

# Pamela H. Templer, PhD

Professor

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## EDUCATION

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Ph.D. in Ecology and Evolutionary Biology, Cornell University, Ithaca, NY	2001
B.A. in Environmental Studies and Biology (double major), University of California Santa Cruz, CA	1995

## PROFESSIONAL APPOINTMENTS

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Professor, Boston University	2017-present
Director, BU URBAN Ph.D. Program, Boston University	2017-present
Pardee Center Faculty Research Fellow, Boston University	2015-present
Associate of the Arnold Arboretum, Harvard University	2015-present
Director, Ph.D. Program in Biogeoscience, Boston University	2014-present
Associate Chair, Department of Biology, Boston University	2014-present
Charles Bullard Fellow and Sustainability Science Fellow, Harvard University	2013-2014
Associate Professor, Boston University	2012-2017
Assistant Professor, Boston University	2005-2012
Co-Director, Stable Isotope Laboratory, Boston University	2007-present
Postdoctoral Fellow, University California Berkeley	2001-2005
Research Assistant, Institute of Ecosystem Studies ( <i>currently</i> Cary Institute)	1996

## HONORS AND AWARDS

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Elected Fellow, Ecological Society of America (ESA)	2019
Metcalf Award for Excellence in Teaching, Boston University	2015
National Science Foundation CAREER Grant	2012-2017
Elected member of Scientific Coordinating Committee, Hubbard Brook Experimental Forest	2010-2022
Andrew W. Mellon Foundation's Junior Faculty Research Grant	2007-2011
Teresa Heinz Environmental Scholars Award (Ph.D. Dissertation Research Fellowship)	1999
President, Graduate Student Association, Department of Ecology & Evol Bio, Cornell Univ	1998
Polgar Fellowship, Hudson River Foundation	1995
Honors undergraduate senior thesis, University California Santa Cruz	1995
National Science Foundation – Research Experience for Undergraduates (REU), Cary Institute	1994

## RESEARCH AND TEACHING IN THE NEWS

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HBO Vice News Tonight, <https://news.vice.com/story/forest-climate-change-simulation>  
Boston Globe, <http://www.bostonglobe.com/ideas/2014/11/07/the-city-ecosystem-pipes-and-all/HjLVemBs9nPiuE53PjPSLK/story.html>  
CBS Boston Evening News, <http://boston.cbslocal.com/2014/03/29/eye-on-weather-the-spring-forecast/>  
Car Talk, [www.cartalk.com/content/losing-winter-climate-change-will-hit-new-england-hard](http://www.cartalk.com/content/losing-winter-climate-change-will-hit-new-england-hard)  
Scientific American, <http://www.scientificamerican.com/article.cfm?id=wired-forest-may-reveal-how-new-england-forests-respond-climate-change>  
CBS Boston Evening News, <http://boston.cbslocal.com/2012/11/21/researchers-say-new-england-winters-getting-shorter/#respond>  
Op Ed in Boston Globe Magazine, <http://www.bostonglobe.com/magazine/2012/10/13/climate-change-call-arms/O9XM0EBZWd4FNdVWH71blM/story.html>  
Boston Phoenix Magazine, <http://thephoenix.com/boston/life/147101-help-the-mountains-are-melting/>  
WBUR's Morning Edition: <http://www.bu.edu/av/news/wbur-02-27-treestudy.mp3>  
EOS <https://eos.org/research-spotlights/as-winters-get-warmer-sugar-maples-may-absorb-less-silicon>  
BU Today film, "Templer's Sense of Snow," <http://www.bu.edu/today/2012/sense-of-snow/>  
BU Today, "Wiring the Woods," <http://www.bu.edu/today/2014/wiring-the-woods/>  
BU Today, "Metcalf Winner Templer Brings Science to Life," <http://www.bu.edu/today/2015/templer-wins-metcalf-award/>  
BU Today, "BU Scientists get \$3 Million NSF Research Traineeship Grant," [bu.edu/today/2017/nsf-research-traineeship-grant](http://www.bu.edu/today/2017/nsf-research-traineeship-grant)  
BU Annual Report, "Scientists as Civic Actors" <http://www.bu.edu/ar/2018/tackling-environmental-problems.html>

## TEACHING EXPERIENCE AT BOSTON UNIVERSITY

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### COURSES TAUGHT:

BI303	Ecology (2006)
BI306	Biology of Global Change (2006, 2008-2012, 2014-2018)
BI/GE 530	Forest Ecology (2007 and 2009-2013, 2015, 2017, 2018, 2019)
GRS BI/EE 719	Terrestrial Biogeosciences Colloquium (2012)
GRS BI/EE 720	Terrestrial Biogeosciences Practicum (2013)

### POSTDOCTORAL FELLOW AND VISITING SCIENTIST:

Joanna Carey, PhD (2014-2015), Thomas Dirnboeck, PhD (2015-2017)

### GRADUATE STUDENTS:

Anne Socci (Ph.D., 2006-2011, Impact of winter climate change on nutrient & water uptake in a northern forest ecosystem)

Andrew Reinmann (Ph.D., 2008-2014, Effects of winter climate change on carbon & nitrogen losses from temperate forest ecosystems)

Patrick Sorensen (Ph.D., 2011-2016, Effects of winter snowpack on microbial activity, community composition, and plant-microbe interactions in mixed-hardwood temperate forests)

Rebecca Sanders-DeMott (Ph.D., 2011-2016, Effects of climate change across seasons on forest ecosystems)

Stephen Decina (Ph.D., 2013-2017, Controls on atmospheric nitrogen deposition and cycling in urban ecosystems)

Jamie Harrison (Ph.D., 2016-present, Effects of climate change across seasons on northern hardwood forests)

Jenna Rindy (Ph.D., 2019-present)

Erin Pierce (MS., 2017-2019, Effects of tropospheric ozone and nitrogen on carbon cycling in northern forests)

Stephen Caron (MS, 2019-present)

Visiting Ph.D. graduate students: Dries Huygens (University of Ghent, Belgium, 2005); Lilia L. Roa Fuentes (National University of Mexico, 2010); Christine Bollig (University of Bern, Switzerland, 2011); Robert Weigel (University of Greifswald, Germany, 2016); John Allen (University of Helsinki, Finland, 2018); Chikae Tatsumi (Kyoto University, Japan, 2019)

### UNDERGRADUATE STUDENTS:

Mentor to more than 30 undergraduate research assistants and 16 students in Boston University's Undergraduate Research Opportunities Program (UROP), Summer Undergraduate Research Fellowship (SURF) and the National Science Foundation's Research Experience for Undergraduates (REU) program.

### PUBLICATIONS

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#### REFEREED ARTICLES (\*Graduate student; \*\*Undergraduate student)

Sorensen\* PO, JM Bhatnagar, L Christenson, J Duran, T Fahey, MC Fisk, AC Finzi, PM Groffman, JL Morse, **PH Templer**. 2019. Roots mediate the effects of snowpack decline on soil bacteria, fungi, and nitrogen cycling in a northern hardwood forest. *Frontiers in Microbiology*, in press.

