
MARK A. BRADFORD, PH.D.

Professor, Soils and Ecosystem Ecology

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EDUCATION

Institute of Terrestrial Ecology (Merlewood), Uni. of Exeter (Exeter), UK

Ph.D. in Biological Sciences awarded 4/1999

University of Exeter, Exeter, UK

BSc (hons first class) in Biological Sciences awarded 7/1995

APPOINTMENTS

Yale University, New Haven, CT USA

1/2017 to present, *Professor of Soils and Ecosystem Ecology*

1/2014 to 12/2016, *Associate Professor of Terrestrial Ecosystem Ecology*

1/2009-12/2013, *Assistant Professor of Terrestrial Ecosystem Ecology*

University of Georgia, Athens, GA USA

1/2009-12/2012, *Adjunct Professor of Terrestrial Ecosystem Ecology*

1/2005-12/2008, *Assistant Professor of Terrestrial Ecosystem Ecology*

Duke University, Durham, NC USA

11/2002-12/2004, *Postdoctoral Research Associate*

Imperial College, London (Silwood Park Campus), UK

4/2000-10/2002, *Research Project Leader of the Ecotron facility*

4/1999-3/2000, *Postdoctoral Research Associate*

RECOGNITION

Invited Guest Editor for special issue (Food web interactions) of *Soil Biology & Biochemistry* (top-ranked *Soil Science* journal, ISI Citation Reports). Issue published November 2016.

Associate Chief Editor for *Soil Biology & Biochemistry* (top-ranked *Soil Science* journal, ISI Citation Reports). January 2017 onwards.

Invited Visiting Scholar of the Institute of Advanced Studies, Hebrew University, Jerusalem, Israel, June-August 2016.

National Science Foundation, Division of Environmental Biology, Grant Proposal Panel Member, Fall 2015

Visiting Professorship, Royal Netherlands Academy of Arts and Sciences, 2015 (held at the Academy's Netherlands Institute of Ecology in Wageningen).

Invited External Professor Oral Opponent for a Ph.D. Defense, Wageningen Univ., Netherlands, June 2015.

Lead of a National Science Foundation funded national survey and workshop on *Identifying and prioritizing research questions for long-term ecological experiments* (2015-6).

Invited 'News & Views' contribution to *Nature* (Ecology: Good dirt with good friends (2014)).

National Science Foundation, Division of Environmental Biology, Grant Proposal Panel Member, Spring 2013

Outstanding Teaching Faculty Award, 2008. University of Georgia, Athens, GA.

Junior Faculty Fellowship, Andrew W. Mellon Foundation (Conservation and the Environment Program), 2006-2010.

PUBLICATIONS

Peer-Reviewed Journal Articles and Book Chapters

**Denotes publications led by my research group (postdocs, students or me).

Note: In my field it is typical to assume last authorship (and occasionally second authorship) for papers arising from your lab group and/or collaborative publications to which you were a major contributor.

2018 (or in press)

1. **Kuebbing, S.E., Reimer, A.P., Rosenthal, S.A., Feinberg, G., Leiserowitz, A., Lau, J.A., **Bradford, M.A.** (2017) Long-term research in ecology and evolution (LTREE): A survey of challenges and opportunities. *Ecological Monographs*, in press.
2. **Kuebbing, S.E., Maynard, D.S., **Bradford, M.A.** (2018 for print) Linking functional diversity and ecosystem processes: a framework for using functional diversity metrics to predict the ecosystem impacts of functionally unique species. *Journal of Ecology*, doi: 10.1111/1365-2745.12835 (early online 2017).

3. **Oldfield, E.E., Wood, S.A. & **Bradford, M.A.** (2018 for print) Direct effects of soil organic matter on productivity mirror those observed with organic amendments. *Plant and Soil*, doi: 10.1007/s11104-017-3513-5 (early online 2017).
4. **Wood, S.A., **Bradford, M.A.** (2018) Leveraging new understanding of belowground foodwebs for ecological intensification of agriculture. In Singh, B. (ed.) *Soil Carbon Storage: Modulators, management, and modeling*, in press. Elsevier Publication (Invited).
5. Doroski, D.A., Felson, A.J., **Bradford, M.A.**, Ashton, M.P., Oldfield, E.E., Hallett, R.A., Kuebbing, S.E. (2018) Factors driving natural regeneration beneath a planted urban forest. *Urban Forestry & Urban Greening*, **29**, 238-247.
6. King, J.R., Warren, R.J., Maynard, D.S., **Bradford, M.A.** (2018) Ant ecology and impacts in dead wood. In Ulyshen, M. (ed.) *The diversity, ecology and conservation of insect life in dead wood*, in press. Springer (Zoological Monographs series) (Invited).

2017

7. ****Bradford, M.A.**, Veen, G.F.C., Bonis, A., Bradford, E.M., Classen, A.T., Cornelissen, J.H.C., Crowther, T.W., De Long, J.R., Kardol, P., Manrubia-Freixa, M., Freschet, G.T., Maynard, D.S., Newman, G.S., van Logtestijn, R.S.P., Vikeftoft, M., Wardle, D.A., Wieder, W.R., Wood, S.A., van der Putten, W.H. (2017) Testing the hierarchical model of litter decomposition. *Nature Ecology and Evolution*, **1**, 1836-1845 (doi: 10.1038/s41559-017-0367-4).
8. ****Bradford, M.A.**, Leiserowitz, A., Feinberg, G., Rosenthal, S.A., Lau, J.A. (2017) Long-term research in ecology and evolution (LTREE): 2015 survey data. *Ecology*, **98**, 2980.
9. **Keiser, A.D., **Bradford, M.A.** (2017) Climate masks decomposer influence in a cross-site litter decomposition study. *Soil Biology & Biochemistry*, **107**, 180-187.
10. **Maynard, D.S., **Bradford, M.A.**, Lindner, D.L., van Diepen, L.T.A., Frey, S.D., Glaeser, J.A., Crowther, T.W. (2017) Diversity begets diversity in competition for space. *Nature Ecology and Evolution*, **1**, art. 0156.
11. **Maynard, D.S., Crowther, T.W., **Bradford, M.A.** (2017) Competitive network determines the direction of the diversity–function relationship. *Proceedings of the National Academy of Sciences, USA*, **114**, 11464-11469.
12. **Maynard, D.S., Crowther, T.W., **Bradford, M.A.** (2017) Fungal interactions reduce carbon use efficiency. *Ecology Letters*, **20**, 1034-1042.
13. **Rubenstein, M.A., Crowther, T.W., Maynard, D.S., Schilling, J., **Bradford, M.A.** (2017) Decoupling direct and indirect effects of temperature on decomposition. *Soil Biology & Biochemistry*, **112**, 110-116.
14. **Strickland, M.S., Callaham, M.A. Jr., Gardiner, E.S., Stanturf, J.A., Leff, J.W., Fierer, N., **Bradford, M.A.** (2017) Response of soil microbial community composition and function to a bottomland forest restoration intensity gradient. *Applied Soil Ecology*, **119**, 317-326.

15. **Sokol, N., Kuebbing, S.L., **Bradford, M.A.** (2017) Impacts of an invasive plant are fundamentally altered by a co-occurring forest disturbance. *Ecology*, **98**, 2133-2144.
16. **Warren II, R.J., Love, J.P. **Bradford, M.A.** (2017) Nest-mediated seed dispersal. *Plant Ecology*, **218**, 1213-1220.
17. Buchkowski, R.W., **Bradford, M.A.**, Grandy, A.S., Schmitz, O.J., Wieder, W.R. (2017) Applying population and community ecology theory to advance understanding of belowground biogeochemistry. *Ecology Letters*, **20**, 231-245.
18. Oliverio, A., **Bradford, M.A.**, Fierer, N. (2017) Identifying the microbial taxa which consistently respond to soil warming across time and space. *Global Change Biology*, **23**, 2117-2129.
19. Warren II, R.J., King, J.R., Chick, L., **Bradford, M.A.** (2017) Global change impacts on ant-mediated seed dispersal in eastern North America. In Oliveira, P.S. and Koptur, S. (eds.) *Ant-plant interactions in a changing world*, in press. Cambridge University Press, UK (Invited).

