

ERICH C. OSTERBERG

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APPOINTMENTS

- 2012-PRESENT **Assistant Professor**, Dartmouth College Earth Sciences Department
2010-2012 **Research Assistant Professor**, Dartmouth College Earth Sciences Department
2009-2010 **Visiting Assistant Professor**, Dartmouth College Earth Sciences Department
2007-2009 **Joseph B. Obering Postdoctoral Fellow**, Dartmouth College Earth Sciences

EDUCATION

- Ph.D., 2007 Earth Sciences and Climate Change Institute, University of Maine, Orono, ME, USA
Dissertation: *N. Pacific Late Holocene Climate Variability and Atmospheric Chemistry*
Advisor: Dr. Paul Andrew Mayewski
- M.Sc., 2001 Geology, University of Otago, Dunedin, New Zealand
Thesis: *Late Quaternary Evolution of the Otago Margin, New Zealand*
Advisors: Dr. Peter O. Koons and Dr. Charles A. Landis
- B.A., 1999 Geology, Middlebury College, Middlebury, VT, USA
Thesis: *Hydrodynamics of the South Main Lake, Lake Champlain, Vermont*
Advisors: Dr. Thomas Manley and Dr. Patricia Manley

PEER-REVIEWED PUBLICATIONS

* STUDENT AUTHOR

24. *Beal, S. A., **Osterberg, E. C.**, Zdanowicz, C. M., Fisher, D. A., 2015. Ice core perspective on mercury pollution during the past 600 years, *Environmental Science and Technology*, DOI: 10.1021/acs.est.5b01033.
23. **Osterberg, E. C.**, Mayewski, P. A., Fisher, D.A., Kreutz, K. J., Maasch, K. A., Sneed, S. B., Kelsey, E., 2014. Mount Logan ice core record of tropical and solar influences on Aleutian Low variability: 500–1998 A.D. *Journal of Geophysical Research-Atmospheres*, 119, doi:10.1002/2014JD021847.
22. Hawley, R. L., Courville, Z., Kehrl, L. M., Lutz, E. R., **Osterberg, E. C.**, Overly, T. B., Wong, G. J., 2014. Recent Accumulation Variability in Northwest Greenland from GPR and Shallow Cores Along the Greenland Inland Traverse. *Journal of Glaciology* **60** (220), 365-372. doi: 10.3189/2014JoG13J141
21. *Koffman, B., Handley, M., **Osterberg, E. C.**, Wells, M., Kreutz, K., 2014. Dependence of ice-core relative trace-element concentration on acidification. *Journal of Glaciology* **60** (219), 103-112. doi: 10.3189/2014JoG13J137.
20. *Kehrl, L. M., Hawley, R. L., **Osterberg, E. C.**, Winski, D. A., and Lee A. P., 2014. 25 years of volumetric change on lower Peyto Glacier, Alberta, Canada. *Journal of Glaciology* **60** (219), 51-56. doi: 10.3189/2014JoG13J039.

