

# Stephen M. Elardo

Assistant Professor • NASA Early Career Fellow • [University of Florida](#) • Dept. of Geological Sciences  
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## Education

### PhD with Distinction in Earth and Planetary Sciences

University of New Mexico – July 2014

Co-Advisors: Charles Shearer and Francis McCubbin

### MSc in Earth and Planetary Sciences

University of New Mexico – July 2010

Co-Advisors: Charles Shearer and David Draper

### BSc in Geosciences

Stony Brook University – May 2008

Research Advisors: Hanna Nekvasil, Francis McCubbin, and Don Lindsley

## Positions Held

### Assistant Professor

Department of Geological Sciences, University of Florida, Aug. 2018 – Present

### Post-Doctoral Researcher

Geophysical Laboratory, Carnegie Institution of Washington, Sept. 2014 – Aug. 2018

Mentor: Anat Shahar

### Research Associate

Towson University, June 2015 – Aug. 2018

### NASA Earth and Space Science Graduate Fellow

University of New Mexico, Sept. 2012 – Aug. 2014

### Graduate Research Assistant

University of New Mexico, Sept. 2008 – July 2014

## Awards & Honors

### NASA Early Career Fellowship

Geophysical Laboratory, Carnegie Institution of Washington, 2016

### NASA Earth and Space Science Graduate Fellowship

Department of Earth and Planetary Science, University of New Mexico, 2012 – 2014

### Vincent C. Kelly PhD Student Award

Department of Earth and Planetary Science, University of New Mexico, 2014

### New Mexico Space Grant Fellowship (Twice)

Department of Earth and Planetary Science, University of New Mexico, 2009 & 2012

### Vincent C. Kelly MSc Student Award

Department of Earth and Planetary Science, University of New Mexico, 2010

### Oliver Schaffer Award

Department of Geosciences, Stony Brook University, 2008

## Proposals, Grants & Fellowships

**Total Funding to Date as PI or Co-PI: \$882,079.**

### **Florida Space Research Initiative**

*Developing New Isotopic Tools for Identifying the Origin of Granitic Magmatism on Stagnant Lid Planets* – PI. Total Budget: \$80,000.

### **NSF Marine Geology and Geophysics**

*Collaborative Research: Developing New Models of Oceanic Magmatism and Source Heterogeneity Using the 8 degree 20' N Seamounts as Windows into the Sub-Ridge Mantle*, Michael Perfit – PI (Grant managed after PI transfer to S. M. Elardo) Total Budget: \$256,396 (not included in total above)

### **NSF GEOPaths Program**

*GP-GO: GeoScientists Promoting Accessible Collaborative Education (GEOSPACE)*, Anita Marshall – PI, S. M. Elardo – Co-PI, Total Budget, including augmentation: \$469,604

### **NASA Solar System Workings Program**

*Testing Models of the Origin and Global Distribution of the Lunar Mg-Suite*, S.M. Elardo – PI, 2016 – 2021, Total Budget \$249,775

### **NASA Early Career Fellowship**

### **NASA Earth and Space Science Fellowship**

*Exploring the Interior of the Moon: A Perspective from Lunar Meteorites*, 2012 – 2014, Total Budget \$60,000

### **New Mexico Space Grant Consortium Graduate Fellowship (Twice)**

University of New Mexico, 2009 and 2012, Total Combined Award: \$20,000

### **Second Conference on the Lunar Highlands Crust Travel Grant**

Lunar and Planetary Institute, 2012

### **Research Project and Travel Grant**

University of New Mexico, 2010

### **VEXAG/Venus Geochemistry Workshop Travel Grant**

Lunar and Planetary Institute, 2009

## Publications

**Total: 43 – Current h-Index: 24** (Google Scholar)

**Current Citation Total: 2797** (Google Scholar)

[Link to Google Scholar](#) – [Link to ORCID](#)

