoctoral Scholar
2019 – 2022	Northern Arizona University	Graduate Research Assistant
2016 – 2019	University of Tennessee	Graduate Research Assistant
2015 – 2019	University of Tennessee	Graduate Teaching Assistant
2012 – 2015	Saint Louis University	Undergraduate Research Assistant

Team and Mission Experience

2022 – *Present*	Science Team Postdoctoral Collaborator, NASA's Lucy Mission
2022 – 2025	Postdoctoral Scholar, Center for Lunar and Asteroid Surface Science (SSERVI)
2017 – 2022	Science Team Graduate Student Collaborator, NASA's Lucy Mission
2015 – 2017	Science and Operations Team Member, NASA's Mars Science Laboratory Mission

TECHNICAL SKILLS

Laboratory Skills and Techniques

Mid-IR Reflectance/Emission Spectroscopy
Fourier Transmission Infrared Spectroscopy (FTIR)
Electron Microprobe Spectroscopy (EMS)
Scanning Electron Microscopy (SEM)
X-Ray Fluorescence (XRF)
Thick Section Preparation and Analysis
Powder Sample Preparation and Analysis

Computer Programs

Exelis ENVI/IDL
Adobe Creative Suite
OMNIC
Microsoft Office
Monte Carlo N-Particle eXtended
OPUS

[1] Martin began graduate school at the University of Tennessee (UTK). She then transferred to NAU following her advisor (J. Emery).

Field Work

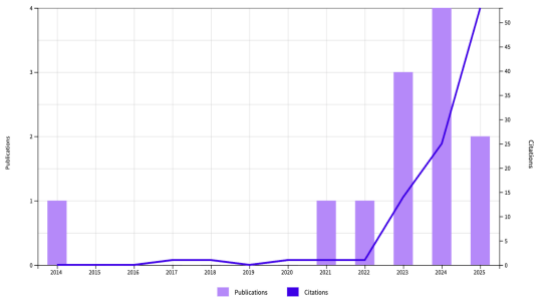
2022 Autonomous Rover Analog field test, Yellow Cat, UT, TREX SSERVI node
2017 Neutron scintillator field test, Greenbelt, MD, NASA Goddard
2017 Paleomagnetic core sampling, Eastern TN, UTK
2016 Meteor Crater Field Experience, Meteor Crater, AZ, Lunar and Planetary Institute
2016 Volcanology Field Camp, Iceland, South Dakota School of Mines & Technology
2014 Field Assistant, Wabash Valley Seismic Zone, Southern Il, SLU

Honors and Awards

Asteroid (28798) Audreymartin, International Astronomical Union, named in recognition to planetary science, 2023
Travel Award, NASA Exploration Science Forum, 2023
Outstanding Graduate Research Assistant Award, NAU, 2021
Outreach Award, UTK GeoClub, 2018
Excellence in Planetary Science Research and Outreach, UTK, Planetary Geoscience Institute, 2018
Best Professional Presentation - Doctoral Student, UTK, Earth and Planetary Sciences Department, 2017
NASA Group Achievement Award, MSL Extended Mission-1 Science and Operations Team, 2017
Hartman Travel Award, American Astronomical Society, 2017
Summer Graduate Research Assistantship, UTK Office of Research and Engagement, 2017
Graduate Student Senate Travel Award, UTK, (multiple individual awards) 2016-2019
Travel Award, UTK, Earth and Planetary Sciences Department, (multiple individual awards) 2016-2019
Conference Presentation Certificate of Merit, UTK, Planetary Geoscience Institute, 2016
Virginia and James Bibee Scholarship for Field Experience, UTK, 2016

RESEARCH

Web of Science H-Index: *6*
Web of Science Total Citing Articles: *56*
Web of Science Researcher ID: *GRR-2521-2022*



Peer-Reviewed Manuscripts

Underline denotes student mentee.

17. Bates, H.C., King, A.J., Donaldson Hanna**,** K.L., **Martin. A.C.**, Emery, J.P., Bowles, N.E., and Russell, S.S., 2025. Spectral similarity in the thermal infrared between CY carbonaceous chondrite meteorites and Jupiter Trojan asteroids. *Geophysical Research Letters, In review*.