Dirnboeck T, P Haase, M Mirtl, J Pauw, **PH Templer**. 2019. Contemporary international long-term ecological research (ILTER) from biogeosciences to socio-ecology and biodiversity research. *Regional Environmental Change* 19:309-11.

Reinmann\* AB, J Susser\*\*, and **PH Templer**. 2019. Declines in northern forest tree growth following snowpack decline and soil freezing. *Global Change Biology* 25:420-430.

Amos HM, CF Miniat, J Lynch, J Compton, **PH Templer**, LA Sprague, D Shaw, D Burns, A Rea, D Whitall, L Myles, D Gay, M Nilles, J Walker, A Rose, J Bales, J Deacon, R Pouyat. 2018. What goes up must come down: integrating atmospheric air and water quality monitoring. *Environmental Science & Technology* 52: 11441-11448.

Asbjornsen H, JL Campbell, KA Jennings, MA Vadeboncoeur, C McIntire, **PH Templer**, RP Phillips, TL Bauerle, MC Dietze, SD Frey, PM Groffman, R Guerrieri, PJ Hanson, EP Kelsey, AK Knapp, NG McDowell, P Meir, KA Novick, S Ollinger, W Pockman, P Schaberg, S Wullschlegler, M Smith, L Rustad. 2018. Guidelines and considerations for designing precipitation manipulation experiments in forest ecosystems. *Methods in Ecology & Evolution* 9:2310-25.

Craine JM, AJ Elmore, L Wang, J Aranibar, M Bauters, P Boeckx, BE Crowley, MA Dawes, S Delzon, A Fajardo, Y Fang, L Fujiyoshi, A Gray, R Guerrieri, MJ Gundale, DJ Hawke, P Hietz, M Jonard, E Kearsley, T Kenzo, M Makarov, S Marañón-Jiménez, TP McGlynn, BE McNeil, SG Mosher, DM Nelson, PL Peri, JC Roggy, R Sanders-DeMott, M Song,

- P Szpak, **PH Templer**, DV Colff, C Werner, X Xu, Y Yang, G Yu, K Zmudczyńska-Skarbek. 2018. Isotopic evidence for oligotrophication of terrestrial ecosystems. Nature Ecology and Evolution 2:1735-1744.
- Crowther TW, MB Machmuller, JC Carey, SD Allison, JM Blair, SD Bridgham, AJ Burton, FA Dijkstra, B Elberling, M Estiarte, KS Larsen, H Laudon, M Lupascu, S Marhan, J Mohan, S Niu, J Penuelas, IK Schimdt, **PH Templer**, G Kroel-Dulay, S Frey, and MA Bradford. 2018. Predicting soil carbon loss with warming reply. Nature 554: E7-E8.
- Decina\* SM, **PH Templer** and LR Hutyra. 2018. Atmospheric inputs of nitrogen, carbon, and phosphorus across an urban area: unaccounted fluxes and canopy influences. Earth's Future 6: 134-148.
- Groffman P, C Driscoll, J Duran, J Campbell, L Christenson, T Fahey, M Fisk, C Fuss, G Likens, G Lovett, L Rustad, **PH Templer**. 2018. Nitrogen oligotrophication in northern hardwood forests. Biogeochemistry 141: 523-39.
- Harada Y, TH Whitlow, **PH Templer**, RW Howarth, MT Walter, JM Russel-Anelli, NL Bassuk. Nitrogen biogeochemistry of an urban rooftop farm. 2018. Frontiers in Ecology and Evolution 6: 1-14.
- Reinmann\* AB, **PH Templer**. 2018. Increased soil respiration in response to experimentally reduced snow cover and increased soil freezing in a temperate deciduous forest. Biogeochemistry 140: 359-371.
- Rivero-Villar A, **PH Templer**, V Parra-Tabla, J Campo. 2018. Differences in nitrogen cycling revealed by stable isotopes of nitrogen in plants and soils. Biotropica 50: 859-867.
- Sanders-DeMott\* R, R McNellis\*\*, M Jabouri\*\*, **PH Templer**. 2018. Snow depth, soil temperature, and plant-herbivore interactions mediate plant response to climate change. Journal of Ecology 106:1508-1519.
- Sanders-DeMott\* R, PO Sorensen, AB Reinmann, and **PH Templer**. 2018. Growing season warming and winter freeze-thaw cycles reduce root nitrogen uptake capacity and increase soil solution nitrogen in a northern forest ecosystem. Biogeochemistry 137: 337-349.
- Sorensen PO\*, AC Finzi, M Giasson, AB Reinmann\*, R Sanders-DeMott\*, **PH Templer**. 2018. Winter soil freeze-thaw cycles lead to reductions in soil microbial biomass and activity not compensated for by soil warming. Soil Biology and Biochemistry 116:39-47.
- Christenson L, H Clark, L Livingston, E Hefferman, J Campbell, C Driscoll, P Groffman, T Fahey, M Fisk, M Mitchell, **PH Templer**. 2017. Winter climate change and soil faunal distribution and abundance: implications for decomposition in the northern forest. Northeastern Naturalist 24: B209-B234.
- Coble AP, MA Vadeboncoeur, ZC Berry, KA Jennings, C McIntire, JL Campbell, LE Rustad, **PH Templer**, H Asbjornsen. 2017. Are northeastern U.S. forests vulnerable to extreme drought? Ecological Processes 6:34.
- Decina SM\*, **PH Templer**, LR Hutyra, CK Gately, P Rao. 2017. Variability, drivers, and effects of atmospheric nitrogen inputs across an urban area: emerging patterns among human activities, the atmosphere and soils. Science of the Total Environment 609:1524-1534.
- Duran J, JL Morse, A Rodriguez, JL Campbell, LM Christenson, CT Driscoll, TJ Fahey, MC Fisk, MJ Mitchell, **PH Templer**, PM Groffman. 2017. Differential sensitivity to climate change of C and N cycling processes across soil horizons in a northern hardwood forest. Soil Biology & Biochemistry 107:77-84.
- Maguire\* T, **P Templer**, J Battles, R Fulweiler. 2017. Winter climate change decreases fine root biogenic silica in sugar maple trees (*Acer saccharum*): implications for silica export in the Anthropocene. Journal of Geophysical Research: Biogeosciences 122: 708-715.
- Meredith LK, R Commane, TF Keenan, ST Klosterman, JW Munger, **PH Templer**, J Tang, SC Wofsy, and RG Prinn. 2017. Ecosystem fluxes of hydrogen in a mid-latitude forest driven by soil microbes and plants. Global Change Biology 23:906-919.
- Sanders-DeMott\* R, **PH Templer**. 2017. What about winter? Integrating the missing season into climate change experiments in seasonally snow covered ecosystems. Methods in Ecology & Evolution 8:1183-1191.
- Templer PH**, Reinmann\* AB, R Sanders-DeMott\*, S Juice, F Bowles, L Sofen, J Harrison\*, I Halm, L Rustad, M Martin, N Grant. 2017. Climate change across seasons experiment (CCASE) at Hubbard Brook Experimental Forest: Combined effects of increased growing season temperatures and winter freeze-thaw cycles on the northern forest. PLOS ONE 12(2): e0171928.
- Capps SL, CT Driscoll, H Fakhraei, **PH Templer**, KJ Craig, JB Milford and KF Lambert. 2016. Estimating potential productivity co-benefits for crops and trees from reduced ozone with U.S. coal power plant carbon standards. Journal of Geophysical Research: Atmospheres 121: 14,679-90.
- Carey J, J Tang, **PH Templer**, K Kroeger, T Crowther, A Burton, J Dukes, B Emmett, S Frey, M Heskell, L Jiang, M Machmuller, J Mohan, A Panetta, P Reich, S Reinsch, X Wang, S Allison, C Bamminger, S Bridgham, S Collins, G de Dato, W Eddy, B Enquist, M Estiarte, J Harte, A Henderson, B Johnson, K Larsen, Y Luo, S Marhan, J Melillo, J Peñuelas, L Pfeifer-Meister, C Poll, E Rastetter, A Reinmann\*, L Reynolds, I Schmidt, G Shaver, A Strong, V Suseela, A Tietema. 2016. Temperature response of soil respiration largely unaltered with experimental warming. Proceedings of the National Academy of Sciences 113: 13797-13802.

