

## BESS G. KOFFMAN

Assistant Professor of Geology, Colby College  
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### APPOINTMENTS

- 2017-present **Assistant Professor of Geology**, Colby College  
2015-2017 **Adjunct Postdoctoral Research Scientist**, Lamont-Doherty Earth Observatory (LDEO) of Columbia University (Geochemistry)  
2015-2017 **Society of Fellows Postdoctoral Fellow**, Dartmouth College  
2013-2015 **NSF Postdoctoral Fellow in Polar Regions Research**, LDEO, Columbia University (Geochemistry)  
2005-2006 **Antarctic Marine Biogeochemistry Technician**, Virginia Institute of Marine Science

### EDUCATION

- Ph.D., 2013 Earth and Climate Sciences, University of Maine, Orono, Maine  
Dissertation: *Atmospheric dust deposition in West Antarctica over the past two millennia*. Advisor: Karl J. Kreutz  
B.A., 2004 Geology, *magna cum laude*, Carleton College, Northfield, Minnesota  
Thesis: *Molecular phylogenetic analysis of a bacterial mat community, Le Grotte di Frasassi, Italy*. Advisor: Jennifer L. Macalady

### PUBLICATIONS

(\*Indicates student author)

- [18] \*Nesbitt, I.M., Smith, S.M.C., Campbell, S.W., **Koffman, B.G.**, and Arcone, S.A. The sediment delivery continuum from deglaciation to the modern watershed based on lake sedimentary deposits in the Northeastern USA. In Review, *Quaternary Research*, Sept. 2021.
- [17] **Koffman, B.G.**, Goldstein, S.L., Winckler, G., Kaplan, M.R., Kreutz, K.J., Bolge, L., Bory, A., and Biscaye, P. 2021. Late Holocene dust provenance at Siple Dome, Antarctica. *Quaternary Science Reviews* 274, doi: 10.1016/j.quascirev.2021.107271.
- [16] \*Lewis, G., Osterberg, E., Hawley, R., Marshall, H.P., Meehan, T., \*Graeter, K., McCarthy, F., Overly, T., \*Thundercloud, Z., Ferris, D., **Koffman, B.G.**, and Dibb, J. 2021. Atmospheric Blocking Drives Recent Albedo Change Across the Western Greenland Ice Sheet Percolation Zone. *Geophysical Research Letters*.
- [15] **Koffman, B.G.**, \*Yoder, M., \*Methven, T., \*Hanschka, L., \*Sears, H., \*Saylor, P., and Wallace, K. 2021. Glacial dust surpasses both volcanic ash and desert dust in its iron fertilization potential. *Global Biogeochemical Cycles*, 35, e2020GB006821, doi: 10.1029/2020GB006821.
- [14] **Koffman, B.G.**, Goldstein, S.L., Winckler, G., Borunda, A., Kaplan, M.R., Bolge, L., Cai, Y., Recasens, C., Koffman, T.N.B., and Vallelonga, P.T. 2021. New Zealand as a source of mineral dust to the atmosphere and ocean. *Quaternary Science Reviews*, 251, doi: 10.1016/j.quascirev.2020.106659.
- [13] \*Polashenski, D.J., Osterberg, E.C., **Koffman, B.G.**, \*Winski, D., Kreutz, K.J., Wake, C.P., Ferris, D.G., Introne, D., Campbell, S., Stamieszkin, K., \*Lewis, G.M. 2018. Denali ice core

methanesulfonic acid records North Pacific marine primary production. *Journal of Geophysical Research – Atmospheres*, 123, doi: 10.1029/2017JD028123.

[12] **Koffman, B.G.**, \*Dowd, E.G., Osterberg, E.C., Ferris, D.G., \*Hartman, L.H., \*Wheatley, S.D., Kurbatov, A.V., Wong, G.J., \*Markle, B.R., Dunbar, N.W., Kreutz, K.J., Yates, M., 2017. Rapid transport of ash and sulfate from the 2011 Puyehue-Cordón Caulle (Chile) eruption to West Antarctica. *Journal of Geophysical Research – Atmospheres*, 122, doi: 10.1002/2017JD026893.

