

## Jesse E. D. Miller

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### EDUCATION AND CERTIFICATION

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| 2016 | <b>Ph.D.</b> , Department of Integrative Biology, University of Wisconsin, <i>Madison, Wisconsin</i><br>Area of focus: Plant ecology; Advisor: Ellen Damschen |
| 2009 | <b>Lichenologist certification</b> , Northwest Lichenologists, <i>Selma, Oregon</i>   |
| 2006 | <b>B.Sc. Botany and sustainable agriculture</b> , The Evergreen State College, <i>Olympia, Washington</i>   |

### ACADEMIC AND PROFESSIONAL POSITIONS

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- Lecturer**, Stanford University, 2018-present  
**Postdoctoral researcher**, University of California, Davis, 2016-2018, *Davis, CA*  
**NSF graduate research fellow & graduate assistant**, University of Wisconsin, 2012-2016, *Madison, WI*  
**Field botanist**, University of California, Davis, March-September 2009 & summer 2010, *Davis, CA*  
**Lichen technician**, Oregon State University, fall 2009 & spring 2010, *Corvallis, OR*  
**Lichen herbarium curator**, Idaho Bureau of Land Management (State Office), winter 2010, *Boise, ID*  
**Field botanist**, Siskiyou Biosurvey, LLC, intermittent 2008-2011, *Eagle Point, OR*  
**Instructor**, Rogue Community College, 2008-2009, *Medford, OR*  
**Field botanist**, Natural Resources Management Corp., 2008, *Eugene, OR*  
**Field botanist**, Pacific Crest Consulting, 2007-2008, *Talent, OR*

### FUNDING (Total funded: ~\$264,000; total in review: \$418,476)

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#### In review:

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| 2020 | NSF-DEB (co-PI), "Linking functional traits across trophic levels." \$418,476 total |
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#### Funded:

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| 2020      | US National Park Service (Co-author, lead for study design and analysis), Lichen inventory and visitor use effects study in Lava Beds National Monument, \$75,998                    |
| 2017      | California Lichen Society, (PI) "Effects of altered fire regimes on chaparral lichens," \$1000   |
| 2016      | Interagency special status / sensitive species program (Co-author / senior personnel), Effects of fire on oak-dwelling epiphytic lichens. \$25,000                                   |
| 2014      | Six Rivers National Forest (Co-author / senior personnel). Characterizing <i>Lobaria oregana</i> canopy distributions and survey detectability. Six Rivers National Forest, \$25,000 |
| 2012-2016 | National Science Foundation Graduate Research Fellowship, \$132,000  |
| 2011-2016 | Miscellaneous internal and travel grants, ~\$6000  |

### AWARDS

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| 2019        | <i>Letharia</i> award for contributions to California lichenology, California Lichen Society                         |
| 2018 & 2017 | Best oral presentation award, UC Davis Postdoctoral Research Symposium, \$400  |
| 2015        | Outstanding Student Award (best paper), Ecological Society of America Student Section, \$100                         |
| 2015        | UW-Madison College of Letters and Sciences Teaching Fellow Award, \$1000   |
| 2015        | Honorable Mention, best student research talk, International Association for Landscape Ecology World Congress, \$150 |
| 2015        | Best student research talk award, Wisconsin Ecology Spring Symposium, \$500  |
| 2015        | North Carolina Botanical Garden Award (best student talk), Asc. of SE Biologists meeting, \$300                      |
| 2015        | Honorable mention, Eugene P. Odum Award (best student talk), ESA-SE section  |
| 2012        | Tuckerman Award for best paper on lichens (co-recipient), American Bryological and Lichenological Society, \$500     |

## PUBLICATIONS

*Peer-reviewed papers - published or in press (28 peer-reviewed publications, 14 lead-author publications):*

