

Kerri L. Donaldson Hanna

University of Central Florida | Department of Physics
4111 Libra Drive | Orlando, FL 32816 | USA
(p) +1/407-823-0285 | (e) Kerri.DonaldsonHanna@ucf.edu

EDUCATION AND PROFESSIONAL HISTORY

Education

Brown University	Ph.D.	Geological Sciences	2013
Brown University	M.S.	Geological Sciences	2010
Florida Institute of Technology	B.S.	Space Sciences	1999

Professional and Academic Positions

University of Central Florida	Associate Professor	2023 – <i>Present</i>
University of Central Florida	Assistant Professor	2019 – 2023
Christ Church College, Oxford	Junior Research Fellow	2017 – 2019
University of Oxford	UKSA Aurora Research Fellow	2015 – 2019
University of Oxford	Postdoctoral Research Associate	2013 – 2015
Brown University	Postdoctoral Research Associate	2013
Brown University	Graduate Student	2008 – 2013
LPL, University of Arizona	Graduate Student Researcher	2006 – 2008
National Solar Observatory	Scientific Programmer	2001 – 2008
Areté Associates	Research Associate	1999 – 2001

Secondary Joint Appointment

The Hawking Center	Scientist	2022 – <i>Present</i>
Florida Space Institute	Scientist	2020 – <i>Present</i>

Visiting Appointments

University of Oxford	Visiting Scientist	2019 – <i>Present</i>
Brown University	Visiting Scientist	2013 – 2021

Team and Mission Experience

LunaSCOPE SSERVI	Co-Investigator	2023 – <i>Present</i>
LAForge	Co-Investigator	2023 – <i>Present</i>
Lunar-VISE	Principal Investigator	2022 – <i>Present</i>
Lunar Compact InfraRed Imaging System	Co-Investigator	2019 – <i>Present</i>
Lunar Trailblazer	Co-Investigator	2019 – <i>Present</i>
Center for Lunar and Asteroid Surface Science	Co-Investigator	2019 – <i>Present</i>
ESA Comet Interceptor	Team Member	2019 – <i>Present</i>
OSIRIS-REx	Participating Scientist	2017 – <i>Present</i>
ESA PROSPECT User Group	Team Member	2015 – 2019
TIRES – LSCC	Principal Investigator	2014 – <i>Present</i>
Diviner Lunar Radiometer Experiment	Co-Investigator	2014 – <i>Present</i>
OSIRIS-REx	Collaborator	2014 – 2017
TIRES – LSCC	Co-Investigator	2012 – 2014
Moon Mineralogy Mapper (M ³)	Team Member	2010 – 2013
Diviner Lunar Radiometer Experiment	Team Member	2008 – 2014

Honors and Awards (* = team award)

- 2025 **Faculty Mid-Career Space Achievement Award**, University of Central Florida
- 2025 **Outstanding Scholarship, Creative Works, and Research (OSCaR)***, University of Central Florida College of Sciences
- 2024 **Florence R. Sabin Award for Research Excellence**, Graduate Women in Science (GWIS) Honorary Membership Awards
- 2024 **O.T. Hayward Distinguished Lecture**, Baylor University
- 2023 **Research Incentive Award**, University of Central Florida
- 2023 **Rising Stars Science**, Academy of Science, Engineering & Medicine of Florida
- 2023 **Luminary Award**, University of Central Florida
- 2023 **Susan Mahan Niebur Early Career Award**, NASA SSERVI
- 2023 **Research for the Stars**, University of Central Florida
- 2023 **Excellence in Research**, Colleges of Sciences, University of Central Florida
- 2021 **Asteroid (27082) Donaldson-Hanna**, IAU, WG Small Bodies Nomenclature
- 2018 **Editor's Citation for Excellence in Refereeing**, Journal of Geophysical Research Planets
- 2018 **Award for Excellence**, Department of Physics, University of Oxford
- 2018 **Early Career Winton Capital Geophysics Award**, Royal Astronomical Society
- 2017 **NASA Group Achievement Award***, OSIRIS-REx Science Mission Team
- 2015 **NASA Group Achievement Award***, Diviner Lunar Radiometer Science Mission Team
- 2015 **Award for Excellence**, Department of Physics, University of Oxford
- 2014 **NASA Group Achievement Award***, Diviner Lunar Radiometer Science Mission Team
- 2013 **NASA Group Achievement Award***, Diviner Lunar Radiometer Science Mission Team
- 2013 **NASA Exceptional Achievement for Science Team Award***, The LRO Science Mission Team
- 2011 **Sigma Xi Member**, *Physics Honor Society*, Brown University

TEACHING**Courses Taught at the University of Central Florida**

Course	Semester	Enrollment
AST2002 Astronomy	Spring 2022	197
	Spring 2024	127
AS2002H Honors Astronomy	Fall 2019	15
	Fall 2020	18
AST4142 Asteroid, Comets, Meteorites	Fall 2022	27
AST4152 Planetary Geophysics	Spring 2021	13
	Spring 2023	19
AST5145 Advanced Asteroids, Comets, Meteorites	Fall 2022	11
AST5154 Advanced Planetary Geophysics	Spring 2021	9
	Spring 2023	16
AST5263 Observational Astronomy	Spring 2020	7
	Fall 2021	10
AST6908 Independent Study: New Views of the Moon	Spring 2025	2
AST6938 Special Topics: Spectroscopy of Planetary Surfaces and Materials	Fall 2025	12
PHY6908 Independent Study: New Views of the Moon	Spring 2025	1

Directed Research at the University of Central Florida

Course	Semester	Enrollment
AST4912 Directed Research	Spring 2020	1
	Spring 2024	1
	Fall 2024	1
	Fall 2025	1
PHY4912 Directed Research	Spring 2023	1
	Fall 2023	4
	Spring 2022	1
	Fall 2022	1
AST6918 Directed Research	Fall 2019	1
	Spring 2020	2
	Summer 2020	2
	Fall 2020	1
	Spring 2021	2
	Summer 2021	3
	Fall 2021	3
	Spring 2022	3
	Summer 2022	2
	Fall 2022	2
	Spring 2023	2
	Summer 2023	1
	Fall 2023	1
	Spring 2024	1
	Summer 2024	1
	Fall 2024	1
	Summer 2025	2
	Fall 2025	3
PHY6918 Directed Research	Spring 2024	1

Undergraduate Student Research Supervision

- 2025 – Present **Ethan Scheller (UCF):** Characterizing the size and distribution of boulders around the Lunar-VISE landing site and rover traverse. Spectrally characterizing terrestrial minerals in preparation for the Lunar-VISE mission.
- 2024 – Present **Joseph Gordon (UCF):** Spectrally characterizing terrestrial volcanic samples in preparation for the Lunar-VISE mission.
- 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.*
- 2022 – 2024 **Dagny Noce (UCF):** Developing software algorithms and MATLAB GUI for a vacuum environment chamber used for spectral studies. Specifically designed, tested, and archived code to: (1) control and log solar-like halogen lamp, (2) log atmospheric pressure inside the chamber, (3) log temperature readings from inside the chamber, and (4) run spectral measurements through OMNIC software. Developed and built electronics for sample cup heaters and vacuum pressure sensor. *Presented work at the*

	<i>2023 and 2024 UCF Student Scholar Symposium. Awarded a 2023 Summer Undergraduate Research Fellowship at UCF.</i>
Fall 2022	John Carter (UCF): Designing and building cold shield for a vacuum environment chamber used for spectral studies.
2022 – 2024	Thomas Townley (UCF): Designing and building dewar, sample stage and sample cups for a vacuum environment chamber used for spectral studies. <i>Presented work at the 2023 and 2024 UCF Student Scholar Symposium. Selected for 2023 internship at NASA Ames.</i>
2021 – 2025	Luis Santori (UCF): Photometric analyses of pure anorthosite regions on the Moon using LROC Narrow Angle Camera observations; Building digital terrain models for photometric analyses; collected thermal conductivity measurements of lunar regolith simulants. <i>Presented work at the 2022 and 2023 UCF Student Scholar Symposium, 2022 LunGradCon, 2024 NASA Exploration Science Forum, and 2022 NASA Exploration Science Forum. Selected for 2023 REU at Institute of Computational and Experimental Mathematics (ICERM) at Brown University. Awarded the prestigious 2023 Astronaut Scholarship. Awarded the Distinguished Undergraduate Researcher Award (DURA) for the month of May 2024 at UCF. Graduated and attending graduate school at Purdue University in Applied Mathematics.</i>
2020 – 2023	Adam Bedel (UCF): Modeled spectral filter channels for L-CIRiS including the expected SNR for the south pole of the Moon; designing and building vacuum environment chamber for spectral studies. <i>Presented work at the 2022 UCF Student Scholar Symposium. Selected for 2022 REU at Lawrence Livermore National Laboratory. Graduated and attending graduate school at University of Michigan in Applied Physics.</i>
Spring 2022	Michael Lea (UCF): Thermal infrared camera observations of lunar regolith simulants. <i>Presented work at the 2022 UCF Student Scholar Symposium. Graduated.</i>
2019 – 2021	Cheyenne Harper (UCF): Crushed and sieved mineral samples for spectral studies and collected thermal conductivity measurements of lunar regolith simulants.
Summer 2018	Imogen Thrussell (Oxford): Making visible to near infrared and thermal infrared reflectance maps of meteorites using a microscopic imaging spectrometer. <i>Completed a M.S. in Physics at the University of Oxford.</i>
Summer 2016	Emily Bamber (Oxford): Laboratory spectral studies of olivine mixtures and remote sensing observations of shocked anorthositic regions on the Moon. Conducted field studies in Japan collecting anorthosite samples. <i>Presented laboratory spectral work at Lunar and Planetary Science Conference in 2017. Completed a M.S. in Earth Sciences at the University of Oxford.</i>
Summer 2015	Rory Evans (Oxford): Analysis of Diviner Lunar Radiometer observations of irregular mare patches on the Moon. <i>Presented laboratory spectral work at Lunar and Planetary Science Conference in 2016. Completed a M.S. in Physics at the University of Oxford.</i>
Summer 2015	Jonny Grice (Oxford): Analysis of Moon Mineralogy Mapper (M ³) observations of irregular mare patches on the Moon. <i>Presented laboratory</i>

spectral work at Lunar and Planetary Science Conference in 2016. Completed a M.S. in Physics and a PhD in Planetary Science at Open University.

