

David McGee

Department of Earth, Atmospheric and Planetary Sciences
Massachusetts Institute of Technology
77 Massachusetts Avenue, 4-441
Cambridge, MA 02139
617-324-3545 // davidmcg@mit.edu

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

Appointments

- 2017- **Associate Professor**, MIT (tenure granted 2019)
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

Teaching Experience

- 2012- **Massachusetts Institute of Technology**, Cambridge, MA
Director, Terrascope First-year Learning Community (2015-)
Courses taught or co-taught: Solving Complex Problems; The History of Earth's Climate; Paleooceanography; Climate Science; Global Warming Science; Analytical Techniques for Studying Environmental and Geologic Samples; Assembling Cambridge (First-year Advising Seminar).
- 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.

Publications (*: student or postdoctoral advisee)

- Fendrock, M.*, Condrón, A., McGee, D. **Modeling iceberg longevity and distribution during Heinrich Evens.** In revision.
- Fendrock, M.*, Chen, C.Y.*, Olson, K., Lowenstein, T.L., McGee, D. **A computer vision algorithm for interpreting lacustrine carbonate textures at Searles Valley, USA.** In revision.
- O'Mara, N.A., Skonieczny, C.*, McGee, D., Winckler, G., Malaizé, B., Bory, A.J.-M., Bradtmiller, L.I., Polissar, P.J. **Past and future drivers of Northwest African climate and vegetation.** In revision.
- Rodbell, D., Hatfield, R.G., Abbot, M., Chen, C.Y.*, Woods, A., Stoner, J.S., McGee, D., et al. **A 700,000-year record of Northern High Latitude Forcing of Glaciation in the Tropical Andes.** In revision.
- Wright, K., Johnson, K.R., Serrato Marks*, G., McGee, D., Bhattacharya, T., Goldsmith, G.R., Tabor, C.R., Lacaille-Muzquiz, J.-L., Lum, G., Beramendi-Orosco, L. **Precipitation in Mexico dominated by changes in Atlantic Meridional Overturning Circulation.** In revision.
- Scropton*, N., Burns, S., McGee, D., Godfrey, L.R., Ranivoharimanana, L., Faina, P. **Circum-Indian ocean hydroclimate at the mid to late Holocene transition: The Double Drought hypothesis and consequences for the Harappan.** Submitted.
- Scropton*, N., Burns, S., McGee, D., Godfrey, L.R., Ranivoharimanana, L., Faina, P. **Possible expression of the 4.2 kyr event in Madagascar and the Southeast African monsoon.** In revision.
- Medina, M., Perritano, S., DeCesare, M., Polanco-Martinez, J., Serrato Marks*, G., McGee, D., 2022. **Holocene hydroclimate in the Southeastern United States during abrupt climate events: evidence from new speleothem isotopic records.** *Paleoceanography and Paleoclimatology*, in press.
- Kinsley*, C., Bradtmiller, L.I., McGee, D., Galgay, M., Stuut, J.-B., Tjallingii, R., Winckler, G., deMenocal, P.B., 2022. **Orbital- and millennial-scale variability in northwest African dust emissions over the past 67,000 years.** *Paleoceanography and Paleoclimatology* 37, e2020PA004137.
- Burns, S.J., McGee, D., Scropton*, N., Kinsley*, C.W., Godfrey, L.R., Faina, P., Ranivoharimanana, L., 2021. **Southern Hemisphere Controls on Pluvial Periods in southwest Madagascar over the past 117,000 years.** *Quaternary Science Reviews* 276, 107317.
- Huth, T., Passey, B.H., Cole, J.E., Lachniet, M.S., McGee, D., Denniston, R.F., Truebe, S., Levin, N.E., 2021. **A framework for triple oxygen isotopes in speleothem paleoclimatology.** *Geochimica et Cosmochimica Acta*, doi:10.1016/j.gca.2021.11.002.
- Faina, P., Burns, S.J., Godfrey, L.R., Crowley, B.E., Scropton*, N., McGee, D., Sutherland, M.R., Ranivoharimanana, L., 2021. **Comparing the paleoclimates of northwestern and southwestern Madagascar during the late Holocene: Implications for the role of climate in megafaunal extinction.** *Malagasy Nature* 15, 108-127.
- Brovkin, V., et al., 2021 **Past abrupt changes, tipping points and cascading impacts in coupled climate-ecological-social systems: Lessons for the future.** *Nature Geoscience* 14, 550-558.
- Serrato Marks*, G., Medina-Elizalde, M., Burns, S., Weldeab, S., Lases-Hernandez, F., Cazares, G., McGee, D., 2021. **Evidence for reduced precipitation variability in the Yucatán Peninsula during the mid-Holocene.** *Paleoceanography and Paleoclimatology* 36, e2021PA004219.

