

## 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 (see additional teaching positions below)

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- Lecturer**, Stanford University, 2018-  
**Postdoctoral researcher**, University of California, Davis, 2016-2018, *Davis, CA*  
**NSF graduate research fellow & research 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*

### GRANTS AND FELLOWSHIPS

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| 2017      | California Lichen Society, "Effects of altered fire regimes on epiphytic 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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| 2018 | Best oral presentation award, UC Davis Postdoctoral Research Symposium, \$400                                        |
| 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     |
| 2011 | Biological Sciences Scholar Award, Department of Zoology, University of Wisconsin, \$1500                            |
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## PUBLICATIONS

Published or in press (18 peer-reviewed publications, 11 lead-author publications):

18. **Miller, J. E. D.**, A. Ives, and E. Damschen. 2018. Functional traits and community composition: a comparison among community-weighted means, weighted correlations, and multilevel models. *Methods in Ecology and Evolution*, *in press*.
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. *Peer J*, *in press*.
14. Adlam, C.\* and **J. E. D. Miller**. 2018. Macrolichens of the Quail Ridge Reserve, Napa County, California. *Bulletin of the California Lichen Society*, *in press*. (\*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. Villella, 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. Villella, 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.

In review or revision (1):

- I. **Miller, J. E. D.** and H. Safford. Historical contingencies determine plant diversity responses to disturbance. *Revision requested, Journal of Ecology*.

In preparation - completed manuscripts (2):

- II. Armstrong, C., A. McAlvey, **J. E. D. Miller**, Lepofsky, D., Turner, N., and Ritchie, M. Plant diversity and functional traits reflect ancient forest garden history. *For submission to Science Advances*.
- III. Safford, H. and **J. E. D. Miller**. An updated index of California plant affinities for serpentine soil. *For submission to Madroño*.
- IV. **Miller, J. E. D.**, D. Li, M. Laforgia, and S. Harrison. Functional diversity is a passenger but not driver of drought-related plant diversity loss. *For submission to Journal of Ecology*.

TEACHING EXPERIENCE

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Spring quarter 2019 **Intro to eco-evo research (nectar yeast system)**, Stanford (Instructor)  
 Winter quarter 2019 **Intro to eco-evo research (lichen microbiome system)**, Stanford (Instructor)  
 Fall quarter 2017 **Boundary-spanning in ecology seminar**, UC Davis (Instructor)  
 Spring quarter 2017 **Lichenology**, UC Davis (Instructor & designed course curriculum)  
 Fall semester 2015 **Biohouse living-learning community seminar**, UW-Madison (Graduate mentor)  
 2011-2015 (3 sem.) **Introductory biology (plant anatomy & ecology)**, UW-Madison (Teaching assistant)  
 2009-2010 (2 seasons) **Field botany for herbalists**, Vitalist School of Herbology (Instructor)  
 2008-2009 (2 quarters) **Introductory biology (molecules & cells)**, Rogue Community College (Instructor)  
 2008-2009 (2 quarters) **Tutoring center faculty**, Rogue Community College

PRESENTATIONS

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Invited seminars

2018 Sonoma State University  
 Stanford University  
 Santa Barbara Botanic Garden

Invited conference presentations:

January 2018 **California Lichen Society**, Keynote speaker for annual meeting, "Resilience amid change: the state of the State for California lichen and lichenologist communities."  
 March 2017 **Northwest Science**, Causes and consequences of post-fire landscape and vegetation change in Northern California symposium, "Effects of fire severity on herbaceous plant diversity." *Ashland, OR* (Symposium organizer)  
 April 2016 **Society for Ecological Restoration Northwest Regional Conference**, The Evolving Science of Bioindicators symposium, "Floristic quality as a community indicator." *Portland, OR*  
 April 2015 **Association of Southeastern Biologists**, Symposium on cedar glades, "Plant diversity patterns and long-term landscape change in Ozark dolomite glades." *Chattanooga, TN*  
 October 2014 **Natural Areas Conference**, Symposium on Historical and Contemporary Perspectives on the Restoration of Southeastern Grasslands, "Drivers of plant diversity and woody encroachment in Ozark dolomite glades." *Dayton, OH*  
 March 2014 **Missouri Botanical Symposium**, "Plant diversity patterns in Ozark glades." *Rolla, MO*