Summer 2014 **Tiffany Brydges (Oxford):** Crushed and sieved mineral samples for laboratory spectral studies of lunar relevant analogs. *Presented laboratory spectral work at Lunar and Planetary Science Conference in 2015. Completed a M.S. in Physics at the University of Oxford and a PhD in Experimental Physics at the University of Innsbruck.*

Master's Student Thesis Advisor

2020 – 2024 **Nicholas Piskurich (UCF):** Analyzing and interpreting remote sensing observations of lunar irregular mare patches to better understand lunar volcanism.

2019 – 2022 **Ryan Galinkin (UCF):** Characterizing the thermal infrared spectral effects due to particle size and porosity. *Won 2019 Larry Taylor Travel Award.*

2018 – 2019 **Imogen Thrussell (Oxford):** Wrote Python algorithm for linear least squares modeling of thermal infrared spectra and tested this algorithm on reflectance spectra of meteorites. *Completed a PhD in Medical Physics at the Division of Radiotherapy and Imaging at the Institute of Cancer Research.*

2016 – 2017 **Emily Bamber (Oxford):** Characterized Miyake-jima and Hachijo-jima anorthite samples using electron microprobe, scanning electron microscope, and thermal infrared spectral analysis. *Completed a Planetary Sciences PhD from the University of Texas-Austin.*

2015 – 2016 **Rory Evans (Oxford):** Designed and built experimental set-up for creating highly porous samples. Created samples of varying porosity and collected thermal infrared spectra to characterize the changes in spectra due to porosity. *Currently in University of Oxford PhD program in Planetary Physics.*

PhD Student Thesis Advisor

2024 – Present **Taylor Bourikas (UCF):** *In Progress* – Investigating terrestrial analogs for silicic volcanism on the Moon at the Wildcat Hills, Utah using spectroscopic measurements made in the field and in the lab.

2024 – Present **Angelina Minocha (UCF):** *In Progress* – Spectroscopically investigating Mg-spinel on the Moon with laboratory measurements and remote sensing observations from Diviner and Lunar Trailblazer. *Awarded the 2025 UCF Department of Physics Outreach for the Stars Award. Awarded the 2025 Gerald A. Soffen Memorial Fund Travel Grant.*

2023 – Present **Sean Burnette (UCF):** *In Progress* – Analyzing Lunar Reconnaissance Orbiter Camera observations of silicic volcanic features on the Moon, particularly the Gruithuisen domes, to characterize the scale of compositional heterogeneity using Narrow Angle Camera (NAC) observations in anticipation of the Lunar-VISE mission.

2022 – Present **Lorraine Rosello Del Valle (UCF):** *In Progress* – Developing, building and testing a vacuum chamber capable of space weathering samples (SWEEPS) and space weathering carbon-rich materials to morphologically and spectrally characterize the weathering effects. *Accepted into the 2024 NASA SCoPE LPSC SciAct Affiliate program.*

- 2020 – 2025 **Autumn Shackelford (UCF):** Characterizing the morphologic and spectral changes due to the breakdown of lunar regolith when exposed to varying abundances of water ice. Space weathering Mercury analog mineral mixtures with carbon to better understand the Mercurian weathering process. *Won 2024 UCF Physics Graduate Student of the Year Award, 2023 UCF Department of Physics Outreach for the Stars Award, 2022 UCF Department of Physics Above and Beyond Award, and 2022 NASA Exploration Science Forum 3rd Place Student Poster Award. Accepted into the 2023 NASA SCoPE AGU SciAct Affiliate program. Won 2023 AGU Outstanding Student Presentation Award (OSPA) for her oral presentation. Won a NASA Facility for Astromaterials Research (NFAR) grant to use the Johnson ARES facilities to conduct FIB-TEM analyses of samples.*
- 2019 – 2022 **Vanessa Lowry (UCF):** Modeling Solar System airless bodies' thermal infrared spectral signatures using light scattering and radiative transfer models. *Accepted to 2021 JPL Planetary Science Summer School.*
- 2017 – 2023 **Elöise Brown (Oxford):** Writing algorithms for modeling the intimate mixing of fine particulates across thermal infrared wavelengths, particularly for primitive asteroid materials. *Completed a postdoctoral fellow at the Institute for Planetary Materials at Okayama University.*
- 2016 – 2020 **Helena Bates (Oxford):** Used X-ray diffraction, thermogravimetric, and spectral analyses to characterize a range of aqueously and thermally altered carbonaceous chondrite meteorites (CI, CM, and CY meteorites). *Won the 2018 Amelia Earhart Fellowship from Zonta International and the 2018 Career Development Award from the Lunar and Planetary Institute. Postdoctoral researcher at the Natural History Museum, London.*

Postdoctoral Researcher Supervision

- 2025 – Present **Autumn Shackelford (UCF):** Aid in the development of a calibration pipeline for NASA IRTF MIRS filter imaging and grism spectroscopy data. Write telescopic observing proposals and make laboratory measurements in support of analyzing telescopic observations.
- 2024 – Present **Prateek Tripathi (UCF):** Aid in the development of a calibration pipeline for spectral images from the Lunar-VISE Visible/Infrared Camera and Compact Infrared Imaging System. Aid in laboratory measurements to interpret remote sensing observations of lunar silicic volcanic spots.
- 2023 – Present **Ben Byron (UCF):** Aid in the development of a calibration pipeline for spectral images from the Lunar-VISE Visible/Infrared Camera and Compact Infrared Imaging System. Constrain the thermophysical and geotechnical properties of the lunar regolith at silicic volcanic features.
- 2022 – 2025 **Audrey Martin (UCF):** Laboratory studies on the thermal infrared spectral effects of porosity, particle size, and albedo in relation to remote sensing observations of the Moon and asteroids.
- 2020 – 2023 **Mélissa Martinot (UCF):** Analyses of remote sensing observations of the Moon to better understand the composition of the lunar crust. This work is related to a NASA Lunar Data Analysis Program grant.

Research Associate/Lab Coordinator Supervision

- 2024 – Present **Dagny Noce (UCF)**: Developing software algorithms and MATLAB GUI for a vacuum environment chamber used for spectral studies. Specifically designed, tested, and archived code to: (1) control and log solar-like halogen lamp, (2) log atmospheric pressure inside the chamber, (3) log temperature readings from inside the chamber, and (4) run spectral measurements through OMNIC software. Developing the necessary electronics for the ECLIPSE chamber including all heaters and temperature sensors. Managing the SPECTRA Laboratory and developing Lunar-VISE website.
- 2021 – 2022 **Adis Husic (UCF)**: Laboratory spectral measurements of lunar and asteroid analogs using PASCAL and Bruker FTIR spectrometer.

High School Student Supervision

ASPIRE Research Program High School Mentor

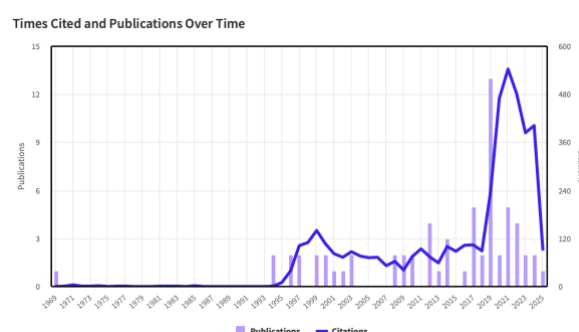
- 2019 – 2021 **Aliza Hasan** (Lake Highland Preparatory School): Remote sensing analyses of irregular mare patches on the Moon. Aliza placed 3rd in Senior Physics and Astronomy and won the NASA award for a project that demonstrated insight into Earth's interconnected systems, Dr. Nelson Ying Expo, February 2020.

ExMASS Research Supervision

- 2013 – 2018 **Center for Lunar Science and Exploration**: Exploration of the Moon and Asteroids by Secondary Students (ExMASS) Program – each year mentored and supervised a team of high school students as they picked an interesting science investigation on the Moon and conduct analysis to test their science question.

RESEARCH

Web of Science Total Times Cited: 3225
Web of Science H-Index: 28
Web of Science ResearcherID: AAC-9941-2020



Peer-Reviewed Manuscripts

* underline – student under the supervision of K. L. Donaldson Hanna*

* **underline bold** – postdoc under the supervision of K. L. Donaldson Hanna*

71. Burnette, S., **K. L. Donaldson Hanna**, A. Dove, J. Sunshine, L. Santori, and S. Valencia (2025) Photometric characterization of the Moon's silicic sites: Insights into the origin of silica-rich magmas, *Planetary Science Journal*, Submitted.
70. **Byron, B.**, et al. (2025), Observed changes in Mars soil thermophysical properties due to rover wheel interactions: MER Mini-TES observations and applications to upcoming lunar rover exploration, *Planetary Science Journal*, Submitted.