2016

20. ****Bradford, M.A.**, Wieder, W.R., Bonan, G.B., Fierer, N., Raymond, P.A., Crowther, T.W. (2016) Managing uncertainty in soil carbon feedbacks to climate change. *Nature Climate Change*, **6**, 751-758 (Review article).
21. ****Bradford, M.A.**, Berg, B., Maynard, D.S., Wieder, W.R., Wood, S.A. (2016) Understanding the dominant controls on litter decomposition. *Journal of Ecology*, **104**, 229-238 (*Future Directions* concept paper).
22. **Covey, K.R., Bueno de Mesquita C.P., Oberle, B., Maynard, D.S., Bettigole, C., Crowther T.W., Duguid, M.C., Steven, B., Zanne, A.E., Lapin M., Ashton, M.S., Oliver, C.D., Lee, X., **Bradford, M.A.** (2016) Greenhouse trace gases in dead wood. *Biogeochemistry*, **130**, 215-226.
23. **Crowther, T.W., Todd-Brown, K.E.O., Rowe, C.W., Wieder, W.R., Carey, J.C., Machmuller, M.B., Snoek, B.L., Fang, S., Zhou, G., Allison, S.D., Blair, J.M., Bridgham, S.D., Burton, A.J., Carrillo, Y., Reich, P.B., Clark, J.S., Classen, A.T., Dijkstra, F.A., Elberling, B., Emmett, B., Estiarte, M., Frey, S.D., Guo, J., Harte, J., Jiang, L., Johnson, B.R., Kröel-Dulay, G., Larsen, K.S., Laudon, H., Lavallee, J.M., Luo, Y., Lupascu, M., Ma, L.N., Marhan, S., Michelsen, A., Mohan, J., Niu, S., Pendell, E., Peñuelas, J., Pfeifer-Meister, L., Poll, C., Reinsch, S., Reynolds, L.L., Schmidt, I.K., Sistla, S., Sokol, N., Templer, P.H., Treseder, K.K., Welker, J.M., **Bradford, M.A.** (2016) Quantifying global soil carbon losses in response to warming. *Nature*, **540**, 104-108.
24. **Keiser, A.D., Knoepp, J.D., **Bradford, M.A.** (2016) Disturbance decouples biogeochemical cycles across forests of the southeastern US. *Ecosystems*, **19**, 50-61.
25. Smets, W., Leff, J.W., **Bradford, M.A.**, McCulley, R.L., Lebeer, S., Fierer, N. (2016) A method for simultaneous measurement of soil bacterial abundances and community composition via 16S rRNA gene sequencing. *Soil Biology & Biochemistry*, **96**, 145-151.

26. van der Putten, W., **Bradford, M.A.**, Brinkman, P., van de Voorde, T., Veen, C. (2016) Where, when and how plant-soil feedback matters in a changing world. *Functional Ecology*, **30**, 1109-1121.
27. Wood, S.A., Sokol, N., Bell, C.W., **Bradford, M.A.**, Naeem, S., Wallenstein, M.W., Palm, C.A. (2016) Opposing effects of different soil organic matter fractions on crop yields. *Ecological Applications*, **26**, 2072-2085.

2015

28. **Crowther, T.W., Glick, H.B., Covey, K.R., Bettigole, C., Maynard, D.S., Thomas, S.M., Smith, J.R., Hintler, G., Duguid, M.C., Amatulli, G., Tuanmu, M.-N., Jetz, W., Salas, C., Stam, C., Piotta, D., Tavani, R., Green, S., Bruce, G., Williams, S.J., Wiser, S.K., Huber, M.O., Hengeveld, G.M., Nabuurs, G.-J., Tikhonova, E., Borchardt, P., Li, C.-F., Powrie, L.W., Fischer, M., Hemp, A., Homeier, J., Cho, P., Vibrans, A.C., Umunay, P.M., Piao, S., Rowe, C.W., Ashton, M.S, Crane, P.R, **Bradford, M.A.** (2015) Mapping tree density at a global scale. *Nature*, **525**, 201-205.
29. **Crowther, T.W., Sokol, N., Maynard, D.S., Oldfield, E.E., Thomas, S.M., **Bradford, M.A.** (2015) Environmental stress response limits microbial necromass contributions to soil organic carbon. *Soil Biology & Biochemistry*, **85**, 153-161.
30. **Crowther, T.W., Thomas, S.M., Maynard, D.S., Baldrian, P., Covey, K., Frey, S.D., van Diepen, L.T.A., **Bradford, M.A.** (2015) Biotic interactions mediate soil microbial feedbacks to climate change. *Proceedings of the National Academy of Sciences, USA*, **112**, 7033-7038.
31. **Crowther, T.W., Maynard, D.S., Thomas, S.M., Baldrian, P., Covey, K., Frey, S.D., van Diepen, L.T.A., **Bradford, M.A.** (2015) Reply to Veresoglou: Overdependence on “significance” testing in biology. *Proceedings of the National Academy of Sciences, USA*, doi: 10.1073/pnas.1513283112.
32. **Maynard, M.S., Crowther, T.W., King, J.R., Warren, R.J., **Bradford, M.A.** (2015) Temperate forest termites: ecology, biogeography, and ecosystem impacts. *Ecological Entomology*, **40**, 199-210 (invited review).
33. **Maynard, D.S., Leonard, K.E., Drake, J.M., Hall, D.W., Crowther, T.W., **Bradford, M.A.** (2015) Modelling the multidimensional niche by linking functional traits to competitive performance. *Proceedings of the Royal Society B: Biological Sciences*, **282**, 20150516 (doi: <http://dx.doi.org/10.1098/rspb.2015.0516>).
34. **Neupane, A., Maynard, D.S., **Bradford, M.A.** (2015) Consistent effects of eastern subterranean termites (*Reticulitermes flavipes*) on properties of a temperate forest soil. *Soil Biology & Biochemistry*, **94**, 84-91.
35. **Oldfield, E.E., Felson, A.J., Ashton, M.A., Auyeung, N., Crowther, T.W., Falxa-Raymond, N., Harada, Y., Maynard, D.S., Sokol, N.W., Warren II, R.J., Hallett, R.A., **Bradford, M.A.** (2015) Growing the urban forest: tree performance in response to biotic and abiotic land management. *Restoration Ecology*, **23**, 707-718.
36. **Strickland, M.S., Keiser, A.D., **Bradford, M.A.** (2015) Climate history shapes contemporary leaf litter decomposition. *Biogeochemistry*, **122**, 165-174.

37. **Strickland, M.S., Leggett, Z.H., Sucre, E.B., **Bradford, M.A.** (2015) Biofuel intercropping effects on soil carbon and microbial activity. *Ecological Applications*, **25**, 140-150.
38. **Strickland, M.S., McCulley, R.L., Nelson, J., **Bradford, M.A.** (2015) Compositional differences in simulated root exudates elicit a limited functional and compositional response in soil microbial communities. *Frontiers in Microbiology*, **6**, 33 [doi: 10.3389/fmicb.2015.00817].
39. **Warren II, R.J., McMillan, A., King, J.R., Chick, L., **Bradford, M.A.** (2015) Forest invader replaces predation but not dispersal services by a keystone species. *Biological Invasions*, doi: 0.1007/s10530-015-0942-z.
40. **Warren II, R.J., Pearson, S., Henry, S., Rossouw, K., Love, J., Olejniczak, M., Elliott, K.J., **Bradford, M.A.** (2015) Cryptic indirect effects of exurban edges on a woodland community. *Ecosphere*, **6**, 218 [doi: org/10.1890/ES15-00318.1].
41. Buchkowski, R.W., Schmitz, O.J., **Bradford, M.A.** (2015) Microbial stoichiometry overrides biomass as a regulator of soil carbon and nitrogen cycling. *Ecology*, **96**, 1139-1149.
42. Wood, S.A., Almaraz, M., **Bradford, M.A.**, McGuire, K.L., Naeem, S., Neill, C., Palm, C.A., Tully, K.L., Zhou, J. (2015) Farm management, not soil microbial diversity, controls nutrient loss from smallholder tropical agriculture. *Frontiers in Microbiology*, **6**, 90 [doi: 10.3389/fmicb.2015.00090].
43. Wood, S.A., **Bradford, M.A.**, Gilbert, J.A., McGuire, K.L., Palm, C.A., Tully, K.L., Zhou, J., Naeem, S. (2015) Agricultural intensification and the functional capacity of soil microbes on smallholder African farms. *Journal of Applied Ecology*, **52**, 744-752.

2014

44. ****Bradford, M.A.**, Warren, R.J., Baldrian, P., Crowther, T.W., Maynard, D.S., Oldfield, E.E., Wieder, W.R., Wood, S.A., King, J.R. (2014) Climate fails to predict wood decomposition at regional scales. *Nature Climate Change*, **4**, 625-630.
45. ****Bradford, M.A.**, Wood, S.A., Bardgett, R.D., Black, H.I.J., Bonkowski, M., Eggers, T., Grayston, S.J., Kandeler, E., Manning, P., Setälä, H., Jones, T.H. (2014) Reply to Byrnes et al.: Aggregation can obscure understanding of ecosystem multifunctionality. *Proceedings of the National Academy of Sciences, USA*, doi: 10.1073/pnas.1421203112.
46. ****Bradford, M.A.**, Wood, S.A., Bardgett, R.D., Black, H.I.J., Bonkowski, M., Eggers, T., Grayston, S.J., Kandeler, E., Manning, P., Setälä, H., Jones, T.H. (2014) Discontinuity in the responses of ecosystem processes and multifunctionality to altered soil community composition. *Proceedings of the National Academy of Sciences, USA*, **11**, 14478-14483.
47. **Crowther, T.W., Maynard, D.S., Crowther, T.R., Peccia, J., Smith, J.R., **Bradford, M.A.** (2014) Untangling the fungal niche: the trait-based approach. *Frontiers in Microbiology*, **5**, 579 [doi: 10.3389/fmicb.2014.00579].

