Kristen Bidas

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# Education

* University of Tennessee Knoxville, Knoxville, TN | PhD Geology | 2020-present | Organo-Mineral Interactions Between Manganese Oxides and Carbon: Low in Concentration but High in Importance | Advisor: Dr. Elizabeth Herndon
* Stony Brook University, Stony Brook, NY | Masters of Science | 2014-2017 | Sulfur Cycling in the Cariaco Basin and a Meromictic Lake in Fayetteville, New York | Advisor: Dr. Mary Scranton
* Stony Brook University, Stony Brook, NY | Bachelors of Science | 2010-2014 | Chemistry major, marine science minor

# Research Experience

**University of Tennessee Knoxville | June 2020-present |Graduate Research Assistant**

* Designed and executed a field experiment in Oak Ridge, TN
* Analyzed soil samples with ICP-OES, elemental analyzer, TOC and FTIR
* Processed synchrotron data using the program Athena
* Subsampled soil cores for different analyses including density fractionation, metals analysis, and total carbon analysis
* Learned how to operate and maintain an anaerobic glovebag
* Attended the National School on Neutron and X-ray Scattering hosted by Oak Ridge National Lab and Argonne National Lab

**University of Tennessee Knoxville January 2020-May 2020 | Graduate Teaching Assistant**

* Taught the undergraduate laboratory The Earth’s Environments
* Assisted students with the lab by reviewing the material, answering questions, and holding office hours twice a week

**Stony Brook University | 2014-2017 | Graduate Research Assistant**

* Coordinated field sampling trips to Venezuela and Fayetteville Green Lake with other researchers
* Became proficient in HPLC and Raman microspectroscopy
* Performed a variety of data analyses using Wire 4.1, MS Excel, Shimadzu Class VP HPLC software, and SigmaPlot

**Stony Brook University | 2013-2014 | Undergraduate Senior Research Project**

* Conducted a pilot study measuring submarine groundwater discharge in Jamaica Bay, Jamaica and Port Jefferson, New York
* Analyzed 226Ra/228Ra in calcerous algae and shell samples using gamma spectroscopy

**Stony Brook University | 2011-2013 | Undergraduate Research Assistant**

* Prepared samples to undergo stable isotope analysis by washing sediment cores, picking/sorting foraminifera from various cores, and preparing solutions

**Sea Education Association | 2013 | Student Researcher**

* Operated and maintained a 134’ modified Brigatine sailing vessel
* Design and write up original scientific research on plastic distribution in the North Pacific Subtropical Gyre
* Deploy and troubleshoot oceanographic equipment
* Operate and maintain a sailing vessel with fellow students

# Field Experience

* Field sampling and on-site laboratory work at Toolik Field Station, Toolik, AK, July-August 2022
* Field sampling at Fayetteville Green Lake, Fayetteville, NY; July, August, October 2016
* Research cruise in the Cariaco Basin, Venezuela; November 2015
* Research cruise with Sea Education Association; July 2013
* Core samples for stable isotope analysis

# Professional Experience

**Pace Analytical | 2018-2019 | Analyst I-Semivolatiles**

* Applied EPA methods to analyzed water/soil sample extracts for herbicides, pesticides, PCBs, carbamates and glyphosate
* Prepared analytical standards, HPLC reagents, other solutions, and performed routine maintenance for HPLC/GC

**Pace Analytical | March 2018-July 2018 | Laboratory Technician I-Bottle Prep**

* Coordinated with project managers to ship sample bottles
* Ordered and maintained supply stocks for receiving department

**Pace Analytical | Sept. 2017-March 2018 | Sample Receiving Technician**

* Unpacked and processed samples for analysis
* Routinely measured pH and free chlorine of laboratory outflow
* Assisted the lab with implementing lean management practices in the sample receiving department

# Awards and Honors

* 2020 Tennessee Space Grant Scholarship, Department of Earth and Planetary Sciences, University of Tennessee Knoxville; $350
* 2020 Graduate Advancement Training and Education (GATE) Award, University of Tennessee Knoxville Science Alliance; $30,000 stipend for two years

# Publications

* Cohen, A., Klepac-Ceraj, V., **Bidas, K.**, Weber, F., Garber, A., Christensen, L., Cram, J. McCormick, M., Taylor, G. Influence of season, redox zonation, and particulate association on microbial community composition in a permanently redox-stratified freshwater lake. *Limnology and Oceanography.* Accepted pending final updates.
* Cohen, A.B., Klepac-Ceraj, V., Bidas, K., Weber, F., Garber, A.I., Christensen, L.N., Cram, J.A., McCormick, M.L. and Taylor, G.T. (2022), Deep photoautotrophic prokaryotes contribute substantially to carbon dynamics in oxygen-deficient waters in a permanently redox-stratified freshwater lake. Limnol Oceanogr. <https://doi.org/10.1002/lno.12262>
* Li H., Santos F., **Butler K.**, Herndon E. A critical review on the multiple roles of Mn in stabilizing and destabilizing soil organic matter. *Environmental Science and Technology* 55.18 (2021): 12136-12152. DOI: <https://doi.org/10.1021/acs.est.1c00299>

# Conference Abstracts

* Herndon, E., Li, H., Sulman, B. N., Santos, F., & **Butler, K**. (2021, November). The multiple roles of manganese in stabilizing or destabilizing soil organic matter. In *ASA, CSSA, SSSA International Annual Meeting*. ASA-CSSA-SSSA.
* Cohen, Ashley B.; **Butler, Kristen**; Klepac-Ceraj, Vanja; Christensen, Lisa N.; Cram, Jacob; McCormick, Michael M.; Weber, Felix; Taylor, Gordon T. Particle-associated, sinking, and free-living microbial assemblages in permanently redox-stratified Fayetteville Green Lake. In: Microbe-organic matter interactions in aquatic systems: Advances and challenges 5 ASLO 2021 Aquatic Sciences Meeting; 2021 June 22-27; Virtual: ASLO; 2021. Abstract nr 3458.

# Service Activities

* URGE Unlearning Racism in Geoscience UTK EPS Pod January 2021-May 2021
* Bay Scallop Bowl Volunteer, Stony Brook University, February 2015 and February 2016
* Martial Arts instructor, 2014-2017
* Camp Suigetsu Teen Camp Counselor, June 2010 and June 2012
* SBU Actor’s Conservatory: Treasurer, 2013-2014
* Society for Global Awareness: Secretary and President, Sept. 2010- May 2011; Vice President, Sept. 2011-Dec. 2011

# Societies

* American Chemical Society
* American Geophysical Union
* Geochemical Society