

STEVEN DAVID ALLISON

University of California, Irvine
Department of Ecology and Evolutionary Biology
Department of Earth System Science (adjunct)
321 Steinhaus
Irvine, CA 92697
(949) 824-2341
allisons@uci.edu
<http://allison.bio.uci.edu>

APPOINTMENTS

2013-present Associate Professor, Ecology and Evolutionary Biology and Earth System Science, University of California, Irvine
2007-2013 Assistant Professor, Ecology and Evolutionary Biology and Earth System Science, University of California, Irvine
2005-2007 Postdoctoral Scholar, Ecology and Evolutionary Biology/Earth System Science University of California, Irvine (Advisor: Kathleen Treseder)

EDUCATION

2005 Ph.D. in Biological Sciences
Stanford University, Stanford, CA
Advisor: Peter M. Vitousek
Project: Microbial allocation to soil enzyme production
1999 B.S. in Biology, chemistry minor, with honors in Entomology
Pennsylvania State University, University Park, PA
Advisor: Jack C. Schultz
Project: Biochemical responses of oaks to galling insects

RESEARCH INTERESTS

Carbon and nutrient cycling
Microbial feedbacks to global change
Microbial extracellular enzymes

PUBLICATIONS

Google Scholar: <https://scholar.google.com/citations?user=EVaBxPAAAAAJ&hl=en>

83 peer-reviewed (P), 4 book chapters (B), 4 other (O)
#Postdoc advisee; *PhD advisee; †Undergrad advisee

- P91. Baker*, N. R., and **S. D. Allison**. 2017. Extracellular enzyme kinetics and thermodynamics along a climate gradient in southern California. *Soil Biology and Biochemistry* 114:82-92.
- P90. Romero-Olivares, A. L., **S. D. Allison**, and K. K. Treseder. 2017. Decomposition of recalcitrant carbon under experimental warming in boreal forest. *PLoS ONE* 12:e0179674.
- B89. **Allison, S. D.** 2017. Building Predictive Models for Diverse Microbial Communities in Soil. Pages 141–166 in K. R. Tate, editor. *Microbial Biomass: A Paradigm Shift in Terrestrial Biogeochemistry*. World Scientific.
- P88. Dolan, K. L., J. Peña, **S. D. Allison**, and J. B. H. Martiny. 2017. Phylogenetic conservation of substrate use specialization in leaf litter bacteria. *PLoS ONE* 12:e0174472.
- P87. Martiny, J. B. H., C. Weihe, Y. Lu, R. Berlemont, E. L. Brodie, M. L. Goulden, K. K. Treseder, and **S. D. Allison**. 2017. Microbial legacies alter decomposition in response to simulated global change. *ISME Journal* 11:490-499.
- P86. **Allison, S. D.**, and M. L. Goulden. 2017. Consequences of drought tolerance traits for microbial decomposition in the DEMENT model. *Soil Biology and Biochemistry* 107:104–113.
- P85. Romero-Olivares, A. L., **S. D. Allison**, and K. K. Treseder. 2017. Soil microbes and their response to experimental warming over time: a meta-analysis of field studies. *Soil Biology and Biochemistry* 107:32–40.
- P84. Evans#, S., J. B. H. Martiny, and **S. D. Allison**. 2017. Effects of dispersal and selection on stochastic assembly in microbial communities. *ISME Journal* 11:176-185.
- P83. Crowther, T. W., K. E. O. Todd-Brown, C. W. Rowe, W. R. Wieder, J. C. Carey, M. B. Machmuller, B. L. Snoek, S. Fang, G. Zhou, **S. D. Allison**, J. M. Blair, S. D. Bridgman, A. J. Burton, Y. Carrillo, P. B. Reich, J. S. Clark, A. T. Classen, F. A. Dijkstra, B. Elberling, B. A. Emmett, M. Estiarte, S. D. Frey, J. Guo, J. Harte, L. Jiang, B. R. Johnson, G. Kröel-Dulay, K. S. Larsen, H. Laudon, J. M. Lavelle, Y. Luo, M. Lupascu, L. N. Ma, S. Marhan, A. Michelsen, J. Mohan, S. Niu, E. Pendall, J. Peñuelas, L. Pfeifer-Meister, C. Poll, S. Reinsch, L. L. Reynolds, I. K. Schmidt, S. Sistla, N. W. Sokol, P. H. Templer, K. K. Treseder, J. M. Welker, and M. A. Bradford. 2016. Quantifying global soil carbon losses in response to warming. *Nature* 540:104–108.
- P82. Carey, J. C., J. Tang, P. H. Templer, K. D. Kroeger, T. W. Crowther, A. J. Burton, J. S. Dukes, B. Emmett, S. D. Frey, M. A. Heskell, L. Jiang, M. B. Machmuller, J. Mohan, A. Marie, P. B. Reich, S. Reinsch, X. Wang, **S. D. Allison**, C. Bamminger, S. Bridgman, S. L. Collins, G. De Dato, W. C. Eddy, B. J. Enquist, M. Estiarte, J. Harte, A. Henderson, B. R. Johnson, K. Steenberg, Y. Luo, S. Marhan, J. M. Melillo, J. Peñuelas, L. Pfeifer-Meister, C. Poll, E. Rastetter, and A. Tietema. 2016. Temperature response of soil

respiration largely unaltered with experimental warming. *Proceedings of the National Academy of Sciences* 113:13797-13802.

- P81. Widder, S., R. J. Allen, T. Pfeiffer, T. P. Curtis, C. Wiuf, W. T. Sloan, O. X. Cordero, S. P. Brown, B. Momeni, W. Shou, H. Kettle, H. J. Flint, A. F. Haas, B. Laroche, J.-U. Kreft, P. B. Rainey, S. Freilich, S. Schuster, K. Milferstedt, J. R. van der Meer, T. Großkopf, J. Huisman, A. Free, C. Picioreanu, C. Quince, I. Klapper, S. Labarthe, B. F. Smets, H. Wang, **Isaac Newton Institute Fellows**, and O. S. Soyer. 2016. Challenges in microbial ecology: building predictive understanding of community function and dynamics. *ISME Journal* 10:2557-2568.
- P80. He#, Y., S. E. Trumbore, M. S. Torn, J. W. Harden, L. J. S. Vaughn, **S. D. Allison**, and J. T. Randerson. 2016. Radiocarbon constraints imply reduced carbon uptake by soils during the 21st century. *Science* 353: 1419-1424.
- P79. Sistla#, S. A., A. B. Roddy, N. E. Williams, D. B. Kramer, K. Stevens, and **S. D. Allison**. 2016. Agroforestry practices promote biodiversity and natural resource diversity in Atlantic Nicaragua. *PLoS One* e0162529.
- P78. Khalili, B., O. A. Ogunseitan, M. L. Goulden, and **S. D. Allison**. 2016. Interactive effects of precipitation manipulation and nitrogen addition on soil properties in California grassland and shrubland. *Applied Soil Ecology* 107:144–153.
- P77. Vereecken, H., A. Schnepf, J. W. Hopmans, M. Javaux, D. Or, T. Roose, J. Vanderborght, M. Young, W. Amelung, M. Aitkenhead, **S. D. Allison**, S. Assouline, P. Baveye, M. Berli, N. Brüggemann, P. Finke, M. Flury, T. Gaiser, G. Govers, T. Ghezzehei, P. Hallett, and K. Lamorski. 2016. Modeling soil processes: review, key challenges and new perspectives. *Vadose Zone Journal* 15:doi:10.2136/vzj2015.09.0131.
- P76. Liu, W., **S. D. Allison**, J. Xia, L. Liu, and S. Wan. 2016. Precipitation regime drives warming responses of microbial biomass and activity in temperate steppe soils. *Biology and Fertility of Soils* 52:469–477.
- P75. Luo, Y., A. Ahlström, **S. D. Allison**, N. H. Batjes, V. Brovkin, N. Carvalhais, A. Chappell, P. Ciais, E. A. Davidson, A. Finzi, K. Georgiou, B. Guenet, O. Hararuk, J. W. Harden, Y. He, F. Hopkins, L. Jiang, C. Koven, R. B. Jackson, C. D. Jones, M. J. Lara, J. Liang, A. D. McGuire, W. Parton, C. Peng, J. T. Randerson, A. Salazar, C. A. Sierra, M. J. Smith, H. Tian, K. E. O. Todd-Brown, M. Torn, K. J. van Groenigen, Y. P. Wang, T. O. West, Y. Wei, W. R. Wieder, J. Xia, X. Xu, X. Xu, and T. Zhou. 2016. Toward more realistic projections of soil carbon dynamics by Earth system models. *Global Biogeochemical Cycles* 30:40–56.
- P74. Amend, A. S., A. C. Martiny, **S. D. Allison**, R. Berlemont, M. L. Goulden, Y. Lu, K. K. Treseder, C. Weihe, and J. B. H. Martiny. 2016. Microbial response to simulated global change is phylogenetically conserved and linked with functional potential. *ISME Journal* 10:109-118.