16. Clark, R.N., Prettyman, T., Banks, M. E., Hendrix, A., Noe Dobrea, E., Lane, M.D., Vilas, F., Wright, S.P., Vaniman, D., Thieberger, C., Ahrens, C., Bruxner, S., Pearson, N., Holsclaw, G., Borrelli, M., Kramer, G., Wettergreen, D., Vijayarangan, S., Candela, A., Breitfel, A., Hansen, M., Kumari, N., **Martin, A.C.**, Patterson, R., Meier, M., Knightly, P., Steckel, A., Osterloo, M., 2025. Science Team Experience with an Autonomous Rover and Automated Science Analysis During the TREX 2021 and 2022 Field Campaigns. *The Planetary Science Journal, In review*.

15. Lisse, C.M., **Martin, A.M.**, Wong, I., Prialnik, D., Steckloff, J.K., Fernandez, Y.R., 2025. Crystalline Water Ice, Fairy Castles, and Impacts: An Evolutionary Explanation for the Two Main Jovian Trojan Colors Populations. *The Planetary Science Journal*, *In review*.
14. de Kleer, K., Ehlmann, B., Tissot, F., King, O., Martin, A.C., Lane, M., Wong, I., 2025. The Surface Mineralogy of the Spinel-Rich Asteroids from Mid-Infrared Spectroscopy with JWST. *The Planetary Science Journal, In review.*
13. **Martin, A.C.**, Emery, J.P., Loeffler, M., Donaldson Hanna, K.L., 2025. Mid-Infrared Reflectance and Emissivity Spectra of High Porosity Regoliths. *Journal of Geophysical Research, 130, 5*.
12. Dausend, L., **Martin, A.C.**, Emery, J.P., 2025. Measuring the effects of regolith porosity on mid-IR spectra of the Allende meteorite. *The Planetary Science Journal*, *6, 54*.
11. Noe Dobrea, E.Z., Banks, M.E., Clark, R.N., Wettergreen, D., Hendrix, A., Ahrens, C., Bell, E., Breitfeld, A., Bristow, T.F., Buxner, S., Candela, A., Hansen, M., Holsclaw, G., Knightly, P., Kramer, G., Kumari, N., Lane, M.D., **Martin, A.C.**, Meier, M., Patterson, R., Pearson, N., Prettyman, T., Swayze , G., Vaniman, D., Vijayarangan, S., Valis, F., Wright, S.P., 2024. Rover Science Autonomy in Planetary Exploration: Field Analog Tests. *The Planetary Science Journal,* 6, 51.
10. Levison, H. F., Marchi, S., Noll, K., Spencer, J.R., Statler, T.S., Bell, J.F., Bierhaus, E. B., Binzel, R., Bottke, W., Britt, D., Brown, M., Buie, M., Christensen, P., Dello Russo, N., Emery, J.P., Grundy, W., Hahn, M., Hamilton, V.E., Howett, C., Kaplan, H., Kretke, K., Lauer, T., Manzoni, C., Marschall, R., **Martin, A.C.**, May, B.H., Mottola, S., Olkin, C.B., Paetzold, M., Parker, J., Porter, S., Preusker, F., Protopapa, S., Reuter, D., Robbins, S.J., Salmon, J., Simon, A.A., Stern, S.A., Sunshine, J.M., Wong, I., Weaver, H., and the Lucy Mission Team, 2024. The Discovery of a Contact-Binary Satellite of the Asteroid (152830) Dinkinesh by the Lucy Mission. *Nature,* 629, 1015-1020. **[Times cited 21]**
9. Wong, I., Brown, M.E., Emery, J.P., Binzel, R.P., Grundy, W.M., Levison, H.F., Marchi, S., **Martin, A.C.,** Noll, K.S., Olkin, C.B., Sunshine, J.M., 2024. JWST near-infrared spectroscopy of the Lucy Jupiter Trojan flyby targets: Evidence for OH absorption, aliphatic organics, and CO2. *The Planetary Science Journal*, 5, 87. **[Times cited 23]**
8. Emery, J.P., Binzel, R., Brown, M., **Martin, A.C.**, Melita, M., Souza-Feliciano, C., Wong, I., 2024. Surface Compositions of Trojan Asteroids. *Space Science Review*, 220, 28. **[Times cited 5]**
7. Humes, O., **Martin, A.C.**, Thomas, C., Emery, J., 2024. Comparative Mid-Infrared Spectroscopy of Dark, Primitive Asteroids: Does Shared Taxonomic Cass Indicate Shared Silicate Composition? *The Planetary Science Journal,* 5, 5. **[Times cited 4]**
6. **Martin, A.C.**, Emery, J.P., 2023. Mid-Infrared Spectral Analysis of Jovian Trojan Asteroids. *The Planetary Science Journal,* 4, 153. **[Times cited 10]**
5. **Martin, A.C.**, Redmount, I., 2023. Tachyon. Observable Features of Tachyon-Dominated Cosmology. *International Journal of Modern Physics D,* 32(5).
4. **Martin, A.C.**, Emery, J.P., Loeffler, M., 2023. Spectral effect of regolith porosity in the Mid-IR – Pyroxene. *Icarus*, 397. **[Times cited 8]**
3. **Martin, A.C.**, Emery, J.P., Loeffler, M., 2021. Spectral effect of regolith porosity in the Mid-IR – Forsteritic olivine. *Icarus*, 378. **[Times cited 19]**
2. Heffern, L., Hardgrove, C., Parsons, A., Johnson, E.B., Starr, R., Stoddard, G., Blakeley, R., Prettyman, T., Gabriel, T.S.J., Barnaby, H., Christian, J., Tate, C., **Martin, A.C.**,