- Peable, M., Tierney, J., Bhattacharya, T., Lowenstein, T.L., McGee, D., Feakins, S., 2021. **Reconstructing vegetation during the last glacial period from Southern California using machine learning.** *Organic Geochemistry* 156, 104222, doi:10.1016/j.orggeochem.2021.104222.
- Biller-Celander, N., Shakun, J., McGee, D., Wong, C.I., Reyes, A.V., Hardt*, B., Tal*, I., Ford, D., Lauriol, B., 2021. **Increasing Pleistocene permafrost stability and carbon cycle conundrums inferred from Canadian speleothems.** *Science Advances* 7, eabe5799.
- Munroe, J., Kimble, K., Spötl, C., Serrato Marks*, G., McGee, D., Herron, D., 2021. **Winter Wonderland Cave, Utah, USA: A natural laboratory for the study of cryogenic cave carbonate and thawing permafrost.** *Scientific Reports* 11, 6430, doi:10.1038/s41598-021-85658-9.
- Rowland, G.H., Robinson, L.F., Hendry, K.R., Ng, H.C., McGee, D., McManus, J.F., 2021. **The spatial distribution of aeolian dust and terrigenous fluxes in the tropical Atlantic Ocean since the Last Glacial Maximum.** *Paleoceanography and Paleoclimatology* 36(2), doi:10.1029/2020PA004148.
- Akam, S., Lyons, T.W., Coffin, R.B., McGee, D., Naehr, T.H., Bates, S.M., Clarkson, C., Reese, B.K., 2021. **Carbon-sulfur signals of methane versus crude oil diagenetic decomposition and U-Th age relationships for authigenic carbonates from asphalt seeps, southern Gulf of Mexico.** *Chemical Geology* 581, 120395.
- Yuan, T., Yu, H., Chin, M., Remer, L.A., McGee, D., Evan, A., 2020. **Anthropogenic decline of African dust: Insights from the Holocene records and beyond.** *Geophysical Research Letters* 47 (22), doi:10.1029/2020GL089711.
- Woods, A., Rodbell, D.T., Abbott, M.B., Hatfield, R.G., Chen, C.Y.*, Lehmann, S.B., McGee, D., Weidhaas, N.C., Tapia, P.M., Valero-Garces, B.L., Bush, M.B., Stoner, J.S., 2020. **Andean drought and glacial retreat tied to Greenland warming during the last glacial period.** *Nature Communications* 11, 5135.
- Chen*, C.Y., McGee, D., Woods, A., Pérez, L., Hatfield, R.G., Edwards, R.L., Cheng, H., Valero-Garcés, B.L., Lehmann, S.B., Stoner, J.S., Schwab, A., Tal*, I., Seltzer, G.O., Tapia, P.M., Abbott, M.B., Rodbell, D.T., 2020. **U-Th dating of lake sediments: Lessons from the 700 kyr sediment record of Lake Junín, Peru.** *Quaternary Science Reviews* 244, 106422.
- Pico, T., McGee, D., Russell, J., Mitrovica, J.X., 2020. **Recent constraints on MIS 3 sea level support role of continental shelf exposure as a control on Indo-Pacific hydroclimate.** *Paleoceanography and Paleoclimatology* 35(8), doi:10.1029/2020PA003998.
- Hatfield, R.G., Stoner, J. S., Solada, K. E., Morey, A. E., Woods, A., Chen, C. Y.*, McGee, D., Abbott, M.B., and Rodbell, D. T., 2020. **Paleomagnetic constraint of the Brunhes age sedimentary record from Lake Junín, Peru.** *Frontiers in Earth Science* 8.
- Costa, K.M., Hayes, C.M., Anderson, R.F., et al., 2020. **²³⁰Th normalization: New insights on an essential tool for quantifying sedimentary fluxes in the modern and Quaternary ocean.** *Paleoceanography and Paleoclimatology* 35(2), doi:10.1029/2019PA003820.
- McGee, D., 2020. **Glacial-interglacial precipitation changes.** *Annual Review of Marine Science* 12, 525-557.
- Bice, D., Lacroce, M., McGee, D., Montanari, A., 2019. **Late Pleistocene tectonic tilting of the Frasassi anticline from offset stalagmites in the Grotta Grande del Vento (Marche, Italy).** GSA Special Paper 542, doi: 10.1130/2019.2542(25).