28. Armstrong, C., **J. E. D. Miller**, A. McAlvey, D. Lepofsky, N. Turner, and M. Ritchie. 2021. Plant diversity and functional traits reflect ancient forest garden history. *In press*, Environment and Society.
27. **Miller, J. E. D.** and H. Safford. 2020. Are plant community responses to wildfire contingent upon historical disturbance regimes? *Global Ecology and Biogeography* 29(10): 1621-1633.
26. **Miller, J. E. D.**, J. Villella, D. Stone, A. Hardman. 2020. Using lichens as indicators of forest age and conservation value. *Forest Ecology and Management* 475: 118436.
25. Safford, H. & **J. E. D. Miller**. 2020. An updated database of serpentine endemism in the California flora. *Madroño* 67(2): 85-104.
24. Kattke, G., G. Bönisch, S. Díaz, S. Lavorel, I. C. Prentice, P. Leadley, S. Tautenhahn, G. D. A. Werner...**J. E. D. Miller**... *et al.* (729 authors). 2020. TRY plant trait database – enhanced coverage and open access. *Global Change Biology* 26(1): 119-188.
24. Villella, J., **J. E. D. Miller**, A. Young, G. Carrey, A. Emanuels, and W. Miller. 2020. Tardigrades in the canopy: Associations with tree vole nests in southwest Oregon. *Northwest Science* 94(1): 24-30.
23. Li, D., **J. E. D. Miller**, and S. Harrison. 2019. Climate drives loss of phylogenetic diversity in a grassland community. *Proceedings of the National Academy of Sciences* 116(40): 19989-19994.
22. Root, H., **J. E. D. Miller**, and R. Rosentreter. 2020. Grazing disturbance promotes exotic annual grasses by degrading biotic soil crust communities. *Ecological Applications* 30(1): e02016.
21. **Miller, J. E. D.**, D. Li, M. Laforgia, and S. Harrison. 2019. Functional diversity is a passenger but not driver of drought-related plant diversity loss. *Journal of Ecology* 107(5): 2033-2039.
20. **Miller, J. E. D.**, A. Ives, and E. Damschen. 2019. Functional traits and community composition: a comparison among community-weighted means, weighted correlations, and multilevel models. *Methods in Ecology and Evolution* 10(3): 415-425.
19. Stevens, J., P. Fornwalt, and **J. E. D. Miller**. 2019. Fire severity and changing composition of understory plants. *Journal of Vegetation Science* 30(6): 1099-1109.
18. Richter, C., M. Rejmánek, **J.E.D. Miller**, J. Weeks, K. Welch, H. Wiggins, and H. Safford. 2019. The local species diversity x fire severity relationship is hump-shaped in semiarid yellow pine and mixed conifer forests. *Ecosphere* 10(10): e02882.
17. **Miller, J. E. D.**, H. Root, and H. Safford. 2018. Altered fire regimes cause long-term lichen diversity losses. *Global Change Biology* 24(10): 4909-4918.
16. **Miller, J. E. D.**, A. Ives, S. Harrison, and E. Damschen. 2018. Early- and late-flowering guilds respond differently to landscape spatial structure. *Journal of Ecology* 106(3): 1033-1045.
15. Young, A., **J. E. D. Miller**, J. Villella, G. Carey, and W. Miller. 2018. Epiphyte type and sampling height impact mesofauna communities in Douglas-fir trees. *PeerJ* 6:e5699.
14. Adlam, C.\* and **J. E. D. Miller**. 2018. Macrolichens of the Quail Ridge Reserve, Napa County, California. *Bulletin of the California Lichen Society* 25(1): 10-15. (\*Mentored graduate student)
13. Villella, J., T. Carlberg, D. Stone, **J. E. D. Miller**, N. Nelson, and L. Calabria. 2018. Diversity and floristic patterns of epiphytic macrolichens on white oak in the Cascade-Siskiyou region of Oregon. *Opuscula Philolichenum*, 17: 299-318.
12. **Miller, J. E. D.** and E. Damschen. 2017. Holding the line: Three decades of prescribed fires halt but do not reverse woody encroachment in naturally fragmented grasslands. *Landscape Ecology* 32(12): 2297-2310.
11. **Miller, J. E. D.\***, P. Hahn\*, E. Damschen and J. Brennan\*\*. 2017. Functional dependence underlies a positive plant-consumer richness relationship. *Basic and Applied Ecology* 21: 94-100. (\*First two authors contributed equally; \*\*Mentored undergraduate)
10. **Miller, J. E. D.**, J. Villella, G. Carey, T. Carlberg and H. Root. 2017. Canopy distribution and survey detectability of a rare old-growth forest lichen. *Forest Ecology and Management* 392: 195–201.
9. **Miller, J. E. D.** and E. Damschen. 2017. Biological soil crust cover is negatively related to vascular plant richness in Ozark sandstone glades. *Journal of the Torrey Botanical Society* 144(2): 170-178
8. Grover, Shannon\*\*, **J. E. D. Miller**, and E. Damschen. 2017. Indirect effects of landscape spatial structure and plant species richness on pollinator diversity in Ozark glades. *Castanea* 82(1): 24-31. (\*\*Mentored undergraduate) *Winner of the Windler prize for best 2017 ecology paper in Castanea*
7. Petersen, K., John Villella, **J. E. D. Miller**, L. M. Calabria, J. Brown-Clay, L. Hynson, T. Steen, K. Johnston, A. Ulbrich and M. Miller. 2017. Substrate age influences species richness and succession patterns of calicioid lichens and fungi. *The Bryologist* 120(1):19-24.