Moersch J., 2021. Active neutron interrogation experiments and simulation verification using the SIngle-scintillator Neutron and Gamma-Ray spectrometer (SINGR) for geosciences. *Nucl. Inst. Methods Phys Res A.* 1020. **[Times cited 2]**

1. Wisbey, D.S., **Martin, A.C.**, Reinsch, A., Gao, J., 2014. New Method for Determining the Quality Factor and Resonance Frequency of Superconducting Micro-resonators from Sonnet Simulations. *J Low Temp Phys.* 176:538–544. **[Times cited 10]**

Research Grants

Total Awarded: $958,417

Oct 2025 – Sept 2028	***Apollo Samples as a Window to Characterizing Regoliths throughout the Solar System with MIR Spectroscopy*** **(Principal Investigator)** Funded by NASA Solar System Workings. *Total award amount: $438,136.*
April 2025 – April 2026	***Infrared spectroscopy of the inner asteroid belt*** **(Co-Investigator)** Principal Investigator Anicia Arrendondo. Funded by NASA Solar Systems Observations. *Total award amount: $133,174.*
Sept 2020 – August 2023	***What are Trojan Asteroids made of? Constrains from laboratory and mid-infrared observations*** (**Co-Investigator ***Proposal written by Martin) Principal Investigator Joshua Emery. Funded by NASA Solar System Workings. *Total award amount: $384,107.*
March 2021 – Oct 2014	***JWST observations of the Lucy mission targets*** **(Co-Investigator)** Principal Investigator Michael Brown Funded by Space Telescope Science Institute, JWST Cycle 1, GO-2574.
January 2018 – May 2019	***Space science Pre-planned Outreach Toolkit (SPOT)*** ***(Co-*** **Principal Investigator)** Funded by Tennessee Space Grant Consortium. *Total award amount: $3,000.*

