Ernie D Osburn
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PROFESSIONAL APPOINTMENTS

2024 – Present	Assistant Professor, University of Kentucky, Department of Plant and Soil Sciences, Lexington, Kentucky
2021 – 2023	Postdoctoral Fellow, Advisor: Dr. Michael Strickland, University of Idaho, Department of Soil and Water Systems, Moscow, Idaho
2017 – 2021	Graduate Researcher, Advisor: Dr. Jeb Barrett, Virginia Tech, Department of Biological Sciences, Blacksburg, Virginia
2017	Science Teacher, Norcross High School, Norcross, GA
2011 – 2016	Science Teacher and Science Department Chair, Gainesville High School, Gainesville, GA

EDUCATION

Virginia Tech, Blacksburg, VA
Department of Biological Sciences
Interfaces of Global Change Fellow
Doctor of Philosophy in Biological Sciences, 2017-2021
Advisor: Dr. Jeb Barrett
University of Georgia, Athens, GA
Master of Arts in Teaching, Secondary Science Education, College of Education, 2010 – 2011
Bachelor of Science in Ecology, Odum School of Ecology, 2005 – 2009
Bachelor of Science in Biology, Franklin College of Arts & Sciences, 2005 – 2009
Study Abroad – Costa Rica Ecology Program, 2008

FELLOWSHIPS, GRANTS, and SCHOLARSHIPS

2022 Postdoctoral Research Award, University of Idaho IHHE, $1000
2020 Robert Patterson Scholarship, VT Biological Sciences Department, $825
2020 GSDA Fellowship, VT Graduate School, $9,369
2019 Interfaces of Global Change Student Fellowship, $40,000
2019 Virginia Tech Graduate Research Development Program, $1000
2018 Virginia Tech Graduate Student Association Travel Award, $250
2018 Ecological Society of America Student Travel Award, $75
2018 Virginia Tech Graduate Research Development Program, $1000
2011 University of Georgia Student Teaching Scholarship $1250
2010 NSF Robert J Noyce Fellowship (two years of graduate tuition remission)
2005 University of Georgia Charter Scholarship, $4000

PUBLICATIONS

Osburn, E.D., Baer, S.G., Evans, S.E., McBride, S.G., Strickland, M.S. 2024. Effects of experimentally elevated virus abundance on soil carbon cycling across ecosystem types. *Soil Biology and Biochemistry* 198, 109556.

Osburn, E.D., McBride, S.G., Bahram, M., Strickland, M.S. 2024 Global Pattens in the growth potential of soil bacterial communities. *Nature Communications* 15, 6881.

Osburn, E.D., McBride, S.G., Strickland, M.S., 2024. Microbial dark matter could add uncertainties to metagenomic trait estimations. *Nature Microbiology* 9, 1427-1430.

Osburn, E.D., Moon, C., Stephenson, T., Kittipalawattanapol, K., Jones, M., Lynch, L. M., Strickland, M.S., 2023. Disturbance of eucalypt forests alters the composition, function, and assembly of soil microbial communities. *FEMS Microbiology Ecology* 99:1-13.

Osburn, E.D., Yang, G., Rillig, M.C., Strickland, M.S. 2023. Evaluating the role of bacterial diversity in supporting soil ecosystem functions under anthropogenic stress. *ISME Communications* 3:1-10.

Osburn, E.D., Hoch, P.J., Prather, C.M., Strickland, M.S., 2023. Effects of micronutrient fertilization on soil carbon pools and microbial community functioning. *Applied Soil Ecology* 181:104664.

Osburn, E.D., McBride, S.G., Kupper J.V., Nelson J.A., McNear, D.H., McCulley, R.L., Barrett, J.E. 2022. Accurate detection of soil microbial community responses to environmental change requires the use of multiple methods. *Soil Biology and Biochemistry* 169:108685.

Osburn, E.D., Hoch, P.J., Lucas, J.M., McBride, S.G., Strickland, M.S. 2022. Evaluating the roles of microbial functional breadth and home-field advantage in leaf litter decomposition. *Functional Ecology* 36:1258-1267.

Osburn, E.D., McBride, S.G., Barrett, J.E., 2022. Historical forest disturbance reduces soil microbial efficiency across multiple carbon sources. *Soil Biology and Biochemistry* 165, 108542.

