Hilary Rose Dawson

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EDUCATION

University of Oregon, Eugene, Oregon, USA **Ph.D. candidate in Biology** *Sept 2021 to June 2024 (expected)*

College of the Atlantic, Bar Harbor, Maine, USA **B.A. in Human Ecology, focus in Botany** *graduated 2018*

University of St Andrews, Scotland **Study Abroad** *Spring 2017*

RELEVANT TECHNIQUES and PROFICIENCIES

Software proficiency R coding, Adobe, Microsoft Office, and ArcGIS Pro & QGIS.

Field experience Six field seasons quantifying plant and fungal biodiversity, phenology, and fitness.

Lab experience Two years soil analyses; two years plant functional traits analyses; three years in herbarium curation; two years student-managing a greenhouse.

Community science experience 8,000+ iNaturalist observations and 26,000+ contributed identifications.

Certifications Clean U.S. driver's license with experience on manual vehicles, CPR and First Aid certification

RELEVANT RESEARCH EXPERIENCE

Heathland plant traits study **Between the Fjords Lab** *June 2023 to Aug 2023*

Supervisor: *Drs. Sonya Geange and Vigdis Vandvik, Universitetet i Bergen* Visiting student researcher

Led plant trait data collection and analysis across a climatic gradient.

Plant functional traits and carbon fluxes study **Soil Plant Atmosphere (SPA) Lab** *Feb 2023 to present*

Supervisor: *Dr. Lucas Silva, University of Oregon* PhD thesis project

Designed experiment testing scalable correlation of traits, plant ontogeny, and fluxes.

Common mycorrhizal networks of PNW grasslands study **SPA Lab** *Feb 2021 to Mar 2023*

Supervisor: *Dr. Lucas Silva, University of Oregon* PhD thesis project

Investigated in situ plant-fungi interactions with stable isotopic tracers.

See Dawson et al. bioRxiv and Shek et al. bioRxiv.

Riparian reforestation for carbon sequestration **SPA Lab** *April 2020 to June 2023*

Supervisor: *Dr. Lucas Silva, University of Oregon* Position: *Project manager*

Managed establishment of long-term experimental restoration site with community collaborators.

Leaf economics and drought conditions study **SPA Lab** *May 2019 to Sep 2021*

Supervisor: *Drs. Lucas Silva and Toby Maxwell, University of Oregon* Independent project

Investigated plant form-function relationships in experimental gardens on a latitude gradient.

See Dawson et al. 2022

Diazotrophic nitrogen fixation study **SPA Lab** *April 2019 to Sep 2020*

PI: *Dr. Barbara Bomfim, University of Oregon* Position: *Research technician*

Analyzed soil samples, extracted DNA, and analyzed data for publication.

See Bomfim et al. bioRxiv.

TEACHING EXPERIENCE

Lead Instructor, University of Oregon *March 2023 to June 2023*
Bi 607 Seminar Plant-Soil Interactions

Graduate Teaching Assistant, University of Oregon *Jan 2022 to Dec 2022*
Bi 212 Gen Bio II: Organisms (Dr. Mark Carrier)
Bi 213 Gen Bio III: Ecology and Evolution (Dr. Tobias Policha)
Bi 442/542 Systematic Botany (Dr. Tobias Policha)

Undergraduate Teaching Assistant, College of the Atlantic *Jan to March 2018*
Ecology (Introductory, Dr. John Anderson)
Tutorial: Writing Structures (Introductory, Ms. Anne Kozak).

ACADEMIC SERVICE

Reviewer, AGU Books, Oecologia, Plant and Soil

Social Media & Promotions Committee Member, Society of Herbarium Curators *July 2021 to Nov 2022*

Mentor, **Planting Science for middle and high school students** *Sep 2020 to May 2021*

GRANTS, AWARDS, and RECOGNITIONS

Friends of the Cascade-Siskiyou National Monument (CSNM) Student Grant
Digging deeper: Further truffle diversity of CSNM *2023*

Friends of the Cascade-Siskiyou National Monument (CSNM) Student Grant CSNM Truffle diversity *2022*