48. **Crowther, T.W., Maynard, D.S., Leff, J.W., Oldfield, E.E., McCulley, R.L., Fierer, N., **Bradford, M.A.** (2014) Predicting the responsiveness of soil biodiversity to deforestation: a cross-biome study. *Global Change Biology*, **20**, 2983-2994.
49. **Keiser, A.D., Keiser, D.A., Strickland, M.S., **Bradford, M.A.** (2014) Disentangling mechanisms underlying functional differences in decomposer communities. *Journal of Ecology*, **102**, 603-609.
50. **Oldfield, E.E., Felson, A.J., Wood, S.A., Hallett, R.A., Strickland, M.S., **Bradford, M.A.** (2014) Positive effects of afforestation efforts on the health of urban soils (joint lead author with Oldfield). *Forest Ecology and Management*, **313**, 266-273.
51. **Warren, R.J., **Bradford, M.A.** (2014) Mutualism fails when climate response differs between interacting species. *Global Change Biology*, **20**, 466-474.
52. **Warren, R.J., Giladi, I., **Bradford, M.A.** (2014) Competition as a mechanism structuring mutualisms. *Journal of Ecology*, **102**, 486-495.
53. Barberán, A., Ramirez, K.S., Leff, J.W., **Bradford, M.A.**, Wall, D.H., Fierer, N. (2014) Why are some microbes more ubiquitous than others? Predicting the habitat breadth of soil bacteria. *Ecology Letters*, **17**, 794-802.
54. García-Palacios, P., Maestre, F.T., **Bradford, M.A.**, Reynolds, J.F. (2014) Earthworms modify plant biomass and nitrogen capture under conditions of soil nutrient heterogeneity and elevated atmospheric CO₂ concentrations. *Soil Biology & Biochemistry*, **78**, 182-188.
55. Ramirez, K.S., Leff, J.W., Barberán, A., Bates, S.T., Betley, J., Crowther, T.W., Kelly, E.F., Oldfield, E.E., Shaw, E.A., Steenbock, C., **Bradford, M.A.**, Wall, D.H., Fierer, N. (2014) Biogeographic patterns in below-ground diversity in New York City's Central Park are similar to those observed globally. *Proceedings of the Royal Society B: Biological Sciences*, **281**, [doi: 10.1098/rspb.2014.1988].
56. Schmitz, O.J., Raymond, P.R., Estes, J.A., Kurz, W.A., Holtgrieve, G.W., Ritchie, M.E., Schindler, D.E., Spivak, A., Wilson, R.W., **Bradford, M.A.**, Christensen, V., Deegan, L., Smetacek, V., Vanni, M.J., Wilmers, C.C. (2014) Animating the carbon cycle. *Ecosystems*, **17**, 344-359.

2013

57. ****Bradford, M.A.** (2013) Thermal adaptation of decomposer communities in warming soils. *Frontiers in Microbiology*, **4**, 333 [doi: 10.3389/fmicb.2013.00333] (invited review for special topic on The Microbial Regulation of Global Biogeochemical Cycles).
58. ****Bradford, M.A.**, Keiser, A.D., Davies, C.A., Mersmann, C.A., Strickland, M.S. (2013) Empirical evidence that soil carbon formation from plant inputs is positively related to microbial growth. *Biogeochemistry*, **113**, 271-281 (in the fast-breaking *Biogeochemistry Letters* format for high-profile papers that substantially advance the field).
59. **Crowther, T.M., **Bradford M.A.** (2013) Thermal acclimation in widespread heterotrophic soil microbes. *Ecology Letters*, **4**, 469-477.

60. **Keiser, A.D., Knoepp, J.D., **Bradford, M.A.** (2013) Microbial communities may modify how litter quality affects potential decomposition rates as tree species migrate. *Plant and Soil*, **372**, 167-176.
61. **Oldfield, E.E., Warren, R.J., Felson, A.J., **Bradford, M.A.** (2013) Challenges and future directions in urban afforestation. *Journal of Applied Ecology*, **50**, 1169-1177.
62. **Strickland, M.S., Hawlena, D., Reese, A., **Bradford, M.A.**, Schmitz, O.J. (2013) Trophic cascade alters ecosystem carbon exchange. *Proceedings of the National Academy of Sciences, USA*, **110**, 11035-11038.
63. **Strickland, M.S., McCulley, R.L., **Bradford, M.A.** (2013) The effect of a quorum-quenching enzyme on leaf litter decomposition. *Soil Biology & Biochemistry*, **64**, 65-67.
64. **Warren, R.J, Bahn, V., **Bradford, M.A.** (2013) Decoupling litter barrier and soil moisture influences on the establishment of an invasive grass. *Plant and Soil*, **367**, 339-346.
65. **Warren, R.J, Keiser, A.D., Ursell, T., **Bradford, M.A.** (2013) Habitat, dispersal and propagule pressure control exotic plant infilling within an invaded range. *Ecosphere*, **4**, 26 [doi: 10.1890/ES12-00393.1]
66. Felson, A.J., **Bradford, M.A.**, Terway, T.M. (2013) Promoting Earth Stewardship through urban design experiments. *Frontiers in Ecology and the Environment*, **11**, 362-367.
67. Felson, A.J., Oldfield, E.E., **Bradford, M.A.** (2013) Involving ecologists in shaping large-scale green infrastructure projects. *Bioscience*, **63**, 882-890 (see associated Feature article in the same addition of Bioscience reporting on this emerging field through interviews with our group and others).
68. King, J.R., Warren, R.J., **Bradford, M.A.** (2013) Social insects dominate eastern US temperate hardwood forest macroinvertebrate communities in warmer regions. *PLoS One*, **10**, e75843.
69. Schmitz, O.J., **Bradford, M.A.**, Strickland, M.S., Hawlena, D. (2013) Linking predation risk, herbivore physiological stress and microbial decomposition of plant litter. *Journal of Visualized Experiments*, **73**, e50061 [doi:10.3791/50061]

2012

70. ****Bradford, M.A.**, Wood, S.A., Maestre, F.T., Reynolds, J.F., Warren, R.J. (2012) Contingency in ecosystem but not plant community response to multiple global change factors. *New Phytologist*, **196**, 462-471 (featured in a commentary of the same issue).
71. ****Bradford, M.A.**, Fierer, N. (2012) The biogeography of microbial communities and ecosystem processes: Implications for soil and ecosystem models. In Wall, D.H., Bardgett, R.D., Behan-Pelletier, V., Herrick, J.E., Jones, H., Ritz, K., Six, J., Strong, D.R., and van der Putten, W.H. (eds.) *Soil Ecology and Ecosystem Services*. pp. 189-200. Oxford University Press, UK (Invited).
72. ****Bradford, M.A.**, Strickland, M.S., Devore, J.L., Maerz, J.C. (2012) Root carbon flow from an invasive plant to belowground foodwebs. *Plant and Soil*, **359**, 233-244.

73. **Covey, K.R., Wood, S.A., Warren, R.J., Lee, X., **Bradford, M.A.** (2012) Elevated methane concentrations in trees of an upland forest. *Geophysical Research Letters*, **39**, L15705, doi:10.1029/2012GL052361.
74. **Kramer, T.D., Warren, R.J., Tang, Y., **Bradford, M.A.** (2012) Grass invasions across a regional gradient are associated with declines in belowground carbon pools. *Ecosystems*, **15**, 1271-1282.
75. **Strickland, M.S., Wickings, K., **Bradford, M.A.** (2012) The fate of glucose, a low molecular weight carbon compound of root exudates, in the belowground foodweb of forests and pastures. *Soil Biology & Biochemistry*, **49**, 23-29.
76. **Tang, Y., Warren, R.J., Kramer, T.D., **Bradford, M.A.** (2012) Plant invasion impacts on arthropod abundance, diversity and feeding consistent across environmental and geographic gradients. *Biological Invasions*, **14**, 2625-2637.
77. **Warren, R.J, Bahn, V., **Bradford, M.A.** (2012) The interaction between propagule pressure, habitat suitability and density-dependent reproduction in species invasion. *Oikos*, **121**, 874-881.
78. **Warren, R.J, **Bradford, M.A.** (2012) Ant colonization and coarse woody debris decomposition in temperate forests. *Insectes Sociaux*, **59**, 215-221.
79. **Warren, R.J, Giladi, I., **Bradford, M.A.** (2012) Environmental heterogeneity and interspecific interactions influence nest occupancy by key seed-dispersing ants. *Environmental Entomology*, **41**, 463-468.
80. Carrillo, Y. Ball, B.A., Strickland, M.S., **Bradford, M.A.** (2012) Legacies of plant litter on carbon and nitrogen dynamics and the role of the soil community. *Pedobiologia*, **55**, 185-192.
81. Fierer, N., Lauber, C.L., Ramirez, K.S., Zaneveld, J., **Bradford, M.A.**, Knight R. (2012) Comparative metagenomic, phylogenetic, and physiological analyses of soil microbial communities across nitrogen gradients. *The ISME Journal*, **6**, 1007-1017.
82. Hawlena, D., Strickland, M.S., **Bradford, M.A.**, Schmitz, O.J. (2012) Fear of predation slows plant-litter decomposition. *Science*, **336**, 1434-1438.
83. Price, S.P., **Bradford, M.A.**, Ashton, M.S. Characterizing organic carbon stocks and flows in forest soils. (2012) In Ashton, M.S., Tyrrell, M.L., Spalding, D., Gentry, B. (eds.) *Managing Forest Carbon in a Changing Climate*. pp. 7-30. Springer, Netherlands.
84. Treseder, K.K., Balser, T.C., **Bradford, M.A.**, Brodie, E.L., Dubinsky, V.T., Eviner, V.T., Hofmockel, K.S., Lennon, J. T., Levine, U.Y., MacGregor, B.J., Pett-Ridge, J., Waldrop, M.P. (2012) Integrating microbial ecology into ecosystem models: challenges and priorities. *Biogeochemistry*, **109**, 7-18.