19. Zdanowicz, C., Fisher, D., Bourgeois, J., Demuth, M., Zheng, J., Mayewski, P., Kreutz, K., **Osterberg, E. C.**, Yalcin, K., Wake, C., Steig, E. J., Froese, D., Goto-Azuma, K., 2014. Ice cores from the St. Elias Mountains, Yukon Territory, Canada: Their significance for climate, atmospheric composition and volcanism in the North Pacific region. *Arctic* **67** (5), 35-57. doi: /10.14430/arctic4352
18. Gorman, A., Hill, M., Orpin, A., Koons, P., Norris, R., Landis, C., Allan, T., Johnstone, T., Gray, F., Wilson, D., **Osterberg, E.**, 2013. Quaternary shelf structures SE of the South Island, imaged by high-resolution seismic profiling. *New Zealand Journal of Geology and Geophysics*, **56** (2), 68-82. doi: /10.1080/00288306.2013.772906.
17. *Campbell, S., Roy, S., Kreutz, K., Arcone, S., **Osterberg, E. C.**, Koons, P., 2013. Strain Rate Estimates for Crevasse formation at an Alpine Ice Divide: Mount Hunter, Alaska. *Annals of Glaciology* **54** (63), 200-208. doi: 10.3189/2013AoG63A266.
16. *Wong, G. J., Hawley, R. H., Lutz, E. R., and **Osterberg, E. C.**, 2013. Trace element and physical response to melt percolation in Summit, Greenland snow. *Annals of Glaciology* **54** (63), 52-62. doi: 10.3189/2013AoG63A602.
15. *Winski, D., Kreutz, K., **Osterberg, E. C.**, Campbell, S., Wake, C., 2012. High Frequency Observations of Melt Effects on Snowpack Stratigraphy, Kahiltna Glacier, Central Alaska Range, *Hydrological Processes* **26** (17), 2573-2582.
14. *Gross, B., Kreutz, K., **Osterberg, E. C.**, Handley, M., Wake, C., Yalcin, K., 2012. Tracing North Pacific pollutant sources using ice core stable lead isotopes, *Journal of Geophysical Research-Atmospheres* **117**, D16307.
13. *Campbell, S. W., Kreutz, K. J., **Osterberg, E. C.**, Arcone, S. A., Wake, C., Introne, D., Volkening, K., Winski, D., 2012. Melt regimes, internal stratigraphy, and flow dynamics of three glaciers in the Alaska Range, *Journal of Glaciology* **58** (207), 99-109.
12. *Campbell, S. W., Kreutz, K. J., **Osterberg, E. C.**, Arcone, S. A., Wake, C., Volkening, K., Winski, D., 2012. Flow dynamics of an accumulation basin: a case study of the Upper Kahiltna Glacier on Mount McKinley, Alaska, *Journal of Glaciology* **10J233**.
11. *Kelsey, E., Wake, C., Kreutz, K., **Osterberg, E.**, 2010. Ice layers as an indicator of summer warmth and atmospheric blocking in Alaska, *Journal of Glaciology* **56**, 715-722.
10. Kaspari, S., Mayewski, P. A., Handley, M. J., **Osterberg, E. C.** et al., 2009. Recent increases in atmospheric concentrations of Bi, U, Cs, S and Ca from a 350-year Mount Everest ice core record, *Journal of Geophysical Research* **114**, D04302.
9. **Osterberg, E. C.**, Mayewski, P. A., Kreutz, K. J., et al., 2008. Ice core record of rising lead pollution in the North Pacific atmosphere, *Geophysical Research Letter* doi: 10.1029/2007GL032680.
8. Fisher, D. A., **Osterberg, E. C.**, Dyke, A. et al., 2008. The Mt. Logan Holocene-Late Wisconsin isotope record: tropical Pacific – Yukon connections, *The Holocene* **18**, 667-677.
7. Upton, P. and **Osterberg, E. C.**, 2007. Paleoseismicity and mass movements interpreted from seismic-reflection data, Lake Tekapo, South Canterbury, New Zealand, *N.Z. J. Geol. Geophys.* **50**, 343-356.

6. Norton, S. A., Wilson, T., Handley, M. J., **Osterberg, E.C.**, 2007. Atmospheric deposition of cadmium in the northeastern USA, *App. Geochem.* **22**, 1217-1222.
5. **Osterberg, E. C.**, Handley, M. J., Sneed, S. B., Mayewski, P. A., Kreutz, K. J., 2006. A continuous ice core melter system with discrete sampling for major ion, trace element and stable isotope analyses, *Environmental Science and Technology* **40**, 10, 3355-3361.
4. **Osterberg, E.C.**, 2006. Late Quaternary (Marine Isotope Stages 6-1) seismic sequence stratigraphic evolution of the Otago Continental Shelf, New Zealand, *Marine Geology* **229**, 159-178.
3. Mayewski, P. A., Maasch, K. A., Yan, Y. P., Kang, S. C., Meyerson, E. A., Sneed, S. B., Kaspari, S. D., Dixon, D. A., **Osterberg, E. C.**, Morgan, V. I., Van Ommen, T., Curran, M. A. J., 2005. Solar forcing of the polar atmosphere, *Ann. Glaciol.* **41**, 147-154.
2. Bertler, N., Mayewski, P. A., 52 authors listed alphabetically including **Osterberg, E.C.**, 2005. Snow chemistry across Antarctica, *Ann. Glaciol.* **41**, 167-179.
1. Fisher, D., Wake, C., Kreutz, K., and 18 others including **Osterberg, E.C.**, 2004. Stable isotope records from Mt. Logan, Eclipse ice cores and nearby Jellybean Lake. Water cycle of the North Pacific over 2000 years and over five vertical kilometers: sudden shifts and tropical connections, *Geograph. Physiq. Et Quatern.* **58**, 337-352.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