6. **Miller, J. E. D.**, E. Damschen, S. Harrison, and J. B. Grace. 2015. Landscape spatial structure affects specialist but not generalist plant species in naturally fragmented grasslands. *Ecology* 96:3323–3331.
5. Root, H.T., **J. E. D. Miller**, and B. McCune. 2011. Rarity and habitat associations of soil crust lichens. *The Bryologist* 114(4).
4. **Miller, J. E. D.**, B. McCune, D. Kofranek, J. Vilella, R. Demmer, and K. Mergenthaler. 2011. Lichens from the South Slough and Horsfall Dunes on the Southern Oregon coast. *Evansia* 28(4).
3. **Miller, J. E. D.**, A. Rossman, R. Rosentreter, and J. Ponzetti. 2011. Lichen ecology and diversity of an Oregon sagebrush steppe: 1977 to the present. *North American Fungi* 6(2): 1-15.
2. **Miller, J. E. D.** 2011. The *Usnea rigida* group in California and the Pacific Northwest. *Bulletin of the California Lichen Society* 18(1&2):3-5.
1. Vilella, J., S. Benson, T. Carlberg, **J. Miller**, R. Patton, and E. Peterson. 2010. The Lichens of the Horseshoe Ranch Wildlife Area. *Bulletin of the California Lichen Society* 17 (1&2): 9-12.

Peer-reviewed papers in review (1) and revision (1):

- I. Brodie, E., **J. E. D. Miller**, and H. Safford. Productivity modifies the effects of fire severity on understory diversity. *Revision requested, Ecology*.
- II. **Miller, J. E. D.**\*, A. Weill\*, and J. Vilella. Increasing fire frequency reduces lichen diversity in a high-severity fire-adapted ecosystem. *In review, Diversity and Distributions*. (\*First two authors contributed equally)

Technical report (1 published)

Vilella, J., G. Carey, and **J. E. D. Miller**. 2014. Distribution and abundance of *Lobaria oregana* within the forest canopy and a comparison of detection from ground-based versus canopy-based survey methods in the Six Rivers National Forest of Northwest California. Submitted to Six Rivers National Forest.

