

Jennifer Lynne Middleton

Lamont-Doherty Earth Observatory
61 Route 9W
Palisades, NY 10964 USA

jennym[at]ldeo.columbia.edu
office: (845) 365-8481

Website: <https://wings.ldeo.columbia.edu/people/jennifer-middleton>

EDUCATION

Ph.D., Earth & Planetary Sciences, Harvard University, Cambridge, MA, 2017
M.A. Earth & Planetary Sciences, Harvard University, Cambridge, MA, 2013
B.A. Earth & Planetary Sciences cum laude, Harvard University, Cambridge, MA, 2010

RESEARCH EXPERIENCE

Lamont Asst. Research Professor, Lamont-Doherty Earth Observatory, Palisade NY,
2021- present
Assoc. Research Scientist, Lamont-Doherty Earth Observatory, Palisades NY, 2020-2021
Postdoctoral Fellow, Lamont-Doherty Earth Observatory, Palisades NY, 2017-2020
Graduate Research Assistant, Harvard University, Cambridge MA, 2011-2017
Research Assistant, Harvard Noble Gas Lab, Cambridge, MA, 2008-2010
Research Assistant, Harvard Environmental Chemistry Group, Cambridge, MA, 2007

RESEARCH INTERESTS

Isotope geochemistry, chemical oceanography, paleoclimate, and paleoceanography.
Continental dust emissions, nutrient delivery to marine ecosystems and carbon export.
Interactions between ice age cycles, hydrothermal activity, and biologic productivity.
Cosmogenic exposure dating and ice sheet stability. Method development in noble gas geochemistry and paleoclimate proxies.

HONORS AND AWARDS

Donald Beane Career Development Fellow 2022
Lamont Climate Center Grant, 2019
Lamont Postdoctoral Fellowship, 2017- 2020
Harvard University Certificate of Distinction in Teaching, 2013, 2014
Shaler Teaching Award, Harvard Department of Earth & Planetary Sciences, 2013
National Science Foundation Graduate Research Fellowship, 2013-2016
Smith Family Graduate Science and Engineering Fellowship, 2012
Harvard University Center for the Environment: Graduate Consortium Fellowship, 2012

ACTIVITIES AND TEACHING

Co-Instructor, Columbia, *SS-PS5001: Fund. of Sustainability Science*, Spring 2025
Co-Instructor, Columbia, *EESC-UN2100: Climate Systems*, Spring 2024
Instructor, Columbia/Hudson Link, *EESCW-1011: Earth: Origin, Evolution, Processes, Future*, Fall 2023, 2024
Guest Lecturer, Columbia, *CHEM-UN2408: Sem. in Chem. Research*, Spring 2023, 2024

Substitute Lecturer, Columbia, *EESCGU-4885: Chem. of Continent. Waters*, Spring 2020
Guest Lecturer, Columbia, *EESCGU-4235: Sea Level Change*, Spring 2019, 2020, 2023
Guest Lecturer, University of California Davis, *Geology 1: The Earth*, Spring 2016
Guest Lecturer, Tufts University *Chem/Bio/Astro6: Big Bang to Humankind*, Spring 2014
Head Teaching Fellow, Harvard, *SPU14: How to Build a Habitable Planet*, Fall 2013
Teaching Fellow, Harvard, *SPU14: How to Build a Habitable Planet*, Fall 2012
Graduate Consortium on Energy and the Environment, Harvard University Center for the Environment, 2012- 2014

MENTORING

Mentoring of Junior Scientists

Keylen Lucero Garcia – Bridge to PhD Student (Lamont), 2023-present
Kayla Pham – Undergrad. Research Assistant (Lamont), 2023
IO Reid – Undergrad. Summer Research Intern (Lamont), 2023
Kelly Powell – Undergrad. Senior Thesis Student (Lamont), 2019- 2020
John Richardson – Undergrad. Research Assistant (Lamont), 2018-2019
Marcelle D’Almeida – Undergrad. Research Assistant (UC Davis), 2016-2017
Alec Tyra – Undergrad. Research Assistant (UC Davis), 2016
Francisco Apen – Junior Research Specialist (UC Davis), 2015-2017
Ariana Saxby – Undergrad. Research Assistant (Harvard), 2013-2014