2011

85. **Keiser, A.D., Strickland, M.S., Fierer, N., **Bradford, M.A.** (2011) The effect of resource history on the functioning of soil microbial communities is maintained across time. *Biogeosciences*, **8**, 1477-1486 (Part of Special Feature – Biotic interactions and biogeochemical processes in the soil environment).

86. **Strickland, M.S., Devore, J.L., Maerz, J.C., **Bradford, M.A.** (2011) Loss of faster-cycling soil carbon pools following grass invasion across multiple forest sites. *Soil Biology & Biochemistry*, **43**, 452-454.
87. **Warren, R.J., Bahn, V., **Bradford, M.A.** (2011) Temperature cues phenological synchrony in ant-mediated seed dispersal. *Global Change Biology*, **17**, 2444-2454.
88. **Warren, R.J., Bahn, V., Kramer, T.D., Tang, Y., **Bradford, M.A.** (2011) Performance and reproduction of an exotic invader across temperate forest gradients. *Ecosphere*, **2**, 14 [doi:10.1890/ES10-00181.1]
89. **Warren, R.J., **Bradford, M.A.** (2011) The shape of things to come: woodland herb niche contraction begins during recruitment in mesic forest microhabitat. *Proceedings of the Royal Society B: Biological Sciences*, **278**, 1390-1398.
90. **Warren, R.J., Skelly, D.K., Schmitz, O.J., **Bradford, M.A.** (2011) Universal ecological patterns in college basketball communities. *PLoS One*, **6**, e17342 [doi:10.1371/journal.pone.0017342]
91. **Warren, R.J., Wright, J.P., **Bradford, M.A.** (2011) The putative niche requirements and landscape dynamics of *Microstegium vimineum*: an invasive Asian grass. *Biological Invasions*, **13**, 471-483.
92. Carrillo, Y. Ball, R.A., **Bradford, M.A.**, Jordan, C.F., Molina, M. (2011) Soil fauna alter the effects of litter composition on nitrogen cycling in a mineral soil. *Soil Biology & Biochemistry*, **43**, 1440-1449.
93. Conant, R.T., Ryan, M.G., Ågren, G.I., Birge, H.E., Davidson, E.A., Eliasson, P.E., Evans, S.E., Frey, S.D., Giardina, C.P., Hopkins, F., Hyvönen, R., Kirschbaum, M.U.F., Lavelle, J.M., Leifeld, J., Parton, W.J., Steinweg, J.M., Wallenstein, M.D., Wetterstedt, J.Å.M., **Bradford, M.A.** (2011) Temperature and soil organic matter decomposition rates – synthesis of current knowledge and a way forward. *Global Change Biology*, **17**, 3392-3404 (Listed in 2016 as one of the journal's top 15 most-cited articles).
94. Fraterrigo, J.M., Keiser, A.D., Strickland, M.S., **Bradford, M.A.** (2011) Nitrogen uptake and preference in a forest understory following invasion by an exotic grass. *Oecologia*, **167**, 781-791.
95. Goldfarb, K.C., Karaoz, U., Hanson, C.A., Santee, C.A., **Bradford, M.A.**, Treseder, K.K., Wallenstein, M.D., Brodie, E.L. (2011) Differential growth responses of soil bacterial taxa to carbon substrates of varying chemical recalcitrance. *Frontiers in Microbiology*, **2**, 94 [doi: 10.3389/fmicb.2011.00094]

2010

96. ****Bradford, M.A.**, Devore, J.L., Maerz, J.C., McHugh, J.V., Smith, C., Strickland, M.S. (2010) Native, insect herbivore communities derive a significant proportion of their carbon from a widespread invader of forest understories. *Biological Invasions*, **12**, 721-724.

97. ****Bradford, M.A.**, Watts, B.W., Davies, C.A. (2010) Thermal adaptation of heterotrophic soil respiration in laboratory microcosms. *Global Change Biology*, **16**, 1576-1588.
98. ****Strickland, M.S.**, Callahan, M.A. Jr., Davies, C.A., Lauber, C.L., Ramirez, K., Richter, D.D. Jr., Fierer, N., **Bradford, M.A.** (2010) Rates of *in situ* carbon mineralization in relation to land-use, microbial community and edaphic characteristics. *Soil Biology & Biochemistry*, **42**, 260-269.
99. ****Strickland, M.S.**, DeVore, J. L., Maerz, J. C., **Bradford, M.A.** (2010) Grass invasion of a hardwood forest is associated with declines in belowground carbon pools. *Global Change Biology*, **16**, 1338-1350.
100. ****Warren, R.J.**, **Bradford, M.A.** (2010) Seasonal climate trends, the North Atlantic Oscillation, and salamander abundance in the southern Appalachian mountain region. *Journal of Applied Meteorology and Climatology*, **49**, 1597-1603.
101. ****Warren, R.J.**, Giladi, I., **Bradford, M.A.** (2010) Ant-mediated seed dispersal does not facilitate niche expansion. *Journal of Ecology*, **98**, 1178-1185.
102. Allison, S.D., Wallenstein, M.D., **Bradford, M.A.** (2010) Soil carbon response to warming is dependent on microbial physiology. *Nature Geoscience*, **3**, 336-340 (Featured in 'News and Views' of same edition).
103. Ramirez, K.S., Lauber, C.L., Knight, R., **Bradford, M.A.**, Fierer, N. (2010) Consistent effects of nitrogen fertilization on soil bacterial communities in contrasting systems. *Ecology* **91**, 3463-3470.

2009

104. ****Ball, B.A.**, **Bradford, M.A.**, Coleman, D.C., Hunter, M.D. (2009) Linkages between below- and aboveground communities: decomposer responses to simulated tree species loss are largely additive. *Soil Biology & Biochemistry*, **41**, 1155–1163.
105. ****Ball, B.A.**, **Bradford, M.A.**, Hunter, M.D. (2009) Nitrogen and phosphorus release from mixed litter layers is lower than predicted from single species decay. *Ecosystems*, **12**, 87-100.
106. ****Bradford, M.A.**, Wallenstein, M.D., Allison, S.D., Treseder, K.K., Frey, S.D., Watts, B.W.*, Davies, C.A., Maddox, T.R., Melillo, J.M., Mohan, J.E., Reynolds, J.F. (2009) Decreased mass specific respiration under experimental warming is robust to the microbial biomass method employed. *Ecology Letters*, **12**, E15-E18.
107. ****Strickland, M.S.**, Lauber, C., Fierer, N., **Bradford, M.A.** (2009) Testing the functional significance of microbial community composition. *Ecology*, **90**, 441-451 (Received the Ecological Society of America Biogeosciences section 'Elizabeth Sulzman' award)
108. ****Strickland, M.S.**, Osburn, E., Lauber, C., Fierer, N., **Bradford, M.A.** (2009) Litter quality is in the eye of the beholder: initial decomposition rates as a function of inoculum characteristics. *Functional Ecology*, **23**, 627-636.
109. Fierer, N., Strickland, M.S., Liptzin, D., **Bradford, M.A.**, Cleveland, C. (2009) Global patterns in belowground communities. *Ecology Letters*, **12**, 1238-1249.

110. Grandy, A.S., Strickland, M.S., Lauber, C.L., **Bradford, M.A.**, Fierer, N. (2009) The influence of microbial communities, management, and soil texture on soil organic matter chemistry. *Geoderma*, **150**, 278-286.
111. Hamilton, H.C., Strickland, M.S., Wickings, K., **Bradford, M.A.**, Fierer, N. (2009) Surveying soil mesofaunal communities using a direct molecular approach. *Soil Biology & Biochemistry*, **41**, 1311–1314.
112. van der Putten, W.H., Bardgett, R.D., de Ruiter, P.C., Hol, W.H.G., Meyer, K.M., Bezemer, T.M., **Bradford, M.A.**, Christensen, S., Eppinga, M.B., Fukami, T., Hemerik, L., Molofsky, J., Schädler, M., Scherber, C., Strauss, S.Y., Vos, M., Wardle, D.A. (2009) Empirical and theoretical challenges in aboveground-belowground ecology. *Oecologia*, **161**, 1-14.

