

## William C. Daniels

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### RESEARCH INTERESTS

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Limnology, watershed Science, paleolimnology, paleoclimate, water isotopes, organic geochemistry, biogeochemical cycles, invasive species, aquatic ecology, Arctic and Antarctic systems, Quaternary geology, human impacts in ecology

### EDUCATION

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- 2017** **Ph.D., Brown University**, Department of Earth, Environmental and Planetary Sciences (Providence, RI) and **Marine Biological Laboratory**, Ecosystems Center (Woods Hole, MA). Drs. James M. Russell and Anne E. Giblin, advisors. *Climatic and ecological change in Arctic Alaska over the last 32,000 years inferred from lacustrine records and experiments*
- 2013** **M.Sc., Brown University**, Department of Earth, Environmental and Planetary Sciences (Providence, RI) and **Marine Biological Laboratory**, Ecosystems Center (Woods Hole, MA). Drs. James M. Russell and Anne E. Giblin, advisors. *Benthic community metabolism in deep and shallow arctic lakes during 13 years of whole-lake fertilization*
- 2007** **B.A., Lawrence University**, Appleton, WI. Magna cum laude in biology. Dr. Bart T. De Stasio, advisor. *Dreissena polymorpha and suspended sediment effects on the lower food web in Green Bay, Lake Michigan and Lake Winnebago, Wisconsin: A modeling approach*

### PROFESSIONAL EXPERIENCE

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- 2022-** **Visiting Assistant Professor**, University of MN Duluth, Dept of Earth&Env Sciences
- 2020-2022** **NSF Postdoctoral Fellow**, University of Massachusetts Amherst, Dept of Geological Sciences. Dr. Isla S Castañeda, supervisor
- 2019-2020** **Zuckerman Postdoctoral Fellow**, University of Haifa, School of Marine Geosciences. Dr. Nicholas Waldmann, supervisor
- 2018** **Mission Commander**, HERA Mission XVII, NASA-Johnson Space Center, Houston, TX.
- 2017-2019** **Postdoctoral Scholar**, University of Massachusetts Amherst, Department of Geological Sciences. Drs. Isla S. Castañeda and Julie Brigham-Grette, supervisors.
- 2011-2017** **Research and Teaching Assistant**, Brown University, Providence, RI.
- 2009-2011** **Research Assistant**, MBL, Woods Hole, MA.
- 2009-2010** **Teaching Assistant**, Semester in Environmental Science, MBL, Woods Hole, MA.
- 2008-2009** **Lab Technician II**, St. Croix Watershed Research Station, Marine on St. Croix, MN.
- 2007-2008** **Naturalist and Dogsled Musher**, YMCA Camp Menogyn, Grand Marais, MN
- 2005-2007** **Researcher (Zooplankton Technician)**, Lawrence University, Appleton, WI.

### PROFESSIONAL AFFILIATIONS

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Association for the Sciences of Limnology and Oceanography (ASLO), Geological Society of America (GSA), American Geophysical Union (AGU)

## **TEACHING EXPERIENCE**

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- 2022** *Oceanography and Field Methods in Hydrology, UMN Duluth*
- 2018** *Guest lecturer, Honors Oceanography, University of Massachusetts.*
- 2012–2017** **Teaching assistant, Brown University.** *Oceanography, Limnology, Climate and Climate Change, and Environmental Science in a Changing World.* Responsible for review sessions, office hours, grading, and co-leading field trips, coordinating student group projects, and giving occasional class lectures. Includes developing lab activities about biogeochemical cycling and lake ecology.
- 2011–2017** **Elementary school science volunteer.** Designed and taught hands-on science lessons for grades 2-4 on a bi-monthly basis at the Vartan Gregorian Elementary School (Providence, RI) and The Common School (Amherst, MA).
- 2014–2017** **Climate change guest teacher.** Taught annual lessons on climate change to 6 8<sup>th</sup> grade classes per year at the Marshfield Middle School in MA, and co-taught a week-long middle school SPARK program on meteorology at Brown University.
- 2015–2016** **Instructor, Kaktovik Oceanography Program.** Coordinated and taught a week-long science camp for Inupiat children in Kaktovik, AK, and was the lead instructor for the geology lessons which included hypothesis-driven mapping of coastal erosion and sediment coring of Kaktovik Lagoon.
- 2009–2010** **Teaching assistant and undergraduate project co-advisor;** Semester of Environmental Science, Ecosystems Center, MBL, Woods Hole, MA.
- 2007–2008** **Naturalist lecturer, dogsled musher, and activities coordinator:** YMCA Camp Menogyn, Minnesota.