DIVERSITY AND INCLUSION

Lamont Standing Committee on Diversity, Equity, Inclusion and Anti-bias 2021-present
Geochemical Society Virtual Mentoring Coordination Committee 2023-present
Chair of Geochemical Society’s Diversity, Equity and Inclusion Committee 2021-2023
Geochemical Society Diversity, Equity and Inclusion Committee 2020-2023
Lamont Diversity Equity and Inclusion Task Force 2020
Lamont-Doherty Professional Conduct Committee 2018- 2019
Co-organizer of LDEO Harassment Awareness Month 2018- 2020
Co-organizer of LDEO Gender and Diversity Coffee Hour 2019

PROFESSIONAL MEMBERSHIPS

American Geophysical Union
Geochemical Society

SEAGOING AND FIELD EXPERIENCE

Noble Gas Sampler, GEOTRACES GP17-OCE, R/V Revelle, Southern Ocean, 2022-2023
Stratigraphic Correlator, IODP Exp. 383, R/V JOIDES Resolution, Southern Ocean, 2019
Graduate Field Assistant, Ohio Range, Antarctica, 2015-2016
Sediment Geochemist, R/V Atlantis, Juan de Fuca Ridge, 2014
Sediment Geochemist, R/V Knorr, Mid-Atlantic Ridge, 2012
Field Assistant, McMurdo Dry Valleys, Antarctica, 2008-2009
Student, Juneau Icefield Research Program, Juneau Icefield, Alaska, 2008

INVITED SEMINARS

Woods Hole Oceanographic Institution, Climate + Paleo Seminar, 2024
University of New Hampshire, Randolph W. Chapman Colloquium, 2024
Princeton, Solid Earth Seminar, 2023
University of Southern California, Paleo/environmental Seminar, 2021
University of California Santa Barbara, Colloquium, 2021
University of California Santa Cruz, Whole Earth Seminar, 2021
Texas A&M/IODP, Fieldwork, Gender, and Diversity in the Earth Sciences Panel, 2020
University of Delaware, Departmental Seminar, 2019
American Museum of Natural History, Departmental Seminar, 2019
Alfred Wegener Institute, Geoseminar, 2018
University of Cambridge, Isotope Coffee, 2017
University of California Berkeley, Isotope Geochemistry Seminar, 2017
Woods Hole Oceanographic Institution, MG&G Seminar, 2017
Lamont-Doherty Earth Observatory, Geochemistry Seminar, 2015

EXTERNAL GRANTS

Collaborative Research: Top-down vs. bottom-up: Deciphering the Subantarctic South Pacific's Role in Pleistocene Climate Evolution with IODP Expedition 383 Sediments, 2023-2026
Winckler, G. (P.I.) and **Middleton, J.L. (Co-P.I.)**
NSF Marine Geology and Geophysics, \$642,796
Collaborative Research: US GEOTRACES GP17-OCE and GP17-ANT properties and processes impacting other TEI cycles using noble gas and stable isotope tracers, 2022-2025
Middleton, J.L. (P.I.) and Winckler, G. (Co-P.I.)
NSF Chemical Oceanography, \$480,789
FESD Type 1: VOICE – Volcano, Ocean, Ice, and Carbon Experiments, 2020
McManus, J. (P.I.), Carbotte, S. (Co-P.I.), **Middleton, J.L. (Co-P.I.)**, Schaefer, J. (Co-P.I.), and Winckler, G. (Co-P.I.)
Harvard University, \$184,708
Plio-Pleistocene variations in dust delivery to the Central South Pacific: IODP Expedition 383, 2019-2021
Middleton, J.L. (P.I.)
USSSP – IODP, \$17,989
Establishing extraterrestrial ³He as a Plio-Pleistocene constant flux proxy, 2019-2023
Middleton, J.L. (P.I.) and Winckler, G. (Co-P.I.)
NSF Marine Geology and Geophysics, \$477,004

PUBLICATIONS

[20] Dunlea, A.G., **J.L. Middleton**, and F.J. Pavia. The marine sediment archive of hydrothermal activity. *Hydrothermal Circulation and Seawater Chemistry: Links and Feedbacks. AGU Monograph*, Ed. L. Coogan, S. Turchyn, A. Dunlea, and W. Bach. (*in press*)