* STUDENT AUTHOR

Papers under Review:

Osterberg, E. C., Hawley, R. L., Wong, G., Kopec, B., Ferris, D., Howley, J., *under review*. Coastal ice core record of recent Northwest Greenland temperature and sea ice concentration. *Journal of Glaciology*.

Stearns, L. A., **Osterberg, E. C.**, Hamilton, C., *in revision*. Glaciers in the classroom: using flubber to learn about glacier dynamics in a changing climate. *Journal of Geoscience Education*.

*Wong, G., **Osterberg, E. C.**, Hawley, R., Courville, Z., Ferris, D., Howley, J., *under review*. Coast-to-interior gradient in recent Northwest Greenland precipitation trends (1952-2012), *Environmental Research Letters*.

*Kelsey, E., **Osterberg, E. C.**, Wake, C., *in revision*. Consistency of spatial temperature patterns as a function of the Arctic Oscillation and Pacific-North American Index Magnitudes: Implications for Paleoclimate Reconstructions, *Climate Dynamics*.

Campbell, S., Arcone, S., Kreutz, K. J., McNeil, C., Braddock, S., Conway, H., Koons, P., **Osterberg, E. C.**, *under review*. Surface-based ground-penetrating radar profiles of the Juneau Icefield: Interpretation of the winter mass balance and previous year's snow horizon, *Geophysics*.

Papers in Preparation:

*Winski, D., **Osterberg, E. C.**, *in preparation*. Recent climatology and Holocene paleoproxy records of Alaskan precipitation, *to be submitted to Quaternary Science Reviews*.

Osterberg, E.C., Mayewski, P.A., Kurbatov, A., Kreutz, K.J., White, J., Sneed, S.B., Popp, T., Handley, M.J., *in preparation*. Seasonal timing of oceanic and atmospheric abrupt climate change in a high-resolution ice core record, *to be submitted to Proceedings of the National Academies of the Sciences*.

*Kelsey, E., Wake, C., **Osterberg, E.C.**, Kreutz, K., Dibb, J., *in preparation*. Assessing stationarity in proxy-climate variable relationships for Yukon Territory ice core records, *to be submitted to Journal of Journal of Geophysical Research*.

