

## Peter T. Pellitier

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### EDUCATION

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<b>Stanford University</b> Stanford, California, USA	2020-present
NSF Postdoctoral Research Fellowship Biology: Rules of Life	2021-2024
Stanford Research Fellow	2020-2021
<b>University of Michigan</b> Ann Arbor, Michigan, USA	
Ph.D. School for Environment and Sustainability.	2020
<b>University of Michigan</b> Ann Arbor, Michigan, USA	
MS. Post-Secondary Science Education. School of Education	2017
<b>Pomona College</b> Claremont, California, USA	
BA. Biology	2014

### PEER REVIEWED PUBLICATIONS

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- Van Nuland, ME, Qin, C, **Pellitier, PT**, Zhu K, Peay K, Climate mismatches with ectomycorrhizal fungi explain migration lag in North American tree range shifts. *In revisions PNAS*.
17. Willing, CE\*, **Pellitier, PT\***, Van Nuland, ME, Chin, KN, Villa, LM, Yeam, J, Bourque, SD, Tripp, W, Peay, KG. A Risk Assessment Framework for the Study of Forest Microbiomes in a Changing Climate. *Accepted Nature Climate Change*. \*co-first author
16. **Pellitier PT**, Van Nuland, M, Salamov, A, Grigoriev, I, Peay, K. 2023. Ectomycorrhizal communities exhibit functional divergence across a precipitation gradient. *Accepted ISME Communications*.
15. **Pellitier, PT**, Ng M, Castaneda, SR, Moser SC, Wray, BD. 2023. *Embracing Climate Emotions to Advance Higher Education*. *Nature Climate Change*. DOI:10.1038/s41558-023-01838-7
14. Berrios, L, Yeam, J, Holm, L, Robinson, W, **Pellitier, PT**, Henkel TW, Peay, KG. 2023. Positive interactions between mycorrhizal fungi and bacteria are widespread and benefit plant growth. *Current Biology*. 33(14)
13. Qin, C, **Pellitier, PT**, Van Nuland, ME, Peay, K. Zhu, K. 2023 Niche modeling predicts that soil fungi occupy a precarious climate space in boreal forests. *Global Ecology and Biogeography*
12. **Pellitier, PT**, Jackson, RB. 2023. Microbes modify soil nutrient availability and mediate plant responses to elevated CO<sub>2</sub>. *Plant and Soil*. 438:659-666

11. Argiroff, WA, Zak, DR, Upchurch, RA, **Pellitier, PT**, Belke, J. 2023. Fungal community composition and genetic potential regulate fine root decay in northern temperate forests. *Molecular Ecology* 32(8): 2005-2021
10. Argiroff, WA, Zak, DR, **Pellitier, PT**, Upchurch, RA, Belke, J. 2022. Decay by ectomycorrhizal fungi couples soil organic matter to nitrogen availability. *Ecology Letters*
9. **Pellitier, PT**, Zak, DR. 2021. 2021 Ectomycorrhizal root-tips harbor distinctive fungal associates along a soil nitrogen gradient. *Fungal Ecology* 54:101-111
8. **Pellitier, PT**, Ibáñez, I, Zak, DR, Argiroff, WA, Acharya, K. 2021. Ectomycorrhizal access to organic nitrogen mediates CO<sub>2</sub> fertilization response in a dominant temperate tree. *Nature Communications* 12(1): 1-10
7. Qin, C, Bartelme, R, Chung, YA, Fairbanks, D, Lin, Y, Liptzin, D, Muscarella, C, Naithani, K, Peay, K, **Pellitier, PT**, St. Rose, A. 2021. From DNA sequences to microbial ecology: Wrangling NEON soil microbe data with the neonMicrobe R package. *Ecosphere* 12(11)
6. **Pellitier, PT**, Zak, DR. Ectomycorrhizal fungal decay traits along a soil nitrogen gradient. 2021. *New Phytologist* 232(5): 2152-2164
5. **Pellitier, PT**, Zak, DR, Argiroff, WA, Upchurch, RA. 2021. Isotopic evidence reveals that ectomycorrhizal communities differentially suppl trees with organic nitrogen. *Ecosystems*
4. **Pellitier, PT**. 2020. Variation in the size-structure of dominant branching coral taxa (Acroporidae:Acropora) and (Pocilloporidae:Pocillopora) in New Ireland Province, Papua New Guinea. *Pacific Science*. 74(3).
3. **Pellitier, PT**, Zak, DR, Salley, SO. 2019. Environmental filtering structures diverse fungal endophyte communities in tree bark. *Molecular Ecology*. 28: 5188-5198
2. Zak, DR\*, **Pellitier, PT\***, Argiroff W.A., et al., 2019. Exploring the role of ectomycorrhizal fungi in soil carbon dynamics. *New Phytologist*. 222: 33-39. **\*co-first author.**
1. **Pellitier, PT**, Zak, DR. 2018. Ectomycorrhizal Fungi and the Enzymatic Liberation of Nitrogen from Soil Organic Matter: Why Evolutionary History Matters. *New Phytologist*. 217:68-73. (ISI Highly Cited)