Book chapter (1 in press)

Book chapter: **Miller, J.E.D.**, C. Ziter, and M. Koontz. Fieldwork in landscape ecology. In: *Routledge Handbook of Landscape Ecology (in press)*

TEACHING EXPERIENCE (14 courses as instructor of record, including repeats)

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Instructor of record

Winter q. 2019-2021	<b>Intro to eco-evo research (lichen system)</b> , Stanford ( <i>online in 2021 due to COVID-19</i> )
Fall 2020	<b>Ecological statistics (graduate course)</b> , Stanford ( <i>online due to COVID-19</i> )
Fall q. 2019 & 2020	<b>Introduction to ecology</b> , Stanford ( <i>online in 2020 due to COVID-19</i> )
Spring q. 2019 & 2020	<b>Intro to eco-evo research (nectar yeast system)</b> , Stanford ( <i>online in 2020</i> )
Fall quarter 2019	<b>Structural equation modeling for ecologists (graduate seminar)</b> , Stanford
Fall quarter 2019	<b>Graduate teaching practicum</b> , Stanford
Fall quarter 2017	<b>Boundary-spanning in ecology (graduate seminar)</b> , UC Davis
Spring quarter 2017	<b>Lichenology</b> , UC Davis
2008-2009 (2 quarters)	<b>Introductory biology (molecules &amp; cells)</b> , Rogue Community College

Teaching assistant and tutoring positions

Fall semester 2015	<b>Biohouse living-learning community seminar</b> , UW-Madison (Graduate mentor)
2011-2015 (3 sem.)	<b>Introductory biology (plant anatomy &amp; ecology)</b> , UW-Madison (Teaching assistant)
2008-2009 (2 quarters)	<b>Tutoring center faculty</b> , Rogue Community College

PRESENTATIONS

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Invited seminars

2021	<b>California Fire Science Consortium &amp; UC Davis</b> , Davis, CA ( <i>online due to COVID-19</i> )
2020	<b>California Polytechnic State University</b> , San Luis Obispo, CA ( <i>online due to COVID-19</i> )
2019	<b>Thompson Rivers University</b> , Kamloops, BC
	<b>Missouri Botanical Garden</b> , St. Louis, MO
2018	<b>Sonoma State University</b> , Rohnert Park, CA
	<b>Stanford University</b> , Stanford, CA
	<b>Santa Barbara Botanic Garden</b> , Santa Barbara, CA

Invited conference presentations (continues on following page):

2021	<b>Int'l Assoc. for Landscape Ecology</b> (Symposium organizer; <i>online due to COVID-19</i> )
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- 2019 **Association for Fire Ecology—8<sup>th</sup> Int'l Fire Ecology & Management Congress**, Tucson, AZ  
 2018 **California Lichen Society** (keynote speaker), Winters, CA  
 2017 **Northwest Science**, Ashland, OR  
 2016 **Society for Ecological Restoration Northwest Regional Conference**, Portland, OR  
 2015 **Association of Southeastern Biologists**, Chattanooga, TN  
 2014 **Natural Areas Conference**, Dayton, OH  
 2014 **Missouri Botanical Symposium**, Rolla, MO

Contributed conference presentations:

- 2013-2015, 2017-2019 **Ecological Society of America**, multiple locations  
 2015 **Natural Areas Conference**, Little Rock, AR  
 2015 **International Association for Landscape Ecology World Congress**, Portland, OR  
 2013 **American Bryological and Lichenological Society / Botanical Society of America**,  
 New Orleans, LA  
 2011 **American Bryological and Lichenological Society**, Roan Mountain, TN  
 2010 **Northwest Science**, Centralia, WA