## Book Chapters

- [4] **Elardo, S. M.**, Pieters, C., Dhingra, D., Donaldson Hanna, K. L., Glotch, T. D., Greenhagen, B. T., Gross, J., Head, J. W., Jolliff, B. L., Klima, R. L., Magna, T., McCubbin, F. M., and Ohtake, M. (2023) The Evolution of the Lunar Crust. In *New Views of the Moon 2 – Reviews in Mineralogy and Geochemistry*. Vol. 89, 293-338. [Link to Chapter](#)
- [3] McCubbin, F. M., Barnes, J. J., Ni, P., Hui, H., Klima, R. L., Burney, D., Day, J. M. D., Magna, T., Boyce, J. W., Tartèse, R., Vander Kaaden, K E., Steenstra, E., **Elardo, S. M.**, Zeigler, R. A., Anand, M., and Liu, Y. (2023) Endogenous lunar volatiles. In *New Views of the Moon 2 – Reviews in Mineralogy and Geochemistry*. Vol. 89, 729-786. [Link to Chapter](#)

- [2] Shahar, A., **Elardo, S. M.** and Macris, C. A. (2017) Equilibrium Fractionation of Non-Traditional Isotopes: An Experimental Perspective. In *Measurements, Theories and Applications of Non-Traditional Stable Isotopes – Reviews in Mineralogy and Geochemistry*, Vol. 82, Chapter 3, 65-83. Mineralogical Society of America. [Link to Chapter](#)
- [1] **Elardo, S. M.** (2016) Lunar Magma Ocean Theory, Origins and Rationale. *Encyclopedia of Lunar Science*. Ed. Cudnik, B. Springer International Publishing. DOI: 10.1007/978-3-319-05546-6\_25-1 [Link to Chapter](#)

## Non-Refereed Papers

- [1] Marshall, A. M. S., Piatek, J. L., Williams, D. A., Gallant, L., Thatcher, S., **Elardo, S. M.**, Williams, A. J., Collins, T., and Arroyo, Y. (2022) Flexible Fieldwork. *Nature Reviews – Earth and Environment*. 3, p. 811 [Link to Paper](#)

## Manuscripts with Drafts in Progress

\*Graduate Student Advisee, †Undergraduate Student Advisee

- [38] Palin, R. M., Robb, L., Gardiner, N., Koopmans, L., Sihombing, F., Sayab, M., Wade, J., and **Elardo, S. M.** (In Prep) Potential ore deposits on Mars: Implications for in situ resource utilization. Upcoming submission
- [37] \*Astudillo-Manosalva, D. F. and **Elardo, S. M.** (In Prep) The common petrogenesis of the Apollo 17 Mg-suite samples in a layered mafic intrusion. Upcoming submission to *Geochimica et Cosmochimica Acta*
- [36] \*Anderson, M. K.; **Elardo, S. M.**; Kamenov, G.; \*Pesar, E.; Perfit, M. (In prep). Mantle Source and Magmatic Controls on Iron Isotope Fractionation in Seamount Lavas Adjacent to the East Pacific Rise. Upcoming submission to *Geochemistry, Geophysics, Geosystems*
- [35] \*Meier, M., Marshall, A., Thatcher, S., Piatek, J., Arroyo, Y., †Leon, S., Williams, A., Gallant, E., Collins, T., **Elardo, S. M.**, Williams, D., and Cabalceta, M. (In prep) Increasing Accessibility in the Geosciences Through Virtualizing Field Courses. Upcoming submission to the *Journal of Geoscience Education*
- [34] \*Pesar, E. A., **Elardo, S. M.**, Kamenov, G., and Conway, T. (In Prep) Insights into the Iron Isotopic Composition of the Bulk Silicate Earth from Fertile Mantle Peridotite Xenoliths from Tariat, Mongolia. Upcoming submission to *Earth and Planetary Science Letters*
- [33] Cone, K. A., **Elardo, S. M.**, Hernandez-Uribe, D., \*Astudillo-Manosalva, D. F., Spera, F. J., Bohron, W. A., Distel, A., and Palin, R. M. (In Prep) High melt fraction solidification of the lunar magma ocean: Implications for a primitive lunar mantle and crust. *Upcoming submission to Journal of Geophysical Research: Planets*
- [32] McCubbin F.M., Konecke B.A., Barnes J.J., Lewis J.A., Gross J., **Elardo S.M.**, Brounce M., Day J.M.D., Filiberto J., and Boyce J.W. (In prep) On the origin of fluorine-rich apatite in planetary basalts and the curious exception of Mars. Upcoming submission to *Earth and Planetary Science Letters*