## **UNDERGRADUATE MENTORING**

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- Carly Lombardo,** UMass. Geoscience, non-thesis project. May 2022.
- Kurt Lindberg,** UMass Commonwealth Honors College Undergraduate Thesis. May 2020. Honors thesis: *Temperature variability from Arctic lake El'gygytgyn (Far East Russia) during the Mid-Pleistocene Transition based on brGDGTs.*
- Courtney Bly,** UMass Commonwealth Honors College Undergraduate, non-thesis project. 2018-2019.
- Sophia Rudin,** Brown University Undergraduate Thesis. May 2017. Honors thesis: *Metals in Mashapaug Pond: An interdisciplinary approach to understanding the industrial history of Providence, RI.*
- Jasmine McAdams,** Brown University Undergraduate Thesis. Mellon Mays Fellowship. May 2016. Honors thesis: *Paleoecological Analysis of Diatoms as Indicators of Environmental Change in Narragansett Bay, RI.*
- Rebecca Rose,** Brown University Undergraduate Thesis. May 2016. Honors thesis: *Effects of Holocene Climate Change on the Carbon Cycle in Northern Alaska.*
- Allison Cluett,** Brown University Undergraduate Thesis. May 2016. Honors thesis: *High-resolution leaf wax isotope records of Holocene climate in Arctic Alaska.*
- Patrick Holland-Stergar,** Brown University Undergraduate Thesis. May 2015. Honors thesis: *A leaf wax hydrogen isotopic record of Northern Alaska temperature from the Last Glacial Maximum to the present.*

## **RESEARCH FUNDING**

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**2020-2023. NSF EAR: Post-doctoral Fellowship.** Biomass burning in the terrestrial Arctic during past warm periods: New insights from organic biomarkers in Lake El'gygytgyn (Siberia) (Award #1855281). \$261,000. W. C. Daniels (PI).

**2019-2020. Zuckerman Postdoctoral Fellowship.** Reconstructing Climate and Environments in the Heart of the Bering Strait. \$60,000. Nicolas Waldmann (PI), W. C. Daniels (Co-PI/postdoc).

**2016. Institute at Brown for Environment and Society outreach grant.** Travel and supply funds to volunteer with the Kaktovik Oceanography Program in northern Alaska. \$2134. W. C. Daniels.

**2014. Geological Society of America Graduate Research Grant.** Calibrating the leaf wax hydrogen isotope proxy in Arctic Alaska using experimental and field studies. Award amount: \$2500. W. C. Daniels.

## **FIELD EXPERIENCE**

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- 2018, 2019** Paleolimnology field campaign to southern Greenland. Sediment trap recovery and deployment, ekman sampling, soil and vegetation sampling, sediment coring.
- 2017/2019** Numerous sampling trips to Sebago Lake (ME) and Basin Pond (ME); collected surface sediments, deployed sediment traps, collected water, vegetation, and soil samples.
- 2017** UNOLS Chief Scientist Training Program (R/V Blue Heron). 5-day research cruise on the Laurentian great lakes. Large volume water filtration and ponar sediment sampling for organic geochemical and stable isotope analyses.
- 2010-2015** Arctic Long-term Ecological Research and Alaska paleoclimate projects. Gravity and livingstone coring, sediment trap deployment, vegetation sampling, and limnologic sampling of remote Arctic lakes, streams, and tundra.
- 2011** Research cruise on the R/V Gould to Western Antarctic Peninsula and the Palmer LTER station. Biogeochemical cycling studies.
- 2010** Nitrex Barrier monitoring, involving groundwater and estuarine sampling and biogeochemical assays in Cape Code, MA. Marine Biological Laboratory. PI: Ken Foreman
- 2008-2009** Sediment coring in Lake Michigan (R/V Laurentian, 3-day cruise) and other midwest lakes; monthly stream monitoring; bog water sampling (DOC, mercury, sulfate). St. Croix Watershed Research Station.
- 2005-2006** Weekly limnological sampling of Lake Winnebago and Lake Michigan, WI. Lawrence University.

