Jonathan A. Lewis

Geoscientist and Ph.D. candidate

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Academic Background

Freie Universität Berlin, Berlin, Germany — March 2019-present; planned Ph.D. 2023
Ongoing graduate research in isotope geochemistry and Eoarchean geodynamic processes

Washington University in St. Louis, St. Louis, MO, USA — Degree May 2012
MA in earth and planetary science
Thesis: Sub-kilometer scale environmental variability during the mid-Holocene on Sai Island, Sudan

Salem State University, Salem, MA, USA — Degree May 2010
BS in geological sciences, Summa Cum Laude
Thesis: A multi-proxy study of a five meter sediment core from Sluice Pond, Lynn, MA

Brandeis University, Waltham, MA, USA — Degree May 2007
BA in classical archaeology and ancient history, economics, Cum Laude, Dean's Award, Honor Grant

Profile

Broadly trained geoscientist with a strong focus on light stable isotope geochemistry. Experienced in field and laboratory methods applicable to archaeology and earth science including work with C, O, and S isotopes. Proven record of scientific publications in internationally recognized journals as well as presentations at national and international conferences in Europe and the United States. Native English speaker, German language skill at an A2.1 level with intent to learn more.

Experience

Research Assistant (Wissenschaftlicher Mitarbeiter) / Guest Researcher — March 2019-present
Freie Universität Berlin, Berlin, Germany

- Doctoral research focused on elucidating Eoarchean geodynamic processes via isotope geochemistry
- Wrote and edited scientific papers in collaboration with colleagues, including two published first-author papers
- Extracted sulfur from rock samples for isotopic analysis via wet chemical methods
- Analyzed rock samples for multiple sulfur and lead isotope compositions via IRMS and SIMS
- Performed petrographic analysis on rock samples via optical and electron microscopy
- Performed compositional analysis on sulfides and other minerals via electron microprobe analysis

Field Technician / Geologist — March 2018-August 2018
OHI Engineering/Aerotek, Mansfield, MA, USA

- Conducted Phase I environmental site assessments and subsurface investigations
- Provided contractor oversight to ensure correct implementation of a release abatement measure
- Collected environmental groundwater and soil samples

Geotechnical Technician II — April 2017-February 2018
Thielsch Engineering, Cranston, RI, USA

- Conducted geotechnical tests on soil samples
- Conducted unconfined compression and elastic modulus tests on rock samples
- Collected environmental air, water, and soil samples and performed air monitoring in the field
- Oversaw geotechnical subsurface borings, collected associated samples, and generated boring logs
- Wrote environmental monitoring reports and geotechnical SOPs based on ASTM standards

Environmental Scientist / Geologist I — November 2014-April 2017
Arcadis, Midland, TX and Warwick, RI, USA

- Prepared various reports, permit applications, health and safety plans, and job safety analyses
- Performed Phase I environmental site assessments and Phase II subsurface investigations
- Collected groundwater, surface water, air, and soil samples for various analyses

Surface Mud Logger — September 2013-November 2014
Weatherford Surface Logging Systems, Midland, TX, USA

- Analyzed gas from drilling operations, determining composition and ensuring safe total gas concentrations
- Collected and analyzed rock cuttings to determine lithology and the presence of hydrocarbons
- Maintained contact with senior geologist and rig personnel, preparing multiple reports per day

Research Assistant August 2012-August 2013
Southern Illinois University, Carbondale, IL, USA
- Collected and analyzed water and precipitate samples from an experimental acid mine drainage remediation system and a nearby stream

Research / Teaching Assistant September 2010-August 2012
Washington University in St. Louis, St. Louis, MO, USA
- Sampled and conducted granulometric, petrographic, and isotopic ($\delta^{18}O$ and $\delta^{13}C$) analysis on paleosols
- Fieldwork included support for two archaeological field seasons in Sudan and one in Mongolia
- Published work included maps of isotope compositions made with GIS
- Developed and presented lab lectures and provided academic support for students outside of class

