David McGee

Department of Earth, Atmospheric and Planetary Sciences
Massachusetts Institute of Technology
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Education

2006-2009	**Columbia University,** New York, New York Ph.D. in Earth and Environmental Sciences Advisors: Robert F. Anderson, Wallace S. Broecker, Gisela Winckler
2004-2006	**Tulane University,** New Orleans, Louisiana M.S. in Earth and Environmental Sciences Advisor: Franco Marcantonio
1999-2003	**Chatham College,** Pittsburgh, Pennsylvania M.A. in Teaching with certification in Environmental Education
1993-1997	**Carleton College,** Northfield, Minnesota B.A. in Geology, *Summa cum laude*

Appointments

2017-	**Associate Professor** Department of Earth, Atmospheric and Planetary Sciences Massachusetts Institute of Technology
2014-2017	**Kerr-McGee Career Development Assistant Professor**, MIT
2012-2014	**Assistant Professor**, MIT
2009-2011	**NOAA Climate and Global Change Postdoctoral Research Fellow** University of Minnesota Mentor: R. Lawrence Edwards

Publications (*:student, postdoctoral advisee or other research group member)

D. McGee. **Glacial-interglacial precipitation changes**. Invited review for *Annual Review of Marine Science*. In preparation.

N. Biller, J. Shakun, D. McGee, C.I. Wong, A.V. Reyes, B. Hardt*, I. Tal*, D. Ford, B. Lauriol. **Increasing Pleistocene permafrost stability and carbon cycle conundrums**. Submitted.

D. Bice, A. Montanari, M. Lacroce, D. McGee. **Late Pleistocene tectonic tilting of the Frasassi anticline from offset stalagmites in the Grotta Grande del Vento (Marche, Italy)**. Submitted.

F.L.H. Tissot*, M. Ibanez-Mejia, P. Boehnke, N. Dauphas, D. McGee, T.L. Grove. **Variable $^{238}U/^{235}U$ between single zircon grains**. Submitted.

B.M. Ward, C. Wong, V. Novello, D. McGee, L. Silva, R.V. Santos, X. Wang, R.L. Edwards, H. Cheng. **Reconstruction of Holocene coupling between the South American Monsoon System and local moisture variability from speleothem $\delta^{18}O$ and $^{87}Sr/^{86}Sr$ records**. In revision.

L.R. Godfrey, N. Scroxton*, B.E. Crowley, S.J. Burns, M.R. Sutherland, V.R. Pérez, P. Faina, D. McGee, L. Ranivoharimanana. **A new interpretation of Madagascar's megafaunal decline: the "Subsistence Shift Hypothesis."** In revision.

N. Scroxton*, S. Burns, D. McGee, B. Hardt*, L.R. Godfrey, L. Ranivoharimanana, P. Faina. **Competing temperature and atmospheric circulation effects on southwest Madagascan rainfall during the last deglaciation**. In revision.

C. Skonieczny*, D. McGee, G. Winckler, A. Bory, L. I. Bradtmiller, C.W. Kinsley*, P. J. Polissar, R. De Pol-Holz, L. Rossignol, B. Malaizé. **Monsoon-driven Saharan dust variability over the last 240,000 years**. *Science Advances*, in press.

D. McGee, E. Moreno-Chamarro, J. Marshall, E.D. Galbraith, 2018. **Western U.S. lake expansions during Heinrich stadials linked to Pacific Hadley circulation**. *Science Advances* 4, doi: 10.1126/sciadv.aav0118.

D. McGee, 2018. **Shifting summer rains** (Perspective). *Science* 342, 518-520.

D. Ferreira, J. Marshall, T. Ito, D. McGee, 2018. **Linking glacial-interglacial cycles to multiple equilibria of climate**. *Geophysical Research Letters* 45, doi: 10.1029/2018GL077019.