[11] **Koffman, B.G.**, Kreutz, K.J., and Trenbath, K., 2017. Integrating scientific argumentation to improve undergraduate writing and learning in a global environmental change course. *Journal of Geoscience Education* 65, 231-239.

[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*, 520 (7549), p. 661-665, 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*, 2<sup>nd</sup> 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.

#### WORKS IN PROGRESS

[19] **Koffman, B.G.**, \*Saylor, P., \*Zhong, R., \*Sethares, L., \*Yoder, M.F., \*Hanschka, L., \*Methven, T., Cai, Y., Longman, J., Goldstein, S.L., and Osterberg, E.C. Pervasive imprint of Chinese dust and pollution aerosols in the western Arctic. For submission to *Nature Communications*, winter 2022.

[20] **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*, winter 2022.

[21] \*Nesbitt, I.M., Smith, S.M.C., **Koffman, B.G.**, Campbell, S.W., and Arcone, S.A. A decision-making framework for sedimentation analyses in dammed river corridor impoundments. For submission to *Journal of the American Water Resources Association*, winter 2022.

[22] \*Saylor, P., Osterberg, E.C., **Koffman, B.**, Winski, D., Kreutz, K., Wake, C. P., Campbell, S., Handley, M., Introne, D., in preparation. Trans-Pacific dust flux and climate controls over the Common Era recorded in North Pacific ice cores. For submission to *Journal of Geophysical Research – Atmospheres*, spring 2022.

#### DATASETS AND NON-PEER-REVIEWED PUBLICATIONS

Koffman, B. G., Goldstein, S. L., Winckler, G., Kaplan, M. R., Kreutz, K. J., Bolge, L., Bory, A., Biscaye, P., 2022. Late Holocene Sr-Nd isotope and REE data from the Siple Dome ice core, Antarctica, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/112176>. Accessed 2021-11-04.

**Koffman, B. G.**, Goldstein, S. L., Winckler, G., Borunda, A., Kaplan, M. R., Bolge, L., Cai, Y., Recasens, C., Koffman, T. N. B., Vallelonga, P. T. 2021. Major/trace element and Sr-Nd-Pb isotope geochemistry of New Zealand South Island sediments, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/111726>. Accessed 2020-10-20.

**Koffman, B.G.**, Yoder, M.F., Methven, T., Hanschka, L., Sears, H.B., Saylor, P.L., Wallace, K.L., 2021. Geochemistry of sediments and volcanic ash from Southcentral Alaska, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/111679>. Accessed 2020-09-17.

**Koffman, B.**, 2019. Making the unseen seen. *The River Rail: Occupy Colby*.

**Koffman, B.**, 2019. Breeze is up at NJ/LIS District Championship. *Bagpipe: Journal of the Thistle Class Association, Vol. LXXII, No. 6*.

**Koffman, B.**, 2017. Snowpit evidence of the 2011 Puyehue-Cordón Caulle (Chile) eruption in West Antarctica. Palisades, New York USA: *U.S. Antarctic Program (USAP) Data Center*. doi: 10.15784/601036.

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**

*Developing and teaching "Volcanoes and the Ocean Ecosystem": a course for Pribilof Islands students.* \$16,700. PI: B. Koffman. North Pacific Research Board, 2021-2024.

*Impacts of fresh and aged volcanic ash on phytoplankton in the subarctic North Pacific.* \$596,615 total award (\$105,298 Colby amount). Lead PI: C. Mitchell; co-PIs: B. Koffman, K. Stamieszkin, B. Twining. North Pacific Research Board, 2021-2024.

*Fingerprinting atmospheric dust in the Southern Hemisphere to trace past climate change.* \$30,000. PI: B. Koffman. AAUW American Postdoctoral Research Leave Fellowship, 2021-2022.

*Acquisition of a SEM-EDS-EBSD-CL microanalytical system for research, teaching, and outreach in Geology at Colby College, a Primarily Undergraduate Institution (PUI).* \$299,500. PI: T. Dunn; co-PIs: B. Koffman, W. Sullivan. NSF EAR Instruments and Facilities, 2021-2022.