## **PUBLICATIONS**

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- [15] **Daniels, W. C.** In the Weeds: Aquatic plant biomarker sources to Arctic Lakes. In review at Journal of Geophysical Research – Biogeosciences.
- [14] Zhao, B., Castañeda, I. S., Thomas, E. K., Schneider, T., de Wet, G., Bradley, R., Daniels, W. C., Salacup, J. 2022. Prolonged drying trend coincident with the demise of Norse Settlement in Southern Greenland. *Science Advances*. DOI: [10.1126/sciadv.abm4346](https://doi.org/10.1126/sciadv.abm4346)
- [13] Lindberg, K. R., **Daniels, W. C.**, Castañeda, I. S., Brigham-Grette, J. 2022. Biomarker proxy records of Arctic climate change during the Mid-Pleistocene Transition from Lake El'gygytyn (Far East Russia). *Climate of the Past Discussions*. Doi.org/10.5194/cp-2021-66.
- [12] **Daniels, W. C.**, Castañeda, I. S., Salacup, J., Habicht, M. H., Lindberg, K. R., Brigham-Grette, J. 2022. Archaeal lipids reveal climate-drive changes in microbial ecology at Lake El'gygytyn (Far East Russia) during the Plio-Pleistocene. *Journal of Quaternary Science*. Doi.org/10.1002/jqs.3347.
- [11] **Daniels, W. C.**, Russell, J. M., Morrill, C., Longo, W. M., Giblin, A. E., Holland-Stergar, P., Welker, J. M., Wen, X., Hu, A., Huang, Y. 2021. Lacustrine leaf wax hydrogen isotopes indicate strong regional climate feedbacks in Beringia since the last ice age. *Quaternary Science Reviews*. Doi.org/10.1016/j.quascirev.2021.107130.
- [10] Zhao, B., Castañeda, I. S., Bradley, R. S., Salacup, J. M., de Wet, G. A., **Daniels, W. C.**, Schneider, T. Development of an in situ branched glycerol dialkyl glycerol tetraether (brGDGT) calibration in Lake 578, southern Greenland: applications to future Arctic paleoclimate studies. *Organic Geochemistry*. 152:104168. Doi.org/10.1016/j.orggeochem.2020.104168.
- [9] Longo, W. M., Huang, Y., Russell, J. M., Morrill, C., **Daniels, W. C.**, Giblin, A. E., Crowther, J. 2020. Insolation and greenhouse gases drove Holocene winter and spring warming in Arctic Alaska. *Quaternary Science Reviews*. 242: 106438. doi.org/10.1016/j.quascirev.2020.106438
- [8] Vachula, R. S., Huang, Y., Longo, W. M., Dee, S. G., **Daniels, W. C.**, Russell, J. M. 2019. Evidence of Ice Age humans in eastern Beringia suggests early migration to North America. *Quaternary Science Reviews*. 205: 35-44. Doi.org/10.1016/j.quascirev.2018.12.003.
- [7] **Daniels, W. C.**, Huang, Y., Russell, J. M., Giblin, A. E. 2018. Effect of continuous light on leaf wax isotope ratios in *Betula nana* and *Eriophorum vaginatum*: Implication for Arctic paleoclimate reconstructions. *Organic Geochemistry*. 125: 70-81. Doi.org/10.1016/j.orggeochem.2018.08.008
- [6] **Daniels, W. C.**, Russell, J. M., Giblin, A. E., Welker, J. M., Klein, E. S., Huang, Y. 2017. Hydrogen isotope fractionation in leaf waxes in the Alaskan Arctic tundra. *Geochimica et Cosmochimica Acta*. 213: 216-236. Doi.org/10.1016/j.gca.2017.06.028.
- [5] **Daniels, W. C.**, Novis, P. M., Edlund, M. B. 2016. The valid transfer of *Cyclotella bodanica* var. *intermedia* to *Lindavia* (Bacillariophyceae). *Notulae Algarum* 14. ISSN 2009-8987.
- [4] **Daniels, W. C.**, Giblin, A. E., Kling, G. W. 2015. Benthic community metabolism in deep and shallow arctic lakes during 13 years of whole-lake fertilization. *Limnology and Oceanography*. 60(5): 1604-1618. Doi.org/10.1002/lno.10120
- [3] **Daniels, W. C.** 2012. *Cyclotella bodanica*. In *Diatoms of the United States*. [http://westerndiatoms.colorado.edu/taxa/species/cyclotella\\_bodanica\\_intermedia](http://westerndiatoms.colorado.edu/taxa/species/cyclotella_bodanica_intermedia)
- [2] De Stasio, B. T., Schrimpf, M. B., Beranek, A. E., **Daniels, W. C.**, Hoyer, E. (2010). *Dreissenid* driving tests: going the “wrong” way in Green Bay, Lake Michigan? *Verh. Intern. Verein. Limnol.* 30(10): 1540-1544. Doi.org/10.1080/03680770.2009.11902372