2008

113. **Ball, B.A., Hunter, M.D., Kominoski, J.S., Swan, M.S., **Bradford, M.A.** (2008) Consequences of non-random species loss for decomposition dynamics: Experimental evidence for additive and non-additive effects. *Journal of Ecology* **96**, 303-313.
114. ****Bradford, M.A.**, Fierer, N., Jackson, R.B., Maddox, T.R., Reynolds, J.F. (2008) Nonlinear root-derived carbon sequestration across a gradient of nitrogen and phosphorous deposition in experimental mesocosms. *Global Change Biology* **14**, 1113-1124.
115. ****Bradford, M.A.**, Gancos, T., Frost C.J. (2008) Slow-cycle effects of foliar herbivory alter the nitrogen acquisition and population size of Collembola. *Soil Biology & Biochemistry* **40**, 1253-1258.
116. ****Bradford, M.A.**, Davies, C.A., Frey, S.D., Maddox, T.R., Melillo, J.M., Mohan, J.E., Reynolds, J.F., Treseder, K.K., Wallenstein, M.D. (2008) Thermal adaptation of soil microbial respiration to elevated temperature. *Ecology Letters*, **11**, 1316-1327.
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118. Hanson, C.A., Allison, S.D., **Bradford, M.A.**, Wallenstein, M.D., Treseder, K.K. (2008) Fungal taxa target different carbon sources in forest soil. *Ecosystems*, **11**, 1157–1167.
119. Lauber, C.L., Strickland, M.S., **Bradford, M.A.**, Fierer, N. (2008) The influence of soil properties on the structure of bacterial and fungal communities across land-use types. *Soil Biology & Biochemistry*, **40**, 2407–2415.
120. Manning, P., Saunders, M., Bardgett, R.D., Bonkowski, **Bradford, M.A.**, M., Ellis, R.J., Kandeler, E. Marhan, S., Tscherko, D. (2008) The direct and indirect effects of nitrogen deposition on litter decomposition. *Soil Biology & Biochemistry*, **40**, 688-698.
121. Wall, D.H., **Bradford, M.A.**, St. John, M.G., Trofymow, J.A., Behan-Pelletier, V., Bignell, D.E., Dangerfield, J.M., Parton, W.J., Rusek, J., Voigt, W., Wolters, V., Zadeh, H., GLIDE Working Group (2008) Global decomposition experiment shows

soil animal impacts on decomposition are climate dependent. *Global Change Biology*, **14**, 2661–2677.

2007

122. ****Bradford, M.A.**, Schumacher, H.B., Catovsky, S., Eggers, T., Newington, J.E., Tordoff, G.M. (2007) Impacts of invasive plant species on riparian plant assemblages: interactions with elevated atmospheric carbon dioxide and nitrogen deposition. *Oecologia* **152**, 791-803.
123. ****Bradford, M.A.**, Tordoff, G.M., Black, H.I.J., Cook, R., Eggers, T., Hutcheson, K., Garnett, M.H. Grayston, S.J., Ineson, P., Newington, J.E., Ostle, N., Sleep, D., Stott, A., Jones, T.H. (2007) Carbon dynamics in a model grassland with functionally different soil communities. *Functional Ecology*, **21**, 690-697.
124. ****Bradford, M.A.**, Eggers, T., Newington, J.E., Tordoff, G.M. (2007) Soil faunal assemblage composition modifies root in-growth to plant litter patches. *Pedobiologia* **50**, 505-513 (Special Issue Article – David C. Coleman Retirement Festschrift).
125. Fierer, N., **Bradford, M.A.**, Jackson R.B. (2007) Toward an ecological classification of soil bacteria. *Ecology* **88**, 1354-1364 (Special Feature Article – New Directions in Microbial Ecology).
126. Kominoski, J.S., Pringle, C.M., Ball, B.A., **Bradford, M.A.**, Coleman, D.C., Hall, D.B., Hunter, M.D. (2007) Non-additive effects of leaf litter species diversity on breakdown dynamics in a detrital-based stream. *Ecology* **88**, 1167-1176.

2006

127. ****Bradford, M.A.**, Reynolds, J.F. (2006) Scaling terrestrial biogeochemical processes: contrasting intact and model experimental systems. In: *Scaling and uncertainty analysis in ecology: methods and applications* (eds. Wu, J., Jones, K.B., Li, H., Loucks, O.L.), pp. 109-130. Springer, Netherlands.
128. Cole, L., **Bradford, M.A.**, Shaw, P.J.A., Bardgett, R.D. (2006) The abundance, richness and functional role of soil meso- and macrofauna in temperate grassland – a case study. *Applied Soil Ecology* **33**, 186-198 (invited paper).
129. Maestre, F.T., **Bradford, M.A.**, Reynolds J.F. (2006) Soil heterogeneity and community composition jointly influence grassland biomass. *Journal of Vegetation Science* **17**, 261-270 (Nominated for the Editors' Award 2006 by Coordinating Editors and Referees for JVS and featured as an "outstanding" contribution).
130. Manning, P., Newington, J.E., Robson, H.R., Saunders, M., Eggers, T., **Bradford, M.A.**, Bardgett, R.D., Bonkowski, M., Ellis, R.J., Gange, A.C., Grayston, S.J., Kandeler, E. Marhan, S., Reid, E., Tscherko, D., Godfray, H.C.J., Rees, M. (2006) Decoupling the direct and indirect effects of nitrogen deposition on ecosystem function. *Ecology Letters* **9**, 1015-1024.

2005

131. Maestre, F.T., **Bradford, M.A.**, Reynolds J.F. (2005) Soil nutrient heterogeneity interacts with elevated CO₂ and nutrient availability to determine species and assemblage responses in a model grassland community. *New Phytologist* **168**, 637-650.

2003

132. **Smith, V.C., **Bradford, M.A.** (2003) Litter quality impacts on grassland litter decomposition are differently dependent on soil fauna across time. *Applied Soil Ecology*, **24**, 197-203.
133. **Smith, V.C., **Bradford, M.A.** (2003) Do non-additive effects on decomposition in litter-mix experiments result from differences in resource quality between litters? *Oikos* **102**, 235-242.
134. Goddard M.R., **Bradford, M.A.** (2003) The adaptive response of a natural microbial population to carbon- and nitrogen-limitation. *Ecology Letters* **6**, 594-598.

2002

135. ****Bradford, M.A.**, Jones, T.H., Bardgett, R.D., Black, H., Boag, B., Bonkowski, M., Cook, R., Eggers, T., Gange, A.C., Grayston, S.J., Kandeler, E., McCaig, A.E., Newington, J.E., Setälä, H., Staddon, P.L., Tordoff, G.M., Tscherko, D., Lawton, J.H. (2002) Impacts of soil faunal community composition on model grassland ecosystems. *Science* **298**, 615-618.
136. ****Bradford, M.A.**, Newington, J.E. (2002) With the worms: soil biodiversity and ecosystem functioning. *Biologist* **3**, 127-130 (Invited).
137. ****Bradford, M.A.**, Tordoff, G.M., Eggers, T., Jones, T.H., Newington, J.E. (2002) Microbiota, fauna, and mesh size interactions in litter decomposition. *Oikos* **99**, 317-323.
138. Catovsky, S., **Bradford, M.A.**, Hector, A. (2002) Biodiversity and ecosystem productivity: implications for carbon storage. *Oikos* **97**, 443-448.

2001

139. ****Bradford, M.A.**, Ineson, P., Wookey, P.A., Lappin-Scott, H.M. (2001) The effects of acid nitrogen and acid sulphur deposition on CH₄ oxidation in a forest soil: a laboratory study. *Soil Biology & Biochemistry* **33**, 1695-1702.
140. ****Bradford, M.A.**, Ineson, P., Wookey, P.A., Lappin-Scott, H.M. (2001) The role of CH₄ oxidation, production and transport in forest soil CH₄ flux. *Soil Biology & Biochemistry* **33**, 1625-1631.
141. ****Bradford, M.A.**, Wookey, P.A., Ineson, P., Lappin-Scott, H.M. (2001) Controlling factors and effects of chronic nitrogen and sulphur deposition on methane oxidation in a temperate forest soil. *Soil Biology & Biochemistry* **33**, 93-102.
142. Jones, T.H., **Bradford, M.A.** (2001) Assessing the functional implications of soil biodiversity in ecosystems. *Ecological Research* **16**, 845-858 (Invited).

2000 and before

143. **Bradford, M.A., Ineson, P., Wookey, P.A., Lappin-Scott, H.M. (2000) Soil CH₄ oxidation: response to forest clearcutting and thinning. *Soil Biology & Biochemistry* **32**, 1035-1038.
144. Greenup, A.L., Bradford, M.A., McNamara, N., Ineson, P., Lee, J. (2000) The role of *Eriophorum vaginatum* in CH₄ flux from an ombrotrophic peatland. *Plant and Soil* **227**, 265-272.
145. **Bradford, M.A., Humphrey, T.J., Lappin-Scott, H.M. (1997) The cross-contamination and survival of *Salmonella enteritidis* PT4 on sterile and non-sterile foodstuffs. *Letters in Applied Microbiology* **24**, 261-264 (undergraduate thesis research).

