

CURRICULUM VITAE

ROSS A. VIRGINIA

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EDUCATION

- B.S. SUNY College of Environmental Science and Forestry,
Syracuse, New York. Forest Biology *magna cum laude*, 1972
- M.S. University of California, Davis. Ecology, 1974
- Ph.D. University of California, Davis. Ecology, 1980
- A.M. Dartmouth College (Honorary), 1992

EXPERIENCE

- 2008- Myers Family Professor of Environmental Science
- 2003- Director, Institute of Arctic Studies, within the John Sloan Dickey Center
for International Understanding
- 2014-2017 Distinguished Co-Lead Scholar, Fulbright Arctic Initiative
- 1997-2004 Albert Bradley Third Century Professor in the Sciences
- 1992- Professor of Environmental Studies (Chair, 1992-2000)
Adjunct Professor of Biological Sciences and Earth Sciences
- 1985- 1992 Professor (1988-1992), Associate Professor (1985-1988)
Department of Biology, San Diego State University, San Diego, CA
- 1985- 1992 Associate Director/Director
Systems Ecology Research Group, San Diego State University
- 1980-1985 Assistant Research Scientist (1982-1985), Postdoctoral Res. Sci. (1980-
1982), Dept. of Soil and Environmental Science, Univ. California,
Riverside
- 1974-1980 Graduate Research and Teaching Assistant
Dept. of Land, Air & Water Resources, Univ. California, Davis

RESEARCH INTERESTS

Polar environmental change
Ecosystem ecology and human impacts on biogeochemical cycling
Soil biodiversity and carbon cycling in Arctic and Antarctic environments
Arctic environmental policy and governance
Ecosystem ecology and its relationship with environmental law and policy

PROFESSIONAL ORGANIZATIONS/SERVICE/AFFILIATIONS

Distinguished Co-Lead Scholar, Fulbright Arctic Initiative, US State Department, Bureau of Educational and Cultural Affairs, 2014-2017. <http://www.cies.org/program/fulbright-arctic-initiative>

Co-Director, University of the Arctic Institute for Arctic Policy, 2012-

Associated Scientist, Stefansson Arctic Institute, Akureyri, Iceland, 2014-

External Advisory Board, The Institute for Environmental Diplomacy and Security (IEDS), University of Vermont, 2010- present

Director (PI), Dartmouth Polar Environmental Change Ph.D. Program, funded by NSF Integrative Graduate Education and Research Traineeship program (IGERT), 2008-2015

Advisory Board, Center for Human Rights and Indigenous Studies, Nuuk, Greenland, 2009-

Trustee, Sterling College (Craftsbury Common, Vermont) and member of the Advisory Board for the Center for Northern Studies at Sterling College, 2005-2010

Co-Chair, U. S. National Organizing Committee for the Arctic Science Summit Week (ASSW), 2007

Association of Ecosystems Research Centers (AERC), Board of Directors, 1992-1993; Treasurer, 1993-1997, 2000; President-Elect, 1998; President, 1999; Treasurer, 2000

Environmental Law Center Advisory Committee, Vermont Law School, South Royalton, Vermont, 1994- 2002

ARCUS, Arctic Research Consortium of the United States, Dartmouth Institutional Representative, 1995- present

University of the Arctic (UArctic) Council Member, 2004-present

Member, Corporation of the Montshire Museum of Science, Norwich, Vermont, 1995-present

Member, U. S. National Committee for the Scientific Committee on Problems of the Environment (SCOPE), a committee of the National Research Council, 1996-99

Professional Affiliations: American Association for the Advancement of Sciences, American Institute of Biological Sciences, American Geophysical Union, American Polar Society,

International Arctic Social Sciences Association, Ecological Society of America, Fulbright Association, Geological Society of America, National Science Teachers Association, Old Antarctic Explorers Association

HONORS AND AWARDS

Dartmouth Faculty Sustainability Project Award, 2013
McMurdo Helicopter Operations Golden Beaker Award, 2007-08
Graduate Faculty Mentor Award, Dartmouth College Graduate Student Association, 2005
“Virginia Valley” named in 2004 by the U.S. and New Zealand Advisory Committees on Antarctic Names in honor of my research in soil biology conducted in the McMurdo Dry Valleys starting in 1989. Location: 77°29’S, 160° 56’E, Olympus Range, Southern Victoria Land, Antarctica, feature ID 18694
CHOICE, Outstanding Academic Title for 2003: *Law and Ecology: The Rise of the Ecosystem Regime*, *CHOICE*: Current Reviews for Academic Libraries, 2003 Sep issue 41-0296
Salzburg Seminar Presidential Fellow, Environment and Diplomacy, 1994
Antarctic Service Medal, U.S. Congress, awarded 1994
Sigma Xi Honor Society, Elected Member, 1976
University of California Distinguished Scholar Fellowship, 1972-3
Phi Kappa Phi National Honor Society, Elected Member, 1971
New York State Regents Scholarship, 1968-72

PUBLICATIONS

Authored Books:

Brooks, Richard O., Ross T. Jones and Ross A. Virginia. 2002. *Law and Ecology: The Rise of the Ecosystem Regime*. Ashgate Publishers Ltd.: Surrey UK, Brookfield USA, Singapore, Sydney, 430 pp. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia

Edited Books and Journal Volumes:

Angelo, M. J. 2013. *The Law and Ecology of Pesticides and Pest Management*. Ashgate Publishers Ltd.: Surrey UK, Burlington USA, xxvii + 334 pgs. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia

Milne, J. E., J. LaMense, and R. A. Virginia (editors). 2009. *Mountain Resorts: Ecology and the Law*. Ashgate Publishers Ltd.: Aldershot, Brookfield USA, Singapore, Sydney, 490 pp. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia

Wall, D. H., B. Adams, J. E. Barrett, D. W. Hopkins, and R. A. Virginia (editors). 2006. *Antarctic Victoria Land Soil Ecology*. Soil Biology and Biochemistry Special Volume 38, Issue 10, Pages 3001-3180, Elsevier Press

Professional Articles, Chapters, Reports, Opinion-Editorials:

ISI h-index, 45; Google Citation h-Index, 57

- Fountain, A. G., G. Saba, S. Stammerjohn, B. Adams, P. Doran, W. Fraser, M. Gooseff, M. Obryk, J. Priscu, and R. A. Virginia. The role of a large-scale climate event on Antarctic ecosystem processes. *BioScience*, In Review
- Gooseff, M. N., J. E. Barrett, B. J. Adams, P. T. Doran, A. G. Fountain, W. B. Lyons, D. M. McKnight, J. C. Proscu, E. Sokol, C. Takacs-Vesbach, M. L. Vandegehuchte, R. A. Virginia, and D. H. Wall. Recent climate shift produces a state change in an Antarctic terrestrial ecosystem. In Manuscript
- Henidel, R. C., L. E. Culler, and R. A. Virginia. Climate controls on aeolian soil erosion in the Kangerlussuaq region, West Greenland. In Revision
- Petrenko, C. L., J. I. Bradley-Cook, E. Lacroix, A. J. Friedland, and R. A. Virginia. Mineral soil carbon and nitrogen storage in graminoid- versus shrub- dominated soils of western Greenland. *Arctic Science*, In Revision
- Young, O. R., N. Einarsson, R. A. Virginia and 17 others. Time for a sea change in global fisheries. *Science*, In Review.
- Bradley-Cook, J. I., C. L. Petrenko, A. J. Friedland, and R. A. Virginia. 2016. Temperature sensitivity of mineral soil decomposition in shrub and graminoid tundra, west Greenland. *Climate Change Responses* 3:2, DOI: 10.1186/s40665-016-0016-1
- Feng, X., A. M. Lauder, E. Posmetier, B. G. Kopec, and R. A. Virginia. 2016. Evaporation and transport of water isotopologues from Greenland lakes: The lake size effect. *Quaternary Science Reviews* 131 Part B:302-315, doi:10.1016/j.quascirev.2015.07.029
- Foley, N., S. Tulaczyk, E. Auken, C. Schamper, H. Dugan, J. Mikucki, R. Virginia, and P. Doran. 2016. Helicopter borne transient electromagnetics in high latitude environments: An application in the McMurdo Dry Valleys, Antarctica. *Geophysics* 81(1) WA87-WA99, DOI 10.1190/GEO2015-0186.1
- Ball, B. A. and R. A. Virginia. 2015. Controls on diel soil CO₂ flux across moisture gradients in a polar desert. *Antarctic Science* 27:527-534, DOI: <http://dx.doi.org/10.1017/S0954102015000255>
- Ball, B. A., C. R. Tellez, and R. A. Virginia. 2015. Penguin activity influences soil biogeochemistry and soil respiration in rookeries on Ross Island, Antarctica. *Polar Biology* 38:1357-1368, DOI 10.1007/s00300-015-1699-7
- Bradley-Cook, J. I. and R. A. Virginia. 2015. Soil carbon storage and respiration potential across an age and climate gradient in western Greenland. *Polar Biology*, DOI 10.1007/s00300-015-1853-2, pp. 1-13
- Collins, J. F., R. A. Virginia, and K. S. Yalowitz. 2015. Diplomacy at the top of the world. Project Syndicate, August 26, 2015, Opinion-Editorial. <http://www.project-syndicate.org/commentary/arctic-council-august-meeting-by-james-f-collins-et-al-2015-08>

- Collins, J. F., M. Sfraga, R. A. Virginia, and K. S. Yalowitz. 2015. How America can step up its leadership role in the Arctic. *The National Interest*, April 21, 2015, Opinion- Editorial. <http://nationalinterest.org/feature/how-america-can-step-its-leadership-role-the-arctic-12689>
- Culler, L. E., M. P. Ayres, and R. A. Virginia. 2015. In a warmer Arctic, mosquitoes avoid increased mortality from predators by growing faster. *Proceedings of the Royal Society B* 282: 20151549. <http://dx.doi.org/10.1098/rspb.2015.1549>
- Dugan, H. A., P. T. Doran, S. Tulaczyk, J. A. Mikucki, S. A. Arcone, E. Auken, C. Schamper, and R. A. Virginia. 2015. Subsurface imaging reveals a confined aquifer beneath an ice-sealed Antarctic lake. *Geophysical Research Letters*, 42:96-103, DOI:10.1002/2014GL062431
- Heindel, R. C., J. Chipman, and R. A. Virginia. 2015. The spatial distribution and ecological impacts of aeolian soil erosion in Kangerlussuaq, West Greenland. *Annals of the Association of American Geographers* 105(5):875-890, DOI: 10.1080/00045608.2015.1059176
- Knox, M. A., D. H. Wall, R. A. Virginia, J. E. Barrett, I. S. Gil, C. Tackas-Vesbach, and B. A. Adams. 2015. Impact of diurnal freeze-thaw cycles on the soil nematode *Scottinema lindsayae* in Taylor Valley, Antarctica. *Polar Biology*, DOI 10.1007/s00300-015-1809-6
- Mikucki, J., E. Auken, S. Tulaczyk, R. A. Virginia, C. Schamper, K. I. Sorensen, P. T. Doran, H. Dugan, and N. Foley. 2015. Ancient groundwater and potential deep subsurface habitats beneath an Antarctic dry valley. *Nature Communications* 6, Article number:6831, doi:10.1038/ncomms7831
- Adams, B. A., D. H. Wall, R. A. Virginia, E. Broos and M. A. Knox. 2014. Ecological biogeography of the terrestrial nematodes of Victoria Land, Antarctica. *ZooKeys* 419:29-71, DOI:10.3897/zookeys.419.7180
- Ball, B. A. and R. A. Virginia. 2014. The ecological role of moss in a polar desert: implications for aboveground- belowground and terrestrial -aquatic linkages. *Polar Biology* 37:651-664, doi: 10.1007/s00300-014-1465-2
- Ball, B. A. and R. A. Virginia. 2014. Microbial biomass and respiration responses to nitrogen fertilization in a polar desert. *Polar Biology* 37(4):573-585, DOI:10.1007/s00300-014-1459-0
- Rundel, P. W., R. Sharifi, E. T. Nielsen, G. A. Baker, R. A. Virginia, and L. M. Shultz. 2014. Geomorphic landforms and plant community structure and dominance in the central desert region of Baja California, Mexico. *Madroño* 61:105-114, doi: <http://dx.doi.org/10.3120/0024-9637-61.1.105>
- Virginia, R. A., J. F. Collins, M. Sfraga, and K. S. Yalowitz. 2014. The US and a peaceful Arctic future. *The Hill*, August 8, 2014, Opinion-Editorial
- Brooks, R. O. and R. A. Virginia. 2013. Series' editors preface. A decade of change in the concept of the ecosystem legal regime. Pgs. xiii-xxviii, In: *The Law and Ecology of*

Pesticides and Pest Management, by M. J. Angelo. Ashgate Publishers Ltd.: Aldershot, Brookfield USA, Singapore, Sydney. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia

Collins, J. F., M. Sfraga, R. A. Virginia, and K. S. Yalowitz. 2013. *A Euro-Atlantic Action Plan for Cooperation and Enhanced Arctic Security. Conference Report and Recommendations to the Arctic Council and Interested Parties*. February 11-12, 2013, Carnegie Endowment of International Peace, Washington, D. C. and the University of the Arctic Institute for Applied Circumpolar Policy, Dartmouth College and the University of Alaska Fairbanks. <http://carnegieendowment.org/2013/05/14/euro-atlantic-action-plan-for-cooperation-and-enhanced-arctic-security/g3i8>

Collins, J. F., R. A. Virginia, and K. Yalowitz. 2013. Hands across the melting ice. *The New York Times and International Herald Tribune*, May 13, 2013, Opinion-Editorial