*Collaborative: EAGER: Development of a method for paired K/Ar geochronology and Sr-Nd-Pb radiogenic isotope geochemistry of dust in ice cores.* ~\$210,000 total award (\$126,316 Colby amount). PI: B. Koffman; co-PIs: S. Goldstein, S. Hemming. NSF EAGER, 2020-2022.

*Fingerprinting Alaskan Dust, Part IV: Isotopes in Snow and Ice.* \$3,000. PI: B. Koffman. Colby College Natural Sciences Division Research Grant, 2021-2022.

*Assessing Northern Hemisphere westerly wind variability in the North Pacific during the past millennium.* \$7,945. PI: B. Koffman. Co-PIs: L. Sethares, L. Hanschka. Colby Buck Lab Grant, 2019-2020.

*Fingerprinting Alaskan Dust, Part IV: Isotopes in Snow and Ice.* \$3,000. PI: B. Koffman. Colby College Natural Sciences Division Research Grant, 2020-2021.

*Fingerprinting Alaskan Dust, Part II: Snow and Ice.* \$3,000. PI: B. Koffman. Colby College Natural Sciences Division Research Grant, 2019-2020.

*Evaluating the composition of terrestrial nutrients delivered to the subarctic Pacific Ocean.* \$2,810. PI: B. Koffman. Co-PI: M. Yoder. Colby Buck Lab Grant, 2018-2019.

*RUI: Collaborative Research: Climate change impacts on atmospheric nutrient deposition and ecosystem function in the mid-to-high latitude Pacific Ocean.* \$410,121 total award (\$166,034 Colby amount). Lead PI: B. Koffman; co-PI: M. Lomas. NSF Arctic Natural Sciences, 2019-2023, declined.

*Evaluating Atmospheric Nutrient Deposition and Impacts in the Subarctic Pacific Ocean.* \$8,556. PI: B. Koffman. Co-PIs: T. Methven, M. Yoder. Colby Buck Lab Grant, 2018-2019.

*Fingerprinting Alaskan Dust.* \$3,000. PI: B. Koffman. Colby College Natural Sciences Division Research Grant, 2018-2019.

*Constraining Antarctic Continental Evolution and Ice Sheet Behavior using Geochemical Approaches.* \$10,000. PI: B. Koffman. Dartmouth Society of Fellows Venture Funding, 2017.

*Support for Early Career Ice Core Scientists at the AGU Fall Meeting, San Francisco,* \$2000. PIs: B. Koffman and B. Markle. Scientific Committee on Antarctic Research, 2016. (Secured funding to provide \$200 travel grants to 10 early career scientists)

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

Dartmouth Society of Fellows Postdoctoral Fellowship (competitive selection, <0.3% success rate), \$234,888 total value. PI: B. Koffman, 2015-2018.

*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.

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

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

*Testing the relationship between the Southern Hemisphere westerlies and atmospheric CO<sub>2</sub> over the past 2400 years*, \$13,120. Chase Distinguished Research Assistantship (competitive selection), 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 (competitive selection), University of Maine, 2010-2011.

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

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

Secured additional \$10,000 in small grants and travel awards from multiple sources, 2007-2016.

## **AWARDS**

Outstanding Reviewer, *Communications Earth and Environment*, 2021

Teaching and Learning at Colby Fellowship, Colby College, 2019-2020 (2 semesters)

Faculty Instructional Technology Fellowship, Colby College, 2018

LacCore and the Continental Drilling Scientific Coordination Office Drilling and Coring Summer Institute (competitive selection), 2017

Outstanding Reviewer, *Journal of Geophysical Research – Atmospheres*, 2015

Outstanding Reviewer, *Earth and Planetary Science Letters*, 2015

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 SEMINARS**

Colorado Mountain College, October 2020

NSF Ice Drilling Program “School of Ice,” June 2020

Colby Museum of Art, October 2019

Colby Environmental Humanities *Energy/Exhaustion* Seminar Series, September 2019