- O73. Wieder, W. R., **S. D. Allison**, M. A. Bradford, A. S. Grandy, E.-L. Hinckley, S. C. Reed, B. Stephens. 2015. Scaling soil processes with data from above and below: Using space-based and local observations to project carbon cycle-climate feedbacks. National Research Council white paper.
- P72. Wieder, W. R., **S. D. Allison**, E. A. Davidson, K. Georgiou, O. Hararuk, Y. He, F. Hopkins, Y. Luo, M. Smith, B. Sulman, K. Todd-Brown*, Y.-P. Wang, J. Xia, and X. Xu. 2015. Explicitly representing soil microbial processes in Earth system models. *Global Biogeochemical Cycles* 29:1782–1800.
- P71. Mouginit, C., A. E. Zimmerman, J. A. Bonachela, H. Fredricks, **S. D. Allison**, B. A. S. Van Mooy, and A. C. Martiny. 2015. Resource allocation by the marine cyanobacterium *Synechococcus* WH8102 in response to different nutrient supply ratios. *Limnology and Oceanography* 60:1634-1641.
- P70. Hynson, N. A., **S. D. Allison**, and K. K. Treseder. 2015. Quantum dots reveal shifts in organic nitrogen uptake by fungi exposed to long-term nitrogen enrichment. *PLoS One* 10:e0138158.
- P69. Matulich, K. L., C. Weihe, **S. D. Allison**, A. S. Amend, R. Berlemont, M. L. Goulden, S. Kimball, A. C. Martiny, and J. B. H. Martiny. 2015. Temporal variation overshadows the response of leaf litter microbial communities to simulated global change. *ISME Journal* 9:2477-2489.
- P68. Baker*, N. R., and **S. D. Allison**. 2015. Ultraviolet photodegradation facilitates microbial decomposition of litter in a Mediterranean climate. *Ecology* 96:1994-2003.
- P67. German#, D. P., and **S. D. Allison**. 2015. Drying and substrate concentrations interact to inhibit decomposition of carbon substrates added to combusted Inceptisols from a boreal forest. *Biology and Fertility of Soils* 51:525-533.
- P66. Berlemont, R., **S. D. Allison**, C. Weihe, Y. Lu, E. L. Brodie, J. B. H. Martiny, and A. C. Martiny. 2014. Cellulolytic potential under environmental changes in microbial communities from grassland litter. *Frontiers in Microbiology* 5:639.
- P65. **Allison, S. D.** 2014. Modeling adaptation of carbon use efficiency in microbial communities. *Frontiers in Microbiology* 5:571.
- P64. Hagerty, S. B., K. J. van Groenigen, **S. D. Allison**, B. A. Hungate, E. Schwartz, G. W. Koch, R. K. Kolka, and P. Dijkstra. 2014. Accelerated microbial turnover but constant growth efficiency with warming in soil. *Nature Climate Change* 4:903-906.
- P63. **Allison, S. D.**, S. S. Chacon†, and D. P. German#. 2014. Substrate concentration constraints on microbial decomposition. *Soil Biology & Biochemistry* 79:43-49.

- P62. Mouginot, C., R. Kiwamura, K. Matulich, R. Berlemont, **S. D. Allison**, A. S. Amend, and A. C. Martiny. 2014. Elemental stoichiometry of Fungi and Bacteria strains from grassland leaf litter. *Soil Biology & Biochemistry* 76:278-285.
- P61. **Allison, S. D.**, Y. Lu, A. G. Kent, and A. C. Martiny. 2014. Extracellular enzyme production and cheating in *Pseudomonas fluorescens* depend on diffusion rates. *Frontiers in Microbiology* 5:169.
- P60. Todd-Brown*, K. E. O., J. T. Randerson, F. Hopkins, V. Arora, T. Hajima, C. Jones, E. Shevliakova, J. Tjiputra, E. Volodin, T. Wu, Q. Zhang, and **S. D. Allison**. 2014. Changes in soil organic carbon storage predicted by Earth system models during the 21st century. *Biogeosciences* 11:2341-2356.
- P59. Zimmerman*, A. E., A. C. Martiny, M. W. Lomas, and **S. D. Allison**. 2014. Phosphate supply explains variation in nucleic acid allocation but not C:P stoichiometry in the Western North Atlantic. *Biogeosciences* 11:1599-1611.
- P58. Li, J., G. Wang, **S. D. Allison**, M. A. Mayes, and Y. Luo. 2014. Soil carbon sensitivity to temperature and carbon use efficiency compared across microbial-ecosystem models of varying complexity. *Biogeochemistry* 119:67-84.
- P57. Zimmerman*, A. E., **S. D. Allison**, and A. C. Martiny. 2014. Phylogenetic constraints on elemental stoichiometry and resource allocation in heterotrophic marine bacteria. *Environmental Microbiology* 16:1398-1410.
- P56. Bach†, C. E., D. D. Warnock, D. J. Van Horn, M. N. Weintraub, R. L. Sinsabaugh, **S. D. Allison**, and D. P. German#. 2013. Measuring phenol oxidase and peroxidase activities with pyrogallol, l-DOPA, and ABTS: Effect of assay conditions and soil type. *Soil Biology & Biochemistry* 67:183-191.
- P55. Wieder, W. R., G. B. Bonan, and **S. D. Allison**. 2013. Global soil carbon predictions are improved by modelling microbial processes. *Nature Climate Change* 3:909-912.
- P54. McGuire, K. L., **S. D. Allison**, N. Fierer, and K. K. Treseder 2013. Ectomycorrhizal-dominated boreal and tropical forests have distinct fungal communities, but analogous spatial patterns across soil horizons. *PLoS One* 8:e68278.
- P53. Aronson#, E, **S. D. Allison**, and B. R. Helliker. 2013. Environmental impacts on the diversity of methane-cycling microbes and their resultant function. *Frontiers in Microbiology* 4:225.
- P52. Bonachela, J. A., **S. D. Allison**, A. C. Martiny, and S. A. Levin. 2013. A model for variable phytoplankton stoichiometry based on cell protein regulation. *Biogeosciences* 10:4341-4356.