- Tissot*, F.L.H., Ibanez-Mejia, M., Boehnke, P., Dauphas, N., McGee, D., Grove, T.L., Harrison, T.M., 2019. **$^{238}\text{U}/^{235}\text{U}$ measurement in single-zircon crystals: Implications for the Hadean environment, magmatic differentiation and geochronology.** *Journal of Analytical Atomic Spectrometry*, 34, 2035-2052.
- Ward, B.M., Wong, C., Novello, V., McGee, D., Silva, L., Santos, R.V., Wang, X., Edwards, R.L., Cheng, H., 2019. **Reconstruction of Holocene coupling between the South American Monsoon System and local moisture variability from speleothem $\delta^{18}\text{O}$ and $^{87}\text{Sr}/^{86}\text{Sr}$ records.** *Quaternary Science Reviews* 210, 51-63, doi: 10.1016/j.quascirev.2019.02.019
- Godfrey, L.R., Scroxton*, N., Crowley, B.E., Burns, S.J., Sutherland, M.R., Pérez, V.R., Faina, P., McGee, D., Ranivoharimanana, L., 2019. **A new interpretation of Madagascar's megafaunal decline: the "Subsistence Shift Hypothesis."** *Journal of Human Evolution* 130, 126-140.
- Anderson, C.H., Murray, R.W., Dunlea, A.G., Giosan, L., Kinsley*, C.W., McGee, D., Tada, R., 2019. **Eolian delivery to Ulleung Basin, Korea (Japan Sea) during development of the East Asian Monsoon through the last 12 Ma.** *Geological Magazine*, 1-12, doi: 10.1017/S001675681900013X.
- Scroxton*, N., Burns, S., McGee, D., Hardt*, B., Godfrey, L.R., Ranivoharimanana, L., Faina, P., 2019. **Competing temperature and atmospheric circulation effects on southwest Madagascan rainfall during the last deglaciation.** *Paleoceanography and Paleoclimatology* 34, doi: 10.1029/2018PA003466.
- Skonieczny*, C., McGee, D., Winckler, G., Bory, A., Bradtmiller, L.I., Kinsley*, C.W., Polissar, P.J., De Pol-Holz, R., Rossignol, L., Malaizé, B., 2019. **Monsoon-driven Saharan dust variability over the last 240,000 years.** *Science Advances* 5, doi: 10.1126/sciadv.aav1887.
- McGee, D., Moreno-Chamarro, E., Marshall, J., Galbraith, E.D., 2018. **Western U.S. lake expansions during Heinrich stadials linked to Pacific Hadley circulation.** *Science Advances* 4, doi: 10.1126/sciadv.aav0118.
- McGee, D., 2018. **Shifting summer rains (Perspective).** *Science* 342, 518-520.
- Ferreira, D., Marshall, J., Ito, T., McGee, D., 2018. **Linking glacial-interglacial cycles to multiple equilibria of climate.** *Geophysical Research Letters* 45, doi: 10.1029/2018GL077019.
- Anderson, C.H., Murray, R.W., Dunlea, A.G., Giosan, L., Kinsley*, C.W., McGee, D., Tada, R., 2018. **Climatically driven changes in the supply of terrigenous sediment to the East China Sea.** *Geochemistry, Geophysics, Geosystems* 19, doi: 10.1029/2017GC007339.
- Scroxton*, N., Burns, S.J., Dawson P.A., Rhodes, J.M., Brent*, K., McGee, D., Heijnis, H., Gadd, P., Hantoro, W.S., Gagan, M.K., 2018. **Rapid measurement of strontium in speleothems using core-scanning micro x-ray fluorescence.** *Chemical Geology* 487, 12-22.
- Omta, A.W., Ferrari, R., McGee, D., 2018. **An analytical framework for the impact of carbonate compensation on atmospheric CO_2 .** *Global Biogeochemical Cycles* 32, 720-735.
- McGee, D., Moreno-Chamarro, E., Green, B., Marshall, J., Galbraith, E., Bradtmiller, L., 2018. **Hemispherically asymmetric trade wind changes as signatures of past ITCZ shifts.** *Quaternary Science Reviews* 180, 214-228.
- McGee, D., deMenocal, P.B., 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.