College of the Atlantic Climate Change Seminar Series, April 2019

Geological Society of America Fall Meeting, November 2018

University of Vermont Geology Department Seminar, October 2018

Borns Symposium Alumni Lecture, University of Maine, May 2018

Colby College Geology Department Seminar, Feb. 2018

Bigelow Lab for Ocean Sciences, Jan. 2018

Colby College Faculty Forum, Oct. 2017

NSF Ice Drilling Program “School of Ice,” June 2017

Colby College Geology Department Seminar, Feb. 2017

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**

#### **Colby College**

*Instructor, Earth Systems Chemistry II (GE 122), Spring 2019, 2020*

*Co-instructor of record with Dr. Greg Drozd (Chemistry).*

*Instructor, Earth Systems Chemistry (GE 121), Fall 2018, 2019*

Co-instructor of record with Dr. Karena McKinney (Chemistry). This two-semester sequence explores fundamental chemistry principles through the lens of Earth's 4.56 billion-year history. Developed and taught a new set of labs in Fall 2019.

*Instructor, Topics in Geochemistry (GE 361), Fall 2018*

Instructor of record. Course uses lecture, problem sets, and primary literature to explore the theory and application of a range of geochemical approaches used to study Earth processes.

*Instructor, Colby Achievement Program in the Sciences (CAPS), Summer 2018, 2019*

*Instructor, Earth's Climate: Past, Present, and Future (GE 262), Spring 2018, 2019, 2020*

Instructor of record for course with lab. Course takes a systems approach to exploring the mechanisms that shape environmental evolution across a range of timescales. Lab provides hands-on experience developing a lake sediment record of Maine's climate history.

*Instructor, Paleoceanography (GE 363), Fall 2017, 2020*

Instructor of record, literature synthesis course focused on understanding major climate trends, events, and driving mechanisms during the Cenozoic.

## **Dartmouth College**

*Instructor, Meteorology (EARS 14), Spring 2016*

Instructor of record, 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*

**Liteambo Secondary School**, Liteambo, Ruvuma, Tanzania

*Visiting Science Teacher, Summer 2003*

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

### RESEARCH STUDENTS ADVISED

*PhD Committee Member/Research Mentor*

Hanna Brooks, University of Maine, 2021-present. Advisor: Karl Kreutz.

Aaron Chesler, University of Maine, 2017-present. Advisor: Karl Kreutz.

*MS Committee Member*

Katherine Anderson, Dartmouth College, 2019-2020. Advisor: Erich Osterberg.

*Senior Theses*

Meg Yoder, Colby, 2018-19. Primary advisor.

Kaci Kus, Colby, 2017-18. Committee member. Advisor: Robert Gastaldo.

Alyson Churchill, Colby, 2017-18. Committee member. Advisor: Anders Carlson.

David Polashenski, Dartmouth, 2017. Second faculty reader. Advisor: Erich Osterberg. Authored paper in *Journal of Geophysical Research – Atmospheres*.

