

Bess G. Koffman

Postdoctoral Fellow, Society of Fellows, Dartmouth College
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Education

University of Maine, Orono, Maine May 2013
Ph.D., Earth and Climate Sciences
Dissertation Title: *Atmospheric dust deposition in West Antarctica over the past two millennia*
Advisor: Karl Kreutz

Carleton College, Northfield, Minnesota June 2004
B.A., Geology, *magna cum laude*
Thesis Title: *Molecular phylogenetic analysis of a bacterial mat community, Le Grotte di Frasassi, Italy.*
Advisors: Jenn Macalady and Bereket Haileab

Carleton Geology Seminar in Italy, Osservatorio Geologico di Coldigioco, Italy Fall 2003
Sea Education Association Semester S-179, Woods Hole, Massachusetts Winter 2001

Professional Experience

Dartmouth College Sept. 2015-present
Society of Fellows Postdoctoral Fellow and Lecturer in Earth Sciences

Lamont-Doherty Earth Observatory of Columbia University
Postdoctoral Research Scientist June 2015-present
NSF Postdoctoral Fellow in Polar Regions Research June 2013-May 2015

Department of Earth and Atmospheric Sciences, Cornell University Fall 2012
Visiting Student, Natalie Mahowald's group

School of Earth and Climate Sciences, University of Maine
University of Maine Dissertation Research Fellow 2012-2013
Chase Distinguished Research Assistant 2011-2012
Correll Graduate Research Fellow 2010-2011
Graduate Research Assistant 2007-2010

West Antarctic Ice Sheet (WAIS) Divide deep ice core drilling project 2008-2010
Ice Core Handler Technician, 2 seasons

Eastern Nevada Landscape Coalition, Ely, Nevada 2006-2007
Plant Ecology Crew Leader, 2 seasons

Virginia Institute of Marine Science, Gloucester Point, Virginia 2005-2006
Antarctic Marine Biogeochemistry Technician for Prof. Hugh Ducklow

Publications

[10] Sigl, M., Fudge, T.J., Winstrup, M., Cole-Dai, J., Ferris, D., McConnell, J.R., Taylor, K.C., Welten, K., Woodruff, T.E., Adolphi, F., Bisiaux, M., Brook, E.J., Buizert, C., Caffee, M.W.,

Dunbar, N., Edwards, R., Geng, L., Iverson, N., **Koffman, B.G.**, Layman, L., Maselli, O.J., McGwire, K., Muscheler, R., Nishiizumi, K., Pasteris, D.R., Rhodes, R.H., and Sowers, T.A., 2016. The WAIS Divide deep ice core WD2014 chronology - Part 2: Annual-layer counting (0–31 ka BP). *Climate of the Past*, 12, p. 769-786, doi: 10.5194/cp-12-769-2016.

[9] WAIS Divide Project Members (Buizert, C., lead author; **Koffman, B.G.**, contributing author), 2015. Precise inter polar phasing of abrupt climate change during the last ice age. *Nature*, doi: 10.1038/nature14401. (*Web of Science* Highly Cited Paper)

[8] **Koffman, B.G.**, Kreutz, K.J., Breton, D.J., *Kane, E.J., *Winski, D.A., Birkel, S.D, Kurbatov, A.V., and Handley, M.J., 2014. Centennial-scale variability of the Southern Hemisphere westerly wind belt in the eastern Pacific over the past two millennia. *Climate of the Past*, 10, p. 1125-1144, doi: 10.5194/cp-10-1125-2014.

[7] **Koffman, B.G.** and Kreutz, K.J., 2014. Evidence that local dust sources supply low-elevation Antarctic regions. *Past Global Changes*, 22(2), 76-77.

[6] **Koffman, B.G.**, Handley, M.J., Osterberg, E.C, Wells, M.L., and Kreutz, K.J., 2014. Dependence of ice-core relative trace-element concentration on acidification. *Journal of Glaciology*, 60, 219, doi: 10.3189/2014JoG13J137.