- P51. Alster†, C. J., D. P. German#, Y. Lu, and **S. D. Allison**. 2013. Microbial enzymatic responses to drought and to nitrogen addition in a southern California grassland. *Soil Biology & Biochemistry* 64:68-79.
- P50. **Allison, S. D.**, Y. Lu, C. Weihe, M. L. Goulden, A. C. Martiny, K. K. Treseder, and J. B. H. Martiny. 2013. Microbial abundance and composition influence litter decomposition response to environmental change. *Ecology* 94:714-725.
- P49. Zimmerman*, A. E., A. C. Martiny, and **S. D. Allison**. 2013. Microdiversity of extracellular enzyme genes among sequenced prokaryotic genomes. *ISME Journal* 7:1187-1199.
- P48. Todd-Brown*, K. E. O., J. T. Randerson, W. M. Post, F. M. Hoffman, C. Tarnocai, E. A. G. Schuur, and **S. D. Allison**. 2013. Causes of variation in soil carbon simulations from CMIP5 Earth system models and comparison with observations. *Biogeosciences* 10:1717-1736.
- P47. Shade, A., H. Peter, **S. D. Allison**, D. Baho, M. Berga, H. Buergermann, D. H. Huber, S. Langenheder, J. T. Lennon, J. B. Martiny, K. L. Matulich, T. M. Schmidt, J. Handelsman. 2012. Fundamentals of microbial community resistance and resilience. *Frontiers in Microbiology* 3:417.
- P46. Folse#, H. J., III, and **S. D. Allison**. 2012. Cooperation, competition, and coalitions in enzyme-producing microbes: Social evolution and nutrient mineralization rates. *Frontiers in Microbiology* 3:338.
- P45. **Allison, S.D.**, Y. Chao, J. D. Farrara, S. Hatosy, and A. C. Martiny. 2012. Fine-scale temporal variation in marine extracellular enzymes of coastal southern California. *Frontiers in Microbiology* 3:301.
- P44. Aronson#, E., and **S. D. Allison**. 2012. Meta-analysis of environmental impacts on nitrous oxide release in response to N amendment. *Frontiers in Microbiology* 3:272.
- P43. **Allison, S. D.** 2012. A trait-based approach for modeling microbial litter decomposition. *Ecology Letters* 15:1058-1070.
- P42. Todd-Brown*, K. E. O., F. M. Hopkins, S. N. Kivlin, J. M. Talbot, and **S. D. Allison**. 2012. A framework for representing microbial decomposition in coupled climate models. *Biogeochemistry* 109:19-33.
- P41. German#, D. P., K. B. R. Marcelo†, M. M. Stone†, and **S. D. Allison**. 2012. The Michaelis-Menten kinetics of soil extracellular enzymes in response to temperature: a cross-latitudinal study. *Global Change Biology* 18:1468-1479.

- P40. Stone†, M. M., M. S. Weiss, C. L. Goodale, M. B. Adams, I. J. Fernandez, D. P. German#, and **S. D. Allison**. 2012. Temperature sensitivity of soil enzyme kinetics under N-fertilization in two temperate forests. *Global Change Biology* 18:1173-1184.
- O39. German#, D. P., M. N. Weintraub, A. S. Grandy, C. L. Lauber, Z. L. Rinkes, and **S. D. Allison**. 2012. Response to Steen and Ziervogel's comment on "Optimization of hydrolytic and oxidative enzyme methods to ecosystem studies" [*Soil Biology & Biochemistry* 43: 1387-1397]. *Soil Biology & Biochemistry* 48:198-199.
- O38. German#, D. P., M. N. Weintraub, A. S. Grandy, C. L. Lauber, Z. L. Rinkes, and **S. D. Allison**. 2012. Corrigendum to "Optimization of hydrolytic and oxidative enzyme methods for ecosystem studies" [*Soil Biol. Biochem.* 43 (2011) 1387-1397]. *Soil Biology & Biochemistry* 44:151.
- P37. German#, D. P., M. N. Weintraub, A. S. Grandy, C. L. Lauber, Z. L. Rinkes, and **S. D. Allison**. 2011. Optimization of extracellular enzyme assay methods for ecosystem studies. *Soil Biology & Biochemistry* 43:1387-1397.
- P36. **Allison, S. D.** and K. K. Treseder. 2011. Climate change feedbacks to microbial decomposition in boreal soils. *Fungal Ecology* 4:362-374.
- P35. German#, D. P., S. S. Chacon†, and **S. D. Allison**. 2011. Substrate concentration and enzyme allocation can affect rates of microbial decomposition. *Ecology* 92:1471-1480.
- P34. Martiny, J. B. H., J. A. Eisen, K. Penn, **S. D. Allison**, and M. C. Horner-Devine. 2011. Drivers of bacterial β -diversity depend on spatial scale. *Proceedings of the National Academy of Sciences of the United States of America* 108:7850-7854.
- B33. **Allison, S. D.**, M. N. Weintraub, T. B. Gartner, and M. P. Waldrop. 2011. Evolutionary-economic principles as regulators of soil enzyme production and ecosystem function. pp. 229-243 in G. C. Shukla and A. Varma, editors. *Soil Enzymology*. Springer-Verlag.
- B32. Wallenstein, M., **S. Allison**, J. Ernakovich, J. M. Steinweg, and R. Sinsabaugh. 2011. Controls on the temperature sensitivity of soil enzymes: A key driver of in-situ enzyme activity rates. pp. 245-257 in G. C. Shukla and A. Varma, editors. *Soil Enzymology*. Springer-Verlag.
- P31. **Allison, S. D.**, K. L. McGuire, and K. K. Treseder. 2010. Resistance of microbial and soil properties to warming treatment seven years after boreal fire. *Soil Biology & Biochemistry* 42:1872-1878.
- P30. McGuire, K. L., E. Bent, J. Borneman, A. Majumder, **S. D. Allison**, and K. K. Treseder. 2010. Functional diversity in resource use by fungi. *Ecology* 91:2324-2332.
- P29. **Allison, S. D.**, M. D. Wallenstein, and M. A. Bradford. 2010. Soil-carbon response to warming dependent on microbial physiology. *Nature Geoscience* 3:336-340.

- P28. **Allison, S. D.**, T. B. Gartner, M. C. Mack, K. L. McGuire, and K. K. Treseder. 2010. Nitrogen alters C dynamics during early succession in boreal forest. *Soil Biology & Biochemistry* 42:1157-1164.
- P27. Cornwell, W. K., J. H. C. Cornelissen, **S. D. Allison**, J. Bauhus, P. Eggleton, C. M. Preston, F. Scarff, J. T. Weedon, C. Wirth, A. E. Zanne. 2009. Plant traits and wood fates across the globe—rotted, burned, or consumed? *Global Change Biology* 15:2431-2449.
- P26. Bradford, M. A., M. D. Wallenstein, **S. D. Allison**, K. K. Treseder, S. D. Frey, B. W. Watts, C. A. Davies, T. R. Maddox, J. M. Melillo, J. E. Mohan, and J. F. Reynolds. 2009. Decreased mass specific respiration under experimental warming is robust to the microbial biomass method employed. *Ecology Letters* 12:E15-E18.
- P25. **Allison, S. D.**, D. S. LeBauer, M. R. Ofrecio†, R. Reyes†, A.-M. Ta†, and T. M. Tran†. 2009. Low levels of nitrogen addition stimulate decomposition by boreal forest fungi. *Soil Biology & Biochemistry* 41:293-302.
- P24. **Allison, S. D.**, and K. K. Treseder. 2008. Warming and drying suppress microbial activity and carbon cycling in boreal forest soils. *Global Change Biology* 14:2898-2909.
- P23. Hanson, C. A., **S. D. Allison**, M. A. Bradford, M. D. Wallenstein, and K. K. Treseder. 2008. Fungal taxa target different carbon sources in forest soil. *Ecosystems* 11:1157-1167.
- P22. Talbot, J. M., **S. D. Allison**, and K. K. Treseder. 2008. Decomposers in disguise: mycorrhizal fungi as regulators of soil C dynamics in ecosystems under global change. *Functional Ecology* 22:955-963.
- P21. Sinsabaugh, R. L., C. L. Lauber, M. N. Weintraub, B. Ahmed, **S. D. Allison**, C. Crenshaw, A. R. Contosta, D. Cusack, S. Frey, M. E. Gallo, T. B. Gartner, S. E. Hobbie, K. Holland, B. L. Keeler, J. S. Powers, M. Stursova, C. Takacs-Vesbach, M. P. Waldrop, M. D. Wallenstein, D. R. Zak, and L. H. Zeglin. 2008. Stoichiometry of soil enzyme activity at global scale. *Ecology Letters* 11:1252-1264.
- P20. Cornwell, W. K., J. H. C. Cornelissen, K. Amatangelo, E. Dorrepaal, V. T. Eviner, O. Godoy, S. E. Hobbie, B. Hoorens, H. Kurokawa, N. Perez Harguindeguy, H. M. Quested, L. S. Santiago, D. A. Wardle, I. J. Wright, R. Aerts, **S. D. Allison**, P. van Bodegom, V. Brovkin, A. Chatain, T. Callaghan, S. Díaz, E. Garnier, D. E. Gurvich, E. Kazakou, J. A. Klein, J. Read, P. B. Reich, N. A. Soudzilovskaia, M. V. Vaieretti, and M. Westoby. 2008. Plant species traits are the predominant control on litter decomposition rates within biomes worldwide. *Ecology Letters* 11:1065-1071.
- P19. **Allison, S. D.**, and J. B. H. Martiny. 2008. Resistance, resilience, and redundancy in microbial communities. *PNAS* 105 (Suppl. 1):11512-11519.