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

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

*Undergraduate Researchers*

Zaie Nursey, Colby undergraduate, fall 2021-

Dru Gahl, Colby undergraduate, fall 2021-

Cecilia Bowe, Colby undergraduate, fall 2020-  
Roujia Zhong, Colby undergraduate, summer and fall 2020, fall 2021.  
Luisa Coakley, Colby undergraduate, summer 2020.  
Marius Orehovschi, Colby undergraduate, 2019-2020.  
Natalie Harmon, UMaine undergraduate, summer 2019.  
Lena Hanschka, Colby undergraduate, summer 2019 and AY2020-21. Co-authored paper in  
*Global Biogeochemical Cycles*.  
Lily Sethares, Colby undergraduate, summer 2019.  
Taylor Methven, Colby undergraduate, 2018-2020. Co-authored paper in *Global Biogeochemical  
Cycles*.  
Helen Sears, Colby undergraduate, 2018-2020. Co-authored paper in *Global Biogeochemical  
Cycles*.  
Meg Yoder, Colby undergraduate, 2018-2019. Co-authored paper in *Global Biogeochemical  
Cycles*. PhD student at Boston College beginning fall 2020.  
Jared Fong, Colby undergraduate, 2018-2019.  
Isabella Jacoby, Dartmouth undergraduate, 2017.  
Eleanor Dowd, Carol Folt sophomore Research Scholar 2016-2017. Co-authored paper in  
*Journal of Geophysical Research – Atmospheres*.  
Joseph Malinowski, Dartmouth undergraduate, 2017.  
Judy Pu, MIT undergraduate and LDEO REU intern, 2015. Co-advisor with Sidney Hemming,  
Michael Kaplan, Cristina Recasens. Currently a PhD student at Harvard University.  
Eliza Kane, University of Maine, 2010-2013. Co-authored paper in *Climate of the Past*.  
Currently a professional consulting geologist.  
Shelly Griffin, University of Maine, 2009. Completed M.S. degree in paleoclimatology at Iowa  
State University.

*Dartmouth First-Year Women in Science Program (WISP)*

Shoshana Geller, 2016-2017

Rachel Rubin, 2016-2017

Eleanor Dowd, 2015-2016

*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 SCIENCE COMMUNICATION**

2020	St. John's Preparatory School, Danvers, MA Camden Public Library, Camden, ME Hillside Avenue School, Cranford, NJ Springside Chestnut Hill Academy, Philadelphia, PA
2019	D.A. Hurd Library Science Cafe, South Berwick, ME Springside Chestnut Hill Academy, Philadelphia, PA Waterville High School, Waterville, ME
2018	Hillside Avenue School, Cranford, NJ Featured on Albuquerque BioPark interactive exhibit on climate and conservation

- 2017 Snow Pond Academy, Sidney, ME  
Vermont Center for Ecostudies “Suds and Science” Series, Norwich, VT  
Dartmouth Allen House RED Talk, Hanover, NH
- 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 10 hours/week with K-8 students on writing, math, and science;  
Northfield Public Schools, MN

### **MEDIA COVERAGE**

- 2019 “Dust in ice cores gives climate clues,” *Mount Desert Islander*, 21 April 2019  
Interviewed for *BBC Future* article, “The ancient memories trapped in the world’s  
glaciers,” April 17, 2019  
Interviewed for *New York Times* article “Before global warming, humans caused  
global cooling, study finds,” Feb. 5, 2019
- 2018 Featured in article, “Bess Koffman: Time-traveling through Antarctic ice” in  
*Colby Magazine*, 18 August 2018
- 2017 Featured in article, “Fellowship” in *Dartmouth Alumni Magazine*, 1 May 2017  
Interviewed on *Radio New Zealand* by host Wallace Chapman, 16 April 2017

- 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

### **COLBY COLLEGE SERVICE**

- 2020-21 Elected member, Distribution Requirements Task Force  
Appointed member, Environmental Advisory Committee  
Appointed member, Radiation Safety Board  
Member, Geology Department faculty hiring committee
- 2019-20 Member, Phi Beta Kappa Visiting Scholar Organizing Committee  
Elected member, Distribution Requirements Task Force  
Appointed member, Watson Fellowship Committee  
Appointed member, Environmental Advisory Committee  
Appointed member, Radiation Safety Board  
Appointed member, Environmental Science Advisory Committee  
Member, Geology Department faculty hiring committee
- 2018-19 Member, FIT Fellowship selection committee  
External member, Economics Department faculty hiring committee  
Member, CUSRR Organizing Committee  
Member, Geology Department faculty hiring committee  
Discussion facilitator, STEMinist dinner  
Appointed member, Distribution Requirements Task Force  
Appointed member, Environmental Advisory Committee  
Appointed member, Radiation Safety Board
- 2017-18 Outside reader, Biology Department Writing Enhanced Curriculum  
Discussion facilitator, STEMinist dinner  
Provided feedback on STS postdoctoral candidates