Non Peer-Reviewed Publications (including commentaries, editorials and letters)

2017

146. **Bradford, M.A. (2017) Soil carbon: A leaky sink. *Nature Climate Change*, **7**, 475-476 (News & Views).

2016

147. **Bradford, M.A. (2016) Re-visioning soil food webs. *Soil Biology & Biochemistry*, **102**, 1-3 (Guest Editorial to the Special Issue on Food Web Interactions in the Root Zone: Community and Ecosystem Dynamics).
148. Wieder, W., Bradford, M.A., Grandy, S., Talbot, J. (2016) Turning uncertainty into opportunity by advancing theory and models. *White Paper for the Offices of Advanced Scientific Computing Research and DOE Biological and Environmental Research (BER) review to assess computing and data requirements for BER programs in the next decade*.

2015

149. **Oldfield, E.E., Wood, S.A., Palm, C.A., Bradford, M.A. (2015) How much SOM is needed for sustainable agriculture? *Frontiers in Ecology & Environment*, **13**, 527 (Guest Editorial).
150. Wieder, W., Allison, S.D., Bonan, G., Bradford, M.A., Grandy, S., Hinckley E.-L., Randerson, J., Reed, S.C., Stephens, B. (2015) Scaling soil processes with data from above and below: Using space-based and local observations to advance our capacity to project carbon cycle-climate feedbacks. *White Paper for the 2017-2027 National Research Council (NRC) Decadal Survey, Earth Science and Applications from Space*.

2014

151. **Bradford, M.A. (2014) Ecology: Good dirt with good friends. *Nature*, **505**, 486-487 (News & Views).
152. **Bradford M.A., Warren, R.J. (2014) Terrestrial Biodiversity and Climate Change. In Freedman, B. (ed.) *Handbook of Global Environmental Change*, chapter 13, pp. 1-7, Springer, Dordrecht. doi: 10.1007/978-94-007-5784-4_13 (Invited).

153. Felson, A., Oldfield, E, **Bradford M.**, Warren, R (2014) Constructing native urban forests as experiments to evaluate resilience. *Scenario Journal*, **4** (online).

2013

154. ****Bradford, M.A.**, Crowther, T.W. (2013) Carbon use efficiency and storage in terrestrial ecosystems. *New Phytologist*, **199**, 7-9 (Commentary).
155. ****Warren, R.J., Bradford, M.A.** (2013) Public opinion: Science petitions are a facade of numbers. *Nature*, **493**, 480 (Correspondence).

Manuscripts Submitted, In Review or Revising

156. ****Covey, K.R., Bettigole, C.A., Warren, R.J., Williams, C.A., Aubrey, D.P., Asbjorsen, H., Bohn, K.K., Classen, A.T., Crowther, T.W., Farrell, M., Frey, B.R., Holzmueller, E.J., Keeton, W.S., Knapp, B.O., King, J.R., Kuers, K.K., Lhotka, J.M., Love, J.P., Maynard, D.S., Megonigal, J.P., Pitz, S., Ruttanbeck, N.E., Sanders, N.J., Saunders, M.R., Stovall, J.P., Szlavcecz, K., Wright, J.P., Wurzbarger, N., Oliver, C.D., Lee, X., Bradford, M.A.** Methane in upland temperate forest trees.
157. ****Crowther, T.W., Bradford, M.A.** No disagreement among climate change scientists.
158. ****Kuebbing, S.E., Bradford, M.A.** Idiosyncrasies in invasive plant impacts are moderated by mass-ratio and trait divergence effects.
159. ****Maynard, D.S., Covey, K.R., Crowther, T.W., Sokol, N.W., Morrison, E.W., Frey, S.D., van Diepen, L.T.A., Bradford, M.A.** Species associations overwhelm abiotic conditions to dictate the structure and function of wood-decay fungal communities.
160. ****Oldfield, E.E, Bradford, M.A., Wood, S.A.** Increasing soil organic matter can close global yield gaps.
161. ****Pregitzer, C.C., Charlop-Powers, S., Bibbo, S., Forgione, H., Gunther, B., Hallett, R.A., Bradford, M.A.** Native forest types and overstory species dominate New York City's natural areas.
162. ****Pregitzer, C.C., Ashton, M.A., Charlop-Powers, S., D'Amato, A., Frey, B.R., Gunther, B., Hallett, R.A., Kolb, T., Pregitzer, K.S., Woodall, C.W., Bradford, M.A.** Urban forest versus urban canopy.
163. ****Sokol, N.W., Bradford, M.A.** The size, activity, and composition of the microbial community regulates the formation of microbial-derived, stable soil carbon.
164. ****Warren II, R.J., Elliott, K., Giladi, I. King, J.R., Bradford, M.A.** Experimental evidence re-defines the interaction between plants and seed-dispersing ants.
165. Hall, E.K., Bernhardt, E.S, Bier, R., **Bradford, M.A.**, Boot, C.M., Cotner, J.B., del Giorgio, P.A., Evans, S.E., Graham E. B., Jones, S.E., Lennon, J.T., Locey, K.J., Nemergut, D., Osborne, B., Rocca, J.D., Schimel J.S., Waldrop, M.S., Wallenstein, M.W. Understanding how microbiomes influence the systems they inhabit: moving from a correlative to a causal research framework.

166. Sulman, B.N., Moore, J.A.M., Abramoff, R., Averill, C., Kivlin, S., Georgiou, K., Sridhar, B., Hartmann, M., Wang, G., Wieder, W.R., **Bradford, M.A.**, Luo, Y., Mayes, M., Morrison, E., Riley, W.J., Salazar, A., Schimel, J.P., Tang, J., Classen, A.T. Multiple models and experiments underscore large uncertainty in soil carbon dynamics.

LEAD/ INVITED PRESENTATIONS (since 2007)

2018 and upcoming

Mark A. Bradford. title tbd. Univ. of Georgia, Odum School of Ecology, GA. February 2017. Invited departmental seminar.

Mark A. Bradford. title tbd. SUNY Buffalo State, Biology Department, NY. April 2018. Invited departmental seminar.

2017

Mark A. Bradford. Biotic interactions reduce microbial carbon use efficiency. American Geophysical Union, Fall Meeting. New Orleans, MS. December 10th-15th, 2017. Invited speaker for a special session on microbial-mineral regulation of organic matter.

Mark A. Bradford. Competition reduces microbial carbon use efficiency. Soil Ecology Society Biennial Meeting. Fort Collins, CO. June 5-9th, 2017. Contributed oral.

Mark A. Bradford. Building confidence in projections of global carbon cycle-climate feedbacks. Univ. of Minnesota, Department of Ecology, Evolution and Behavior, MN. 1st March 2017. Invited departmental seminar.

Mark A. Bradford. Climate change impacts on decomposition – novel insights from microbe-to biome-level. Swedish Ecological Society. Carbon cycling in cold biomes workshop. Lund, Sweden, February 9-10th, 2017. Invited plenary.

2016

Mark A. Bradford. Building confidence in projections of global carbon cycle-climate feedbacks. Yale School of Forestry and Environmental Studies, CT. 7th September 2016. Invited departmental seminar.

Mark A. Bradford. Biotic interactions, biogeochemistry and scale: does ignoring local variation invalidate our knowledge of broad-scale controls on carbon cycling? Gordon Research Conference *Unifying Ecology Across Scales*, Univ. of New England, Biddeford, ME, July 24th-29th, 2016. Invited plenary.

Mark A. Bradford. Climate and litter decomposition: the ecological fallacy of a dominant paradigm in ecosystem ecology. UC Santa Barbara Department of Ecology, Evolution and Marine Biology, CA. 4th April 2016. Invited departmental seminar.

2015

Mark A. Bradford. Convenor, Chair, and Presenter of the session “Food-web Interactions” at Rhizosphere4 Conference. Maastricht, Netherlands, June 21st-25th, 2015. Invited.

Mark A. Bradford. Center for Macroecology, Evolution and Climate, Univ. of Copenhagen, Denmark, May 12th, 2015. Invited departmental seminar.

Mark A. Bradford. Climate and litter decomposition: the ecological fallacy of a dominant paradigm in ecosystem ecology. The Netherlands Institute of Ecology (NIOO-KNAW), Wageningen, Netherlands, Feb 16th, 2015. Invited departmental seminar.

2014

Mark A. Bradford. Forest degradation, belowground diversity and carbon cycling. Workshop on: Forests of the Western Himalaya: Conservation and Restoration of Ecosystem Services in a time of Climate Change. Dehradun, Uttarakhand, India, June 28th-30th, 2014. Invited oral presentation.

Mark A. Bradford. Climate and litter decomposition: the ecological fallacy of a dominant paradigm in ecosystem ecology. The Ecosystem Center, Marine Biological Laboratory, MA, May 20th, 2014. Invited departmental seminar.