- P18. Treseder, K. K., C. I. Czimczik, S. E. Trumbore, and **S. D. Allison**. 2008. Uptake of an amino acid by ectomycorrhizal fungi in a boreal forest. *Soil Biology & Biochemistry* 40:1964-1966.
- P17. **Allison, S. D.**, C. I. Czimczik, and K. K. Treseder. 2008. Microbial activity and soil respiration under nitrogen addition in Alaskan boreal forest. *Global Change Biology* 14:1156-1168.
- P16. **Allison, S. D.**, C. A. Hanson, and K. K. Treseder. 2007. Nitrogen fertilization reduces diversity and alters community structure of active fungi in boreal ecosystems. *Soil Biology & Biochemistry* 39:1878-1887.
- B15. **Allison, S. D.**, T. B. Gartner, K. Holland, M. Weintraub, and R. L. Sinsabaugh. 2007. Soil enzymes: linking proteomics and ecological process. pp 704-711, *Manual of Environmental Microbiology*, 3rd Edition. ASM Press.
- P14. **Allison, S. D.** 2006. Brown ground: a soil carbon analog for the Green World Hypothesis? *American Naturalist* 167:619-627.
- P13. **Allison, S. D.** 2006. Soil minerals and humic acids alter enzyme stability: implications for ecosystem processes. *Biogeochemistry* 81:361-373.
- P12. **Allison, S. D.**, and J. D. Jastrow. 2006. Activities of extracellular enzymes in physically isolated fractions of restored grassland soils. *Soil Biology & Biochemistry* 38:3245-3256.
- P11. **Allison, S. D.**, C. B. Nielsen, and R. F. Hughes. 2006. Elevated enzyme activities in soils under the invasive nitrogen-fixing tree *Falcataria moluccana*. *Soil Biology & Biochemistry* 38:1537-1544.
- P10. **Allison, S. D.** 2005. Cheaters, diffusion, and nutrients constrain decomposition by microbial enzymes in spatially structured environments. *Ecology Letters* 8:626-635.
- P9. **Allison, S. D.**, and P. M. Vitousek. 2005. Responses of extracellular enzymes to simple and complex nutrient inputs. *Soil Biology & Biochemistry* 37:937-944.
- O8. **Allison, S. D.** 2005. Tropical Forest Diversity and Dynamism - Book Review. *Quarterly Review of Biology* 80:262.
- P7. **Allison, S. D.**, and J. C. Schultz. 2005. Biochemical responses of chestnut oak to a galling cynipid. *Journal of Chemical Ecology* 31:151-166.
- P6. **Allison, S. D.**, and P. M. Vitousek. 2004. Rapid nutrient cycling in leaf litter from invasive species in Hawai'i. *Oecologia* 141:612-619.
- P5. **Allison, S. D.**, and P. M. Vitousek. 2004. Extracellular enzyme activities and carbon chemistry as drivers of tropical plant litter decomposition. *Biotropica* 36:285-296.

- P4. **Allison, S. D.**, and J. C. Schultz. 2004. Differential activity of peroxidase isozymes in response to wounding, gypsy moth, and plant hormones in northern red oak (*Quercus rubra* L.). *Journal of Chemical Ecology* 30:1363-1379.
- P3. Pauw, A., S. A. Van Bael, H. A. Peters, **S. D. Allison**, J. L. C. Camargo, M. Cifuentes-Jara, A. Conserva, T. G. Restom, T. Heartsill-Scalley, S. A. Mangan, G. Nunez-Iturri, E. Rivera-Ocasio, M. Rountree, S. Vetter, and C. V. de Castilho. 2004. Physical damage in relation to carbon allocation strategies of tropical forest tree saplings. *Biotropica* 63:410-413.
- P2. Vitousek, P. M., O. A. Chadwick, P. A. Matson, **S. Allison**, L. A. Derry, L. Kettley, A. Luers, E. Mecking, V. Monastra, and S. Porder. 2003. Erosion and the rejuvenation of weathering-derived nutrient supply in an old tropical landscape. *Ecosystems* 6:762-772.
- P1. Vitousek, P. M., S. Hättenschwiler, L. Olander, and **S. Allison**. 2002. Nitrogen and nature. *Ambio* 31:97-101.

GRANTS

- 2017-2022 *NRT: A training incubator for addressing urban environmental change from Ridge to Reef (R2R)*. \$2,999,970. 9/1/17-8/31/22. Role: PI. NSF Division of Graduate Education.
- 2017-2022 *Collaborative Research: NSFDEB-NERC: Tropical deadwood carbon fluxes: Improving carbon models by incorporating termites and microbes*. \$218,224 (UCI portion). 7/1/17-6/30/22. Role: PI. NSF Ecosystem Studies.
- 2017-2018 *FORESTPRIME: Predicting carbon release from forest soils through priming effects*. \$30,000. 8/1/17-3/31/18. Role: PI. Subcontract from Lancaster University, UK.
- 2017 *Climate Action Training Program*. \$25,000. 1/1/17-12/31/17. Role: PI. UCI Sustainability.
- 2016-2019 *A trait-based framework for linking microbial communities with carbon transformations under precipitation change*. \$2,874,285 (UCI portion). 8/15/16-8/14/19. Role: PI. DOE Genomic Sciences.
- 2016-2017 *Graduate Growth Incentive Award*. \$20,000. 9/1/16-4/1/17. Role: PI. UCI Graduate Division.
- 2016 *Climate Action Champion Grant*. \$25,000. 1/1/16-12/31/16. Role: PI. UC Office of the President.
- 2015-2017 *Benchmarking and improving microbial-explicit soil biogeochemistry models*. \$195,494 (UCI portion). 8/1/15-7/31/17. Role: PI. DOE TES.
- 2015-2018 *Collaborative research: Controls over decomposition by microbial communities under climate change*. \$839,807 (UCI portion). 8/15/15-7/31/18. Role: PI. NSF Ecosystem Studies.
- 2013-2016 *Evolutionary trade-offs in the adaptation of decomposers to global warming: Implications for ecosystem C balance*. \$600,348 (UCI portion). 9/1/2013-8/31/2016. Role: Co-PI. NSF Ecosystem Studies.