C.H. Anderson, R.W. Murray, A.G. Dunlea, L. Giosan, C.W. Kinsley*, D. McGee, R. Tada, 2018. **Climatically driven changes in the supply of terrigenous sediment to the East China Sea**. *Geochemistry, Geophysics, Geosystems* 19, doi: 10.1029/2017GC007339.

N. Scroxton*, S.J. Burns, P.A Dawson, J.M. Rhodes, K. Brent*, D. McGee, H. Heijnis, P. Gadd, W.S. Hantoro, M.K. Gagan, 2018. **Rapid measurement of strontium in speleothems using core-scanning micro x-ray fluorescence**. *Chemical Geology* 487, 12-22.

A.W. Omta, R. Ferrari, D. McGee, 2018. **An analytical framework for the impact of carbonate compensation on atmospheric CO_2**. *Global Biogeochemical Cycles* 32, 720-735.

D. McGee, E. Moreno-Chamarro, B. Green, J. Marshall, E. Galbraith, L. Bradtmiller, 2018. **Hemispherically asymmetric trade wind changes as signatures of past ITCZ shifts**. *Quaternary Science Reviews* 180, 214-228.

D. McGee, P.B. deMenocal, 2017. **Climatic changes and cultural responses during the African Humid Period recorded in multi-proxy data**. *Oxford Research Encyclopedia of Climate Science*, Oxford University Press, doi:10.1093/acrefore/9780190228620.013.529.

G.H. Rowland, H.C. Ng, L.F. Robinson, J.F. McManus, K.J. Mohamed, D. McGee, 2017. **Investigating the use of $^{232}Th/^{230}Th$ as a dust proxy using co-located seawater and sediment samples from the low-latitude North Atlantic**. *Geochimica et Cosmochimica Acta* 214, 143-156.

N. Scroxton*, S.J. Burns, D. McGee, B. Hardt*, L. Godfrey, L. Ranivoharimanana, P. Faina, 2017. **Hemispherically in-phase precipitation variability over the last 1700 years in a Madagascar speleothem record**. *Quaternary Science Reviews* 164, 25-36.

B.E. Wortham, C.I. Wong, L.C.R. Silva, D. McGee, I.P. Montañez, E.T. Rasbury, K.M. Cooper, W.D. Sharp, J.G. Glessner, 2017. **Assessing response of local moisture conditions in central Brazil to regional variability in monsoon intensity using speleothem $^{87}Sr/^{86}Sr$ values**. *Earth and Planetary Science Letters* 463, 310-322.

C.T. Hayes*, J. Rosen*, D. McGee, E.A. Boyle, 2017. **Thorium distributions in high and low dust regions and the significance for iron supply**. *Global Biogeochemical Cycles* 31, doi:10.1002/2016GB005511.

R.H. Williams*, D. McGee, D.A. Ridley, C.W. Kinsley*, S. Hu, A. Fedorov, I. Tal*, R. Murray, P.B. deMenocal, 2016. **Glacial to Holocene changes in trans-Atlantic Saharan dust transport and dust-climate feedbacks**. *Science Advances* 2, doi:10.1126/sciadv.1600445.

C.T. Hayes*, D. McGee, E.A. Boyle, S. Mukhopadhyay, A.C. Maloof, 2016. **Helium and thorium isotope constraints on African dust transport to the Bahamas over recent millennia**. *Earth and Planetary Science Letters* 457, 385-394.

S. Albani, N.M. Mahowald, L.N. Murphy, R. Raiswell, J.K. Moore, R.F. Anderson, D. McGee, L.I. Bradtmiller, B. Delmonte, P.P. Hesse, P.A. Mayewski, 2016. **Paleodust variability since the Last Glacial Maximum and implications for iron inputs to the ocean**. *Geophysical Research Letters* 43, doi:10.1002/2016GL067911.

S.J. Burns, L.R. Godfrey, P. Faina, D. McGee, B. Hardt*, L. Ranivoharimanana, J. Randrianasy, 2016. **Rapid human-induced landscape transformation in Madagascar at the end of the first millennium CE**. *Quaternary Science Reviews* 134, 92-99.

