

Publications

The following publications deal explicitly with analyses of the WAIS Divide ice core, WAIS Divide boreholes, and/or the WAIS Divide, Antarctica field site.

- Ahn J, Brook E and Howell K (2009) A high-precision method for measurement of paleoatmospheric CO₂ in small polar ice samples. *Journal of Glaciology*, 55(191), 499-506, 10.3189/002214309788816731
- Ahn J, Brook EJ, Mitchell L, Rosen J, McConnell J, Taylor K, Etheridge D and Rubino M (2012) Atmospheric CO₂ over the last 1000 years: A high-resolution record from the West Antarctic Ice Sheet (WAIS) Divide ice core. *Global Biogeochemical Cycles*, 26, GB2027, 10.1029/2011GB004247
- Arienzo MM, McConnell JR, Murphy LN, Chellman N, Das S, Kipfstuhl S and Mulvaney R (2017) Holocene black carbon in Antarctica paralleled Southern Hemisphere climate. *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2017JD026599
- Aydin M, Campbell JE, Fudge TJ, Cuffey KM, Nicewonger MR, Verhulst KR and Saltzman ES (2016) Changes in atmospheric carbonyl sulfide over the last 54,000 years inferred from measurements in Antarctic ice cores. *Journal of Geophysical Research: Atmospheres*, 121, 1943-1954, 10.1002/2015JD024235
- Aydin M, Fudge TJ, Verhulst KR, Nicewonger MR, Waddington ED and Saltzman ES (2014) Carbonyl sulfide hydrolysis in Antarctic ice cores and an atmospheric history for the last 8000 years. *Journal of Geophysical Research Atmospheres*, 119(13), 8500-8514, 10.1002/2014JD021618
- Aydin M, Verhulst KR, Saltzman ES, Battle MO, Montzka SA, Blake DR, Tang Q and Prather MJ (2011) Recent decreases in fossil-fuel emissions of ethane and methane derived from firn air. *Nature*, 476, 198-201, 10.1038/nature10352
- Aydin M, Montzka SA, Battle MO, Williams MB, De Bruyn WJ, Butler JH, Verhulst KR, Tatum C, Gun BK and Plotkin DA (2010) Post-coring entrapment of modern air in some shallow ice cores collected near the firn-ice transition: evidence from CFC-12 measurements in Antarctic firn air and ice cores. *Atmospheric Chemistry and Physics*, 10, 5135-5144, 10.5194/acp-10-5135-2010
- Banta JR, McConnell JR, Frey MF, Bales RC and Taylor K (2008) Spatial and temporal variability in snow accumulation at the West Antarctic Ice Sheet Divide over recent centuries. *Journal of Geophysical Research*, 113(D23102), 10.1029/2008JD010235
- Barletta RE, Priscu JC, Mader HM, Jones WL and Roe CW (2012) Chemical Analysis of Ice Vein Microenvironments: II. Analysis of Glacial Samples from Greenland and the Antarctic. *Journal of Glaciology*, 58(212), 1109-1118, 10.3189/2012JoG12J112
- Battle MO, Severinghaus JP, Sofen ED, Plotkin D, Orsi AJ, Aydin M, Montzka SA, Sowers T and Tans PP (2011) Controls on the movement and composition of firn air at the West Antarctic Ice Sheet Divide. *Atmospheric Chemistry and Physics*, 11, 11007-11021, 10.5194/acp-11-11007-2011
- Bauer S E, Bausch A, Nazarenko L, Tsigaridis K, Xu B, Edwards R, Bisiaux M and McConnell J (2013) Historic and future black carbon deposition on the three ice caps: Ice-core measurements and model simulations from 1850 to 2100. *Journal of Geophysical Research Atmospheres*, 118, 7948-7961, 10.1002/jgrd.50612
- Bauska TK, Baggenstos D, Brook EJ, Mix AC, Marcott SA, Petrenko VV, Schaefer H, Severinghaus JP and Lee JE (2016) Carbon isotopes characterize rapid changes in atmospheric carbon dioxide during the last deglaciation. *Proceedings of the National Academy of Sciences*, 113(13), 3465-3470, 10.1073/pnas.1513868113

- Bauska TK, Joos F, Mix AC, Roth R, Ahn J and Brook EJ (2015) Links between atmospheric carbon dioxide, the land carbon reservoir and climate over the past millennium. *Nature Geoscience*, 8, 383-387, 10.1038/ngeo2422