- Rowland, G.H., Ng, H.C., Robinson, L.F., McManus, J.F., Mohamed, K.J., McGee, D., 2017. **Investigating the use of $^{232}\text{Th}/^{230}\text{Th}$ as a dust proxy using co-located seawater and sediment samples from the low-latitude North Atlantic.** *Geochimica et Cosmochimica Acta* 214, 143-156.
- Scroxton*, N., Burns, S.J., McGee, D., Hardt*, B., Godfrey, L., Ranivoharimanana, L., Faina, P., 2017. **Hemispherically in-phase precipitation variability over the last 1700 years in a Madagascar speleothem record.** *Quaternary Science Reviews* 164, 25-36.
- Wortham, B.E., Wong, C.I., Silva, L.C.R., McGee, D., Montañez, I.P., Rasbury, E.T., Cooper, K.M., Sharp, W.D., Glessner, J.G., 2017. **Assessing response of local moisture conditions in central Brazil to regional variability in monsoon intensity using speleothem $^{87}\text{Sr}/^{86}\text{Sr}$ values.** *Earth and Planetary Science Letters* 463, 310-322.
- Hayes*, C.T., Rosen*, J., McGee, D., Boyle, E.A., 2017. **Thorium distributions in high and low dust regions and the significance for iron supply.** *Global Biogeochemical Cycles* 31, doi:10.1002/2016GB005511.
- Williams*, R.H., McGee, D., Ridley, D.A., Kinsley*, C.W., Hu, S., Fedorov, A., Tal*, I., Murray, R., deMenocal, P.B., 2016. **Glacial to Holocene changes in trans-Atlantic Saharan dust transport and dust-climate feedbacks.** *Science Advances* 2, doi:10.1126/sciadv.1600445.
- Hayes*, C.T., McGee, D., Boyle, E.A., Mukhopadhyay, S., Maloof, A.C., 2016. **Helium and thorium isotope constraints on African dust transport to the Bahamas over recent millennia.** *Earth and Planetary Science Letters* 457, 385-394.
- Albani, S., Mahowald, N.M., Murphy, L.N., Raiswell, R., Moore, J.K., Anderson, R.F., McGee, D., Bradtmiller, L.I., Delmonte, B., Hesse, P.P., Mayewski, P.A., 2016. **Paleodust variability since the Last Glacial Maximum and implications for iron inputs to the ocean.** *Geophysical Research Letters* 43, doi:10.1002/2016GL067911.
- Burns, S.J., Godfrey, L.R., Faina, P., McGee, D., Hardt*, B., Ranivoharimanana, L., Randrianasy, J., 2016. **Rapid human-induced landscape transformation in Madagascar at the end of the first millennium CE.** *Quaternary Science Reviews* 134, 92-99.
- Bradtmiller, L.I., McGee, D., Awalt, M., Evers, J., Yerxa, H., Kinsley*, C.W., deMenocal, P.B., 2016. **Changes in biological productivity along the northwest African margin over the past 20,000 years.** *Paleoceanography* 31, doi:10.1002/2015PA002862.
- McGee, D., Winckler, G., Borunda, A., Serno, S., Anderson, R.F., Recasens, C., Bory, A., Gaiero, D., Jaccard, S.L., Kaplan, M., McManus, J.F., Revel, M., Sun, Y., 2016. **Tracking eolian dust with helium and thorium: Impacts of grain size and provenance.** *Geochimica et Cosmochimica Acta* 175, 47-67.
- Hayes*, C.T., Fitzsimmons, J.N., Boyle, E.A., McGee, D., Anderson, R.F., Weisend, R., Morton, P.L., 2015. **Thorium isotopes tracing the iron cycle at the Hawaii Ocean Time-series station ALOHA.** *Geochimica et Cosmochimica Acta* 169, 1-16.
- Cross, M., McGee, D., Broecker, W.S., Quade, J., Shakun, J.D., Cheng, H., Lu, Y., Edwards, R.L., 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.