Virginia, R. A. and D. H. Wall. 2013. Ecosystem Function, Principles of. *In: Levin, S. A. (ed.) Encyclopedia of Biodiversity, second edition, Volume 3*, pp. 90-95. Waltham, MA: Academic Press

Ball, B. A. and R. A. Virginia. 2012. Meltwater seep patches increase heterogeneity of soil geochemistry and therefore habitat suitability. *Geoderma* 189-190:652-660

Levy, L. M. A. Kelly, J. A. Howley, and R. A. Virginia. 2012. Age of the Ørkendalen moraines, Kangerlussuaq, Greenland: Constraints on the extent of the southwestern margin of the Greenland Ice Sheet during the Holocene. *Quaternary Science Reviews* 52:1-5, doi:10.1016/j.quascirev.2012.07.021

Nielsen, U. N., D. H. Wall, B. J. Adams, R. A. Virginia, B. A. Wall, M. N. Gooseff, and D. McKnight. 2012. The ecology of pulse events: insights from an extreme event in a polar desert ecosystem. *Ecosphere* 3(2):17, doi:10.1890/ES11-00325.1

Šabacká, M., J. C. Priscu, H. J. Basagic, A. G. Fountain, D. H. Wall, R. A. Virginia and M. C. Greenwood. 2012. Aeolian flux of biotic and abiotic material in the Taylor Valley, *Geomorphology* 155-156:102-111, doi:10.1016/j.geomorph.2011.12.009

Virginia, R. A. and K. S. Yalowitz (Editors). 2012. *A New Paradigm for Arctic Health: Challenges and Responses to Rapid Climate, Environmental and Social Change*. Workshop Report of an International Conference, May 23-25, 2011, Dartmouth College, Hanover, NH and the University of the Arctic Institute for Applied Circumpolar Policy, <http://iacp.dartmouth.edu/news/17-arctic-health-challenges-and-responses-to-rapid-climate-environmental-and-social-change>

Ball, B. A., Barrett, J. E., M. N. Gooseff, R. A. Virginia, and D. H. Wall. 2011. Soil biology and biogeochemical cycling following melt water pulse events in a polar desert. *Polar Research* 30, 14555, DOI: 10.3402/polar.v30i0.14555

Forest, Pierre-Andre, L. Heininen, M. Sfraga, R. A. Virginia and K. S. Yalowitz. 2011. *Climate Change and Human Security*, Final Report and Main Findings of the 3rd Workshop of the University of the Arctic Institute of Applied Circumpolar Policy, September 3-6, 2010, University of Lapland, Rovaniemi, Finland

- Holm, L. K., L. A. Grenoble, and R. A. Virginia. 2011. A praxis for ethical research and scientific conduct in Greenland. *Études/Inuit/Studies*, Vol. 35 (1-2): 187-200, for the issue on "Intellectual Property and Ethics"
- Holm, L. K., L. A. Grenoble, and R. A. Virginia. 2011. Toward a new research ethic for Greenland. *In: Proceedings of the 17th Inuit Studies Conference – The Inuit and the Aboriginal World*, Université du Québec en Abitibi-Témiscamingue, October 28-30, 2010, <http://www.uqat.ca/isc-cei-2010/?menu=publications>
- Nielsen, U. N., D. H. Wall, G. Li, M. Toro, B. J. Adams, and R. A. Virginia. 2011. Nematode communities of Byers Peninsula, Livingston Island, maritime Antarctica. *Antarctic Science* 24:349-357, doi:10.1017/S0954102011000174
- Nielsen, U. N., D. H. Wall, B. J. Adams, and R. A. Virginia. 2011. Antarctic nematode communities: Observed and predicted response to climate change. *Polar Biology*, Special Issue, Global Changes and Antarctic Terrestrial Biodiversity. DOI 10.1007/s00300-011-1021-2
- Smith, T. E., D. H. Wall, I. D. Hogg, U. N. Nielsen, and R. A. Virginia. 2011. Thawing permafrost alters nematode populations and soil habitat characteristics in an Antarctic polar desert ecosystem. *Pedobiologia* 55:75-81, doi:10.1016/j.pedobi.2011.11.001
- Virginia, R. A. 2011. Foreword. *In: P. D. Miller, The Book of Ice*. Mark Batty, Publisher, Brooklyn, NY
- Ayres, E. A., J. N. Nkem, D. H. Wall, B. J. Adams, J. E. Barrett, B. L. Simmons, R. A. Virginia, and A. G. Fountain. 2010. Experimentally increased snow accumulation alters soil moisture and animal community structure in a polar desert. *Polar Biology* 33:897-907, DOI 10.1007/s00300-010-0766-3
- Virginia, R. A. 2010. Foreword, *In: H. C. Petersen*, pgs 13-15 (Greenlandic) and 267-268 (English), *In: Local Knowledge, Living Resources and Natural Assets in Greenland*. University Press of New England and International Polar Institute Press, Hanover, NH, USA.
- Wolkovitch, E. M., D. A. Lipson, R. A. Virginia, D. T. Bolger, and K. L. Cottingham. 2010. Grass invasion causes rapid increases in ecosystem carbon and nitrogen storage. *Global Change Biology* 16:1351-1365, DOI 10.1111/j.1365-2486.2009.02001.x
- Yalowitz, K. S. and R. A. Virginia. 2010. The Arctic Region: Prospects for a Great Game or International Cooperation, Section 2.4B, Pgs. 125-130, *In: Perspectives on Political and Social Regional Stability Impacted By Global Crises - A Social Science Context*. White Paper published jointly by Strategic Multi-Layer Assessment (SMA) and U.S. Army Corps of Engineers Research and Development Directorate. H. Cabayan, B. Sotirin, R. Davis et al., Editors
- Yalowitz, K. S. and R. A. Virginia. 2010. The Arctic Region: Prospects for a Great Game or International Cooperation. *The Atlantic Community*, April 2010

- Ball, B. A., R. A. Virginia, J. E. Barrett, A. N. Parsons, and D. H. Wall. 2009. Interactions between physical and biotic factors influence CO₂ flux from Antarctic dry valley soils. *Soil Biology and Biochemistry* 41(7): 1510-1517, doi:10.1016/j.soilbio.2009.04.011
- Craine, J. M., A. J. Elmore, M. P. M. Aida, R. G. Amundson, M. Bustamante, C. Coetsee, T. E. Dawson, H. J. Hawkins, E. A. Hobbie, K. Koba, M. C. Mack, M. I. Makarov, K. K. McLaughlan, A. Michelsen, G. B. Nardoto, L. H. Pardo, J. Peñuelas, P. B. Reich, E. A. G. Schuur, W. D. Stock, R. Tatenno, P. H. Templer, R. A. Virginia, J. M. Welker, and I. J. Wright. 2009. Global patterns of foliar nitrogen isotopes and their relationships with climate, mycorrhizal fungi, foliar nutrient concentrations, and nitrogen availability. *New Phytologist* 183:980-992, doi: 10.1111/j.1469-8137.2009.02917.x
- Milne, J. E. and R. A. Virginia. The challenge of joining ecology with the law: A vision for the mountains. 2009. Pgs. 419-445, *In: Milne, J. E., J. LaMense, and R. A. Virginia (editors). Mountain Resorts: Ecology and the Law.* Ashgate Publishers Ltd.: Aldershot, Brookfield USA, Singapore, Sydney. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia.
- Simmons, B. L., D. H. Wall, B. J. Adams, E. Ayres, J. E. Barrett and R. A. Virginia. 2009. Soil warming reduces soil nematode populations in the McMurdo Dry Valleys, Antarctica. *Soil Biology & Biochemistry* 41:2052-2060, doi:10.1016/j.soilbio.2009.07.009
- Simmons, B. L., D. H. Wall, B. J. Adams, E. Ayres, J. E. Barrett and R. A. Virginia. 2009. Terrestrial mesofauna in above- and below-ground habitats: Taylor Valley, Antarctica. *Polar Biology* 32:1549-1558, DOI 10.1007/s00300-009-0639-9
- Virginia, R. A. 2009. An ecosystem approach to mountain resorts. Pgs. 24-38, *In: Milne, J. E., J. LaMense, and R. A. Virginia (editors). Mountain Resorts: Ecology and the Law.* Ashgate Publishers Ltd.: Aldershot, Brookfield USA, Singapore, Sydney. For the Series: Ecology and Law in Modern Society, edited by R. O. Brooks and R. A. Virginia
- Yalowitz, K. S., J. F. Collins, and R. A. Virginia. 2009. *The Arctic Climate Change and Security Policy Conference- Final Report and Findings.* Carnegie Endowment for International Peace, Washington D.C., 36 pgs
- Ayres, E., J. N. Nkem, D. H. Wall, B. J. Adams, J. E. Barrett, E. J. Broos, A. N. Parsons, L. E. Powers, B. L. Simmons, and R. A. Virginia. 2008. Effects of human trampling on populations of soil faunal in the McMurdo Dry Valleys, Antarctica. *Conservation Biology* 22:1544-1551, DOI: 10.1111/j.1523-1739.2008.01034.x
- Barrett, J. E., R. A. Virginia, D. H. Wall, P. T. Doran, A. G. Fountain, K. A. Welch, and W. B. Lyons. 2008. Persistent effects of a discrete climate event on a polar desert ecosystem. *Global Change Biology* 14:2249-2261, DOI: 10.1111/j.1365-2486.2008.01641.x
- Barrett, J. E., R. A. Virginia, D. H. Wall and B. J. Adams. 2008. Decline of a dominant invertebrate species contributes to altered carbon cycling in low-diversity soil ecosystem. *Global Change Biology* 14:1734-1744, doi: 10.1111/j.1365-2486.2008.01611.x

- Bate, D. B., J. E. Barrett, M. A. Poage, and R. A. Virginia. 2008. Soil phosphorus cycling in an Antarctic polar desert. *Geoderma* 144:21-31, Antarctic Soils and Soil Forming Processes in a Changing Environment, Vol. 144 Issues 1-2, doi:10.1016/j.geoderma.2007.10.007
- Poage, M. A., J. E. Barrett, R. A. Virginia, and D. H. Wall. 2008. The influence of soil chemistry on nematode distribution, McMurdo Dry Valleys, Antarctica. *Arctic, Antarctic and Alpine Research* 40:119-128
- Ayres, E., D. H. Wall, B. Adams, J. E. Barrett, and R. A. Virginia. 2007. Unique similarity of faunal communities across aquatic-terrestrial interfaces in a polar desert ecosystem. *Ecosystems* 10:523-535
- Barrett, J. E., R.A. Virginia, W.B. Lyons, J.C. Priscu, D. M. McKnight, P. T. Doran, A. G. Fountain, D. H. Wall and D. L. Moorhead. 2007. Biogeochemical stoichiometry of Antarctic dry valley ecosystems. *J. Geophysical Research* 112, G01010, doi:10.1029/2005JG000141
- Hunt, H. W., A. M. Treonis, D. H. Wall, and R. A. Virginia. 2007. A mathematical model for variation in water-retention curves for sandy soils. *Antarctic Science* 19:427-436, doi: 10.1017/S0954102007000703
- Virginia, R. A., K. S. Yalowitz, and I. Krupnik. 2007. Introduction: Perceptions of Climate Change. *In: Stuckenberger, N. (ed.). Thin Ice: Inuit Traditions within a Changing Environment.* Pp. 12-15. Univ. Press of New England, Hanover, NH
- Barrett, J. E. and R. A. Virginia. 2006. Biogeochemistry, terrestrial. Pp. 154-155, *In: B. Riffenburgh (editor), Encyclopedia of the Antarctic Vol 1.* Routledge Press, New York.
- Barrett, J. E., R. A. Virginia, A. N. Parsons and D. H. Wall. 2006. A soil carbon turnover model for the McMurdo Dry Valleys, Antarctica. *Soil Biology and Biochemistry* 38:3065-3082
- Barrett, J. E., R. A. Virginia, D. H. Wall, S. C. Cary, B. Adams, A. Hacker and J. M. Aislabie. 2006. Co-variation in soil biodiversity and biogeochemistry in Northern and Southern Victoria Land, Antarctica. *Antarctic Science* 18:535-548
- Barrett, J. E., R. A. Virginia, D. W. Hopkins, J. Aislabie, R. Bargagli, J. G. Bockheim, I. B. Campbell, W. B. Lyons, D. Moorhead, T. Seastedt, R. Sletten, H. Steltzer, D. H Wall and M. Wallenstein. 2006. Terrestrial ecosystem processes of Victoria Land, Antarctica. *Soil Biology and Biochemistry* 38:3019-3034
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- Foley, K. K., W. B. Lyons, J. E. Barrett, and R. A. Virginia. 2006. Pedogenic carbonate distribution within glacial till in Taylor Valley, Antarctica. *In: Alonso-Zarza, A. M. and L. H. Tanner (eds), Paleoenvironmental Record and Applications of Calcretes and Palustrine Carbonates.* Geological Society of America Special Paper 416:89-103. doi10.1130/2006.2416(06)

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- Bamforth, S. S., D. H. Wall, and R. A. Virginia. 2005. Distribution and diversity of soil protozoa in the McMurdo Dry Valleys of Antarctica. *Polar Biology* 28:756-762
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- Heisey, R. M., C. C. Delwiche, R. A. Virginia, A. F. Wronna, and B. A. Bryan. 1980. A new nitrogen-fixing non-legume: *Chamaebatia foliolosa* Benth (Rosaceae). *American Journal of Botany* 67:429-431
- Virginia, R. A. 1980. Natural abundance of nitrogen-15 in selected ecosystems. Ph.D. Dissertation. University of California, Davis
- Delwiche, C. C., P. J. Zinke, C. M. Johnson, and R. A. Virginia. 1979. Nitrogen isotope distribution as a presumptive indicator of nitrogen fixation. *Botanical Gazette* 140(Suppl.):65-69
- Owings, D. H., R. A. Virginia, and D. Paussa. 1979. Time budgets of California ground squirrels during reproduction. *Southwestern Naturalist* 24:191-195
- Delwiche, C. C., S. Bissell, and R. Virginia. 1978. Soil and other sources of nitrous oxide. pp. 459-476, In: Nitrogen in the Environment, Vol. I: Nitrogen Behavior in Field Soil. D.R. Nielsen and J.G. MacDonald, eds. Academic Press, N.Y.
- Owings, D. H., and R. A. Virginia. 1978. Alarm calls of California ground squirrels (*Spermophilus beecheyi*). *Zeitschrift Tierpsychologie- Journal of Comparative Ethology* 46:58-70
- Owings, D. H., M. Borchert, and R. Virginia. 1977. The behavior of California ground squirrels. *Animal Behaviour* 25:221-230

OPINION-EDITORIAL PAPERS

Virginia, R. A., J. F. Collins, M. Sfraga, and K. S. Yalowitz. 2014. The US and a peaceful Arctic future. *The Hill*, August 8, 2014, Opinion-Editorial

Yalowitz, K. S. and R. A. Virginia. 2010. The Arctic Region: Prospects for a Great Game or International Cooperation. *The Atlantic Community*, April 2010

Collins, J. F., R. A. Virginia, and K. Yalowitz. 2013. Hands across the melting ice. *The New York Times and International Herald Tribune*, May 13, 2013.

