

EVA BARANSKY
ejb382@nau.edu · 914-960-5019
CURRICULUM VITAE

EDUCATION

- Expected 07/2024 Ph.D., Earth Sciences and Environmental Sustainability**
Northern Arizona University, Flagstaff, AZ
Dissertation: Investigating the main regulators of the marine Ni biogeochemical cycle
Advisor: Laura Wasylenki
GPA: 4.0/4.0
- 2017 B.A., Biochemistry**
Barnard College, Columbia University, New York, NY
Thesis: Evaluation of the Siberian flood basalts' impact and resulting microbial influence on the Permian Triassic extinction
Undergraduate Research Advisor: Sedelia Rodriguez, Michael Rampino
GPA: 3.3/4.0
-

RESEARCH EXPERIENCE

- 2019 – Present Doctoral Researcher**
School of Earth and Sustainability, Northern Arizona University
Advisor: Laura Wasylenki
- Investigated (1) the main controls on the marine cycling of nickel, a bioessential element used in enzymes that regulate the C, N and O cycles, and (2) potential geologic records of the nickel isotope composition of seawater to reconstruct the marine nickel cycle over time by using a combination of experiments, modeling, and natural sample analysis
 - Performed ICP-MS and MC-ICP-MS on natural and experimental samples prepared using either sequential extraction or bulk digestion procedures plus ion-exchange chromatography
 - Determined that the Ni isotope composition of Mn-rich sediments, likely the largest Ni output, is likely governed by differences in Ni bonding sites and equilibration times
 - Assessed the fidelity of shallow-water carbonates as a record of the Ni isotope composition of seawater by constraining which diagenetic conditions best preserve the primary Ni signal
 - Preparing publications for submission to *Nature Geoscience* and *Geochimica et Cosmochimica Acta*
- 2017 – 2019 Post-College Appointee, Chemical and Isotopic Signatures Group**
Physical and Life Sciences, Lawrence Livermore National Laboratory

Advisor: Amy Gaffney

- Supported a nuclear safeguard, monitoring program to enable early detection of unreported nuclear material production
- Purified U, Pu, and other actinides from environmental matrices and measured their isotopic compositions using MC-ICP-MS
- Co-authored publications in *Journal of Radioanalytical and Nuclear Chemistry*

2016 – 2017

Undergraduate Research Assistant

Department of Environmental Science, Barnard College

Advisors: Sedelia Rodriguez, Michael Rampino

- Investigated the relationship between the Siberian Flood Basalts and the Permian Triassic Extinction
- Digested and prepared geologic samples for ICP-MS
- Identified a global nickel anomaly, an indicator of Siberian volcanism, suggesting a worldwide influence of the Siberian Flood Basalts and used paleoredox analysis to support previous findings that ocean anoxia was widespread and coincident with the extinction
- Published results in *Scientific Reports* and *Chemical Geology*

SKILLS

Laboratory and Analytical Methods: Ion-exchange chromatography, sequential extraction and bulk digestion of geologic materials, mineral synthesis, sorption experiments, diagenetic modeling, spiked isotope experimental technique

Laboratory Management: ICP-MS and MC-ICP-MS instrument maintenance and training students on laboratory safety and methods

Instrumentation: ICP-MS (independent), MC-ICP-MS (independent), and XRD (supervised)

Software: R, Visual Basic, MATLAB

PUBLICATIONS AND PRESENTATIONS

Publications:

Baransky, E., Post, J., Wasylenki, L., (in prep) A kinetic control on the marine Ni cycle: *Nature Geoscience*

Baransky, E., Hardisty, D., Rolison, J., Wasylenki, L., (in prep) Assessing the fidelity of shallow-water carbonates as a record of the Ni isotope composition of seawater: *Geochimica et Cosmochimica Acta*

Wasylenki, L., Wells, R., Spivak-Birndorf, L., **Baransky, E.**, Frierdich, A., (in review) Toward mending the marine mass balance model for nickel: experimentally determined isotope fractionation during Ni sorption to birnessite: *Geochimica et Cosmochimica Acta*

Denton, J., Treinen, K., Chen, Y., **Baransky, E.**, Gaffney, A., Huang, S., Kayzar-Boggs, T., Samperton, K., Steiner, R., Wende, A., Williams, R., and Zhao, Y., 2020, International cooperation in age-dating uranium standards for nuclear forensics using the $^{231}\text{Pa}/^{235}\text{U}$

- radiochronometer: *Journal of Radioanalytical and Nuclear Chemistry*,
<https://doi.org/10.1007/s10967-020-07084-x>
- Rampino, M., **Baransky, E.**, and Rodriguez, S., 2020, Proxy evidence from the Gartnerkofel-1 core (Carnic Alps, Austria) for hypoxic conditions in the western Tethys during the end-Permian mass-extinction event: *Chemical Geology*, doi:10.1016/j.chemgeo.2019.119434
- Treinen, K., Samperton, K., Lindvall, R., Wimpenny, J., Gaffney, A., BAVIO, M., **Baransky, E.**, and Williams, R., 2019, Evaluating uranium radiochronometry by single-collector mass spectrometry for nuclear forensics: a multi-instrument investigation: *Journal of Radioanalytical and Nuclear Chemistry*, doi:10.1007/s10967-019-06832-y.
- Rampino, M.R., Rodriguez, S., **Baransky, E.**, and Cai, Y., 2017, Global nickel anomaly links Siberian Traps eruptions and the latest Permian mass extinction: *Scientific Reports*, doi:10.1038/s41598-017-12759-9.