- 2012 *Response of soil bacterial communities associated with native and exotic plant species to management, climate and pollution disturbances in a coastal grassland.* \$30,000. 1/1/12-12/31/12. Role: PI. UCI Center for Environmental Biology.
- 2011-2016 *Dimensions: Collaborative research: Biological controls of the ocean C:N:P ratios.* \$1,037,957 (UCI portion). 1/1/11-12/31/16. Role: co-PI. NSF Dimensions of Biodiversity.
- 2010-2015 *Can microbial functional traits predict the response and resilience of decomposition to global change?* \$2,383,120 (UCI portion). 7/1/10-6/30/15. Role: PI. DOE Biological and Environmental Research.
- 2009-2012 *Applying social evolution theory in microbial ecosystems.* \$368,994. 9/1/09-8/31/12. Role: PI. NSF Advancing Theory in Biology.
- 2009-2011 *MSB: Do cheaters ever win? Examining microbial competition and extracellular enzyme production.* \$135,001. 8/1/09-7/31/11. Role: PI. NSF Evolutionary Processes.
- 2006 Workshop travel grant for Exploring Subseafloor Life with the Integrated Ocean Drilling Program, October 3-5, Vancouver
- 2005 Co-PI, NSF-LTER workshop grant (\$7670): “Effects of increased nitrogen on ecosystem and microbial function across different biomes”
- 2005-2007 NOAA Climate and Global Change Postdoctoral Fellowship
- 2005 Student travel grant for Terrestrial Ecosystem Responses to Atmospheric and Climatic Change (TERACC) workshop, Ft. Myers, FL
- 2003 US Department of Energy Global Change Fellowship
- 2003 NSF supercomputing grant (1000h)
- 2000-2002 NSF Graduate Research Fellowship
- 1998 Morris K. Udall Scholarship for Excellence in Environmental Public Policy, Morris K. Udall Foundation (\$5000)

AWARDS AND HONORS

- 2016 UC Irvine Climate Action Champion
- 2016 Selected as one of UCI’s top 50 graduate and postdoctoral alumni
- 2015 Chancellor’s Award for Excellence in Fostering Undergraduate Research
- 2015 Faculty Mentor of the Month (May 2015)
- 2013-2017 Early Career Fellow, Ecological Society of America
- 2009 Golden Apple teaching award, UCI School of Biological Sciences
- 2007 Finalist, UC President’s Postdoctoral Fellowship
- 2006 Postdoctoral Research Excellence Award, UCI School of Biological Sciences
- 2005 Outstanding Student Paper Award, 2004 AGU Fall Meeting
- 2004 US DOE Marvin Wesely Fellow (1 per ~25 fellowship recipients)
- 2004 James W. Lyons Award for service to the Stanford community
- 2001-2002 Accepted into 3M Course in Comparative Tropical Ecology, a 4 month Mellon Foundation-funded course to facilitate multi-site, multi-investigator field research in tropical ecosystems
- 1999 Finalist, US EPA STAR Fellowship (did not accept)

TEACHING EXPERIENCE

2012-2016 Bio E106: Introduction to Ecology and Evolution
2008- Bio E118/ESS 164: Ecosystem Ecology
2008-2010 Bio 2B, Freshman Seminar, Soils of Orange County
2006-2007 Ecosystem Biogeochemistry Instructor (ESS 280, graduate level), UC Irvine
2001 Ecosystem Ecology Teaching Assistant and Guest Lecturer, Stanford University
2000 Plant Ecology and Evolution Teaching Assistant and Field Instructor, Stanford University
1999 Introductory Biology Teaching Assistant, Stanford University
1998 Environmental Science Teaching Assistant, Penn State University
1996 Environmental Education Intern, Bucks County Audubon Society, PA

PHD STUDENTS ADVISED

2016- Wally Xie
2013- Kelly Ramin
2011-2016 Nameer Baker
2008-2013 Amy Zimmerman
2008-2013 Katherine Todd-Brown

POSTDOCS ADVISED

2017- Ashish Malik
2015-2016 Peter Homyak
2015 Yujie He
2013-2015 Seeta Sistla
2012-2014 Sarah Evans
2011-2013 Emma Aronson
2011-2012 Henri Folse
2009-2011 Donovan German

SERVICE ACTIVITIES

Ad-hoc reviewer for NSF; DOE; USDA-NRI; NOAA; NERC; Chilean Antarctic Institute; US Army; Danish Council for Independent Research; Marsden Fund (New Zealand); University of Gerona PhD thesis

Reviewer for *American Journal of Botany*, *Applied Soil Ecology*, *Biology and Fertility of Soils*, *Biogeochemistry*, *Biogeosciences*, *Biotropica*, *Bulletin of Entomological Research*, *Community Ecology*, *Ecological Modeling*, *Ecological Monographs*, *Ecology*, *Ecology Letters*, *Ecosphere*, *Ecosystems*, *Environmental Microbiology*, *FEMS Microbiology Ecology*, *Frontiers in Microbiology*, *Functional Ecology*, *Fungal Ecology*, *Geoderma*, *Geophysical Research Letters*, *Global Biogeochemical Cycles*, *Global Change Biology*, *ISME Journal*, *Journal of Arid Environments*, *Journal of Ecology*, *Microbial Ecology*, *Nature*, *Nature Climate Change*, *Nature*

Communications, Nature Reviews Microbiology, New Phytologist, Oecologia, Pedobiologia, Plant and Soil, Plant Ecology, PLoS One, PNAS, Science, Soil Biology & Biochemistry

2016-2017 Director, UC Irvine Climate Action Training Program
2014- Associate Editor for *Ecology*
2012- Subject Editor for *Soil Biology & Biochemistry*
2012-2014 Executive Committee member for Ayala School of Biological Sciences
2010- DOE Panel member
2008- NSF Panel member
2008- Grader for UC Irvine Test of Oral English Proficiency
2008-2011 Consulting Editor for *Plant and Soil*
2008-2011 UC Irvine Campuswide Honors Program Board
2003-2004 Graduate Student Council Chair, Stanford University
Chaired an organization with a \$160K budget that represents 7500 students
2002-2003 Board of Trustees, Stanford University
Served as student representative to the Committee on Land and Buildings
2000-2004 Freshman and Sophomore Academic Adviser, Stanford University

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Ecological Society of America
American Geophysical Union
American Association for the Advancement of Science

MEDIA COVERAGE

Radio interview with Claudia Shambaugh of KUCI's "Ask a Leader" program, May 20, 2017.
<http://askaleader.com/?p=1007>

"UCI relies heavily on federal science funding threatened by Trump": Steven D. Allison,
Commentary in LA Times Daily Pilot, April 18, 2017.

"Soil carbon storage not the climate change fix it was thought, research finds": The Guardian,
September 22, 2016.

"Microbes and global carbon": News and Views piece by Josh Schimel in Nature Climate
Change, October 2013, p. 867-868

Radio interview with Mike DeLeonardis of KPFT 90.1 in Houston regarding Weider et al. 2013
Nature Climate Change paper, August 2013

"Shrooms shrivel": Anna Barnett, Nature Reports Climate Change, published online November
13, 2008, doi:10.1038/climate.2008.120

"In Alaska's Forests, Dried Mushrooms to the Rescue?": NSF Research Highlights, published
online November 2, 2008, release 08-193

Evaluation of “Brown Ground” paper: Andrew Hector, Faculty of 1000 Biology, Sep 13, 2006, <http://www.f1000biology.com/article/id/1040289/evaluation>

“Why is most ground brown?” Steven Allison, *Scientific American*, July 2006, p. 104.

“Verde o café, lo que usted pisa es por algo.” Ramiro Velásquez Gómez, *El Colombiano*. May 23, 2006.

“Why the ground is brown.” Corey Binns, *LiveScience.com*. Posted April 10, 2006.

PRESENTATIONS

Glassman, S. I., C. Weihe, **S. D. Allison**, E. L. Brodie, A. C. Martiny, K. K. Treseder, and J. B. H. Martiny. 2017. Investigating decomposer bacterial communities along an elevation gradient. Ecological Society of America, Portland, OR.

Allison, S. D. 2017. (Invited). Overcoming challenges in trait-based global modeling. Ecological Society of America, Portland, OR.

Allison, S. D., A. L. Romero Olivares, Y. Lu, J. Taylor, and K. K. Treseder. 2017. Trait-driven models of microbial decomposition: enzyme temperature sensitivity. Ecological Society of America, Portland, OR.