- Bisiaux MM, Edwards R, McConnell JR, Albert MR, Anschutz H, Neumann TA, Isaksson E and Penner JE (2012) Variability of black carbon deposition to the East Antarctic Plateau, 1800-2000 AD. *Atmospheric Chemistry and Physics*, 12, 3799-3808, 10.5194/acp-12-3799-2012
- Bisiaux MM, Edwards R, McConnell JR, Curran MAJ, Van Ommen TD, Smith AM, Neumann TA, Pasteris DR, Penner JE and Taylor K (2012) Changes in black carbon deposition to Antarctica from two high-resolution ice core records, 1850-2000 AD. *Atmospheric Chemistry and Physics*, 12, 4107-4115, 10.5194/acp-12-4107-2012
- Breton DJ, Koffman BG, Kurbatov AV, Kreutz KJ and Hamilton GS (2012) Quantifying Signal Dispersion in a Hybrid Ice Core Melting System. *Environmental Science & Technology*, 46(21), 11922-11928, 10.1021/es302041k
- Buizert C, Cuffey KM, Severinghaus JP, Baggenstos D, Fudge TJ, Steig EJ, Markle BR, Winstrup M, Rhodes RH, Brook EJ, Sowers TA, Clow GD, Cheng H, Edwards RL, Sigl M, McConnell JR and Taylor KC (2015) The WAIS Divide deep ice core WD2014 chronology - Part 1: Methane synchronization (68-31 ka BP) and the gas age-ice age difference. *Climate of the Past*, 11, 153-173, 10.5194/cp-11-153-2015
- Buizert C and Schmittner A (2015) Southern Ocean control of glacial AMOC stability and Dansgaard-Oeschger interstadial duration. *Paleoceanography*, 30(12), 1595-1612, 10.1002/2015PA002795
- Buizert C and Severinghaus JP (2016) Dispersion in deep polar firn driven by synoptic-scale surface pressure variability. *The Cryosphere*, 10, 2099-2111, 10.5194/tc-10-2099-2016
- Buizert C, Sowers T and Blunier T (2013) Assessment of diffusive isotopic fractionation in polar firn, and application to ice core trace gas records. *Earth and Planetary Science Letters*, 361, 110-119, 10.1016/j.epsl.2012.11.039
- Chan WS, Mah ML, Voigt DE, Fitzpatrick JJ and Talghader JJ (2014) Crystal orientation measurements using transmission and backscattering. *Journal of Glaciology*, 60(224), 1135-1139, 10.3189/2014JogG14J071
- Cole-Dai C, Ferris DG, Lanciki A, Savarino J, Thiemens MH and McConnell JR (2013) Two likely stratospheric volcanic eruptions in the 1450s C.E. found in a bipolar, subannually dated 800 year ice core record. *Journal of Geophysical Research Atmospheres*, 118, 7459-7466, 10.1002/jgrd.50587
- Cole-Dai C, Ferris D, Lanciki A, Savarino J, Baroni M and Thiemens M (2009) Cold decade (AD 1810-1819) caused by Tambora (1815) and another (1809) stratospheric volcanic eruption. *Geophysical Research Letters*, 36(L22703), 10.1029/2009GL040882
- Conway H and Rasmussen LA (2009) Recent thinning and migration of the Western Divide, central West Antarctica. *Geophysical Research Letters*, 36(L12502), 10.1029/2009GL038072
- Cuffey KM, Clow GD, Steig EJ, Buizert C, Fudge TJ, Koutnik M, Waddington ED, Alley RA and Severinghaus JP (2016) Deglacial temperature history of West Antarctica. *Proceedings of the National Academy of Sciences*, 113(50), 14249-14255, 10.1073/pnas.1609132113
- D'Andrilli J, Foreman CM, Sigl M, Priscu JC and McConnell JR (2017) A 21 000-year record of fluorescent organic matter markers in the WAIS Divide ice core. *Clim. Past*, 13, 533-544, doi:10.5194/cp-13-533-2017
- Fegyveresi JM, Alley RB, Fitzpatrick JJ, Cuffey KM, McConnell JR, Voigt DE, Spencer MK and Stevens NT (2016) Five millennia of surface temperatures and ice core bubble characteristics from the WAIS Divide deep core, West Antarctica. *Paleoceanography*, 31(3), 416-433, 10.1002/2015PA002851
- Fegyveresi JM, Alley RB, Spencer MK, Fitzpatrick JJ, Steig EJ, White JWC, McConnell JR and Taylor KC (2011) Late-Holocene climate evolution at the WAIS Divide site, West Antarctica: bubble

- number-density estimates. *Journal of Glaciology*, 57(204), 629-638, 10.3189/002214311797409677