L.I. Bradtmiller, D. McGee, M. Awalt, J. Evers, H. Yerxa, C.W. Kinsley*, P.B. deMenocal, 2016. **Changes in biological productivity along the northwest African margin over the past 20,000 years**. *Paleoceanography* 31, doi:10.1002/2015PA002862.

D. McGee, G. Winckler, A. Borunda, S. Serno, R.F. Anderson, C. Recasens, A. Bory, D. Gaiero, S.L. Jaccard, M. Kaplan, J.F. McManus, M. Revel, Y. Sun, 2016. **Tracking eolian dust with helium and thorium: Impacts of grain size and provenance**. *Geochimica et Cosmochimica Acta* 175, 47-67.

C.T. Hayes*, J, N. Fitzsimmons, E.A. Boyle, D. McGee, R.F. Anderson, R. Weisend, P.L. Morton, 2015. **Thorium isotopes tracing the iron cycle at the Hawaii Ocean Time-series station ALOHA**. *Geochimica et Cosmochimica Acta* 169, 1-16.

M. Cross, D. McGee, W.S. Broecker, J. Quade, J.D. Shakun, H. Cheng, Y. Lu, R.L. Edwards, 2015. **Great Basin hydrology, paleoclimate, and connections with the North Atlantic: A speleothem stable isotope and trace element record from Lehman Caves, NV**. *Quaternary Science Reviews* 127, 186-198.

E. Steponaitis*, A. Andrews*, D. McGee, J. Quade, W.S. Broecker, Y.-T. Hsieh*, B. Shuman, S.J. Burns, H. Cheng, 2015. **Mid-Holocene drying of the U.S. Great Basin recorded in Nevada speleothems**. *Quaternary Science Reviews* 127, 174-185.

S. Albani, N.M. Mahowald, G. Winckler, R.F. Anderson, L.I. Bradtmiller, B. Delmonte, R. Francois, M. Goma, N.G. Heavens, P. P. Hesse, S. A. Hovan, K.E. Kohfeld, H. Lu, V. Maggi, J.A. Mason, P.A. Mayewski, D. McGee, X. Miao, D.R. Muhs, B.L. Otto-Bliesner, A.T. Perry, A. Pourmand, H.M. Roberts, N. Rosenbloom, T. Stevens, J. Sun, 2015. **12,000 years of dust: The Holocene global dust cycle constrained by natural archives**. *Climate of the Past* 11, 869–903.

A. Donohoe, J. Marshall, K. Armour, D. Ferreira, D. McGee, 2014. **The inter-annual variability of tropical precipitation and inter-hemispheric energy transport**. *Journal of Climate* 27, 3377-3392.

D. McGee, A. Donohoe, J. Marshall, D. Ferreira, 2014. **Changes in ITCZ location and cross-equatorial heat transport at the Last Glacial Maximum, Heinrich Stadial 1, and the Mid-Holocene**. *Earth and Planetary Science Letters* 390, 69-79.

S. Serno, G. Winckler, R.F. Anderson, C.T. Hayes, D. McGee, B. Machalett, H. Ren, S.M. Straub, R. Gersonde, G.H. Haug, 2014. **Eolian dust input to the Subarctic North Pacific**. *Earth and Planetary Science Letters*, 387, 252-263.

J. Marshall, A. Donohoe, D. Ferreira, D. McGee, 2014. **The ocean's role in setting the mean position of the Inter-Tropical Convergence Zone**. *Climate Dynamics* 42, 1967-1979.

A. Donohoe, J. Marshall, D. Ferriera, D. McGee, 2013. **The relationship between ITCZ location and cross equatorial heat transport: From the seasonal cycle to the Last Glacial Maximum**. *Journal of Climate*, 26, 3597-3618.