Allison, S. D., E. L. Brodie, M. L. Goulden, A. C. Martiny, J. B. H. Martiny, K. K. Treseder, A. Amend, R. Berlemont, Y. Lu, K. Dolan, and C. Weihe. 2017. (Invited). Microbial resilience to climate change in Southern California. UCI Minority Science Program, Irvine, CA.

Allison, S. D. 2017. (Invited). Predicting the future of soil carbon with Earth system models. Geophysical Fluid Dynamics Laboratory, Princeton, NJ.

Allison, S. D. 2017. (Invited). Incorporating soil microbes into climate change predictions. American Society for Microbiology, New Orleans, LA.

Glassman, S. I., C. Weihe, **S. D. Allison**, E. L. Brodie, A. C. Martiny, K. K. Treseder, and J. B. H. Martiny. 2017. Investigating decomposer bacterial communities along an elevation gradient. American Society for Microbiology, New Orleans, LA.

Allison, S. D., E. L. Brodie, M. L. Goulden, A. C. Martiny, J. B. H. Martiny, K. K. Treseder, A. Amend, R. Berlemont, Y. Lu, K. Dolan, and C. Weihe. 2017. (Invited). Resilience of microbial communities and carbon cycling to drought. UCI Center for Environmental Biology Symposium, Irvine, CA.

Nisson, D., and **S. D. Allison**. 2017. Adaptive Metabolic Response of Desert Microorganisms to Drought and Moisture Pulses. UCI Undergraduate Research Opportunity Program Symposium, Irvine, CA.

Barajas, G., E. Stogner, and **S. D. Allison**. 2017. Effect of Climate Change on Microbial Communities Across the Southern California Gradient. UCI Undergraduate Research Opportunity Program Symposium, Irvine, CA.

Stogner, E., and **S. D. Allison**. 2017. Microbial communities exhibit resilience under environmental change. UCI Excellence in Research Symposium, Irvine, CA.

Allison, S. D. 2017. (Invited). Resilience of microbial communities and carbon cycling to drought. Lawrence Berkeley National Lab, Berkeley, CA.

Allison, S. D., J. B. H. Martiny, A. C. Martiny, R. Berlemont, K. K. Treseder, M. L. Goulden, and E. L. Brodie. 2017. Trait-based approaches for linking metagenomic data with microbial carbon cycling under drought conditions. DOE Genomic Sciences PI meeting, Crystal City, VA.

Sistla, S., A. B. Roddy, N. E. Williams, D. Kramer, K. Stevens, and **S. D. Allison**. 2016. Traditional agroforestry practices in Atlantic Nicaragua promote biodiversity and natural resource diversity. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D., J. B. H. Martiny, A. C. Martiny, R. Berlemont, K. K. Treseder, M. L. Goulden, and E. L. Brodie. 2016. Recovery of microbial communities and carbon cycling processes following drought manipulation in southern California. Annual Meeting of the American Geophysical Union, San Francisco.

Abarca, V. and **S. D. Allison**. 2016. Shifts in β -glucosidase activity of *Neurospora* genotypes due to warming temperatures. Southern California Conferences for Undergraduate Research, UC Riverside.

Espejo, S., H. W. Xie, and **S. D. Allison**. 2016. Using temperature-based soil respiration models to compare the temperature sensitivity of seasonal soil respiration rates. HENAAC Conference, Anaheim.

Allison, S. D. 2016. Trait-based approaches for linking metagenomic data with microbial carbon cycling under drought conditions. International Society for Microbial Ecology Meeting, Montreal.

Abarca, V. and **S. D. Allison**. 2016. Evolutionary Shifts in *Neurospora* Genotypes due to Warming Temperatures. Summer Undergraduate Research Fellowship program symposium, Irvine.

Allison, S. D. 2016. An interdisciplinary Climate Action Training program for graduate students at UC Irvine. California Higher Education Sustainability Conference, Fullerton.

Allison, S. D. 2016. An interdisciplinary Climate Action Training program for graduate students at UC Irvine. UC Carbon Slam, Palo Alto.

Allison, S. D. 2016. Trait-based models of soil microbial responses to environmental change. International Soil Modeling Consortium, Austin.

Allison, S. D. 2015. Using traits to predict soil microbial responses to environmental change. Annual Meeting of the British Ecological Society, Edinburgh.

Todd-Brown, K., **S. D. Allison**, and J. T. Randerson. 2015. Causes of variation in soil carbon simulations from Earth system models. Annual Meeting of the British Ecological Society, Edinburgh.

He, Y., J. T. Randerson, **S. D. Allison**, M. S. Torn, J. W. Harden, L. J. Smith, T. van der Voort, and S. Trumbore. 2015. The Global Turnover Time Distribution of Soil Carbon Derived from a Meta-analysis of Radiocarbon Profiles. Annual Meeting of the American Geophysical Union, San Francisco.

Baker, N. R. and **S. D. Allison**. 2015. Constraints Placed by Community Diversity on the Enzymatic Response of Microbial Decomposer Communities to Climate Change in Southern California. Annual Meeting of the American Geophysical Union, San Francisco.

Ramin, K. and **S. D. Allison**. 2015. Tradeoffs between growth and enzyme production in bacteria strains from plant litter. Annual Meeting of the Ecological Society of America, Baltimore.

He, Y., J. T. Randerson, **S. D. Allison**, S. E. Trumbore, J. W. Harden, M. S. Torn, and L. Smith. 2015. Radiocarbon constraints imply reduced carbon uptake by soils during the 21st century. Annual Meeting of the Ecological Society of America, Baltimore.

Baker, N. R. and **S. D. Allison**. 2015. Sensitivity of enzyme kinetics to temperature across five biomes in southern California. Annual Meeting of the Ecological Society of America, Baltimore.

Allison, S. D. 2015. (Invited). Why Earth system modelers should care about microbial ecology. Annual Meeting of the Ecological Society of America, Baltimore.

Allison, S. D. and Aronson, E. 2015. (Invited). Modeling microbial responses to drying and rewetting. Annual Meeting of the Ecological Society of America, Baltimore.

Allison, S. D. 2015. (Invited). Incorporating microbial processes into global-scale models. UC Irvine Minority Science Program.

Allison, S. D. 2015. (Invited). Incorporating microbial processes into global-scale models. University of Arizona.

Allison, S. D. 2014. (Invited). Predicting microbial community function based on physiological traits. UC Irvine Microbiome Connections.

Allison, S. D. 2014. (Invited). Microbial processes in global change models. Oxford, UK.

Allison, S. D. 2014. (Invited). Microbial processes in global change models. Isaac Newton Institute, Cambridge, UK.

Allison, S. D. 2014. (Invited). Representing microbial communities in Earth system models. Microsoft Research, Cambridge, UK.

Allison, S. D. 2014. (Invited). Microbial processes in global change models. Society for General Microbiology Focused Meeting, Loughborough, UK.

Martiny, J. B. H., C. Weihe, Y. Lu, R. Berlemont, M. Goulden, A. C. Martiny, K. K. Treseder, and **S. D. Allison**. 2014. The resilience of microbial composition and its functioning in response to global change manipulations. Annual Meeting of the Ecological Society of America, Sacramento.

Evans S. E., J. B. H. Martiny, and **S. D. Allison**. 2014. Factors influencing the relative contribution of stochastic and deterministic processes in microbial community assembly: results from a trait-based model. Annual Meeting of the Ecological Society of America, Sacramento.

Aronson, E., and **S. D. Allison**. 2014. Drought and N addition control soil GHG flux and microbial composition. Annual Meeting of the Ecological Society of America, Sacramento.

Allison, S. D. 2014. (Invited). Microbial feedbacks to climate change on local to global scales. Annual Meeting of the Ecological Society of America, Sacramento.

Hatosy, S. M., C. Mougnot, **S. D. Allison**, and A. C. Martiny. 2014. Fine-scale temporal variability in marine cyanobacteria at Newport Beach, CA. Gordon Conference, Waltham MA.