- Steponaitis*, E., Andrews*, A., McGee, D., Quade, J., Broecker, W.S., Hsieh*, Y.-T., Shuman, B., Burns, S.J., Cheng, H., 2015. **Mid-Holocene drying of the U.S. Great Basin recorded in Nevada speleothems.** *Quaternary Science Reviews* 127, 174-185.
- Albani, S., Mahowald, N.M., Winckler, G., Anderson, R.F., Bradtmiller, L.I., et al., 2015. **12,000 years of dust: The Holocene global dust cycle constrained by natural archives.** *Climate of the Past* 11, 869–903.
- Donohoe, A., Marshall, J., Armour, K., Ferreira, D., McGee, D., 2014. **The inter-annual variability of tropical precipitation and inter-hemispheric energy transport.** *Journal of Climate* 27, 3377-3392.
- McGee, D., Donohoe, A., Marshall, J., Ferreira, D., 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.
- Serno, S., Winckler, G., Anderson, R.F., Hayes, C.T., McGee, D., Machalett, B., Ren, H., Straub, S.M., Gersonde, R., Haug, G.H., 2014. **Eolian dust input to the Subarctic North Pacific.** *Earth and Planetary Science Letters*, 387, 252-263.
- Marshall, J., Donohoe, A., Ferreira, D., McGee, D., 2014. **The ocean's role in setting the mean position of the Inter-Tropical Convergence Zone.** *Climate Dynamics* 42, 1967-1979.
- Donohoe, A., Marshall, J., Ferreira, D., McGee, D., 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.
- McGee, D., deMenocal, P.B., Winckler, G., Stuut, J.-B., Bradtmiller, L.I., 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.
- Broecker, W.S., McGee, D., 2013. **The $\delta^{13}\text{C}$ record for atmospheric CO_2 : What is it trying to tell us?** *Earth and Planetary Science Letters*, 368, 175-182.
- McGee, D., Mukhopadhyay, S., 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.
- McGee, D., Quade, J., Edwards, R.L., Broecker, W.S., Cheng, H., Reiners, P.W., Evenson, N., 2012. **Lacustrine cave carbonates: Novel archives of paleohydrologic change in the Bonneville Basin (Utah, USA).** *Earth and Planetary Science Letters* 351-352, 182-194.
- McGee, D., Marcantonio, F., McManus, J.F., Winckler, G., 2010. **The response of excess ^{230}Th and extraterrestrial ^3He to sediment redistribution at the Blake Ridge, western North Atlantic.** *Earth and Planetary Science Letters* 299, 138-149.
- McGee, D., Broecker, W.S., Winckler, G., 2010. **Gustiness: the driver of glacial dustiness?** *Quaternary Science Reviews* 29, 2340-2350.
- Broecker, W.S., McGee, D., Adams, K.D., Cheng, H., Edwards, R.L., Oviatt, C.G., Quade, J., 2009. **A Great Basin-wide dry episode during the first half of the Mystery Interval?** *Quaternary Science Reviews* 28, 2557-2563.
- Marcantonio, F., Thomas, D.J., Woodward, S., McGee, D., Winckler, G., 2009. **Extraterrestrial ^3He in Paleocene sediments from Shatsky Rise: constraints on sedimentation rate variability.** *Earth and Planetary Science Letters* 287, 24-30.