Invited Talks

8. **California Institute of Technology, DIX Planetary Science Seminar**, Pasadena, CA, "From the Laboratory to Space with Mid-Infrared Spectroscopy", October 2025.
7. **The University of Florida Department of Geological Sciences Seminar**, Gainesville, FL, "Mid-Infrared Spectra of Asteroids and their Laboratory Analogs", October 2025.
6. **Cornell University Department of Astronomy Colloquia**, Ithaca, NY, "Trojan Asteroids: Past, Present, and Future", February 2025.
5. **Johns Hopkins Applied Physics Laboratory Colloquia**, Laurel, MD, "Spectroscopy of Old Asteroids and New Analogs", February 2024.
4. **University of South Florida Colloquia,** Tampa, FL, "Trojan Asteroid Spectroscopy and Laboratory Analogs", March 2023.
3. **Southwest Research Institute Colloquia,** Boulder, CO, "Jupiter's Trojan Asteroids: Surface Silicates via Thermal-IR Spectral Analysis", April 2019.

2. **East Tennessee Geological Society,** Knoxville, TN, "Constraining the Origin of Jupiter's Trojan Asteroids", May 2018.
1. **Saint Louis University Department of Earth and Atmospheric Science Seminar**, St. Louis, MO, "Remote Sensing Applications to Planetary Science", March 2017.

First-Author or Student Mentee Conference Presentations
Underline indicates student mentee.

33. **Martin, A.C.**, Emery, J., Loeffler, M., Donaldson Hanna, K., 2025. Mid-Infrared Reflectance and Emissivity Spectra of High Regolith Porosity Silicates. *Bepicolombo Mercury Laboratory Workshop*, abs #1.1, Helsinki, Finland.
32. **Martin, A.C.**, Dausend, L., Emery, J., 2025. Mid-Infrared Spectral Effects of Regolith Porosity: Phyllosilicates. *American Astronomical Society's Division for Planetary Sciences (DPS) - European Planetary Science Joint Meeting*, abs #876, Helsinki, Finland.
31. **Martin, A.C.**, Dausend, L., Emery, J., 2025. Spectral Effects of Regolith Porosity in the Mid-Infrared – Serpentine. *LPSC*, abs #2612, Houston, TX.
30. **Martin, A.C.**, Dausend, L., Emery, J., 2024. MIR-IR Spectra of the Allende Meteorite. *AAS DPS*, abs #107, Boise, ID.
29. **Martin, A.C.**, Emery, J., Loeffler, M., Donaldson Hanna, K., 2024. High Porosity Regoliths with Mid-Infrared Reflectance and Emissivity Spectra. *NASA Exploration Science Forum (NESF),* abs #6 St. Louis, MO.
28. Hernandez, M., **Martin, A.C.**, Donaldson Hanna, K., 2024. Visible and Near-Infrared Spectral Effects of Porosity and Albedo on Asteroid and Lunar Analog Samples. *NESF,* abs #13 St. Louis, MO.
27. **Martin, A.C.**, Emery, J., Wong, I., Brown, M., Binzel, R. P., Grundy, W., Levison, H. F., Marchi, S., Noll, K. S., Olkin, C., Sunshine, J., 2024. Lucy Trojan Targets in the Mid-Infrared: JWST MIRI-MRS Observations. *TransNeptunian Objects (TNO) Workshop,* abs #1.04, Taipei, Taiwan.
26. **Martin, A.C.**, Emery, J., Loeffler, M., Donaldson Hanna, K., 2024. Investigation of High Porosity Regoliths with Mid-Infrared Reflectance and Emissivity Spectra. *LPSC*, abs #2498, Houston, TX.
25. **Martin, A.C.**, Emery, J., Wong, I., Brown, M., Binzel, R., Grundy, W., Levison, H., Marchi, S., Noll, K., Olkin, C., Sunshine, J., 2023. Observations of Lucy's Trojan Targets with JWST MIRI. *AAS DPS*, abs #539, San Antonio, TX.
24. **Martin, A.C.**, Emery, J., Loeffler, M., Donaldson Hanna, K., 2023. Mid-Infrared Spectra of High Porosity Regoliths in Reflectance and Emissivity. *NESF,* abs #3 College Park, MD.
23. **Martin, A.C.**, Emery, J., 2023. Mid-Infrared Spectra of Jovian Trojan Asteroids. *Asteroids, Comets, and Meteoroids*, abs #0528, Flagstaff, AZ.
22. **Martin, A.C.**, Emery, J., Wong, I., Brown, M., Binzel, R., Grundy, W., Levison, H., Marchi, S., Noll, K., Olkin, C., Sunshine, J., 2023. JWST MIRI-MRS Observations of Lucy's Trojan Targets. *ACM*, abs #2465, Flagstaff, AZ.
21. **Martin, A.C.**, Emery, J., Loeffler, M., Donaldson Hanna, K., 2023. Mid-Infrared Reflectance and Emissivity Spectra of High Porosity Regoliths. *LPSC*, abs #2042, Houston, TX.

