

## ANTHONY FELDMAN

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### EDUCATION

<b>University of Nevada, Las Vegas</b> Doctor of Philosophy in Geosciences Dissertation: <i>Climatic Influences on Incipient Alteration of Mars-Like Ultramafic Soils</i>	<b>Spring 2023</b>
<b>New Mexico Institute of Mining and Technology</b> Master of Science in Geology Thesis: <i>Soil Chronosequence Study of Long Valley, New Mexico: Insights into the Development of Soils on Pleistocene and Holocene Moraine Catenas</i>	<b>2016-2018</b>
<b>University of Miami</b> Bachelor of Science in Geological Sciences	<b>2011-2015</b>

### PROFESSIONAL APPOINTMENTS

<b>Desert Research Institute – Staff Scientist in Soil Science</b> Staff scientist in soil science for the Integrated Terrain and Analysis Program focusing on predicting soil physical properties based on geomorphic, environmental, and lithology inputs.	<b>12/2022 -</b>
<b>SIG-GIS – Fire Fuel Sampling Contractor</b> Sampled living and dead fire fuel sources in the Spring Mountains to examine moisture content of potential fire fuel sources during the southern Nevada fire season	<b>04/2022 – 11/2022</b>
<b>AH Environmental Consultants – Project Scientist</b> Field mapping and GIS analysis of stormwater infrastructure and watersheds for municipalities and military bases.	<b>06/2015 – 05/2016</b>
<b>University of Miami – Research Assistant</b> Compiled a grain size database for mud cores from Bahamian hypersaline lakes.	<b>03/2015 – 08/2015</b>
<b>University of Maine – Research Intern</b> Mapped orientation of Grenville Tectonic Front Zone melt features in Ontario and analyzed dust and salt inclusions within ice grains using SEM	<b>05/2014 – 08/2014</b>

### RELEVANT SKILL SETS

Geochemistry, Critical Zone Processes, Soil Science, Soil Geomorphology, Water-Rock Interaction Chemistry, Soil Sampling and Field Coordination, X-ray Diffraction including Phase Identification and Rietveld Refinement, Selective and Bulk Chemical Digestions, Atomic Absorption Spectroscopy, Geochemical Data Analysis, OriginPro software

### CONFERENCE PROCEEDINGS

- Feldman A. D., Hausrath E. M., Sharp T. G., Rampe E. B., Lanzirrotti A., Newville M., Warm and Wet Conditions Promote Nanocrystallinity in Fe-rich X-ray Amorphous Material While Cool and Wet Conditions Promote Formation of Purely Amorphous Si/Fe-Rich Material in Terrestrial Ultramafic Soils Chemically Relevant to Mars. (2022, October). Abstract 83-7. Geological Society of America Abstracts with Programs. Vol 54. No 5.
- Feldman, A. D., Hausrath, E. M., Rampe, E.B., Peretyazhko, T., Burnley, P., Tschauner, O., Morris, R.V., Tu, V., Lanzirrotti, T., Newville, M. (2022, March). Olivine Dissolution and Formation of Secondary Phases in Ultramafic Soils. 53<sup>rd</sup> Lunar and Planetary Science Conference (No. 2278).
- Feldman A. D., Hausrath E. M., Rampe E. B., Tschauner O., Peretyazhko T. S. (2022, March). Ultramafic Soils: Analogues for Incipient Weathering on Mars. (Abstract 42-9). Geological Society of America Abstracts with Programs. Vol 54. No 2.
- Feldman, A. D., Hausrath, E. M., Tschauner, O., & Rampe, E. B. (2021, March). Persistence of Fe-Containing X-Ray Amorphous Material Favored in Cooler Climates. 52<sup>nd</sup> Lunar and Planetary Science Conference (No. 2548, p. 1782).
- Feldman A.D., Hausrath E.M., Tschauner O., Rampe E.B., Peretyazhko T. (2020). Phyllosilicate Transitions in Ferromagnesian Soils: Short-Range Order Materials and Smectites Dominate Secondary Phases. 51<sup>st</sup> Lunar and Planetary Science Conference. Abstract #1693
- Feldman A.D., Hausrath E.M., Tschauner O., Rampe E.B., Peretyazhko T. (2019). Examining Fe-Rich Soils Formed Under Varying Climates and Ages: Smectites Dominate Secondary Phases in Older Soils in Temperate Climates. 2019 ASA-CSSA-SSSA International Annual Meeting in San Antonio, Texas. Abstract #304-1.
- Feldman A. D., Hausrath E. M., Tschauner O., Burnley P., Lanzirrotti, A., Rampe E. B., Peretyazhko T., Calvin W., Azua B., Adcock, C. T. (2019). X-ray Amorphous and Poorly Crystalline Fe-Containing Phases in Terrestrial Field Environments and Implications for Materials Detected on Mars. 50th Lunar and Planetary Science Conference. Abstract #2111