69. Bowles, N. E., B. L. Ehlmann, R. Evans, T. Warren, H. H. Eshbaugh, G. King, W. Mir, N. Habib, K. A. Shirley, F. Clarke, C. Bourgenot, C. Howe, K. Nowicki, F. Henderson, C. S. Edwards, R. L. Klima, **K. L. Donaldson Hanna**, C. Seybold, A. Klesh, D. R. Thompson, E. Furlan, E. Scire, J. Adler, N. Elkington, A. Vitkova, J. Temple, and S. Woodward (2025), The Lunar Trailblazer Lunar Thermal Mapper Instrument, *Journal of Geophysical Research Planets*, Submitted.
68. Ölcek, D., C. Hardgrove, T. Prettyman, A. L. Gullikson, K. A. Bennett, **K. L. Donaldson Hanna**, L. Heffern, and M. Landis (2025), Lunar analog study using portable gamma-ray neutron detector: Radiochemical mapping of silicic and basaltic terrains in the San Francisco Volcanic Field, *Icarus*, Submitted.
67. Shirley, K. A., S. Faggi, T. J. Warren, G. L. Villanueva, S. Protopapa, **K. L. Donaldson Hanna**, T. Kohout, N. Bowles, A. Näsilä, and S. Thirumangalath (2025), Spectral optimization of the Thermal InfraRed Imager of MIRMIS Onboard the Comet Interceptor Mission, *Planetary Science Journal*, Submitted.
66. Ehlmann, B. L., R. L. Klima, C. Seybold, A. Klesh, C. L. Bennett, N. Bowles, J. L. Dickinson, **K. L. Donaldson**, C. S. Edwards, R. O. Green, M. House, C. M. Pieters, D. R. Thompson, J. Baker, J. Bellerose, D. L. Blaney, A. M. Dapremont, H. Eshbaugh, R. Evans, E. Furlan, K. D. Gauld, N. Habib, S. Islas, G. Lantoiné, J. Miura, E. Scire, K. A. Shirley, T. Warren, K. Wilk, J. Adler, A. R. Ascione, B. P. Blakley, S. Fajardo-Acosta, E. Felder, C. W. Hablerle, M. Hauge, D. Imel, L. M. Lee, J. Llamas, R. Miller, D. McDonald, S. Pooley, M. E. Sondheim, and W. Williamson (2025), The Lunar Trailblazer Mission: Science Motivation and Implementation of a Pioneering Small Satellite for Lunar Water and Lunar Geology in the NASA SIMPLEX program, *Journal of Geophysical Research Planets*, Submitted.
65. Shirley, K. A., **K. L. Donaldson Hanna**, N. Bowles, N. Habib, N. Elkington, R. Evans, C. S. Edwards, T. Warren, F. Henderson, C. W. Haberle, R. L. Klima, and B. L. Ehlmann (2025), Mid-infrared compositional spectral parameters, for the Lunar Thermal Mapper instrument onboard Lunar Trailblazer, *Earth and Space Science*, Submitted.
64. Dapremont, A. M., R. L. Klima, K. A. Wilk, B. L. Ehlmann, C. S. Edwards, **K. L. Donaldson Hanna**, V. Kachmar, L. Lee, J. K. Miura, C. M. Pieters, E. Pimentel, K. A. Shirley, D. R. Thompson, and I. Adamczewski (2025), Visible-shortwave infrared (VSWIR) spectral parameters for the Lunar Trailblazer High-resolution Volatiles and Minerals Moon Mapper (HVM³), *Earth and Space Science*, Submitted.
63. Williams, J.-P., M. E. Landis, K. A. Bennett, S. Valencia, **K. L. Donaldson Hanna**, A. Dove, P. O'Brien, E. Mazarico, J. Benavente, B. W. Denevi, J. Hagerty, C. Hardgrove, P. O. Hayne, L. Heffern, A. LaMee, T. H. Prettyman, K. A. Shirley, M. A. Siegler, J. Sunshine, J. Karcz, and M. E. Banks (2025), Lunar-VISE landing site selection and characterization at Mons Gruithuisen Gamma, *Planetary Science Journal*, In Prep.
62. Williams, J.-P., S. Valencia, K. Bennett, M. Landis, **K. L. Donaldson Hanna**, A. Dove, P. O'Brien, B. Denevi, J. Hagerty, C. Hardgrove, P. Hayne, A. LaMee, T. H. Prettyman, K. Shirley, M. Siegler, and K. Sunshine (2025), Morphometric properties of the CP-21 landing site on the Moon at Mons Gruithuisen Gamma, *Planetary Science Journal*, Submitted.
61. Roselló Del Valle, L., **K. L. Donaldson Hanna**, B. Chazallon, C. Fosca, C. Pirim, and C. Bennett (2025), Determination of mineralogy and peak metamorphic temperature of selected carbonaceous chondrite meteorites using microRaman spectroscopy, *Planetary Science Journal*, Submitted.
60. Bates, H. C., A. J. King, **K. L. Donaldson Hanna**, A. C. Martin, J. P. Emery, N. E. Bowles, and S. S. Russell (2024), Spectral similarity in the thermal infrared between sulfide-rich carbonaceous chondrite meteorites and Jupiter Trojan asteroids, *Planetary Science Journal*, Submitted.

59. Galinkin, R. and **K. L. Donaldson Hanna** (2022), Characterizing the effects of porosity and particle size on TIR emissivity spectral features of olivine, *Planetary Science Journal*, *In Review*.
58. Brown, E. C., N. E. Bowles, and **K. L. Donaldson Hanna** (2024), Exploration of spectral unmixing algorithms for planetary surface composition estimates using thermal infrared spectroscopy, *Journal of Geophysical Research Planets*, *Submitted*.
57. Prettyman, T., C. Hardgrove, E. Johnson, V. Concepcion, N. Yamashita, D. Ölcek, M. Landis, L. Heffern, and **K. Donaldson Hanna** (2025), Gamma-ray and neutron spectrometers for lunar science and exploration, *Proceedings Volume 13621 Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XXVII*, 1362105, doi://10.1117/12.3066193 **[Times Cited 0]**.
56. Shackelford, A. N., **K. L. Donaldson Hanna**, and J. J. Gillis-Davis (2025), Space weathering on carbon-rich surfaces: Spectral characterization of Fe-poor Mercury and carbonaceous asteroid analogs, *Planetary Science Journal*, 6(254), doi:10.3847/PSJ/ae1131 **[Times Cited 0]**.
55. Thompson, D. R., B. L. Ehlmann, R. O. Green, G. D. Allen, H. Bender, D. Copley-Woods, M. L. Eastwood, M. Helmlinger, C. Hummel, J. Keller, A. Klesh, I. McKinley, B. D. Moore, P. Mouroulis, S. Nadgauda, M. E. Sondheim, J. I. Rodriguez, C. M. Sarture, C. Seybold, V. Singh, C. D. Smith, P. Sullivan, Q. P. Vinckier, W. Williamson, S.-K. Zareh, N. Bowles, A. M. Dapremont, **K. L. Donaldson Hanna**, C. S. Edwards, E. Felder, E. Furlan, G. Gharibian, C. W. Haberle, M. House, R. L. Klima, J. Miura, C. M. Pieters, E. Scire, and K. Wilk (2025), Calibration and performance of the High Resolution Volatiles and Minerals Moon Mapper (HVM3), *Earth and Space Science*, *Accepted*, doi:10.1029/2025EA004456 **[Times Cited 0]**.
54. Rubino, S., F. Zambon, R. Brunetto, O. Barraud, S. Besse, F. Borondics, C. Carli, J.-P. Combe, **K. Donaldson Hanna**, R. Klima, C. Lantz, G. Pratesi, K. Stephan, and F. Tosi (2024), Space weathering on Vesta: Ion-implantation induced changes on HEDs in the Visible and Infrared, *Icarus*, 442 (116755), doi:10.1016/j.icarus.2025.116755 **[Times Cited 0]**.
53. Martin, A. C., J. P. Emery, M. Loeffler, and **K. L. Donaldson Hanna** (2023), Mid-infrared reflectance and emissivity spectra of high porosity regoliths, *Journal of Geophysical Research Planets*, 130(5), doi:10.1029/2024JE008331 **[Times Cited 0]**.
52. Martinot, M., **K. L. Donaldson Hanna**, B. T. Greenhagen, L. Santori, P. N. Peplowski, and J. T. S. Cahill (2023), Investigation into the heterogeneities of plagioclase feldspar within the Moon's anorthositic crust, *Planetary Science Journal*, 6:20, doi:10.3847/PSJ/ad94f0 **[Times Cited 0]**.
51. Johnson, E. B., E. Weststrate, A. Frost, R. Blakeley, A. Melo, C. Hardgrove, G. Mehall, Z. Farkas, C. Ortiz, A. Vera, E. Frederickson, T. Prettyman, A. Dove, **K. Donaldson Hanna** (2024), The design of the Lunar-VISE gamma ray neutron spectrometer, Hard X-ray, Gamma-ray, and Neutron Detector Physics XXVI, Proc. Vol., 13151, Optical Engineering + Applications, doi:10.1117/12.3025033 **[Times Cited 0]**.
50. Eikenberry, S. S., M. Romer, T. Crowe, R. Conwell, C. Dobias, A. Batarseh, C. Moraitis, D. Cruz-Delgado, S. Yerolatsitis, R. Amezcu-Correa, M. A. Bandres, S. Leon-Saval, S. Thibaut, V. Miller, A. Akers, **K. Donaldson Hanna**, and M. Cooper (2024), Photonic quantum-inspired sub-diffraction imager, Proc. Vol. 13096, Ground-based and Airborne Instrumentation for Astronomy X, doi://10.1117/12.3019152 **[Times Cited 0]**.
49. Rickman, D. L., P. D. Archer, R. N. Kovtun, M. Barmatz, M. Creedon, B. Dotson, **K. Donaldson Hanna**, J. M. Long-Fox, C. Millwater, M. R. Effinger, R. M. Hutcheon, Y.-R. Kim, A. Patridge, A. Whittington, H. Shulman, and R. P. Wilkerson (2024), Characterization of NUW-LHT-5M, A lunar highland simulant, *NASA Technical Publication*, TP-20240007991, <https://ntrs.nasa.gov/citations/20240007991> **[Times Cited 0]**.
48. Roy, A., A. Mallik, **K. Donaldson Hanna**, T. J. Geopfert, and R. L. Hervig (2024), Miyakejima anorthite: A lunar crustal analog, *American Mineralogist*, 110(1), 154-170, doi:10.2138/am-2023-9122 **[Times Cited 1]**.

