

Claire C. McKinley

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PROFESSIONAL PREPARATION

2018-Present **Postdoctoral Research Associate**

University of Washington, Primary Investigator: Evan Solomon
National Research Council National Energy Technology Laboratory Methane Hydrates Fellowship Program

2013-2018 **PhD Oceanography**

Texas A&M University, Advisor: Dr. Debbie Thomas
Dissertation: *Assessment of Sequential Extractions: Implications for Isotopic Composition of Authigenic Oxides and Detrital Residues as Paleooceanographic Proxies*

2008-2012 **Bachelor of Arts, Earth Sciences**

Boston University, Advisor: Dr. Richard W. Murray
Senior Project: *The Geochemical Characterization of Volcanic Ash at Deep Sea Drilling Project Site 52, Northwest Pacific Ocean*

RESEARCH AND TEACHING EXPERIENCE

2016-2017 **Graduate Assistant Lecturer – Texas A&M University**

January 2016 to May 2017
Instructor of record for Oceanography 251, 3 semesters (65, 60, 30 students respectively).

2014-2015 **Graduate Assistant Researcher - International Ocean Discovery Program**

X-Ray Florescence (XRF) Instrument Technician at the JRSO
Maintain the Avatec XRF, train and support visiting scientists.

Spring 2014 **Lab Graduate Assistant Teaching – Texas A&M University**

Responsible for three 20-person sections of Oceanography 251 - Introduction to Oceanography Lab.

2012-2013 **Soil Field Instructor - Multnomah Education Service District**

September 2012 to May 2013
Develop and implement experiential science curriculum. Train, supervise and evaluate High School volunteers in instruction of 6th grade students.

Summer 2012 **Geochemistry Lab Technician - Boston University**

Prepare sediment samples for analysis on ICP Emission Spectrometer via flux fusion and on ICP Mass Spectrometer via acid digestion.

May 2011 **Hawaii Preparatory Academy Intern**

Created lesson plans, led invertebrate dissection lab, chaperoned and facilitated weekly 7th grade field invertebrate coral reef study.

UNDERGRADUATE RESEARCH MENTORSHIP

RESEARCH SCHOLARS PROGRAM

Schultz, Alyssa, 2017, The Effects of Volcanic Ash on Dissolved Neodymium as a Water Mass Tracer - *Undergraduate Research Scholars Project*

DIRECTED RESEARCH FOR CREDIT

- Samantha Bowers
- Jonathan Tybur
- Calli Provenza

AWARDS

- NRC Research Associateship award at the National Energy Technology Laboratory Methane Hydrates Fellowship Program
- 2018-2019 Center for Dark Energy Biosphere Investigations (C-DEBI) Postdoctoral Fellowship
- Joe and Doris Watson Endowed Fellowship, 2017-2018 – Texas A&M
- Graduate and Professional Student Council Travel Award Winter 2016 – Texas A&M
- Office of Graduate and Professional Studies Research and Presentation Grant, 2016 – Texas A&M
- Louis & Elizabeth Scherck Scholarship, 2016-2017 and 2017-2018 – Texas A&M
- Mr. and Mrs. Kenneth P. Pipes Scholarship, 2016-2017 – Texas A&M
- Louis and Elizabeth Scherck Graduate Fellowship, Fall 2013 – Texas A&M
- Earth Sciences Departmental Service Award, 2011- 2012– Boston University

PUBLICATIONS

PUBLISHED ARTICLES

McKinley, C.C., Thomas, D.J., LeVay, L.A., and Rolewicz, Z.L., Nd isotopic structure of the Pacific Ocean 40–10 Ma, and evidence for the reorganization of deep North Pacific Ocean circulation between 36 and 25 Ma, (2019) *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2019.06.009

Scudder, R. P., Murray, R. W., Schindlbeck, J. C., Kutterolf, S., Hauff, F., Underwood, M.B., Gwizd, S., Lauzon, R., & **McKinley, C.C.** (2016), Geochemical approaches to the quantification of dispersed volcanic ash in marine sediment, *Progress in Earth and Planetary Science*, doi: 10.1186/s40645-015-0077-y