Tutor September 2008-May 2010
Salem State University Math Lab and Student Academic Support Services, Salem, MA, USA
- Provided tutoring for students in geology, math, academic English writing, and other subjects

Peer-Reviewed Journal Publications

- **Lewis, J.A.,** Hoffmann, J.E., Schwarzenbach, E.M., Strauss, H., Li, C., Münker, C. and Rosing, M.T. (2023) Sulfur isotope evidence from peridotite enclaves in southern West Greenland for recycling of surface material into Eoarchean depleted mantle domains. Chemical Geology 633, 121568. DOI: https://doi.org/10.1016/j.chemgeo.2023.121568

- **Lewis, J.A.,** Hoffmann, J.E., Schwarzenbach, E.M., Strauss, H., Liesegang, M. and Rosing, M.T. (2021) Sulfur isotope evidence for surface-derived sulfur in Eoarchean TTGs. Earth and Planetary Science Letters 576, 117218. DOI: https://doi.org/10.1016/j.epsl.2021.117218

- Adelsberger, K.A., **Lewis, J.,** Dodd, J.P., Hill, D., Smith, J.R. and Garcea, E.A.A. (2020) Mid-Holocene environmental change and human occupation at Sai Island, Northern Sudan. Geoarchaeology 35, 803-818. DOI: https://doi.org/10.1002/gea.21812

- Hubeny, J.B., McCarthy, F.M.G., **Lewis, J.,** Drljepan, M., Morissette, C., King, J.W., Cantwell, M., Hudson, N.M. and Crispo, M.L. (2015) The paleohydrology of Sluice Pond, NE Massachusetts, and its regional significance. Journal of Paleolimnology 53, 271-287. DOI: https://doi.org/10.1007/s10933-015-9824-8

Invited Talks

- Insights into Eoarchean crustal recycling via multiple sulfur isotope analysis of igneous lithologies from southern West Greenland (planned 2023 State Key Laboratory of Isotope Geochemistry, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences), online oral presentation by **J. Lewis**

Conference Presentations

- In-situ analysis of lead and multiple sulfur isotopes in southern West Greenland peridotite sulfide grains reveal evidence for Eoarchean crustal recycling (planned 2023 GeoBerlin BGR and DGGV annual meeting, Berlin, Germany), oral presentation by **J.A. Lewis,** E.M. Schwarzenbach, M. Liesegang, J. van de Löcht, A. Schwarz, H. Strauss, C. Münker, M.T. Rosing, M.J. Whitehouse, H. Jeon, J.E. Hoffmann

- In-situ lead and multiple sulfur isotope analyses of sulfides in Eoarchean peridotites provide evidence for early crustal recycling (planned 2023 Goldschmidt annual meeting, Lyon, France), poster presentation by **J.A. Lewis,** E.M. Schwarzenbach, M. Liesegang, J. van de Löcht, A. Schwarz, H. Strauss, C. Münker, M.T. Rosing, M.J. Whitehouse, H. Jeon, J.E. Hoffmann

- In-situ sulfur and lead isotope measurements confirm Eoarchean origin of surface-derived sulfur in southern West Greenland peridotites (2023 SPP 1833 General meeting, Köln, Germany), poster presentation by **J.A. Lewis,** E.M. Schwarzenbach, M. Liesegang, J. van de Löcht, A. Schwarz, H. Strauss, C. Münker, M.T. Rosing, M.J. Whitehouse, H. Jeon, J.E. Hoffmann

- In-situ sulfur and lead isotope evidence for Eoarchean crustal recycling in southern West Greenland peridotites (2022 GeoMin Köln DMG and DGGV annual meeting, Köln, Germany), oral presentation by **J.A. Lewis,** E.M. Schwarzenbach, M. Liesegang, J. van de Löcht, A. Schwarz, H. Strauss, C. Münker, M.T. Rosing, M.J. Whitehouse, H. Jeon, J.E. Hoffmann