## Peer-Reviewed Papers

\*Graduate Student Advisee; †Undergraduate Student Advisee

- [31] Hernández Prat, L. Godoy, B. Cannatelli, C. \*Astudillo Manosalva, D. Castruccio, A. **Elardo, S. M.**, and Monteleone, B. (In Review) The role of mafic inputs in highly evolved volcanism within the Altiplano-Puna volcanic complex: A geochemical study of Cerro Chao. Submitted to *Lithos*

- [30] **Elardo, S. M.**, Cone, K. A., Siegler, M.A., †Williams, S. J., and Palin, R. M. (In Review) A Shallow Mantle Source for the Chang'e 5 Lavas Reveals How Top-Down Heating Prolonged Lunar Magmatism. Submitted to *Science Advances*
- [29] Liberles, B. T., Dittmann, J. A., **Elardo, S. M.**, and Ballard, S. (2024) A Statistical Interpretation of the Size Distribution of Single and Multi-Transiting Planetary Systems. *The Astronomical Journal*, 168:92. [Link to Paper](#)
- [28] \*Astudillo Manosalva, D. F. and **Elardo, S. M.** (2024) Assessing the accuracy of phase equilibrium software in reproducing the liquidus multiple saturation conditions of lunar and martian basalt compositions. *Meteoritics and Planetary Science*, 59 (2), 260-285. [Link to Paper](#)
- [27] **Elardo, S. M.** and \*Astudillo Manosalva, D. F. (2023) Complexity and Ambiguity in the Relationships between Major Lunar Crustal Lithologies and Meteoritic Clasts Inferred from Major and Trace Element Modeling. *Geochimica et Cosmochimica Acta*, 354, 13-26. [Link to Paper](#)
- [26] McCubbin F.M., Lewis J.A., Barnes J.J., Boyce J.W., Gross J., McCanta M.C., Srinivasan, P., Anzures, B. A., Lunning, N. G., **Elardo S. M.**, Keller, L. P., Prissel, T. C., and Agee C.B. (2023) On the origin of fluorine-poor apatite in chondrite parent bodies. *American Mineralogist*, 108 (7), 1185-1200. [Link to Paper](#)
- [25] Jiang, Y., Kang, J., Liao, S., **Elardo, S. M.**, Zong, K., Wang, S., Nie, C., Li, P., Yin, Z., Hsu, W., and Huang, F. (2023) Fe and Mg Isotope compositions Indicate a Hybrid Mantle Source for Young Chang'E 5 Mare Basalts. *Astrophysical Journal Letters*, 945, L26. [Link to Paper](#)
- [24] Paul, A.-L., **Elardo, S.M.**, and Ferl, R. (2022) Plants grown in Apollo lunar regolith present stress-associated transcriptomes that inform prospects for lunar exploration. *Nature Communications – Biology*, 5, nr. 382 [Link to Paper](#) [Link to UF Press Release](#) [Link to NASA Press Release](#)
- [23] McCubbin F.M., Lewis J.A., Barnes J.J., **Elardo S.M.**, and J.W. Boyce (2021) The abundances of F, Cl, and H<sub>2</sub>O in eucrites: Implications for the origin of volatile depletion in the Asteroid 4 Vesta. *Geochimica et Cosmochimica Acta*, 314, 270 – 293. [Link to Paper](#)
- [22] Draper, D. S., Lawrence, S. J., Klima, R. S., Denevi, B. W., van der Bogert, C. H., **Elardo, S. M.**, and Heisinger, H. H. (2021) The Inner Solar System Chronology (ISOCHRON) lunar sample return mission concept: revealing 2 billion years of history. *Planetary Science Journal*, 2:79, 1-11. [Link to Paper](#)
- [21] **Elardo, S. M.**, Laneuville, M., McCubbin, F. M., and Shearer, C. K. (2020) Early crust building enhanced on the Moon's nearside by mantle melting point depression. *Nature Geoscience*, 13, nr. 5, 339-343. [Link to Paper](#) [Link to UF Press Release](#)
- [20] **Elardo, S. M.**, Shahar, A., Mock, T. M., and Sio, C. K. (2019) The effect of core composition on iron isotope fractionation between planetary core and mantles. *Earth and Planetary Science Letters*, 513, 124-134. [Link to Paper](#)
- [19] McCubbin, F. M., Vander Kaaden, K. E., Peplowski, P. N., Bell, A. S., Nittler, L. R., Boyce, J. W., Evans, L. G., Keller, L. P., **Elardo, S. M.**, and McCoy, T. J. (2017) A low O/Si ratio on the surface of Mercury: Evidence for silicon smelting? *Journal of Geophysical Research – Planets*. 122, 2053-2076. 10.1002/2017JE005367 [Link to Paper](#)
- [18] **Elardo, S. M.** and Shahar, A. (2017) Non-chondritic iron isotope ratios in planetary mantles as a result of core formation. *Nature Geoscience*. 10, nr. 4, 317 - 321. [Link to Paper](#) [Link to News and Views Article](#) [Link to April Issue Cover Image](#)