- Crowther T, K Todd-Brown, C Rowe, W Wieder, J Carey, M Machmuller, L Snoek, S Fang, G Zhou, S Allison, J Blair, S Bridgham, A Burton, Y Carrillo, P Reich, J Clark, A Classen, F Dijkstra, B Elberling, B Emmett, M Estiarte, S Frey, J Guo, J Harte, L Jiang, B Johnson, G Kröel-Dulay, K Larsen, H Laudon, J Lavelle, Y Luo, M Lupascu, L Ma, S Marhan, A Michelsen, J Mohan, S Niu, E Pendall, J Peñuelas, L Pfeifer-Meister, C Poll, S Reinsch, L Reynolds, I Schmidt, S Sistla, N Sokol, **PH Templer**, K Treseder, J Welker, M Bradford. 2016. Quantifying global soil carbon losses in response to warming. Nature 540: 104-108.
- Decina\* S, LR Hutyra, CK Gately, JM Getson, AB Reinmann\*, AG Short Gianotti, and **PH Templer**. 2016. Soil respiration contributes significantly to urban carbon fluxes. Environmental Pollution 212:433-439.
- Duran J, JL Morse, PM Groffman, JL Campbell, LM Christenson, CT Driscoll, TJ Fahey, MC Fisk, GE Likens, JM Melillo, MJ Mitchell, **PH Templer**, and MA Vadeboncoeur. 2016. Climate change decreases nitrogen pools and mineralization rates in northern hardwood forests. Ecosphere 7(3):e01251.
- Fuss CB, CT Driscoll, PM Groffman, CL Campbell, LM Christenson, TJ Fahey, MC Fisk, MJ Mitchell, **PH Templer**, J I Duran, JL Morse. 2016. Nitrate and dissolved organic carbon mobilization in response to soil freezing variability. Biogeochemistry 131:35-47.
- Juice SM, **PH Templer**, NG Phillips, AM Ellison, and SL Pelini. 2016. Ecosystem warming increases sap flow rates of northern red oak trees. Ecosphere 7(3):e01221.
- Niu S, AT Classen, J Dukes, P Kardol, L Liu, Y Luo, L Rustad, S Vicca, J Tang, **PH Templer**, RQ Thomas, D Tian, YP Wang, J Xia and S Zahle. 2016. Global patterns and fundamental mechanisms of the terrestrial nitrogen cycle. Ecology Letters 13:819-828.
- Reinmann\* A and **PH Templer**. 2016. Reduced winter snowpack and greater soil frost reduce live root biomass and stimulate radial growth and stem respiration of red Maple (*Acer rubrum*) trees in a mixed-hardwood forest. Ecosystems 19:129-141.
- Sorensen PO\*, **PH Templer**, L Christenson, J Duran, T Fahey, M Fisk, P Groffman, J Morse, A Finzi. 2016. Reduction in snow cover alters root-microbe interactions and decreases nitrification in a northern hardwood forest. Ecology 97: 3359-3368.
- Sorensen PO\*, **PH Templer** and AC Finzi. 2016. Contrasting effects of winter snowpack and soil frost on growing season microbial biomass and enzyme activity in two mixed-hardwood forests. Biogeochemistry 128:141-154.
- Sanders-DeMott\* R, Smith N, **PH Templer**, J Dukes. 2016. Toward an integrated understanding of terrestrial ecosystem feedbacks to climate change. New Phytologist 209:1363-1365.
- Templer PH**, KF Lambert, M Weiss, JS Baron, CT Driscoll and DR Foster. 2016. Using science-policy integration to improve ecosystem science and inform decision-making: lessons from U.S. LTERs. Bulletin of the Ecological Society of America 97: 123-128.
- Commane R, LK Meredith, IT Baker, JA Berry, JW Munger, SA Montzka, **PH Templer**, SM Juice, MS Zahniser, SC Wofsy. 2015. Seasonal fluxes of carbonyl sulfide in a mid-latitude forest. Proceedings of the National Academy of Sciences, 112: 14162-14167.
- Fahey TJ, **PH Templer**, BT Anderson, JJ Battles, JL Campbell, CT Driscoll, AR Fusco, MB Green, KK Kassam, NL Rodenhouse, L Rustad, PG Schaberg, MA Vadeboncoeur. 2015. The promise and peril of intensive-site based ecological research: insights from the Hubbard Brook Ecosystem Study. Ecology 96: 885-901.
- Gill AL\*, AS Gallinat\*, R Sanders-DeMott\*, AJ Rigden\*, DJ Short Gianotti\*, JA Mantoosh\*, and **PH Templer**. 2015. Change in autumn senescence in northern hemisphere deciduous trees: a meta-analysis of autumn phenology studies. Annals of Botany 116:875-888. (Publication from students enrolled in my course at BU, GRS BI/EE 720)
- Roa-Fuentes LL, **PH Templer** and J Campo. 2015. Leaf traits in tropical forests: a comparison along a precipitation gradient in the Yucatan Peninsula. Oecologia 179: 585-597.
- Rodriguez A, GM Lovett, KC Weathers, MA Arthur, **PH Templer**, CL Goodale and LM Christenson. 2014. Lability of C in temperate forest soils: assessing the role of nitrogen addition and tree species composition. Soil Biology and Biochemistry 77:129-140.
- Templer PH**, KC Weathers, HA Ewing, TE Dawson, S Mambelli, AM Lindsey, J Webb\*\*, VK Boukili, and MK Firestone. 2015. Fog as a source of nitrogen for redwood trees: evidence from fluxes and stable isotopes. Journal of Ecology: 103: 1397-1407. (Editor's Choice for this issue of journal) <https://jecologyblog.wordpress.com/2015/10/20/editors-choice-1036>
- Templer PH**, JW Toll\*\*, LR Hutyra, and SM Raciti. 2015. Nitrogen and carbon export from urban areas through removal and export of litterfall. Environmental Pollution 197: 256-261.
- Templer PH**, KC Weathers, A Lindsey, K Lenoir, and L Scott. 2015. Atmospheric inputs and nitrogen saturation status in and adjacent to Class I wilderness areas of the northeastern United States. Oecologia 177:5-15.
- Campbell J, AM Socci\* and **PH Templer**. 2014. Increased nitrogen leaching following soil freezing is due to decreased root uptake in a northern hardwood forest. Global Change Biology 20:2663-2673.