- Contrasting messages from sulfur and oxygen isotopes on the origin of Eoarchean crust (2022 GeoMin Köln DMG and DGGV annual meeting, Köln, Germany), oral presentation by J.E. Hoffmann, **J.A. Lewis,** E.M. Schwarzenbach, H. Strauss

- Sulfur and Hafnium Isotope evidence for Early Horizontal Tectonics in Eoarchean Peridotites (2022 European Geophysical Union annual meeting), oral presentation by **J. Lewis,** J.E. Hoffmann, E.M. Schwarzenbach, H. Strauss, C. LI, C. Münker, M.T. Rosing, DOI: https://doi.org/10.5194/egusphere-egu22-5226

- Sulfur and hafnium isotope constraints on depletion and refertilization history of Eoarchean mantle peridotites (2022 SPP 1833 annual meeting, Tübingen, Germany), oral presentation by **J. Lewis,** J.E. Hoffmann, E.M. Schwarzenbach, H. Strauss, C. LI, C. Münker, M.T. Rosing

- Evidence for surface-derived sulfur in Eoarchean TTGs from the Itsaq Gneiss Complex, SW Greenland (Goldschmidt 2021 annual meeting, Lyon, France), online oral presentation by **J.A. Lewis,** J.E. Hoffmann, E.M. Schwarzenbach, H. Strauss, H. Vrijmoed, M.T. Rosing

- Evidence for recycled surface-derived sulfur in Earth's oldest mantle peridotites from southern West Greenland (Goldschmidt 2021 annual meeting, Lyon, France), online oral presentation by J.E. Hoffmann, **J.A. Lewis,** E.M. Schwarzenbach, H. Strauss, M. Liesegang, M.T. Rosing

- Eoarchean TTGs from the Itsaq Gneiss Complex, SW Greenland host recycled, surface derived sulfur (2021 SPP 1833 annual meeting, virtual), online presentation by **J. Lewis,** J.E. Hoffmann, E.M. Schwarzenbach, H. Strauss, M. Liesegang, M.T. Rosing

- Elucidating Eoarchean geodynamic processes by multiple sulfur isotopes (2019 SPP 1833 General meeting, Köln, Germany), poster presentation by **J. Lewis,** J. E. Hoffmann, E.M. Schwarzenbach, H. Strauss, M.J. Whitehouse, C. Münker, M.T. Rosing, A. Schwarz

- Geoarchaeological Evidence of Mid- to Late-Holocene Environments at Sai Island, Sudan (2017 GSA Annual Meeting, Seattle, Washington, USA), poster presentation by K. A. Adelsberger, **J. Lewis,** D. N. Hill, J.P. Dodd, J. R. Smith, E.A.A. Garcea, DOI: https://doi.org/10.1130/abs/2017AM-299092

- Paleoenvironmental implications of the isotope geochemistry and granulometry of quaternary alluvial sediments and associated plaeosols from Sai Island, Sudan (2011 GSA Annual Meeting, Minneapolis, MN, USA), poster presentation by **J. Lewis,** J. Smith, E.A.A. Garcea

- Holocene Stratigraphy and Climate History of Sluice Pond, MA (2011 GSA Annual Meeting, Minneapolis, MN, USA), poster presentation by J. B. Hubeny, F.M.G. McCarthy, **J. Lewis,** M. Cantwell, C. Morissette, M.L. Crispo, R. Zanatta

- A multi-proxy study of a five meter sediment core from Sluice Pond, Lynn, MA: Comparison of lithostratigraphic and seismic records (2010 GSA joint Northeastern/Southeastern meeting, Baltimore, MD, USA; also presented at the 2010 North Shore chapter Sigma Xi Research Symposium, Salem, MA, USA), poster presentation by **J. Lewis**, J.B. Hubeny

Awards and Honors

- Geological Society of America Outstanding Undergraduate Student Poster Award (2010 GSA Northeastern/Southeastern meeting)

Memberships

- European Association of Geochemistry
- Deutsche Mineralogische Gesellschaft