D. McGee, P.B. deMenocal, G. Winckler, J.-B. Stuut, L.I. Bradtmiller, 2013. **The magnitude, timing and abruptness of changes in North African dust deposition over the last 20,000 years**. *Earth and Planetary Science Letters*, 371-372, 163-176.

W.S. Broecker, D. McGee, 2013. **The $\delta^{13}C$ record for atmospheric CO_2: What is it trying to tell us?** *Earth and Planetary Science Letters*, 368, 175-182.

D. McGee, S. Mukhopadhyay, 2013. **Extraterrestrial He in sediments: From recorder of asteroid collisions to timekeeper of global environmental changes**. In: P. Burnard (Ed.), *The Noble Gases as Geochemical Tracers.* Berlin: Springer-Verlag, p. 155-176.

D. McGee, J. Quade, R.L. Edwards, W.S. Broecker, H. Cheng, P.W. Reiners, N. Evenson, 2012. **Lacustrine cave carbonates: Novel archives of paleohydrologic change in the Bonneville Basin (Utah, USA)**. *Earth and Planetary Science Letters* 351-352, 182-194.

D. McGee, F. Marcantonio, J.F. McManus, G. Winckler, 2010. **The response of excess ^{230}Th and extraterrestrial ^{3}He to sediment redistribution at the Blake Ridge, western North Atlantic**. *Earth and Planetary Science Letters* 299, 138-149.

D. McGee, W.S. Broecker, G. Winckler, 2010. **Gustiness: the driver of glacial dustiness?** *Quaternary Science Reviews* 29, 2340-2350.

W.S. Broecker, D. McGee, K.D. Adams, H. Cheng, R.L. Edwards, C.G. Oviatt, J. Quade, 2009. **A Great Basin-wide dry episode during the first half of the Mystery Interval?** *Quaternary Science Reviews* 28, 2557-2563.

F. Marcantonio, D.J. Thomas, S. Woodward, D. McGee, G. Winckler, 2009. **Extraterrestrial ^{3}He in Paleocene sediments from Shatsky Rise: constraints on sedimentation rate variability**. *Earth and Planetary Science Letters* 287, 24-30.

G. Winckler, R.F. Anderson, M.Q. Fleisher, D. McGee, N. Mahowald, 2008. **Covariant glacial-interglacial dust fluxes in the equatorial Pacific and Antarctica**. *Science* 320, 93-96.

M. Siddall, R.F. Anderson, G. Winckler, G.M. Henderson, L.I. Bradtmiller, D. McGee, A. Franzese, T.F. Stocker, S.A. Müller, 2008. **Modeling the particle flux effect on distribution of ^{230}Th in the equatorial Pacific**. *Paleoceanography* 23, doi:10.1029/2007PA001556.

D. McGee, F. Marcantonio, J. Lynch-Stieglitz, 2007. **Deglacial changes in dust flux in the eastern equatorial Pacific**. *Earth and Planetary Science Letters* 257, 215-230.

Teaching Experience

2012- **Massachusetts Institute of Technology**, Cambridge, MA
Director, Terrascope Freshman Learning Community

Courses taught or co-taught: Solving Complex Problems (Freshman Advising Seminar); Assembling Cambridge (Freshman Advising Seminar); Past and Present Climate; The History of Earth's Climate; Paleoceanography; Global Warming Science; Analytical Techniques for Studying Environmental and Geologic Samples.
Overall rating 6.5/7 for all courses.

2010 **University of Minnesota,** Minneapolis, MN
Co-instructor for introductory geochemistry course.

2008-2009 **High School for Arts, Imagination and Inquiry,** New York, New York
NSF Graduate Teaching Fellow; designed and led field and lab activities.

2003-2004 **Marion Abramson High School,** New Orleans, Louisiana
High school physical science teacher.

2002-2003, 1997-2001 **The Ellis School,** Pittsburgh, Pennsylvania
Middle and high school science/math teacher, outdoor education coordinator.

2001-2002 **Mennonite Central Committee,** Phnom Penh, Cambodia
English language teacher at the Royal University of Phnom Penh.