GUEST LECTURES

- 2021 **"Lichens as indicators of habitat conservation value"** in The Fungal Kingdom, Evergreen St College  
 2020 **"Effects of altered fire regimes on lichen diversity"** in Fire and Biodiversity, UC Davis  
 2019 **"Plant communities on islands"** in Coastal Community Ecology, Bamfield Marine Science Centre  
**"Introduction to Lichens"** in The Hidden Kingdom: Fungal Biology, Stanford  
 2016 **"Winter tree identification"** in General Ecology, University of Wisconsin-Madison (UWM)  
 2015 **"Human population growth and its effects on the environment"** in General Ecology, UWM  
**"Grasslands and the community concept: Clements, Curtis & beyond"** in Grassland Ecology, UWM  
 2012 **"Biodiversity and ecosystem function"** in General Ecology, UWM  
 2011 **"Ecology of Biological Soil Crusts"** in Grassland Ecology, UWM  
**"Distribution Patterns of Biological Soil Crusts"** in Protists and Fungi, Southern Oregon University

GRADUATE STUDENT MENTORING / SUPERVISION

- 2016- Jonah Weeks. Long-term plant community changes after the Angora Fire. PhD, UC Davis. Co-mentored with Hugh Safford.  
 2018 Masters thesis examiner for Rachel Wigle, Memorial University, Newfoundland, Canada

UNDERGRADUATE MENTORING (mentored 22 students; continues on following page)

- 2018-2019 Kevin Ball. Developing staining techniques for basidiomycete lichen yeasts. Independent study. UC Davis.  
 2017- 2018 Maaiké Wallace. Lichen floristics and fire ecology. Independent study. UC Davis.  
 2018 Kyle Johnson. Mapping landscape cover in an ecologically heterogeneous region. UC Davis.  
 2018 Edward Lee. Lichen floristics of Napa County. Independent study. UC Davis.  
 2016-2017 Patty Hensley. Fire effects on plant and lichen communities. Independent study. UC Davis.  
 2017 Mark Goering. Determining historical fire regimes for plant diversity datasets. Independent study. UC Davis.  
 2017 Arianna Stokes. Effects of fire severity on herbaceous plant diversity. Independent study. UC Davis.  
 2016 Grace Chan. Fire effects on plant communities in the Sierra Nevada. Independent study, UC Davis.  
 2015-2016 Christopher Morgan. Community dispersal trait responses to 60 years of fragmentation in Wisconsin grasslands. Senior thesis (2 semesters).  
 2015-2016 Anisa Fadhil. Effects of forest fragmentation on wildlife in Malaysia. Independent study and Senior Thesis (3 semesters total)  
 2016 Sanaya Bhathena. Seed ecology of Ozark glade plants. UW-Madison intro biology independent project.  
 2014-2016 Shannon Grover. Landscape connectivity indirectly drives pollinator diversity in Ozark glades. Independent study (3 semesters).  
 2015 Brandon Bruce. Seed dormancy traits of Ozark glade plants. Undergraduate Research Scholars program.  
 2015 Brandon Nwadinobi. Relationships between soil characteristics and seed size. UW-Madison

- intro biology independent project.
- 2014 Alyssa Daniels. Do glade specialist species have different life history traits from their generalist congeners? UW-Madison intro biology independent project.
- 2014 Sara Grimmer. Effects of glade isolation on community dispersal modes. UW-Madison intro biology independent project.
- 2013-2014 John Brennan. Relationships between plant diversity and grasshopper diversity in Ozark glades. UW-Madison intro biology independent project and subsequent independent research.
- 2013 Mitul Patel. Effects of habitat area on plant diversity. UW-Madison intro bio. independent project.
- 2013 Savannah Hamilton. Relationships between soil fertility and plant diversity in Ozark glades. UW-Madison intro biology independent project
- 2013 Cayla Matte. Does stand composition predict understory diversity in Ozark woodlands? UW-Madison intro biology independent project
- 2013 Charlotte Deantonio. Using land cover data to quantify landscape spatial structure. UW-Madison intro biology independent project.
- 2012 Thomas Gorak. Mapping grassland landscape features.
- 2012 Sam Gregson. Relationships between fire history and plant diversity in Ozark glades. UW Madison intro biology independent project.