- [19] Barkley, A.E., G. Winckler, C. Recasens, M.R. Kaplan, B.G. Koffman, F. Calabozo, **J. Middleton**, R.F. Anderson, Y. Cai, L. Bolge, J. Longman, and S.L. Goldstein. Patagonian dust, Agulhas Current and Antarctic ice rafted debris contributions to the South Atlantic Ocean over the past 150,000 years. *Proceedings of the National Academy of Sciences* 121 (31), e2402120121, 2024.
- [18] Das, S., N. Mahanta, B. Sahoo, R.K. Singh, C. Alvarez-Zarikian, M. Tiwari, N. Vats, Nihal, F. Lamy, G. Winckler, **J.L. Middleton**, H.W. Arz, J. Gottschalk, C. Basak, A. Brombacher, O.M. Esper, J.R. Farmer, L.C. Herbert, S. Iwasaki, L. Lembke-Jene, V.J. Lawson, L. Lo, E. Malinverno, E. Michel, S. Moretti, C.M. Moy, A.C. Ravelo, C.R. Riesselman, M. Saavedra-Pellitero, I. Seo, R.A. Smith, A.L. Souza, J.S. Stoner, I.V.M.P. de Oliveria, S. Wan, and X. Zhao. *Paleogeography, Paleoclimatology, Paleoecology* 647, 112252, 2024.
- [17] **Middleton J.L.**, J. Gottschalk, G. Winckler, J. Hanley, C. Knudson, J.R. Farmer, F. Lamy, L.E. Lisiecki, and Expedition 383 Scientists. Evaluating manual versus automated benthic foraminiferal $\delta^{18}\text{O}$ alignment techniques for developing chronostratigraphies in marine sediment records. *Geochronology* 6 (2), 125-145, 2024.
- [16] Lamy, F., G. Winckler, H.W. Arz, J.R. Farmer, J. Gottschalk, L. Lembke-Jene, **J.L. Middleton**, M. van der Does, R. Tiedemann, C. Alvarez Zarikian, C. Basak, A. Brombacher, L. Dumm, O.M. Esper, L.C. Herbert, S. Iwasaki, G. Kreps, V.J. Lawson, L. Lo. E. Malinverno, A. Martinez-Garcia, E. Michel, S. Moretti, C.M. Moy, A.C. Ravelo, C.R. Riesselman, M. Saavedra-Pellitero, H. Sadatzki, I. Seo, R.K. Singh, R.A. Smith, A.L. Souza, J.S. Stoner, M. Toyos, I.M. Venancio P. de Oliveira, S. Wan, S. Wu, and X. Zhao. Five million years of Antarctica Circumpolar Current strength variability. *Nature* 627, 789-796, 2024.
- [15] Pavia, F.J., J.T. Abell, **J.L. Middleton**, A. Leal, S.M. Vivancos, M.Q. Fleisher, G. Winckler, and R.F. Anderson. Discrepant mass accumulation rates of sediments in the South Pacific Ocean from ^{230}Th and ^3He measurements. *Geochimica et Cosmochimica Acta* 365, 215-228, 2024.
- [14] Abell, J.T., G. Winckler, A. Pullen, C.W. Kinsley, P.A. Kapp, **J.L. Middleton**, F.J. Pavia, D. McGee, H.L. Ford, and M.E. Raymo. Evaluating the drivers of Quaternary dust fluxes to the western North Pacific: East Asian dustiness and Northern Hemisphere gustiness. *Paleoceanography and Paleoclimatology* 38(9), e2022PA004571, 2023.
- [13] Balter-Kennedy, A., J.M. Schaefer, R. Schwartz, J.L. Lamp, L. Penrose, **J. Middleton**, B. Tibari, P-H. Blard, G. Winckler, A.J. Hidy, and G. Balco. Cosmogenic ^{10}Be in pyroxene: laboratory progress, production rate systematics, and application of the ^{10}Be - ^3He nuclide pair in the Antarctic Dry Valleys. *Geochronology* 5 (2), 301-321, 2023.
- [12] Pavia, F.J., S. Wang, **J. Middleton**, R.W. Murray, and R.F. Anderson. Trace metal evidence for deglacial ventilation of the abyssal Pacific and Southern Oceans. *Paleoceanography and Paleoclimatology* 36(9), e2021PA004226, 2021.
- [11] Pourret, O., **J. Middleton**, D. Ibara, D. Irawan, A. Rouff, A. Pallavi, A. Tripathi, A. Riches, and A. Dosseto. Diversity among editorial boards of Elements and other selected geochemistry, cosmochemistry, mineralogy, and petrology journals. *Elements* 17 (3): 150-152, 2021.