20. **Martin, A.C.**, Emery, J., Loeffler, M., 2023. Spectral Effects of Regolith Porosity in the Mid-Infrared – Pyroxene. *LPSC*, abs #2038, Houston, TX.
19. **Martin, A.C.**, Emery, J., Loeffler, M., 2022. Jovian Trojan Asteroids in the Mid-IR. *AAS DPS*, abs #512.05, London, Canada.
18. **Martin, A.C.**, Emery, J., Loeffler, M., 2021. Pyroxene regolith porosity in the Mid-IR: Spectral effects and implications for Trojan asteroid surfaces. *AAS - DPS*, abs #300.01.
17. Dausend, L., **Martin, A.C.**, Emery, J., 2021. Investigating the MIR spectral features of an Allende meteorite powder mixed with KBr. *AAS - DPS*, abs #306.25, Virt.
16. **Martin, A.C.**, Emery, J., Loeffler, M., 2021.Properties and Mineralogy of Trojan Asteroid Surfaces – Mid-IR Spectral Effects of Regolith Porosity. *SOFIA Rock, Dust, and Ice: Interpreting Planetary Data,* Virt.
15. Dausend, L., **Martin, A.C.**, Emery, J., 2021. Analyzing the Spectra of Fine-Grained Silicates to Better Understand the Composition of Trojan Asteroids. *NAU Undergraduate Research Symposium*, Virt.
14. **Martin, A.C.**, Emery, J., Loeffler, M., 2020. Spectral effect of regolith porosity in the Mid-IR: Properties and mineralogy of Trojan asteroid surfaces. *AAS - DPS*, abs #401.05, Virt.
13. Dausend, L., **Martin, A.C.**, Emery, J., 2020. Determining the Composition of Trojan Asteroids by Analyzing the Mid-infrared Spectra of Fine-Grained Silicates. *NAU Undergraduate Research Symposium*, Virt.
12. **Martin, A.C.**, Emery, J., Lindsay, S., 2019. Mid-IR spectral effects of regolith porosity: Implications for surface mineralogy of Trojan asteroids. *AAS – DPS European Planetary Science Joint Meeting*, abs #766, Geneva, Switzerland.
11. **Martin, A.C.**, Emery, J., Lindsay, S., 2019. Thermal-IR Spectral Analysis of Jupiter's Trojan Asteroids: Detecting Silicates. *LPSC*, abs #1238, Houston, TX.
10. **Martin, A.C.**, Moersch, J., Tate, C., Perfect, E., Hardgrove, C., 2019. Simulated DAN-Active Measurements using Geant4. *LPSC*, abs #2667, Houston, TX.
9. **Martin, A.C.**, Moersch, J., Hardgrove, C., Jun, I., Martinez Sierra, L. M., Tate, C., 2018. The Dynamic Albedo of Neutrons Experiment on MSL - Geant4 Modeling Results. *13th Geant4 Space Users Workshop*, Houston, TX.
8. **Martin, A.C.**, Moersch, J., Hardgrove, C., Jun, I., Martinez Sierra, L., Tate, C., 2018. DAN-active modeling with Geant4. *Mars Space Radiation Modeling Workshop*, Boulder, CO.
7. **Martin, A.C.**, Emery, J., Lindsay, S., 2018. The Origin of Trojan Asteroids from Spectral Analysis. *AAS-DPS*, abs #221.06, Knoxville, TN.
6. **Martin, A.C.**, Emery, J., Lindsay, S., 2018. Thermal IR of Trojan asteroids and Jupiter Family Comets. *TNO Workshop*, abs #P12, Coimbra, Portugal.
5. **Martin, A.C.**, Emery, J., Lindsay, S., 2017. Surface Composition of Trojan Asteroids from Thermal-Infrared Spectroscopy. *American Geophysical Union*, abs #262898, New Orleans, LA.
4. **Martin, A.C.**, Emery, J., Lindsay, S., 2017. Silicate Phases on the Surfaces of Trojan Asteroids. *AAS DPS*, abs #110.34, Provo, UT.