- Fitzpatrick JJ, Voigt DE, Fegyveresi JM, Stevens NT, Spencer MK, Cole-Dai J, Alley RB, Jardine GE, Cravens ED, Wilen LA, Fudge TJ and McConnell JR (2014) Physical properties of the WAIS Divide ice core. *Journal of Glaciology*, 60(224), 1181-1198, 10.3189/2014JoG14J100
- Frieler K, Clark PU, He F, Buizert C, Reese R, Ligtenberg SRM, van den Broeke MR, Winkelmann R and Levermann A (2015) Consistent evidence of increasing Antarctic accumulation with warming. *Nature Climate Change*, 5, 348-352, 10.1038/nclimate2574
- Fudge TJ, Markle BR, Cuffey K, Buizert C, Taylor K, Steig EJ, Waddington E, Conway H and Koutnik M (2016) Variable relationship between accumulation and temperature in West Antarctica for the past 31,000 years. *Geophysical Research Letters*, 43(8), 3795-3803, 10.1002/2016GL068356
- Fudge TJ, Taylor KC, Waddington EW, Fitzpatrick JJ and Conway H (2016) Electrical stratigraphy of the WAIS Divide ice core: Identification of centimeter-scale irregular layering. *Journal of Geophysical Research: Earth Surface*, 121, 1218-1229, 10.1002/2016JF003845
- Fudge TJ, Waddington ED, Conway H, Lundin JMD and Taylor K (2014) Interpolation methods for Antarctic ice-core timescales: application to Byrd, Siple Dome and Law Dome ice cores. *Climate of the Past*, 10, 1195-1209, 10.5194/cp-10-1195-2014
- Gibson CJ, Johnson JA, Shturmakov AJ, Mortensen NB, and Goetz JJ (2014) Replicate ice-coring system architecture: mechanical design. *Annals of Glaciology*, 55(68), 165-172, 10.3189/2014AoG68A019
- Goodwin ID, Browning S, Lorrey AM, Mayewski PA, Phipps SJ, Bertler NA, Edwards RP, Cohen TJ, van Ommen T, Curran C, Barr C and Stager JC (2014) A reconstruction of extratropical Indo-Pacific sea-level pressure patterns during the Medieval Climate Anomaly. *Climate Dynamics*, 43(5-6), 1197-1219, 10.1007/s00382-013-1899-1
- Gregory SA, Albert MR and Baker I (2014) Impact of physical properties and accumulation rate on pore close-off in layered firn. *The Cryosphere*, 8, 91-105, 10.5194/tc-8-91-2014
- Hillenbrand C-D, Smith JA, Hodell DA, Greaves M, Poole CR, Kender S, Williams M, Andersen TJ, Jernas PE, Elderfield H, Klages JP, Roberts SJ, Gohl K, Larter RD and Kuhn G (2017) West Antarctic Ice Sheet retreat driven by Holocene warm water incursions. *Nature*, 547, 43-48, doi:10.1038/nature22995
- Horgan HJ, Anandakrishnan S, Alley RB, Burkett PG and Peters LE (2011) Englacial seismic reflectivity: imaging crystal-orientation fabric in West Antarctica. *Journal of Glaciology*, 57(204), 639-650, 10.3189/002214311797409686
- Iverson NA, Kaltefleiter D, Dunbar NW, Kurbatov A and Yates M (2016) Advancements and best practices for analysis and correlation of tephra and cryptotephra in ice. *Quaternary Geochronology*, <http://dx.doi.org/10.1016/j.quageo.2016.09.008>, 10.1016/j.quageo.2016.09.008
- Jiang S, Cox TS, Cole-Dai J, Peterson KM and Shi G (2016) Trends of perchlorate in Antarctic snow: Implications for atmospheric production and preservation in snow. *Geophysical Research Letters*, 43, 9913-9919, 10.1002/2016GL070203
- Johnson JA, Mason WP, Shturmakov AJ, Haman ST, Sendelbach PJ, Mortensen NB, Augustin L and Dahnert KR (2007) A new 122mm electromechanical drill for deep ice-sheet coring (DISC): 5. Experience during Greenland field testing. *Annals of Glaciology*, 47, 54-60
- Johnson JA, Mortensen NB, Gibson CJ, Goetz JJ, and Shturmakov AJ (2014) Replicate ice-coring system testing. *Annals of Glaciology*, 55(68), 331-338, 10.3189/2014AoG68A034
- Jones TR, Cuffey KM, White JWC, Steig EJ, Buizert C, Markle BR, McConnell JR, Sigl M (2017) Water Isotope Diffusion in the WAIS Divide Ice Core During the Holocene and Last Glacial. *Journal of Geophysical Research: Earth Surface*, 122, 290-309, doi:10.1002/2016JF003938