- [17] McCubbin, F. M., Boyce, J. W., Novák-Szabó, T., Santo, A. R., Tartèse, R., Muttik, N., Domokos, G., Vazquez, J., Keller, L. P., Moser, D. E., Jerolmack, D. J., Shearer, C. K., Steele, A., **Elardo, S. M.**, Rahman, Z., Anand, M., Delhaye, T., and Agee, C. B. (2016) Geologic history of martian regolith breccia Northwest Africa 7034: Evidence for hydrothermal activity and lithologic diversity in the martian crust. *Journal of Geophysical Research – Planets*. 121, 2120-2149, doi:10.1002/2016JE005143 [Link to Paper](#)
- [16] McCubbin, F. M., Boyce, J. W., Srinivasan, P., Santos, A. R., **Elardo, S. M.**, Filiberto, J., Steele, A., and Shearer, C. K. (2016) Heterogeneous distribution of H<sub>2</sub>O in the martian interior: Implications for the abundance of H<sub>2</sub>O in depleted and enriched mantle sources. *Meteoritics and Planetary Science*. 51, Nr.11, 2036-2060. [Link to Paper](#)
- [15] Shearer, C. K., **Elardo, S. M.**, Petro, N. E., Borg, L. E., and McCubbin, F. M. (2015) Origin of the lunar highlands Mg-suite: An integrated petrology, geochemistry, chronology, and remote sensing perspective. *American Mineralogist* 100, 294-325. *Special Issue: Second Conference on the Lunar Highlands Crust and New Directions. Invited Review Paper* [Link to Paper](#)
- [14] **Elardo, S. M.**, Shearer, C. K., Vander Kaaden, K. E., McCubbin, F. M., and Bell, A. S. (2015) Petrogenesis of primitive and evolved basalts in a cooling Moon: Experimental constraints from the youngest known lunar magmas. *Earth and Planetary Science Letters* 422, 126-137. [Link to Paper](#)
- [13] McCubbin, F. M., Vander Kaaden, K. E., Tartèse, R., Klima, R. L., Liu, Y., Mortimer, J., Barnes, J. J., Shearer, C. K., Treiman, A. H., Lawrence, D. J., **Elardo, S. M.**, Hurley, D. M., Boyce, J. W., and Anand, M. (2015) Volatiles (H, C, N, F, S, Cl) in the lunar mantle, crust, and regolith: Distribution, processes, sources, and significance. *American Mineralogist* 100, 1668-1707. *Special Issue: Second Conference on the Lunar Highlands Crust and New Directions. Invited Review Paper* [Link to Paper](#)
- [12] McCubbin, F. M., Shearer, C. K., Burger, P. V., Hauri, E. H., Wang, J., **Elardo, S. M.**, and Papike, J. J. (2014) Volatile abundances of coexisting merrillite and apatite in the martian meteorite Shergotty: Implications for merrillite in hydrous magmas. *American Mineralogist* 99, 1347-1354. [Link to Paper](#)  
[Link to Highlights and Breakthroughs Article](#)
- [11] Tartèse, R., Anand, M., McCubbin, F. M., **Elardo, S. M.**, Shearer, C. K., and Franchi, I. A. (2014) Apatites in lunar KREEP basalts: The missing link to understanding the H isotope systematics of the Moon. *Geology* 42, no. 4, 363-366. [Link to Paper](#)
- [10] **Elardo, S. M.**, Shearer, C. K., Fagan, A. L., Borg, L. E., Gaffney, A. M., Burger, P. V., Neal, C. R., Fernandes, V. A., and McCubbin, F. M. (2014) The origin of young mare basalts inferred from lunar meteorites Northwest Africa 4734, 032, and LaPaz Icefield 02205. *Meteoritics & Planetary Science* 49, Nr. 2, 261-291. [Link to Paper](#)
- [9] **Elardo, S. M.** and Shearer, C. K. (2014) Magma chamber dynamics recorded by oscillatory zoning in pyroxene and olivine phenocrysts in lunar basaltic meteorite Northwest Africa 032. *American Mineralogist* 99, 355-368. [Link to Paper](#) [Link to Highlights and Breakthroughs Article](#)
- [8] McCubbin, F. M., **Elardo, S. M.**, Shearer, C. K., Smirnov, A., Hauri, E. K., and Draper, D. S. (2013) A petrogenetic model for the co-magmatic origin of chassignites and nakhlites: Inferences from chlorine-rich minerals, petrology, and geochemistry. *Meteoritics & Planetary Science* 48, Nr. 5, 819-853. [Link to Paper](#)
- [7] Agee, C. B., Wilson, N. V., McCubbin, F. M., Ziegler, K., Polyak, V. J., Sharp, Z. D., Asmerom, Y., Nunn, M. H., Shaheen, R., Thiemens, M. H., Steele, A., Fogel, M. L., Bowden, R., Glamoclija, M., Zhang, Z., and