[5] **Koffman, B.G.**, Kreutz, K.J., Kurbatov, A.V., and Dunbar, N., 2013. Impact of known local and tropical volcanic eruptions of the past millennium on the WAIS Divide microparticle record. *Geophysical Research Letters*, 40, doi: 10.1002/grl.50822.

[4] Kreutz, K.J. and **Koffman, B.G.**, 2013. Ice Core Methods: Glaciochemistry. In *Encyclopedia of Quaternary Science*, 2nd edition (S.A. Elias, ed.), Elsevier Publishers, Amsterdam, p.326-333.

[3] *Breton, D.J., **Koffman, B.G.**, Kurbatov, A.V., Kreutz, K.J., and Hamilton, G.S., 2012. Quantifying signal dispersion in a hybrid ice core melting system. *Environmental Science and Technology* 46(21), p. 11922-11928, doi: 10.1021/es302041k.

[2] Macalady, J. L., *Lyon, E.H., **Koffman, B.**, *Albertson, L.K., *Meyer, K., Galdenzi, S. and Mariani, S, 2006. Dominant microbial populations in limestone-corroding stream biofilms, Frasassi cave system, Italy. *Applied and Environmental Microbiology*, 72:8, p. 5596-5609, doi: 10.1128/AEM.00715-06.

[1] *Lyon, E., **Koffman, B.**, Meyer, K., Cleaveland, L., Mariani, S., Galdenzi, S., and Macalady, J.L., 2004. Geomicrobiology of the Frasassi Caves. In *Frasassi 1989-2004: Gli sviluppi nella ricerca* (S. Galdenzi, ed.), p. 152-157.

*Indicates student author

Works in Progress

Koffman, B.G., Goldstein, S.L., Kaplan, M.R., Winckler, G., Bolge, L., Koffman, T.N.B., Recasens, C., and Cai, Y. New Zealand's South Island as a potential source of glaciogenic dust to the atmosphere and ocean: characterization using Sr-Nd-Pb isotopes and trace elements. For submission to *Earth and Planetary Science Letters*, fall 2016.

Koffman, B.G., Goldstein, S.L., Recasens, C., Kaplan, M.R., *Borunda, A., and Winckler, G. Grain size effects on radiogenic Sr-Nd-Pb isotopes in sediments and implications for provenance and paleoclimate studies. For submission to *Geochemistry, Geophysics, Geosystems*, fall 2016.

Koffman, B.G., Goldstein, S.L., Kaplan, M.R., Winckler, G., Biscaye, P., Bory, A., Kreutz, K.J., and *Borunda, A. Antarctic dust sources supply the West Antarctic Ice Sheet in the late Holocene. For submission to *Nature Geoscience*, fall 2016.

Koffman, B.G., Kreutz, K.J., and Trenbath, K. Integrating scientific argumentation to improve undergraduate writing and learning in a global environmental change course. For submission to *Journal of Geoscience Education*, fall 2016.

Non-Peer-Reviewed Publications

Kreutz, K., and **Koffman, B.**, 2015. WAIS Divide microparticle concentration and size distribution, 0-2400 ka. Boulder, Colorado USA: *National Snow and Ice Data Center*. doi: 10.7265/N5KK98QZ.

Kreutz, K., and **Koffman, B.**, 2015. Snowpit chemistry - methods comparison, WAIS Divide, Antarctica. Boulder, Colorado USA: *National Snow and Ice Data Center*. doi: 10.7265/N5Q81B1X.

Bohleber, P., Cavitte, M., **Koffman, B.**, Markle, B., Pavlova, P., Winstrup, M., and Winton, H. 2014. Ice Core Young Scientists. *Past Global Changes*.

Koffman, B.G., 2014. Getting dusty in the name of science. *In Depth* magazine.

Koffman, B.G., 2013. Atmospheric dust deposition in West Antarctica over the past two millennia. PhD Dissertation, University of Maine, 214 pages.