Presentations:

- Baransky, E.**, Post, J., Wasylenki, L., (2023, July) Nickel isotope behavior during sorption to birnessite with and without vacancies: implications for the marine nickel budget: Goldschmidt 2023, Lyon, France, Talk.
- Wasylenki, L., **Baransky, E.**, Post, J., (2023, July) Future models of the marine Ni budget should account for months-long equilibration time and smaller Ni isotope fractionations during sorption to birnessite: Goldschmidt 2023, Lyon, France, Talk.
- Baransky, E.**, Rolison, J., Wasylenki, L., (2021, December) Assessing shallow water carbonates as a record of the seawater nickel isotopic composition: AGU Fall Meeting 2021, New Orleans, LA, Poster.
- Broadman, E., Arcusa, S., **Baransky, E.**, et al. (2021, December) Challenges and opportunities from a semester of anti-racist geoscience curriculum: lessons from the School of Earth & Sustainability urge pod at Northern Arizona University: AGU Fall Meeting 2021, New Orleans, LA, Poster.
- Baransky, E.**, Wasylenki, L., (2020, May) Identifying the main regulators of the marine Ni biogeochemical cycle: School of Earth and Sustainability Graduate Poster Symposium, Flagstaff, AZ, Poster.
- Rolison, J., **Baransky, E.**, Kayzar-Boggs, T., (2019, August) High-precision tungsten isotope compositions of uranium ore concentrates: Goldschmidt 2019, Barcelona, Spain, Poster.
- Baransky, E.**, Rampino, M., Rodriguez, S., (2016, December) Developing a methodology to connect the Siberian flood basalts and the Permian-Triassic Extinction through LA-ICP-MS: AGU Fall Meeting 2016, San Francisco, CA, Poster.
- Rodriguez, S., Rampino, M., **Baransky, E.**, (2016, December) Global Ni anomaly generated by Siberian traps volcanism at the Permian Triassic boundary: AGU Fall Meeting 2016, San Francisco, CA, Poster.
- Baransky, E.**, Rodriguez, S., Rampino, M. (2016, August) The Permian-Triassic extinction and Siberian flood-basalt volcanism: a study into the cause of Earth’s greatest mass extinction: Barnard Student Research Institute Poster Session, New York, NY, Poster.

HONORS, AWARDS, AND GRANTS

Achievement Rewards for College Scientists (ARCS) Scholar (\$8500) Fall 2023 – Spring 2024
Cooperative Institute for Dynamic Earth Research Participant Summer 2022

MSA Grant for Mineralogy/Petrology Research (\$5000)	Summer 2021
GSA Student Research Grant (\$1375)	Spring 2020
First prize PhD poster, NAU School of Earth and Sustainability (\$200)	Spring 2020
Pioneer Natural Resources Award (\$2000)	Spring 2020
Northern Arizona University Presidential Fellow (\$36,000)	Fall 2019 – Spring 2023
Sally Chapman Departmental Leadership Award	Spring 2017
AGU Student Travel Grant (\$500)	Fall 2016
Sherman Fairchild Student Fellowship	Summer 2016

LEADERSHIP AND SERVICE

Coordinator of Speaker Series “Inclusive Excellence in STEM: Who’s Walking the Walk?” (NAU)	Fall 2023 – Present
PhD Representative, SES Faculty-Student Leadership Council (NAU)	Fall 2022 – Spring 2023
Lead, Committee on Diversity and Inclusion (NAU)	Fall 2021 – Spring 2023
Member, Subcommittee on Field Accessibility (NAU)	Fall 2021 – Present
Member, Unlearning Racism in Geoscience Pod (NAU)	Spring 2021
Co-Lead, Subcommittee on Department JEDI Survey (NAU)	Spring 2021 – Present
Student Volunteer, Goldschmidt Conference	Summer 2020, 2023
Founding Member, Committee on Diversity and Inclusion (NAU)	Spring 2020 – Present
Scientific Liaison (Girl Scouts – Arizona Cactus Pine)	Fall 2019 – Spring 2020
President, McIntosh Activities Council (Barnard College)	Fall 2015 – Spring 2016

TEACHING EXPERIENCE

Spring 2022, Fall 2021, Fall 2020	Teaching Assistant: GLG 112L Geologic Disasters (NAU); 3 sections Prepared and presented lecture material, supervised students, and graded coursework
Fall 2016	Teaching Assistant: CHEM 3333 Modern Techniques of Organic Chemistry Laboratory (Barnard College); 1 section Graded coursework, supervised students, and prepared experiments