Mark A. Bradford. Carbon cycle projections depend on how we think about life after death. Dartmouth College, NH, March 28th, 2014. Invited departmental seminar.

Mark A. Bradford. The living side of dead wood: animals, fungi and their environmental responses. Yale Institute for Biospheric Studies, CT, March 7th, 2014. Invited seminar.

Mark A. Bradford, Emily E. Oldfield, Novem Aeyung, Nancy Falxa-Raymond, Richard A. Hallett, Alexander J. Felson. Species identity and land management effects on tree performance. New York City Urban Research Station, NY, February 25th, 2014. Invited seminar.

Mark A. Bradford. Carbon cycle projections depend on how we think about life after death. School of Forestry & Environmental Studies, Yale University, New Haven, CT. January 29th, 2014. Invited departmental seminar.

2013

Mark A. Bradford. Ecosystem multifunctionality does not respond positively to increasing soil faunal diversity. INTECOL 2013, London, UK, August 18-23, 2013. Invited oral symposium presentation.

Mark A. Bradford. How do microbial communities influence the formation rate, stability and chemistry of soil organic matter? Ecological Society of America Annual Meeting, Minneapolis, Minnesota, August 4-9, 2013. Invited oral symposium presentation.

2012

Mark A. Bradford. How do organism responses to temperature modify forest carbon and nitrogen dynamics? University of New Hampshire, NH, December 7th, 2012. Invited departmental seminar.

Mark A. Bradford. Do we have to consider microbes to understand and predict carbon cycling in terrestrial systems? University of Massachusetts Amherst, MA, October 18th, 2012. Invited departmental seminar.

Mark A. Bradford. Do we have to consider microbial species identity to understand and predict carbon cycling in terrestrial systems? Yale Climate & Energy Institute's Third Annual Conference, Yale University, New Haven, CT, April 12-14, 2012. Invited oral presentation.

2011

Mark A. Bradford. Responses of soil microbial communities to temperature: implications for ecosystem carbon dynamics. Harvard Forest, MA, October 14th, 2011. Invited seminar.

Mark A. Bradford. Responses of soil microbial communities to temperature: implications for ecosystem carbon dynamics. Indiana University, Bloomington, September 30th, 2011. Invited departmental seminar.

Mark A. Bradford. Acclimation and adaptation in soil microbial communities: implications for ecosystem carbon dynamics. Boston University, Boston, April 25, 2011. Invited departmental seminar.

Mark A. Bradford. Soil microbial community effects on ecosystem carbon dynamics. McGill University, Montreal, Canada, February 10, 2011. Invited departmental seminar.

2010

Mark A. Bradford. Look beneath your feet: soil microbes and carbon cycling. Roger Williams University, Bristol, Rhode Island, November 10, 2010. Invited departmental seminar.

Mark A. Bradford. Acclimation and adaptation in soil microbial communities: implications for ecosystem carbon dynamics. Cornell University, Biogeochemistry and Environmental Biocomplexity Program, Ithaca, New York, October 1, 2010. Invited seminar.

Mark A. Bradford. Digging-up the dead-box: testing assumptions of soil carbon models used to predict future climate. School of Forestry & Environmental Studies, Yale University, New Haven, Connecticut. September 22, 2010. Invited seminar.

Mark A. Bradford. Soil microbial community effects on ecosystem carbon dynamics. Cary Institute for Ecosystem Studies, Millbrook, New York, September 16, 2010. Invited seminar.

Mark A. Bradford. Plant resource history effects on contemporary microbial processes. Session: 'Biotic interactions and biogeochemical processes'. European Geophysical Union, General Assembly, Vienna, Austria, May 2-7, 2010. Invited oral presentation.

Mark A. Bradford. Soil microbial community effects on ecosystem carbon dynamics. University of Pennsylvania, Earth and Environmental Science, Philadelphia, Pennsylvania, March 19, 2010. Invited departmental seminar.

2009

Mark A. Bradford. Acclimation and adaptation in soil microbial communities: implications for ecosystem carbon dynamics. Yale University, Ecology and Evolutionary Biology, New Haven, Connecticut, November 18, 2009. Invited departmental seminar.

Mark A. Bradford. How does consideration of soil microbial processes influence predictions of ecosystem carbon dynamics? University of Tennessee, Knoxville, Tennessee, November 6, 2009. Invited departmental seminar.

Mark A. Bradford, T. Hefin Jones. Does higher belowground diversity improve pasture performance? 10th International Congress of Ecology, Brisbane, Australia, August 16-21, 2009. Invited oral presentation.

Mark A. Bradford. Exploring the role of soil microbial communities in ecosystem carbon dynamics. Apr. 2009. School of Biological & Environmental Sciences, Univ. of Stirling, Scotland. Invited departmental seminar.

2008

Mark A. Bradford. Thermal adaptation of microbial respiration. May 2008. National Center for Ecological Analysis and Synthesis, Santa Barbara, CA. Invited seminar.

2007

Mark A. Bradford. Are different soil communities functionally equivalent? Oct. 2007. Department of Biology, Colorado State Univ., CO. Invited departmental seminar.

Mark A. Bradford. Soil carbon response to global change: underlying biotic mechanisms. EcoSummit, Beijing, China, 22-25 May 2007. (British Ecological Society organized symposium). Invited oral presentation.

Mark A. Bradford. Soil carbon response to global change: underlying biotic mechanisms. Mar. 2007. Ecology & Evolutionary Biology, Univ. of Colorado, CO. Invited departmental seminar.

INVITED WORKSHOPS (since 2007)

Upcoming or active:

SNAPP Working Group: Managing Soil Carbon. NCEAS, Santa Barbara, CA, from March 2017 (and ongoing)

Attended:

U.S. Department of Energy BERAC Grand Challenges 2 Workshop. Washington D.C., March 2017

Working Research Group: Health and the Environment: A Unifying Framework from Individual Stress to Ecosystem Functioning. Hebrew University, Jerusalem, Israel, June 2016

INTERFACE Workshop: Frontiers in terrestrial climate feedbacks: Integrating models and experiments to explore climate feedbacks in an increasingly managed and warming world. St. Pete's Beach, FL, January 2016

Towards an ecology intensive agriculture: learning from nature. KNAW Amsterdam and Netherlands Institute of Ecology (Wageningen), April 2015

U.S. Geological Survey, John Wesley Powell Center for Analysis and Synthesis: The next generation of ecological indicators: defining which microbial properties matter most to ecosystem function and how to measure them. Fort Collins, CO, 2014

Soil carbon decomposition and temperature – the way forward. Colorado Springs, CO, July 2009

National Center for Ecological Analysis and Synthesis: Detritus and dynamics of populations, food webs and communities. Santa Barbara, CA, May 2008

European Union-concerted action CONSIDER Workshop: Linking above- and belowground species and processes, empiricists and modelers. Netherlands, July 2007

National Science Foundation-funded Workshop: Microscale approaches to macroscale issues in ecology. Washington D.C., April 2007

FUNDED GRANTS

- 2017-2019 Dissertation Research: Untangling aboveground versus belowground plant contributions to the soil organic carbon pool. Acting PI for Noah Sokol (doctoral student, Co-PI). National Science Foundation. Division of Environmental Biology. \$21,775.
- 2016-2018 Dissertation Research: The functional consequences of antagonism in fungal communities. Acting PI for Dan Maynard (doctoral student, Co-PI). National Science Foundation. Division of Environmental Biology. \$21,543.
- 2015-2018 SG: Understanding local controls on wood decomposition in a regional context. PI. National Science Foundation. Division of Environmental Biology. \$149,901.
- 2015 Visiting Professors Program Fellowship, Royal Netherlands Academy of Arts and Sciences. For outstanding foreign researchers to spend time working in the Netherlands. Euro19,500.
- 2014-2015 Collaborative Workshop: Identifying and prioritizing research questions for long-term ecological experiments. Joint-PI with Jen Lau. National Science Foundation. Division of Environmental Biology. \$57,787 (to Yale).
- 2014-2016 Dissertation Research: Quantification and characterization of the production of methane in living trees. Acting PI for Kris Covey (doctoral student, Co-PI). National Science Foundation. Division of Environmental Biology. \$21,645.
- 2013-2017 Urban forest ecosystem assessment and monitoring: establishing and expanding a permanent plot network in New York City's urban forest. Joint-PI with Rich Hallett. U.S. Forest Service. \$93,282.
- 2010-2014 Collaborative Research: Do expected evolutionary trade-offs in enzyme activities manifest at the level of microbial community function? PI, with Co-PIs Noah Fierer and Rebecca McCulley. National Science Foundation, Ecosystem Studies Program. \$312,384 (to Yale).
- 2010-2011 Climate warming, species interactions and transformation of ecosystem carbon cycling. Joint-PI with Os Schmitz. Yale Climate and Energy Institute,