Koffman, B., 2012, Seasonal to centennial-scale variability of microparticle concentration and size distribution in the WAIS Divide ice core over the past 2.4 ka. *Quaternary International* 279-280, doi:10.1016/j.quaint.2012.08.596 (Published Abstract).

Koffman, B.G., 2011. Ice cores: archives of past climate. *Punctuated Equilibrium* blog hosted by *The Guardian*.

Kreutz, K., **Koffman, B.**, Breton, D., and Hamilton, G., 2011. Microparticle, Conductivity, and Density Measurements from the WAIS Divide Deep Ice Core, Antarctica. Boulder, Colorado, USA: *National Snow and Ice Data Center*. <http://dx.doi.org/10.7265/N5K07264>.

Kreutz, K., and **Koffman, B.** 2011. WAIS Divide Snowpit Chemical and Isotope Measurements, Antarctica. Boulder, Colorado USA: *National Snow and Ice Data Center*. <http://dx.doi.org/10.7265/N5SJ1HHN>.

Koffman, T.S. and **Koffman, B.G.**, 2008. The climate change debate: Is there really another side? *Bangor Daily News*.

Koffman, B., Kreutz, K., Handley, M., Wells, M., Kurbatov, A., and Mayewski, P., 2008. A snowpit record of atmospheric Fe deposition in West Antarctica at the WAIS Divide site. *Geochimica et Cosmochimica Acta*, 72:12, p. A487-A487 (Published Abstract).

Research Funding

Dartmouth Society of Fellows Postdoctoral Fellowship, \$234,888 total value, 2015-2018.

Support for Early Career Ice Core Scientists at the Ice Core Young Scientists 2016 Workshop in Hobart, Australia, \$24,800. Supplement to NSF ANT-0968391 (PI: E. Brook). Proposal written by B. Koffman and B. Markle, 2016.

Assessing Northern Hemisphere westerly wind variability in the North Pacific during the past millennium, \$10,000. PI: B. Koffman; co-PIs: S.L. Goldstein, and P. Biscaye. Lamont Climate Center, 2013-2016.

Women's Leadership Development Grant, \$500. Lamont-Doherty Earth Observatory, 2013.

NSF ANT-1204050: *Evaluating New Zealand as a source of dust to West Antarctica during the Last Glacial Maximum*, \$139,116. PI: B. Koffman. Office of Polar Programs Postdoctoral Fellowship in Polar Regions Research, 2013-2015.

NSF ANT-1143661: *Travel grant to visit Cornell University and Lamont-Doherty Earth Observatory of Columbia University*, \$1600. PI: B. Koffman, 2011.

Atmospheric dust deposition in West Antarctica: Iron biogeochemistry, dust provenance, and climatic significance, \$50,000. University of Maine Dissertation Research Fellowship, 2012-2014 (declined 2nd year of support because started postdoctoral work).

Testing the relationship between the Southern Hemisphere westerlies and atmospheric CO₂ over the past 2400 years, \$13,120. Chase Distinguished Research Assistantship, University of Maine, 2011-2012.

Atmospheric dust deposition in West Antarctica: Iron biogeochemistry, dust provenance, and climatic significance, \$17,288. Correll Graduate Student Research Fellowship, University of Maine, 2010-2011.

Through Their Eyes: Exploring Childhood and Culture in Tanzania, \$3200. Larson International Fellowship, Carleton College, 2004.

Molecular phylogenetic analysis of a bacterial mat community, Le Grotte di Frasassi, Italy, \$3000. Bernstein Student Research Fellowship, Carleton College, 2003.