[1] De Stasio, B. T., Schrimpf, M. B., Beranek, A. E., **Daniels, W. C.** 2008. Increased Chlorophyll a, phytoplankton abundance, and cyanobacteria occurrence following invasion of Green Bay, Lake Michigan by *dreissenid* mussels. *Aquatic invasions* 3(1): 21-27. Doi.org/10.3391/ai.2008.3.1.5

#### **INVITED ACADEMIC LECTURES**

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[10] **University College Dublin.** “What Happens when the Bering Land Bridge Floods?”. February 17, 2021.

[9] **International Quaternary Webinar.** “Archaeal lipids record climate-driven changes in microbial ecology at Lake El’gygytyn”. Sept. 16, 2020.

[8] **University of Massachusetts Fine Arts Center.** “Environmental chronicles of an Arctic Island”. Jan. 30, 2020.

[7] **AGU Fall Meeting.** “Hydrologic and ecologic change in Arctic Alaska during and since the Last Glacial Maximum. Dec. 13, 2018.

[6] **Massachusetts STEM Week, Greenfield Community College.** “Geoscience in extreme environments: Experiences from the Arctic, Antarctic, and a NASA space pod”. Oct. 24, 2018.

[5] **Woods Hole Oceanographic Institute.** “Biomarker investigations of Plio-Pleistocene climate in the Arctic” Oct. 16, 2018.

[4] **University of Massachusetts Amherst.** “Mashapaug Pond: A Paleolimnological story of people and pollution.” Oct. 20, 2017.

[3] **International Quaternary Webinar.** “Alaska climate change since the LGM inferred from lacustrine leaf wax isotopes”. Sept. 20, 2017.

[2] **USGS-Reston.** “Past climate change in Beringia – New insights gained from lacustrine biomarkers.” August 21, 2017

[1] **Marine Biological Laboratory.** “Paleoclimate and Paleolimnology records from Lake E5, Arctic Alaska.” Feb. 2017

#### **ORAL PRESENTATIONS AT CONFERENCES**

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**Daniels, W.C.,** Castañeda, I. S., Lombardo, C., Waldmann, N. Climatic and Ecologic Changes during the Woolly Mammoth Extinction at St. Paul Island in the Central Bering Sea. Geological Society of America, Northeast Section Meeting, Lancaster, PA. 2022.

Zhao, B., Castañeda, I. S., Bradly, R. S., Salacup, J. M., **Daniels, W. C.,** Schneider, T., de Wet, G. Reconstructing summer water temperature from a southern Greenland lake over the Common Era: a site-specific calibration for brGDGTs. AGU Fall Meeting, 2020.