47. Jones, G. H., C. Snodgrass, and 233 co-authors (2024), The Comet Interceptor Mission, *Space Science Reviews*, 220 (9), doi:10.1007/s11214-023-01035-0 [Times Cited 41].
46. Shackelford, A., **K. L. Donaldson Hanna**, M. Horton, and D. Noce (2023), Morphological and spectral characterization of lunar regolith breakdown due to water ice, *Planetary Science Journal*, 5(1), doi:10.103847/PSJ/ad0041 [Times Cited 1].
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Invited Talks

39. **Annual Lunar Exploration and Analysis Group Meeting**, Laurel, MD, Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE): An Investigation of the Moon's Non-Mare Silicic Volcanism, January 2026.
38. **Exploration of the Moon's Silicic Volcanism at the Gruithuisen Domes**, TSU Mini-Moon Seminar Series No. 39, Taiwan Space Union, Virtual, April 2024.
37. **Lunar Geology**, Achieved Academy Technical Seminar, Space Systems Engineering Series, Virtual, April 2024.
36. **Robotically Exploring Silicic Volcanoes from the Surface of the Moon**, O.T. Hayward Distinguished Lecture, Baylor University, Waco, TX, April 2024.
35. **From the Primary Crust to Silicic Volcanism: Investigating the Moon's Formation and Evolution with Thermal IR Spectroscopy**, ASU School of Earth and Space Exploration, Tempe, AZ, February 2024.
34. **Exploring silicic volcanism from the surface of the Moon at the Gruithuisen domes**, ASEMFL 2023 Annual Meeting, Orlando, FL, November 2023.
33. **Lessons learned from PRISM Panel**, LEAG Annual Meeting, Laurel, MD, September 2023.

32. **Purdue Department of Earth, Atmospheric, and Planetary Sciences Seminar Series**, West Lafayette, IN, Exploration of the Moon's non-mare silicic volcanism at the Gruithuisen Domes, September 2023.
31. **Science Measurements, Part 2 (Mineralogy, Chemistry, Geology) Panel**, Pasadena, CA/Virtual, Endurance Science Workshop, August 2023.
30. **FSI Regional Diversity in Space Research Seminar Series**, Orlando, FL, Lunar-VISE: An investigation of the Moon's non-mare silicic volcanism at the Gruithuisen Domes, February 2023
29. **2023 Technology Showcase for Future NASA Planetary Science Missions**, Galveston, TX, Panel on the Evolution of the Commercial Lunar Payload Systems (CLPS) Program, January 2023
28. **Daytona State College STEM Seminar Series**, Daytona Beach, FL, Mapping the Composition of the Moon using Thermal IR Spectroscopy: Current and Future Observations from Orbital and Landed Missions, November 2022
27. **Ball Aerospace Seminar Series**, Boulder, CO, Mapping the Composition of the Moon using Thermal IR Spectroscopy: Current and Future Observations from Orbital and Landed Missions, October 2022
26. **Geology Society of America (GSA) Connects 2022 Meeting**, Denver, CO, Thermal Infrared Laboratory Studies of Analog Materials: Implications for Interpreting Remote Sensing Observations of Solar System Airless Bodies, October 2022
25. **Annual Lunar Exploration Analysis Group Meeting**, Laurel, MD, Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE): An Investigation of the Moon's Non-Mare Silicic Volcanism, August 2022
24. **Lunar Petrology and Landed Instruments Interchange Workshop**, Pasadena, CA, Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE): An Investigation of the Moon's Non-Mare Silicic Volcanism, August 2022
23. **NASA Exploration Science Forum**, Boulder, CO, Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE): An Investigation of the Moon's Non-Mare Silicic Volcanism, July 2022
22. **UCF College of Engineering and Computer Science (CECS) Virtual Seminar Series**, Orlando, FL, Lunar-VISE: The Upcoming NASA Surface Science Mission to the Moon's Gruithuisen Domes, July 2022
21. **UCF College of Engineering and Computer Science (CECS) Virtual Seminar Series**, Orlando, FL, Taking the Temperature of Solar System Airless Bodies: Insights from NASA's Lunar Reconnaissance Orbiter, May 2021
20. **Northern Arizona University Department of Physics and Astronomy Colloquium**, Flagstaff, AZ, Mapping the Composition of the Moon using Thermal IR Spectroscopy: Current and Future Observations from Orbital and Landed Missions, November 2020
19. **Institut d'astrophysique et de planétologie de Grenoble Colloquium**, Grenoble, France "Taking the Temperature of Solar System Airless Bodies: Insights from NASA's LRO and OSIRIS-REx Missions", May 2019
18. **Queen's University Belfast Astrophysics Colloquium**, Belfast, UK "Taking the Temperature of Solar System Airless Bodies: Insights from NASA's LRO and OSIRIS-REx Missions", January 2019
17. **Royal Astronomical Society General Meeting**, London, UK, "OSIRIS-REx: A Sample Return Mission to a Primitive Solar System Body", November 2018
16. **University of Central Florida Spring Colloquium**, Orlando, FL "Current and Future Exploration of Solar System Airless Bodies using Thermal Infrared Observations", March 2018

15. **Northern Arizona University Department of Physics and Astronomy Colloquium**, Flagstaff, AZ, "Unraveling the Formation and Evolution of Airless Bodies using Thermal Infrared Spectroscopy", November 2017
14. **Royal Astronomical Society Specialist Discussion Meeting**, London, UK, "Characterization of Airless Body Analogues under Simulated Near-Surface Conditions Across Thermal Infrared Wavelengths", October 2017
13. **Lunar and Deep Space Exploration 2017**, Beijing, China, "Simulating the Near-Surface Environment of the Moon in the Laboratory", September 2017
12. **Shock Metamorphism in Terrestrial and Extra-terrestrial Rocks Workshop**, Perth, Australia, "Shocked Anorthosite: Puzzling Over its Whereabouts on the Moon", June 2017
11. **University of Manchester Isotope Geochemistry and Cosmochemistry Group meeting**, Manchester, UK, "Investigating the Formation and Evolution of Primary Crusts on Airless Bodies: The Moon as a Case Study", October 2016
10. **University of Central Florida Spring Colloquium**, Orlando, FL "Investigating the Formation and Evolution of Primary Crusts on Airless Bodies: The Moon as a Case Study", March 2016
9. **University of Houston Fall Colloquium**, Houston, TX, "Unraveling the Formation and Evolution of Planetary Crusts Using Thermal Infrared Spectroscopy", October 2015
8. **European Lunar Symposium**, Frascati, Italy, "Simulating Near Surface Lunar Conditions in the Lab: Applications to Diviner Thermal Infrared Observations of the Moon", May 2015
7. **Royal Astronomical Society Specialist Discussion Meeting**, London, UK, "Characterization of Airless Body Analogues under Simulated Near-Surface Conditions Across Thermal Infrared Wavelengths", April 2015
6. **Florida Institute of Technology Spring Colloquium**, Melbourne, FL, "The Thermal Revolution: Understanding the Formation and Evolution of Airless Bodies using Thermal Infrared Spectroscopy", March 2015
5. **Royal Astronomical Society General Meeting**, London, UK, "Measuring Apollo Samples Under a Simulated Lunar Environment", March 2014
4. **Astrobiology and Planetary Exploration Seminar**, Centre for Planetary Sciences at University College London/Birkbeck, London, UK, "Global Assessment of Pure Anorthosite Across the Moon and Implications for the Evolution of the Moon's Primary Crust", October 2013
3. **Lunar Grad Conference**, Virtual Conference, "Of the Moon: Geologic History of the Moon", July 2013
2. **Lunar Grad Conference**, NASA Ames, Moffet Field, CA, "Of the Moon: Geologic History of the Moon", July 2012
1. **Lunar and Planetary Institute**, Houston, TX, "Compositional Diversity of the Moon's Primary Crust from Integrated Diviner and M³ Analysis", May 2012

First-Author, Postdoc, or Student Conference Presentations

** underline – student under the supervision of K. L. Donaldson Hanna**

** **underline bold** – postdoc under the supervision of K. L. Donaldson Hanna**

152. **Tripathi, P.**, **K. L. Donaldson Hanna**, J. M. Sunshine, S. Li, W. H. Farrand, A. Dove, and **B. Byron** (2025), Spectral mapping of the hydration feature at the Moon's Gruithuisen Domes, *AGU25*.
151. **Donaldson Hanna, K. L.**, J. Benavente, K. A. Bennett, **B. Byron**, B. W. Denevi, A. Dove, J. J. Hagerty, C. J. Hardgrove, P. O. Hayne, L. Heffern, M. E. Landis, T. H. Prettyman, J. V. Rudd, K. Shirley, M. A. Siegler, J. M. Sunshine, **P. Tripathi**, J-P. Williams, S. Valencia, R. N.