Awards

New Generation of Polar Researchers Leadership Symposium (competitive selection), 2015

Oral Presentation Award, Physical Sciences and Technology, University of Maine, 2013

Best Poster Award, International Partnerships in Ice Coring Sciences Open Science Meeting, Presqu' Ile de Giens, France, 2012

Winner, AGU "Lights, Camera, Science!" Student Video Competition, 2012

Best Oral Presentation, Physical Sciences and Technology, University of Maine, 2012

Graduate Dean's Undergraduate Mentoring Award, University of Maine, 2012

Graduate Teaching Award, University of Maine, 2012

Graduate Research Excellence Award, University of Maine, 2012

Antarctica Service Medal of the United States of America, 2011

Outstanding Service Award, University of Maine, 2011

"ThinkSwiss: Brainstorm the Future," a program of the Swiss State Secretariat for Education and Research and the Swiss Federal Department of Foreign Affairs, 2009

Best Oral Presentation, Physical and Mathematical Sciences, University of Maine, 2009

Lilianna M. Galasso Scholarship, University of Maine, 2008

Sigma Xi, The Scientific Research Society, 2004

Invited Talks

Lamont-Doherty Earth Observatory Geochemistry Seminar Series, May 2015

City College of New York Earth and Atmospheric Science seminar, Apr. 2015

Dickinson College Earth Sciences seminar, Feb. 2015

Yale University Atmosphere, Oceans, and Climate Dynamics Seminar Series, Nov. 2014

Middlebury College Geology Seminar Series, Feb. 2014

Cornell University Space and Planetary Sciences “Planetary Lunch,” Nov. 2012

Lamont-Doherty Earth Observatory Geochemistry Seminar Series, Sept. 2011

Cornell University Department of Earth and Atmospheric Sciences Fall Seminar Series, “Earth Trek Next Generation: New Talent, New Techniques, New Frontiers,” Aug. 2011

Teaching Experience

Dartmouth College

Instructor, Meteorology (EARS 14), Spring 2016

Primary instructor of introductory meteorology course with lab; developed course materials, including lectures, activities, labs, and exams.

Co-Instructor, Stretch (EARS 45/46/47), Fall 2016

Co-led 10-day glaciology segment of 10-week field-based geology course, Banff National Park, Canada. Taught glaciology and glacial geomorphology topics.

University of Maine

Instructor, Global Environmental Change (ERS 201, 4 cr), Spring 2013

Co-developed inquiry-based approach to teaching course, including curriculum on scientific argumentation and writing; responsible for shared course instruction.

Course Coordinator, Graduate Seminar in Quaternary Studies (INT 500, 2 cr), Fall 2011

Course theme: “The influence of ocean circulation on Earth’s climate at multiple time and space scales.” Responsible for designing course, selecting and inviting guest speakers, establishing course reading list, facilitating discussions.

Teaching Assistant, Global Environmental Change (ERS 201, 4 cr), Spring 2010 & 2011

Contributed to all aspects of course design, including projects, labs and exams. Taught selection of labs and lectures, co-facilitated field trips, developed and taught series of writing workshops, performed majority of grading for course.

Teaching Assistant, Beaches and Coasts (ERS 108, 3 cr), Spring 2011

Assisted professor in large lecture course (200 students) with A/V setup, taking notes during lectures, and proctoring exams for approximately half the semester.

Teaching Assistant, Earth Systems (ERS 200, 4 cr), Fall 2010

Had important role of maintaining sense of continuity for 14 students in a course with 4 different instructors. Held regular office hours, worked with students on

their writing and presentation skills, and provided timely edits of students' 5-10 page research papers for each of the 3 course modules. Co-led field trip to Great Head, Acadia National Park, for geologic mapping exercise.

Laboratory Coordinator, Introduction to Geology (ERS 101, 4 cr), Fall 2010
Prepared weekly lab exercises for introductory geology courses; organized and maintained rock, mineral and map collections and safety equipment.

Gulf of Maine Foundation SURE Intern, Darling Marine Center, Summer 2002
Designed and taught marine science educational activities to all ages; served as the liaison between the research community and the public.