AWARDED RESEARCH GRANTS

Total Awarded Dartmouth Funds: **\$2,909,422**

Total Awarded Dartmouth Funds as Lead PI: **\$1,859,224**

- 2015 NSF Antarctic Glaciology: *Collaborative Research: SPICE Core Chronology and Climate Records using Chemical and Microparticle Measurements*. **E. Osterberg Lead PI**, J. Cole-Dai (PI, SDSU), K. Kreutz (PI, UMaine), M. Wells (Co-PI, UMaine). Dartmouth Funds: **\$443,001**; Total grant: **\$1,240,000**. Ends 5/31/18.
- 2015 NSF Antarctic Glaciology: *Collaborative Research: Characteristics of Upstream Ice and Firn Dynamics Affecting the South Pole Ice Core (SPICE)*. M. Koutnik Lead PI (UW), H. Conway (Co-PI, UW), E. Waddington (Co-PI, UW), R. Hawley (PI, Dartmouth), **E. Osterberg** (Co-PI). Dartmouth funds: **\$825,617**. Total grant: **\$1,513,513**. Ends 2/28/20.
- 2014 NSF Arctic Natural Sciences: ARC-1417678. *Collaborative Research: GreenTrACS: a Greenland Traverse for Accumulation and Climate Studies*. **E. Osterberg Lead PI**, R. Hawley (Co-PI, Dartmouth), H. P. Marshall (PI, BSU), S. Birkel (PI, UMaine). Dartmouth funds: **\$596,737**; Total grant: **\$1,371,643**. 1/1/15 – 12/31/17.
- 2014 NSF Arctic Natural Sciences: ARC-1417395. *Collaborative Research: Investigating geochemical signatures in Greenland ice of a possible extraterrestrial impact during the Younger Dryas climate event*. M. Sharma Lead PI (Dartmouth), **E. Osterberg (Co-PI)**, P. Mayewski (PI, UMaine), A. Kurbatov (Co-PI, UMaine). Dartmouth funds: **\$224,581**; Total grant: **\$258,166**. 9/1/14 – 8/31/16.
- 2012 NSF Paleoclimate Program (P2C2): AGS-1204035. *P2C2: Collaborative Research: Reconstructing Central Alaskan Precipitation Variability and Atmospheric Circulation over the Past Millennium*. **E. Osterberg Lead PI**, C. Wake (PI, UNH), K. Kreutz (PI, UMaine), S. Birkel (Co-PI, UMaine). Dartmouth funds: **\$298,112**; Total grant: **\$1,078,330**. 6/1/12 – 5/31/15.
- 2012 NSF Geography and Spatial Sciences: BCS-1232844. *Doctoral Dissertation Research: Reconstructing Atmospheric Mercury Deposition to Mt. Logan, Yukon Territory, Over the Holocene*. **E. Osterberg Lead PI**, S. Beal (graduate student Co-PI, Dartmouth), **\$16,000**. 9/1/12 – 8/31/14.
- 2011 NSF Arctic Natural Sciences: ARC-1107411. *Collaborative Research: Response of the Northwest Greenland Cryosphere to Holocene Climate Change*. **E. Osterberg Lead PI**, M. Kelly (Co-PI, Dartmouth), Y. Axford (PI, Northwestern), S. Birkel (PI, UMaine). Dartmouth funds: **\$467,615**; Total grant: **\$909,937**. 1/1/12 – 12/31/14.

- 2011 NSF Arctic Natural Sciences: ARC-1140098. *RAPID: Tracking Radioactive Fallout from the Fukushima Dai-ichi Disaster in Arctic Snow*. **E. Osterberg Lead PI, \$37,759.**
- 2009 NSF Arctic Natural Sciences: ARC-0909265 *Understanding the physical properties of Northern Greenland near-surface snow: A spatial variability study*. R. Hawley (Lead PI, Dartmouth), **E. Osterberg Senior Personnel**, Z. Courville (Senior Personnel, UNH/CRREL), **\$485,959.**
- 2006 NSF Arctic Natural Sciences, ARC-0714004. *Drillsite Reconnaissance and Snow Chemistry in Denali National Park*. C. Wake (Lead PI, UNH), K. Kreutz (PI, UMaine), **E. Osterberg Post-Doctoral Fellow, \$95,200.**
- 2006 NSF Arctic Natural Sciences, ARC-0612400. Wrote proposal to fund 2 years of additional analysis on the Mt. Logan ice core, P. Mayewski (Lead PI), **E. Osterberg Graduate Student, \$125,020.**