- Campbell J, A Reinmann\* and **PH Templer**. 2014. Soil freezing effects on sources of nitrogen and carbon leached during snowmelt. Soil Science Society of America Journal 78:297-308.
- Duran J, JL Morse, PM Groffman, JL Campbell, LM Christenson, CT Driscoll, TJ Fahey, MC Fisk, MJ Mitchell, and **PH Templer**. 2014. Winter climate change affects growing-season soil microbial biomass and activity in northern hardwood forests. Global Change Biology 20:3568-3577.
- Frey SD, S Ollinger, K Nadelhoffer, R Bowden, E Brzostek, A Burton, BA Caldwell, S Crow, CL Goodale, AS Grandy, A Finzi, MG Kramer, K Lajtha, J LeMoine, M Martin, WH McDowell, R Minocha, JJ Sadowsky, **PH Templer**, and K Wickings. 2014. Chronic nitrogen additions suppress decomposition and sequester soil carbon in temperate forests. Biogeochemistry, 121:305-316.
- Rao P\*, LR Hutrya, SM Raciti, and **PH Templer**. 2014. Atmospheric nitrogen inputs and losses along an urbanization gradient from Boston to Harvard Forest, MA. Biogeochemistry 121:229-245.
- Comerford DP, PG Schaberg, **PH Templer**, AM Soggi\*, JL Campbell, and KF Wallin. 2013. Influence of experimental snow removal on root and canopy physiology of sugar maple trees in a northern hardwood forest. Oecologia 171:261-269.
- Lovett GM, MA Arthur, KC Weathers, RD Fitzhugh, and **PH Templer**. 2013. Nitrogen addition increases carbon storage in soils, but not in trees, in an eastern U.S. deciduous forest. Ecosystems 16:980-1001.
- Thomas RG, S Zaehle, **PH Templer**, and CL Goodale. 2013. Global patterns of nitrogen limitation: confronting two global biogeochemical models with observations. Global Change Biology 19:2986-2998.
- Templer PH**. 2013. Limits on carbon uptake by plants (Invited). Nature Climate Change 3:184-185.
- Groffman PM, LE Rustad, **PH Templer**, JL Campbell, LM Christenson, NK Lany, AM Soggi\*, MA Vadeboncoeur, PG Schaberg, GF Wilson, CT Driscoll, TJ Fahey, MC Fisk, CL Goodale, MB Green, SP Hamburg, CE Johnson, MJ Mitchell, JL Morse, LH Pardo, and NL Rodenhouse. 2012. Long-term integrated studies show complex and surprising effects of climate change in the northern hardwood forest. BioScience 62: 1056-1066.
- Reinmann AB\*, **PH Templer** and JL Campbell. 2012. Severe soil frost reduces losses of carbon and nitrogen from the forest floor during simulated snowmelt: a laboratory experiment. Soil Biology & Biochemistry 44:65-74.
- Templer PH**, RW Pinder, and CL Goodale. 2012. Effects of nitrogen deposition on greenhouse gas fluxes for forests and grasslands of North America (Invited). Frontiers in Ecology and the Environment 10: 547-553.
- Templer PH**, MC Mack, FS Chapin III, LM Christenson, JE Compton, HD Crook, WS Currie, C Curtis, B Dail, CM D'Antonio, BA Emmett, H Epstein, CL Goodale, P Gundersen, SE Hobbie, K Holland, DU Hooper, BA Hungate, S Lamontagne, KJ Nadelhoffer, CW Osenberg, SS Perakis, P Schleppei, J Schimel, IK Schmidt, M Sommerkorn, J Spoelstra, A Tietema, WW Wessel, and DR Zak. 2012. Sinks for nitrogen inputs in terrestrial ecosystems: a meta-analysis of enriched <sup>15</sup>N field tracer studies. Ecology 93: 1816-1829. *Selected by Faculty of 1000.*
- Templer PH**. 2012. Changes in winter climate: soil frost, root injury, and fungal communities (Invited). Plant and Soil 35: 15-17.
- Templer PH**, AF Schiller\*\*, NW Fuller, AM Soggi\*, JL Campbell, JE Drake, and TH Kunz. 2012. Impact of a reduced winter snowpack on litter arthropod abundance and diversity in a northern hardwood forest ecosystem. Biology and Fertility of Soils 48:413-424.
- Brooks PD, P Grogan, **PH Templer**, P Groffman, M Oquist, and J Schimel. 2011. Carbon and nitrogen cycling in snow-covered environments. Geography Compass 5: 682-699.
- Soggi AM\* and **PH Templer**. 2011. Temporal patterns of inorganic nitrogen uptake by mature trees in a northern forest using two common approaches. Plant Ecology & Diversity 4:141-152.
- Templer PH** and AB Reinmann\*. 2011. Multi-factor global change experiments: what have we learned about terrestrial carbon storage and exchange? New Phytologist 192:797-800.
- Templer PH** and KC Weathers. 2011. Use of mixed ion exchange resin and the denitrifier method to determine isotopic values of nitrate in atmospheric deposition and canopy throughfall. Atmospheric Environment 45: 2017-2020.
- Templer PH** and TM McCann\*\*. 2010. Effects of the hemlock woolly adelgid on nitrogen losses from urban and rural northern forest ecosystems. Ecosystems 13:1215-1226.
- Craine J, A Elmore, M Aida, M Bustamante, T Dawson, E Hobbie, A Kahmen, M Mack, K McLaughlan, A Michelsen, G Nardoto, L Pardo, J Peñuelas, P Reich, E Schuur, W Stock, **PH Templer**, R Virginia, J Welker, and I 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. (Co-authors in alphabetical order after Elmore)
- Ewing HA, KC Weathers, **PH Templer**, TE Dawson, MK Firestone, AM Elliott and VKS Boukili. 2009. Fog water and ecosystem function: heterogeneity in a California redwood forest. Ecosystems 12:417-433.
- Miller-Rushing AJ\*, RB Primack, **PH Templer**, S Rathbone\*\* and S Mukunda\*\*. 2009. Long-term relationships among atmospheric CO<sub>2</sub>, stomata, and intrinsic water use efficiency in individual trees. American Journal of Botany 96:1779-1786. \*Graduate student with Prof. Richard Primack; \*\*Undergraduate student.