- Elardo, S. M.** (2013) Unique Meteorite from Early Amazonian Mars: Water-Rich Basaltic Breccia Northwest Africa 7034. *Science* 339, 780-785. [Link to Paper](#) [Link to Perspectives Article](#)
- [6] **Elardo, S. M.**, McCubbin, F. M., and Shearer, C. K. (2012) Chromite symplectites in Mg-suite troctolite 76535 as evidence for infiltration metasomatism of a lunar layered intrusion. *Geochimica et Cosmochimica Acta* 87, 154-177. [Link to Paper](#)
- [5] McCubbin, F. M., Hauri, E. H., **Elardo, S. M.**, Vander Kaaden, K. E., Wang, J., and Shearer, C. K. (2012) Hydrous melting of the Martian mantle produced both depleted and enriched Shergottites. *Geology* 40, no. 8, 683-686. [Link to Paper](#)
- [4] McCubbin, F. M., Jolliff, B. L., Nekvasil, H., Carpenter, P. K., Zeigler, R. A., Steele, A., **Elardo, S. M.**, and Lindsley, D. H. (2011) Fluorine and chlorine abundances in lunar apatite: Implications for heterogeneous distributions of magmatic volatiles in the lunar interior. *Geochimica et Cosmochimica Acta* 75, 5073-5093. [Link to Paper](#)
- [3] **Elardo, S. M.**, Draper, D. S., and Shearer, C. K. (2011) Lunar Magma Ocean crystallization revisited: Bulk composition, early cumulate mineralogy, and the source regions of the highlands Mg-suite. *Geochimica et Cosmochimica Acta* 75, 3024-3045. [Link to Paper](#)
- [2] Nekvasil, H., McCubbin, F. M., Harrington, A. D., **Elardo, S. M.**, and Lindsley, D.H. (2009) Linking the Chassigny meteorite and the Martian surface rock Backstay: Insights into igneous crustal differentiation processes on Mars. *Meteoritics & Planetary Science* 44, Nr. 6, 853-869. [Link to Paper](#)
- [1] McCubbin, F. M., Nekvasil, H., Harrington, A. D., **Elardo, S. M.**, and Lindsley, D. H. (2008) Compositional diversity and stratification of the Martian crust: Inferences from crystallization experiments on the picrobasalt Humphrey from Gusev Crater, Mars. *Journal of Geophysical Research - Planets* 113, E11013, doi:10.1029/2008JE003165. [Link to Paper](#)