#### PEDAGOGICAL TRAINING

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- 2019 Misc. workshops / seminars, Office of the Vice Provost for Teaching and Learning, Stanford University
- 2014 Scientific Teaching Seminar, Wisconsin Institute for Science and Community Engagement, University of Wisconsin, *Madison, WI*

#### SERVICE AND COMMUNITY OUTREACH (\* = online due to COVID-19)

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- 2015- **Manuscript reviewer** for Ecology; the Journal of Biogeography; Landscape Ecology; Oecologia; Ecosphere; Forest Ecology and Management; Restoration Ecology; Perspectives in Plant Ecology, Evolution and Systematics; PLOS One; PeerJ; Botany; Natural Areas Journal; Australian Journal of Botany; Journal of the Torrey Botanical Society; the Bryologist; Evansia; and the American Midland Naturalist
- 2021 **Invited Speaker**, Jasper Ridge Biological Preserve, *Woodside, CA* \*
- 2020 & 2021 **Invited Speaker**, California Native Plant Society, Yerba Buena Chapter., *San Francisco, CA* \*
- 2020 & 2021 **Workshop leader**, Pepperwood Preserve, *Santa Rosa, CA* (\* in 2020)
- 2020 **Research proposal reviewer**, Czech Academy of Sciences
- 2018 & 2020 **Workshop leader**, the Jepson Herbarium, University of California, *Berkeley, CA*
- 2020 **Invited speaker**, Save Mt. Diablo Science Colloquium, *Contra Costa Co., CA* \*
- 2020 **Invited Speaker**, California Native Plant Society, Santa Clara Valley Ch., *Los Altos Hills, CA* \*
- 2020 **Field trip leader**, California Native Plant Society, *Daly City, CA*
- 2020 **Workshop leader**, Edgewood Park and Natural Preserve, *San Mateo, CA*
- 2020 **Undergraduate research mentor**, EEB Mentor Match
- 2019 **Panelist**, Carnegie Institution for Science, *Stanford, CA*
- 2019 **Biobridge guest faculty**, Biology Department, Stanford University, *Stanford, CA*
- 2019- **Outreach coordinator**, California lichen society
- 2019 **Workshop instructor**, Filoli Estate, *Woodside, CA*
- 2018 **Guest Scientist**, Exploratorium After Dark, *San Francisco, CA*
- 2018 **Field trip organizer**, California Lichen Society, *San Luis Obispo County, CA*
- 2017 **Guest Curator**, Real Scientists (Twitter: @Realscientists)
- 2016 **Student Award Judge**, Ecological Society of America Student Section
- 2015 **Workshop leader and panelist**, UW Madison College of Letters and Sciences TA training
- 2015 **Workshop leader**, Wisconsin Society for Conservation Biology, *Madison, WI*
- 2015 **President**, UW-Madison Student Association for Fire Ecology, *Madison, WI*
- 2014 **Visiting scientist**, Shaw Nature Preserve Dana Brown Overnight Center, *Gray's Summit, MO*
- 2013 **Panelist**, UW Office of Fellowships, *Madison, WI*
- 2013 **Workshop leader**, Madison Herbal Institute, *Madison, WI*
- 2013 **Workshop leader**, Lawrence Community Orchard, *Lawrence, KS*
- 2012-2014 **Vice president**, Graduate Student Informal Seminars, University of Wisconsin, *Madison, WI*
- 2011-2016 **Graduate student representative**, Wisconsin Ecology, *Madison, WI*
- 2011-2016 **Zoology department steward**, Teaching Assistants' Association, University of Wisconsin
- 2011 **Invited speaker**, Native Plant Society of Oregon, *Ashland, OR*

2011 **Workshop leader**, ECOS Community Garden, Southern Oregon University, *Ashland, OR*  
2010-2011 **Botany instructor**, Vitalist School of Herbology, *Ashland, OR*  
2009-2010 **Guest field botany lecturer**, Elderberry School of Herbal Medicine, *Cave Junction, OR*  
2008 **Lichen surveyor**, Navopatia Field Station, *Sonora, Mexico*