- Huygens D\*, P Boeckx, **P Templer**, L Paulino, O Van Cleemput, C Oyarzun, C Müller and R Godoy. 2008. Mechanisms for retention of bioavailable nitrogen in volcanic rainforest soils. *Nature Geoscience* 1:543-548.
- Templer PH**, WL Silver, J Pett-Ridge, K DeAngelis and MK Firestone. 2008. Plant and microbial controls on nitrogen retention and loss in a humid tropical forest. *Ecology* 89: 3030-3040.
- Templer PH**, MA Arthur, GM Lovett and K Weathers. 2007. Plant and soil natural abundance  $\delta^{15}\text{N}$ : indicators of relative rates of nitrogen cycling in temperate forest ecosystems. *Oecologia* 153:399-406.
- Pardo L, **PH Templer**, C Goodale, S Duke, P Groffman, MB Adams, P Boeckx, J Boogs, J Campbell, B Colman, J Compton, B Emmett, P Gundersen, J Kjonaas, G Lovett, M Mack, A Magill, M Mbila, M Mitchell, G McGee, S McNulty, K Nadelhoffer, S Ollinger, D Ross, H Rueth, L Rustad, P Schaberg, S Schiff, P Schleppei, J Spoelstra and Wessel W. 2006. Regional assessment of N saturation using foliar and root  $\delta^{15}\text{N}$ . *Biogeochemistry* 80:143-171.
- Templer PH**, G Lovett, K Weathers, S Findlay and T Dawson. 2005. Influence of tree species on forest nitrogen retention in the Catskill Mountains, New York, USA. *Ecosystems* 8:1-16.
- Templer PH**, P Groffman, A Flecker and A Power. 2005. Land use change and soil nutrient transformations in the Los Haitises region of the Dominican Republic. *Soil Biology and Biochemistry* 37:215-225.
- Templer PH** and TE Dawson. 2004. Nitrogen uptake by four tree species of the Catskill Mountains, NY: implications for forest N dynamics. *Plant and Soil* 262:251-261.
- Templer PH**, S Findlay and G Lovett. 2003. Soil microbial biomass and nitrogen transformations among five tree species of the Catskill Mountains, NY, USA. *Soil Biology and Biochemistry* 35:607-613.
- Dawson TE, S Mambelli, AH Plamboeck, **PH Templer** and KP Tu. 2002. Stable isotopes in plant ecology. *Annual Review of Ecology and Systematics* 33:507-559. (Co-authors in alphabetical order)
- Silver WL and **PH Templer**. 2002. A walk through the Amazon from a biogeochemical perspective. Book review of: *Biogeochemistry of the Amazon Basin*. Eds. McClain, M., R.L. Victoria and J.E. Richey. Oxford University Press, New York, 365 pages. *Ecology* 83:3237-3238.
- Templer PH**, S Findlay and C Wigand. 1998. Sediment chemistry associated with native and non-native emergent macrophytes of a Hudson River marsh ecosystem. *Wetlands* 18:70-78.

#### REPORTS, BOOK CHAPTERS, AND POPULAR ARTICLES

- Decina S, **P Templer**, and L Hutyrá. A surprising source of phosphorus in cities? Medium. June 12, 2018. <https://medium.com/@BUexperts/a-surprising-source-of-phosphorus-in-cities-7688b0261c22>
- Domke G, CA Williams, R Birdsey, J Coulston, A Finzi, C Gough, B Haight, J Hicke, M. Janowiak, B. de Jong, W. A. Kurz, M. Lucash, S. Ogle, M. Olguín-Álvarez, Y. Pan, M. Skutsch, C Smyth, C Swanston, **P Templer**, D Wear, and CW Woodall. 2018. Chapter 9: Forests. In *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*. Edited by N Cavallaro, G Shrestha, R Birdsey, MA Mayes, RG Najjar, SC Reed, P Romero-Lankao, Z Zhu. U.S. Global Change Research Program, Washington, DC, USA, pp. 365-398. <https://doi.org/10.7930/SOCCR2.2018.Ch9>.
- Janowiak M, AW D'Amato, CW Swanston, L Iverson, FR Thompson III, WD Dijak, S Matthews, MP Peters, A Prasad, JS Fraser, LA Brandt, P Butler-Leopold, SD Handler, DP Shannon, D Burbank, J Campbell, C Cogbill, MJ Duveneck, MR Emery, N Fisichelli, J Foster, J Hushaw, L Kenefic, A Mahaffey, TL Morelli, NJ Reo, PG Schaberg, KR Simmons, A Weiskittel, S Wilmot, D Hollinger, E Lane, L Rustad, **PH Templer**. 2018. New England and northern New York forest ecosystem vulnerability assessment and synthesis: a report from the New England Climate Change Response Framework project. Gen. Tech. Rep. NRS-173. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 234 p. <https://doi.org/10.2737/nrs-gtr-173>.
- Reinmann AR, **PH Templer**. 2018. Climate change is shrinking winter snowpack, which harms Northeast forests year-round. *The Conversation*. December 3, 2018. <https://theconversation.com/climate-change-is-shrinking-winter-snowpack-which-harms-northeast-forests-year-round-103410>
- Decina SM, LR Hutyrá, CK Gately, JM Getson, AB Reinmann, AG Short Gianotti, **PH Templer**. 2017. Urban Climate News 64:15-21.
- Pollack N, **PH Templer**, JV Shah, JM Tam. May 23, 2017. Mainstream media should stop selling out science with misleading ads. Op Ed in WBUR CommonHealth.
- Templer PH**, L Hutyrá, and S Decina. 2016. It's raining nitrogen. *Silva: Fall/Winter 2016-17*.
- Sleeper D and **PH Templer**. A climate change call to arms. Don't let snowy predictions fool you. Winter is going away. *Boston Globe Magazine Perspective*, October 14, 2012.
- Ewing HA, KC Weathers, AM Lindsey, **PH Templer**, TE Dawson, DC Bradbury, MK Firestone, and VKS Boukili. 2012. Fog and soil weathering as sources of nutrients in a California redwood forest. In RB Standiford, TJ Weller, DD Piirto, and JD Stuart (eds.), *Proceedings of coast redwood forests in a changing California: a symposium for*

scientists and managers: General Technical Report PSW-GTR-238. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture, p. 265-272.

**Templer PH.** 2005. Tree species effects on nitrogen cycling and retention: a synthesis of studies using <sup>15</sup>N Tracers. *In Tree Species Effects on Soils: Implications for Global Change*. D. Binkley, O. Menyailo, eds. NATO Science Series, Kluwer Academic Publishers, Dordrecht.

Harris GP, SW Bigelow, JJ Cole, H Cyr, LL Janus, AP Kinzig, JF Kitchell, GE Likens, K.H. Reckhow, D Scavia, D Soto, L.M. Talbot, and **PH Templer.** 2003. The Role of Models in Ecosystem Management. *In* C.D. Canham, J.J. Cole, W.K. Lauenroth (eds.), *Role of Models in Ecosystem Science*. Princeton University Press. (Co-authors in alphabetical order)

## RESEARCH GRANT SUPPORT

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### Active Grants

National Science Foundation. "NRT: Boston UniverCity - Partnering graduate students with cities to tackle urban environmental challenges." \$2,999,530 (09/01/17-08/31/22). **PH Templer**, PI.

United States Department of Agriculture. "Coupled carbon and nitrogen cycling under changing land cover and air quality: Improving regional estimates of carbon dynamics for the Northeastern U.S." \$634,141 (05/15/17-05/14/20); \$263,790 Direct Costs to BU. **PH Templer**, PI.

National Science Foundation. "Collaborative Research: Embedding public engagement with science at long-term ecological research sites." \$49,450 total to BU (08/01/17-07/31/20). **PH Templer**, PI.

National Science Foundation. "CAREER: Role of plant nutrient uptake in forest nutrient retention and carbon sequestration: an integrated research, teaching and outreach program." \$755,640, total funds for entire award (03/01/12-02/28/19). **PH Templer**, PI.