- [10] Pourret, O., P. Anand, S. Arndt, P. Bots, A. Dosseto, Z. Li, J. Marin Carbonne, **J. Middleton**, B. Ngwenya, and A. Riches. Diversity, Equity, and Inclusion: Tackling under-representation and recognition of talents in Geochemistry and Cosmochemistry. *Geochimica et Cosmochimica Acta* 310, 363-371, 2021.
- [9] Winckler, G., F. Lamy, C.A. Alvarez Zarikian, H.W. Arz, C. Basak, A. Brombacher, O.M. Esper, J.R. Farmer, J. Gottschalk, L.C. Herbert, S. Iwasaki, V.J. Lawson, L. Lembke-Jene, L. Lo, E. Malinverno, E. Michel, **J.L. Middleton**, S. Moretti, C.M. Moy, A.C. Ravelo, C.R. Riesselman, M. Saavedra-Pellitero, I. Seo, R.K. Singh, R.A. Smith, A.L. Souza, J.S. Stoner, I.M. Venancio, S. Wan, X. Zhao, N. Foucher Mccoll. Expedition 383 Summary. *Proceedings of the International Ocean Discovery Program*, Volume 383, <https://doi.org/10.14379/iodp.proc.383.104.2021>, 2021.
- [8] Costa, K.M., Hayes, C.M., Anderson, R.F., Pavia, F.J., Bausch, A., Deng, F., Dutay, J.-C., Geibert, W., Heinze, C., Henderson, G., Hillaire-Marcel, C., Hoffman, S., Jaccard, S.L., Jacobel, A.W., Kienast, S.S., Kipp, L., Lerner, P., Lippold, J., Lund, D., Marcantonio, F., McGee, D., McManus, J.F., Mekik, F., **Middleton, J.L.**, Missiaen, L., Not, C., Pichat, S., Robinson, L.F., Rowland, G.H., Roy-Barman, M., Tagliabue, A., Torfstein, A., Winckler, G., and Zhou, Y. ^{230}Th normalization: New insights on an essential tool for quantifying sedimentary fluxes in the modern and Quaternary ocean. *Paleoceanography and Paleoclimatology*, 35, e2019PA003820, 2020.
- [7] **Middleton, J.L.**, S. Mukhopadhyay, K.M. Costa, F.J. Pavia, G. Winckler, J.F. McManus, M. D’Almeida, C.H. Langmuir, and P.J. Huybers. The spatial footprint of hydrothermal scavenging on $^{230}\text{Th}_{\text{xs}}$ -derived mass accumulation rates. *Geochimica et Cosmochimica Acta*, 272, 218-234, 2020.
- [6] Jacobel, A.W., R.F. Anderson, G. Winckler, K.M. Costa, J. Gottschalk, **J.L. Middleton**, F.J. Pavia, E.M. Schoenfelt, and Y. Zhou. No evidence for equatorial Pacific dust fertilization. *Nature Geoscience*, 12, 154, 2019.
- [5] Costa, K.M., R.F. Anderson, J.F. McManus, G. Winckler, **J.L. Middleton**, and C.H. Langmuir. Trace element (Mn, Zn, Ni, V) and authigenic uranium (aU) geochemistry reveal sedimentary redox history on the Juan de Fuca Ridge, North Pacific Ocean. *Geochimica et Cosmochimica Acta*, 236, 79-98, 2018.
- [4] **Middleton, J.L.**, S. Mukhopadhyay, C.H. Langmuir, J.F. McManus, and P.J. Huybers. Millennial-scale variations in dustiness recorded in Mid-Atlantic sediments from 0 to 70 ka. *Earth and Planetary Science Letters*, 482, 12-22, 2018.
- [3] Costa, K.M., J.F. McManus, **J.L. Middleton**, C.H. Langmuir, P.J. Huybers, G. Winckler, and S. Mukhopadhyay. Hydrothermal deposition on the Juan de Fuca Ridge over multiple glacial-interglacial cycles. *Earth and Planetary Science Letters*, 479, 120-132, 2017.
- [2] **Middleton, J.L.**, C.H. Langmuir, S. Mukhopadhyay, J.F. McManus, and J.X. Mitrova. Hydrothermal iron flux variability following rapid sea-level changes. *Geophysical Research Letters*, 43, doi:10.1002/2016GL068408. 2016.
- [1] **Middleton, J.L.**, R.P. Ackert, and S. Mukhopadhyay. Pothole and channel system formation in the McMurdo Dry Valleys of Antarctica: New insights from

