

Ashley K. Lang, Ph.D.

Ecosystem ecologist and soil biogeochemist

NSF Postdoctoral Fellow at Indiana University

She/her | al40@iu.edu | ashleyklang.com

Education

Ph.D. Ecology, Evolution, Environment, and Society *June 2020*

Dartmouth College

Dissertation: *Mycorrhizal fungi as drivers of soil carbon dynamics in northern temperate forests*

B.S. Ecology *May 2014*

Odum School of Ecology at the University of Georgia

Magna cum laude

Honors and Awards

- National Science Foundation Postdoctoral Fellowship in Biology: *Controls on the formation and persistence of mineral-associated organic matter* (2020-2023)- \$207,000
- Graduate Student Council Travel Award, Dartmouth College (2019)- \$1,000
- Graduate Alumni Research Award, Dartmouth College (2018) - \$1,000
- Guarini School Travel Award, Dartmouth College (2018)- \$1,000
- NSF Graduate Research Fellowship- Honorable Mention (2016)
- GAANN Fellowship, Dartmouth College (2015-2016)- \$34,000
- Presidential Fellowship, Dartmouth College (2015) - \$1,500
- Zell Miller Scholarship, University of Georgia (2010-2014)
- Presidential Scholar, University of Georgia (2014)

Publications

*indicates undergraduate co-author

11. Jevon, F. V., **A.K. Lang**, M.P. Ayres, and J.H. Matthes. Limited evidence that larger acorns buffer *Quercus rubra* seedlings from density-dependent biotic stressors. *American Journal of Botany* (2021).

10. **Lang, Ashley K.**, F.V. Jevon, C. R. Vietorisz*, M.P. Ayres, and J.H. Matthes. Fine roots and associated fungi accelerate leaf litter decomposition regardless of dominant tree mycorrhizal type. *New Phytologist* (2020).
9. Jevon, Fiona V., S. Record, J. Grady, **A.K. Lang**, D.A. Orwig, M.P. Ayres, J.H. Matthes. Seedling survival declines with increasing conspecific density in a common temperate tree. *Ecosphere*. (2020).
8. Fitch, Amelia A., **A.K. Lang**, E.D. Whalen, K. Geyer, C. Hicks Pries. Fungal community, not substrate quality, drives soil microbial function in Northeastern US temperate forests. *Frontiers in Forests and Global Change*. (2020).
7. Darby, B.A., C.L. Goodale, N.A. Chin, C.B. Fuss, **A.K. Lang**, S.V. Ollinger, G.M. Lovett. Depth patterns and connections between gross nitrogen cycling and soil exoenzyme activities in three northern hardwood forests. *Soil Biology and Biochemistry*. (2020).
6. **Lang, Ashley K.**, F.V. Jevon, M.P. Ayres, and J.H. Matthes. Higher soil respiration beneath arbuscular mycorrhizal trees in a northern hardwood forest is driven by associated soil properties. *Ecosystems*. (2019).
5. Burke, Sophia A., M. Wik, **A.K. Lang**, A. R. Contosta, M. Palace, P. Crill and R.K. Varner. Long term measurements of methane ebullition from thaw ponds. *JGR: Biogeosciences*. (2019).
4. Fuss, Colin B., G.M. Lovett, C.L. Goodale, S.V. Ollinger, **A.K. Lang**, and A.P. Ouimette. Retention of Nitrate-N in Mineral Soil Organic Matter in Different Forest Age Classes. *Ecosystems*, 1-15. (2019).
3. Matthes, J.H., **A.K. Lang**, F.V. Jevon, S.J. Russell*. Tree Stress and Mortality from Emerald Ash Borer Does Not Systematically Alter Short-Term Soil Carbon Flux in a Mixed Northeastern U.S. Forest. *Forests*, 9, 37. (2018).
2. Stoker, D., A. J. Falkner, K. M. Murray, **A.K. Lang**, T.R. Barnum, J. Hepinstall-Cymerman, M. J. Conroy, R. J. Cooper, and C. M. Pringle. Decomposition of terrestrial resource subsidies in headwater streams: does consumer diversity matter? *Ecosphere*. 8.6 (2017).

1. Mohan, Jacqueline E., C. Cowden, P. Baas, A. Dawadi, P. Frankson, K. Helmick, E. Hughes, S. Khan, **A.K. Lang**, M. Machmuller, M. Taylor, C. A. Witt. Mycorrhizal fungi mediation of terrestrial ecosystem responses to global change: mini-review. *Fungal Ecology* 10: 3-19. (2014).