Carleton College, Northfield, Minnesota

Teaching Assistant, Principles of Chemistry (CHEM 123, 6 cr), Fall 2001
Teaching Assistant, Geomicrobiology (GEOL 235, 6 cr), Winter 2004

Outdoor/Environmental Education

Chewonki Foundation, Wiscasset, Maine

Wilderness Instructor, Summer 2007

North Carolina Outward Bound School, Asheville, North Carolina

Logistics Coordinator, Summer 2005
Instructor, Winters 2007 and 2008

Boston University Sargent Center for Outdoor Education, Hancock, New Hampshire

School Program Instructor, 2004-2005

Litembo Secondary School, Litembo, Ruvuma, Tanzania

Visiting Science Teacher, Summer 2003

Taught basic science classes for several weeks to students in a remote village

Students Advised

Senior Theses

Patrick Saylor, Dartmouth, 2015-2017. Co-advisor: Erich Osterberg.

Chason Goldschmitz, Columbia University, 2015-2016. Co-advisor: Sidney Hemming.

Undergraduate Researchers

Judy Pu, MIT undergraduate and LDEO REU intern, 2015. Co-advisor: Sidney Hemming.

Eliza Kane, University of Maine, 2010-2013. Co-authored paper in *Climate of the Past*.

Shelly Griffin, University of Maine, 2009. Completed M.S. degree in paleoclimatology.

First-Year Dartmouth Women in Science Program (WISP)

Shoshana Geller, 2016-2017

Rachel Rubin, 2016-2017

Eleanor Dowd, 2015-2016 and Carol Folt Research Scholar 2016-2017.

High School Students

Stephanie Valentin, 2015. The Young Women's Leadership School of East Harlem, Lamont Secondary School Field Research Program.

Laisa Sevilla, 2015. The Young Women's Leadership School of East Harlem, Lamont Secondary School Field Research Program.

Paul Robinson, 2011 and 2012. Orono High School. Co-advisor: Chris Gerbi.

Public and K-12 Outreach Talks

- 2016 Montshire Museum of Science, Norwich, VT
Courtyard Estates of Walcott, IA
Durant Middle School, Durant, IA
- 2015 Heronfield Academy, Exeter, NH
- 2014 Cogitania afterschool enrichment program, Brookline, MA
Hudson River Science Snapshot Day, Piermont, NY
College Club of Ridgewood, NJ
Lamont-Doherty Open House, Palisades, NY
- 2013 Hudson River Science Snapshot Day, Piermont, NY
Panelist, public showing and discussion of *Thin Ice* documentary, Orono, ME
Co-facilitator, Asa Adams Elementary School field trip, Climate Change Institute
- 2012 Physics Camp, University of Maine (3 days)
Phoenix Rising School (all ages, 40 people), Yelm, WA
- 2011 Encore Leadership Corps, a statewide adult volunteer program administered by
the UMaine Center on Aging
Co-facilitator, Asa Adams Elementary School field trip, Climate Change Institute
“STORMS: Students and Teachers Observing and Recording Meteorological
Systems” program through The Island Institute, ME
Climate Change Science Day at the Climate Change Institute (presentations to
~100 students from high schools throughout Maine)
Expanding Your Horizons, part of the National Girls Collaborative Project aimed
at advancing the agenda in gender equity for STEM, Orono, ME
- 2010 Sunbury Village retirement center, Bangor, ME
Coastal Studies for Girls, Freeport, ME
Orono High School lunch seminar series, ME
Expanding Your Horizons, part of the National Girls Collaborative Project aimed
at advancing the agenda in gender equity for STEM, Orono, ME
- 2008 Upward Bound, a science program for underprivileged Maine youth, Orono, ME
Stillwater Montessori School, Old Town, ME
Morison Memorial Elementary School, East Corinth, ME
- 2000-2004 Tutor and Mentor, Gifted/Talented program and America Reads/Counts program;
worked with K-8 students on writing, math, and science; Northfield Public
Schools, MN

Media Coverage

- 2014 Featured in article, “New Zealand dust may have cooled Earth during last ice
age,” *LiveScience*, 24 March 2014
Featured in article, “Did New Zealand dust influence the last ice age?” on the
“State of the Planet” blog, Earth Institute, Columbia University, 13 March
2014
- 2012 Invited for interview on Biddeford, Maine public access television program, “The
Wandering Road with Micki Cope,” 26 January 2012
- 2011 Featured in article, “How do ice cores allow researchers to see climate change?”
on “Punctuated Equilibrium” blog hosted by *The Guardian*, 12 May 2011
Outreach video featured on the National Science Foundation’s *Science 360 News*