TECHNICAL REPORTS

Gosz, J., S. Gage, M. Inglis, J. Melillo, R. Virginia and P. Zimmerman. 1989. LTER Technology Report for the LTER Strategic Plan. Prepared for the National Science Foundation Long Term Ecological Research Program.
http://lternet.edu/technology/background/gosz_report/goszrpt.htm

Jarrell, W. M., P. Clark and R. A. Virginia. 1986. Leguminous trees as low-maintenance ornamentals. Pp. 16-18, In: *Minimal Maintenance Landscaping. A Report of the Elvenia J. Slosson Fund for Ornamental Horticulture 1983-1986*. University of California, Riverside

Virginia, R. A. and D. A. Bainbridge. 1986. Revegetation in the Colorado Desert. Report to the California Department of Transportation, San Diego, CA. 139p. Contribution to the Systems Ecology Research Group, San Diego State University, and the Drylands Research Institute, University of California, Riverside

BOOK REVIEWS

Virginia, R. A. 1991. Ecology of Arable Land - Organisms, Carbon and Nitrogen Cycling. *Ecological Bulletins (Copenhagen)* No. 40. Andren, O., T. Lindberg, K. Paustian, and T. Rosswall (eds), Munksgaard International Booksellers and Publishers, Copenhagen, Denmark. *Journal of Environmental Quality* 20:704

Virginia, R. A. 1984. Nitrogen Fixation in Forest Ecosystems. Gordon, J. C. and C. T. Wheeler (eds.). *Biological nitrogen fixation in forest ecosystems: Foundations and applications*. 1983. Martinus Nijhoff/Dr. W. Junk Publ., Boston. *Ecology* 65(6):1939

RESEARCH PROJECTS AND EXTERNAL FUNDING

2016-2020 CLINF: Climate-change effects on the epidemiology of infectious diseases and the impacts on Northern societies, Nordic Centres of Excellence in Arctic Research. Project Group member and coordinator for Dartmouth collaboration on this major European research initiative. No direct funding to Dartmouth but support provided for activities in the project.

2015-2018 Principal Investigator, NSF Division of Polar Programs, *A Dartmouth-JSEP Partnership for International Science Education in Greenland*. Co-PI: M. Albert, M. Ayres and L. Culler, \$562,490

- 2014-2017 Distinguished Co-Lead Scholar, US Department of State Fulbright, *Fulbright Arctic Initiative*, \$28,662
- 2011-2017 Co-Principal Investigator, NSF Long Term Ecological Research (LTER), *Increased Connectivity in a Polar Desert Resulting from Climate Warming: McMurdo Dry Valley LTER Program*, Total \$5,640,000, Dartmouth award, \$278,316
- 2008-2015 Principal Investigator, NSF Division of Graduate Education, Integrative Graduate Education and Research Traineeship program. *IGERT: Polar Environmental Change*. Co-PIs: Mary Albert (CRREL), Ian Baker, Xiahong Feng, Bruce Duthu, \$2,999,613
- 2013-2015 Co-Principal Investigator, *Changing Attitudes and Beliefs about Responses to Climate Change: Creating a Climate Change Game*. With Mary Flanagan, Dept of Film and Media Studies, Neukom Center for Computational Science CompX Faculty Grant, \$40,000; Faculty Scholarly Innovation and Advancement Award, College of Arts and Sciences, \$40,000
- 2011-2014 Co-Principal Investigator, NSF Antarctic Instrumentation and Support, *Collaborative Research: Resistivity Mapping of Subsurface Microbial Habitats in the McMurdo Region*. PI: Jill Mikucki, Dartmouth College, \$307,544
- 2010-2011 Co-Principal Investigator, NSF Division of Graduate Education, Integrative Graduate Education and Research Traineeship program. *IGERT Workshop: Understanding Rapid Environmental and Social Change in the Arctic: Bridging Traditional Knowledge and Interdisciplinary Science across IGERTs*. PI: Virginia Eckert, University of Alaska Fairbanks. Total Award, \$112,946
- 2010-2011 Kane Lodge Foundation, *UArctic Institute for Applied Circumpolar Policy Arctic Health Conference*, May 2011, \$5,000
- 2005-2011 Co-Principal Investigator, NSF Long-Term Ecological Research *The Role of Resource Legacy on Contemporary Linkages between Biodiversity and Ecosystem Processes in a Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program*, \$4,920,000. PI: A. Fountain (Portland State University) with 8 Co-PIs. Dartmouth subcontract \$527,028
- 2009-2010 Co-Principal Investigator, Kane Lodge Foundation. *Cataloging the papers of Elmer Harp and David Nutt, Eminent Dartmouth Arctic scholars*. With Jay Satterfield, Rauner Library, \$5,000
- 2008-2009 Principal Investigator, Kane Lodge Foundation, *Arctic Environmental Change: Case Studies Bridging Traditional Ecological Knowledge and Western Science*. Co-PI: Bill Roebuck, \$7,500

- 2007-2008 Principal Investigator, NSF Polar Programs. *Arctic Science Summit Week 2007*. Co-PI Mary Albert (CRREL), \$42,800
- 2006-2009 Activity Leader on International Polar Year (IPY) Project 160: *Arctic Change: An Interdisciplinary Dialog Between the Academy, Northern Peoples, and Policy Makers*. Funded by Dickey Center for International Understanding at Dartmouth College, Kane Lodge Foundation, Evelyn Stefansson Nef Foundation.
- 2003-2004 Co-Principal Investigator, NSF Polar Programs, Biology and Medicine. *Synthesis of Soil Biodiversity and Ecosystem Functioning in Southern Victoria Land, Antarctica: A workshop*. Diana H. Wall, Colorado State PI, with Co-PI, B. Adams, Utah State University. \$51,677
- 2003-2006 Co-Principal Investigator, NSF Polar Programs, Biology and Medicine. *Soil Biodiversity and Response to Climate Change: A Regional Comparison of Cape Hallett and Taylor Valley, Antarctica*. W. B. Lyons, Byrd Polar Research Center, Ohio State Univ. (PI). With J. E. Barrett (Dartmouth, ENVS), S. C. Cary (Univ. Delaware), D. H. Wall (Colorado State Univ.), and A. Fountain (Portland State Univ.). July 15, 2003 for 3 years. Total: \$508,480. Dartmouth subcontract \$117,555
- 2003-2006 Henry Luce Foundation. *Sustainable New England landscape: Integrating Interdisciplinary Environmental Studies from the Undergraduate to the Post-doctoral Level*. A.J. Friedland, PI, with R. B. Howarth, D.T. Bolger, K Fisher-Vanden, C. Sneddon. Three years, \$310,000.
- 2003-2004 Principal Investigator, NSF Polar Programs. Supplement to the McMurdo Dry Valley LTER Program. *Nitrate Accumulation In Arid Ecosystems: Implications of Biotic Limitation For Surface Age Estimates*. With J. E. Barrett, Dartmouth College and W. B. Lyons, Ohio State University. \$19,833
- 2001-2002 *The Interaction of Ecology and Public Policy: An Analysis of Bridge Documents*. Rockefeller Center for the Social Sciences Public Policy Grant Program, Dartmouth College. Ross A. Virginia (PI) with Richard O. Brooks, and Ross Jones. July 1, 2001- June 30, 2002, \$12,000
- 2000-2002 National Science Foundation Teachers Experiencing Antarctica Program. \$14,500
- 1998-2004 Co-Principal Investigator, NSF Long-Term Ecological Research *The Mcmurdo Dry Valley LTER: The Role of Natural Legacy on Ecosystem Structure and Function in a Polar Desert*. PI: B. Lyons (Univ. of Alabama) with 8 Co-PIs. \$4,750,000, Dartmouth subcontract \$512,000
- 1994-2001 Co-Principal Investigator, NSF Long-Term Ecological Research

- Long-term Ecological Studies in the Chihuahuan Desert (The Jornada LTER-III Consortium). PI: W. H Schlesinger (Duke Univ.) with 10 Co-PIs. \$3,780,000, Dartmouth subcontract \$240,000*
- 1996-1998 Principal Investigator, NSF Polar Programs. *Collaborative Research. Antarctic Dry Valley Nematode Communities: Establishment, Function and Response to Disturbance.* \$84,646
- 1995-1996 Principal Investigator, NSF Division of Environmental Biology. Co-PI, Sean Connin. *Dissertation Research; Origin and Flux of Soil Carbon Following Shrub Invasion, Isotopic Analyses of Community Change.* \$6,000
- 1992-1995 Co-Principal Investigator, NSF Division of Polar Programs *The Ecology of Nematodes in Antarctic Dry Valley Ecosystems.* PI: D. W. Freckman, subcontract \$111,000
- 1990-1994 Principal Investigator, NSF Ecosystem Studies. *Resource Islands: Their Role in the Stability of Desert Ecosystems.* Co-PIs: J. F. Reynolds (Duke University) and W. G. Whitford (New Mexico State Univ.). \$844,000. Research Experiences for Undergraduates Supplement, \$9,700
- 1991-1992 Principal Investigator, Trustees of the California State University and California Department of Transportation. *Propagation and Establishment of Desert Plants For Restoration of Mesquite Woodlands In Southern California.* \$250,000
- 1990-1992 Principal Investigator, California Department of Parks and Recreation. *Experimental Restoration of Creosotebush Scrub Vegetation in The Anza-Borrego Desert State Park.* \$80,000
- 1989-1994 Co-Principal Investigator, NSF Long-Term Ecological Research *Desertification: Response Of Arid Ecosystems And Landscapes to Resource Distribution: Jornada LTER II.* PI: W. H Schlesinger (Duke Univ.); Co-PIs: J. F. Reynolds (Duke Univ.), W. M. Jarrell (Oregon Graduate Inst.), W. G. Whitford and L. F. Huenneke (New Mexico State Univ.). \$2,317,000, SDSU subcontract \$750,000
- 1989-1992 Principal Investigator, NSF Division of Polar Programs *Collaborative Research: Distribution and Function of Nematodes in Antarctic Dry Valley Ecosystems.* \$71,850, Research Experiences for Undergraduates Supplement, \$4,000
- 1989-1991 Investigator, U. S. Department of Energy R4D Program. *Effect of Perturbation of Tundra Drainage Systems on Ecosystem Dynamics of Tundra and Riparian Vegetation.* PI: J. F. Reynolds (SDSU), \$150,000
- 1988-1989 Co-Principal Investigator, NSF Long-Term Ecological Research

Temporal and Spatial Variability in Chihuahuan Desert Ecosystems. PI: W. G. Whitford (New Mexico State Univ.); Co-PIs: J. F. Reynolds (SDSU), W. H. Schlesinger (Duke Univ.), W. M. Jarrell (Oregon Graduate Inst.), L. F. Huenneke and G. Cunningham (New Mexico State Univ.). SDSU subcontract, \$50,000

1987-1991 Principal Investigator, Trustees of the California State University and California Department of Transportation. *Revegetation Practices for the Colorado Desert of Southern California*. \$170,000

1985-1989 Principal Investigator, NSF Ecosystem Studies. *Root Symbionts and Plant Productivity in Warm Desert Ecosystems*. Co-PIs: W. M. Jarrell (Oregon Graduate Inst.), D. W. Freckman (U. C. Riverside), W. G. Whitford (New Mexico State Univ.). \$749,000

1983-1986 Co-Principal Investigator, NSF Ecosystems Studies. *Nitrogen Fixation, Water Use, and Plant Productivity in Warm Desert Ecosystems*. PI: W. M. Jarrell (U. C. Riverside); Co-PIs: P. W. Rundel (U.C.L.A.), D. H. Kohl, G. Shearer (Washington Univ. St. Louis). \$990,000

EXHIBITIONS AS CONTRIBUTIONS TO THE INTERNATIONAL POLAR YEAR 2007-08, INTERNATIONAL PROJECT #160- "Arctic Change: An Interdisciplinary Dialog between the Academy, Native Peoples and Policy Makers"

"Polar Connections: Dartmouth and the Cold Regions", Nov. 2007-March 2008, Baker-Berry Library at Dartmouth College. This exhibit recounted the history of Dartmouth's involvement in polar research beginning with John Ledyard in the 1770's and extending into the current International Polar Year 2007-08.