McBride, S.G., **Osburn, E.D.,** Lucas, J.M., Simpson, J.S., Brown, T., Barrett, J.E., Strickland M.S. 2022. Volatile and dissolved organic carbon sources have distinct effects on microbial activity, nitrogen content, and bacterial communities in soil. *Microbial Ecology*.

Osburn, E. D., Badgley, B.D, Strahm, B.D., Aylward, F.O., and J. E. Barrett. 2021. Emergent properties of microbial communities drive accelerated biogeochemical cycling in disturbed temperate forests. *Ecology* e03553.

Osburn, E. D., Badgley, B. D., Aylward, F. O., and J. E. Barrett. 2021. Historical forest disturbance mediates soil microbial community responses to drought. *Environmental Microbiology* 23:6405-6419.

Osburn, E. D., Aylward, F. O., and J. E. Barrett. 2021. Historical land use has long-term effects on microbial community assembly processes in forest soils. *ISME Communications* 1:1-4.

Osburn, E. D., Elliott, K. J., Miniat, C. F., and J. E. Barrett. 2021. Effects of *Rhododendron* removal on soil bacterial and fungal communities in southern Appalachian forests. *Forest Ecology and Management* 496:119398.

Osburn, E. D., Simpson, J.S., Strahm, B.D., and J. E. Barrett. 2021. Land use history mediates soil biogeochemical responses to drought in temperate forest ecosystems. *Ecosystems*.

Osburn, E. D., J. E. Barrett. 2020. Abundance and functional importance of complete ammonia-oxidizing bacteria (comammox) versus canonical nitrifiers in temperate forest soils. *Soil Biology and Biochemistry* 145: 107801.

Osburn, E. D., McBride, S.G., Aylward, F.O., Badgley, B.D, J. D. Knoepp, Strahm, B.D., and J. E. Barrett. 2019. Soil bacterial and fungal communities exhibit distinct long-term responses to disturbance in temperate forests. *Frontiers in Microbiology* 10:2872.

McBride, S.G., **Osburn, E.D.**, Barrett, J.E., M.S. Strickland. 2019. Volatile methanol and acetone additions increase labile soil carbon and inhibit nitrification. *Biogeochemistry* 145: 127-140.

Osburn, E. D., K. J. Elliottt, J. D. Knoepp, C. F. Miniat, and J. E. Barrett. 2018. Soil microbial response to Rhododendron understory removal in southern Appalachian forests: Effects on extracellular enzymes. *Soil Biology and Biochemistry* 127:50-59.

Strickland, M.S., **Osburn, E**., Lauber, C., Fierer, N., Bradford, M.A. 2009. Litter quality is in the eye of the beholder: decomposition rates as a function of inoculum characteristics. *Functional Ecology 23: 627-636.*

INVITED PRESENTATIONS

Assessing the effects of viruses on soil carbon cycling in contrasting ecosystem types. Soil Ecology Society, May 2024.

Work-life balance in academia. Invited panelist, Virginia Tech Interfaces of Global Change Graduate Program, October 2023.

Seeing the forest for the microbes: do historical land management practices have long-term influences on bacteria and fungi in forest soils? United States Environmental Protection Agency Regional Science Council, August 2023.

CONFERENCE PRESENTATIONS

Osburn, E.D. Growth potential of soil bacterial communities across global ecosystems. ASM Kentucky and Tennessee Chapter, April 2024.

Sone, B.M, **Osburn, E.D.**, Strickland, M.S. Legacy effects of diverse cover crops on soil microbial communities and winter wheat growth. Oral Presentation, SSSA Annual meeting, November 2023

Osburn, E.D., McBride, S.G., Strickland, M.S. Global patterns in the life history traits of soil bacterial communities. Poster presentation, Ecological Society of America, August 2023

Stephenson, T., **Osburn, E.D.,** et al. Tasmanian devil scavenging influences ecosystem nutrient delivery. Oral Presentation, Ecological Society of America, August 2023

Sone, B.M, **Osburn, E.D.**, et al. Legacy effects of diverse cover crops on soil microbial communities and winter wheat growth. Oral Presentation, Ecological Society of America, August 2023

Risteca, P., Barrett, J.A., Power, S., **Osburn, E.D.** Spatial Variation in Geochemistry Influences Distribution and Diversity of Microbial Mats, but Microbial Mats Determine Structure and Function of Sediment Microbial Communities. Oral Presentation, AGU, December 2022.