- Winckler, G., Anderson, R.F., Fleisher, M.Q., McGee, D., Mahowald, N., 2008. **Covariant glacial-interglacial dust fluxes in the equatorial Pacific and Antarctica.** *Science* 320, 93-96.
- Siddall, M., Anderson, R.F., Winckler, G., Henderson, G.M., Bradtmiller, L.I., McGee, D., Franzese, A., Stocker, T.F., Müller, S.A., 2008. **Modeling the particle flux effect on distribution of ^{230}Th in the equatorial Pacific.** *Paleoceanography* 23, doi:10.1029/2007PA001556.
- McGee, D., Marcantonio, F., Lynch-Stieglitz, J., 2007. **Deglacial changes in dust flux in the eastern equatorial Pacific.** *Earth and Planetary Science Letters* 257, 215-230.

Undergraduate Student Research Supervision

25 undergraduate researchers supervised; 20 female or non-binary

Graduate Students Advised (with current positions)

Benjamin Tiger, MIT-WHOI Joint Program, 2020-
Michaela Fendrock, MIT-WHOI Joint Program, 2017-
Gabriela Serrato Marks, MIT-WHOI Joint Program, 2015-2020; Senior Program Coordinator for Postbaccalaureate Training, Broad Institute
Christine Chen, MIT-WHOI Joint Program, 2013-2019; postdoctoral researcher at Lawrence Livermore National Laboratory
Christopher Kinsley, MIT-WHOI Joint Program, 2012-2019; postdoctoral researcher at Berkeley Geochronology Center
Elena Steponaitis, MIT, 2012-2015; Research Scientist, NASA Earth Systems Division

Postdoctoral Researchers Advised (with current positions)

Nicholas Scroton, joint with UMass, 2015-2019, Lecturer, Maynooth University
Francois Tissot, 2016-2018, Assistant Professor, California Institute of Technology
Justin Stroup, 2016-2017, Assistant Professor, SUNY-Oswego
Charlotte Skonieczny, 2016, Assistant Professor, U. Paris-Sud, France
Benjamin Hardt, 2014-2015, Secondary school teacher
Christopher Hayes, 2013-2015, Assistant Professor, U. Southern Mississippi
Yu-Te (Alan) Hsieh, 2012-2013, Research Scientist, Oxford University

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: Reconnaissance and stalagmite sampling, 4 weeks, 2014-2016
Searles and Death Valleys, California: Drilling and shoreline sampling, 5 weeks, 2017-2020
Nahanni National Park Reserve, Northwest Territories: Cave sampling, 1 week, 2019.

Professional and Volunteer Activities

- Associate Department Head for Diversity, Equity and Inclusion, 2020-; Chair of departmental Diversity, Equity and Inclusion Committee
- Director, MIT Terrascope Learning Community, 2015-; program engages ~50 first-year students each year in exploring environmental challenges through project-based classes; 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 (terrascope.mit.edu)
- NOAA Climate and Global Change Postdoctoral Fellowship Program Steering Committee, 2014-2017; Chair, 2016-2017

- Organizer of Lorenz Center Workshop on “Water and Climate Change: Connecting the Paleoclimate Record to Future Changes”, June 2018
- MIT Sustainability Leadership Steering Committee Co-Chair, 2019-2020
- MIT Climate and Sustainability Consortium Faculty Steering Committee, 2020-
- MIT Environmental Solutions Initiative and MIT Environment and Sustainability minor Faculty Advisory Boards, 2019-
- Ad Hoc Committee for Leveraging Best Practices from Remote Teaching for On-Campus Education, 2021-
- MIT Festival of Learning panelist, 2020
- MIT first-year advisor, Fall 2012-present; Excellence in Mentoring Award, 2018
- Regular outreach talks to community groups; paleoclimate-related outreach at Cambridge Science Festival, 2016-