cosmogenic nuclides. *Earth and Planetary Science Letters*, 355-356, 341-350, 2012.

SELECTED CONFERENCE PROCEEDINGS

*Includes all first-author, all mentee-author, and other abstracts within past 3 years
(*denotes undergraduate or Bridge-to-PhD mentee)*

- [34] Lucero Garcia, K. *, **J. Middleton**, S. Mukhopadhyay, J. Abell, and G. Winckler. Calibration of a Plio-Pleistocene constant flux proxy: Meteoric beryllium-10 constraints on the influx of extraterrestrial helium over the past 5 Myr. *To be presented at the American Geophysical Union Fall Meeting, December 2024.*
- [33] **Middleton, J.**, K. Cahill, D. Lott, A. Seltzer, K. Lucero Garcia*, W. Jenkins, and G. Winckler. Tracing hydrothermal helium across the South Pacific: Early results from US GEOTRACES cruise GP17-OCE. *To be presented at the American Geophysical Union Fall Meeting, December 2024.*
- [32] A. Lang, G. Winckler, F. Lamy, H.W. Arz, J. Gottschalk, L. Jebasinski, **J.L. Middleton**, and C. Basak. Icebergs far from home: Using ice-rafted debris to track icebergs during major cold periods from 2.4 to 3.3 Ma. American Geophysical Union Fall Meeting, 2024.
- [31] J. Fitzsimmons, K. Dick, T. Conway, D. Halbeisen, S. John, B.M. Sohst, P. Sedwick, G. Weiss, J.A. Resing, **J.L. Middleton**, W.J. Jenkins, A.M. Seltzer, C.R. German, G.A. Cutter, and B.S. Twining. Controls on micronutrient dissolved metal distributions along the U.S. GEOTRACES GP17-OCE section to the South Pacific and Southern Oceans. American Geophysical Union Fall Meeting, 2024.
- [30] Winckler, G., F. Lamy, H.W. Arz, A. Wegwerth, V. Rigalleau, J. Kaiser, N. Ruggieri, H. Sadatzki, **J.L. Middleton**, J. Gottschalk, A. Lang, J.R. Farmer, L. Lembke-Jene, and C. Basak. Atmosphere-ocean-cryosphere interactions in the Subantarctic South Pacific – new Plio/Pleistocene perspective from IODP Expedition 383. American Geophysical Union Fall Meeting, 2024.
- [29] Davies, J., W.J. D’Andrea, **J.L. Middleton**, K. Lucero Garcia*, and B. Reilly. Organic and inorganic proxy reconstructions of ice shelf conditions: a study from Petermann Fjord, North Greenland. *To be presented at the American Geophysical Union Fall Meeting, December 2024.*
- [28] Barkley, A., G. Winckler, C. Recasens, M.R. Kaplan, B.G. Koffman, F. Calabozo, **J.L. Middleton**, R.F. Anderson, Y. Cai, L. Bolge, J. Longman, and S.L. Goldstein. Patagonian dust, Agulhas Current and Antarctic ice-rafted debris contributions to the South Atlantic Ocean over the past 150,000 years. *To be presented at the American Geophysical Union Fall Meeting, December 2024.*
- [27] Dick, K., D. Halbeisen, B.M. Sohst, G. Weiss, **J.L. Middleton**, C.R. German, G. Winckler, W.J. Jenkins, J.A. Resing, P. Sedwick, S. John, T. Conway, and J.N. Fitzsimmons. Flux and transport of hydrothermal iron and manganese from the Pacific Antarctic Ridge. AGU Ocean Sciences Meeting, 2024.
- [26] Reid, I. *, **J. Middleton**, G. Winckler, R. Schwartz, M. Fleisher, and Expedition 383 Scientists. Calibrating Site U1541 XRF elemental data using sediment digests and ICP-MS. American Geophysical Union Fall Meeting, 2023.