**Daniels, W. C.,** Castañeda, I. S., Brigham-Grette, J., Salacup, J. M., Habicht, M. H., Keisling, B. A., de Wet, G., Miller, D. S., Smith, R. A., Lindberg, K. Orbital-scale dynamics of Arctic temperature variability across the Pleistocene at Lake El’gygytyn, Siberia. AGU Fall Meeting, 2019.

Castañeda, I. S., **Daniels, W. C.,** Habicht, M. H., Keisling, B. A., de Wet, G., Lindberg, K., Smith, R. A., Miller, D. R., Salacup, J. M., Brigham-Grette, J. A 3.6 Ma branched GDGT temperature reconstruction from Lake El’gygytyn, Far East Russia. AGU Fall Meeting, 2019.

Keisling, B., A., Brigham-Grette, J., Castañeda, I. S., **Daniels, W. C.,** Habicht, M. H., DeConto, R. Modeling 2.7 Million years of Greenland ice sheet fluctuations using high Arctic temperature reconstructions. AGU Fall Meeting, 2019.

- Daniels, W. C.**, Castañeda, I. S., Brigham-Grette, J. Three million year climate history of the terrestrial Arctic inferred from biomarkers at Lake El'gygytyn. European Geophysical Meeting. 2019.
- Brigham-Grette, J., Castañeda, I. S., DeConto, R., Roychowdhury, R., de Wet, G., Habicht, H., Keisling, B., **Daniels, W. C.** Terrestrial Arctic Climate from Lake El'gygytyn: Normal vs. Super Interglacial Teleconnections. Goldschmidt, Boston, MA. 2018
- Daniels, W. C.** Castañeda, I. S., Salacup, J. M., Brigham-Grette, J. Lacustrine biomarker reconstruction of Arctic climate before, during and after the mid-Pliocene warm period. Northeast GSA, Burlington, VT. 2018.
- Daniels, W. C.**, Russell, J. M., Morrill, C., Longo, W. M., Giblin, A. E., Holland-Stergar, P., Huang, Y. Western Arctic temperature sensitivity varies under different mean states. AGU Fall Meeting, San Francisco, CA. 2017.
- Longo, W. M., Huang, Y., Russell, J. M., Morrill, C., **Daniels, W. C.**, Giblin, A. E., Crowther, J. A high-resolution lacustrine alkenone record demonstrates progressive cold season warming during the Holocene in arctic Alaska. AGU Fall meeting 2017.
- Vachula, R. S., Longo, W. M., **Daniels, W. C.**, Dee, S., Russell, J. M., Huang, Y. Evidence of Ice Age humans in Beringia: new insights on the peopling of the Americas. Invited. AGU Fall Meeting 2017.
- Longo, W. M., Huang, Y., Russell, J. M., Giblin, A. E., McNichol, A. P., Xu, L., **Daniels, W. C.** Differential millennial-scale responses of terrestrial carbon cycling dynamics to warming from two contrasting lake catchments in arctic Alaska. AGU Fall Meeting, 2016.
- Daniels, W. C.**, Russell, J. M., Huang, Y., Giblin, A. E., Longo, W. M., Holland-Stergar, P. Changing primary production in Arctic lakes at seasonal to millennial time scales. Invited. ASLO All-Science Meeting, Granada, Spain, 2015.