"Navigating the Northwest Passage: Just Missing the Ice", May 25-July 31, 2007, Rauner Special Collections Library, Dartmouth College. This exhibition, featuring the Stefansson Special Collection, recounted the search for the fabled Northwest shipping passage through the Arctic sea ice by drawing on materials (books, letters, photographs) from the Sir John Franklin Expedition on up to the first commercial ship to navigate the passage, the Manhattan.

"Thin Ice: Inuit Traditions within a Changing Environment", Jan. 27 – May 13, 2007, Hood Museum of Art, Dartmouth College. This interdisciplinary exhibition explored traditional Inuit life through the nineteenth- and early-twentieth-century art and artifacts that indigenous Arctic peoples used to survive within this challenging environment. With the understanding that the Arctic environment is undergoing rapid transformation from climate change and the significant melting of sea ice, the exhibition highlights the impact of such change on Inuit ways of life and their relationship to the region in which they live. An illustrated catalogue accompanied this exhibition.

OTHER EXHIBITIONS:

"Together in the Great Alone... Thomas Orde Lees, Ernest Shackleton and the 1914-16 Trans-Antarctic Expedition", September 5- October 23, 2011, Baker Library Main Hall, Dartmouth College. An examination of the experience of extreme isolation and perseverance, focusing

on the diary of Thomas Orde-Lees, written during Ernest Shackleton's Imperial Trans-Antarctic (*Endurance*) Expedition. Curated by Ross A. Virginia and Dennis Grady (Dartmouth Library)

REVIEWER

Editorial Boards

Applied and Environmental Microbiology (1989 - 1994), Biology and Fertility of Soils (1988 - 1993), Springer-Verlag Publishers

Professional Journals (ad hoc)

Biogeochemistry, Ecology, Ecosystems, Journal of Arid Environments, Oecologia, Plant and Soil, Soil Biology and Biochemistry, Soil Science Society of America Journal, Native Plants

Proposal Review Panels

National Science Foundation (NSF) Ecosystems Program, 1992-1994

NSF Bio-Complexity Pre-Proposals, 1999

NSF Arctic Biology Postdoctoral Fellowships, 2008

ARCUS Polartrec Program, 2009

Research Proposals (ad hoc)

National Science Foundation Programs: Ecosystems Studies, Ecology, Population and Physiological Ecology, Polar Biology and Medicine, International Programs, Biological Field Stations, Instrumentation, Paleoclimate Program, U.S.- Israel Binational Program, Arctic Biology

U. S. Dept. of Agriculture Plant Responses to the Environment

U. S. Dept. of Energy Small Business Initiative for Research Program

Arctic Research Consortium of the United States

Association of Polar Early Career Scientists (APECS)

SEMINARS AND INVITED TALKS:

Virginia, R. A. 2013. Polar opposites? The science and politics of environmental change in the Arctic and Antarctica. Dartmouth Alumni Back to Class lecture series, November 9, 2013

Virginia, R. A. 2013. Traditional Ecological Knowledge: Is it science or does it matter? Indigenous Peoples Climate Change Working Group, Dartmouth College, Nov 3-4, 2013.

Virginia, R. A., M. A. Kelly and L. Levy. 2013. Arctic Meltdown? The science and politics of polar environmental change. Dartmouth Science Pubs Series, May 16, 2013

Virginia, R. A. 2012. Going North: Energy development above the 48th parallel. Panel presentation, New York University, Center for Global Affairs. October 24, 2012

Virginia, R. A. and J. I. Bradley-Cook. 2012. Polar amplification and consequences for soil carbon cycling. Symposium on Ecosystem Change in Polar and Alpine Environments, 4th International EcoSummit 2012- Ecological Sustainability Restoring the Planet's Ecosystem Services, Columbus Ohio, September 30- October 5, 2012

- Virginia, R. A. and M. Kelly. 2012. Polar environmental trends and their policy implications. Sierra Club, Hanover, NH, May 29, 2012
- Virginia, R. A. 2012. Soils and ecological processes at the limits to life: the polar deserts of Antarctica. March 23, 2012, Plant and Soil Science Department, University of Vermont
- Virginia, R. A. 2011. Shackleton and the rising tide: Climate change in Antarctica. Panel presentation in conjunction with Phantom Limb's "69 South" performance, Hopkins Center for the Arts, Dartmouth College, September 27, 2011
- Virginia, R. A. Meltdown: Science and geopolitics in the Arctic. Wyndam World Affairs Council, Brattleboro, VT, February 11, 2011
- Virginia, R. A. 2010. The Promise and Threat of an Accessible Arctic, On Thin Ice: International Law and Environmental Protection in a Melting Arctic 16th Annual Herbert Rubin and Justice Rose Luttan Rubin International Law Symposium October 22, 2010, New York University School of Law
- Virginia, R. A. 2010. Humans in the biosphere: The melting Arctic. Dartmouth Reunion Class of 1994, Hanover, NH, June 17, 2010
- Wall, D. H., R. A. Virginia, and W. B. Lyons. 2010. Long term ecological research: An environmental observatory system in the Dry Valleys, Antarctica. Invited presentation, SCAR (Scientific Committee on Antarctic Research) XXX1 Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010
- Virginia, R. A. 2009. Toward sustainability. Keynote address for dedication of the Pilalal Science Center, New Hampton School, New Hampshire, October 30, 2009
- Virginia, R.A., M. R. Albert, I. Baker, X. Feng, D. J. Ranco, A. Lyngø, and L. K. Holm. 2009. Polar environmental change: Graduate education for tomorrow's leaders. Nuuk Climate Days 2009, The Arctic Freshwater Budget International Symposium. Nuuk, Greenland, August 25-27, 2009
- Virginia, R. A. 2009. The polar bear- Icon of climate change. Annual Meeting of the American Association of Laboratory Animals Science (Northern Mountain Branch), Hanover, N.H., April 15, 2009
- Virginia, R. A. 2009. Climate change and biogeochemical cycling at the extremes: the Antarctic Dry Valleys. Geosciences Department, Indiana University of Pennsylvania, February 23, 2009
- Virginia, R. A. 2008. Biogeochemical cycling at the extremes: The McMurdo Dry Valleys, Antarctica. Cary Institute of Ecosystem Studies, Millbrook, N.Y, October 16, 2008
- Virginia, R. A. 2008. The Effects of Climate Change on a Polar Desert: The McMurdo Dry Valleys of Antarctica. Environmental Studies and Biology Departmental Seminar. Colby-Sawyer College, New London, NH. April 8, 2009

- Virginia, R. A. 2007. Arctic Meltdown: Science and Consequences. Hood Museum of Art, Gallery Lecture Series. February 20, 2007
- Virginia, R. A. 2007. Arctic climate and terrestrial ecosystem change: Polar comparisons. Arctic Science Summit Week, Science Day Plenary Session. Dartmouth College, March 15, 2007
- Virginia, R. A. 2007. Polar Perspectives on Climate Change. Vermont Institute of Natural Science (VINS) Climate Change Lecture Series. June 27, 2007. Queechee, Vermont
- Virginia, R. A. 2007. Dartmouth's Northern Tradition and the International Polar Year. Global media launch event for the International Polar Year (IPY) held at the Finnish Embassy, Washington DC. February 13, 2007
- Brooks, R. O. and R. A. Virginia. 2006. The great migration of ecological ideas in law. The XIV International Conference, Society for Human Ecology, "Interdisciplinary Integration and Practice: Reconciling Humans and Nature." Oct 18-21, 2006, College of the Atlantic, Maine
- Wall, D. H., B. Adams, J. E. Barrett, and R. A. Virginia. 2004. Factors determining phylogeographical distribution of soil nematodes in the Antarctic Dry Valleys. International Symposium on Impacts of Soil Biodiversity on Biogeochemical Processes in Ecosystems: International Workshop on Molecular Methods in Soil Biological and Biochemical Diversity in Terrestrial Ecosystems. Taipei, April 18-24, 2004
- Wall, D. H. and R. A. Virginia. 2000. Rangeland soil ecology: A global perspective. Symposium on Rangeland Soil Ecology, Soil Science Society of America Annual Meeting. Nov. 5-9, 2000, Minneapolis, MN
- Virginia, R.A. 1999. Response of Chihuahuan Desert shrublands to rainfall manipulation: Implications for desertification. October 12, 1999. Department of Zoology and Entomology, University of Pretoria, South Africa
- Wall, D. H. and R. A. Virginia. 1999. Soil biodiversity, plant biodiversity and biomass production: examples and hypotheses. Invited Talk. Society for Rangeland Management Annual Meeting
- Wall, D. H. and R. A. Virginia. 1998. Controls on Soil Biodiversity: Lessons from Extreme Environments. 16th World Congress of Soil Science, Montpellier, France, August 20-26, 1998
- Virginia, R. A. and J. F. Reynolds. 1998. Response of grass-shrub communities to rainfall manipulations in the Chihuahuan Desert: Implications for desertification. Symposium on The Importance of Precipitation Amount and Seasonality for Ecosystem Structure and Function. Ecological Society of America Annual Meeting, Aug. 2-6 1998. Baltimore, MD

- Freckman, D. W. and R. A. Virginia. 1997. Soil nematode communities and disturbance: A perspective from different deserts. Symposium: Changing Ecosystems: Natural and Human Influences. Ecological Society of America Annual Meeting, Aug. 10-14, 1997. Albuquerque, NM
- Virginia, R. A. 1997. The soil ecosystem: Lessons from the extremes. Keynote address, Soil Ecology Society Conference, Kansas State University, Manhattan, KS. May 27-31, 1997
- Virginia, R. A. 1992. Desertification: Responses of arid landscapes and ecosystems to resource redistribution. Jornada LTER. 9th Annual PACLIM Workshop, Climate Variability of the Eastern North Pacific and Western North America. April 21-24, 1992. Asilomar, CA. Sponsored by US Geological Survey
- Freckman, D. W., and R. A. Virginia. 1991. Soil properties and nematode distribution in Antarctic Dry Valleys. Special Session: Hydrology and Biogeochemistry of Terrestrial and Aquatic Ecosystems in the Antarctic. American Geophysical Union, Baltimore, MD. EOS Trans. Am. Geophys. Union 72:108
- Reynolds, J. F, R. A. Virginia, and J. M. Cornelius. 1990. Resource island formation associated with the desert shrubs, creosotebush (*Larrea tridentata*) and mesquite (*Prosopis glandulosa*), and its role in the stability of desert ecosystems: A simulation analysis. Symposium on Physiological Ecology: Links with Ecosystem Processes and the Atmosphere. Ecological Soc. Am. Ann. Meeting, Snowbird, UT
- Virginia, R. A., and D. A. Bainbridge. 1987. Revegetation in the Colorado Desert: Lessons from the study of natural systems. California Native Plant Revegetation Symposium, San Diego, CA
- Freckman, D., R. A. Virginia, W. G. Whitford, M. B. Jenkins, J. A. Menge, and W. M. Jarrell. 1986. Deep soil microbiota in deserts. Fourth Int. Symp. on Microbial Ecology, Ljubljana, Yugoslavia
- Virginia, R. A., W. M. Jarrell, P. W. Rundel, D. H. Kohl, and G. Shearer. 1986. The use of variation in the natural abundance of ^{15}N to assess symbiotic N_2 -fixation by woody plants. Symposium on the Use of Stable Isotopes in Ecological Research, U. S. Dept. of Energy, Lake Arrowhead, CA
- Bachelet, D., W. M. Jarrell, and R. A. Virginia. 1986. Simulation model of nutrient cycling in a desert woody legume community. Symposium on Whole Plant Modeling of Carbon, Nitrogen, and Phosphorus, Knoxville, TN
- Virginia, R. A. 1985. Approaches for studying the function of deep root systems. NATO Advanced Research Workshop. Plant Response to Stress: Functional Analysis in Mediterranean Ecosystems. Sesimbra, Portugal, Oct. 13-18, 1985
- Virginia, R. A. 1985. Inputs of biologically fixed nitrogen to desert soils. Symposium on Soil Processes in Desert Ecosystems. Ecological Soc. Am. Annual Meeting, Univ. of Minnesota

Virginia, R. A. 1985. Soil development under legume tree canopies. Symposium on the Establishment and Productivity of Tree Plantings in Semi-Arid Regions. Texas A&I Univ., Kingsville, TX, April 29-May 3, 1985

INVITED PARTICIPANT AT WORKSHOPS:

SCOPE Workshop on Sediment and Soil Biodiversity and Ecosystem Functioning. Wageningen, The Netherlands, April 7-11, 1997

IGBP Global Climate Change Program, GCTE (Global Change and Terrestrial Ecosystems) Workshop "Plant-Soil Carbon Below Ground: The Effects of Elevated CO₂". Oxford University, September 20-23, 1995. Root carbon losses under elevated CO₂ to microbes, grazers, and other soil fauna. D. W. Freckman (presenter) and R. A. Virginia

9th Annual PACLIM Workshop, Climate Variability of the Eastern North Pacific and Western North America. April 21-24, 1992. Asilomar, CA. Sponsored by US Geological Survey. Invited Talk: Desertification: Responses of arid landscapes and ecosystems to resource redistribution.

NSF Workshop. Antarctic Dry Valleys: Terrestrial and Aquatic Ecosystems. October 1991. Institute of Ecosystem Studies, The Mary Flagler Cary Arboretum, Millbrook, NY

NSF Workshop. The Need for a National Center for the Study of Comparative Ecology and Scale. March 1989. Sarasota, FL

NSF Long Term Ecological Research Workshop. Stable Isotopes in Ecological Studies. September 1989. Ecosystems Center, Woods Hole, Massachusetts. Co-convenor with B. Fry.