-
- Kluskiwicz D, Waddington E, Anandakrishnan S, Voigt D, Matsuoka K and McCarthy M (2017) Sonic methods for measuring crystal orientation fabric in ice, and results from the West Antarctic ice sheet (WAIS) Divide. *Journal of Glaciology*, 1-15, doi:10.1017/jog.2017.20
- Koffman BG, Dowd EG, Osterberg EC, Ferris DG, Hartman LH, Wheatley SD, Kurbatov AV, Wong GJ, Markle BR, Dunbar NW, Kreutz KJ, and Yates Y (2017) Rapid transport of ash and sulfate from the 2011 Puyehue-Cordón Caulle (Chile) eruption to West Antarctica. *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2017JD026893
- Koffman BG, Handley MJ, Osterberg EC, Wells ML and Kreutz KJ (2014) Dependence of ice-core relative trace-element concentration on acidification. *Journal of Glaciology*, 60(219), 103-112, 10.3189/2014JoG13J137
- Koffman BG, Kreutz KJ, Breton DJ, Kane EJ, Winski DA, Birkel SD, Kurbatov AV and Handley MJ (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, 1125-1144, 10.5194/cp-10-1125-2014
- Koffman BG, Kreutz KJ, Kurbatov AV and Dunbar NW (2013) Impact of known local and tropical volcanic eruptions of the past millennium on the WAIS Divide microparticle record. *Geophysical Research Letters*, 40(17), 4712-4716, 10.1002/grl.50822
- Koutnik M, Fudge TJ, Conway H, Waddington E, Neumann T, Cuffey K, Buizert C and Taylor K (2016) Holocene accumulation and ice flow near the West Antarctic Ice Sheet Divide ice-core site. *Journal of Geophysical Research: Earth Surface*, 121, 1-18, 10.1002/2015JF003668
- Kunasek SA, Alexander B, Steig EJ, Sofen ED, Jackson TL, Thiemens MH, McConnell JR, Gleason DJ and Amos HM (2010) Sulfate sources and oxidation chemistry over the past 230 years from sulfur and oxygen isotopes of sulfate in a West Antarctic ice core. *Journal of Geophysical Research*, 115(D18313), 10.1029/2010JD013846
- Küttel M, Steig EJ, Ding Q, Monaghan AJ and Battisti DS (2012) Seasonal climate information preserved in West Antarctic ice core water isotopes: relationships to temperature, large-scale circulation, and sea ice. *Climate Dynamics*, 39(7-8), 1841-1857, 10.1007/s00382-012-1460-7
- Laird CM, Blake WA, Matsuoka K, Conway H, Allen CT, Leuschen CJ and Gogineni S (2009) Deep Ice Stratigraphy and Basal Conditions in Central West Antarctica Revealed by Coherent Radar. *IEEE Geoscience and Remote Sensing Letters*, 10.1109/LGRS.2009.2032304
- Lamarque JF, Dentener F, McConnell J, Ro CU, Shaw M, Vet R, Bergmann D, Cameron-Smith P, Dalsoren S, Doherty R, Faluvegi G, Ghan SJ, Josse B, Lee YH, MacKenzie IA, Plummer D, Shindell DT, Skeie RB, Stevenson DS, Strode S, Zeng G, Curran M, Dahl-Jensen D, Das S, Fritzsche D and Nolan M (2013) Multi-model mean nitrogen and sulfur deposition from the Atmospheric Chemistry and Climate Model Intercomparison Project (ACCMIP): Evaluation historical and projected changes. *Atmospheric Chemistry and Physics*, 13, 7997-8018, 10.5194/acp-13-7997-2013
- Lamarque JF, McConnell JR, Shindell DT, Orlando JJ and Tyndall GS (2011) Understanding the drivers for the 20th century change of hydrogen peroxide in Antarctic ice-cores. *Geophysical Research Letters*, 38(L04810), 10.1029/2010GL045992
- Lee YH, Lamarque JF, Flanner MG, Jiao C, Shindell DT, Berntsen T, Bisiaux MM, Cao J, Collins WJ, Curran M, Edwards R, Faluvegi G, Ghan S, Horowitz LW, McConnell JR, Ming J, Myhre G, Nagashima T, Naik V, Tumbold ST, Skeie RB, Sudo K, Takemura T, Thevenon F, Xu B and Yoon J-H (2013) Evaluation of preindustrial to present-day black carbon and its albedo forcing from ACCMIP (Atmospheric Chemistry and Climate Model Intercomparison Project). *Atmospheric Chemistry and Physics*, 13, 2607-2634, 10.5194/acp-13-2607-2013