3. **Martin, A.C.**, Moersch, J., Tate, C., Perfect, E., Hardgrove, C., 2017. Simulated MSL/DAN Neutron Die-Away Curves and Thresholds of Discrimination. *LPSC*, abs #2561, Houston, TX.
2. **Martin, A.C.**, Emery, J., Lindsay, S., 2016. Spectral Emissivity (6-30 μm) of Jupiter's Trojan Asteroids. *AAS DPS*, abs #221.03, Pasadena, CA.
1. **Martin, A.C.**, Phillips, M., McCarty, C., Taylor, L., 2016. Vestan Meteorite: Petrography and Geochemistry of New Howardite – Northwest Africa 10459. *LPSC*, abs #2028, Houston, TX.

TEACHING

Courses Taught as Instructor of Record at the University of Central Florida (UCF)

Term	*Course Number*	*Title*	*Enrollment*
Fall 2024	AST 2002	Astronomy	297
Spring 2025	AST 4152	Planetary Geophysics	15
Spring 2025	AST 5154	Adv Planetary Geophysics	16
Spring 2025	AST 6918	Directed Research	1

Courses Taught as Graduate Teaching Assistant at the University of Tennessee (UTK)

Term	*Course Number*	*Title*	*Enrollment*
Spring 2019	GEOL 104	Exploring the Planets Lab	~25
Fall 2017	GEOL 104	Exploring the Planets Lab	~25
Spring 2017	GEOL 380	Planetary Geology Lab	15
Fall 2015	GEOL 101	The Dynamic Earth	~25

Guest Lecturer

Term	*Course Title*	*Lecture Topic*	*University*
Spring 2024 & Fall 2023	Astronomy (AST2002)	*"Evolution of Low-Mass Stars", "Evolution of High-Mass Stars", "How old is the Solar System?", "Solar System Accretion"*	UCF
Fall 2022, 2023, & 2024	Asteroids, Comets, and Meteorites (AST4142)	*"The Trojan Asteroids"*	UCF
Fall 2017	Journey through the Solar System (ASTRON 151)	"*OSIRIS-REx: Asteroid Sample Return Mission*"	UTK

Teaching Improvement Courses and Workshops

Postdoctoral Teaching Development Program**,** UCF College of Sciences, Fall 2024
Unlearning Racism in Geoscience (URGE) Program**,** Spring 2021

Student Mentoring and Advising

2024 – 2025 **Joseph Gordon (UCF):** Developing low-albedo mineral mixture samples and measuring the reflectance of low albedo, high porosity samples using a FTIR spectrometer.

2024 **Holly Engle (UCF):** Measuring the reflectance of low albedo, high porosity samples using multiple different FTIR spectrometers; Analyzing mid-infrared spectra of olivine prepared in variable regolith porosities, albedos, and particle size distributions.