Conference Presentations (first-author only)

2018 **American Geophysical Union Fall Meeting,** Washington, D.C. USA
Invited oral presentation: "Millennial-scale and glacial-interglacial hydrological changes in the southwestern U.S. over the last 150,000 years"
Oral presentation: "Monsoon-driven Saharan dust variability over the last 240,000 years: Implications for Plio-Pleistocene African climate evolution"

Goldschmidt Conference, Boston, MA USA
Keynote presentation: "Drivers and impacts of Saharan dust variability over the last 240 kyr"
Oral presentation: "Southern California hydroclimate over the last 150 kyrs: New results from the Searles and Death Valley basins"

American Quaternary Association/Canadian Quaternary Association Joint Meeting, Ottawa, Canada
*Plenary presentation: "*Uncovering the hydrological history of closed basin lakes in the Americas over the past 150,000 yrs"

Lorenz Center Workshop on Water and Climate Change: Connecting the Paleoclimate Record to Future Projections, Dedham, MA USA (co-organizer)
Oral presentation: "Understanding the hydrological history of the southwestern U.S. before the Last Glacial Maximum"

2017 **American Geophysical Union Fall Meeting,** New Orleans, LA USA
Oral presentation: "Clarifying the drivers of winter precipitation increases in the southwestern U.S. during Heinrich stadials"

PAGES Open Science Meeting, Zaragoza, Spain
Oral presentation: "Pleistocene permafrost thawing history of the North American Arctic from U-Th and U-Pb dating of speleothems"

2016 **Goldschmidt Meeting,** Yokohama, Japan

Poster: High-precision uranium-thorium geochronology on the Nu Plasma II-ES (presented by Ye Zhao, Nu Instruments)

2015 **American Geophysical Union Fall Meeting,** San Francisco, CA USA
Invited presentation: "The Asian monsoon's role in atmospheric heat transport responses to orbital and millennial-scale climate change"

Batsheva de Rothschild Seminar on Atmospheric Dust, Dust Deposits and Soils in Deserts and the Desert Fringe, Jerusalem, Israel
Invited presentation: "Drivers and impacts of changes in North African dust emissions over the last 25,000 years"

Workshop on Monsoons and ITCZs, Columbia University, New York, NY USA
Invited presentation: "Saharan dust as a recorder of and feedback on North African climate change over the last 25,000 years"

Workshop on Monsoons: Past, Present and Future, California Institute of Technology, Pasadena, CA USA
Invited presentation: "Tracing tropical precipitation changes in past climates: From individual lake basins to the zonal mean"

Summer School on Speleothem Science, Oxford University, Oxford UK
Invited instructor: "Integrating speleothem data with other hydroclimate records"

2014 **American Geophysical Union Fall Meeting,** San Francisco, CA USA
Invited presentation: "Linking hemispheric radiation budgets, ITCZ shifts, and monsoons"

Geological Society of America, Vancouver, Canada
Invited presentation: "Speleothem records of Great Basin hydroclimate during the last two glacial terminations and interglacials"

Goldschmidt Conference, Sacramento, CA USA
Poster: "Merging lake and cave archives of past climate change in the U.S. Great Basin"

2013 **Geological Society of America,** Denver, CO USA
*Invited presentation: "*New insights into Bonneville Basin hydrology over the last 25 ka From U/Th-dated cave and lake carbonates"

Gordon Conference in Chemical Oceanography, Biddeford, ME USA
*Invited presentation: "*North African dust inputs into the North Atlantic over the last 25,000 years: Views from the African margin and the Bahamas"

William Smith Meeting of the Geological Society of London, London, UK
*Invited presentation: "*New insights into Great Basin hydrology over the last 25 ka from U/Th-dated cave and lake carbonates"