Previous Research Appointments

Research Support Specialist, Cary Institute of Ecosystem Studies (2014-2015)

Supervisors: Dr. Gary Lovett and Dr. Colin Fuss

NSF-DEB 1257956: Collaborative Research: Nitrogen Retention and Ecosystem Succession: Theory Meets Data

Research Fellow, Northern Ecosystems Research for Undergraduates (2013)

Advisor: Dr. Ruth Varner, University of New Hampshire

NSF-REU: University of New Hampshire and Abisko Scientific Research Station

Research Assistant, University of Georgia (2012-2014)

Advisor: Dr. Jaqueline Mohan

Teaching & Mentoring

Co-instructor, Ecosystems and Global Change, Indiana University (2021)

Teaching Assistant, Dartmouth College (2015-2019)

Envs 3, Environment and Society

Bio 29, Biostatistics (2 sections)

Bio 16, Introduction to Ecology (3 sections)

Bio 31, Physiological Ecology

Mentor, Hubbard Brook Research Experience for Teachers (NSF RET program)

Kerry Sheehan, Profile High School, Bethlehem, NH

Karen Pringle, Pembroke Academy, Pembroke, NH

Undergraduate mentees:

Katya Golubovsky, Dartmouth College

Corinne Vietorisz, Dartmouth College
Emma Conrad-Rooney, Wellesley College
Brianna Hibner, Appalachian State University
Kate Salamido, Dartmouth College
Mariko Whitenack, Dartmouth College

Presentations

A.K. Lang, A. Fitch, F. Jevon, J. Hatala Matthes, M. P. Ayres, C. Hicks Pries. Soil Organic Matter Fractions Reflect the Mycorrhizal Associations and Foliar Chemistry of Dominant Tree Species in a Northern Temperate Forest. Contributed oral presentation, AGU Fall Meeting, December 2020.

A.K. Lang, F. Jevon, C. Vietorisz, M. Ayres, J. Hatala Matthes. Species-specific variability in leaf litter decomposition across a forest mycorrhizal gradient. Contributed oral presentation, ESA Annual Meeting, August 2019.

A.K. Lang, F. Jevon, C. Vietorisz, E. Conrad-Rooney, M. Ayres, J. Hatala Matthes. Variability in leaf litter decomposition across a forest mycorrhizal gradient. Poster, AGU Fall Meeting, December 2018.

A.K. Lang. How do mycorrhizal fungi influence leaf litter decomposition in temperate forests? Hubbard Brook Cooperators Meeting, July 2018.

A.K. Lang, M. Ayres, Hatala Matthes, J., Jevon, F. Mycorrhizal and tree diversity effects on forest soil respiration. Poster, Ecological Society of America, August 2017.

A.K. Lang. Mycorrhizal dimensions of niche complementarity in forest soils. Hubbard Brook annual cooperator's meeting, July 2017.

A.K. Lang. The influence of white ash (*Fraxinus americana*) on soil biogeochemistry. Hubbard Brook annual cooperators meeting, July 2016.

A.K. Lang, R. Varner, M. Osman, S. Burke, M. Wik, P. Crill. Spatial variability of methane ebullition from permafrost thaw ponds in a subarctic mire. Poster, AGU Fall Meeting, December 2013.

Professional development and other affiliations

Member, Ecological Society of America, American Geophysical Union, British Ecological Society

Member, National Center for Faculty Development and Diversity

Participant, Future Faculty Teaching Series, Dartmouth College

Participant, Syllabus development workshop, Center for Integrative Teaching and Learning at Indiana University

Promoting Diversity and Inclusion

ADVANCEGeo Bystander Intervention Training, Earth Science Women's Network, 2020

Promoting inclusivity at academic meetings, Webinar, Hubbard Brook LTER, 2021

Foundations of Anti-racist Pedagogy, Workshop, Indiana University, 2021

Service and Outreach

Reviewer: *Biogeochemistry, Soil Biology and Biochemistry, Plant and Soil, Ecosystems, Frontiers in Microbiology, Geoderma, Forests, Environmental Microbiology*

Graduate Student Representative for Hubbard Brook LTER Site (2016-2019)

Field trip organizer, Puerto Rico Student Exchange: VT-EPSCoR (2017-2018)

Member, Postdoctoral Search Committee, Dartmouth College

Station Leader, Science Day at Dartmouth (2016-2017)

Test Writer, Northern New England Science Olympiad Invitational Competition

Invited lectures

Public lectures

Sustainable Woodstock Carbon Work-Study Discussion, Woodstock, VT, 2018

Montshire Mycological Club, Grantham, NH, 2017 & 2018

Brown Bag Seminar, Indiana University, 2021

Academic lectures and field trips

Introduction to Ecology, Dartmouth College, Feb. 2021

Ecosystems and Global Change, Indiana University, 2021

Soil Ecology, State University of New York at Plattsburgh, Oct. 2019

Plant Biology, Castleton University, Sept. 2018

Methods in Ecology, Dartmouth College, Jul. 2017, 2018, 2019

Forest Biogeochemistry, Dartmouth College, Sept. 2017, 2018, 2019