Osburn, E.D., Strickland, M.S. Influences of microbial diversity and composition on soil responses to antibiotic inputs. Oral Presentation, Soil Ecology Society, May 2022.

McBride, S.G., **Osburn, E.D.** Detecting microbial community response to drought: PLFA vs next generation sequencing. Oral Presentation, Soil Ecology Society, May 2022

Osburn, E.D., Simpson, J.S., Barrett, J.E. Historical forest disturbance mediates soil microbial response to drought in Appalachian ecosystems**.** Oral presentation, Ecological Society of America, August 2020.

JI Motes, **ED Osburn**, KJ Elliott, CF Miniat, JE Barrett, N Wurzburger. Nitrogen inputs and losses following disturbance: A slippery slope. Oral presentation, Ecological Society of America, August 2020.

Osburn, E.D. Forest disturbance has long-term effects on soil bacterial and fungal communities in Appalachian ecosystems. Oral presentation, Virginia Tech Graduate Student Association Research Symposium, April 2020.

Osburn, E.D., Knoepp, J.D., Barrett, J.E. Historical forest disturbance alters microbial diversity and ecosystem function in Appalachian soils. Oral presentation, Ecological Society of America, Louisville, KY, August 2019.

Osburn, E.D., Knoepp, J.D., Barrett, J.E. Historical forest disturbance alters microbial diversity and ecosystem function in Appalachian soils. Oral presentation, Ecological Society of America Mid-Atlantic Chapter, Bowie, MD, April 2019.

Osburn, E.D. Forest disturbance alters soil microbial community structure and function in Appalachian ecosystems. Oral Presentation, Interfaces of Global Change Program Student Symposium, Blacksburg, VA, April 2019.

Osburn, E.D., Knoepp, J.D., Barrett, J.E. Forest disturbance alters soil microbial community structure and function in Appalachian ecosystems. Poster presentation, Department of Biological Sciences Research Day, Blacksburg, VA, February 2019.

Osburn, E.D., Knoepp, J.D., Barrett, J.E. Forest disturbance alters soil microbial community structure and function in Appalachian ecosystems. Oral presentation. Coweeta LTER winter meeting, Otto, NC, February 2019.

Osburn, E.D., Knoepp, J.D., Elliot, K.J., Miniat, C.F., Barrett, J.E. Soil microbial response to *Rhododendron maximum* removal in Appalachian forests. Oral presentation. Ecological Society of America, New Orleans, LA, August 2018.

McBride, S.G., **Osburn, E.D.**, Strickland, M.S. Volatile dining fare: VOCs affect carbon and nitrogen dynamics of soil microbial communities. Oral presentation. Ecological Society of America, New Orleans, LA, August 2018.

Osburn, E.D., Knoepp, J.D., Elliot, K.J., Miniat, C.F., Barrett, J.E. Soil microbial response to *Rhododendron maximum* removal. Oral Presentation. Interfaces of Global Change Program Student Symposium, Blacksburg, VA, April 2018.

Osburn, E.D., Knoepp, J.D., Elliot, K.J., Miniat, C.F., Barrett, J.E. Soil microbial response to *Rhododendron maximum* removal. Oral presentation. Coweeta LTER winter meeting, Otto, NC, February 2018.

Osburn, E.D., Knoepp, J.D., Elliot, K.J., Miniat, C.F., Barrett, J.E. Soil microbial response to *Rhododendron maximum* removal in Appalachian forests. Poster presentation, Department of Biological Sciences Research Day, Blacksburg, VA, February 2018.

Strickland, M.S., **Osburn, E.D.**, Bradford, M.A., Fierer, N. Soil microbes and biogeography: Are communities from differing environments functionally equivalent? Oral Presentation, Ecological Society of America 2007, San Jose, CA, August 2007.

HONORS, AWARDS, and ACCOMPLISHMENTS

2024	Eary Career Research Award, Soil Ecology Society
2022	Best student-authored paper, Soil Ecology Society
2021	Pacific Crest Trail Thru-Hike
2020	VT Graduate Student Research Symposium, 1st place oral presentation
2019	Interfaces of Global Change (IGC) student symposium, 2nd place presentation
2019	Ecological Society of America Mid-Atlantic Chapter, 2nd place oral presentation
2018	Interfaces of Global Change (IGC) student symposium, 3rd place presentation
2016	Appalachian Trail Thru-Hike
2005 – 2009	University of Georgia Presidential Scholar (3 semesters)
2005 – 2009	University of Georgia Dean's List (5 semesters)