- Marcott SA, Bauska TK, Buizert C, Steig EJ, Rosen JL, Cuffey KM, Fudge TJ, Severinghaus JP, Ahn J, Kalk M, McConnell JR, Sowers T, Taylor KC, White JWC and Brook EJ (2014) Centennial-scale changes in the global carbon cycle during the last deglaciation. *Nature*, 514, 616-619, 10.1038/nature13799

- Markle BR, Steig EJ, Buizert C, Schoenemann SW, Bitz CM, Fudge TJ, Pedro JB, Ding Q, Jones TR, White JWC and Sowers T (2017) Global atmospheric teleconnections during Dansgaard-Oeschger events. *Nature Geoscience*, 10, 36-40, 10.1038/ngeo2848
- Masclin S, Frey MM, Rogge WF and Bales RC (2013) Atmospheric nitric oxide and ozone at the WAIS Divide deep coring site: a discussion of local sources and transport in West Antarctica, *Atmospheric Chemistry and Physics*, 13, 8857-8877, 10.5194/acp-13-8857-2013
- Mason WP, Shturmakov AJ, Johnson JA and Haman ST (2007) A new 122mm electromechanical drill for deep ice-sheet coring (DISC): 2. Mechanical design. *Annals of Glaciology*, 47, 35-40
- Matsuoka K, Morse D and Raymond CF (2010) Estimating englacial radar attenuation using depth profiles of the returned power, central West Antarctica. *Journal of Geophysical Research*, 115(F02012), 10.1029/2009JF001496
- Matsuoka K, Power D, Fujita S and Raymond CF (2012) Rapid development of anisotropic ice-crystal-alignment fabrics inferred from englacial radar polarimetry, central West Antarctica. *Journal of Geophysical Research*, 117(F03029), 10.1029/2012JF002440
- McConnell JR, Maselli OJ, Sigl M, Vallelonga P, Neumann T, Anschutz H, Bales RC, Curran MAJ, Das SB, Edwards R, Kipfstuhl S, Layman L and Thomas ER (2014) Antarctic-wide array of high-resolution ice core records reveals pervasive lead pollution began in 1889 and persists today. *Scientific Reports*, 4, 5848, 10.1038/srep05848
- McConnell JR, Aristarain AJ, Banta RJ, Edwards PR and Simoes JC (2007) 20th-Century doubling in dust archived in an Antarctic Peninsula ice core parallels climate change and desertification in South America. *Proceedings of the National Academy of Sciences*, 104(14), 5743-5748, 10.1073/pnas.0607657104
- McGwire KC, Hargreaves GM, Alley RB, Popp TJ, Reusch DB, Spencer MK and Taylor KC (2008) An integrated system for optical imaging of ice cores. *Cold Regions Science and Technology*, 53(2), 216-228, 10.1016/j.coldregions.2007.08.007
- McGwire KC, McConnell JR, Alley RB, Banta JR, Hargreaves GM and Taylor KC (2008) Dating annual layers of a shallow Antarctic ice core with an optical scanner. *Journal of Glaciology*, 54(188), <https://doi.org/10.3189/002214308787780021>
- McGwire KC, Taylor KC, Banta JR and McConnell JR (2011) Identifying Annual Peaks in Dielectric Profiles with a Selection Curve. *Journal of Glaciology*, 57(204), 763-769, 10.3189/002214311797409721
- Mekhaldi F, Muscheler R, Adolphi F, Aldahan A, Beer J, McConnell JR, Possnert G, Sigl M, Svensson A, Synal H-A, Welten KC and Woodruff TE (2015) Multiradionuclide evidence for the solar origin of the cosmic-ray events of AD 774/5 and 993/4. *Nature Communications*, 6:8611, 10.1038/ncomms9611
- Melton JR, Whiticar MJ and Eby P (2011) Stable carbon isotope ratio analyses on trace methane from ice samples: *Chemical Geology*, 288(3-4), 88-96, 10.1016/j.chemgeo.2011.03.003
- Mischler JA, Sowers TA, Alley RB, Battle M, McConnell JR, Mitchell L, Popp T, Sofen E and Spencer MK (2009) Carbon and hydrogen isotopic composition of methane over the last 1000 years. *Global Biogeochemical Cycles*, 23(GB4024), 10.1029/2009GB003460
- Mitchell L, Brook E, Lee JE, Buizert C and Sowers T (2013) Constraints on the Late Holocene Anthropogenic Contribution to the Atmospheric Methane Budget. *Science*, 342(6161), 964- 966, 10.1126/science.1238920