D'Hondt, S., Inagaki, F., Zarikian, C. A., Abrams, L. J., Dubois, N., Engelhardt, T. Evans, H., Ferdelman, T., Gribsholt, B., Harris, R.N., Hoppie, B.W., Hyun, J.-H., Kallmeyer, J., Kim, J., Lynch, J.E., **McKinley, C.C.**, Mitsunobu, S., Morono, Y., Murray, R.W., Pockalny, R., Sauvage, J., Shimono, T., Shiraishi, F., Smith, D.C., Smith-Duque, C.E., Spivack, A.J., (2015), Presence of oxygen and aerobic communities from sea floor to basement in deep-sea sediments, *Nature Geoscience*, 8(4), 299-304.

Scudder, R. P., Murray, R. W., Schindlbeck, J. C., Kutterolf, S., Hauff, F. & **McKinley, C.C.** (2014), Regional-scale input of dispersed and discrete volcanic ash to the Izu-Bonin and Mariana subduction zones, *Geochemistry, Geophysics, Geosystems* 15, 4369-4379, doi: 10.1002/2014GC005561

MANUSCRIPTS IN PREPARATION

McKinley, C.C., Scudder, R.P and Thomas, D.J., The reproducibility and fidelity of acid reductive leaching targeting Fe-Mn Oxyhydroxides in the North and South Pacific Ocean. *Manuscript drafted for Geochemistry, Geophysics, Geosystems. Submission expected, June 2020.*

INVITED SEMINARS

- 2017 Reconstructing the Paleogene Mode of Ocean Circulation in the Pacific through Neodymium Isotopic Composition of Fossil Fish Debris and Oxide Coatings
Oceanography Departmental Seminar Series, Texas A&M University.
- 2017 Reconstructing the Paleogene Mode of Ocean Circulation in the Pacific using Neodymium Isotopes.
University of Southern Mississippi Division of Marine Science Seminar Series

FIELD EXPERIENCE

- Fall 2019 **R/V Atlantis: Pythia's Oasis Expedition**
Lab Lead for the Geochemistry Science Party, two weeks at sea collecting pore water to investigate the source of cold seeps on the Cascadia Subduction Zone
- Winter 2019 **R/V Revelle: SAFFRONz:**
Geochemistry Science Party, six weeks at sea collecting pore water to investigate Slow-Slip and fluid flow response offshore New Zealand
- Winter 2014 **R/V Knorr: Researcher's Ridge Expedition**
Geochemistry Science Party, six weeks at sea collecting dissolved oxygen in pore water data as well as marine sediment samples for analysis.
- January 2014 **R/V Manta: Flower Garden Banks and National Marine Sanctuary, Texas**
Science Party, Multi-beam Survey of Coffee Bank
- Spring 2011 **Earth and Environmental Systems Field Semester**
Cornell University Hawaii based Field Semester.
Instructors: Dr. Alexandra Moore, Dr. Louis Derry, Dr. Charles Greene

COURSEWORK

Texas A&M: Chemical Oceanography, Geological Oceanography, Physical Oceanography, Global Physical Oceanography, Proxy Reconstruction of Late Cenozoic Climate, Geochronology, Marine Sediment Processes, MATLAB Programming for Ocean Sciences and College Teaching.

Boston University: Sedimentology, Geodynamics & Geophysics, Geochemistry, Ice Age Systems, Terrestrial Biogeochemistry, Mineralogy, Marine Geology, Adolescent Development

Cornell, Earth & Environmental Systems Field Semester: Biogeochemistry of the Hawaiian Islands, Conservation Oceanography

CONFERENCE ABSTRACTS

McKinley, C.C., Solomon, E.A., Bundy, R.M., Whorley, T.L. and Hoffman, C. L. (2020) Fe speciation and cycling in marine methanogenic sediments. Goldschmidt, Hawaii, Virtual Meeting