#### ACADEMIC HONORS AND AWARDS (\$345,500)

<b>NSF Postdoctoral Research Fellowship: Rules of Life.</b> (\$214,000; NSF)	2021-2024
“The functional biogeography of ectomycorrhizal fungi: elucidating cross-scale mechanisms that inform global models of forest response to elevated CO <sub>2</sub> ”	
<b>Integrated Training in Microbial Systems.</b> (\$2,000; Univ. of Michigan)	2020
“Soil Texture and the Maintenance of Bacterial Diversity”	
<b>Jeffrey Lund Forest Ecology Award</b> (\$1,000; Univ. of Michigan)	2018
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<b>NSF DEB: Ecosystem Studies:</b> (\$898,855; NSF)	2018-2022
<i>“Ectomycorrhizal Fungi and the Enzymatic Liberation of Nitrogen from Soil Organic Matter: Ecosystem Processes and Underlying Molecular Mechanisms”</i>	
(PI: DR Zak. *Lead Author: PT. Pellitier)	
<b>Fellow: Integrated Training in Microbial Systems</b> (\$87,000; Univ. of Michigan)	2018-2020
<i>“The decay of soil organic matter by ectomycorrhizal fungi: experimental in-vitro isotopic labelling approaches”</i>	
<b>Mycological Society of America, Graduate Fellowship</b> (\$2,000; MSA)	2019
<b>Integrated Training in Microbial Systems Grant</b> (\$10,000, Univ. of Michigan)	2018
<i>“Inner Bark Endophytes and Plant Resistance to Emerald Ash Boring Beetles”</i>	
<b>Engaged Pedagogy Fellow</b> (\$500 Univ. of Michigan).	2018
Center for Teaching and Learning.	
<b>Samuel A. Graham Award in Forest Ecology</b> (\$2,000; Univ. of Michigan)	2017
<b>NSF Graduate Research Fellowship Program:</b> Honorable Mention	2017
<b>NSF Graduate Research Fellowship Program:</b> Honorable Mention	2016
<b>NSF Graduate Research Fellowship Program:</b> Honorable Mention	2015
<b>Center for Teaching and Learning</b> (\$500; Univ of Michigan)	2016
<i>“Building Soil Ecology into the Urban Planning Toolkit”</i>	
<b>Fulbright Research Fellowship, Papua New Guinea</b> (\$26,500)	2014-2015
<i>“Linking artisanal fishing methods with coral reef ecology in the Anthropocene”</i>	
<b>Pomona College Senior Thesis Award</b>	2014
<i>“The recovery of arbuscular mycorrhizal fungi post-fire in a Chaparral ecosystem”</i>	
<b>California Botanical Garden Internship</b>	2013
Claytonia systematics in the San Bernadino Mountains	
<b>International Baccalaureate Diploma</b>	2010
South Eugene High School	

#### TEACHING ACTIVITIES AND LECTURES

<b>Confronting Emotions in the Climate Sciences</b>	Winter 2023
Instructor of Record: Stanford University, Stanford, CA	
Cardinal Course: Community Engaged Pedagogy Grants (\$15,000)	
<b>Introduction to Environmental Science</b>	Spring 2022
Adjunct Professor; California College of the Arts, San Francisco, CA	
<b>Soil Ecology with Laboratory</b>	Fall 2017 & Fall 2018
Graduate Student Instructor: Univ. of Michigan	
<b>Ecosystem Science in the Rockies at Camp Davis</b>	Summer 2017 & Summer 2018
Graduate Student Instructor: Univ. of Michigan; Jackson Hole, WY	
<b>Lecture: “Environmental conservation ethics in the Anthropocene”</b>	2020
Guest Lecture in Animal Ethics. Stanford Univ.	
<b>Lecture: “DNA sequencing in the 21<sup>st</sup> century”</b>	2020
Guest Lecture in Biology. Foothill Community College California	
<b>Integrating Soil Ecology into AP Environmental Science Curricula</b>	2019
15 total guest lectures reaching 200+ students. Ann Arbor, MI High Schools	
<b>Lecture: “Soil Ecology for Urban Planners”</b>	2016-2018
Yearly Lecture, School of Urban Planning, Univ. of Michigan	
<b>Introduction to Environmental Science and Biology</b>	2015