National Science Foundation. "Long-Term ecological research at the Hubbard Brook Experimental Forest." T Fahey, Cornell University, PI with 20 Co-PIs; \$225,000 total funds to **PH Templer**, Co-PI (02/01/17-01/31/23).

National Science Foundation. "Collaborative Research: IDBR: TYPE A: The NANAPHID: A novel aphid-like nanosensor network for real-time measurements of carbohydrates in live plant tissue." A Lapenis, State University New York Albany, PI; \$33,810 total funds to **PH Templer**, Co-PI (02/01/15-01/31/19).

### Completed Grants

National Science Foundation. "Long-Term ecological research at the Hubbard Brook Experimental Forest." T Fahey, Cornell University, PI with 20 Co-PIs; \$101,000 total funds to **PH Templer**, Co-PI (02/01/11-01/31/18).

National Oceanic and Atmospheric Administration. "Quantifying carbon signatures across urban-to-rural gradients: advancing the capacity for monitoring, reporting, and verification through observations, models and remote sensing." Lucy Hutyra, PI. M Friedl, T Nehrkorn, S Raciti, **PH Templer**, S Wofsy, and C Woodcock, Co-PI's. \$795,495 total. \$78,078 total funds to **PH Templer**. (08/01/14-07/31/17).

United States Department of Agriculture, Northeastern States Research Cooperative. "Understanding impacts of precipitation change and drought on the northern forest." Asbjornsen H, L Rustad and **PH Templer**. \$111,926 total funds to H Asbjornsen. (04/01/14-09/30/16).

John Wesley Powell Center for Synthesis and Analysis. U.S. Geological Survey. "Advancing understanding of ecosystem responses to climate change with warming experiments: what have we learned and what is unknown?" \$149,460 to fund postdoc (Joanna Carey) and travel for participants to attend two synthesis workshops at Powell Center in Fort Collins, CO. K Kroeger, PI. J Tang and **PH Templer**, Co-PI (09/01/13-08/31/15).

Charles Bullard Fellowship in Forest Research, Harvard University. "Winter climate change and regional estimates of primary productivity of northeastern U.S. forests: using long-term data, remote sensing and future scenarios." \$40,000 total funds for entire award to **PH Templer**, PI. (09/01/13-06/01/14).

National Science Foundation. "Collaborative Research: Winter climate change in a northern hardwood forest." P Groffman, Cary Institute, PI; \$114,828 total funds to **PH Templer**, Boston University, PI (09/01/10-08/31/13).

National Science Foundation. "STATS4STEM.ORG: Enriching STEM education through real-world data sets, computing and statistical analysis." E Simoneau, Boston Latin School (high school), PI; \$14,936 total funds to **PH Templer**, Co-PI (10/01/09-09/30/12).

United States Department of Agriculture, Northeastern States Research Cooperative. "Assessing the role of tree species and nitrogen deposition in mediating carbon storage in northern hardwood forests." GM Lovett, Cary Institute, PI; \$5760 total funds to **PH Templer** (10/01/09-09/30/12).

United States Department of Agriculture, Northeastern States Research Cooperative. "Effects of winter climate change on growing season sap flow and carbon exchange in the northern hardwood forest," \$131,391, total funds for entire award (09/01/09-08/31/12). **PH Templer**, PI with M Friedl and N Phillips, Co-PI's. All funds allocated to **PH Templer** at Boston University.



Andrew W. Mellon Foundation. "Impacts of winter dynamics on growing season plant nutrient uptake and forest productivity in a northeastern hardwood forest," \$300,000, total funds for entire award (05/01/07-12/31/11). **PH Templer, PI.**

United States Department of Agriculture, Northeastern States Research Cooperative. "Determination of atmospheric deposition and nitrogen saturation status in Class I wilderness areas of the northeastern United States," \$63,730, total funds for entire award (06/01/06-05/31/11) **PH Templer, PI,** with K Weathers, Cary Institute, Co-PI. All funds allocated to PH Templer at Boston University.

Harvard University, Arnold Arboretum. "Impacts of the hemlock woolly adelgid and atmospheric nitrogen deposition on forest nitrogen saturation status," \$5,000, total funds for entire award (05/22/06-05/21/07). **PH Templer, PI.**

#### COMPETITIVE FUNDING AND AWARDS TO GRADUATE STUDENTS IN MY LAB

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New England Botanical Club, Graduate Student Research Award to **J Harrison.** "Combined effects of winter and growing season climate on northern hardwood forest ecosystems of New England." \$3000 (06/01/19-05/31/20)

Arnold Arboretum of Harvard University, Deland Award for Student Research to **E Pierce.** "Impact of tropospheric ozone and nitrogen deposition on urban forest health and carbon sequestration." \$4750 (05/01/18-05/01/19).

Boston University, Research in Biogeoscience Award to **J Harrison.** \$500 (05/31/17-04/30/18).

National Science Foundation Graduate Research Fellowship awarded to **S Decina.** "Assessing the effects of soil freezing on populations of arbuscular mycorrhizal fungi associated with *Acer saccharum* in a northern hardwood forest," \$138,000 for graduate tuition and stipend (06/01/14-05/31/17).

Boston Area Research Initiative Research seed grant awarded to **S Decina.** "Assessing total atmospheric deposition of nitrogen and phosphorus throughout the Greater Boston Area," \$5,000 for graduate research (08/01/16-12/31/16).

National Science Foundation Doctoral Dissertation Improvement Grant (DDIG) to **P Sorensen.** "Direct and indirect effects of winter climate change on microbes: implications for nitrogen retention in temperate hardwood forests." \$21,254 (06/01/14-05/31/16).

Arnold Arboretum of Harvard University, Deland Award for Student Research to **S Decina.** "Comparing methods of measurement for atmospheric nitrogen deposition and assessing urban dry nitrogen deposition fluxes." \$10,000 (05/01/15-05/01/16).

Environmental Protection Agency, Science to Achieve Results (STAR) Program awarded to **A Reinmann.** "Impact of winter climate change on soil, canopy, and ecosystem carbon exchange in a northern deciduous forest," \$126,000 (09/01/11-08/31/14).

Boston University, Research in Biogeoscience Award to **R Sanders-Demott.** \$500 (05/31/13-04/30/14).

Boston University, Research in Biogeoscience Award to **P Sorensen.** \$500 (05/31/12-04/30/13).

Boston University, competitive Dean's Fellowship awarded to **R Sanders-Demott,** \$19,800 (09/01/11-05/30/12).

Boston University, Research in Biogeoscience Award to **A Reinmann.** "Coupled response of above- and belowground carbon fluxes in a temperate deciduous forest to reduced winter snow pack," \$500 (05/31/11-04/30/12).

National Science Foundation Graduate Research Fellowship awarded to **A Socci.** "Potential effects of climate change-induced soil freezing on plant nutrient uptake and productivity," \$118,326 for graduate tuition and stipend (06/01/07-05/31/11).

United States Department of Agriculture, Northeastern States Research Cooperative, Northern Forest Scholars Graduate Fellowship awarded to **A Socci.** "Assessing the impacts of climate change-induced soil freezing on plant nutrient uptake and productivity in a northern hardwood forest," \$40,000 (09/01/07-12/31/09).