- Mitchell LE, Brook EJ, Sowers T and McConnell JR (2011) Multidecadal variability of atmospheric methane, 1000-1800 C.E. *Journal of Geophysical Research*, 116(G02007), 10.1029/2010JG001441
- Mitchell LE, Buizert C, Brook EJ, Breton DJ, Fegyveresi J, Baggenstos D, Orsi A, Severinghaus J, Alley RB, Albert M, Rhodes RH, McConnell JR, Sigl M, Maselli O, Gregory S and Ahn J (2015) Observing and

- modeling the influence of layering on bubble trapping in polar firn. *Journal of Geophysical Research*, 120(6), 2558-2574, 10.1002/2014JD022766
- Morse DL, Blankenship DD, Waddington ED and Neumann TA (2002) A site for deep ice coring in West Antarctica: Results from aerogeophysical surveys and thermal-kinematic modeling. *Annals of Glaciology*, 35, 36-44
- Mortensen NB, Goetz JJ, Gibson CJ, Johnson JA and Shturmakov AJ (2014) Replicate ice-coring system architecture: electrical, electronic and software design. *Annals of Glaciology*, 55(68), 156-164, 10.3189/2014AoG68A014
- Mortensen NB, Johnson JA and Shturmakov AJ (2014) Precision cable winch level wind for deep ice-coring systems. *Annals of Glaciology*, 55(68), 99-104, 10.3189/2014AoG68A013
- Mortensen NB, Sendelbach PJ and Shturmakov AJ (2007) A new 122mm electromechanical drill for deep ice-sheet coring (DISC): 3. Control, electrical and electronics design. *Annals of Glaciology*, 47, 41-50
- Neumann TA, Conway H, Price SF, Waddington ED, Catania GA and Morse DL (2008) Holocene accumulation and ice sheet dynamics in central West Antarctica. *Journal of Geophysical Research*, 113(F02018), 10.1029/2007JF000764
- Nicewonger MR, Verhulst KR, Aydin M and Saltzman ES (2015) Preindustrial atmospheric ethane levels inferred from polar ice cores: a constraint on the geologic sources of atmospheric ethane and methane. *Geophysical Research Letters*, 43(1), 214-221, 10.1002/2015GL066854
- Orsi AJ, Cornuelle BD and Severinghaus JP (2012) Little Ice Age cold interval in West Antarctica: Evidence from borehole temperature at the West Antarctic Ice Sheet (WAIS) Divide. *Geophysical Research Letters*, 39(L09710), 10.1029/2012GL051260
- Orsi AJ, Kawamura K, Fegyveresi JM, Headly MA, Alley RB and Severinghaus JP (2015) Differentiating bubble-free layers from melt layers in ice cores using noble gases. *Journal of Glaciology*, 61(227), 585-594, 10.3189/2015JoG14J237
- Pasteris D, McConnell JR, Edwards R, Isaksson E and Albert MR (2014) Acidity decline in Antarctic ice cores during the Little Ice Age linked to changes in atmospheric nitrate and sea salt concentrations. *Journal of Geophysical Research*, 119(9), 5640-5652, 10.1002/2013JD020377
- Pedro JB, Bostock HC, Bitz CM, He F, Vandergoes MJ, Steig EJ, Chase BM, Krause CE, Rasmussen SO, Markle BR and Cortese G (2015) The spatial extent and dynamics of the Antarctic Cold Reversal. *Nature Geoscience*, 9, 51-56, 10.1038/NGEO2580
- Pedro JB, Martin T, Steig EJ, Jochum M, Park W and Rasmussen SO (2016) Southern Ocean deep convection as a driver of Antarctic warming events. *Geophysical Research Letters*, 43, 2192-2199, 10.1002/2016GL067861
- Price BP (2010) Microbial life in martian ice: A biotic origin of methane on Mars?. *Planetary and Space Science*, 58(10), 1199-1206, 10.1016/j.pss.2010.04.013
- Price PB and Bay RC (2012) Marine bacteria in deep Arctic and Antarctic ice cores: a proxy for evolution in oceans over 300 million generations. *Biogeosciences*, 9, 3799-3815, 10.5194/bg-9-3799-2012
- Price PB, Rohde RA and Bay RC (2009) Fluxes of microbes, organic aerosols, dust, sea-salt Na ions, non-sea-salt Ca ions, and methanesulfonate onto Greenland and Antarctic ice. *Biogeosciences*, 6, 479-486, 10.5194/bg-6-479-2009