- competitive internal grant. \$94,675.
- 2010-2011 Understanding the belowground impacts of managing for biofuels in loblolly pine plantations. PI. Weyerhaeuser NR Company. \$30,000.
- 2010-2012 Soil microbial community composition in bottomland hardwood restoration on the Mississippi delta. Joint-PI with Mac Callahan. U.S. Forest Service. \$40,000.
- 2008-2015 Southern Appalachia on the edge - Exurbanization & climate interaction in the Southeast. National Science Foundation, LTER Program. PI (of 27).
- 2008-2010 Dissertation Research: Functional dissimilarity in soil microbial communities. Acting PI for Michael Strickland (doctoral student, Co-PI). National Science Foundation. Division of Environmental Biology. \$11,032.
- 2007-2011 Are carbon and nitrogen dynamics in soils of the southern Appalachians coupled? Joint-PI with Jennifer Knoepp. U.S. Forest Service. \$50,000.
- 2008 “Resource-Ratio Theory”: is the competition parameter of proportionate consumption evolutionarily labile? PI. UGA Research Foundation New Faculty Research Grant. \$8,660.
- 2006-2010 Fungal vs. bacterial dominance of belowground communities: consequences for ecosystem carbon and nutrient dynamics. Joint-PI with Noah Fierer. Andrew W. Mellon Foundation. \$440,000.
- 2004-2008 Heterotrophic soil respiration in warming experiments: using microbial indicators to partition contributions from labile and recalcitrant soil organic carbon. PI, with Co-PIs Jerry M. Melillo, James F. Reynolds, Kathleen K. Treseder, Matthew D. Wallenstein. Department of Energy. \$1,157,821.
- 2006 Anaerobic ammonium oxidation: does it exist as a pathway in the terrestrial nitrogen cycle? PI. UGA Research Foundation New Faculty Research Grant. \$7,000.
- 2003 Development of a mathematical model to predict the consequences of altered soil community complexity on grassland ecosystem functioning. Joint-PI with H.W. Hunt. U.K. Natural Environment Research Council, Soil Biodiversity Programme. \$3,437.
- 2001 Plant invasions and global environmental change. PI. U.K. Royal Society. £9,200.
- 2000 The Impact of soil faunal diversity on soil carbon dynamics. Joint PI with T. Hefin Jones. U.K. Natural Environment Research Council, Radiocarbon Research Award. £15,400.
- 2000 Carbon fluxes in model Sourhope ecosystems: an Ecotron experiment. Joint PI with T. Hefin Jones. U.K. Natural Environment Research Council, ¹⁵N Stable Isotope Facility Grant. £12,718.

ADVISING

Postdoctoral Scholars

Current (1 total)

Sara Kuebbing (YIBS Fellowship, 2014-, External Smith Conservation Fellowship from Fall 2016, Yale)

Annise Dobson (from February 2018)

Completed (5 total)

Stephen Wood (The Nature Conservancy Fellowship, 2015-2017, Yale)

Tom Crowther (YCEI Fellowship, 2012-2015 Yale)

Mike Strickland (2009-2012 Yale)

Robert Warren (2009-2012 Yale)

Christian Davies (2005-2008 UGA)

Doctoral Students

Current (4 total)

Noah Sokol (5th year; recipient of Canadian NSERC doctoral fellowship)

Emily Oldfield (4th year)

Clara Pregitzer (3rd year)

Dan Kane (2nd year)

Completed (5 total)

Dan Maynard (2017 Yale)

Ashley Keiser (recipient of an EPA STAR doctoral fellowship; 2014 Yale)

Kenneth Leonard (2010 UGA)

Mike Strickland (2009 UGA)

Rebecca Ball (2007 UGA)

Service on Advisory Committees (22 total)

I am on the doctoral advisory committees of 4 current Ph.D. students at Yale, and 1 student at Hebrew University

I have served on doctoral advisory committees for 17 graduated students (4 Yale, 1 Columbia Univ., 12 UGA)

Research Masters Students

Current (1 total)

Elisabeth Ward (2nd year)

Completed (8 total)

Madeleine Rubenstein (2015 Yale)

Avishesh Neupane (2014 Yale)
Tara Ursell (2013 Yale)
Bhavya Sridhar (2012 Yale)
Emily Stevenson (2012 Yale)
Tim Kramer (2010 Yale)
Caitlin O'Brady (2010 Yale)
Yaya Tang (2010 Yale)

Undergraduate Independent Research Students

Current (1 total)

Connor Reed (sophomore, Yale)

Completed (6 total)

Anna Wade (2013 Yale)
Taylor Gregoire-Wright (2012 Yale)
Calley Mersmann (2011 UGA)
Brian Watts (2011 UGA)
Ernest Osburn (2010 UGA)
Tara Gancos (2007 UGA)

TEACHING EXPERIENCE (LEAD INSTRUCTOR)

Undergraduate

University of Georgia (2005-2008)

General Ecology with laboratory (Junior, 4 h)
Senior Seminar in Ecology (1 h)
Honors Freshman Gateway Seminar in the Natural Sciences (1 h)

Duke University (2002-2004)

Freshman Seminar in Biology (2 h)

Graduate

Yale University (2009-onwards)

Ecosystem Science (Incoming Masters class, required residential field course (MOD))
Soil Science (Masters, 3 h)
Ecosystems & Landscapes, Foundations Class (Masters, 4 h with lab)

Ecosystem Pattern & Process (Masters, 3 h)

Foundations of agriculture and environment (Masters, 3 h)

Synthesizing Environmental Science for Policy (Masters seminar, 3 h, cross-listed with the Environmental Studies undergraduate major)

Various independent study projects: academic advisor (e.g. 3 in fall 2017)

University of Georgia (2005-2008)

Concepts & Approaches in Ecosystem Ecology (Doctoral, 4 h)

Synthesizing Concepts in Soil Ecology (Masters-Doctoral, 2 h)

EDITORIAL ROLES

Associate Chief Editor for journal *Soil Biology & Biochemistry*

Guest Editor for Special Issue of journal *Soil Biology & Biochemistry* (2016)

Editorial Advisory Board member for journal *Global Change Biology*

Editorial Board member of the British Ecological Society's Ecological Reviews Series

JOURNAL REVIEWING

General ecology (including microbial and plant science) – Biological Invasions, BioScience, Ecology, Ecology Letters, Ecological Monographs, Ecosystems, Functional Ecology, Frontiers in Ecology and Environment, Frontiers in Microbiology, Functional Ecology, Global Change Biology, ISME, Journal of Ecology, Journal of Applied Ecology, Nature Ecology & Evolution, New Phytologist, Oecologia, Oikos

General/other science – Nature, Nature Climate Change, Nature Communications, PLoS One, PNAS, Science

Geosciences – Biogeosciences, Biogeochemistry, Geophysical Research Letters, Nature Geoscience

Soil science – Applied Soil Ecology, European Journal of Soil Science, Geoderma, Plant and Soil, Soil Biology & Biochemistry

GRANT PROPOSAL REVIEWING

National Science Foundation (USA)

Natural Environment Research Council (UK)

U.S. Department of Agriculture, AFRI (USA)

U.S. Department of Energy (USA)

National Geographic

Netherlands Organisation for Scientific Research (NWO)

OTHER EXTERNAL SERVICE

Ph.D. Dissertation Evaluator (Reader), Hebrew Univ., Jerusalem, March 2015

Tenure and Promotion, external evaluator (5 total)

UNIVERSITY SERVICE

University Science Strategy Committee – Environmental Science and Evolution panel member (2017-onwards, Yale)

Fellow of Silliman College (2015-onwards, Yale)

“Occasional Member” on the University Tribunal (2013-2015, Yale)

Stable Isotope User Group (2010-onwards, Yale)

Member of Microbial Sciences Institute Advisory Committee (2009-2011, Yale)

Microbial Diversity Institute faculty search committee (2010-2011, Yale)

Dissertation Reader (5 total, Yale)

Reviewer for Yale Institute for Biospheric Studies graduate and center proposals (Yale)

Office of the Vice Provost for Research Review team of the Center for Applied Isotope Studies (2007-2008, UGA)

DEPARTMENTAL SERVICE

Search committee, Chair, for Target of Opportunity at FES (2017/8, Yale)

Search committee, Chair, for Assistant Dean to establish an Office of Diversity, Community & Inclusion at FES (2017, Yale)

Promotion committee member (2017, Yale)

Diversity committee, leader, for Organizational Strategic Plan (2016-2017, Yale)

MESC/MFS Admissions & Merit Committee, member (2016-, Yale)

Co-ordinator of the Specialization in Ecosystem Conservation and Management (2011-onwards, Yale)

Doctoral Program committee, member (2010-2015, Yale)

Masters Admissions committee, member (2009, Yale)

Chair of Analytical Chemistry Laboratory Oversight Committee (2007-2008, UGA)

Search committee member: 2 positions in population & evolutionary ecology (2007, UGA)

Ad hoc committee member on School administrative organization (2006-2007, UGA)

Search committee member for position in ecosystem ecology (2006, UGA)
Search committee member for position in population ecology (2006, UGA)
Search committee member for an Assistant Director (2006, UGA)
Analytical Chemistry Laboratory Oversight Committee (2004-2006, UGA)
Executive Committee, member (2005-2006, UGA)
Graduate Committee, member (2005, UGA)