## Teaching Experience

### **GeoSPACE Accessible Field Course**

Co-Instructor – University of Florida

### **Cosmochemistry, GLY 4043/5044**

Undergraduate/Graduate Level. Instructor of Record – University of Florida

### **Topics in Planetary Science: Early Planetary Crusts, GLY 4930/6932**

Undergraduate/Graduate Level. Instructor of Record – University of Florida

### **Planetary Geology, GLY 2042**

Undergraduate Level. Instructor of Record – University of Florida

### **Principles of Mineralogy, GLY 3200C**

Undergraduate Level. Instructor of Record – University of Florida

### **Survival Skills for Academic Careers in Earth & Planetary Sciences, GLY 6095**

Graduate Level. Instructor of Record – University of Florida

### **Physical Geology, GLY 2010C**

Undergraduate Level. Instructor of Record – University of Florida

### **Igneous & Metamorphic Petrology**

Graduate Teaching Assistant – University of New Mexico, 2013

### **Structural Geology**

Undergraduate Teaching Assistant – Stony Brook University, 2007

**Physical Geology Tutor**  
Stony Brook University, 2007 – 2008

## Students Mentored

### **Current Graduate Students**

**McKayla Meier** – Primary Advisor, PhD (In Progress)  
University of Florida

**Elizabeth Pesar** – Primary Advisor, PhD (In Progress)  
University of Florida

### **Former Graduate Students**

**Dr. Daniel Astudillo Manosalva – PhD 2024**, Primary Advisor  
University of Florida  
Dissertation Title: *The Petrology of the Lunar Interior and its Early Magmatism Addressed Through a Modeling, Analytical and Experimental Approach*  
Currently a Post-Doctoral Fellow at ETH Zürich Dept. of Earth and Planetary Sciences

**Dr. Molly Anderson – PhD 2023**, Co-Advisor with Michael Perfit  
University of Florida  
Dissertation Title: *Petrogenesis of the 8° 20' N Seamount Chain: Modeling Mantle Heterogeneity and Melting in the Near-Ridge Environment*  
Currently an NSF Post-Doctoral Fellow at Woods Hole Oceanographic Institute

### **Undergraduate Students**

**Emilio Allan** – University of Florida  
Active Undergraduate Researcher

**Abbie Griffis** – University of Florida  
Past Undergraduate Researcher

**Mia Luna** – University of Florida  
Past Undergraduate Researcher

**Sam Williams** – University of Florida  
Past Undergraduate Researcher

**Sabrina Leon** – University of Florida  
Currently a PhD student at the University of Hawai'i Manoa

**Luke Andrews** – University of Florida, BSc 2022  
Currently a PhD student at the University of Maryland – College Park

**Emily Sonnenberg** – University of Florida, BSc 2021  
Currently a PhD student at the University of California – Davis

## Professional Activities

**Committee Member, NASA South Pole-Aitken Basin Sample Return and eXploration (SPARX) Mission Science Definition Team**, Convened by NASA HQ, 2025 – 2026