NSF Long Term Ecological Research Program Technology Planning Committee, 1989

U.S. Department of Energy Workshop. Stable Isotopes in Ecological Research, 1986, Lake Arrowhead, California

NATO Advanced Research Workshop. Plant Response to Stress: Functional Analysis in Mediterranean Ecosystems. Sesimbra, Portugal, Oct. 13-18, 1985

PUBLISHED ABSTRACTS OF CONTRIBUTED PAPERS AT PROFESSIONAL MEETINGS (DARTMOUTH)

Auken, E., S. Tulaczyk, N. Foley, H. Dugan, C. Schamper, P. Doran, R. Virginia, and K. Sorensen. 2015. Exploring liquid water beneath glaciers and permafrost in Antarctica through airborne electromagnetic surveys. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA

Culler, L., R. Finger, E. Plane, M. Ayres, and R. Virginia. 2015. Increases in growing season length and changes in precipitation at six different Arctic and SubArctic ecosystems from 1906-present. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA

- Culler, L., R. Virginia, M. Albert, and M. Ayres. 2015. Building transferable knowledge and skills through an interdisciplinary polar science graduate program. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Foley, N., S. Tulaczyk, E. Auken, C. Schamper, H. Dugan, J. Mikucki, R. Virginia, and P. Doran. 2015. Identification of subsurface brines in the McMurdo Dry Valleys, Antarctica, via an airborne EM resistivity survey. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Gooseff, M., B. Adams, J. Barrett, P. Doran, A. Fountain, W. Lyons, D. McKnight, C. Takacs-Vesbach, J. Priscu, E. Sokol, R. Virginia, and D. Wall. 2015. The past as a window to the future- What does long term research in the McMurdo Dry Valleys, Antarctica tell us about the trajectory of polar ecosystems? American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Gooseff, M. N., J. E. Barrett, B. J. Adams, P. T. Doran, A. Fountain, W. B. Lyons, D. M. McKnight, J. Priscu, E. R. Sokol, C. Tackas-Vesbach, M. Vandegehuchte, R. A. Virginia, and D. H. Wall. 2015. Antarctic terrestrial ecosystems abide: Changes in soils, lakes and streams of the McMurdo Dry Valleys as the cooling trend ends. Ecological Society of America Annual Meeting, August 9-14, Baltimore, MD
- Heindel, R., L. Culler, J. Chipman, and R. Virginia 2015. Soil response to Aeolian disturbance in West Greenland. 2015. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Kopec, B., X. Feng, A. Aldolph, R. Virginia, and E. Posmentier. 2015. From precipitation to ice cores: an isotopic comparison at Summit, Greenland. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Mikucki, J., S. Tulaczyk, A. Purcell, B. Dachwald, W. Lyons, K. Welch, E. Auken, H. Dugan, J. Walter, E. Pettit, P. Doran, R. Virginia, C. Schamper, N. Foley, M. Feldman, C. Espe, D. Ghosh, and G. Francke. 2015. Investigating the hydrological origins of Blood Falls- geomicrobiological insights into a briny subglacial Antarctic aquifer. American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA
- Aanderud, Z. T., C. D. Tackas-Vesbach, J. E. Barrett, D. H. Wall, R. A. Virginia, and B. J. Adams. 2014. Soil nutrients structure patterns of bacterial community assembly in an Antarctic polar desert. Scientific Committee on Antarctic Research (SCAR) Open Science Conference, August 25-28, 2014, Auckland, New Zealand
- Bradley-Cook, J., C. Petrenko, A. Friedland, and R. Virginia 2014. Soil carbon storage and temperature sensitivity associated with shrub and graminoid vegetation in Kangerlussuaq, Greenland. American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA
- Collins, J., M. Sfraga, R. A. Virginia, and K. S. Yalowitz. 2014. Arctic Council transitions: Lessons and Priorities for the U.S. Chairmanship, 2015-2017. Arctic Circle Assembly, Reykjavik, Iceland, October 31- November 2, 2014

- Culler, L. E., J. V. Trout-Haney, J. I. Bradley-Cook, K. L. Cottingham, M. P. Ayres, and R. A. Virginia. Freshwater ecosystems in Greenland's rapidly changing tundra: Interdisciplinary research at the Institute of Arctic Studies, Dartmouth College. THAW 2014, THERMOKARST Aquatic ecosystems Workshop, Centre for Northern Studies, University of Laval, Quebec City, Canada, March 12-15, 2014.
- Doran, P.T., Mikucki, J.A., Tulaczyk, S., Priscu, J.C., Obryk, M.K., Dugan, H.A., Virginia, R.A. and Auken, E. 2015. New observations of hydrologic connectivity in McMurdo Dry Valley lakes. 2015 Aquatic Sciences Meeting, Association for the Sciences of Limnology & Oceanography (ASLO), Granada, Spain, February 22-27, 2015
- Dugan, H., P. Doran, S. Tulaczyk, J. Mikucki, S. Arcone, E. Auken, C. Schamper, and R. Virginia. 2014. Geophysical imaging reveals brine system beneath an ice-sealed Antarctic lake. American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA
- Heindel, R., A. Spickard, and R. A. Virginia. 2014. Phosphorus cycling in an extreme environment: Grain-scale investigation of apatite weathering in the McMurdo Dry Valleys, Antarctica. American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA
- Kopec, B. X. Feng, A. Lauder, R. Virginia, and E. Posmentier. 2014. Extracting environmental information from lake water isotopes – a novel approach. American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA
- Knox, M. A., D. J. Cox, B. J. Adams, C. M. deTomasel, R. A. Virginia, and D. H. Wall. 2014. Nematode species distributions, demographics, and survival in response to freeze-thaw cycles in soils of the McMurdo Dry Valleys, Antarctica. Scientific Committee on Antarctic Research (SCAR) Open Science Conference, August 25-28, 2014, Auckland, New Zealand
- Mikucki, J., E. Auken, S. M. Tulaczyk, R. A. Virginia, C. Schamper, K. Sorensen, P. T. Doran, H. Dugan, and N. Foley. 2014. Aerial EM survey reveals groundwater systems beneath Taylor Valley, Antarctica. American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA
- Money, S., M. Sfraga and R. A. Virginia. 2014. Fulbright in the Arctic. Arctic Circle Assembly, Reykjavik, Iceland, October 31- November 2, 2014.
- Shaw, E. A., B. J. Adams, R. A. Virginia, and D. H. Wall. 2014. Dry valley food web structure and complexity in relation to decadal trends in climate variation. Scientific Committee on Antarctic Research (SCAR) Open Science Conference, August 25-28, 2014, Auckland, New Zealand
- Aanderud, Z. T., C. D. Tackas-Vesbach, J. E. Barrett, D. H. Wall, R. A. Virginia, and B. J. Adams. 2013. Multiple resources determine bacterial diversity and activity in an Antarctic polar desert. INTECOL 2013, August 18-23 ExCel, London, UK
- Adams, B. J., N. B. Adhikari, D. H. Wall, and R. A. Virginia. 2013. Wharton Tribute: The relevance of Bob's Dry Valleys to Astrobiology - If multicellular animals Live(d) on

marshes, this is how they could do it. American Society for Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, February 17-22, 2013

Barrett, J. E., R. A. Virginia, D. H. Wall, M.N. Gooseff, and C. Takacs-Vesbach. 2013. Wharton Tribute: The Legacy of Aqueous Environments on Soils of the McMurdo Dry Valleys. American Society for Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, February 17-22, 2013

Bradley-Cook, J. I., R. A. Virginia, C. H. Wagner, and P. E. Racine. 2013. Soil carbon storage and respiration potential across a landscape age and climate gradient in western Greenland. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.

Culler, L. E., M. A. Albert, M. P. Ayres, L. A. Grenoble, and R. A. Virginia. 2013. Building sustained partnerships in Greenland through shared science. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.

Feng, X., A. M. Lauder, B. G. Kopec, W. B. Dade, R. A. Virginia, and E. S. Posmentier. 2013. Isotopic compositions of evaporative fluxes. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.

Gooseff, M. N., J. E. Barrett, A. Truhlar, B. Adams, P. T. Doran, A. G. Fountain, W. B. Lyons, D. M. McKnight, J. C. Priscu, C. D. Takacs-Vesbach, R. A. Virginia, and D. H. Wall. 2013. End of the trend: Cold desert responses to climate variability. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.

Heindel, R. C., M. A. Kelly, and R. A. Virginia. 2013 Dynamics of soil deflation features in Kangerlussuaq, Greenland revealed by variations in lichen diameters on exposed surfaces. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.

Levy, L. B., M. A. Kelly, P. J. Applegate, C. Arthur, and R. A. Virginia. 2013. Constraints on the Holocene extents of the southwestern margin of the Greenland ice sheet, Kangerlussuaq, Greenland. Geological Society of America Northeastern Section Meeting, March 18-20, 2013, Bretton Woods, NH

Levy, L. B., M. A. Kelly, P. J. Applegate, C. Arthur, R. A. Virginia, and J. A. Howley. 2013 How small was the Greenland Ice Sheet during the Holocene Thermal Maximum? A rare snapshot of the Holocene extents of the southwestern margin of the Greenland Ice Sheet, Kangerlussuaq, Greenland. PALEO constraints on SEA level rise 2 meeting. Oct 21-23, Rome, Italy

Levy, L. B., M. A. Kelly, P. J. Applegate, C. Arthur, R. A. Virginia, and J. A. Howley. 2013. Constraints on the Holocene extents of the southwestern margin of the Greenland ice sheet, Kangerlussuaq, Greenland. Geological Society of America Northeast Section Meeting, March 18-20, 2013

Virginia, R. A. and D. H. Wall. 2013. Wharton Tribute: The legacy of Antarctic lakes on soil habitats: From ECOLS to LTER. American Society for Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, February 17-22, 2013

- Wagner, C. R. H., L. A. McDavid, and R. A. Virginia. 2013. Fostering science communication and outreach through video production in Dartmouth's Polar Environmental Change graduate program. American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA.
- Wall, D. H. and R. A. Virginia. 2013. Wharton tribute: the legacy of Antarctic lakes on soil biodiversity and the LTER. American Society for Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, February 17-22, 2013
- Mikucki, J., E. Auken, K. Sorensen, R. Virginia, S. Tulaczyk, and P. Kyle. 2012. Resistivity mapping in the McMurdo Dry Valleys reveals significant hydrological connectivity in the subsurface environment. Scientific Committee on Antarctic Research (SCAR) Open Science Conference, July 16-19, 2012, Portland, Oregon
- Bradley-Cook, J. I. and R. A. Virginia. 2012. Molecules in a living landscape: Soil carbon and vegetation cover in a Greenland mosaic. NSF IGERT Annual PI Meeting, Washington, D.C., May 31-June 1, 2012.
- Bradley-Cook, J. and R. A. Virginia. 2012. Associations between land cover and soil respiration in a west Greenland tundra landscape. IPY 2012 Conference Montreal, From Knowledge to Action, April 22-27, 2012
- Lyons, W. B., R. A. Virginia, D. M. McKnight, P. T. Doran, A. G. Fountain, M. N. Gooseff, J. C. Priscu, and D. H. Wall. 2012. Ecosystem change in Taylor Valley, Antarctica: Twenty years of Long-term monitoring and interdisciplinary research. IPY 2012 Conference Montreal, From Knowledge to Action, April 22-27, 2012
- Virginia, R. A. M. R. Albert, M. P. Ayres, I. Baker, N. B. Duthu, X. Feng, M. A. Kelly, L. A. Grenoble, A. Lyngge, and T. Pars. 2012. Innovation and international partnerships for interdisciplinary graduate training in polar environmental change. IPY 2012 Conference Montreal, From Knowledge to Action, April 22-27, 2012
- Ball, B. A. and R. A. Virginia. 2011. Moss nutrient plasticity in a polar desert: insights from a hot desert comparison. Ecological Society of America Annual Meeting, August 5-10, 2011, Portland, OR
- Adams, B. J., B. N. Adhikari, B. L. Simmons, B. A. Ball, D. H. Wall, and R. A. Virginia. 2011. Evolutionary and ecological stoichiometry link nutrient availability to nematode life history and genome evolution. Ecological Society of America Annual Meeting, August 7-12, 2011, Austin, TX
- Ball, B. A., R. A. Virginia, B. J. Adams, J. E. Barrett, and D. H. Wall. 2011. Extreme stoichiometry: Nutrient limitation and fertilization in polar deserts. Ecological Society of America Annual Meeting, August 7-12, 2011, Austin, TX
- Barrett, J. E., B. J. Adams, B. A. Ball, U. N. Nielsen, R. A. Virginia, and D. H. Wall. 2011. Influence of climate variation on soil ecosystems of the McMurdo Dry Valleys, Antarctica. Invited for Symposium 21- Connecting the Dots from Polar and Hot

Deserts: What Climate Change in Extreme Environments Tells Us. Ecological Society of America Annual Meeting, August 7-12, 2011, Austin, TX