- Priscu JC, Christner BC, Foreman CF and Royston-Bishop G (2006) Biological Material in Ice Cores. *Encyclopedia of Quaternary Science*, Volume 2 (Editor in Chief, S.A. Elias), 1156-1166
- Priscu JC, Tulaczyk S, Studinger M, Kennicutt II MC, Christner BC and Foreman CM (2008) Antarctic subglacial water: origin, evolution and ecology. *Polar Lakes and Rivers* (Edited by W.F. Vincent and J. Laybourn-Parry; Oxford University Press)

- Rhodes RH, Brook EJ, Chiang JCH, Blunier T, Maselli OJ, McConnell JR, Romanini D and Severinghaus JP (2015) Enhanced tropical methane production in response to iceberg discharge in the North Atlantic. *Science*, 348(6238), 1016-1019, 10.1126/science.1262005
- Rhodes RH, Fain X, Brook EJ, McConnell JR, Maselli OJ, Sigl M, Edwards J, Buizert C, Blunier T, Chappellaz J and Freitag J (2016) Local artifacts in ice core methane records caused by layered bubble trapping and in situ production: a multi-site investigation. *Climate of the Past*, 12, 1061-1077, 10.5194/cp-12-1061-2016
- Rhodes RH, Fain X, Stowasser C, Blunier T, Chappellaz J, McConnell JR, Romanini D, Mitchell LE and Brook EJ (2013) Continuous methane measurements from a late Holocene Greenland ice core: Atmospheric and in-situ signals. *Earth and Planetary Science Letters*, 368, 9-19, 10.1016/j.epsl.2013.02.034
- Rohde RA and Price PB (2007) Correction: Diffusion-controlled metabolism for long-term survival of single isolated microorganisms trapped within ice crystals. *Proceedings of the National Academy of Sciences*, 104(52), 21021-21021, 10.1073/pnas.0710898105
- Rohde RA and Price PB (2007) Diffusion-controlled metabolism for long-term survival of single isolated microorganisms trapped within ice crystals. *Proceedings of the National Academy of Sciences*, 104(42), 16592-16597, 10.1073/pnas.0708183104
- Rohde RA, Price PB, Bay RC and Bramall NE (2008) In situ microbial metabolism as a cause of gas anomalies in ice. *Proceedings of the National Academy of Sciences*, 105(25), 8667-8672, 10.1073/pnas.0803763105
- Santibanez PA, McConnell JR and Prisco JC (2016) A flow cytometric method to measure prokaryotic records in ice cores: an example from the West Antarctic Ice Sheet Divide drilling site. *Journal of Glaciology*, 62(234), 655-673, 10.1017/jog.2016.50
- Sapart CJ, Monteil G, Prokopiou M, Van de Wal RSW, Kaplan JO, Sperlich P, Krumhardt KM, van der Veen C, Houweling S, Krol MC, Blunier T, Sowers T, Martinerie P, Witrant E, Dahl-Jensen D and Rockmann T (2012) Natural and anthropogenic variations in methane sources during the past two millennia. *Nature*, 490, 85-88, 10.1038/nature11461
- Schoenemann SW, Steig EJ, Ding Q, Markle BR and Schauer AJ (2014) Triple water-isotopologue record from WAIS Divide, Antarctica: controls on glacial-interglacial changes in $^{17}\text{O}_{\text{excess}}$ of precipitation. *Journal of Geophysical Research Atmospheres*, 119(14), 8741-8763, 10.1002/2014JD021770
- Shturmakov AJ, Lebar DA and Bentley CR (2014) DISC drill and replicate coring system: a new era in deep ice drilling engineering. *Annals of Glaciology*, 55(68), 189-198, 10.3189/2014AoG68A017
- Shturmakov AJ, Lebar DA, Mason WP and Bentley CR (2007) A new 122mm electromechanical drill for deep ice-sheet coring (DISC): 1. Design concepts. *Annals of Glaciology*, 47, 28-34
- Shturmakov AJ and Sendelbach PJ (2007) A new 122mm electromechanical drill for deep ice-sheet coring (DISC): 4. Drill cable. *Annals of Glaciology*, 47, 51-53
- Sigl M, Fudge TJ, Winstrup M, Cole-Dai J, Ferris D, McConnell JR, Taylor KC, Welten KC, Woodruff TE, Adolphi F, Bisiaux M, Brook EJ, Buizert C, Caffee MW, Dunbar NW, Edwards R, Geng L, Iverson N, Koffman B, Layman L, Maselli OJ, McGwire K, Muscheler R, Nishiizumi K, Pasteris DR, Rhodes RH and Sowers TA (2016) The WAIS Divide deep ice core WD2014 chronology - Part 2: Annual-layer counting (0-31 ka BP). *Climate of the Past*, 12, 769-786, 10.5194/cp-12-769-2016