**Committee Member, Artemis III Nominal Sample Definition Subcommittee**, LEAG-ExMAG Specific Action Team, 2024

**Session Chair, Apollo 17/ANGSA Workshop**, Lunar and Planetary Institute, 2022

**Session Chair, Lunar and Planetary Science Conference**, 2022

**Program Committee, Lunar and Planetary Science Conference, 2015, 2016, 2022**

**Theme Group Co-Chair, Goldschmidt 2021, Theme 1: Solar System and Planets, with T. Kruijer and K. Joy**

**Co-Convener, SE Regional GSA, Session D2: Solar System Processes: Impact Cratering, Planetary Surfaces and Meteorites**

**Science Organizing Committee, Differentiation: Building the Internal Architecture of Planets. Lunar and Planetary Institute's First Billion Years Initiative, 2018.**

**Session Co-Convener, Goldschmidt 2020, Session 01a: Accretion, Differentiation, and Evolution of Rocky Bodies Across the Inner Solar System, with K. E. Vander Kaaden, K. Iacovino, J. Creech, M. Fischer-Gödde**

**Session Co-Convener, AGU Fall Meeting 2016, Session V023: Physical and Chemical Constraints on the Moon-Forming Giant Impact, with B. Wood, R. Parai, and J. Wade**

**NASA – ROSES Proposal Reviewer and Panel Member, Seven Panels, Numerous External reviews**

**NSF Proposal Reviewer, Multiple External Reviews**

**Science Organizing Committee, NASA Exploration Science Forum Meeting, 2015**

**Peer Reviewer:** *Nature, Nature Geoscience, Nature Astronomy, Nature Communications, Science Advances, Geochimica et Cosmochimica Acta, Meteoritics & Planetary Science, The Journal of Geophysical Research – Planets, The Journal of Geophysical Research – Solid Earth, American Mineralogist, Earth & Planetary Science Letters, Reviews in Mineralogy & Geochemistry, and Geochemical Perspective Letters*

**University of New Mexico**

Invited Seminar, CASA Moon SSERVI Team's Planetary Sample Science Seminar Series, October 2024

**Geological Society of America Connects Annual Meeting 2024**

Invited Talk, Session T131 "Petrology and Volcanology of Earth and Other Planets"

**Georgia Institute of Technology**

Invited Seminar, Dept. of Earth and Atmospheric Science, April 2024

**Washington University in St. Louis**

Invited Seminar, Dept. of Earth and Planetary Sciences, April 2023

**Stetson University**

Invited Seminar, Gillespie Museum, March 2022

**University of Alaska – Anchorage**

Invited Seminar, Department of Geological Sciences, March 2021

**AGU Fall Meeting, 2020**

Invited Talk in Session: *Interiors of Planets and Moons: Learning from Spacecraft Observations, Simulations and In-Situ Data*", Section: Study of Earth's Deep Interior

**University of Central Florida**

Invited Seminar, Department of Physics, November 2019

**50<sup>th</sup> Lunar and Planetary Science Conference**

Invited Talk, Special Session on the 50<sup>th</sup> Anniversary of Apollo and LPSC, April 2019

## Invited Talks & Seminars



**Virginia Tech**

Special Invited Seminar, Department of Geosciences, May 2018

**49<sup>th</sup> Lunar and Planetary Science Conference**

Invited Talk, Special Session on the 45<sup>th</sup> Anniversary of Apollo 17, March 2018

**University of Oregon**

Special Invited Seminar, Department of Earth Sciences, March 2018

**University of Florida**

Special Invited Seminar, Department of Geological Sciences, February 2018

**Towson University**

Invited Seminar, Department of Physics, Astronomy & Geosciences, December 2017

**45<sup>th</sup> Anniversary Symposium for Apollo 17**

Invited Talk, Goddard Spaceflight Center, May 2017

**2017 Goldschmidt Conference**

Invited Talk. Session 01g - Declined

**Towson University**

Department Seminar, Department of Physics, Astronomy & Geosciences, April 2017

**University of Utah**

Special Invited Seminar, Department of Geology and Geophysics, Feb. 2017

**NASA Lunar Reconnaissance Orbiter Workshop on Young Lunar Volcanism**

Invited Talk, Lunar and Planetary Institute, Feb. 2017

**University of Tennessee – Knoxville**

Special Invited Seminar, Department of Earth and Planetary Sciences, Jan. 2017

**Stony Brook University**

Department Seminar, Department of Geosciences, Oct. 2016

**2016 Goldschmidt Conference**

Invited Talk in Session 02g: *Lunar Evolution: Endogenous and Exogenous Processes*