- Schindhelm, BAE team, and ASU team (2025), Investigating lunar silicic volcanism from the surface of Mons Gruithuisen Gamma, *AGU25*, P24B-02.
150. Burnette, S., **K. L. Donaldson Hanna**, A. Dove, L. Santori, and J. M. Sunshine (2025), Characterizing the single scattering albedo of nearside lunar silicic sites, *AGU25*.
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 147. **Byron, B. D.**, **K. L. Donaldson Hanna**, A. Dove, S. W. Ruff, K. A. Bennett, J.-P. Williams, M. E. Landis, P. O. Hayne, **P. Tripathi**, and the Lunar-VISE team (2025), MER Mini-TES observations of disturbed and undisturbed soil: Diurnal temperature differences and applications to Lunar-VISE, *2025 NASA Exploration Science Forum*.
 146. Minocha, A. and **K. L. Donaldson Hanna** (2025), Spectral characterization of lunar analog samples: Physical mixtures of highly calcic plagioclase and Mg-spinel, *2025 NASA Exploration Science Forum*.
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 143. **Donaldson Hanna, K. L.**, J. Benavente, K. Bennett, **B. Byron**, B. Denevi, A. Dove, J. Hagerty, C. Hardgrove, P. Hayne, L. Heffern, A. LaMee, M. Landis, D. Osterman, T. Prettyman, K. A. Shirley, M. Siegler, J. Sunshine, **P. Tripathi**, J-P. Williams, S. Valencia, BAE team, and ASU team (2025), Update on the Lunar-VISE investigation of Mons Gruithuisen Gamma, *2025 NASA Exploration Science Forum*.
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70. **Donaldson Hanna, K. L.**, and N. E. Bowles (2020), The effects of fine particulates on thermal infrared emissivity spectra, *51st Lunar and Planetary Science Conference*, Abstract #1062.
69. **Donaldson Hanna, K. L.**, N. E. Bowles, C. S. Edwards, B. L. Ehlmann, B. T. Greenhagen, P. O. Hayne, R. L. Klima, P. G. Lucey, D. A. Paige, and C. M. Pieters (2019), Mapping the composition of the Moon using thermal IR spectroscopy: Current and future observations, *Fall American Geophysical Union Meeting*, Abstract #P32A-03.
68. **Donaldson Hanna, K. L.**, B. T. Greenhagen, and N. E. Bowles (2019), The Moon and asteroids across the thermal infrared, *SSERVI Exploration Science Forum*, Abstract# NESF2019-098.
67. Brown, E. C., K. L. Donaldson Hanna, N. E. Bowles, V. E. Hamilton, B. E. Clark, A. D. Rogers, D. S. Lauretta, and The OSIRIS-REx team (2019), Comparing thermal infrared spectral unmixing algorithms: Applications to Bennu and other airless bodies, *82nd Annual Meeting of the Meteoritical Society*, Abstract #6201.
66. Bates, H., K. Donaldson Hanna, A. King, N. Bowles, and S. Russell (2019), Spectrally characterizing the effects of thermal metamorphism in CM2 and CI carbonaceous chondrites, *Origins of Solar Systems Gordon Research Conference*.
65. **Donaldson Hanna, K. L.**, B. T. Greenhagen, and N. E. Bowles (2019), The Moon and asteroids at thermal infrared wavelengths, *7th European Lunar Symposium*.
64. **Donaldson Hanna, K. L.**, L. Kerber, B. W. Denevi, I. Nesnas, L. Keszthelyi, J. W. Head, C. Pieters, L. Wilson, J. Haruyama, R. V. Wagner, P. O. Hayne, J. W. Ashley, J. L. Whitten, A. M. Stickle, A. Parness, R. C. Anderson, D. M. Needham, P. Isaacson, L. Jozwiak, R. Klima, C. Jackson, T. C. Prissel, C. W. Hamilton, K. Uckert, and C. Elder (2019), Moon Diver: A Discovery mission concept for understanding secondary crust formation through the exploration of a lunar mare pit cross-section, *7th European Lunar Symposium*.