UTU High School. 10<sup>th</sup> grade teacher for Fall Semester, Kavieng, Papua New Guinea

#### SERVICE AND OTHER PROFESSIONAL ACTIVITIES

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<b>Stanford Biology DEI Committee</b>	2023-present
<b>Climate Psychology Peer Mentoring Forum</b> (Stanford Univ.) Facilitation of undergraduate, graduate and postdoctoral conversations on climate change and mental health	2021-present
<b>Assessment and Curriculum Design Lead</b> (Stanford Univ.) BioJam Bioengineering Camp working with low-income migrant youth	2021-2023
<b>Laboratory Safety Officer</b> (Stanford Univ.) Peay lab safety officer	2021-present
<b>International Enhancing Soil Carbon Storage Workshop</b> (Univ. of Michigan) Workshop co-lead and facilitator	2018
<b>Science Communication Fellow</b> (Univ. of Michigan) Natural History Museum	2016-2018
<b>Communicating Science Fellow</b> (Harvard Univ.) Invited Attendee	2016
<b>Methods in Metagenomics Workshop</b> (EDAMAME) (Michigan State Univ.)	2016

**Reviewer for:** Ecology Letters, Nature Ecology and Evolution, Nature Plants, Ecology, ISME, New Phytologist, Fungal Ecology, Peer J, Journal of Ecology, PNAS, Molecular Ecology, Environmental Microbiology, Plos 1, Soil Biology and Biochemistry, Biogeochemistry, FEMS, Plant Soil, Mycologia.

#### INVITED TALKS AND PRESENTATIONS

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<b>Continental wind flow patterns structure soil fungal communities</b> Invited talk: Ecological Society of America.	2023
<b>Fungi in a changing climate: A functional traits perspective</b> Invited Seminar Speaker: Colorado College	2023
<b>Forest responses to elevated CO<sub>2</sub>: A belowground perspective</b> Invited Seminar Speaker: University of Wisconsin, Madison	2023
<b>Fungi in a changing climate: A functional traits perspective</b> Invited Seminar Speaker: University of California, Berkeley	2023
<b>Molecular microbial traits: Scaling principles for ecosystem ecology</b> Invited Speaker: San Francisco State University	2023
<b>Fungal community ecology: Opportunities for ecosystem carbon models</b> Invited Seminar Speaker: Occidental College	2022
<b>Fungal Ecology in the Oregon Cascades</b> Invited Speaker: Oregon State University, Cascades	2022
<b>Fungi on the move: Combining continental-scale sampling networks to uncover the sensitivity of fungal communities to climatic change</b> Poster Presentation, NSF PI meeting	2021
<b>Ectomycorrhizal fungi and plant acquisition of nitrogen from soil organic matter: implications for a changing climate.</b> Invited talk: ASA-CSSA-Soil Science Society of America.	2020

- Ectomycorrhizal access to organic N enhances plant growth response to rising [CO<sub>2</sub>]** 2020  
Invited talk: PUGSLEY speaker series organized by Peter Reich
- Ectomycorrhizal access to organic N enhances plant growth response to rising [CO<sub>2</sub>]** 2020  
Invited talk: Ecological Society of America.
- Environmental filtering structures diverse fungal endophyte communities in tree bark.** 2019  
Invited talk: Mycological Society of America. Minneapolis, MN
- Considering ectomycorrhizal decay in forest ecosystems** 2018  
Invited talk: Enhancing Soil Carbon Workshop. Ann Arbor MI.
- Ectomycorrhizal Fungi and the Enzymatic Liberation of Nitrogen from Soil Organic Matter: Why Evolutionary History Matters.** 2017  
Invited talk: Ecological Society of America. Portland, OR

References for Peter Pellitier

Robert B. Jackson ([rob.jackson@stanford.edu](mailto:rob.jackson@stanford.edu)); (650) 497-5841  
Kabir G. Peay ([kpeay@stanford.edu](mailto:kpeay@stanford.edu)); (650) 723-0552  
Donald R. Zak ([drzak@umich.edu](mailto:drzak@umich.edu)); (734) 763-4991