Contributed conference presentations:

2013-2018 **Ecological Society of America** (*New Orleans, LA; Portland, OR x2; Baltimore, MD; (except 2016) Minneapolis, MN*)  
 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

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February 2016 **"Winter tree identification"** in General Ecology, University of Wisconsin, *Madison, WI*  
 October 2015 **"Human population growth and its effects on the environment"** in General Ecology, University of Wisconsin, *Madison, WI*  
 September 2015 **"Grasslands and the community concept: Clements, Curtis and beyond"** in Grassland Ecology, University of Wisconsin, *Madison, WI*  
 December 2012 **"Biodiversity and ecosystem function"** in General Ecology, University of Wisconsin, *Madison, WI*  
 November 2011 **"Ecology of Biological Soil Crusts"** in Grassland Ecology, University of Wisconsin, *Madison, WI*  
 February 2011 **"Distribution Patterns of Biological Soil Crusts"** in Protists and Fungi, Southern Oregon University, *Ashland, OR*

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**GRADUATE STUDENT MENTORING / SUPERVISION**


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

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**UNDERGRADUATE MENTORING (mentored 22 students)**


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- 2017- 2018 Maaike 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 Bhatena. 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 biology 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.

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**PEDAGOGICAL TRAINING**


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- 2014 Scientific Teaching Seminar, Wisconsin Institute for Science and Community Engagement, University of Wisconsin, *Madison, WI*

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**PROFESSIONAL MEMBERSHIP**


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- 2010-Present, member, American Bryological and Lichenological Society
- 2011-Present, member, Ecological Society of America
- 2016-Present, member, California Lichen Society
- 2016-Present, member, Northern California Botanists
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SERVICE AND COMMUNITY OUTREACH

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- 2015- **Manuscript reviewer** for Science (co-reviewed); the Journal of Biogeography; Landscape Ecology; Oecologia; Forest Ecology and Management; Perspectives in Plant Ecology, Evolution and Systematics; PLOS One; Botany; Natural Areas Journal; Australian Journal of Botany; Journal of the Torrey Botanical Society; Evansia; and the American Midland Naturalist
- 2018 **Guest Scientist**, Exploratorium After Dark, *San Francisco, CA*
- 2018 **Workshop instructor**, the Jepson Herbarium, *Berkeley, 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 community pollinator monitoring workshop, *Madison, WI*
- 2015 **President**, UW-Madison Student Association for Fire Ecology, *Madison, WI*
- 2014 **Visiting scientist**, Field Ecology Immersion for High School Students, Shaw Nature Preserve Dana Brown Overnight Center, *Gray's Summit, MO*
- 2013 **Panelist**, NSF fellows panel for Graduate Research Fellowship Program applicants, 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, *Madison, WI*
- 2011 **Invited speaker**, Native Plant Society of Oregon, *Ashland, OR*
- 2011 **Workshop leader**, ECOS Community Garden, Southern Oregon University, *Ashland, OR*
- 2008 **Lichen surveyor**, Navopatia Field Station, *Sonora, Mexico*

REFERENCES

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Dr. Ellen Damschen, Professor, University of Wisconsin-Madison  
(Ph.D. advisor)  
damschen@wisc.edu; 608-262-4437

Dr. Hugh Safford, Regional ecologist, USDA Forest Service  
Adjunct professor, University of California-Davis  
(Postdoctoral advisor)  
[hughsafford@fs.fed.us](mailto:hughsafford@fs.fed.us); 707-980-8512

Dr. Anthony Ives, Professor, University of Wisconsin-Madison  
(collaborator and Ph.D. committee member)  
arives@wisc.edu; 608-262-1519

Dr. Susan Harrison, Professor, University of California-Davis  
(collaborator and former employer)  
spharrison@ucdavis.edu; 530-752-7110

Dr. Monica Turner, Professor, University of Wisconsin-Madison  
(Ph.D. committee member)  
turnermg@wisc.edu; 608-262-2592