- Bradley-Cook, J. I., A. Burzynski, C. R. Hammond, and R. A. Virginia. 2011. Land cover heterogeneity and soil respiration in a west Greenland tundra landscape. American Geophysical Union Annual Meeting, San Francisco, CA, December 5-9, 2011
- Osterberg, E. C., J. Thompson, J. Landis, M. R. Albert, S. W. Campbell, R. L. Hawley, and R. A. Virginia. 2011. Tracking radioactive fallout from the Fukushima Dai-ichi accident in arctic snow. American Geophysical Union Annual Meeting, San Francisco, CA, December 5-9, 2011
- Poage, M. A., K. G. Johnson and R. A. Virginia. 2011. Relationships between soil geochemistry and habitat suitability, Taylor Valley, Antarctica. Geological Society of America Annual Meeting, October 9-12, Minneapolis, MN
- Sackett, L., K. Tea, S. R. Whitehead, I. Schwartz, D. M McKnight, D. H. Wall, and R. A. Virginia. 2011. Spatial heterogeneity of biogeochemistry and respiration in exposed and subnival soils in the McMurdo Dry Valleys, Antarctica. Ecological Society of America Annual Meeting, August 7-12, 2011, Austin, TX
- Wall, D. H., B. J. Adams, U. N. Nielsen, and R. A. Virginia. 2011. Can climate change in extreme ecosystems inform future scenarios of soil biodiversity? Invited for Symposium 21- Connecting the Dots from Polar and Hot Deserts: What Climate Change in Extreme Environments Tells Us. Ecological Society of America Annual Meeting, August 7-12, 2011, Austin, TX
- Ball, B. A. and R. A. Virginia. Permafrost melt seep patches increase heterogeneity of soil geochemistry and therefore habitat suitability. 2011 Soil Ecology Meeting, May 24-27, University of British Columbia, Kelowna, B.C., Canada
- Ball, B. A., J. E. Barrett, R. A. Virginia, and D. H. Wall. 2010. Soil biology and biogeochemical cycling under water-pulse events in a polar desert: Responses and mechanisms. International Polar Year Oslo Science Conference, June 8-12, 2010, Oslo, Norway
- Ball, B. A. and R. A. Virginia 2010. The role of moss as integrators of soil and stream nutrient status in a polar desert. Ecological Society of America Annual Meeting, Pittsburgh, PA, August 1-6, 2010
- Bradley-Cook, J. I. and R. A. Virginia. 2010. Influence of soil deflation on soil carbon in an Arctic landscape, west Greenland. American Geophysical Union Annual Meeting, San Francisco, CA, December 13-17, 2010
- Holm, L. K., L. A. Grenoble, and R. A. Virginia. 2010. Toward a new research ethic for Greenland. 17th Inuit Studies Conference – The Inuit and the Aboriginal World Université du Québec en Abitibi-Témiscamingue, October 28-30, 2010
- Ball, B. A. and R. A. Virginia. 2009. The response of soil biogeochemical cycling and microbial stoichiometry to water pulse events in a polar desert. LTER (Long Term Ecological

Research) All Scientists Meeting- Integrating Science and Society in a World of Constant Change. Sept. 14-16, 2009, Estes Park, CO.

Ball, B. A. and R. A. Virginia. 2009. Microbial biomass and respiration responses to nitrogen fertilization in a polar desert. Forming Bridges in a Changing World- The Society of Nematologists and the Soil Ecology Conference. July 12-15, 2009, Burlington, VT

Fountain, A., P. Doran, W. Lyons, D. McKnight, J. Priscu, R. Virginia, and D. Wall. 2009. Wind: A major integrator of landscapes in the McMurdo Valleys (MCM) ecosystem. LTER (Long Term Ecological Research) All Scientists Meeting- Integrating Science and Society in a World of Constant Change. Sept. 14-16, 2009, Estes Park, CO

Virginia, R.A., M. R. Albert, I. Baker, X. Feng, D. J. Ranco, A. Lynge, and L. K. Holm. 2009. Polar environmental change: Graduate education for tomorrow's leaders. Nuuk Climate Days 2009, The Arctic Freshwater Budget International Symposium. Nuuk, Greenland, August 25-27, 2009

Virginia R. A., Holm, K., Whitecloud, S., Levy, L., Kelly, M. A., Feng, X. & . Grenoble, L. 2009. Interdisciplinary Graduate Training in Polar Environmental Change: Field-based learning in Greenland. American Geophysical Union Fall Meeting, San Francisco, C.

Coplin, A. L., K. S. Aho, A. Faiia, X. Feng, X. Xu, and R. A. Virginia. 2008. Trends in carbon and nitrogen isotopes associated with particle size distribution in a New England forest soil. Geological Society of America Annual Meeting, October 5-9, 2008, Houston, TX

Virginia, R. A. and D. R. Ranco. 2008. Bridging traditional knowledge and western science: A framework for research and education about Arctic change. International Congress of Arctic Social Sciences- ICASS VI, Nuuk, Greenland, August 21-25, 2007

Simmons, B. L., D. H. Wall, B. J. Adams, E. Ayres, J. E. Barrett, and R. A. Virginia. 2008. Experimental warming reduces soil nematode populations in the McMurdo Dry Valleys, Antarctica. Ecological Society of America Annual Meeting, August 3-8, 2007, Milwaukee, WI

Virginia, R. A. and M. A. Poage. 2008. Soil geomorphology and spatial variation in soil salinity in Taylor Valley, Antarctica. McMurdo Antarctic Dry Valley Long Term Ecological Research Science Meeting. University of Illinois, Chicago, June 16-19, 2008

Ayres, E., J. N. Nkem, D. H. Wall, B. L. Simmons, B. J. Adams, J. E. Barrett, and R. A. Virginia. 2007. Human trampling reduces soil faunal populations and soil respiration in the McMurdo Dry Valleys, Antarctica. Ecological Society of America Annual Meeting, August 10-15 2007, San Jose, CA

Barrett, J. E., R. A. Virginia, D. H. Wall, and B. J. Adams. 2007. Brigham Young University. Net primary production in mineral soils of a Polar desert. Ecological Society of America Annual Meeting, August 10-15 2007, San Jose, CA

Barrett, J. E., R. A. Virginia, D. H. Wall, and B. J. Adams. 2007. Persistent effects of climate driven hydrological pulses on soil communities in a polar desert ecosystem. 11th Biennial Soil Ecology Society Meeting, April 29-May 2, 2007, Moab, UT

- Simmons, B. L., D. H. Wall, B. J. Adams, E. Ayres, J. E. Barrett, and R. A. Virginia. 2007. Linking aboveground and belowground diversity and soil properties in the McMurdo Dry Valleys, Antarctica. Ecological Society of America Annual Meeting, August 10-15 2007, San Jose, CA
- Adams, B. J., A. Dillman, D. H. Wall, B. L. Simmons, E. Ayres, R. A. Virginia, and J. E. Barrett. 2006. Effects of taxonomic precision on studies of distribution ecology and the relationship between biodiversity and ecosystem functioning. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Ayres, E., D. H. Wall, B. J. Adams, J. E. Barrett, and R. A. Virginia. 2006. Soil and sediment properties and invertebrate community structure and across lake-soil transition zones in the Dry Valleys of Antarctica. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Barrett, J. E., R. A. Virginia, D. H. Wall, P. Doran, A. Fountain, J. Bockheim, B. J. Adams, and W. B. Lyons. The importance of extreme climate events in hydrological and ecological processes in a polar desert. 2006. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Bate, D. B., J. E. Barrett, M. A. Poage, and R. A. Virginia. 2006. Controls over the distribution of biologically available soil phosphorus pools in the McMurdo Dry Valleys, Antarctica. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Hunt, W., A. M. Treonis, D. H. Wall, and R. A. Virginia. 2006. A Mathematical Model for Variation in Water-Retention Curves Among Sandy Soils. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Simmons, B. L., D. H. Wall, B. J. Adams, R. A. Virginia, and J. E. Barrett. 2006. Effects of increased temperature and moisture on nematode abundance, diversity and biomass in the McMurdo Dry Valleys, Antarctica. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Stucker, R., J. E. Barrett, M.A. Poage, R. A. Virginia, and W. B. Lyons. 2006. Nitrate accumulation and cycling in hot and cold desert ecosystems. LTER All Scientists Meeting, Estes Park, CO. Sept. 20-23, 2006
- Barrett, J. E., R. A. Virginia, and D. H. Wall. 2005. Controls over soil organic matter accumulation and turnover in the McMurdo Dry Valleys, Antarctica. *EOS Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B43A-0251. American Geophysical Society Meeting, San Francisco, CA. Dec. 5-9, 2005
- Poage, M. A., Barrett, J. E., R. A. Virginia, and D. H. Wall. 2005. Soil geochemical control over nematode populations in Bull Pass, McMurdo Dry Valleys, Antarctica. *EOS Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B51D-0241. American Geophysical Society Meeting, San Francisco, CA. Dec. 5-9, 2005

- Barrett, J. E., R. A. Virginia, D. H. Wall, B. Adams, and C. Cary. 2005. Soil biodiversity and ecosystem functioning across a latitudinal gradient in Victoria Land, Antarctica. Ecological Society of America Annual Meeting, August 7-12, Montreal, Canada
- Bate, D, B, J. E. Barrett and R. A. Virginia. 2005. Phosphorus cycling across a chronosequence in the McMurdo Dry Valleys of Antarctica. Ecological Society of America Annual Meeting, August 7-12, Montreal, Canada
- Nkem, J., D. H. Wall, R. A. Virginia, J. E. Barrett, and B. Adams. 2005. Sources of soil moisture and their impacts on soil biodiversity in Taylor Valley, Antarctica. Ecological Society of America Annual Meeting, August 7-12, Montreal, Canada
- Nkem, J. N, D. H. Wall, R. A. Virginia, J. E. Barrett, and B. J. Adams. 2005. Groundwater seeps in a Cold Desert Ecosystem: Community changes in soil invertebrates in the McMurdo Dry Valleys. Soil Ecology Society Annual Meeting May 22-25 2005, Argonne National Laboratory, IL
- Norvell, K., J.A. Ippolito, S.W. Blecker, J. Barrett, D.H. Wall and R. Virginia. 2005. Biogeochemical implications of phosphorus fractionation in soils of Taylor Valley, Antarctica. Oral Presentation. Presented at the American Society of Agronomy National Meetings. Salt Lake City, UT
- Virginia, R. A., J. E. Barrett, R. Stucker, M. Poage, and W. B. Lyons. 2005. Nitrate accumulation and cycling in hot and cold desert ecosystems. Ecological Society of America Annual Meeting, August 7-12, Montreal, Canada
- Barrett, J. E., R. A. Virginia, D. H. Wall, and A. N. Parsons. 2004. Organic matter accumulation and turnover in Antarctic Dry Valley soils. Scientific Committee for Antarctic Research (SCAR) Open Science Conference. July 26-28, 2004. Bremen, Germany
- Broos, E. J., D. H. Wall, R. A. Virginia, and L. E. Powers. Human disturbance and nematode decline in Antarctic Dry Valley soil. 2004. Society of Nematology Annual Meeting. August 7-11, Estes Park, CO
- Nkem, J. N, D. H. Wall, R. A. Virginia, J. E. Barrett, A. N. Parson, and T. Nylen. 2004. Response of soil nematodes to moisture additions from snow fences in Taylor Valley, Antarctica. Soc. of Nematology Ann. Mtg. August 7-11, Estes Park, CO
- W. B. Lyons, P. T. Doran, A. Fountain, D. M. McKnight, D. Moorhead, J. C. Priscu, R. A. Virginia, and D. H. Wall. 2004. The Evaluation of Interdisciplinary Science: An Example from the McMurdo Dry Valleys Long-Term Ecological Research Program. National Academy of Sciences Convocation on Facilitating Interdisciplinary Research. Jan. 29-30, 2004. Washington D.C.
- Albert, M. R., and R. A. Virginia. 2003. From Pole to Pole: Educating Tomorrow's Leaders. Special Session: Polar Attraction: Linking Polar Science With Education and Outreach. American Geophysical Union Annual Meeting, San Francisco, CA. December 8-12, 2003. *EOS Trans. AGU.* 84(46), Fall Meet. Suppl., ED21B-1207

- Barrett, J.E., R.A. Virginia, D.H. Wall and A. N. Parsons. 2003. Soil biota and soil carbon cycling in the McMurdo Dry Valleys, Antarctica. NSF Long-term Ecological Research All Scientist's Meeting. Seattle, WA. Sept. 17-21, 2003
- Barrett, J.E., R.A. Virginia, D.H. Wall and W.B. Lyons. Stoichiometric evolution of Antarctic Dry Valley landscapes. Annual Meeting of the Ecological Society of America, Savanna, GA, August 3-8, 2003
- Parsons, A.N., J.E. Barrett, R.A. Virginia, and D.H. Wall. 2002. Responses of Antarctic dry valley soil biota and soil respiration to long-term carbon and climate manipulations. Ecological Society of America Annual Meeting, Tuscon, Arizona, Aug 7-11, 2002
- Barrett, J. E., C. A. McManus, R. A. Virginia, A. N. Parsons, and D. H. Wall. 2002. Soil carbon turnover in Antarctic Dry Valley Ecosystems: An Analytical Approach. Ecological Society of America Annual meeting, Tuscon, AZ August 7-11, 2002
- Barrett, J. E., R. A. Virginia, A. N. Parsons, D. Porazinska, and D. H. Wall. 2001. Carbon accumulation and turnover in Dry Valley soils, Antarctica. Ecological Society of America Annual Meeting, Madison, Wisconsin, Aug 5-9, 2001
- Porazinska D.L., A.G. Fountain, D. Mueller, T. Nysten, R.A. Virginia, and D.H. Wall. 2001. Invertebrates in frozen systems: the cryoconite holes of the Antarctic Dry Valleys. Ecological Society of America Annual Meeting, Madison, Wisconsin, Aug 5-9, 2001
- Parsons, A.N., J.E. Barrett, S.W. Blecker, K.G. Catapano, K. Lavigne, D.L. Porazinska, R.A. Virginia, and D.H. Wall. 2001. CO₂ flux from Antarctic Dry Valley soils: Cross valley comparisons and relationship to soil biota. Bulletin of the Ecological Society of America, 81:173. Ecological Society of America Annual Meeting, Madison, Wisconsin, Aug 5-9, 2001
- Porazinska, D. L., D. H. Wall, and R. A. Virginia. 2000. How stable are nematode populations in the Antarctic Dry Valley soil ecosystem? Bulletin of the Ecological Society of America, 81:178. Ecological Society of America Annual Meeting, Aug. 3-7, 2000. Snowbird, UT
- Treonis, A. M., D. H. Wall and R. A. Virginia. 2000. Nematode anhydrobiosis in Antarctic Dry Valley soils: Clues to ecosystem functioning. XIII International Colloquium on Soil Zoology. Ceske Budejovice, Czech Republic
- Parsons, A. N., J. E. Barrett, R. A. Virginia and D. H. Wall. 2000. Diel variation in CO₂ flux in Antarctic Dry Valley soils. Ecology: Achievement and Challenge. A joint symposium meeting of the Ecological Society of America and the British Ecological Society. Orlando, Florida. April 10-13, 2000
- Parsons, A. N., J. E. Barrett, R. A. Virginia and D. H. Wall. 2000. Carbon dioxide flux in Antarctic Dry Valley soils. Bulletin of the Ecological Society of America 81:391. Ecological Society of America Annual Meeting, Aug. 3-7, 2000. Snowbird, UT

