

Georgia S. Seyfried

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EDUCATION

Ph.D. Plant Biology, University of Illinois at Urbana-Champaign

Dissertation title: Mechanistic drivers of mycorrhizal type effects on soil carbon and nitrogen cycling across scales

Advisor: Dr. Wendy Yang

GPA: 4.0

B.S. (Interdisciplinary honors) Bachelor of Science in Biology: Ecology, Conservation and Evolution, University of Washington, Seattle (2014)

GPA: 3.8

RESEARCH INTERESTS

My research is in terrestrial biogeochemistry and ecosystem ecology with a focus on understanding controls on soil carbon and nitrogen cycling across spatial scales. I am particularly interested in belowground interactions between fungal communities and soil chemistry and how these interactions affect soil organic matter dynamics and greenhouse gas production. An important component of my research is using unique environmental contexts, such as understudied tropical forests and systems disturbed by human land-use change or global change related natural disasters, to assess previously held assumptions and to work towards understanding the context dependency of ecological patterns.

PROFESSIONAL EXPERIENCE

2022-2023 Postdoctoral scholar, Baruch Institute of Coastal Ecology and Forest Science, Clemson University

2016-2021 Graduate student, University of Illinois at Champaign-Urbana

MANUSCRIPTS IN REVIEW OR IN PREP

Seyfried, GS, Yang, WH. Interactions between fungal communities and localized conservative nitrogen cycling in a mixed mycorrhizal tropical forest. In review at *Plant and Soil*.

PUBLICATIONS

Seyfried, GS, Chow, AT, O'Halloran, TO (2023). Salinization, inundation and tree mortality interact to affect greenhouse gas emissions from stressed coastal forests. *Soil Biology and Biochemistry*.

Seyfried, GS, Midgley, MG, Phillips, RP, Yang, WH (2023). Refining the role of nitrogen mineralization in mycorrhizal nutrient syndromes. *Biogeochemistry*.

<https://doi.org/10.1007/s10533-023-01038-7>

O'Halloran, TL, Seyfried, GS (2023). Plant traits and marsh fate. *Nature Geoscience: news and views*. doi.org/10.1038/s41561-022-01108-9

- Seyfried, GS**, Corrales, A, Kent, AD, Dalling, JW, Yang, WH (2022). Watershed-scale Variation in Potential Fungal Community Contributions to Ectomycorrhizal Biogeochemical Syndromes. *Ecosystems*. doi.org/10.1007/s10021-022-00788-z
- Seyfried, GS**, Canham, CD, Dalling, JW, Yang, WH (2021). The effects of tree-mycorrhizal type on soil organic matter properties from neighborhood to watershed scales. *Soil Biology and Biochemistry*. doi.org/10.1016/j.soilbio.2021.108385
- Seyfried, GS**, Dalling, JW & Yang, WH (2021). Mycorrhizal type effects on leaf litter decomposition depend on litter quality and environmental context. *Biogeochemistry*. <https://doi.org/10.1007/s10533-021-00810-x>

EXTERNAL FUNDING

“A pilot study of plant-mediated wetland greenhouse gas emissions”. G. Seyfried (PI), T.L. O’Halloran, A. Chow. SC Sea Grant Consortium. Grant #P/M-2D. \$9,895. 2023-2024.

FELLOWSHIPS AND AWARDS

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| 2021 | Laughnan Award, graduate research support grant through the School of Integrative Biology (\$110) |
| 2018, 2020 | Ferguson Fund, UIUC School of Integrative Biology (\$1,000) |
| 2018, 2020 | Harley J. Van Cleave Research Award, UIUC School of Integrative Biology (\$1,000) |
| 2018 | Dissertation Travel Grant, UIUC Graduate College (\$4,980) |
| 2018-2021 | Illinois Distinguished Fellow, UIUC Graduate College (\$25,000 stipend per year for 3 years) |
| 2017 | Clark Research Award, UIUC School of Integrative Biology (\$1,000) |
| 2016-2018 | NSF Integrative Graduate Education and Research Traineeship (IGERT) Fellowship (\$30,000 stipend per year for 2 years) |

PRESENTATIONS

- Seyfried, GS**, Chow, AT, O’Halloran, TL (2023). Soil salinization and tree mortality interact to affect greenhouse gas emissions from stressed coastal forests. Ecological Society of America 108th Annual Meeting, oral. Portland, OR.
- Seyfried, GS**, Midgely, MG, Phillips, RP, Yang, WH (2022). Revising the role of nitrogen mineralization in nitrogen syndromes. Ecological Society of America 107th Annual Meeting, oral. Montreal, Canada.
- Seyfried, GS**, Canham, CD, Dalling, JW, Yang, WH (2021). The origin and accumulation of soil carbon and nitrogen across mycorrhizal gradients depends on soil fertility. Ecological Society of America 106th Annual Meeting, oral. Long Beach, CA.
- Seyfried, GS**, Canham, CD, Dalling, JW, Yang, WH (2020). Can spatial patterns reveal mechanisms underlying variation in carbon and nitrogen cycling in a tropical mixed mycorrhizal forest? Ecological Society of America 105th Annual Meeting, poster. Salt Lake City, UT.
- Seyfried, GS**, Dalling, JW, Yang, WH (2020). Separating the effects of leaf litter chemistry and mycorrhizal status on aboveground decomposition. University of Illinois Symposium for Graduate Students in Ecology and Evolutionary Biology, poster. Urbana, Illinois.

Seyfried, GS, Dalling, JW, Yang, WH (2019). Separating the effects of leaf litter chemistry and mycorrhizal status on aboveground decomposition. Ecological Society of America 104th Annual Meeting, poster. Louisville, Ky.

Seyfried, GS, Dalling, JW, Yang, WH (2019). Distinguishing the effects of leaf litter chemistry and mycorrhizal association on soil carbon cycling dynamics. University of Illinois Symposium for Graduate Students in Ecology and Evolutionary Biology, oral. Urbana, Illinois.

TEACHING EXPERIENCE

Fall 2021 Teaching assistant, IB 204: Genetics, University of Illinois Urbana-Champaign

Fall 2019 Teaching assistant, IB 452: Ecosystem Ecology, University of Illinois Urbana-Champaign

SERVICE

- Mentor, UIUC Office of Undergraduate Research's Undergraduate Research Apprenticeship Program (2019-2020)
- Mentor for high school students around Illinois through Mentor Matching Engine (2017-2018)