2012 **American Geophysical Union Fall Meeting,** San Francisco, CA USA
Invited presentation: "Quantitative estimates of past changes in ITCZ position and cross-equatorial atmospheric heat transport"
Oral presentation: "The magnitude, timing and abruptness of changes in North African dust deposition over the last 20,000 years: Insights into regional atmospheric circulation and dust-related climate impacts"

Goldschmidt Conference, Montreal, Canada

Invited presentation: "Lacustrine cave carbonates: Novel, absolute-dated paleohydrologic archives in the Bonneville Basin (Utah, USA)"

2011 **First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas,** San Juan, Puerto Rico
Oral presentation: "Evolution of the North African dust plume over the last 20,000 years"

INQUA Congress, Bern, Switzerland
Invited presentation: "Evolution of the North African dust plume over the last 15,000 years"

2010 **American Geophysical Union Fall Meeting,** San Francisco, CA USA
Oral presentation: "Absolute-dated lacustrine cave records of the glacial highstand and deglacial regression of Lake Bonneville, Utah, USA"

2009 **American Geophysical Union Fall Meeting,** San Francisco, CA USA
Oral presentation: "The gustiness hypothesis: Exploring wind gusts as the primary cause of glacial-interglacial dust flux changes"

Goldschmidt Conference, Davos, Switzerland
Oral presentation: "Gustiness: The driver of glacial dustiness?"

2008 **Goldschmidt Conference,** Vancouver, Canada
Oral presentation: "Testing the response of xs^{230}Th and extraterrestrial ^{3}He to sediment redistribution at the Blake Ridge, western North Atlantic"

2007 **9th International Conference on Paleoceanography,** Shanghai, China
Poster: "Testing the use of extraterrestrial ^{3}He as a constant-flux proxy: Preliminary results from the Blake Ridge"

2006 **Goldschmidt Conference,** Melbourne, Australia
Oral presentation: "^{232}Th-derived dust fluxes as a marker of deglacial changes in ITCZ position and intensity in the Eastern Equatorial Pacific"

1997 **Geological Society of America Regional Meeting,** Kona, Hawaii USA
Oral presentation: "Pb, Sr and Nd isotopic data from Lanai, Hawaii: Implications for mantle source mixing and magma genesis"

Invited Talks

2019 University at Albany, SUNY

2018 University of Maine

2017 Dartmouth College Society of Fellows Lecturer

2016 Comer Science and Education Foundation Abrupt Climate Change Meeting
Lamont-Doherty Earth Observatory of Columbia University
University of Southern California
Woods Hole Oceanographic Institution

2015 Boston College
Brown University
Tulane University

	Yale University
2014	College of the Holy Cross Harvard University Stony Brook University (2)
2013	University of Rhode Island Graduate School of Oceanography Rosenstiel School of Marine and Atmospheric Science, U. Miami
2012	California Institute of Technology University of Massachusetts, Amherst
2011	Princeton University Woods Hole Oceanographic Institution
2010	Massachusetts Institute of Technology University of Minnesota University of Minnesota at Duluth University of Rochester Dissertation Symposium in Chemical Oceanography DUSTSPEC workshop, Lamont-Doherty Earth Observatory
2008	Texas A&M University

Competitive Funding and Awards

2018	D. McGee. Novel records of high-latitude continental temperatures during past warm climates. mTerra Catalyst Fund (MIT).
2017	D. McGee, J. Quade. Collaborative Research: Quantifying precipitation changes in the South American subtropics over the late Pleistocene. NSF-EAR-1702588.
	S.J. Burns, D. McGee. Collaborative Research: Madagascar Caves and Paleoclimate (MADCAP), Investigating climate variability in the Southern Hemisphere of the Western Indian Ocean. NSF-AGS-1702691.
	D. McGee. Reconstructing climate change for the recent past using Mexican tree rings and cave deposits. MISTI (MIT).
	N. Scroxton, D. McGee. Dominican Republic caves and climate collaboration. MISTI (MIT).
2016	J. Shakun, D. McGee, C. Wong. Collaborative Research: Speleothem records of permafrost thaw and paleoclimate in the North American Arctic. NSF PLR-1607968.
	T. Lowenstein, D. McGee. Deep Drilling of Searles Lake Basin. Comer Science and Education Foundation.
2015	D. McGee, G. Winckler, P. Polissar. Collaborative Research: Insights into North African climate variability over the last 1.1 million years from dust fluxes and leaf wax isotopes. NSF OCE-1502985.
	D. McGee, S. Bowring. Early Career: Technical support for a uranium-series isotope geochemistry laboratory focused on Earth's climate and surface processes. NSF EAR-1439559.