TEACHING EXPERIENCE

- 2011-2015 **EARS 2, *Evolution of Earth and Life***. An introductory course on the evolution of Earth's biosphere and geosphere, their processes and interactions.
- 2011, '13, '15 **EARS 3, *Elementary Oceanography***. An introductory course surveying marine geology, chemistry, biology, and physical oceanography.
- 2010, '12, '14 **EARS 14, *Meteorology***. An introductory course focused on understanding meteorological processes, weather forecasting, and weather analysis (lab).
- 2010 **EARS 18, *Environmental Geology***. An introductory course on Earth's terrestrial, hydrological, and atmospheric environments, and their human impacts (lab).
- 2009 **EARS/GEOG 33, *Earth's Surface Processes and Landforms***. An intermediate-level course exploring the processes that shape the Earth's landscape (lab).
- 2008, '10, '13, '14 **EARS 37, *Marine Geology***. An intermediate-level course investigating the geology, processes, and paleoarchives hidden beneath the world's oceans.
- 2008-2011 **EARS 46, *STRETCH Field Methods***. A two-week glaciology and paleoclimatology undergraduate field course in Banff National Parks, co-taught with Bob Hawley.
- 2009 **EARS 86.1, *Earth's Climate: Past, Present and Future***. An upper-level paleoclimatology course exploring climate change over the full range timescales.

GRADUATE STUDENT ADVISING

- Gabe Lewis Ph.D. Advisor (Dartmouth), graduation expected 5/19
 Huanping Huan Ph.D. Co-Advisor with Dr. Winter (Dartmouth), graduation expected 5/19

Dominic Winski	Ph.D. Advisor (Dartmouth), graduation expected 5/18
Gifford Wong	Ph.D. Co-Advisor with Dr. Hawley (Dartmouth), graduation expected 12/15
Sam Beal	Ph.D. Doctoral Dissertation Research Improvement Grant advisor (Dr. Kelly primary advisor, Dartmouth), graduated 5/14
Ashley Corbett	Ph.D. Co-Advisor with Dr. Kelly (Dartmouth), transferred to UVM 9/13

GRADUATE STUDENT COMMITTEE MEMBERSHIP

STUDENTS AT DARTMOUTH UNLESS OTHERWISE INDICATED

Margaret Jackson	Ph.D. Summer Research Committee Member, graduation expected 5/18
Naixan Fan	M.Sc. Committee Member, graduation expected 5/15
Ji-Hye Seo	M.Sc. Committee Member, graduation expected 5/15
Thomas Overly	Ph.D. Committee Member, graduation expected 5/15
Justin Stroup	Ph.D. Committee Member, graduation expected 12/15
Seth Campbell	Ph.D. Committee Member (UMaine), graduated 5/14
Eric Kelsey	Ph.D. Committee Member (UNH), graduated 5/14
Annie Putman	M.Sc. Committee Member, graduated 8/13
Matthew Bigl	M.Sc. Committee Member, graduated 8/13
Margaret Baber	M.Sc. Committee Member, graduated 5/13
James Menking	M.Sc. Committee Member (C. Washington University), graduated 5/13
Kelly Landau	M.Sc. Committee Member, graduated 5/12
Hannah Hallock	M.Sc. Committee Member, graduated 5/12
Dominic Winski	M.Sc. Committee Member (UMaine), graduated 5/11
Seth Campbell	M.Sc. Committee Member (UMaine), graduated 5/10
Matthew Siegfried	M.Sc. Committee Member, graduated 8/10
Benjamin Gross	M.Sc. Committee Member (UMaine), graduated 12/08

UNDERGRADUATE STUDENT ADVISING

ALL STUDENTS AT DARTMOUTH

Catherine Granville	Lab Research Assistant, graduating 5/16
Eric McConnell	Lab Research Assistant, graduating 5/17
Melissa Dunham	Lab Research Assistant, graduating 5/17
Ursula Jongebloed	Mentor for USGS research internship, graduating 5/18
Tyler Kelsall	Sophomore Science Scholar, graduating 5/17
David Polashenski	Lab Research Assistant, graduating 5/17
Patrick Saylor	Undergraduate Research Grant, graduating 5/16
Fredrik Eriksson	Stefansson Fellowship, graduating 5/16
Keshia Naurana Baldage	Lab Research Assistant, graduating 5/16
Sarah Caughey	Dean of Faculty summer research, and Sophomore Sci. Scholar, graduating 5/15
Samuel Streeter	B.A. Senior Thesis and ENGS 89/90 project, graduated 5/14
Nikolas Ortman	ENGS 89/90 Project (Thayer), graduated 5/14
Alfredo Velasco	ENGS 89/90 Project (Thayer), graduated 5/14
Kristen Colwell	ENGS 89/90 Project (Thayer), graduated 5/14
Mark Baum	Lab research assistant, graduating 5/15
Hazel Shapiro	B.A. Senior Thesis, graduated 5/13
John Thompson	B.A. Senior Thesis, and Undergraduate Presidential Scholar, graduated 5/13
Aryeh Drager	B.A. Senior Project, graduated 1/13