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62. **Donaldson Hanna, K. L.**, E. Bamber, J. T. Cahill, B. W. Denevi, B. T. Greenhagen, and C. M. Pieters (2018), Investigating the nature of crystalline and shocked anorthosite on the Moon, *Fall American Geophysical Union Meeting*, Abstract #P42C-23.
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60. Bates, H., A. King, **K. Donaldson Hanna**, N. Bowles, and S. Russell (2018), Linking aqueous mineralogy with infrared reflectance spectroscopy of carbonaceous chondrites: Inferring the history of C-complex asteroids, *15th Annual Asia Oceania Geosciences Society Meeting*, Abstract #PS22-A004.
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58. **Donaldson Hanna, K.**, S. Elardo, E. Bamber, B. Greenhagen, J. Cahill, A. Petrov, and N. Bowles (2018), Characterization of Miyake-jima and Hachijo-jima anorthites as lunar analogues, *15th Annual Asia Oceania Geosciences Society Meeting*, Abstract #PS22-A010.
57. **Donaldson Hanna, K. L.**, D. J. P. Martin, K. H. Joy, J. J. Gillis-Davis, J. D. Carpenter, E. Sefton-Nash, and N. E. Bowles (2018), Update on the Characterization of Lunar Highlands Regolith Simulants in Preparation for Drilling and Sampling into the Polar Regolith by ESA's PROSPECT Package, *6th European Lunar Symposium*.
56. Bates, H.C., A. J. King, **K. L. Donaldson Hanna**, N. E. Bowles, and S. S. Russell (2018), Linking mineralogy and spectroscopy of hydrated CM carbonaceous chondrites in preparation for primitive asteroid sample return missions, *49th Lunar and Planetary Science Conference*, Abstract #1286.
55. **Donaldson Hanna, K. L.**, L. P. Keller, D. L. Schrader, T. J. McCoy, N. E. Bowles, N. M. Johnson, J. A. Nuth, G. D. Cody, H. C. Connolly Jr., L. F. Lim, and D. S. Lauretta (2018), Characterization of amorphous silicate and organic bearing mixtures in anticipation of OSIRIS-REx's arrival at Bennu, *49th Lunar and Planetary Science Conference*, Abstract #1867.
54. Bates, H.C., A. King, **K. Donaldson Hanna**, N. Bowles and S. S. Russell (2017), The evolution of water-rich asteroids: Linking the mineralogy and spectroscopy of fully hydrated CM carbonaceous chondrites, *Hayabusa 2017: 5th Symposium of Solar System Materials*.
53. **Donaldson Hanna, K. L.**, N. E. Bowles, and B. T. Greenhagen (2017), Simulating the Near-Surface Environment of the Moon in the Laboratory, *Lunar and Deep Space Exploration Forum 2017*.
52. **Donaldson Hanna, K. L.**, L. C. Cheek, C. M. Pieters, J. F. Mustard, B. T. Greenhagen, and N. E. Bowles (2017), Remote Sensing Constraints on the Formation and Evolution of the Moon's Anorthositic Crust, *New Views of the Moon 2 Workshop*, Abstract #6031.
51. **Donaldson Hanna, K. L.**, E. R. Bamber, N. E. Bowles, J. T. S. Cahill, B. W. Denevi, and B. T. Greenhagen (2017), Investigating the Nature of Crystalline and Shocked Anorthosite on the Moon, *5th European Lunar Symposium*.
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47. **Donaldson Hanna, K. L.**, D. J. P. Martin, K. H. Joy, J. D. Carpenter, N. E. Bowles, and PROSPECT User Group (2017) Characterization of Lunar Highlands Regolith Simulants in Preparation for Drilling and Sampling into the Polar Regolith by ESA's PROSPECT Package, *48th Lunar and Planetary Science Conference*, Abstract #1717.
46. **Donaldson Hanna, K. L.**, N. E. Bowles, and B. T. Greenhagen (2016), Simulating Near-Surface Environments of Solar System Bodies in the Laboratory, *Fall American Geophysical Union Meeting*, Abstract #P23A-2158.
45. **Donaldson Hanna, K. L.** and N. E. Bowles (2016), Spectral Measurements of Extraterrestrial Materials Made Under Simulated Airless Body Conditions, *Extraterrestrial Materials Research Meeting*.
44. **Donaldson Hanna, K. L.**, N. E. Bowles, P. H. Schultz, C. M. Pieters, B. T. Greenhagen, and K. A. Bennett (2016), Investigation of Young (<100 Million Years) Lunar Surface Features: Evidence for Outgassing or Basaltic Volcanism?, *Goldschmidt 2016*, Abstract #2068.
43. **Donaldson Hanna, K. L.**, L. C. Cheek, C. M. Pieters, J. F. Mustard, B. T. Greenhagen, and N. E. Bowles (2016), Global Assessment of Pure Crystalline Plagioclase Across the Moon: Implications for the Evolution of the Primary Crust, *New Views of the Moon 2 Workshop*.
42. **Donaldson Hanna, K. L.**, J. Grice, R. Evans, N. E. Bowles, P. H. Schultz, C. M. Pieters, B. T. Greenhagen, and K. A. Bennett (2016), Investigation of Young (<100 Million Years) Lunar Surface Features: Evidence for Outgassing or Basaltic Volcanism?, *4th European Lunar Symposium*.
41. **Donaldson Hanna, K. L.**, R. Evans, N. E. Bowles, P. H. Schultz, B. T. Greenhagen, and K. A. Bennett (2016), Investigating Young (<100 Million Years) Irregular Mare Patches on the Moon using Diviner Observations, *47th Lunar and Planetary Science Conference*, Abstract #2127.
40. **Donaldson Hanna, K. L.**, T. Warren, and N. E. Bowles (2016), Spectral Characterization of Desiccated Phyllosilicate Samples as Analogues for Phobos and Primitive Solar System Bodies (2016), *47th Lunar and Planetary Science Conference*, Abstract #2184.
39. Grice, J., **K. L. Donaldson Hanna**, N. E. Bowles, P. H. Schultz, and K. A. Bennett (2016), Investigating Young (<100 Million Years) Irregular Mare Patches on the Moon using Moon Mineralogy Mapper Observations, *47th Lunar and Planetary Science Conference*, Abstract #2106.
38. **Donaldson Hanna, K. L.**, N. E. Bowles, C. M. Pieters, B. T. Greenhagen, T. D. Glotch, and P. G. Lucey (2015), Effects of Space Weathering on Thermal Infrared Emissivity Spectra of Bulk Lunar Soils Measured Under Simulated Lunar Conditions, *Workshop on Space Weathering of Airless Bodies*.
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33. **Donaldson Hanna, K. L.**, N. E. Bowles, C. M. Pieters, B. T. Greenhagen, and T. D. Glotch (2015), Thermal Infrared Emission Studies of Bulk Apollo Soils: The Importance of Cross-Laboratory Analyses, *46th Lunar and Planetary Science Conference*, Abstract #1377.
32. Marriner, C. M., **K. L. Donaldson Hanna**, N. E. Bowles, B. T. Greenhagen, C. R. M. Jackson, L. Cheek, S. W. Parman, and C. M. Pieters (2015), Spectral Characterisation of Spinel-Anorthite Mixtures in the Thermal Infrared, *46th Lunar and Planetary Science Conference*, Abstract #1750.
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30. **Donaldson Hanna, K. L.**, I. R. Thomas, N. E. Bowles, C. M. Pieters, B. T. Greenhagen, and T. Glotch (2014), Thermal Infrared Studies of Lunar Soils: Characterizing Spectral Effects Due to Simulated Lunar Conditions and Packing, *NASA Exploration Science Forum 2014*.
29. **Donaldson Hanna, K. L.**, L. C. Cheek, C. M. Pieters, J. F. Mustard, B. T. Greenhagen, and N. E. Bowles (2014), Characterization of Pure Anorthosites Across the Lunar Surface: Implications for the Evolution of the Crust, *2nd European Lunar Symposium*.
28. **Donaldson Hanna, K. L.**, I. R. Thomas, N. E. Bowles, C. M. Pieters, and B. T. Greenhagen (2014), Thermal Infrared Studies of Lunar Soils: Characterizing Spectral Effects Due to Simulated Lunar Conditions and Packing, *2nd European Lunar Symposium*.
27. Marriner, C. M., **K. L. Donaldson Hanna**, N. E. Bowles, T. C. Prissel, C. R. M. Jackson, L. C. Cheek, S. W. Parman, C. M. Pieters, P. J. Isaacson, and B. T. Greenhagen (2014), Characterisation of a Terrestrial Low-Iron Pink Spinel as an Analogue to Support Thermal Infrared Observations of the Moon, *2nd European Lunar Symposium*.
26. **Donaldson Hanna, K. L.**, C. M. Pieters, L. C. Cheek, N. E. Bowles, and D. Dhingra (2014), Shocked Anorthosite: Puzzling Over its Whereabouts, *45th Lunar and Planetary Science Conference*, Abstract #2231.
25. **Donaldson Hanna, K. L.**, I. R. Thomas, B. T. Greenhagen, N. E. Bowles, and C. M. Pieters (2014), Characterization of Apollo Soil Samples Under Simulated Lunar Conditions, *45th Lunar and Planetary Science Conference*, Abstract #2345.
24. Marriner, C. M., **K. L. Donaldson Hanna**, N. E. Bowles, T. C. Prissel, C. R. M. Jackson, L. C. Cheek, S. W. Parman, C. M. Pieters, P. J. Isaacson, and B. T. Greenhagen (2014), Characterisation of a Terrestrial Low-Iron Pink Spinel as an Analogue to Support Thermal Infrared Observations of the Moon, *45th Lunar and Planetary Science Conference*, Abstract #1806.
23. **Donaldson Hanna, K. L.**, L. C. Cheek, N. E. Bowles, and C. M. Pieters (2014), Shocked Anorthosite: Puzzling Over its Whereabouts, *Science and Challenges of Lunar Sample Return Workshop*.
22. Marriner, C. M., **Donaldson Hanna, K. L.**, N. E. Bowles, T. C. Prissel, C. R. M. Jackson, L. C. Cheek, S. W. Parman, C. M. Pieters, P. J. Isaacson, and B. T. Greenhagen (2014), Characterisation of a Terrestrial Low-Iron Pink Spinel as an Analogue to Support Thermal Infrared Observations of the Moon, *11th Early Career Planetary Scientists' Meeting*.

21. **Donaldson Hanna, K. L.**, I. R. Thomas, N. E. Bowles, C. M. Pieters and B. T. Greenhagen (2014), Characterization of Apollo Bulk Soil Samples Under Simulated Lunar Conditions, *11th Early Career Planetary Scientists' Meeting*.
20. **Donaldson Hanna, K. L.**, C. M. Pieters, I. R. Thomas, N. Bowles, and B. T. Greenhagen (2013), Characterization of Apollo Bulk Soil Samples Under Simulated Lunar Conditions, Abstract #P54B-03 presented at 2013 Fall Meeting, AGU, San Francisco, CA.
19. **Donaldson Hanna, K. L.**, C. M. Pieters, W. R. Patterson III, J. F. Mustard, B. T. Greenhagen, I. R. Thomas, N. E. Bowles, and D. A. Paige (2013), Effects of varying temperature and pressure conditions on emissivity spectra: Application to thermal infrared observations of airless bodies, *44th Lunar and Planetary Science Conference*, Abstract #2225.
18. **Donaldson Hanna, K. L.**, C. M. Pieters, W. Patterson III, and D. Moriarty (2012), Analogue materials measured under simulated lunar and asteroid environments: Application to thermal infrared measurements of airless bodies, Abstract #P12A-07 presented at 2012 Fall Meeting, AGU, San Francisco, CA.
17. **Donaldson Hanna, K. L.**, L. C. Cheek, C. M. Pieters, J. F. Mustard, M. B. Wyatt, and B. T. Greenhagen (2012), Global identifications of crystalline plagioclase across the lunar surface using M³ and Diviner data, *43rd Lunar and Planetary Science Conference*, Abstract #1968.
16. **Donaldson Hanna, K. L.**, C. M. Pieters, W. R. Patterson III, T. Hiroi, D. Moriarty, M. B. Wyatt, and C. Thompson (2012), Asteroid and lunar environment chamber (ALEC): Simulated asteroid and lunar environments for measuring analog materials, *43rd Lunar and Planetary Science Conference*, Abstract #2241.
15. **Donaldson Hanna, K. L.**, C. M. Pieters, B. T. Greenhagen, and L. C. Cheeks (2012), Compositional diversity of crystalline plagioclase in the lunar highlands, *2nd Conference on the Lunar Highlands Crust*, Abstract #9024.
14. **Donaldson Hanna, K. L.**, C. M. Pieters, W. R. Patterson III, and D. Moriarty (2012), Laboratory emissivity measurements of lunar analogues under simulated lunar conditions, *LunarGradCon 2012*.
13. **Donaldson Hanna, K. L.**, C. M. Pieters, W. R. Patterson III, T. Hiroi, D. Moriarty, and M. B. Wyatt (2012), Simulated lunar and asteroid environments for spectral measurements of analogue materials, *2012 Lunar Science Forum*, Abstract #516.
12. **Donaldson Hanna, K. L.**, C. M. Pieters, J. F. Mustard, L. C. Cheek, M. B. Wyatt, I. R. Thomas, N. E. Bowles, B. T. Greenhagen, P. G. Lucey, and D. A. Paige (2011), An integrated NIR and TIR approach to the plagioclase-rich regions on the Moon using M³ and Diviner data, *European Planetary Science Conference and AAS Division for Planetary Sciences Joint Meeting 2011*, Abstract #1369.
11. **Donaldson Hanna, K. L.**, M. B. Wyatt, I. R. Thomas, N. E. Bowles, B. T. Greenhagen, and D. A. Paige (2011), Thermal infrared emissivity measurements in a simulated lunar environment of the major silicate minerals on the Moon, *42nd Lunar and Planetary Science Conference*, Abstract #1927.
10. **Donaldson Hanna, K. L.**, M. B. Wyatt, C. M. Pieters, L. C. Cheek, P. J. Isaacson, D. A. Paige, and B. T. Greenhagen (2011), Diviner and Moon Mineralogy Mapper integrated observations of plagioclase-rich regions on the Moon, *42nd Lunar and Planetary Science Conference*, Abstract #2504.
9. **Donaldson Hanna, K. L.**, M. B. Wyatt, C. M. Pieters, J. F. Mustard, L. C. Cheek, P. J. Isaacson, P. G. Lucey, B. T. Greenhagen, I. R. Thomas, N. E. Bowles, and D. A. Paige (2011), Integrated Diviner and M3 observations of plagioclase-rich regions on the Moon, *2011 Lunar Science Forum*, Abstract #316.