Member, Environmental Science Advisory committee

## **PROFESSIONAL SERVICE**

Manuscript Reviewer for: *Nature Communications*, *Nature Geoscience*, *Scientific Reports*, *Communications Earth & Environment (Outstanding Reviewer 2021)*, *Geophysical Research Letters*, *Journal of Glaciology*, *Science of the Total Environment*, *Biological Trace Element Research*, *Journal of Geophysical Research – Atmospheres (Outstanding Reviewer 2015)*, *Journal of Geophysical Research – Oceans*, *Earth and Planetary Science Letters (Outstanding Reviewer 2015)*, *Global Biogeochemical Cycles*, *Quaternary Science Reviews*, *Geosciences*, *Earth Systems Science Data*

Ad Hoc Proposal Reviewer for: *NSF Arctic Natural Sciences*, *NSF Antarctic Glaciology*, *NSF Geomorphology and Land Use Dynamics*, *FONDECYT (Chile)*, *The Icelandic Research Fund (Iceland)*, *The Marsden Fund (New Zealand)*

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|-------------|--|
| 2022        | Co-organizer, Ice Core Early-Career Researcher Workshop (ICECREW), Salt Lake City, Utah (~50 participants)   |
| 2021        | NSF Panelist   |
| 2021        | Co-convenor, AGU Fall Meeting: “Ice core records of environmental change”  |
| 2020        | NSF Panelist   |
| 2019-       | Member of national Science Advisory Board for NSF-funded Ice Drilling Program; provide guidance on long-term scientific planning for the ice core community and NSF        |
| 2018        | Co-convenor, Goldschmidt Geochemistry Conference: “Tracing dusts and aerosols from source-to-sink with chemistry, mineralogy, and isotopes” (stand-in for Steve Goldstein) |
| 2017        | NSF Panelist   |
| 2016        | Co-organizer, ICYS Early Career Workshop, Hobart, Tasmania (85 participants)   |
| 2015-2016   | Interviewed candidates for <i>Math for America</i> teaching fellowships (New York City public school science and math teachers)  |
| 2015        | Co-convenor, AGU Fall Meeting: “Climate variability in the mid-to-high latitude Southern Hemisphere since the Last Glacial Maximum”  |
| 2013-       | Outstanding Student Paper Award (OSPA) judge, AGU Fall Meetings (yearly)   |
| 2013        | Co-organizer, WAIS Divide Young Investigators Meeting, La Jolla, CA  |
| 2012-2017   | Founding member and Executive Committee, Ice Core Young Scientists (ICYS)  |
| 2010-2013   | Maine Climate News website graduate student response panel   |
| Spring 2012 | Judge, Center for Undergraduate Research Showcase, University of Maine   |
| Fall 2010   | Grant reviewer, University of Maine Graduate Student Government  |
| 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 Earth Science Women’s Network

## **ABSTRACTS**

(\*Indicates student author)

**Koffman, B.G.**, \*Saylor, P., \*Sethares, L., \*Yoder, M., \*Hanschka, L., \*Methven, T., Cai, Y., Goldstein, S.L., and Osterberg, E.C. Sr-Nd-Pb isotopes reveal distinct sources of dust and pollution at different elevations in the Alaska Range, USA. *AGU Fall Meeting*. New Orleans, LA, Dec. 2021.

**Koffman, B.G.**, \*Yoder, M., Stamieszkin, K., Wallace, K., \*Saylor, P., and Handley, M. What Feeds the Phytoplankton?: Evaluating the Iron Geochemistry of Terrestrial Aerosol Sources to the Subarctic Pacific Ocean. *AGU Fall Meeting*. San Francisco, CA, Dec. 2019.

\*Orehovschi, M., **Koffman, B.G.**, Osterberg, E.C., Winski, D., Ferris, D.G., Polashenski, D.J., Stamieszkin, K., Kreutz, K.J., Wake, C.P., Campbell, S. Volcanic ash stimulation of marine primary production in the northeastern subarctic Pacific over the past 200 years. *AGU Fall Meeting*. San Francisco, CA, Dec. 2019.