**University of Maryland – College Park**

Geochemistry Seminar, Department of Geology, April 2016

**Johns Hopkins Applied Physics Laboratory**

Department Seminar, April 2015

**Geophysical Laboratory**

Invited Talk, Carnegie Institution of Washington, Feb. 2014

**University of New Mexico**

Institute of Meteoritics Seminar, Regular Speaker

**Press  
Releases &  
Coverage**

**Quoted in “A first look at rocks from the lunar farside create a volcanic mystery”** by Lisa Grossman in *Science News* discussing two papers in *Science* and *Nature* reporting the first results from the Chang’e 6 lunar farside sample return mission – [Link to Article](#)

**Quoted in “Three glass beads bring into question the timeline of lunar volcanism”** by Laura Fattaruso in *Physics Today* discussing a paper by Wang et al. (2024) published in *Science* – [Link to Article](#)

**Live Appearance on NPR's *First Coast Connect*** – WJCT Jacksonville, Discussed Lunar Plants Paper by Paul et al. (2022) [Link to an Example of Press Coverage – BBC News](#)

**Live Appearance on W Radio's *Sigue La W*** – Spanish Language News Show, Columbia, Discussed Lunar Plants Paper by Paul et al. (2022)

**Quoted in Numerous News Stories Regarding Lunar Plants Paper by Paul et al. (2022)** – Including Stories by [CNN](#), [Time Magazine](#), and [USA Today](#)

**“One Small Sprout”** by Samantha Murray, *‘Explore’ Magazine*, *University of Florida Research News* article for Paul et al. (2020) – [Link to Article](#)

**“New research provides a clearer view of the Moon’s history”** by Scott Rogers, *University of Florida News* – [Link to Article](#)

**“What we’re still learning from Apollo”** by Alisson Clark, *University of Florida News* – [Link to Interview Video](#)

**“Why Apollo’s Moon rocks still matter”** by Alisson Clark, *University of Florida News* – [Link to Article](#)

**Quoted in “How NASA has kept Apollo moon rocks safe from contamination for 50 years”** by Lisa Grossman, *Science News* – [Link to Article](#)

**“Why are there different ‘flavors’ of iron around the Solar System?”**  
Carnegie Institution for Science Press Release for Elardo and Shahar (2017) *Nature Geoscience* – [Link to Press Release](#)

**Quoted in “Iron Isotopes in Planets Key to Formation of Solar System”** by Kaylan Kumar, *Tech Times* – [Link to News Article](#)

**“Ancient Water-rich Meteorite Linked to Martian Crust”**  
UNM Press Release for Agee et al. (2013) *Science* – [Link to Press Release](#)

## Public Lectures & Outreach

**Invited Lecture for the 2024 Chiefland AstroFest**, *The Roadside Geology of Earth’s Moon*, Event hosted by Alachua County Astronomy Club

**Public Lecture for International Observe the Moon Night Event**, *The Roadside Geology of Earth’s Moon*, Event hosted by UF Astronomy Dept.

**Scientist in Every Florida School Program**, Multiple Virtual Classroom Visits

**Can You Dig It? UF Outreach Event with the Florida Museum**, 2022 - 2023 – Organized a booth on ‘*Meteorites or Meteorwrongs?*’

**Carnegie Neighborhood Lecture Series** – *The Roadside Geology of Earth’s Moon* Geophysical Laboratory, Carnegie Institution for Science, November 2017

**Invited Talk**, *How We Know Martian Meteorites are from Mars*, Meeting of the Albuquerque Astronomical Society, May