	Research Support Committee Fund (MIT)
2014	R. Murray, D. McGee, L. Giosan. Collaborative Research: Reconstructing Interactions Between the East Asian Monsoon and Westerly Jet at Multiple Timescales via the Flux and Provenance of Eolian and Fluvial Supply. NSF EAR-1434138.
	D. Rodbell, M. Abbott, M. Bush, D. McGee, Collaborative Research: Deep Drilling of Lago Junín, Perú: The Acquisition and Development of Continuous Tropical Records of Glaciation, Climate Change, and Magnetic Field Variations spanning the Late Quaternary. NSF EAR-1404414.
	D. McGee, Past Southeast Asian Monsoon variability from Vietnamese stalagmites. MISTI (MIT).
2013	Ally of Nature Fund Award (MIT)
	Research Support Committee Fund (MIT)
2012	D. McGee, R. Summons, C. Latorre, B. Valero-Garces, Reconstructing Climate Change in Chile Over the Last 11,000 Years. MISTI (MIT).
2011	D. McGee, R.L. Edwards and J. Quade, Collaborative Research: Absolute-dated records of Late Quaternary paleohydrology in the Bonneville Basin, western U.S., from novel cave archives. NSF EAR-1103379.
2010	D. McGee, P.B. deMenocal and G. Winckler, Mapping Saharan dust fluxes through the onset and termination of the African Humid Period in a transect of African margin cores. NSF OCE-1030784.
2009	NOAA Climate and Global Change Postdoctoral Fellowship
2008	NSF Graduate Teaching Fellowship (GK-12 program)
2005	NSF Graduate Research Fellowship

Field Experience
Bonneville Basin, Utah: Lake deposit and cave sampling, total 10 weeks, 2008-2013
Central Andes, Chile: Lake shoreline mapping and sampling, 2 weeks, 2015
Northern and Central Vietnam caves: Cave reconnaissance and stalagmite sampling, 4 weeks, 2014-2016
Searles Basin, California: Lake sediment drilling and shoreline sampling, 3 weeks, 2017-2018

Undergraduate Students Advised
Sarah Weidman, MIT UROP (Summer 2018-)
Gabriela Cazares, MIT UROP (Spring 2018-)
Andrew Iverson, MIT UROP (Winter 2018-)
Jade Fischer, MIT UROP (Winter/Spring 2018)
Zixuan Rao, University of Science and Technology of China (Summer 2017)
Yan Zhang, Tongji University senior thesis (Winter-Spring 2017)
Kaylee Brent, MIT UROP and senior thesis (Summer 2016-2017)
Abnell Comas, MIT UROP (Winter 2016)
Zachary Norberg, St. Olaf College (Summer 2015)
Ashling Neary, MIT UROP and senior thesis (Summer 2014-2016)
Jeff Rosen, Carleton College, Undergraduate Thesis (Summer 2014-Fall 2015)
Jessica Fujimori, MIT undergraduate thesis (Fall 2013-Spring 2014)
Michaela Fendrock, Wellesley College, Summer internship (Summer 2013)
Lucy Page, Williams College, Summer internship (Summer 2013)
Matthieu Pythoud, U. Minnesota, Summer internship (Summer 2013)

Siyi Zhang, Wellesley College, UROP/Summer internship (Summer-Fall 2012)