- Service: Breaking science that shapes your world* website, 11 May 2011
Coverage of newly designed ice core melter system in *UMaine Today* magazine blurb, “Ice Time,” Spring 2011 issue
Outreach video featured on UMaine’s *YouTube* channel and on WAIS Divide ice core project website
- 2010 Featured in *Antarctic Sun* magazine article, “On the line: researchers spend summer in deep-freeze to slice and dice WAIS Divide ice core,” August 2010
Featured in *Bangor Daily News* article, “Melting ice at core of climate study,” July 2010
Coverage of research on 3 local TV stations: WLBZ2 (NBC), WABI TV5 (CBS), and WFVX 7 (ABC and FOX), July 2010

Professional Service

Manuscript Reviewer for: *Nature Communications*, *Journal of Glaciology*, *Science of the Total Environment*, *Biological Trace Element Research*, *Journal of Geophysical Research – Atmospheres*, *Earth and Planetary Science Letters* (“Outstanding Reviewer” 2015), *Global Biogeochemical Cycles*

Proposal Reviewer for: *NSF Arctic Natural Sciences*, *NSF Antarctic Glaciology*, *NSF Geomorphology and Land Use Dynamics*, *FONDECYT (Chile)*

- 2016 Co-organizer, ICYS Early Career Workshop, Hobart, Tasmania (85 participants)
2015 Co-convener, AGU Fall Meeting: “Climate variability in the mid-to-high latitude Southern Hemisphere since the Last Glacial Maximum”
2015-2016 Interviewed candidates for *Math for America* teaching fellowships (New York City public school science and math teachers)
2013- Outstanding Student Paper Award (OSPA) judge, AGU Fall Meetings
2013 Co-organizer, WAIS Divide Young Investigators Meeting, La Jolla, CA
2012- Founding member and Executive Committee, Ice Core Young Scientists (ICYS)
Spring 2012 Judge, Center for Undergraduate Research Showcase, University of Maine
Fall 2010 Grant reviewer, University of Maine Graduate Student Government
2010-2013 Maine Climate News website graduate student response panel
2009-2011 Carleton College Alumni Admissions Representative
2008-2010 Visiting Speaker Coordinator, Dept. of Earth Sciences, University of Maine

Professional Memberships

American Geophysical Union • Association for Early Career Polar Scientists • Past Global Changes (PAGES) • National Association of Geoscience Teachers • Ice Core Young Scientists

Abstracts

*Dowd, E., **Koffman, B.G.**, Ferris, D.G., Osterberg, E.C., Wong, G., and Kreutz, K.J. Evidence of the 2011 Puyehue-Córdon Caulle eruption in West Antarctica. *AGU Fall Meeting*, San Francisco, CA, Dec. 2016 (upcoming).

*Saylor, P., Osterberg, E.C., **Koffman, B.G.**, Winski, D., Ferris, D.G., Kreutz, K.J., Wake, C.P., Handley, H., and Campbell, S.W. 1500-year record of trans-Pacific dust flux collected from the Denali ice core, Mt. Hunter, Alaska. *AGU Fall Meeting*, San Francisco, CA, Dec. 2016 (upcoming).

Koffman, B.G., Goldstein, S.L., Recasens, C., Kaplan, M.R., Borunda, A., and Winckler, G. Grain Size Effects on Sr-Nd-Pb Isotopes in Sediments and Implications for Provenance and Paleoclimate Studies. *AGU Fall Meeting*, San Francisco, CA, Dec. 2016 (upcoming).

*Lewis, G., Osterberg, E.C., Hawley, R.L., **Koffman, B.G.**, Marshall, H.-P., Birkel, S.D., and Dibb, J.E. Albedo spatial variability and causes on the Western Greenland Ice Sheet percolation zone. *AGU Fall Meeting*, San Francisco, CA, Dec. 2016 (upcoming).