\*Chesler, A., **Koffman, B.G.**, Kreutz, K.J., Osterberg, E.C., Winski, D., Ferris, D.J., Thundercloud, Z., Cole-Dai, J., Wells, M., Handley, M.J., Putnam, A.E., \*Anderson, K., \*Harmon, N. Aerosol Iron Delivery and Geochemistry across Termination I: A New Record from the South Pole Ice Core. *AGU Fall Meeting*. San Francisco, CA, Dec. 2019.

\*Anderson, K., Osterberg, E.C., Winski, D., Kreutz, K.J., Cole-Dai, J., Ferris, D.J., Thundercloud, Z., \*Chesler, A., **Koffman, B.G.** Left in the Dust? South Pole Ice Core Dust Record of Southern Westerly Winds during Dansgaard-Oeschger Events. *AGU Fall Meeting*. San Francisco, CA, Dec. 2019.

**Koffman, B.G.**, Goldstein, S.L., Winckler, G., Kaplan, M.R., Bolge, L., Cai, Y., Recasens, C., and Koffman, T.N.B. New Zealand as a potential source of mineral dust to the atmosphere and ocean during glacials. *INQUA Congress*, Dublin, Ireland, Jul. 2019.

**Koffman, B.G.**, Goldstein, S.L., Kaplan, M.R., Winckler, G., Kreutz, K.J., Biscaye, P., Bory, A. Abrupt late Holocene shift in atmospheric circulation recorded by mineral dust in the Siple Dome ice core, Antarctica. *GSA Northeastern Section, Annual Meeting*. Portland, ME, Mar. 2019

\*Yoder, M.F., **Koffman, B.G.**, Wallace, K., \*Saylor, P., Handley, M. Evaluating the composition of terrestrial nutrients delivered to the subarctic Pacific Ocean. *GSA Northeastern Section, Annual Meeting*. Portland, ME, Mar. 2019

\*Nesbitt, I.M., Smith, S.M.C., **Koffman, B.G.**, Campbell, S.W., Arcone, S.A. A decision-making framework for sedimentation analyses in dammed river corridor impoundments. *GSA Northeastern Section, Annual Meeting*. Portland, ME, Mar. 2019

\*Chesler, A., **Koffman, B.G.**, Kreutz, K.J., Osterberg, E.C., Winski, D., Ferris, D., Cole-Dai, J., Wells, M., Handley, M. Holocene Southern Hemisphere westerly wind changes derived from South Pole Ice Core (SPICEcore) dust particle record. *GSA Northeastern Section, Annual Meeting*. Portland, ME, Mar. 2019

\*Nesbitt, I.M., Campbell, S. W., Arcone, S. A., Smith, S. M.C., **Koffman, B. G.** Sedimentary architecture and accumulation rates of multiple lakes in New England, USA. *AGU Fall Meeting*. Washington, DC, Dec. 2018.

\*Chesler, A., **Koffman, B.G.**, Kreutz, K.J., Osterberg, E.C., Winski, D., Ferris, D., Cole-Dai, J., Wells, M., Handley, M. Holocene fractional trace element concentrations from the South Pole Ice Core (SPICEcore). *AGU Fall Meeting*. Washington, DC, Dec. 2018.

\*Lewis, G.M., Osterberg, E.O., Hawley, R.L, Marshall, H.P., Birkel, S.D., Dibb, J., Koffman, B.G., Ferris, D., Tedesco, M. Effects of mineral dust and black carbon on albedo in the western Greenland Ice Sheet percolation zone. *AGU Fall Meeting*. Washington, DC, Dec. 2018.

\*Nesbitt, I.M., Campbell, S.W., Arcone, S.A., Smith, S.M.C., **Koffman, B. G.** *Sedimentary architecture and accumulation rates of multiple lakes in Maine*. Proceedings of the Acadia National Park Science Symposium. National Park Service. College of the Atlantic, Bar Harbor, ME, 2018.