Elle Anderson	B.A. Senior Thesis, graduated 5/11
Amy Burzynski	B.A. Senior Thesis, graduated 5/11
Thomas Callahan	B.A. Senior Thesis, graduated 5/10
Anna Lugosch-Ecker	B.A. Senior Thesis, graduated 5/10
Joy Campbell	B.A. Senior Project, graduated 5/10
Alexander Lee	B.A. Senior Project Co-Advisor (w/Hawley), graduated 5/10
Tina Praprotnik	B.A. Senior Thesis, graduated 5/09
Dominic Winski	B.A. Senior Thesis Co-Advisor (w/Hawley), graduated 5/09
Sarah Stern	B.A. Senior Project, graduated 5/08

AWARDS AND HONORS

2015	Class of 1962 Junior Faculty Fellow
2014	Selected by the Dean of Faculty to lead the “Shared Academic Experience” (First Lecture) for the incoming class of 2018
2014	Invited by the graduating class of 2014 to present one of five “Last Lectures” during Senior Week (declined due to conflicting Greenland fieldwork)
2014	Nominated for the Dartmouth Arts and Sciences Graduate Faculty Mentor Award
2013	Named one of Dartmouth’s “Top 10 Professors” by the graduating Class of 2013
2002	University of Maine Provost Graduate Fellowship
2000	Geological Society of New Zealand Student Research Award
1999	J. William Fulbright Graduate Fellowship for M.Sc. Studies in New Zealand
1999	Highest Honors from Middlebury Geology Department
1999	Hazeltine-Klevenow Memorial Award for combining athletic ability and excellence in scholarship at Middlebury College
1999	Charles Doll Award for best student presentation at Vermont Geological Society Meeting

INVITED LECTURES

- University of Maine at Orono (April, 2014), *Recent climate change and cryospheric response in NW Greenland*. Invited keynote alumni lecturer to the annual Harold Borns Symposium.
- State University of New York at Albany (January, 2012), *The cryosphere’s record of, and response to, climate change*.
- Dartmouth College (January, 2012), *High latitude climate dynamics over seasonal to millennial timescales*.
- Iowa State University (September, 2009), *Late Holocene record of climate variability and pollution: perspectives from a Mt. Logan ice core*.
- Amherst College (February, 2009), *Ice core record of El Niño variability and North Pacific lead pollution*.
- Institute of Geological and Nuclear Sciences, New Zealand (September, 2008), *Ice core record of trans-Pacific pollution and El Niño teleconnections*.
- Middlebury College (April, 2008), *Ice core records of Asian metal pollution and dust in the North Pacific atmosphere*.
- Dartmouth College (April, 2007), *Ice core record of trans-Pacific pollution and Holocene climate*.
- State University of New York at Albany (April, 2006), *An ice core record of Holocene climate change, trans-Pacific dust flux, and anthropogenic pollution in the North Pacific*.

- Middlebury College (March, 2002), *Late Quaternary evolution of the Otago continental shelf and submarine canyons*.