Hausrath, E., Baumeister, J.L., Feldman, A., Ralston, S.J., Luu, N., Sanchez, A., Gainey, S. and Azua, B., (2019).  
 January. Porosity Formation and Weathering Products in Young Serpentine Soils. In SSSA International Soils  
 Meeting (2019). ASA-CSSA-SSSA.

Feldman A.D. (2018), Soil Chronosequence Study of Long Valley, New Mexico: Insights into the Development of  
 Soils on Pleistocene and Holocene Moraine Catenas, New Mexico Institute of Mining and Technology. Masters  
 Thesis

Feldman A. D. (2018). Soil Chronosequence Study of Long Valley, New Mexico: Insights into the Development  
 of Soils on Pleistocene and Holocene Moraine Catenas. Abstract 26-3 presented at the Geological Society of  
 America Annual Fall Meeting in Indianapolis, Indiana. 2018

Feldman A. D. (2017) Glacial Age Correlations and Pedogenesis Rates at Long Valley, Costilla Masif, Northern  
 New Mexico. Abstract [EP53B-1769] presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec

**TEACHING EXPERIENCE**

<b>College of Southern Nevada – Introduction to Geology – Lecturer</b>	<b>Spring 2022</b>
Designed syllabi, course materials, lectures, and examinations, taught full lecture section	
<b>University of Nevada, Las Vegas – Introduction to Geology – Teaching Assistant</b>	<b>Fall 2020/Spring 2021</b>
Lead laboratory sessions, graded lab assignments	
<b>University of Nevada, Las Vegas – Mineralogy – Teaching Assistant</b>	<b>Spring 2020</b>
Lead laboratory sessions, graded class and lab assignments and exams	
<b>New Mexico Tech – Introduction to Soils – Teaching Assistant</b>	<b>Spring 2018</b>
Prepared and graded laboratory and in field exercises	
<b>New Mexico Tech – Field Methods – Teaching Assistant</b>	<b>Summer 2017</b>
Assisted with guiding field mapping exercises and graded assignments	
<b>New Mexico Tech – Introduction to Mineralogy – Teaching Assistant</b>	<b>Spring 2017</b>
Prepared and oversaw laboratory sessions and graded assignments	

**FELLOWSHIPS AND FUNDING AWARDS**

UNLV Grad Rebel Advanced Doctoral Graduate Assistantship Completion Program	<b>2022</b>
UNLV Summer Doctoral Research Fellowship (\$7,000)	<b>2022</b>
UNLV GPSA Student Researcher Award (\$4,000)	<b>2021</b>
Clay Minerals Society Grant (\$3,000)	<b>2021</b>
Nevada Space Grant Fellowship (\$17,000)	<b>2020</b>
Geological Society of America (\$1,250)	<b>2020</b>
UNLV Graduate and Professional Student Association Awards (\$2,192)	<b>2019-2022</b>
Jack and Fay Ross Family Fellowship (\$78,000)	<b>2018-2020</b>
New Mexico Geological Society (\$2,500)	<b>2016-2017</b>

**CONTRIBUTIONS TO THE COMMUNITY**

- Reviewed articles for the journals *Environmental Earth Sciences* and *Geophysical Research Letters*
- Member of the Geological Society of America, Soil Science Society of America, Clay Minerals Society, and the Association of Environmental and Engineering Geoscientists

**RESEARCH INTERESTS**

Soil Weathering, X-ray Amorphous Material, Bedrock-Soil Connections, Critical Zone Processes, Water-Rock Interactions, Arid-Soil Formation and Evolution, Climatic Effects on Soil Evolution, X-ray Diffraction, Martian Analogues