**Koffman, B.G.**, Goldstein, S.L., Kaplan, M.R., Winckler, G., Kreutz, K.J., Biscaye, P., Bory, A. Abrupt late Holocene shift in atmospheric circulation recorded by mineral dust in the Siple Dome ice core, Antarctica (Invited). *GSA Fall Meeting*. Indianapolis, IN, Nov. 2018.

**Koffman, B.G.**, Goldstein, S.L., Winckler, G., Kaplan, M.R., Bolge, L., Cai, Y., Recasens, C., and Koffman, T.N.B. New Zealand as a potential source of mineral dust to the atmosphere and ocean during glacials. *Goldschmidt Geochemistry Conference*, Boston, MA, Aug. 2018.

Stamieszkin, K., **Koffman, B.G.**, Flower, V.J.B. Remobilized volcanic ash may support autotrophic production in the oligotrophic subarctic Pacific Ocean. *Ocean Carbon and Biogeochemistry Workshop*, Woods Hole, MA, June 2018.

**Koffman, B.G.**, Goldstein, S.L., Winckler, G., Kaplan, M.R., Bolge, L., Cai, Y., Recasens, C., and Koffman, T.N.B. New Zealand as a potential source of mineral dust to the atmosphere and ocean during glacial periods. *AGU Fall Meeting*, New Orleans, LA, Dec. 2017.

\*Chesler, A., **Koffman, B.G.**, Kreutz, K.J., Osterberg, E.C., \*Winski, D., Ferris, D.G., Cole-Dai, J., Wells, M.L., and Handley, M. Annually resolved Holocene record of dust deposition and size distribution from the South Pole. *AGU Fall Meeting*, New Orleans, LA, Dec. 2017.

\*Polashenski, D.J., Osterberg, E.C., **Koffman, B.G.**, \*Winski, D., Kreutz, K.J., Wake, C.P., Ferris, D.G., Introne, D., Campbell, S., Stamieszkin, K., \*Lewis, G.M. Denali ice core methanesulfonic acid records north Pacific marine primary production. *AGU Fall Meeting*, New Orleans, LA, Dec. 2017.

\*Dowd, E.G., **Koffman, B.G.**, Osterberg, E.C., Ferris, D.G., \*Hartman, L.H., \*Wheatley, S.D., Kurbatov, A.V., Wong, G.J., \*Markle, B.R., Dunbar, N.W., Kreutz, K.J., Yates, M. Rapid transport of ash and sulfate from the 2011 Puyehue-Cordón Caulle (Chile) eruption to West Antarctica. *AGU Fall Meeting*, New Orleans, LA, Dec. 2017.

**Koffman, B.G.**, Goldstein, S.L., Kaplan, M.R., Winckler, G., Kreutz, K.J., Biscaye, P., Borunda, A., Bory, A. Abrupt late Holocene shift in atmospheric circulation recorded by mineral dust in the Siple Dome ice core, Antarctica. *International Conference on High Latitude and Cold Climate Dust*, Reykjavik, Iceland, May 2017.

\*Saylor, P., Osterberg, C., **Koffman, B.G.**, Mahowald, N.M., \*Winski, D., Ferris, D.G., Kreutz, K.J., Wake, C.P., Handley, M., and Campbell, S.W. 1500-Year record of trans-Pacific dust transport from the Denali ice core, Mt. Hunter, Alaska. *International Conference on High Latitude and Cold Climate Dust*, Reykjavik, Iceland, May 2017.

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

**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.

\*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.

\*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.

**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.

**Koffman, B.,** Kreutz, K., Handley, M., \*Breton, D., Sneed, S., Wells, M., Kurbatov, K., and Mayewski, P. A snowpit record of atmospheric Fe deposition in West Antarctica at the WAIS Divide site, and updates on our continuous melter system. *WAIS Divide Science Meeting*, Denver, CO, Oct. 2008.

**Koffman, B.,** Kreutz, K., Kurbatov, A., Mayewski, P., Wells, P., and Dunbar, N. Revisiting the Byrd ice core microparticle record, and implications for WAIS Divide. *WAIS Divide Science Meeting*, Kings Beach, CA, Oct. 2007.