Boston University, competitive Dean's Fellowship awarded to **A Socci,** \$16,500 (09/01/06-05/30/07).

#### PROFESSIONAL SERVICE AND ACTIVITIES

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##### DEPARTMENTAL SERVICE AT BOSTON UNIVERSITY:

Chair, Global Change Biology Faculty Search Committee (Biology)	2018-2019
Associate Chair, Department of Biology (Ecology, Behavior & Evolution)	2014-present
Chair, Graduate Committee	2012-2013
Member of Microbial Ecologist Faculty Search Committee (Biology)	2012-2013
Member of Belamarich Award Committee to select Outstanding Doctoral Dissertation	2011 & 2012
Member of Department of Biology Graduate Student Committee	2009-2013
Member of Marine Biology Faculty Search Committee (Biology)	2008-2009
Member, Chairman's Advisory Committee	Fall 2006-2010
Member, Graduate Admissions Committee, Department of Biology	Fall 2005-2007
Coordinator of Spring 2006 Ecology, Behavior & Evolution Seminar Series	Spring 2006



#### UNIVERSITY SERVICE AT BOSTON UNIVERSITY:

Member, BU University Lecture Committee	2019
Member, BU Climate Action Plan Task Force	2016-2017
Member, BU Hub Learning Outcomes Committee, Satellite Committee on Scientific & Social Inquiry	2016
Member, University Council Committee on Research & Scholarly Activity	2016-present
Member, Provost's Faculty Teaching Awards Committee	2015-2016
Director, NSF NRT Program in Biogeoscience & Environmental Health	2017-2023
Director, Ph.D. Program in Biogeoscience	2014- present
Co-Chair, BU Child Care Advisory Committee	2014-2015
Trustee Scholars Selection Committee (BU's top merit-based scholarship)	2011-2013
Member, Biogeoscience Research and Travel Award Committee for PhD students	2011 & 2012
Member, Advisory Committee for Global Ecology Education Masters Program	2011-2015
BioBugs (Biology Inquire and Outreach to High School Students)	2010 & 2011
Member, Marine Biogeochemistry Faculty Search Committee (Earth Sciences)	2008
Member, MMEDIC BA/MD Program Admissions Committee	2008
Co-Director, Boston University Stable Isotope Laboratory	2007-present
Member, Seven-Year BU BA/MD Program Admissions Committee	2007-2008
Faculty participant, "Freshman Fridays" orientation events for prospective students	2006-2015
Facilitator, Responsible Conduct of Research Program at Boston University	2005-2006

#### SERVICE OUTSIDE OF BOSTON UNIVERSITY:

Vice President for Education and Human Resources, Ecological Society of America	2018-2021
Ph.D. Jury Member, Ghent University, Belgium	2018
Ecological Society of America, Mercer Award Subcommittee	2016-2017
Subject Matter Editor for the journals <i>Ecology</i> & <i>Ecological Monographs</i>	2013-present
Invited member, Governing Council of the Science Policy Exchange	2013-present
Board of Trustees, Hubbard Brook Research Foundation	2012-present
Co-Chair, Natl Atmos Deposition Program Sub-committee on Urban Atmos Monitoring	2012-present
Editorial Review Board, Associate Editor for the journal <i>Biogeochemistry</i>	2011-2013
Elected member of Scientific Coordinating Committee, Hubbard Brook Exper Forest	2010-2019
Served on National Science Foundation Ecosystem Science Grant Panels	2009, 2010, 2012, 2014

#### REVIEWER FOR THE FOLLOWING PEER REVIEWED JOURNALS AND PROPOSAL PANELS:

American Association for the Advancement of Science Program on Europe & Central Asia Proposal Review, Analytical Chemistry, Applied Soil Ecology, Atmospheric Environment, Biogeochemistry, Biological Invasions, Biology & Fertility of Soils, Canadian Journal of Forest Research, Ecological Applications, Ecological Monographs, Ecology, Ecosystems, European Journal of Soil Biology, Forest Ecology & Management, Functional Ecology, Global Biogeochemical Cycles, Global Change Biology, Journal Arid Environments, Journal of Plant Nutrition & Soil Science, Journal of Plant Nutrition and Soil Science, Journal of Trop Ecology, Kearney Foundation Proposal Review, Natl Science Foundation Ecosystem Studies & Globe Prop Reviews, Nature, Nature Climate Change, Nature Geoscience, New Phytologist, Oecologia, Plant and Soil, Plant Biology, Plant Ecology & Diversity, Proceedings of the National Academy of Sciences, Rapid Comm in Mass Spectrometry, Soil Bio & Biochemistry, Soil Science Society America, Tree Physiology.

#### INVITED LECTURES

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Harvard University, Arnold Arboretum, DaRin Butz Internship Program	June 2019
Brookline High School, Environmental Science Class, Brookline, MA	March 2019
City University of New York, Advanced Science Research Center, New York, NY	March 2019
Harvard University, Arnold Arboretum, DaRin Butz Internship Program	June 2018
Edward Devotion Public School, Fourth Grade Class, Brookline, MA	May 2018
City University of New York, Advanced Science Research Center, New York, NY	May 2018
Wayne State University, Department of Biological Sciences, Detroit, MI	April 2018
Ghent University, Department of Green Chemistry and Technology, Gent, Belgium	January 2018
Brookline High School, AP Environmental Science Class, Brookline, MA	December 2017
Mothers Out Front, Newton, MA	June 2017
Caitlin Gabel K-12 School, Portland, OR	May 2017