- [25] Tulinsky, G., G. Winckler, J.T. Abell, **J.L. Middleton**, R. Schwartz, M.Q. Fleisher, L. Lembke-Jene, and R. Tiedemann. Did the Westerlies move and strengthen over the last glacial cycle? American Geophysical Union Fall Meeting, 2023.
- [24] **Middleton, J.** and G. Winckler. Plio-Pleistocene dust fluxes to the western equatorial Pacific constrained via helium isotopes and sedimentary ^{10}Be . Goldschmidt, 2023.
- [23] Symes, E., C. Basak, **J. Middleton**, J. Farmer, G. Winckler, A.P.S. Cruz, and Expedition 383 Science Party. Deep ocean circulation changes in the South Pacific during the Mid-Pleistocene Transition. Goldschmidt, 2023.
- [22] **Middleton, J.**, C. Langmuir, S. Mukhopadhyay, P. Huybers, K. Costa, J. McManus, and G. Winckler. Sea level changes and hydrothermal activity: Statistical evaluation of 1-100 kyr variability in hydrothermal iron deposition in Juan de Fuca Ridge sediment. AGU Chapman Conference on Hydrothermal Circulation and Seawater Chemistry, 2023.
- [21] Barkley, A., G. Winckler, C. Recasens, M.R. Kaplan, R.F. Anderson, Y. Cai, L. Bolge, **J.L. Middleton**, J. Longman, and S.L. Goldstein. The sources of terrigenous sediment to the Southeast Atlantic-Southern Ocean over the last 150,000 years. American Geophysical Union Fall Meeting, 2022.
- [20] **Middleton, J.**, L. Penrose, M. van der Does, F. Lamy, J. Gottschalk, G. Winckler, and Expedition 383 Scientists. Plio-Pleistocene dust fluxes and productivity reconstructions from the Subantarctic South Pacific. International Conference on Paleoceanography 14, 2022.
- [19] Winckler, G., **J. Middleton**, J. Gottschalk, L. Penrose, M. van Der Does, H.W. Arz, C. Basak, I.U. Kapuge, J. Farmer, L. Lembke-Jene, E. Michel, A.C. Ravelo, H. Sadatzki, C. Alvarez-Zarikian, F. Lamy, and Expedition 383 Scientists. What role does the South Pacific play in the climate evolution of the past five million years? New insights from IODP Expedition 383. International Conference on Paleoceanography 14, 2022.
- [18] Gottschalk, J., A. Hasenfratz, **J. Middleton**, J. Farmer, E. Michel, J. Hanely, C. Knudsen, S. Jaccard, F. Lamy, G. Winckler, and Expedition 383 Scientists. Benthic foraminiferal $\delta^{13}\text{C}$ constraints on Pacific-Atlantic Ocean deep-water exchange over the past 1.5 million years. International Conference on Paleoceanography 14, 2022.
- [17] van der Does, M., F. Lamy, H. Arz, A. Martinez-Garcia, **J. Middleton**, L. Penrose, N. Ruggieri, H. Sadatzki, and G. Winckler. A 5.3-Myr record of dust deposition in the South Pacific Ocean from IODP Expedition 383. International Conference on Paleoceanography 14, 2022.
- [16] **Middleton, J.**, G. Winckler, K.-M. Powell, and F. Lamy. Marine sedimentary insights into a uniquely Pacific early Holocene dust peak at ~ 10 ka. Blowing South: Southern Hemisphere Dust Symposium, 2021.
- [15] **Middleton, J.L.**, G. Winckler, J. Schaefer, F. Pavia, R. Anderson, R. Schwartz, Y. Zhou, and C. Kinsley. Global patterns in oceanographic influences on ^{10}Be deposition rates to the seafloor. Goldschmidt, 2021.
- [14] **Middleton, J.L.** Ocean-mantle-climate connections at submarine spreading centers on 10-100 kyr timescales. Rift2Ridge Workshop, 2021. Invited Speaker.