- Virginia, R. A., and D. H. Wall. 1999. Soil communities in the McMurdo Dry Valleys, Antarctica: the importance of legacy. Ecological Society of America Annual Meeting, Aug. 8-12, 1999. Spokane, WA. Bulletin Ecol. Soc. Am. Suppl. 80:207
- Moorhead, D. L., D. H. Wall and R. A. Virginia. 1998. Modeling population dynamics of *Scottnema lindsayae* (Nematoda) in dry valleys soils: Impacts of soil temperature. Scientific Committee for Antarctic Research (SCAR). Christchurch, New Zealand. August 30-Sept 5, 1998. New Zealand Natural Sciences 23 (Supplement): 132
- Treonis, A. M., D. H. Wall, and R. A. Virginia. 1998. Soil and sediment invertebrate biodiversity in an Antarctic dry valley stream channel. Scientific Committee for Antarctic Research (SCAR). Christchurch, New Zealand. August 30-Sept 5, 1998. New Zealand Natural Sciences 23 (Supplement): 132:202
- Burkins, M. B. R. A. Virginia, C. P. Chamberlain, and D. W. Freckman. 1997. Distribution of Soil Organic Matter in Taylor Dry Valley, Antarctica. McMurdo Dry Valley Long-Term Ecological Research Meeting. Univ.of Colorado, Boulder, June 23-24, 1997
- Burkins, M. B. R. A. Virginia, C. P. Chamberlain, and D. W. Freckman. 1997. Carbon cycling in soils of the McMurdo Dry Valley region, Antarctica. Ecological Society of America Annual Meeting, Aug. 10-14, 1997. Albuquerque, NM. Bulletin Ecol. Soc. Am. Suppl. 78:230
- Burkins, M. B., R. A. Virginia, C. P. Chamberlain, and D. W. Freckman. 1997. Glacial and paleolake history of upper Taylor Valley, Antarctica. 1997. Geological Society of America Annual Meeting. GSA Abstracts and Programs, Volume 20(6):110
- Feng, X., J. C. Peterson, R. A. Virginia, L. J. Sonder, S. A. Quideau, and R. C. Graham. Carbon isotopes in soil carbon accumulated under four single species lysimeters at the San Dimas Experimental Forest, CA. 1997. Geological Society of America Annual Meeting. Abstracts with Programs: Annual Meeting, A85
- Freckman, Diana Wall and Ross A. Virginia. 1997. Soil invertebrate communities in the McMurdo Dry Valleys. McMurdo Dry Valley Long-Term Ecological Research Meeting. Univ.of Colorado, Boulder, June 23-24, 1997
- Freckman, D. W., and R. A. Virginia. 1997. Nematode biodiversity and soil habitat suitability in hot and cold deserts. Society for Nematology Annual Meeting, Tuscon AZ, July 19-23, 1997
- Kemp, P. R., R. J. Fernandez, J. F. Reynolds, and R. A. Virginia. 1997. The Patch Arid Lands Simulator (PALS): III. Predicting effects of variation in rainfall and disturbance on soil water dynamics in the Chihuahuan Desert. Ecological Society of America Annual Meeting, Aug. 10-14, 1997. Albuquerque, NM. Bulletin Ecol. Soc. Am. Suppl. 78:267
- Reynolds, J. F., P. R. Kemp, and R. A. Virginia. 1997. The Patch Arid Lands Simulator (PALS): I. Predicting the role of climate change and disturbance on rates of desertification. Ecological Society of America Annual Meeting, Aug. 10-14, 1997. Albuquerque, NM. Bulletin Ecol. Soc. Am. Suppl. 78:301

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- Virginia, R. A., M. Ho, D. Wall Freckman and L. E. Powers. 1997. Soil spatial variation in the McMurdo Dry Valleys. McMurdo Dry Valley Long-Term Ecological Research Meeting. Univ. of Colorado, Boulder, June 23-24, 1997
- Virginia, R. A., J. F. Reynolds, P. R. Kemp, J. R. Mooney, and K. Gross. 1997. The Patch Arid Lands Simulator (PALS): II. Predicting the effects of drought on above- and belowground litter decomposition and nitrogen cycling. Ecological Society of America Annual Meeting, Aug. 10-14, 1997. Albuquerque, NM. Bulletin Ecol. Soc. Am. Suppl. 78:327
- Virginia, R. A., M. Ho, and J. F. Reynolds. 1996. The stability of desert shrub resource islands following disturbance. Bull. Ecol. Soc. Am. 77(3):461. Ecological Society of America Annual Meeting, Aug. 10-14, 1996, Providence, RI
- Virginia, R. A., J. F. Reynolds, and M. Ho. 1996. The persistence of shrub-induced soil heterogeneity following disturbance. Annual Jornada Research Symposium, May 23, Las Crices, NM
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- Ho, M., R. A. Virginia, and D. W. Freckman. 1996. Soil spatial variation along a toposequence in Taylor Valley, Antarctica. Bull. Ecol. Soc. Am. 77(3): 197. Ecological Society of America Annual Meeting, Aug. 10-14, 1996, Providence, RI
- Brown, M. J., R. A. Virginia, and C. P. Chamberlain. 1996. Sources and Distribution of Organic Matter in the Dry Valley Soils of Southern Victoria Land, Antarctica. Bull. Ecol. Soc. Am. 77(3): 56. Ecological Society of America Annual Meeting, Aug. 10-14, 1996, Providence, RI
- Powers, L. E., D. W. Freckman, and R. A. Virginia. 1996. Effects of human disturbance on soil nematode populations in Taylor Valley, Antarctica. Bull. Ecol. Soc. Am. 77(3): 360. Ecological Society of America Annual Meeting, Aug. 10-14, 1996, Providence, RI
- Bamforth, S.S., D. W. Freckman, and R. A. Virginia. 1996. Amoebae biodiversity in the Antarctic Dry Valley Soils. 7th International Conference on Small Freelifving Amoebae. Adelaide, Australia. Jan. 7-12, 1996

- Connin, S. L., R. A. Virginia, and C. P. Chamberlain. 1995. Origin and flux of soil carbon following shrub invasion: isotopic analyses of community change. Wildland Shrub Symposium. Shrub Ecosystem Dynamics in a Changing Environment. Las Cruces New Mexico, May 21-23, 1995. Sponsored by BLM, USFS, and Jornada LTER
- Jarrell, W.M., R.A. Virginia, W.H. Schlesinger, J.A. Reynolds, and W.A. Whitford. 1995. El Nino/Southern Oscillation effects on soil water storage patterns in the northern Chihuahuan Desert. ASA-SSSA-CSSA National Meetings, St. Louis, MO, Oct. 29 – Nov. 3,
- Reynolds, J. F. and R. A. Virginia. 1995. Modeling desertification: The importance of shrub resource islands. Wildland Shrub Symposium. Shrub Ecosystem Dynamics in a Changing Environment. Las Cruces New Mexico, May 21-23, 1995. Sponsored by BLM, USFS, and Jornada LTER
- Virginia, R. A. and J. F. Reynolds. 1995. Experimental studies of shrub resource islands: Are they key to the stability of aridlands? Wildland Shrub Symposium. Shrub Ecosystem Dynamics in a Changing Environment. Las Cruces New Mexico, May 21-23, 1995. Sponsored by BLM, USFS, and Jornada LTER
- Huenneke, L. F., W. H. Schlesinger, W. Jarrell, J. Reynolds, R. Virginia, and W. Whitford. 1995. Plant biodiversity and ecosystem function in the northern Chihuahuan Desert. Ecological Soc. Am. Bulletin Suppl. 76:124. Ecological Society of America Annual Meeting, Snowbird, Utah. July 30- August 3, 1995
- Bamforth, S. S., D. W. Freckman, and R. Virginia. 1995. Early soil biogenesis. Soil Ecology Society of America Annual Meeting, Fort Collins, Colorado, March 1995
- BassiriRad, H, D. C. Tremmel, J. F. Reynolds, and R. A. Virginia. 1994. Temporal differences in resource capture between two desert shrubs following a simulated rainfall event. Suppl. Bull. Ecol. Soc. Am. 75(2):11. Ecological Society of America Annual Meeting with A.I.B.S., Knoxville, TN
- Cheng, W, R. A. Virginia, and J. D. Tenhunen. 1994. Effects of temperature and moisture on tundra soil respiration. Suppl. Bull. Ecol. Soc. Am. 75(2):36. Ecological Society of America Annual Meeting with A.I.B.S., Knoxville, TN
- Connin, S. L., R. A. Virginia, and C. P. Chamberlain. 1994. Recent pedogenic carbonate formation in the southwestern united states from carbon isotope measurements. Geological Society of America Annual Meeting, Seattle, WA. October 24-17, 1994
- Li, H., R. A. Virginia, W. H. Schlesinger, and J. F. Reynolds. 1994. Spatial heterogeneity in soil resources of desert communities in the Jornada basin, New Mexico. Suppl. Bull. Ecol. Soc. Am. 75(2):132. Ecological Society of America Annual Meeting with A.I.B.S., Knoxville, TN
- Freckman, D.W., R.A. Virginia, and L.E. Powers. 1994. Nematode biodiversity and survival in Antarctic Dry Valley soils. Scientific Committee for Antarctic Research (SCAR) Sixth Biology Symposium, May 30 - June 3, Venice, Italy

- Powers, L. E., D. W. Freckman, and R. A. Virginia. 1994. Nematode biodiversity and community structure in Antarctic Polar Desert soils. *Suppl. Bull. Ecol. Soc. Am.* 75(2):186. Ecological Society of America Annual Meeting with A.I.B.S., Knoxville, TN
- Powers, L. E., D. W. Freckman, and R. A. Virginia. 1994. Survival of *Scottinema lindsayae* under extreme osmotic conditions. *J. of Nematology* 26: 116
- Reynolds, J. R., H. Li, J.-L. Chen, P. R. Kemp, W. H. Schlesinger, and R. A. Virginia. 1994. Local and regional models of desertification: Potential management tools? International Symposium and Workshop: Desertification in Developed Countries: Why Can't We Control It? U.S. Bureau of Land Management and U. S. Environmental Protection Agency, Tucson, AZ. Oct. 25-28
- Bainbridge, D. A., R. A. Virginia, N. Sorensen, and M. Darby. 1993. Disturbance and restoration in the low desert of California. p. 26, Abstracts of Integrated Restoration-Society for Ecological Restoration Annual Meeting, Anaheim, CA. June 16-20, 1993.
- Freckman, D. W. and R. A. Virginia. 1993. Nematodes and soil properties in the dry valleys of Antarctica. NSF Long Term Ecological Research Program All Scientists Meeting. Sept 18-22, Estes Park, CO
- Tremmel, D. C., J. F. Reynolds, R. A. Virginia, and A. G. De Soyza. 1993. Measurements of root growth and water use of creosote bush and mesquite in the Chihuahuan Desert. NSF Long Term Ecological Research Program All Scientists Meeting. Sept 18-22, Estes Park, CO
- Sorensen, N., D. Bainbridge, and R. A. Virginia. 1993. Improving shrub establishment in arid land revegetation: Site preparation, microclimate modification, and nutrient addition. p. 25, Abstracts of Integrated Restoration-Society for Ecological Restoration Annual Meeting, Anaheim, CA, June 1993
- Tiszler, J., and R. A. Virginia. 1993. Changes in soil nitrogen dynamics associated with the establishment of desert shrubs in a Chihuahuan Desert black grama grassland. Ecological Society of America Annual Meeting, Univ. of Wisconsin, Madison
- Tremmel, D. C., A. G. De Soyza, R. A. Virginia, J. F. Reynolds, and W. G. Whitford. 1993. How patterns of root growth in creosote bush and mesquite are affected by the exclusion of summer rainfall in a semiarid desert. Ecological Society of America Annual Meeting, Univ. of Wisconsin, Madison
- Bamforth, S., Freckman, D., and R. Virginia. 1993. Soil protozoa of the Antarctic polar desert. Ninth International Congress of Protozoology. July 25-August 1, Berlin, Germany
- Cheng, W., R. A. Virginia, M. M. Benzel, and J. D. Tenhunen. 1992. Microbial biomass and relationships with soil mineral nitrogen in arctic tundra soils. *Bull. Ecol. Soc. Am.* 73(2): 138. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI

- Cork, S., B. B. Hemmingsen, L. A. Hook, and R. A. Virginia. 1992. The distribution and diversity of *Azotobacter* species in Chihuahuan Desert soils. American Society of Microbiology Annual Meetings, New Orleans, LA
- De Soyza, A. G, A.C. Franco, R.A.Virginia, J. F. Reynolds, and W. G. Whitford. 1992. Effects of induced summer drought on water relations and photosynthesis of mesquite (*Prosopis glandulosa*). Bull. Ecol. Soc. Am. 73(2): 156. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI
- Freckman, D. W. and R. A. Virginia. 1992. Nematodes and soil properties in the Dry Valleys of southern Victoria Land, Antarctica. Bull. Ecol. Soc. Am. 73(2): 179. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI
- Freckman, D. W. and R. A. Virginia. 1992. Nematodes in Antarctic Dry Valley soils: Extraction and distribution. Annual Meeting of the Society of Nematologists, Vancouver, British Columbia, Canada
- Franco A.C., A. G. de Soyza , R.A.Virginia, J. F. Reynolds, and W. G. Whitford. 1992. Effects of manipulation of water regime on water relations, photosynthesis and growth of creosotebush (*Larrea tridentata*). Bull. Ecol. Soc. Am. 73(2): 178. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI
- Jarrell, W. W., and R. A. Virginia. 1992. Soil water variations in desert grassland and shrubland communities; spatial and temporal variations. Bull. Ecol. Soc. Am. 73(2): 222-223. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI
- Virginia, R. A., W. Cheng, J. F. Reynolds, W. G. Whitford, A. C. Franco, and A. G. de Soyza. 1992. Soil respiration and root responses of mesquite and creosotebush to induced summer drought. Bull. Ecol. Soc. Am. 73(2): 376. Ecological Society of America Annual Meeting with A.I.B.S., Honolulu, HI

TEACHING EXPERIENCE:

Dartmouth College

First Year Seminar- Eating is an Agricultural Act (ENVS 7)
 From Pole to Pole: Environmental Issues of the Earth's Cold Regions (ENVS 15)
 Introduction to Environmental Science (ENVS 2)
 Deserts Hot and Cold- First-Year seminar (ENVS 7)
 Global Environmental Science (ENVS 30)
 Ecological Agriculture (ENVS 25)
 Seminar- Sustainable Agriculture (ENVS 80)
 Seminar- Arctic Change: Traditional Knowledge and Western Science (ENVS 80)
 Introduction to Polar Sciences (BIOL 138/EARS 128)
 Polar Science, Ethics, and Politics (BIOL 148/ENVS 80)

San Diego State University

Ecology and Evolution (Biology 354)
 Plant-Soil Ecology (Biology 534)

Plant Ecology (Biology 596)
Ecological Methods (Biology 543)
Ecological Field Research in San Diego County (Biology 647)

GRADUATE STUDENTS AND THESES

Dartmouth College

Ph.D. Earth Science

- Heidel, Ruth. In progress. Soil deflation and climate history in west Greenland.
- Yong Shu. 2007. Hydrogen and oxygen isotopic studies on leaf water. X. Feng, Chair.
- Mercer, J. L. 2002. Carbon geochemistry of marine sediment cores from Chesapeake Bay. M. Zhao, Chair.
- Poage, M. A. January 2000. Stable isotope paleoclimate studies in the Western Basin and Range and Greater Yellowstone region. C. P. Chamberlain, Chair.
- Burkins, M. B. 1998. The origin, distribution, and cycling of soil organic matter in Taylor Valley, Antarctica. Major advisor
- Connin, S. L. 1996. Impacts of arid land shrub expansion on soil carbon cycling from ^{14}C ages and carbon and oxygen isotope ratios of pedogenic calcite and organic matter. Major advisor
- Stern, L. 1996. Climate and vegetation change in the Himalayan foreland from oxygen and carbon isotope ratios of fossils and paleosol clay and calcite. C. P. Chamberlain, Chair
- Ryan, P. C. 1994. Serpentine/Chlorite and Illite/Smectite in the Tuscaloosa Formation: Origins, Chemistry, Mineralogic Structures, and Oxygen Isotope Compositions. R. C. Reynolds, Chair

Ph.D. Ecology and Evolutionary Biology

- Bradley-Cook, Julia. 2015. Soil organic carbon cycling and temperature sensitivity in Greenland tundra ecosystems.
- Finger, Rebecca. In progress. Soil carbon flux and soil moisture dynamics in Arctic tundra ecosystems. Ecology, Evolution, Environment and Society
- Whitecloud, Simone. In progress. Controls on plant community composition in Arctic and alpine tundra. M. McPeck, Chair
- Fey, Samuel. 2014. Temperature influences on trophic interactions in streams. K. Cottingham, Chair
- Culler, Lauren 2013. Thermal ecology of Arctic aquatic insect community interactions. M. Ayers, Chair
- Trout-Haney, Jessica. In progress. Cyanobacteria and toxins in Arctic and New England lakes. K. Cottingham, Chair
- Wolkovich, Elizabeth. 2009. Top-down and bottom-up regulation of soil invertebrate food webs in California coastal sage scrub vegetation. D. T. Bolger, Chair
- Eaton, Gregg. 2000. Enrichment, environmental variance and mutual benefits in the ectomycorrhizal symbiosis. M. P. Ayres, Chair

M.S. Ecology and Evolutionary Biology

- Fagan, M. 2003. Getting a forest from the shrubs: the impact of glossy buckthorn (*Rhamnus frangula* L.) on the recruitment of juvenile canopy trees. D. Peart, Chair.

Other Institutions

Teonis, Amy. Ph.D. 1999. Ecosystem Science. Colorado State University. Survival adaptations of free-living nematodes in the McMurdo Dry Valleys of Antarctica. D. H. Wall, Chair.

M.S. Earth Sciences

- Coplin, Alexis. 2009. The effect of particle size on soil organic matter quality as determined by stable isotope geochemistry. X. Feng, Chair.
- Bate '05, D. Bradley. 2007. Soil organic matter sources and quality in the McMurdo Dry Valleys, Antarctica.
- Stucker '04, Rebekka. 2006. Soil nitrate and soil age in the McMurdo Dry Valleys, Antarctica.
- Catapano '99, Kathleen. 2003. Soils and the stability of sand forest vegetation boundaries in Tembe Elephant Reserve, South Africa.
- Manske Jr., J. E. 1998. A tree ring analysis of historic metal deposition in the Fisher Creek Valley, Montana. Committee member.
- Peterson, J. C. 1997. M.S. Earth Sciences. Natural abundance of carbon and nitrogen isotopes in soil organic matter accumulated under three chaparral species and pine growing in lysimeters at the San Dimas Experimental Forest, California. Committee member.
- Templeton, A. 1996. Near-surface fluid flow during recent uplift of the eastern Southern Alps, New Zealand. Committee member.
- Brown, M. J. 1995. Paleohydrostratigraphy and paleotopography of the Irish carboniferous crust: A framework for the numerical modeling of epigenetic, carbonate-hosted ore formation in Ireland. Committee member.
- Adams, W. 1995. Stable hydrogen isotope exchange in teleost scale ichthylepidin. M.S. Earth Science. Committee member.
- Marlies, E. M. 1995. Application of stable carbon and nitrogen isotope signatures as tracers of vegetation changes accompanying desertification.
- Larson, A. C. 1994. Evidence of pneumatolytic processes in the magnetite deposits at El Laco, Chile. Committee member.

M.A.L.S. Masters of Arts in Liberal Studies

- Maier, Linda. 2002. "Lo, how a rose ere blooming": The promise of intercropping on small-scale farms for a more sustainable floriculture. Major advisor.

San Diego State University

Ph.D. Biology

- Thomas, Paul. 1995. Molecular analysis of bacteria that symbiotically fix nitrogen with the desert tree legume, *Prosopis glandulosa* (Mesquite). Jointly with U. C. San Diego. Co-Chair with J. Zyskind

Ph.D. Ecology (Committee Member)

- Brisson, J. 1994. Belowground competition and plant population dynamics in the desert shrub creosotebush.
- Gebauer, R. 1994. Physiological responses of the arctic tundra sedges *Eriogonum vaginatum* and *E. angustifolia* to anaerobic soil conditions.

M.S. Ecology (Thesis Chair)

- Kay, I. S. 1989. Early nodulation of mesquite (*Prosopis glandulosa* var. *torreyana*) by indigenous Sonoran Desert rhizobia: the role of contrasting bacterial life history strategies.
- Kramer, N. E. 1989. The effects of selenium on nitrogen fixation by the selenium accumulating desert legume *Astragalus crotalariae*.
- Darby, M. 1993. The effects of rhizobia, mycorrhizal fungi, and nutrients on the growth and survival of mesquite (*Prosopis glandulosa*).
- Sorensen, N. S. 1993. Physiological ecology of the desert shrub, *Larrea divaricata*: Implications for arid land revegetation.
- Cork, S. 1994. Distribution and diversity of nitrogen-scavenging soil bacteria isolated from grassland and desertified shrubland soils of the Chihuahuan Desert.
- Tiszler, J. 1994. Changes in soil nitrogen structure and dynamics associated with the establishment of desert shrubs in a Chihuahuan Desert black grama grassland.

M.S. Biology

- Golly, F. 1994. The molecular ecology of slow-growing mesquite nodulating rhizobia. Co-Chair with J. Zyskind.

M.S. Ecology (Committee Member)

- Baird, K. 1986. The effect of light on seedling establishment and growth of chamise, *Adenostoma fasciculatum*.
- Wood, K. F. 1987. Interactions between the exotic annual, *Cakile maritima*, and the native perennial, *Abronia maritima*, on the strand at Tijuana Estuary.
- Cantili, J. F. 1989. Sulfide phytotoxicity in tidal salt marshes.
- Zalejcko, M.K. 1990. Asymbiotic nitrogen fixation in a natural and artificially constructed southern California salt marsh.
- Vourlitis, G. 1991. Nitrogen cycling in southern California coastal dunes.
- Busnardo Jr., M. J. 1992. Removal of nitrogen and phosphorus by wetland mesocosms subjected to different hydroperiods.
- Gibson, K. 1992. Soil organic matter additions and the growth of *Spartina* in southern California salt marshes.
- Rehlaender, W. 1992. Stand age and substrate type as factors in the nutrient status of a chaparral shrub.
- Jeakins, S. 1993. Oxalate-degrading microorganisms and comparative degradation rates in differing soils in sagebrush steppe.
- Duncan, J. A. 1991. Assessing the relationship between spectral vegetation indices and shrub cover in a semiarid environment. M. S. Geography.
- Shandley, J. P. 1993. Using image segmentation to map vegetation stands in the Pine Creek Watershed, Cleveland National Forest. M. S. Geography.

Postdoctoral Scientists Supervised:

Weixin Cheng, Augusto A. Franco, Michael B. Jenkins, Solange I. Silva, Amrita de Soyza, Mengchi Ho, Melody B. Burkins, John E. Barrett, Jennifer Mercer, Kendra McLauchlan, Rebecca A. Ball, Lauren E. Culler

COMMITTEES AND SERVICE, DARTMOUTH COLLEGE

Committee Advisory to the President, 2007-2010, 2013-2016 (Vice Chair, 2015-16)
 Provost Committee on Energy, 2015-16
 Provost Task Force on Graduate Studies, 2014-15

Council on Academic Freedom and Responsibility, 2013- present
 Faculty Steering Committee, GRID- Gender Research Institute at Dartmouth 2013-
 External Review Committee, Department of Biological Sciences, Dartmouth College, 2012
 Search Committee, Director, Dickey Center for International Understanding, 2011
 Search Committee, Environmental Studies Program faculty position in environmental
 politics and policy, 2011
 Provost Search Committee, 2010
 Ethics Institute Faculty Advisory Board, 2009-13
 International Studies Minor Steering Committee, 2009-present
 Search Committee, Director of Outdoor Programs, 2008
 Chair, Search Committee, Sherman Fairchild Prof. in Sustainability Science, 2007-08
 Chair, Dartmouth Organic Farm Advisory Board, 2007-2009
 Task Force Member, Developing Sustainable Local Food Sales to a College Institutional
 Market, USDA Sustainable Agriculture Research and Education funded project to Vital
 Communities and Dartmouth College, 2005-2007
 Women in Science Program (WISP) Faculty Advisory Committee, 2004-2007
 Director, Institute of Arctic Studies, within the John Sloan Dickey Center for International
 Understanding, January 2003- present
 Chair, Provost's Search Committee for the Director of the John Sloan Dickey Center for
 International Understanding, 2002-2003
 Committee on Standards, 2002-2004
 Chair, Ad hoc Faculty Promotion Committee for the Departments of Geography and Earth
 Sciences, 2002
 Faculty Advisory Committee, Dickey Center for International Understanding, 1999-2002
 War Peace Studies Program Faculty Steering Committee, 2000-2008
 Chair, Environmental Studies Program, 1992- 2000
 Faculty Council, Nelson A. Rockefeller Center for the Social Sciences, 1992-1994
 External Review Committee, Nelson A. Rockefeller Center for the Social Sciences, 1993
 External Review Committee, African and African American Studies Program, 1998
 Chair, Faculty Searches in Environmental Studies: Conservation Ecology, 1993;
 Environmental Economics 1994, 1998; Environmental Systems Modeling, 1999
 Search Committee, Physiological Ecologist, Dept. of Biological Sciences, 1993
 Search Committee, Environmental Biogeochemistry, Dept. of Earth Sciences, 1995, 1996
 Committee on Organization and Policy, 1994-1997
 College Priorities Advisory Committee, 1994-1996; Chair, 1995-1996
 Subcommittee on Priorities, Committee of Chairs, 1994-1996
 Board of Trustees Finance Committee, 1994-1996
 Steering Committee of the General Faculty, 1994-1997
 Faculty Affirmative Action Review Committee, 1993-1996
 Steering Committee, Earth, Ecosystem and Ecological Sciences Graduate Program, 1994-
 Mellon Environmental Student Research Grant Selection Committee, 1993-2000
 Search Committee for Dean of the Faculty of Arts and Sciences, 1997
 Member, Math and Social Sciences Program, 1994-2001