Brookline, MA Public Library	May 2017
Carleton College, Department of Biology, Northfield, MN	April 2017
University of Minnesota, Dept of Ecology, Evol & Behavior, Minneapolis and St. Paul, MN	April 2017
Pierce Public School, Brookline, MA	March 2017
University of Vermont, Rubenstein School of Envir & Natural Resources, Burlington, VT	December 2016
Squam Lakes Natural Science Center, Holderness, NH	July 2016
Tufts University, Department of Biology, Medford, MA	March 2016
University of Western Ontario, Department of Biology, Ontario, Canada	March 2016
University Massachusetts Lowell, Department of Biological Sciences, Lowell, MA	February 2016
Edward Devotion Public School, Brookline, MA	February 2016
University of Granada, Dept de Ecologia Facultad de Ciencias, Granada, Spain	April 2015
University of Connecticut, Nat Resources and the Environment, Storrs, CT	September 2014
Harvard University, Environmental Science and Engineering, Cambridge, MA	April 2014
Boston University Academy, Boston, MA	February 2014
Newton Free Library, Newton, MA	January 2014
Brookline High School, AP Environmental Science Class, Brookline, MA	April and November 2013
Harvard Forest, Harvard University, Petersham, MA	October 2013
Columbia University, Department of Ecology, Evolution & Envir Biology, New York, NY	October 2012
Brown University, Department of Ecology & Evolutionary Biology, Providence, RI	February 2012
Harvard University, Arnold Arboretum, Boston, MA	February 2012
Brookline High School, AP Environmental Science Class, Brookline, MA	December 2011
Cornell University, Program in Biogeochemistry, Ithaca, NY	November 2010
Wellesley College, Department of Biological Sciences, Wellesley, MA	March 2010
Plymouth State University, Department of Biology, Plymouth, NH	February 2010
Hubbard Brook Experimental Forest, Winter Ecology Course, North Woodstock, NH	January 2010
Massachusetts Institute of Technology (MIT), Cambridge, MA	November 2009
Boston College, Department of Biology, Chestnut Hill, MA	November 2009
Boston University, Program in Terrestrial Biogeosciences, Boston, MA	October 2009
Marine Biological Laboratory, Woods Hole, MA	March 2009
Hubbard Brook Experimental Forest, REU Program, North Woodstock, NH	July 2008
University of New Hampshire ( <i>Declined</i> , on maternity leave)	Fall 2007
Harvard Forest, Harvard University, Petersham, MA	May 2007
University of Connecticut, Storrs, Department of Ecology & Evolutionary Biology	March 2007
Boston University, Department of Biology, Women in Biology Series	October 2006
University of New Hampshire, Department of Plant Biology	April 2006
Marine Biological Lab, Woods Hole, MA	March 2006
Harvard University, Cambridge, MA	February 2006
Boston University, Department of Geography, Boston, MA	October 2005
United States Department of Agriculture, Davis, CA	April 2004
University of Pennsylvania, Department of Biology, Philadelphia, PA	April 2004
California State University, Department of Biology, Northridge, CA	February 2004
University of Granada, Department of Animal Biology and Ecology, Granada, Spain	November 2003
University of Calif, Dept of Ecology, Evolution, & Marine Biology, Santa Barbara, CA	February 2003

#### INVITED CONFERENCE LECTURES

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National Atmospheric Deposition Program, Annual Meeting, Albany, NY	November 2018
500 Women Scientists Meeting, Boston, MA	September 2018
Harvard University, Arnold Arboretum Science Institute, Boston, MA	August 2018
Climate Smart Land Network, 2 <sup>nd</sup> Annual Member Gathering, North Woodstock, NH	May 2018
Harvard Forest Ecology Symposium, “Synthesizing, evaluating, and learning from long-term ecological data”, Harvard University, Petersham, MA.	March 2018
ILTER-Nitrogen Initiative International Training course titled “Long-term Trends in Nitrogen Cycles in Ecosystems, Field Monitoring and Global Comparisons” at Hokkaido University in Sapporo, Japan.	June 2016
Sustainability Science Symposium, John F. Kennedy School of Government, Harvard University. Cambridge, MA.	May 2016

Environmental History Working Group Panel on “Approaching the Anthropocene: Perspectives from the Humanities and the Sciences”, Harvard University, Cambridge, MA.	May 2016
Ecological Society of America, Annual Meeting in Baltimore, MD. Session titled “Using science-policy integration to improve ecosystem science to inform decision-making”	August 2015
Conference of the Northeastern Ecosystem Research Cooperative. Saratoga Springs, NY.	March 2015
University Massachusetts Boston, “Dimensions of Sustainability Winter Symposium”	December 2014
National Autonomous University of Mexico (UNAM), Institute of Ecology, “Frontiers in Ecology and Evolution” Symposium in Mexico City, Mexico.	October 2014
INTERFACE workshop on "Using results from global change experiments to inform land model development and calibration" in Beijing, China.	May 2014
Environmental Monitoring, Evaluation & Protection in New York: Linking Science and Policy Albany, NY	November 2013
New Hampshire Association of Natural Resource Scientists, Watershed Ecology Workshop	May 2013
Darwin Festival, Salem State University in Salem, MA.	February 2013
Eastern CANUSA Forest Science Conference in Durham, NH. Keynote address.	November 2012
National Atmospheric Deposition Program, Annual Meeting in Portland, ME.	October 2012
EUROSOIL 2012 in Bari, Italy. "Influence of tree species on forest soils."	July 2012
American Geophysical Union, Annual Meeting in San Francisco, CA. “Controls on nitrogen losses from managed landscapes.”	December 2011
National Atmospheric Deposition Program, Annual Meeting in Providence, RI.	October 2011
CLIMMANI/INTERFACE joint workshop. “Nutrient constraints on the net carbon Balance” in Keflavik, Iceland.	June 2011
Symposium at the University of California Davis, “From Sources to Scapes: Contributions of Light Stable Isotopes to Environmental Sciences” in Davis, CA.	December 2010
Soil Science Society of America Meeting in Pittsburg, PA.	November 2009
Annual Meeting of the Ecological Society of Germany, Austria and Switzerland in Bayreuth, Germany.	September 2009

#### CONFERENCE ORGANIZING ACTIVITIES

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- Principal organizer of session at the American Geophysical Union Annual Meeting. Session titled “Scaling and interpreting hot spots and hot moments in urban atmospheric biogeochemistry.” New Orleans Convention Center, USA. December 14, 2017.
- Invited member of Scientific Organizing Committee for “Acid Rain Conference” in Rochester, NY. October 2015.
- Principal organizer of Organized Oral Session at the 100<sup>th</sup> Annual Meeting of the Ecological Society of America. Session titled “Effects of climate warming on aboveground-belowground feedbacks in terrestrial ecosystems.” Baltimore Convention Center, USA. August 12, 2015.
- Invited Session Chair, INTERFACE workshop on "Using results from global change experiments to inform land model development and calibration" in Beijing, China. May 2014.
- Co-Principal organizer of working group titled “Advancing Understanding of Ecosystem Responses to Climate Change with Warming Experiments: What Have We Learned and What is Unknown?” John Wesley Powell Center for Synthesis and Analysis. Fort Collins, CO. May 2014 and 2015.
- Invited Session Chair, National Atmospheric Deposition Program, Annual Meeting. Session titled “Cross-system interactions: linking the atmosphere to the biosphere.” Renaissance Providence Hotel. Providence, RI. October 25-28, 2011.
- Principal organizer of Organized Oral Session at the 96<sup>th</sup> Annual Meeting of the Ecological Society of America. Session titled “Multi-factor global change experiments: what have we learned about terrestrial carbon storage and exchange?” Austin Convention Center. Austin, TX. August 9, 2011.
- Principal organizer of Organized Oral Session at the 94<sup>th</sup> Annual Meeting of the Ecological Society of America. Session titled “Effects of winter climate change and soil frost on carbon and nitrogen dynamics in terrestrial ecosystems.” Albuquerque Convention Center, Albuquerque, NM, USA. August 7, 2009.
- Invited member of National Science Foundation, Long Term Ecological Research – All Scientists Meeting Planning Committee. Meeting held in Estes Park, CO. September 14-16, 2009.

Principal organizer of Organized Oral Session at the 90<sup>th</sup> Annual Meeting of the Ecological Society of America. Session titled "Nitrogen cycling in terrestrial ecosystems: new insights from isotopes and experiments." Palais des congrès de Montréal, Montreal, Canada. August 5, 2005.

Principal organizer of National Center for Ecological Analysis and Synthesis Working group on "The fate of nitrogen inputs to terrestrial ecosystems." Working group met in 2005 in Santa Barbara, CA, USA and had 25 participants from 7 countries.