Craig Greene Botany Award College of the Atlantic *2018*

Maine Space Consortium Grant Senior thesis on leaf color change *2018*

Craig Greene Memorial Scholarship College of the Atlantic *2017*

Research Experience for Undergraduates (REU) Fellowship University of Georgia Athens and NSF *2016*

Presidential Scholarship for Academic Achievement College of the Atlantic *2014 to 2018*

STUDENTS MENTORED

Emily Scherer, University of Oregon undergraduate, *December 2021 to present*
Senior thesis: Soil respiration changes with enhanced silicate weathering
Julia Odenthal, University of Oregon undergraduate, *January 2022 to June 2022*
Project: Reforestation management effects on soil respiration
Delaney Kleiner, University of Oregon Honors student, *May 2021 to June 2022*
Honors thesis: Plant community composition on post-fire erosion gradients
Anna Oliva, University of Oregon ESPRIT/SPUR undergraduate intern, *Summer 2021*
Project: Mycorrhizal colonization effects on conifer seedling survival rates
Lenora Davis, University of Oregon ESPRIT/SPUR undergraduate intern, *Summer 2020*
Now a biology teacher at Springfield High School
Project: Cottonwood tree ring response to historical flood events

PUBLICATIONS

Dawson, H.R., Maxwell, T., Reed, P.B., Bridgham, S. L.C.R. Silva. *2022.* Plant form-function relationships predict water-use efficiency under experimental drought in grasslands. *J Geophys Res [Biogeosci].* doi.org/10.1029/2022JG007060

Tang, S., **Dawson, H.R.**, Silva, L.C.R., Peñuelas, J., Sardens, J., Lambers, H., Zeng, F., Lai, Y., Yanlong, J., Guoyi, Z., Yunting, F., Ying, T., Dan, X., Zhang, D., and K. Yuanwen. *2022.* Atmospheric factors determine spatiotemporal variation in water-use efficiency of tropical and subtropical forest species. *Agr Forest Meterol.* doi.org/10.1016/j.agrformet.2022.109056

PREPRINTS

Dawson, H.R., Shek, K., Maxwell, T., Reed, P.B., Bomfim, B., Bridgham, S., Bohannan, B., L.C.R. Silva. Agnostic fungi: plant traits and tissue stoichiometry explain nutrient transfer in common arbuscular mycorrhizal networks of temperate grasslands. *bioRxiv.* doi.org/10.1101/2022.10.05.511035 *Manuscript in review.*

Shek, K., **Dawson, H.R.**, Maxwell, T., Bomfim, B., Reed, P.B., Bridgham, S., Bohannan, B., L.C.R. Silva. Local and regional scale mycorrhizal network assembly in an experimental prairie-pasture system. *bioRxiv.* doi.org/10.1101/2022.10.05.510876

Bomfim, B., **Dawson, H.R.**, Reed, P.B., Bridgham, S., Bohannan, B., Shek, K., L.C.R. Silva. Quantifying climate change impacts on plant functional composition and soil nitrogen fixation in Mediterranean grasslands. *bioRxiv.* doi.org/10.1101/2022.09.16.508323

INVITED TALKS AND EVENTS

Dawson, H.A. and **H.R. Dawson** *2024.* Talk and truffle dog demonstration to be given at the Cascade Mycological Society. Eugene, OR. January 17.

Dawson, H.A. and **H.R. Dawson** *2023.* Truffle dog demonstration and truffle diversity survey. Group foray to be led for the Hoosier Mushroom Society. Brown County, IN. September 18-23.

Dawson, H.A., **Dawson, H.R.**, and M.A. Widmer *2023.* Plant-fungi relationships of the Mohawk Research Natural Area. Group hike to be led for the Native Plant Society of Oregon Annual Meeting. Eugene, OR. June 4.

Dawson, H.A. and **H.R. Dawson** *2023.* National television documentary truffle dog demonstration and interview on truffle diversity for PBS America Outdoors. Newberg, OR. May 26. (Episode to be released Fall 2023.)

Dawson, H.R. *2023.* How can we use temporal variation of plant traits to predict carbon fluxes? Talk given at the Plant Functional Traits Seminar Series. Virtual. May 11.

Dawson, H.R. *2023.* Truffles of the Cascade-Siskiyou National Monument. Talk given at the Friends of CSNM Monument Research Symposium. Virtual. April 6.