McKinley, C.C., Solomon, E.A., Whorley, T. (2019) Evaluating the pervasiveness and depth extent of Microbial Fe reduction and its role in the global methane cycle. American Geophysical Union, Fall Meeting, B44C-01

McKinley, C.C., Crofoot, T.L., Showalter, G. A. (2019) Teaching Across Cultures: American Indian Models for Global Diversity American Geophysical Union, Fall Meeting ED33G-1055

McKinley, C.C., Thomas, D.J. (2016). Authigenic oxide Neodymium Isotopic composition as a proxy of seawater: applying multivariate statistical analyses American Geophysical Union, Fall Meeting Abstract PP11A-2003.

Scudder, R.P., **McKinley C.C.**, D. Thomas D.J., and R. Murray R.W., (2016), The Role of Authigenic Volcanic Ash in Marine Sediment, American Geophysical Union, Fall Meeting, PP13D-01. *Invited.*

Estes, E., Hansel C., Orsi W., Anderson C., Murray R.W., Wankel S., Johnson D., Nordlund D., Spivack A., Sauvage J., **McKinley C.C.**, Homola K., Present T.M., Pockalny R.A., D'Hondt S. (2016), Insight into metabolic potential of carbon-poor pelagic sediments derived from the abundance and composition of organic carbon. Ocean Sciences Meeting, Washington DC, MM44B-0493

Anderson, C., Estes, E., Dyar, M., Murray, R.W., Spivack, A., Sauvage, J., **McKinley, C.C.**, Present, T.M., Homola, K., and Pockalny, R. (2015), Iron Cycling in Sediment of the North Atlantic: Preliminary Results from R/V Knorr Expedition 223. American Geophysical Union, Fall Meeting PP43A-2250

McKinley, C.C., Thomas, D.J., Scudder, R.P., Dunlea, A.G., and Murray, R.W. (2015). Down Core Fidelity of Authigenic Oxyhydroxide Coatings: Tracing Paleogene Water Mass Evolution. American Geophysical Union, Fall Meeting, PP43A-2257

Rolewicz, Z., Thomas, D.J., **McKinley, C.C.**, (2014) Potential Influences of Pacific Meridional Overturning Circulation on Climate Change Across the Mid Eocene Climatic Optimum (MECO), American Geophysical Union, Fall Meeting, PP51B-1114

McKinley, C.C., Scudder, R.P., Murray, R.W., Kutterolf, S., and Schindlbeck, J.C. (2012), The chemical characterization of dispersed ash and ash layers at DSDP Site 52, Izu-Bonin. American Geophysical Union, Fall Meeting, PP13A-2070.

CONFERENCES AND WORKSHOPS ATTENDED

- NACADA eTutorial: Theory & Practice of Advising, Spring, 2020
- Sheila Seaman Women in Geosciences Writing Retreat, Summer 2019
- Earth Educator's Rendezvous, Nashville, TN, Summer 2019
- Pacific Science Center Science Communication Fellowship, 2019
- Session co-convener of *Geochemistry and Microbiology of Oxic and Suboxic Deep-Sea Pelagic Sediments* at AGU Fall Meeting 2015
- Earth Educator's Rendezvous, Madison WI, Summer 2015
- Session co-convener of *Authigenic Processes in Marine Sediment* at AGU Fall Meeting 2016

- Texas A&M “Aggie” Ally Workshop, Spring 2016

SERVICE

- President of the Oceanography Graduate Student Council (OGC), 2015-2017
- Graduate and Professional Student Council Delegate, 2013-2014
- AGU Digital Transformation Advisory Working Group, 2016

PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU)
- Geological Society of America (GSA)
- National Association of Geoscience Teachers (NAGT)
- The Global Community for Academic Advising (NACADA)

AMERICAN INDIAN AFFILIATION

Descendant of the Confederated Tribes of the Colville Indian Reservation. Paternal grandfather (William "Billy" Crofoot) was born on the reservation and was an enrolled tribal member. Continuing family ties with Colville tribal members.