*Winski, D., Osterberg, E.C., Ferris, D.G., Fudge, T.J., Fegyveresi, J.M., Cole-Dai, J., Kreutz, K.J., and **Koffman, B.G.** A 5,000 year snow accumulation record from the South Pole Ice Core. *AGU Fall Meeting*, San Francisco, CA, Dec. 2016 (upcoming).

Koffman, B.G., Goldstein, S.L., Kaplan, M.R., Winckler, G., Bory, A., and Biscaye, P. Abrupt late Holocene shift in atmospheric circulation recorded by mineral dust in the Siple Dome ice core, Antarctica. *International Partnerships in Ice Core Sciences (IPICS) Second Open Science Conference*, Hobart, Australia, Mar. 2016.

Kreutz, K.J., **Koffman, B.G.**, Kurbatov, A., Dunbar, N.W., and Wells, M. Potential impact of volcanic aerosols on the position of the ITCZ and Southern Hemisphere westerlies over the past 2000 years. *International Partnerships in Ice Core Sciences (IPICS) Second Open Science Conference*, Hobart, Australia, Mar. 2016.

Koffman, B.G., Goldstein, S.L., Kaplan, M.R., Winckler, G., Bory, A., and Biscaye, P. Abrupt late Holocene shift in atmospheric circulation recorded by mineral dust in the Siple Dome ice core, Antarctica. *AGU Fall Meeting*, San Francisco, CA, Dec. 2015.

*Pu, J., **Koffman, B.G.**, Recasens, C.R., Kaplan, M.R., Hemming, S., *Boswell, S., *Gombiner, J., and Williams, T. K/Ar geochronology as a tool for tracing dust provenance in the Southern Hemisphere. *AGU Fall Meeting*, San Francisco, CA, Dec. 2015.

*Saylor, P., Osterberg, E., *Winski, D., Ferris, D., **Koffman, B.G.**, Kreutz, K., Wake, C., and Campbell, S. Investigating the 'Iron Hypothesis' in the North Pacific: Trans-Pacific dust and methanesulfonate (MSA) in the Denali ice core, Alaska. *AGU Fall Meeting*, San Francisco, CA, Dec. 2015.

*Borunda, A., **Koffman, B.G.**, Kaplan, M.R., Winckler, G., Goldstein, S.L., Peña, L., Kreutz, K.J., Vandergoes, M., Dunbar, N., McConnell, J.R., Biscaye, P., Bory, A., Koffman, T.N.B., Vallelonga, P. Dust provenance in West Antarctica. *WAIS Divide Science Meeting*, La Jolla, CA, Sept. 2014.

Koffman, B.G., Kreutz, K.J., Breton, D.J., *Kane, E.J., *Winski, D.A., Birkel, S.D, Kurbatov, A.V., and Handley, M.J., Centennial-scale shifts in the position of the Southern Hemisphere westerly wind belt over the past millennium. *AGU Fall Meeting*, San Francisco, CA, Dec. 2013.

Kreutz, K.J., **Koffman, B.G.**, and Trenbath, K. Integrating scientific argumentation to improve undergraduate learning in a global environmental change course. *AGU Fall Meeting*, San Francisco, CA, Dec. 2013.

Koffman, B.G., Kreutz, K.J., Kurbatov, A.V., Dunbar, N.W., and Breton, D.J. Late Holocene microparticle deposition at WAIS Divide. *WAIS Divide Science Meeting*, La Jolla, CA, Sept. 2013.

Kreutz, K.J., **Koffman, B.G.**, Putnam, A.E., Denton, G.H., Schaefer, J., and Kaplan, M. Links between ice-core based records of West Antarctic dust deposition and Pacific-sector dust generation during the LGM and transition. *AGU Fall Meeting*, San Francisco, CA, Dec. 2012.