FIELD RESEARCH EXPERIENCE

- 2015 Leader of expedition to collect shallow ice cores and meteorological data from Mt. Hunter in Denali National Park, AK, with two grad students and three undergraduate students.
- 2014 Leader of expedition to collect ice cores, ice geophysical data, and lake sediment cores from Thule, Greenland. Team included one undergraduate student.
- 2013 Co-Leader of expedition to collect two ice cores to bedrock from the summit plateau of Mt. Hunter in Denali National Park, AK, with four grad students and one undergraduate student.
- 2012 Co-Leader of expedition to collect ice core, ice geophysical data, lake sediment cores, and pro-glacial rock and plant samples near Thule, Greenland. Team included two undergraduate students and two graduate students.
- 2011 Leader of expedition to collect ice core and ice geophysical data on the Greenland Ice Sheet with two graduate students and a post-doctoral fellow.
- 2009 Co-leader of expedition to collect ice geophysical data on Peyto and Athabasca Glaciers, Alberta, Canada.
- 2009 Leader of an expedition to Denali, AK with four students to sample snow and collect meteorology and ice geophysical data.
- 2008 Leader of an expedition in Banff, Canada with three students to collect snow samples and ice geophysical data for undergraduate thesis projects.
- 2008 Co-leader of an ice core, glaciological and meteorological data collection expedition on Denali, AK, USA with three students.
- 2005 Ice core and meteorological data collection on Mt. Logan, Yukon, Canada.
- 2005 Ice core and glaciological data collection in the Cordillera Darwin, Chile.
- 2003 Ice core and glaciological data collection in the Dry Valleys, Antarctica.
- 2003 Ice core and meteorological data collection in the St. Elias Mountains, Canada.
- 2001 2 research cruises collecting seismic reflection data in Lake Tekapo, NZ.
- 2000 14 research cruises collecting marine geophysical data offshore New Zealand.

SCIENCE OUTREACH AND PUBLIC EDUCATION

K-12 Outreach:

- Co-developed and co-presented an interactive glaciology and climate change display for the *USA Science and Engineering Festival*, in Washington, D.C. (October, 2010; April, 2014).
- Participated in a K-12 teacher workshop at the Montshire Museum of Science in Norwich, VT with the goal of improving weather and climate change curricula in local schools (October, 2012).
- Presented numerous talks to K-12 students about polar research and climate change at local Maine schools and community groups (2002-2007).

Public Outreach:

- Founding Member of the *Upper Valley Climate Adaptation Workgroup (UVAW)*, bringing together business, non-profit, public safety, academic and government interests to develop and implement strategies for climate change adaptation in New Hampshire. Co-organized public forums on NH climate change and flooding in 9/2013 and 4/2014, respectively.

- Co-organized and presented at the workshop, “Strategies for Resilient Businesses: Ensuring a Good Economy after a Bad Storm”, attended by over 40 upper valley small business owners, organized by UVAW and partnering with UVM (February, 2015).
- Presenter (November, 2011) at the *Upper Valley Science Pub* program coordinated by the Dartmouth College Office of Outreach and funded by a grant to R. Hawley (Dartmouth).
- Presented numerous public lectures on climate change research in Talkeetna, AK (in partnership with the National Parks Service) and Thule, Greenland.

ILEAD and Dartmouth Public Lectures

- *Dartmouth Dimensions Public Lecture* during admitted student days, “Rising Tides: Climate Change and Sea Level Rise in the 21st Century” (April, 2015).
- *Back to Class Alumni Lecture* during Dartmouth Homecoming, “What Frozen Things Do in Summer: Implications for Greenland, Antarctica and Future Sea Level” (October, 2014).
- *Institute for Lifelong Education at Dartmouth* lecture, “Hurricane Sandy: A Sign of Things to Come?” (February, 2014).
- *Dartmouth On Location* lecture in Princeton, NJ, “Hurricane Sandy: A Sign of Things to Come?” (January, 2014).

Dartmouth Center for the Advancement of Learning (DCAL):

- **Presenter:** Learning Community for Future Faculty: *Using information technology effectively in the classroom* (July, 2014).
- **Presenter:** Teaching with Information Technology (TWIT): *Using LectureTools as a novel interactive classroom tool* (October, 2013).

Increasing Diversity in Science:

- Participated in a July 2012 workshop to discuss ways to increase the participation and retention of under-represented minority (URM) students (as defined by NSF) in the geosciences.