- Sigl M, McConnell JR, Toohey M, Curran M, Das SB, Edwards R, Isaksson E, Kawamura K, Kipfstuhl S, Kruger K, Layman L, Maselli O, Motizuki Y, Motoyama H, Pasteris DR and Severi M (2014) Insights from Antarctica on volcanic forcing during the Common Era. *Nature Climate Change*, 1-5, 10.1038/nclimate2293
- Sigl M, McConnell JR, Layman L, Maselli O, McGwire K, Pasteris D, Dahl-Jensen D, Steffensen JP, Vinther B, Edwards R, Mulvaney R and Kipfstuhl S (2013) A new bipolar ice core record of volcanism

- from WAIS Divide and NEEM and implications for climate forcing of the last 2000 years. *Journal of Geophysical Research*, 118, 1151-1169, 10.1029/2012JD018603
- Sigl M, Winstrup M, McConnell JR, Welten KC, Plunkett G, Ludlow F, Büntgen U, Caffee M, Chellman N, Dahl-Jensen D, Fischer H, Kipfstuhl S, Kostick C, Maselli OJ, Mekhaldi F, Mulvaney R, Muscheler R, Pasteris DR, Pilcher JR, Salzer M, Schüpbach S, Steffensen JP, Vinther BM, and Woodruff TE (2015) Timing and climate forcing of volcanic eruptions for the past 2,500 years. *Nature*, 543-549, 10.1038/nature14565
- Slawny KR, Johnson JA, Mortensen NB, Gibson CJ, Goetz JJ, Shturmakov AJ, Lebar, DA, Wendricks AW (2014) Production drilling at WAIS Divide. *Annals of Glaciology*, 55(68), 147-155, 10.3189/2014AoG68A018
- Sofen ED, Alexander B and Kunasek SA (2011) The impact of anthropogenic emissions on atmospheric sulfate production pathways, oxidants, and ice core $\Delta^{17}\text{O}(\text{SO}_4^{2-})$. *Atmospheric Chemistry and Physics*, 11, 3565-3578, 10.5194/acp-11-3565-20
- Sofen ED, Alexander B, Steig EJ, Thiemens MH, Kunasek SA, Amos HM, Schauer AJ, Hastings MG, Bautista J, Jackson TL, Vogel LE, McConnell JR, Pasteris DR and Saltzman ES (2014) WAIS Divide ice core suggests sustained changes in the atmospheric formation pathways of sulfate and nitrate since the 19th century in the extratropical Southern Hemisphere. *Atmospheric Chemistry and Physics*, 14, 5749-5769, 10.5194/acp-14-5749-2014
- Souney JM, Twickler MS, Hargreaves GM, Bencivengo BM, Kippenhan MJ, Johnson JA, Cravens ED, Neff PD, Nunn RM, Orsi AJ, Popp TJ, Rhoades JF, Vaughn BH, Voigt DE, Wong GJ and Taylor KC (2014) Core handling and processing for the WAIS Divide ice-core project. *Annals of Glaciology*, 55(68), 15-26, 10.3189/2014AoG68A008
- Sowers T (2010) Atmospheric methane isotope records covering the Holocene period. *Quaternary Science Reviews*, 29, 213-221, 10.1016/j.quascirev.2009.05.023
- Steig EJ and Orsi AJ (2013) The heat is on in Antarctica. *Nature Geoscience*, 6, 87-88, 10.1038/ngeo1717
- Steig EJ, Ding Q, White JWC, Kuttel M, Rupper SB, Neumann TA, Neff PD, Gallant AJE, Mayewski PA, Taylor KC, Hoffman G, Dixon D, Schoenemann SW, Markle BR, Fudge TJ, Schneider DP, Schauer AJ, Teel RP, Vaughn BH, Burgener L, Williams J and Korotkikh E (2013) Recent climate and ice-sheet changes in West Antarctica compared with the past 2,000 years. *Nature Geoscience*, 6, 372-375, 10.1038/ngeo1778
- WAIS Divide Project Members (2013) Onset of deglacial warming in West Antarctica driven by local orbital forcing. *Nature*, 500, 440-444, 10.1038/nature12376
- WAIS Divide Project Members (2015) Precise inter-polar phasing of abrupt climate change during the last ice age. *Nature*, 520, 661-665, 10.1038/nature14401
- Woodruff TE, Welten KC, Caffee MW and Nishiizumi K (2013) Interlaboratory comparison of ^{10}Be concentrations in two ice cores from Central West Antarctica. *Nuclear Instruments and Methods in Physics Research B*, 294, 77-80, 10.1016/j.nimb.2012.08.033