2023 – 2024	**Matthew Hernandez (UCF):** Measuring the reflectance of low albedo, high porosity samples using a FTIR spectrometer. *Presented work at the 2024 UCF Student Scholar Symposium and won a Judge's Choice Award for his presentation. Presented at 2024 LunGradCon, and 2024 NASA Exploration Science Forum. Selected for 2023 L'SPACE program, and 2024 REU at Cornell.*
2020 – 2023	**Lonnie Dausend (NAU):** Preparing mineral mixtures and meteorite samples of analog regolith. Analyzing mid-infrared spectra of FTIR measurements. Processing, analyzing, and interpreting Spitzer Space Telescope IRS spectra of asteroids. *Wrote peer-reviewed scientific publication. Presented at NAU Undergraduate Research Symposium in 2020 and 2021. Presented at AAS-DPS conference in 2021. Selected for 2021 REU at Brigham Young University.*
2020 – 2022	**Tyler Wood (NAU):** Preparing mineral mixtures and meteorite samples of analog regolith. Conducting STEM communication and outreach study for the Arizona Space Grant Program.
Spring 2020	**Kylie Hanson (NAU/MIT):** Analyzing mid-infrared spectra of high regolith porosity mineral analogs using pressed pellets. Comparing mineral analogs to Spitzer Space Telescope spectra of Trojan asteroids and FTIR spectra.
Spring 2019	**Ally Boyd (UTK):** Preparing powdered silicate and salt analog for spectral measurement and interpretation.

SERVICE

Professional

Professional Development Subcommittee Member: AAS-DPS *(2017-present)*

Panelist for International Space Development Conference, Planetary Defense *(2025)*

Science Organizing Committee Member: AAS-DPS (*2024*)

Science Organizing Committee Member: Asteroids Comets and Meteors (*2023*)

Member of AAS-DPS Meeting Exploration Study Team (DPS-MXT) *(2022)*

Diversity and Inclusivity Committee Co-Chair for Department of Astronomy and Planetary Science *(2020 – 2022)*

DPS 2020 Session Chair *(2020)*

JWST Workshop – Flagstaff, Host and organizer *(2019)*

Volunteer Coordinator: Smithsonian's McClung Museum of Natural History and Culture *(2018 – 2019)*

Local Organizing Committee Member: AAS-DPS 50th Meeting *(2018)*

Panel Chair/Member: NASA's SSO, YORPD, and additional panels *(2019 – 2024)*

Executive Secretary: NASA's SSO, D/RDAP, PICASSO, DALI panels *(2017 – 2019)*

Community Outreach

Letters to a pre-scientist *(2019 – present)*

Orlando STEM festival, Volunteer (*2023*)

Skype a Scientist *(2019 – 2021)*

tnAchieves, Mentor to five local high school students *(2017 & 2018)*

Tennessee Science Olympiad State Tournament, Volunteer *(2017 & 2018)*

Tennessee STEAM Festival, panelist *(2018)*
Destination Imagination, NASA exhibit volunteer *(2016 – 2018)*
Knoxville Gem and Mineral Show, volunteer *(2016)*
Taste of Science, presenter "*Jupiter's Trojan Asteroids" (2016)*
Smithsonian's McClung Museum of Natural History and Culture, Docent *(2015 – 2019)*

Media

"Walkabout the Galaxy", Co-host of the Walkabout the Galaxy Podcast (*2022 – present*)
"The Scoop on 'Scopes" WMFE Central Florida Public Radio, Are We There Yet? *(2025)*
"Impending doom from asteroids and storing Earthly data on the Moon" WMFE Central Florida Public Radio, Are We There Yet? *(2025)*
"Weather satellites in space and humans on Mars", WMFE Central Florida Public Radio, Are We There Yet? *(2024)*
"Are we spooked yet? A creepy tour of the cosmos on this Halloween", WMFE Central Florida Public Radio, Are We There Yet? *(2024)*
"Arizona astronomers queue up to use the new James Webb Space Telescope", KNAU News Talk – Arizona Public Radio Interviewee *(2021)*
"NAU scientists, students will utilize newly launched James Webb Space Telescope for solar system research", Interviewee *(2021)*
"We Asked a NASA Scientist – What are the Trojan Asteroids?", Trojan Expert *(2021)*
"AskScience AMA Series: We're scientists and engineers working on NASA's Lucy mission to explore Jupiter's Trojan Asteroids. Ask us anything!", Scientist on NASA's Lucy Mission *(2021)*
"Launch of NASA's Lucy Mission to Jupiter's Trojan Asteroids", Post Launch Broadcast Interviewee *(2021)*
"First mission to Jupiter's asteroids could reveal Solar System origins", Nature Interviewee *(2021)*