Allison, S. D. 2014. (Invited). New models based on microbial control over soil carbon. Research Coordination Network Workshop, Breckenridge CO.

Zimmerman, A. E., A. C. Martiny, M. W. Lomas, and **S. D. Allison**. 2014. Phosphate supply explains variation in nucleic acid allocation but not C:P stoichiometry in the western North Atlantic. AGU Ocean Science Meeting, Honolulu.

Bonachela, J. A., **S. D. Allison**, A. C. Martiny, and S. A. Levin. 2014. Dynamic model for phytoplankton stoichiometry based on protein regulation. AGU Ocean Science Meeting, Honolulu.

Curran, M., Y. Lu, J. Taylor, and **S. D. Allison**. 2013. The temperature response of fungal enzyme kinetics. Annual Meeting of the American Geophysical Union, San Francisco.

Wieder, W. R., G. B. Bonan, E. S. Hinckley, and **S. D. Allison**. 2013. (Invited). Scaling microbial physiology in global models. Annual Meeting of the American Geophysical Union, San Francisco.

Baker, N. R., and **S. D. Allison**. 2013. Dry-season ultraviolet radiation primes litter for wet season decomposition in a Mediterranean grassland. Annual Meeting of the American Geophysical Union, San Francisco.

Todd-Brown, K. E. O., J. T. Randerson, F. Hopkins, V. Arora, T. Hajima, C. Jones, E. Shevliakova, J. Tjiputra, E. Volodin, T. Wu, Q. Zhang, and **S. D. Allison**. 2013. (Invited). Changes in soil organic carbon storage predicted by Earth system models during the 21st century. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D., S. E. Evans. 2013. (Invited). Scaling up microbial responses to climate change. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2013. (Invited). Incorporating microbial traits into Earth system models. Annual Meeting of the Ecological Society of America, Minneapolis.

Allison, S. D., C. J. Alster, Y. Lu, and D. P. German. 2013. (Invited). Resilience of extracellular enzymes to environmental change. Annual Meeting of the Ecological Society of America, Minneapolis.

Young, D., A. Milo, B. Oberle, **S. D. Allison**, and A. Zanne. 2013. A “snapshot” of microbial lignocellulolytic enzyme activities in decaying wood: heterogeneity across plant species and environmental conditions. Annual Meeting of the Ecological Society of America, Minneapolis.

Aronson, E. L., and **S. D. Allison**. 2013. Increased N deposition in a grassland stimulates soil N₂O release while drought decreases Nitrospirae abundance. ICoN3 conference.

Allison, S. D. 2013. (Invited). Predicting the function of microbial communities in response to global change. Penn State University.

Allison, S. D. 2013. (Invited). Predicting the function of microbial communities in response to global change. UC Riverside.

Aronson, E. L., and **S. D. Allison**. 2012. Season drives precipitation and N deposition impacts on nitrous oxide, methane and carbon dioxide emissions in a CA grassland. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2012. (Invited). Integrating microbial traits into ecosystem models. Annual Meeting of the American Geophysical Union, San Francisco.

Todd-Brown, K. E., J. T. Randerson, W. M. Post, and **S. D. Allison**. 2012. Evaluating soil carbon in global climate models: benchmarking, future projections, and model drivers. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2012. Predicting the function of microbial communities in response to global change. Department seminar, UC Irvine.

Nyysönen, M., C. Weihe, M. L. Goulden, K. K. Treseder, J. B.H. Martiny, A. C. Martiny, **S. D. Allison**, and Eoin L. Brodie. 2012. Reconciling phylogeny and function during plant litter decomposition by high-throughput functional metagenomics. International Society for Microbial Ecology Meeting, Copenhagen.

Lu., Y., and **S. D. Allison**. 2012. Cheater-producer interactions in protease-producing populations of *Pseudomonas fluorescens*. International Society for Microbial Ecology Meeting, Copenhagen.

Zimmerman, A. E., **S. D. Allison**, and A. C. Martiny. 2012. Phylogenetic diversity of cellular stoichiometry among marine bacteria. International Society for Microbial Ecology Meeting, Copenhagen.

Aronson, E., and **S. D. Allison**. 2012. Soil microbial diversity and greenhouse gas emissions in California grassland under precipitation and N deposition manipulation. International Society for Microbial Ecology Meeting, Copenhagen.

Beasley, S. and **S. D. Allison**. 2012. Extracellular enzymatic response to drought and nitrogen deposition in southern California. NSF REU program in Earth System Science, UC Irvine.

Folse, H. J., III, and **S. D. Allison**. 2012. Emergent spatial structure in a community of extracellular enzyme-producing microbes. Annual Meeting of the Ecological Society of America, Portland.

Todd-Brown, K., J. Randerson, W. Post, and **S. D. Allison**. 2012. Evaluating soil carbon in global climate models: How good are the models and what drives model variability? Annual Meeting of the Ecological Society of America, Portland.

Allison, S. D., and Y. Lu. 2012. Evolutionary and spatial controls on bacterial enzyme production. Annual Meeting of the Ecological Society of America, Portland.

Todd-Brown, K. E., Y. Lu, and **S. D. Allison**. 2012. Starting small: an extracellular-enzyme driven model of a microbial microcosm. Enzymes in the Environment Workshop, Fort Collins.

Allison, S. D. 2012. (Outreach). Cheating your neighbor in microbial ecosystems. MSP, UC Irvine.

Allison, S. D., and A. C. Martiny. 2012. (Outreach). Microbial ecology and ocean science. Program for transfer students, UC Irvine.

Allison, S. D. 2012. (Invited). Linking microbial enzyme genes with community responses to drought and nitrogen. US DOE Contractors and Grantees Workshop, Bethesda, MD.

Todd-Brown, K. E., F. M. Hoffman, J. T. Randerson, W. M. Post, and **S. D. Allison**. 2011. Assessing variability in belowground carbon for CMIP-5 models. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2011. (Invited). Trait-based modeling of microbial decomposition. Annual Meeting of the Ecological Society of America, Austin.

Zimmerman, A. E., A. C. Martiny, and **S. D. Allison**. 2011. Cellular stoichiometry of the marine Roseobacter lineage. Annual Meeting of the Ecological Society of America, Austin.

German, D. P., and **S. D. Allison**. 2011. The interaction of substrate concentration and moisture level in decomposition. Annual Meeting of the Ecological Society of America, Austin.

Todd-Brown, K., and **S. D. Allison**. 2011. Microbial cost of carbon degrading extracellular enzymes: A microcosm and mechanistic modeling approach. Annual Meeting of the Ecological Society of America, Austin.

Allison, S. D. 2011. (Invited). Measuring and modeling the temperature response of soil enzyme activities. 3rd International Symposium on Soil Organic Matter, Leuven, Belgium.

Allison, S. D., E. L. Brodie, M. Goulden, Y. Lu, A. Martiny, J. B. H. Martiny, M. J. Nyysönen, K. K. Treseder, C. Weihe. 2011. Can microbial functional traits predict the response and resilience of decomposition to global change? US DOE Contractors and Grantees Workshop, Crystal City, Washington DC.

Allison, S. D. 2011. (Invited). Linking ecosystem processes with microbial evolution and physiological adaptation. San Diego State University.

Stone, M., M. Weiss, C. Goodale, D. German, and **S. Allison**. 2010. The effect of N-fertilization on enzymatic decomposition in two northeastern forests. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2010. (Invited). Linking ecosystem processes with microbial evolution and physiological adaptation. UC Merced.

Allison, S. D. 2010. (Invited). Linking ecosystem processes with microbial evolution and physiological adaptation. Brown University.

Allison, S. D. 2010. (Invited). Climate change: the debate. UC Irvine NSF GK-12 Program, Irvine

Allison, S. D. 2010. (Invited). Implications of exoenzyme cheaters for biogeochemical processes. International Society for Microbial Ecology Meeting, Seattle.