TEACHING EXPERIENCE

2025 – Present	Methods in soil microbiology (PLS 567)

	University of Kentucky, Lexington, Kentucky
2024 – Present	Soil Microbiology (PLS 566)
	University of Kentucky, Lexington, Kentucky
Spring 2022	Methods in Microbial Ecology (SOIL 404/504)
	University of Idaho, Moscow, Idaho
2019 – 2020	Mentor, NSF Graduate Fellowship Workshop (BIOL 5274)
	Virginia Tech, Blacksburg, VA
2018 – 2020	Undergraduate Research Mentor (BIOL 2994)
	Virginia Tech, Blacksburg, VA
2017 – 2019	Teaching Assistant, Introductory Biology Lab (BIOL 1016, 1115, 1116)
	Virginia Tech, Blacksburg, VA
2018	Teaching Assistant, Phage Hunters (BIOL 1135)
	Virginia Tech, Blacksburg, VA
2018	NSF Research Experiences for Undergraduates (REU) Mentor
	Virginia Tech, Blacksburg, VA
2017	Science Teacher (11th grade Physics)
	Norcross High School, Norcross, GA
2011 – 2016	Science Teacher (Biology, Environmental Science, Physical Science)
	Gainesville High School, Gainesville, GA)
2009	Undergraduate Teaching Assistant, Herpetology (ECOL 4040)
	University of Georgia, Athens, GA

PROFESESIONAL SERVICE AND OUTREACH

2025 – Present	Ad-hoc referee for *Nature Microbiology*
2025 – Present	Ad-hoc referee for *Microbiome*
2025 – Present	Ad-hoc referee for *Agriculture, Ecosystems, and Environment*
2025 – Present	Ad-hoc referee for *Molecular Ecology*
2024 – Present	Ad-hoc referee for the U.S. National Science Foundation
2024 – Present	Ad-hoc referee for the European Science Foundation
2024 – Present	Ad-hoc referee for *Agricultural and Forest Meteorology*
2024 – Present	Ad-hoc referee for *mBio*
2024 – Present	Ad-hoc referee for *Nature Communications*
2024 – Present	Ad-hoc referee for *Communications Biology*
2024 – Present	Ad-hoc referee for *The ISME Journal*
2024 – Present	Ad-hoc referee for *Ecology Letters*
2023 – Present	Ad-hoc referee for *Proceedings of the National Academy of Sciences*
2023 – Present	Ad-hoc referee for *New Phytologist*
2023 – Present	Ad-hoc referee for *Journal of Applied Ecology*
2023 – Present	Ad-hod referee for *Ecology*
2023 – Present	Ad-hoc referee for *Environmental Microbiology*
2023 – Present	Ad-hoc referee for *Oikos*
2022 – Present	Ad-hoc referee for *Nature Ecology and Evolution*
2022 – Present	Ad-hoc referee for *Ecosphere*
2022 – Present	Ad-hoc referee for *Geoderma*
2021 – Present	Ad-hoc referee for *Forest Ecology and Management*
2021 – Present	Ad-hoc referee for *Plant and Soil*
2021 – Present	Ad-hoc referee for *Journal of Ecology*
2021 – Present	Ad-hoc referee for *Global Change Biology*
2021 – Present	Ad-hoc referee for *Microbial Ecology*
2021 – Present	Ad-hoc referee for *Biogeochemistry*
2020 – Present	Ad-hoc referee for *Science of the Total Environment*

2020 – Present	Ad-hoc referee for *Applied Soil Ecology*
2020 – Present	Ad-hoc referee for *Catena*
2018 – Present	Ad-hoc referee for *Soil Biology & Biochemistry*
2021 – 2022	Soil ecology outreach, Palouse Prairie Charter School, Moscow, ID
2018 – 2021	Picnic Committee Chair, Biology Graduate Student Association
2019 – 2020	Vice President, VT Biology Graduate Student Association
2019 – 2020	Vice President, VT Interfaces of Global Change Student Association
2018 – 2019	Reviewer, VT GSO Graduate Research Development Program
2018 – 2019	Secretary, VT Interfaces of Global Change Student Association
2018	Soil Microbiology Exhibit, Salem Elementary School Science Night
2017 – 2018	Stream exhibit, Virginia Science Festival
2010 – 2011	Outreach Coordinator, University of Georgia Herpetological Society