Koffman, B.G., Kreutz, K.J. Changes in Southern Hemisphere atmospheric circulation over the past 2400 years inferred from the WAIS Divide ice core dust record. *Graduate Climate Conference 6*, Packwood Forest, WA, Oct. 2012.

Koffman, B.G., Kreutz, K.J. and Mahowald, N.M. Calibrating the WAIS Divide ice core dust record using climate model and reanalysis data. *IPICS Meeting*, Presqu' Ile de Giens, France, Oct. 2012. (*Won Best Poster Award*)

Koffman, B.G., Kreutz, K.J., Kurbatov, A.V., Dunbar, N.W. and Breton, D.J. The WAIS Divide microparticle record illuminates the nature of past volcanic eruptions and indicates variability in Southern Hemisphere westerly wind intensity. *WAIS Divide Science Meeting*, La Jolla, CA, Sept. 2012.

Koffman, B.G., Kreutz, K.J., and Mahowald, N.M. Changes in Southern Hemisphere atmospheric circulation over the past 2400 years inferred from the WAIS Divide ice core dust record. *Goldschmidt geochemistry conference*, Montreal, Canada, June 2012.

Koffman, B.G., Kreutz, K.J., Dunbar, N.W. and Kurbatov, A.V. Depositional phasing of volcanic aerosols in the WAIS Divide ice core over the past 2400 years. *AGU Fall Meeting*, San Francisco, CA, Dec. 2011.

Kreutz, K.J., **Koffman, B.G.**, Breton, D.J., Dunbar, N.W., and Kurbatov, A.V. Seasonal to centennial-scale variability of microparticle concentration and size distribution in the WAIS Divide ice core over the past 2.4 ka. *AGU Fall Meeting*, San Francisco, CA, Dec. 2011.

Koffman, B.G. and Kreutz, K.J. Microparticle insights into southern hemisphere climate variability over the past 2400 years. *WAIS Divide Science Meeting*, La Jolla, CA, Oct. 2011.

Koffman, B.G., Kreutz, K.J., *Breton, D.J., Dunbar, N.W., Kurbatov, A.V., Mayewski, P.A., and Wells, M.L. Seasonal to centennial-scale variability of microparticle concentration and size distribution in the WAIS Divide ice core over the past 2.4 ka. *XVIII INQUA Congress*, Bern, Switzerland, July 2011.

*Breton, D.J., **Koffman, B.G.**, Kreutz, K.J., and Hamilton, G.S. The WAIS Melt Monitor: An automated ice core melting system for meltwater sample handling and the collection of high resolution microparticle size distribution data. *AGU Fall Meeting*, San Francisco, CA, Dec. 2010.

Koffman, B.G., Kreutz, K.J., *Breton, D.J., Dunbar, N.W., Kurbatov, A.V., Mayewski, P.A., and Wells, M.L. Microparticle concentration in the WAIS Divide ice core over the past 2.3 ka: Seasonal variation and volcanic input. *WAIS Divide Science Meeting*, La Jolla, CA, Oct. 2010.

Kreutz, K.J., **Koffman, B.**, Mayewski, P., Kurbatov, A., Wells, M., Handley, M., and Sneed, S. Modeling glacial-interglacial changes in dust and sea salt concentrations in West Antarctic deep ice cores: implications for Southern Hemisphere atmospheric dynamics, *PAGES Third Open Science Meeting*, Corvallis, OR, July 2009.

Koffman, B., Kreutz, K., *Breton, D., Handley, M., Kurbatov, K., Dunbar, N., Mayewski, P., and Wells, M. A snowpit record of microparticle and aerosol iron deposition in West Antarctica at the WAIS Divide site. *WAIS Divide Science Meeting*, La Jolla, CA, Oct. 2009.

Koffman, B., *Breton, D., Kreutz, K., Handley, M., and Kurbatov, A. Re-Engineering the UMaine Continuous Ice-Core Melter System for the WAIS Divide Ice Core. *WAIS Divide Science Meeting*, La Jolla, CA, Oct. 2009.

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