Zimmerman, A. E., and **S. D. Allison**. 2010. Distribution of enzyme-encoding genes among microbial taxa: Alkaline phosphatase. International Society for Microbial Ecology Meeting, Seattle.

Allison, S. D. 2010. (Invited). Integrating microbial community data with ecological theory. Annual Meeting of the Ecological Society of America, Pittsburgh.

Dooley, S. R., **S. D. Allison**, and K. K. Treseder. 2010. Forest fires alter soil fungal communities in boreal ecosystems: implications for carbon cycling. Annual Meeting of the Ecological Society of America, Pittsburgh.

Allison, S. D. and A. C. Martiny. 2010. Microbial ecology and ocean science. UC Irvine FOCUS outreach program.

Allison, S. D. 2010. (Invited). Microbial enzyme links to biogeochemical processes and global change. Cornell University.

Allison, S. D. 2010. Social interactions and cheating in the microbial world. GK-12 Program, UC Irvine.

Allison, S. D. 2010. (Invited). Public goods in microbial ecosystems. UC Irvine.

Todd-Brown, K. E. and **S. D. Allison**. 2009. Modeled carbon respiration of microbial communities with explicit enzyme representation. Annual Meeting of the American Geophysical Union, San Francisco.

Wiedenbeck, J. K., V. Neino, **S. D. Allison**, and A. Martiny. 2009. Ectoenzyme activity in coastal marine waters: response to temperature and metal ion availability. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2009. (Invited). Cheating, heating, and substrate constraints on microbial decomposition. UC Santa Barbara.

Allison, S. D. 2009. (Invited). Cheating, heating, and substrate constraints on microbial decomposition. Duke University.

Allison, S. D. 2009. (Invited). Cheating, heating, and substrate constraints on microbial decomposition. UC San Diego.

Allison, S. D. 2009. (Invited). Integration of microbial communities into large-scale ecosystem models. Annual Meeting of the Ecological Society of America, Albuquerque.

Allison, S. D. 2009. (Invited). Microbial feedbacks to environmental change in Alaskan boreal forest. University of Colorado.

Todd-Brown, K., and **S. D. Allison**. 2008. Optimizing micro-scale models of soil enzyme diffusion. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2008. (Invited). Incorporating microbes into large-scale biogeochemical models. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2008. (Invited). Global warming: The debate. Newport Beach (CA) Rotary Club.

Allison, S. D., D. S. LeBauer, M. R. Ofrecio, R. Reyes, T. M. Tran. 2008. Nitrogen addition stimulates decomposition by boreal forest fungi. Annual Meeting of the Ecological Society of America, Milwaukee.

Treseder, K. K., A. Majumder, E. Bent, J. Borneman, **S. D. Allison**, C. A. Hanson. 2008. (Invited). Controls over fungal communities and consequences for nutrient cycling. Annual Meeting of the Ecological Society of America, Milwaukee.

McGuire, K. L., **S. D. Allison**, K. K. Treseder. 2008. Spatial segregation of ectomycorrhizal and saprotrophic fungi in boreal and tropical forest soils. Annual Meeting of the Ecological Society of America, Milwaukee.

Allison, S. D. 2008. (Invited). Microbial feedbacks to environmental change in Alaskan boreal forest. UC Riverside.

Treseder, K. K., A. Majumder, E. Bent, J. Borneman, **S. D. Allison**, C. A. Hanson. 2007. (Invited). Controls over fungal communities and consequences for nutrient cycling. Annual Meeting of the American Geophysical Union, San Francisco.

Allison, S. D. 2007. (Invited). Microbial feedbacks to global change in Alaskan boreal forest. University of Alaska, Fairbanks.

Allison, S. D., M. C. Mack, and K. K. Treseder. 2007. Nitrogen alters carbon cycling and microbial activity in a recently-burned boreal ecosystem. Annual Meeting of the Ecological Society of America, San Jose.

Allison, S. D. 2007. (Invited). Extracellular enzyme production as an optimal foraging strategy for microbes and plants. Enzymes in the Environment: Activity, Ecology and Applications, Viterbo, Italy.

Allison, S. D. 2007. (Invited). Microbial communities as regulators of global change feedbacks to ecosystem processes. American Society for Microbiology, Toronto, Canada.

Allison, S. D. 2006 (Invited). Microbial strategies and environmental change: implications for ecosystem processes. CEA-CREST seminar series, Cal State LA.

Allison, S. D. 2006 (Invited). Microbial enzymes and communities under environmental change: implications for ecosystem processes. Department of Ecology and Evolutionary Biology, University of Arizona.

Allison, S. D. 2006 (Invited). Microbial strategies and environmental change: implications for ecosystem processes. Department of Ecology and Evolutionary Biology, UC Irvine.

Allison, S. D., C. I. Czimczik, and K. K. Treseder. 2006. Links among warming, fungal communities, and carbon fluxes in boreal forest ecosystems. American Geophysical Union Fall Meeting, San Francisco.

Allison, S. D. 2006 (Invited). Microbial strategies and environmental change: implications for ecosystem processes. School of Biology, Georgia Tech.

Allison, S. D. 2006 (Invited). Microbial feedbacks to global change in boreal ecosystems. Department of Ecology and Evolution, Stony Brook University.

Allison, S. D. 2006 (Invited). Fungal communities and global change in boreal ecosystems. Department of Ecology and Evolutionary Biology, Rice University.

Allison, S. D. 2006. Microbial competition in spatially structured environments (Poster). Integrated Ocean Drilling Program Subseafloor Biosphere Workshop, Vancouver, Canada.

Allison, S. D., C. Hanson, C. Czimczik, and K. K. Treseder. 2006. Nitrogen alters fungal communities but not carbon cycling in boreal forest soils. Annual Meeting of the Ecological Society of America, Memphis.

Allison, S.D. 2006 (Invited). Brown Ground and the Black Box: assessing paradigms for the soil carbon cycle. Crop and Soil Science Department, Oregon State University.

Allison, S. D., K. K. Treseder, and C. Czimczik. 2006 (Invited). Rethinking the “Black Box”: How microbes and enzymes drive biogeochemical processes. National Center for Ecological Analysis and Synthesis, Santa Barbara.

Allison, S. D., K. K. Treseder, and C. Czimczik. 2005. Nitrogen alters fungal communities in boreal forest soil: implications for carbon cycling. American Geophysical Union Fall Meeting, San Francisco.

Allison, S.D. 2005 (Invited). Soils as a test bed for ecological theory from the plant world. Biology Department, Washington University in St. Louis.

Allison, S.D. 2005 (Invited). Soils as a test bed for ecological theory from the plant world. Earth System Science Seminar Series, University of California, Irvine.

Allison, S. D. 2005. Constraints on soil enzymes and microbial biomass: implications for decomposition. Annual Meeting of the Ecological Society of America, Montreal.

Allison, S. D., and J. D. Jastrow. 2004. Microbial enzyme activity and carbon cycling in grassland soil fractions. American Geophysical Union Fall Meeting, San Francisco.

Allison, S. D., and P. M. Vitousek. 2004. Brown ground: a soil carbon analog for the Green World. Annual Meeting of the Ecological Society of America, Portland.

Allison, S. D., and P. M. Vitousek. 2003. Soil microbial and enzymatic responses to complex and labile nutrient inputs. American Geophysical Union Fall Meeting, San Francisco.

Allison, S. D., and P. M. Vitousek. 2003. Decomposition and nutrient dynamics in native and exotic Hawaiian understory plant litter. Annual Meeting of the Ecological Society of America, Savannah.

Allison, S. D., H. Farrington, and P. M. Vitousek. 2001. Substrate quality, nutrient availability, and enzymatic controls over litter decomposition rates. Annual Meeting of the Ecological Society of America, Madison.

Allison, S. D., and J. C. Schultz. 2000. Turning the tides: gall-insects benefit from plant defense biochemistry. Annual Meeting of the Ecological Society of America, Snowbird.