Dawson, H.A. and **H.R. Dawson** *2023.* Wait, don't eat the truffle! Adventures in truffle dog training and life with a 'diversity dog'. Talk given at the North American Truffle Society. Corvallis, OR. February 11.

Dawson, H.A. and **H.R. Dawson** *2023.* Truffle diversity dog demonstration. Group foray led for the North American Truffle Society. Blodgett, OR. January 28.

SELECT CONFERENCE PRESENTATIONS * indicates presenter

Dawson, H.R.*, et al. *2023.* Agnostic fungi: plant traits and tissue stoichiometry explain nitrogen transfer in common arbuscular mycorrhizal networks of Pacific Northwest grasslands. Presentation to be given at Ecological Society of America Research Conference. Portland, Oregon. August 6-11.

Dawson, H.R.*, et al. *2021.* Carbon and nitrogen transfer in root-mycorrhizal networks vary with species traits and community composition in Pacific Northwest grasslands. Poster presented at Botany 2021. Virtual. July 19-23.

SELECT CONFERENCE PRESENTATIONS, con't * indicates presenter

Dawson, H.R.* and L.C.R. Silva. *2021*. Carbon and water in the Pacific Northwest: Connecting scientific research and local stakeholders to explore the effects of plant community composition. Lightning talk presented at Botany 2021. Virtual. July 19-23.

Dawson, H.R.*, Maxwell, T., Reed, P., Bridgham, S., and L. Silva. *2020*. Morphological and functional leaf traits responses to experimental drought in PNW grasslands. Poster presented at Botany 2020. Virtual. July 27-31.

Bomfim, B.*, **Dawson, H.R.**, et al. *2019*. Seasonal Effects of Experimental Warming on Soil Biogeochemistry and Plant Functional Diversity in Pacific Northwest Prairies. Poster presented at the American Geophysical Union Fall Meeting. San Francisco, California, USA. December 9-13.

PRESENTATIONS BY MENTEES * indicates presenter, †indicates undergraduate or post-bacc author

Scherer, E.*†, **Dawson, H.R.**, Huckstead, E.†, and L.C.R. Silva. *2023*. Watching dirt breathe: Enhanced silicate weathering results in rapid soil carbon gain. Presentation given at the University of Oregon Undergraduate Research Symposium. Eugene, Oregon. May 25.

Scherer, E.*†, **Dawson, H.R.**, Huckstead, E.†, and L.C.R. Silva. *2022*. Measuring Soil Respiration in Response to Enhanced Silicate Weathering and Ecological Associations. Poster presented at the American Geophysical Union Fall Meeting. Chicago, Illinois, USA. December 12-16.

Kleiner, D.*† *2022*. Quantifying plant community shifts in response to fire across topographic gradients. Honors thesis defended at Clark Honors College, University of Oregon. May 31.

Odenthal, J.*†, **Dawson, H.R.**, Huckstead, E.†, and L.C.R. Silva. *2022*. Quantifying soil response to planted conifer saplings and associated mycorrhizae. Poster presented at the University of Oregon Undergraduate Research Symposium. Eugene, Oregon. May 26.

Scherer, E.*†, **Dawson, H.R.**, Huckstead, E.†, and L.C.R. Silva. *2022*. Measuring soil respiration in response to enhanced silicate weathering and biotic associations. Poster presented at the University of Oregon Undergraduate Research Symposium. Eugene, Oregon. May 26.

Kleiner, D.*†, Hunter, B., **Dawson, H.R.**, Roering, J., and L.C.R. Silva. *2022*. Plant communities across topographic gradients: Post-fire vegetative diversity along ridgelines in southwestern Oregon. Poster presented at the University of Oregon Undergraduate Research Symposium. Eugene, Oregon. May 26.

ADDITIONAL PROFESSIONAL TRAINING

Sixth Plant Functional Trait Course (PFTC6), Universitetet i Bergen, Norway, *Summer 2022*

Build Better Fieldwork Future, University of Oregon, *May 6, 2022*

CPR and First Aid, University of Oregon, *September 2021*

Entering Research Mentoring, University of Oregon, *June 15-17, 2020*