8. **Donaldson Hanna, K. L.**, M. B. Wyatt, D. A. Paige, B. T. Greenhagen, J. W. Head, and C. M. Pieters (2010), Lunar mare basalts: Insights using Diviner thermal infrared data, *41st Lunar and Planetary Science Conference*, Abstract #2396.
7. **Donaldson Hanna, K. L.**, M. Wyatt, D. Paige, B. Greenhagen, J. Bandfield, A. Vasavada, J. Head III, and C. Pieters (2010), Diviner thermal infrared observations of mare basalts within Oceanus Procellarum, presented at Lunar Science Forum 2010, NASA Ames, Moffett Field, CA.
6. **Donaldson Hanna, K. L.**, M. B. Wyatt, I. R. Thomas, N. E. Bowles, and B. T. Greenhagen (2010), Thermal infrared emissivity measurements in a simulated lunar environment of major silicate minerals on the Moon, Abstract #P53A-1506 presented at 2010 Fall Meeting, AGU, San Francisco, CA.
5. **Donaldson Hanna, K. L.**, M. B. Wyatt, J. Helbert, A. Maturilli, and C. M. Pieters (2009), Constraining lunar surface mineralogy with combined thermal- and near-infrared spectral data, *40th Lunar and Planetary Science Conference*, Abstract #2286.
4. **Donaldson Hanna, K. L.**, M. B. Wyatt, B. T. Greenhagen, D. A. Paige, P. G. Lucey, C. M. Pieters, J. Helbert, and A. Maturilli (2009), Diviner observations of crystalline plagioclase-rich regions on the Moon as observed by the Spectral Profiler and Moon Mineralogy Mapper, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract #U31A-0017.
3. **Donaldson Hanna, K. L.** and A. L. Sprague (2008), Mineralogy of Vesta and howardite, eucrite, and diogenite (HED) meteorites determined by spectral deconvolution, *39th Lunar and Planetary Science Conference*, Abstract #1410.
2. **Donaldson Hanna, K. L.**, A. L. Sprague, R. W. H. Kozlowski, K. Boccafolo, and J. Warell (2007), Mercury and the Moon: Initial findings from mid-infrared spectroscopic measurements of the surface, *38th Lunar and Planetary Science Conference*, Abstract #2291.
1. **Donaldson Hanna, K. L.**, A. L. Sprague, R. W. Kozlowski, K. Boccafolo, J. Helbert, A. Maturilli, and J. Warell (2006), Mercury and the Moon: Mid-infrared spectroscopic measurements of the surface, *38th American Astronomical Society DPS Meeting*, Abstract #49.04.

Research Grants

- 2024 – 2027 *Apollo Samples as a Window to Characterizing Regoliths throughout the Solar System with MIR Spectroscopy*
Principal Investigator Audrey Martin - Funded by NASA Solar System Workings
- 2024 – 2027 *Investigation into the Simulated Space Weathering of Carbonaceous Chondrites: An Experimental Approach*
Principal Investigator - Funded by NASA Future Investigators in NASA Earth and Space Science and Technology
- 2024 – 2027 *Exploring the origin and eruption of silicic volcanic deposits through the Wildcat Hills, Utah: A terrestrial analog study*
Principal Investigator Kristen Bennett - Funded by NASA Solar System Workings
- 2023 – 2026 *Shock Recovery Experiments and Laboratory Sample Analysis of Lunar-Relevant Plagioclase: Implications for remote sensing observations of the Moon*
Principal Investigator Steven Jaret - Funded by NASA Solar System Workings
- 2022 – 2026 *Lunar-VISE: An investigation of the Moon's non-mare silicic volcanism*
Principal Investigator - Funded by NASA Payloads and Research Investigations on the Surface of the Moon
- 2021 – 2026 *Characterization of the Moon and Mercury using New Hyperspectral Mid Infrared Observations*

Principal Investigator - Funded by NASA Solar Systems Observations

2019 – 2026 *Diviner Lunar Radiometer Experiment*

Principal Investigator David Paige - Funded by NASA Lunar Reconnaissance Orbiter Extended Science Mission 4

2019 – 2026 *Lunar Compact InfraRed Imaging System (L-CIRiS)*

Principal Investigator Paul Hayne - Funded by NASA Lunar Surface Instrument and Technology Payloads

2019 – 2025 *Lunar Trailblazer*

Principal Investigator Bethany Ehlmann - Funded by NASA SIMPLEX: Small Innovative Missions for Planetary Exploration

2019 – 2054 *Center for Lunar and Asteroid Surface Science (CLASS)*

Principal Investigator Dan Britt - Funded by NASA Solar System Exploration Research Virtual Institute Cooperative Agreement Notice (SSERVI CAN-3)

2019 – 2024 *Investigating the Formation and Evolution of the Moon's Anorthositic Crust*

Principal Investigator - Funded by NASA Lunar Data Analysis Program

2017 – 2021 *Mapping Bennu's Surface Composition by Integrating Observations and Laboratory Measurements from Visible to Near Infrared through Thermal Infrared Wavelengths*

Principal Investigator - Funded by NASA OSIRIS-REx Participating Scientist Program

SERVICE

Department Service

2024	Planetary Science Faculty Search Committee
2023 – Present	Graduate Admissions Committee
2022 – Present	Departmental Space Committee
2022 – Present	AST2002 Alignment Committee
2019 – 2025	Graduate Recruitment Committee
2022 – 2023	Diversity and Inclusion Committee
2021 – 2022	FSI Director Search Committee
2020 – 2022	Outreach Committee
2019 – 2022	Robinson Observatory Committee
2019 – 2020	Lecturer Promotion Committee
2020	Research Faculty Promotion Committee
2020	Arecibo Observatory Planetary Radar Search Committee

University Service

2024 – 2025	Committee Member, UCF Faculty Senate Research Council
2023 – Present	Advisor, Society of Women in Space Exploration

Professional Service – Committees

2025 – Present	Deputy Exploration Chair , Lunar Exploration Analysis Group (LEAG) Executive Committee
2024 – Present	Secretary , American Geophysical Union (AGU) Planetary Sciences Section
2023 – 2025	At-Large Member , Lunar Exploration Analysis Group (LEAG) Executive Committee

2023 – 2024	Nininger Meteorite Award Committee Member , Center for Meteorite Studies
2022 – Present	Lunar Subcommittee Member , Extraterrestrial Materials Analysis Group (ExMAG)
2021 – 2023	Local Organizing Committee , Conferences for Undergraduate Women in Physics (CUWiP)
2020 – 2022	Prize Committee , AAS Division of Planetary Sciences (DPS)
2019	Science Organizing Committee , NASA SSERVI Exploration Science Forum
2019	Science Organizing Committee , European Lunar Symposium
2013	Organizing Committee , Virtual Lunar Grad Conference
2012	Organizing Committee , Lunar Grad Conference

Professional Service – Meetings

2022	Session Chair , NASA SSERVI Exploration Science Forum
2020	Session Chair , Annual Meeting of the Lunar Exploration Analysis Group
2020	Session Chair , NASA SSERVI Exploration Science Forum
2019	Session Chair , Fall American Geophysical Union Meeting
2019	Session Chair , NASA SSERVI Exploration Science Forum
2018	Session Co-convenor , <i>Field and Laboratory Studies in Support of Planetary Infrared Remote Sensing Session</i> , Asia Oceania Geosciences Society
2018	Dwornik Student Award Judge , Lunar and Planetary Science Conference
2017	Session Chair , Lunar and Planetary Science Conference
2017	Dwornik Student Award Judge , Lunar and Planetary Science Conference
2017	Organizing Chair , <i>Science of Primitive Asteroid Sample Return Missions</i> , RAS Specialist Discussion Meeting, Royal Astronomical Society, London
2016	Outstanding Student Award , Fall American Geophysical Union Meeting
2015	Organizing Chair , <i>Spectroscopy of Airless Bodies in Wavelengths from the Visible to the Microwave</i> , RAS Specialist Discussion Meeting, Royal Astronomical Society, London
2014	Session Chair , Lunar and Planetary Science Conference
2014	Dwornik Student Award Judge , Lunar and Planetary Science Conference
2014	Outstanding Student Award , Fall American Geophysical Union Meeting
2013	Outstanding Student Award , Fall American Geophysical Union Meeting