- [13] Powell, K.-M.*, **J.L., Middleton**, S. Hemming, G. Winckler, F. Pavia, and R.F. Anderson. Investigating feedback mechanisms between ice rafted debris production and carbon export in the Pacific Sector of the Southern Ocean over the last 35,000 years. American Geophysical Union Fall Meeting, 2020.
- [12] **Middleton, J.L.**, G. Winckler, K.-M. Powell* and F. Lamy. Nutrient delivery and carbon uptake in the Antarctic Pacific. Comer Climate Conference, October 2020.
- [11] Powell, K.-M.*, **J.L. Middleton**, S. Hemming, G. Winckler, F. Pavia, and R.F. Anderson. Ice rafted debris and carbon export in the Pacific Southern Ocean. Oral Presentation, Comer Climate Conference, October 2020.
- [10] **Middleton, J.L.**, S. Mukhopadhyay, K. Costa, F. Pavia, G. Winckler, J.F. McManus, M. D’Almeida, C.H. Langmuir, and P.J. Huybers. How much does hydrothermal scavenging influence thorium-derived sediment fluxes? Oral Presentation, American Geophysical Union Fall Meeting, 2019.
- [9] **Middleton, J.L.**, Z. Mason, S. Mukhopadhyay, A.E. Putnam, R.P. Ackert, and S.W. Campbell. Cosmogenic nuclides suggest long-term Pleistocene exposure of subglacial bedrock at the Ohio Range in the West Antarctic Ice Sheet. Oral Presentation (Invited), American Geophysical Union Fall Meeting, 2018.
- [8] **Middleton, J.L.**, G. Winckler, and F. Lamy. Pleistocene climate variability and iron fertilization in the Pacific Southern Ocean. Comer Climate Conference, 2018.
- [7] **Middleton, J.L.**, S. Mukhopadhyay, C.H. Langmuir, J.F. McManus, K.M. Costa, P.J. Huybers, and G. Winckler. Aeolian and hydrothermal iron inputs to the subtropical Mid-Atlantic over the last glacial period. DICE workshop: The Role of Dust in Climate Change, 2018.
- [6] **Middleton, J.L.**, S. Mukhopadhyay, C.H. Langmuir, K.M. Costa, J.F. McManus, R.F. Katz, P.J. Huybers, G. Winckler, and Y. Li. 600 kyr of hydrothermal activity on the Cleft Segment of the Juan de Fuca Ridge. American Geophysical Union Fall Meeting, 2017.
- [5] **Middleton, J.L.**, S. Mukhopadhyay, C. Langmuir, K. Costa, J. McManus, M. D’Almeida, P. Huybers, and G. Winckler. Constant flux proxies and Pleistocene sediment accumulation rates on the Juan de Fuca Ridge in the Northeast Pacific. American Geophysical Union Fall Meeting, 2016.
- [4] **Middleton, J.L.**, S. Mukhopadhyay, C.H. Langmuir, J.F. McManus, and P.J. Huybers. 70 ka of dust deposition in the subtropical Mid-Atlantic. Goldschmidt, 2016.
- [3] **Middleton, J.L.**, S. Mukhopadhyay, J.F. McManus, and C.H. Langmuir. Last Glacial Maximum and hydrothermal sediment fluxes on the Mid-Atlantic Ridge. Goldschmidt, 2015.
- [2] **Middleton, J.L.**, S. Mukhopadhyay, J.F. McManus, and C.H. Langmuir. Last Glacial Maximum and hydrothermal sediment fluxes on the Mid-Atlantic Ridge. Deep Carbon Observatory Thematic Institute, 2015.
- [1] **Middleton, J.L.**, R.P. Ackert, and S. Mukhopadhyay. The Not-so-Dry Valleys?: Cosmogenic Nuclides and Complex Exposure in the Dry Valleys of Antarctica. American Geophysical Union Fall Meeting, 2011.