Graduate Students Advised (with current positions)
Michaela Fendrock (MIT-WHOI Joint Program, 2017-)
Gabriella Serrato Marks (MIT-WHOI Joint Program, 2015-)
Christine Chen (MIT-WHOI Joint Program, 2013-)
Christopher Kinsley (MIT-WHOI Joint Program, 2012-)
Elena Steponaitis (MIT, 2012-2015); postdoctoral researcher at Tulane University
Ross Williams (MIT, Secondary generals project advisor, 2012-2013)
Alexandra Andrews (MIT, Secondary generals project advisor, 2012-2013)
Maya Stokes (MIT, Secondary generals project advisor, 2016-2017)
Martin Wolf (MIT, Secondary generals project advisor, 2016-2017)

Postdoctoral Researchers Advised (with current positions)
Nicholas Scroxton (UMass and MIT, 2015-); jointly advised with Prof. Stephen Burns, UMass Amherst
Francois Tissot (MIT, 2016-2018); Asst. Professor, California Institute of Technology
Justin Stroup (MIT, 2016-2017); Asst. Professor, SUNY-Oswego
Charlotte Skonieczny (MIT, 2016); Asst. Professor, U. Paris-Sud, France
Benjamin Hardt (MIT, 2014-2015); Secondary school teacher
Christopher Hayes (MIT, 2013-2015); Asst. Professor, U. Southern Mississippi
Yu-Te (Alan) Hsieh (MIT, 2012-2013); Research Scientist, Oxford University

Professional and Volunteer Activities

- NOAA Climate and Global Change Postdoctoral Fellowship Program Steering Committee, 2014-2017; Chair, 2016-2017
- Director, MIT Terrascope Learning Community, 2015-; program engages ~40-70 first-year students each year in exploring environmental challenges through courses and community activities; led spring break trips examining sustainable agriculture in southwestern U.S./Navajo Nation, urban sustainability in Mexico City, and climate change adaptation in the Netherlands
- Organizer of Lorenz Center Workshop on "Water and Climate Change: Connecting the Paleoclimate Record to Future Changes", June 2018
- Advisory Board member, MIT ClimateX
- National Science Foundation Panel Member, 2015 (Ocean Sciences Postdoctoral Fellowship) & 2016 (Marine Geology and Geophysics)
- Session convener: 2012 AGU Fall Meeting, 2014 Goldschmidt Meeting, 2017 Goldschmidt Meeting, 2018 Goldschmidt Meeting (2)
- Co-instructor, "12.340x: Global Warming Science" edX course Spring 2014, 2016
- Invited participant for Future Earth (PAGES/AIMES) workshop on "Abrupt changes, thresholds, and tipping points in Earth history and future implications" (2018), Continental Scientific Drilling Planning Workshop (2016), NSF EarthCube Geochronology Workshop (2014), and ICDP planning workshops for lake drilling projects at the Chalco Basin (Mexico, 2012) and Lake Junin (Peru, 2011)
- Reviewer for *Nature; Science; PNAS; Nature Geoscience; Nature Climate Change; Geology*; *Geophysical Research Letters; Geochimica et Cosmochimica Acta*; *Earth and Planetary Science Letters; Paleoceanography; Climate of the Past; Climate Dynamics; Current Climate Change Reports; Geochemistry, Geophysics, Geosystems*; *Sedimentology; Marine Geology; Chemical Geology;* U.S. National Science Foundation; Israel Science Foundation; European Research Council.

- Member of MIT-WHOI Joint Committee for Marine Geology and Geophysics, departmental admissions committee, two departmental lecture series committees, departmental ad hoc committees, departmental equity representative for three hiring committees
- MIT Freshman Advisor, Fall 2012-present; Excellence in Mentoring Award, 2018
- Regular outreach talks to community groups; conducted paleoclimate-related outreach at Cambridge Science Festival, 2016-
- Developed paleoclimate-related curricular activity implemented in New York and New Jersey secondary science classrooms and included in book published by the National Science Teachers Association Press