Professional Service – NASA Review Panels

Review Chair	2020
Panel Chief	2016, 2018, 2019, 2021, 2022, 2023
Panel Member	2014, 2016, 2017, 2018, 2020, 2022
Executive Secretary	2013
External Reviewer	2015, 2016, 2017, 2022, 2023, 2024, 2025

Professional Service – Journals

2024	Guest Editor of <i>Minerals</i> special issue entitled ‘VNIR-TIR Spectroscopy: How reflectance and emissivity of minerals, rocks and meteorites can help planetary exploration’
2021 – 2024	Associate Editor , <i>Earth, Moon, and Planets</i>
2012 – Present	Manuscript Reviewer , <i>Advances in Space Research</i> , <i>American Mineralogist</i> , <i>Earth and Planetary Science Letters</i> , <i>Geophysical Research Letters</i> , <i>Icarus</i> , <i>International Journal of Remote Sensing</i> , <i>Journal of Geophysical Research</i> , <i>Nature</i> , <i>Planetary and Space Science</i> , and <i>Science</i>

Public Service and Outreach

- 2025 **Beyond Earth: UCF's Role in Space Exploration, Policy, and the Public Good**, UCF Public Policy Event during Space Week
- 2025 **UCF Physics Career Exploration Day**, 'Taking the Temperature of Solar System Airless Bodies'
- 2025 **Astronomy on Tap Orlando**, Oviedo Brewing Company speaker series entitled 'Lunar-Trailblazer: A Pioneering SmallSat Mission'
- 2025 **Spark STEM Fest**, Orlando Science Center, College of Sciences Booth entitled 'Forward to the Moon'
- 2024 **KMOX The Voice of St. Louis Total Information AM Show**, 'Lunar scientists continue Moon exploration 50-years after Apollo'
- 2024 **Are We There Yet Podcast**, 'Mystery lunar domes and missing Moon trees'
- 2024 **Finding Genius Podcast**, 'Cosmic Geology Unveiled: Dr. Kerri Donaldson Hanna on Airless Celestial Bodies & Lunar Discoveries'
- 2024 **International Day of Women and Girls in Science**, Museum of Arts and Sciences, Daytona Beach
- 2024 **Astronomy on Tap Orlando**, Oviedo Brewing Company speaker series entitled 'Lunar-VISE: Investigating Lunar Surface Volcanism from the Surface of the Moon'.
- 2022 **Knight at the Museum**, Orlando Science Center, Sciences Speaker Series by UCF and OSC entitled 'Behind-the-scenes with the scientists returning us to the Moon'
- 2021 **Center for Health & Wellbeing Digital Education Program**, Public lecture entitled 'Asteroids, NASA, and the Health Benefits of Stargazing'
- 2021 **Mars2020 Landing Party Panel**, Fernbank Science Center and Jim Cherry Memorial Planetarium
- 2021 **Astronomy & Geophysics Article**, 'Playing TAG with Bennu', Volume 62, doi:10.1093/astrogeo/atab038
- 2020 **International Observe the Moon Night**, Public Lecture entitled 'Lunar Research at UCF', UCF Planetary YouTube
- 2020 **Lunar Trailblazer of the Week Feature**
- 2019 **International Observe the Moon Night**, Public Lecture entitled 'Looking Forward to the Moon' at the UCF John C. Hitt Library
- 2019 **UCF Science Leadership and Mentoring**, 'How to build a telescope activity'
- 2019 **Upward Bound Project EDGE Talk**, 'What can we learn by studying the Moon and Asteroids?'
- 2018 **BBC Sky at Night Magazine Podcast**, 'Lunar eclipses, 2019's space missions, and green stars'
- 2018 **BBC Sky at Night Magazine**, 'A Passion for Space'
- 2018 **BBC Sky at Night TV show**, 'Expedition Asteroid'
- 2018 **Christ Church College Life Blog**, 'Women in Science'
- 2018 **Public Outreach Talk**, Stargazing Oxford
- 2016 **Public Outreach Talk**, Stargazing Oxford
- 2016 **Cheney Secondary School Advisor**, Royal Society Partnership Grant, 'What would our school look like from space'
- 2007 **Project ASTRO Tucson**, Volunteer at Robins Elementary School
- 2006 **Project ASTRO Tucson**, Volunteer at Ventana Vista Elementary School
- 2005 **Project ASTRO Tucson**, Volunteer at Ventana Vista Elementary School
- 2004 **Project ASTRO Tucson**, Volunteer at Esperanza Elementary School

Media Contributions and Training

2021 **UCF and JCS Communications Media Training**, Conducted by Joel C. Staley

Media Interviews Related to the Moon and NASA Artemis Program

- 2024 **ScienceNews**, 'China's Chang'e-6 snagged the first samples from the farside of the Moon'
- 2022 **UCF COS News**, 'Decades-old Moon Samples Inform Modern Return to Moon'
- 2022 **Fox35**, 'UCF researchers working on new map of Moon's surface'
- 2022 **Spectrum 13**, 'UCF Assistant Professor Working with Artemis Mission and Moon Exploration'
- 2022 **UCF Today**, 'UCF Knights are part of NASA's Artemis Program to Return to the Moon'
- 2022 **WESH Channel 2**, 'UCF students, researchers involved in Artemis program'
- 2022 **WFTV Channel 9**, 'UCF partnering with NASA to help with astronauts' return to the Moon'
- 2022 **Fox Weather**, 'NASA astronauts will land in shadowed regions on the Moon's south pole'

Media Interviews Related to Lunar-VISE

- 2024 **Fox35**, 'Milestone reached for upcoming UCF-led Moon mission'
- 2024 **Fox35**, 'UCF Research Leading to 'Giant Leap' for Space Industry'
- 2024 **UCF Today**, 'UCF's first mission to the Moon passes two critical milestones'
- 2023 **Science News**, 'Granite likely lurks beneath the Moon's surface'
- 2023 **Nature News Feature**, 'Private companies are flocking to the Moon – what does that mean for science?'
- 2022 **NSM Today**, 'UCF Physics professors receive \$35 million grant for moon exploration project'
- 2022 **Florida Trend**, 'Florida universities, students at forefront of new era of space exploration'
- 2022 **LSIC August Newsletter**, 'Member Spotlight: Lunar-VISE'
- 2022 **Ball Aerospace News**, 'Ball Aerospace part of team chosen to investigate unique silicic volcanic domes'
- 2022 **Orlando Sentinel**, 'Millions in grant money head to UCF for space research'
- 2022 **LASP News**, 'NASA robotic mission to explore the Moon's mysterious Gruithuisen Domes'
- 2022 **ASU News**, 'ASU chosen to help solve geologic mystery on the Moon'
- 2022 **Inverse, Horizons**, 'Human settlements on the Moon will depend on answering two fundamental questions'
- 2022 **Fox Weather**, 'Robot reconnaissance: NASA mission to uncover mysteries of lunar volcanic region'
- 2022 **Orlando Sentinel**, 'UCF researchers tapped again for NASA moon mission, set to explore mysterious domes'
- 2022 **UCF Today**, 'NASA Selects UCF for \$35 Million Mission to the Moon's Mysterious Gruithuisen Domes'
- 2022 **NASA**, 'NASA Selects New Instruments for Priority Artemis Science on Moon'

Media Interviews Related to Women in Science

- 2021 **Ivanhoe Broadcast News**, 'Study Science: A Giant Leap Forward For Women'

Media Interviews Related to L-CIRiS

- 2021 **UCF Today**, 'A First-of-its-Kind Camera to Investigate the Moon's South Pole'
- 2021 **News 6 ClickOrlando**, 'UCF Professor Among Team Working with One-of-a-Kind Camera Going to the Moon'
- 2021 **Fox 35 Orlando**, 'UCF Professor Teams Up with NASA to Create Camera Going to the Moon'

Media Interviews Related to Lunar Trailblazer

- 2023 **UCF Today**, 'Lunar Trailblazer spacecraft undergoing final preparations for trip to Florida'
- 2022 **Orlando Sentinel**, "Where no ice was seen before: UCF team designs lunar satellite tools to hunt for water"
- 2022 **WMFE Central Florida**, 'Water on the Moon? A new mission will be sending out two satellites to look for water on the lunar surface'
- 2020 **UCF Today**, 'UCF Researcher Part of New NASA Mission to Map Water on Moon'

Media Interviews Related to OSIRIS-REx

- 2024 **WUCF PBS**, 'The Latest Developments in the Space Industry'
- 2023 **AccuWeather**, 'What comes next for the largest asteroid sample ever recovered in human history?'
- 2023 **The Guardian**, 'Like a dream: Successful return of NASA capsule with asteroid sample hailed'
- 2023 **The Guardian**, 'NASA's OSIRIS-REx mission: Asteroid sample plummets toward Earth'
- 2023 **UCF Today**, 'The long journey of NASA's OSIRIS-REx'
- 2020 **UCF Today**, 'OSIRIS-REx Ready for Touch-and-Go Maneuver on Tuesday, Oct. 20'
- 2020 **News 6 ClickOrlando**, 'UCF Scientists Working on NASA Asteroid Sample Mission Share Experience with Students'

Media Interviews Related to Mars2020

- 2021 **Spectrum News 13**, 'Perseverance Rover Lands Safely on Mars'

Media Interviews Related to DART Mission

- 2021 **Spectrum News 13**, UCF researchers aid in Earth's first planetary defense mission'