#### **POSTER PRESENTATIONS AT CONFERENCES**

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- Lombardo, C. (student author), **Daniels, W. C.**, Castañeda, I. C., Salacup, J. M., Brigham-Grette, J. 2022. Burning in Beringia – Glacial-interglacial Wildfire Variability at Lake El'gygytyn. Northeast GSA Section Meeting. Lancaster, PA.
- Habicht, H., Burns, S. J., Castañeda, I. S., **Daniels, W. C.**, Brigham-Grette, J. 2020. Carbon isotopes record lake water anoxia and methanogenesis under warm and cold climate conditions at Lake El'gygytyn, Far East Russia. AGU.
- Lindberg, K. (student author), Castañeda, I. C., **Daniels, W. C.**, Salacup, J. M., Brigham-Grette, J. 2020. High-resolution biomarker proxy records of Arctic climate change during the Mid-Pleistocene Transition from Lake El'gygytyn (Far East Russia). AGU.
- Lindberg, K. (student author), **Daniels, W. C.**, Castañeda, I. C., Salacup, J. M., Brigham-Grette, J. 2019. Temperature variability from Arctic Lake El'gygytyn (Far East Russia) during the Mid-Pleistocene Transition based on brGDGTs. SE/NE GSA Section Meeting. Reston, VA.
- Daniels, W. C.** 2019. Arctic Lake Water Isotopes Track Hydrologic and Climatic Processes. Water Isotope Workshop, NCAR/CLIVAR, Boulder, CO.
- Daniels, W. C.**, Castañeda, I. S., Salacup, J., Brigham-Grette, J. 2018. GDGT distributions in Lake El'gygytyn (Far East Russia) sediments during and since the Pliocene. AGU.
- Husain, F. (student author), Longo, W. M., **Daniels, W. C.**, Russell, J. M., Giblin, A. E., Huang, Y. 2018. High-resolution 10,000-year temperature reconstruction from Lake Fog 2, northern Alaska. AGU.

- Daniels, W. C.**, Castañeda, I.S., Salacup, J.S., Brigham-Grette, J. 2018. Orbital variability in regular- and H-shaped GDGTs and *n*-alkyl lipids in Arctic lacustrine sediments during the Pliocene. Gordon Research Conference for Organic Geochemistry.
- Castañeda, I. S., Brigham-Grette, J., Habicht, M. H., **Daniels, W. C.**, Patterson, M., de Wet, G., Keisling, B., DeConto, R., Burns, S., Salacup, J. 2018. Plio-Pleistocene Arctic climate variability: Organic geochemical temperature reconstructions from Lake El'gygytgyn, Far East Russia. EGU.
- Husain, F. (student author), Longo, W. M., **Daniels, W. C.**, Russell, J. M., Giblin, A. E., Huang, Y. 2017. A 10,000-year record of Arctic temperature variability during the Holocene inferred from lipid biomarkers in lacustrine sediments from Northern Alaska. Northeast/Northcentral GSA.
- Daniels, W. C.**, Russell, J. M., Giblin, A. E., Longo, W. M., Morrill, C., Holland-Stergar, P., Rose, R., Huang, Y. 2016. Paleolimnologic and modeling perspectives on the physical and ecological sensitivity of Arctic tundra lakes to temperature change. AGU.
- Daniels, W. C.**, Russell, J. M., Longo, W. M., Holland-Stergar, P., Giblin, A. E., Morrill, C., Huang, Y. 2015. Deglacial Warming and Wetting of Northern Alaska. AGU.
- Longo, W. M., Crowther, J., **Daniels, W. C.**, Russell, J. M., Giblin, A. E., Morrill, C., Zhang, X., Wang, X., Huang, Y. 2015. Seasonally distinct reconstructions of Northern Alaskan temperature variability since the Last Glacial Maximum. AGU.
- Daniels, W. C.**, Russell, J. M., Huang, Y., Giblin, A. E. 2013. Leaf wax hydrogen isotopes record summer temperature in Arctic lake sediments. AGU.
- Daniels, W. C.** and Arctic LTER Lakes Group. 2013. Analyzing plankton communities in Arctic lakes using flow cytometry. Arctic LTER site review.
- Daniels, W. C.**, Giblin, A. E., Kling, G. W., Luecke, C. 2012. Low-level nitrogen and phosphorus addition drives hypolimnetic oxygen drawdown in deep arctic lakes. LTER All Scientist Meeting.
- Moraska Lafrancois, B., Karns, B., Miller, W., Schuetz, B., **Daniels, W. C.**, Peterson, E. 2009. Nitrogen patterns and sources in an upper Mississippi River tributary: a stable isotope approach. NABS.