PROFESSIONAL SERVICE

Member of the U.S. Ice Core Working Group (2014-present): Tasked with providing guidance to NSF on ice core sample access, distribution, inventory, and future directions in ice core research.

Member of the U.S. Ice Core Sample Allocation Committee (2014 – present): Tasked with the allocation of archive ice cores housed in the National Ice Core Laboratory in Denver, CO.

Dartmouth Faculty Council Service

- *Dartmouth Athletic Council* member, 2013-present.

Dartmouth Faculty Search Committee Service

- Earth Sciences *Obering Postdoctoral Fellowship* search committee member (2013).

NSF Proposal Review Panel Service:

- NSF Paleoperspectives on Climate Change (P2C2) proposal review panel (January, 2014).

Conference Organizing Committee Service:

- Physics and Chemistry of Ice Conference at Dartmouth College (March, 2014).

Conference Session Convener:

- *2015 NEGSA Meeting:* Co-convended session, “Holocene Paleoclimate Perspectives on Present-day Arctic Change”.
- *2014 AGU Fall Meeting:* Co-convended session PP13, “Holocene climate archives from across the Arctic: Detailed paleoclimate perspectives on present-day polar change”.
- *2011 AGU Fall Meeting:* Co-convended session PP24, “Pleistocene-Holocene Climate Variability in the North Pacific Realm”.
- *2009 AGU Fall Meeting:* Co-convended session PP24, “Paleoclimate Records of North Pacific Climate Variability: Ocean-Atmosphere Interactions”.
- *2008 AGU Fall Meeting:* Co-convended session PP19, “Paleoproxy-Model Comparison of ENSO-NAO-AAO Dynamics and Forcing over the Last 2000 Years”. Session merged with PP04 to increase oral session slots.

Manuscript Review: Reviewed manuscripts for publication in *Nature Scientific Reports*, *Proceedings of the National Academy of the Sciences*, *Geophysical Research Letters*, *Earth and Planetary Science Letters*, *Atmospheric Environment*, *Environmental Science and Technology*, *Journal of Geophysical Research*, *Journal of Glaciology*, *Chemical Geology*, and *Annals of Glaciology*.

Proposal Review: Reviewed proposals for NSF Paleo Perspectives on Climate Change Program, NSF Major Research Instrumentation, NSF Behavioral and Cognitive Studies Program, NSF Arctic Natural Sciences Program, NSF Chemical Oceanography Program, and Government of Canada International Polar Year.

Dartmouth First-Year Group Advising: Introducing incoming Dartmouth students to the curriculum, institutional practices, and expectations during Orientation.

Field Trip Organizer: Co-developed and co-led a *Friends of the Pleistocene* field trip to several sites around Hanover, NH in June, 2010.

CONFERENCE ABSTRACTS AND OTHER PUBLICATIONS

* GRADUATE STUDENT PRESENTER

** UNDERGRADUATE STUDENT PRESENTER

2015:

Osterberg, E. C., Hawley, R., Kelly, M., Axford, Y., Ferris, D., Wong, G., Howley, J., 2015. Recent climate and cryospheric change in Northwest Greenland. Paper 63-2 presented at the Annual Meeting of the Northeastern Section of the Geological Society of America (Bretton Woods, NH).

*Winski, D., **Osterberg, E. C.**, Kreutz, K. J., Baum, M., Wake, C. P., Campbell, S., 2015. Abrupt summer warming in the Alaska Range from melt layers in the Mt. Hunter ice core. Paper 63-7 presented at the Annual Meeting of the Northeastern Section of the Geological Society of America (Bretton Woods, NH).

Campbell, S., Kreutz, K., Arcone, S., Braddock, S., **Osterberg, E. C.**, Koons, P. O., 2015. Determining winter mass balance and the previous year snowline position on the Juneau Icefield, Alaska using ground-penetrating radar. Paper 32-2 presented at the Annual Meeting of the Northeastern Section of the Geological Society of America (Bretton Woods, NH).

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