#### **AWARDS AND HONORS**

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- 2020 National Science Foundation Postdoctoral Fellowship
- 2014 Graduate fellowship, Institute at Brown for the Study of Environment and Society
- 2014 Graduate research grant, Geologic Society of America
- 2012 Honorable mention, NSF Graduate Research Fellowship Program
- 2012 Antarctic Service Medal, United States Antarctic program and National Science Foundation
- 2007 Howard and Helen Russell Award for Excellence in Biological Research, Lawrence University

#### **WORKSHOPS AND TRAINING**

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- 2018 LacCore Training Program in Lake Drilling Coordination and Data Management
- 2017 University-National Oceanographic Laboratory System (UNOLS) Chief Scientist Training
- 2013/2016 Teaching Certificates I (Reflective pedagogy) and II (Course and syllabus Design), Brown University Sheridan Center for Teaching and Learning.
- 2012 Ecology and Systematics of Diatoms, Iowa Lakeside Laboratory
- 2006 Semester in Environmental Science, Marine Biological Laboratory, Woods Hole, MA
- 2006 Recreational SCUBA certification

## SERVICE

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### Professional

- 2015- **Reviewer** (manuscripts and proposals): Chemical Geology, Geochimica et Cosmochimica Acta, Geophysical Research Letters, The Holocene, International Journal of Digital Earth, Journal of Quaternary Science, Marine and Petroleum Geology, Minerals, Organic Geochemistry, Palaeogeography/Palaeoclimatology/Palaeoecology, Phytotaxa, PlosONE, PNAS, Quaternary Research, Science of the Total Environment, and NSF-EAR grant proposals.
- 2020 **Panel Review.** NSF.
- 2018 **Database coordinator and development team member**, Neotoma biomarker database
- 2018 **Session convener**, AGU Fall Meeting 2018, “Biomarkers from Source to Sink: Proxy Development, Mechanistic Theory, and Applications” (PP007)
- 2016 **Session convener**, AGU Fall Meeting 2016, “Water Isotope Systematics: Improving Modern and Paleoclimate Interpretations” (PP22)
- 2011 **Research volunteer**, Palmer Antarctic LTER.

### University

- 2020- **Geoscience postdoctoral representative**, UMass Amherst.
- 2022 **Geosciences Department Head search committee**, UMass Amherst.
- 2021 **Panelist**, alumni career discussions, UMass Amherst.
- 2019 **Geosciences organizer** for “Picture a Scientist” viewing and panel discussion.
- 2013-2015 **Graduate liaison to the Sheridan Teaching Center**, Brown University. I communicated upcoming teaching/learning events to other graduate students and encouraged participation in teaching certificate courses.
- 2011 **Geosciences graduate field trip director**, Brown University, Providence, RI.

### Volunteer and Outreach

- 2019- **Founding Board Member**, Fort River Watershed Association, Amherst, MA (community-driven river advocacy and education). [www.fortriver.org](http://www.fortriver.org)
- 2013- **Event director**, New England Orienteering Club
- 2018 **High School athletics coach**, girls JV Ultimate frisbee, Amherst Regional High School.
- 2018 **Guest panelist at Massachusetts STEM week.** “Geoscience in extreme environments: Experiences from the Arctic, Antarctic, and a NASA space pod”.
- 2018 **Science fair judge**, Westfield High School, Westfield, MA.
- 2015-2017 **Guest science lecturer**, Brown University Science Center. “The care and keeping of axolotls”. Keynote presentation to >80 undergraduates each year as part of the science center’s Axolotl Day.
- 2012-2017 **Science fair judge**, Lawrence Middle School, Falmouth, MA.
- 2011-2017 **Elementary and middle school science volunteer**, Vartan Gregorian Elem. School, Providence, RI, Marshfield Middle School, MA, The Common School, Amherst, MA.
- 2016 **Guest science lecturer**, Urban Pond Procession Full Circle Film Series, Providence, RI.
- 2015-2016 **Instructor**, Kaktovik Oceanography Program, Kaktovik, AK.
- 2013-2016 **Volunteer coordinator**, RI Watershed Extension. I coordinated a team of 8 people to perform weekly water quality monitoring in an adopt-a-pond program in RI.