

EMILY C. FARRER

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PROFESSIONAL PREPARATION

Postdoctoral Scholar, University of California, Berkeley, 2010-
Department of Environmental Science, Policy & Management
Dynamics of plant-soil interactions in a changing environment
(Advisor: Katharine Suding)

Ph.D., University of Michigan, 2003-2010
Ecology and Evolutionary Biology
Plant-soil feedbacks in a native and invasive system (Advisor: Deborah E. Goldberg)

B.A., Kalamazoo College, 1998-2002
Magna cum laude with Honors in Biology
Senior Thesis: *Resource Competition between a C3 and a C4 Grass Species: Population and Individual Level Responses* (Advisors: E. Binney Girdler, Katherine L. Gross)

ACADEMIC/PROFESSIONAL APPOINTMENTS

2010-present **Postdoctoral Scholar**, Environmental Science, Policy & Management, University of California, Berkeley
2003-09 **Graduate Research and Teaching Assistant**, Ecology and Evolutionary Biology, University of Michigan

GRANTS AND FELLOWSHIPS

2012 USDA NIFA postdoctoral fellowship (\$130,000)
2009 Block Grant, EEB Department (\$1296)
2009 UMBS Graduate Student Research Fellowship (\$600)
2009 Math-Biology Travel Award for 2009 Midwest Ecology and Evolution Conference
2008 NSF-IGERT BART (Biosphere Atmosphere Research and Training) Summer-Only Fellowship (\$3,600)
2008 Helen Olson Brower Memorial Fellowship, EEB Department (\$10,000)
2008 UMBS (University of Michigan Biological Station) Graduate Student Research Fellowship (\$1200)
2007 Angeline Whittier Fellowship, EEB Department (\$1518)
2007 Ann Arbor National Farm and Garden Association Fellowship, UMBS (\$1200)
2006 Angeline Whittier Fellowship, EEB Department (\$1600)
2006 Henry Allan Gleason Fellowship, UMBS (\$1500)
2005 Emma J. Cole Fellowship, EEB Department (\$527)
2005 Hal and Ann Davis Fellowship, UMBS-The Nature Conservancy (\$6170)
2004 Hal and Ann Davis Fellowship, UMBS-The Nature Conservancy (\$7224)

2003 Hal and Ann Davis Fellowship, UMBS-The Nature Conservancy (\$1554)

ACADEMIC HONORS AND AWARDS

2009 E. Lucy Braun Award for outstanding poster at the Ecological Society of America
2008 meeting
2002 Phi Beta Kappa, National Honors Society, Kalamazoo College
2002 William E. Praeger Prize in Biology, Kalamazoo College
2002 Diebold Scholar Award in Biology, Kalamazoo College
1998-2002 Kalamazoo College Dean's List
1999 Alpha Lambda Delta Honor Society at Kalamazoo College
1999 Winifred Peake Jones Prize in Biology, Kalamazoo College

PEER-REVIEWED PUBLICATIONS

Cleland, E.E., S.L. Collins, P. Adler, T. Dickson, **E.C. Farrer**, K. Gross, L. Gherardi, L. Hallett, J. Hsu, K.N. Suding, and L. Turnbull. Sensitivity of grassland plant community composition to interannual variation in precipitation. *Ecology*. *In revision*.

King, A.J., **E.C. Farrer**, K.N. Suding, S.K. Schmidt. Cooccurrence Patterns of Plants and Soil Bacteria in the High-Alpine Subnival Zone Track Environmental Harshness. *Frontiers in Terrestrial Microbiology*. *In review*.

Farrer, E.C. and D.E. Goldberg. Mechanisms and reversibility of effects of invasive cattail on a native coastal marsh. *Wetlands*. *In review*.

Currie, W. S., D. E. Goldberg, R. Wildova, and **E.C. Farrer**. Emergence of nutrient-cycling feedbacks related to plant size and invasion success in a wetland community-ecosystem model. *Ecosystems*. *In revision*.

Foxman, B., J. Wu, **E.C. Farrer**, D.E. Goldberg, J.G. Younger, C. Xi. 2012. Early development of bacterial community diversity in emergently placed urinary catheters. *BMC Research Notes*. 5:332.

Farrer, E.C. and D.E. Goldberg. 2011. Patterns and mechanisms of conspecific and heterospecific interactions in a dry perennial grassland. *Journal of Ecology*. 99:265-276.

Farrer, E.C., D.E. Goldberg, and A.A. King. 2010. Time lags and the balance of positive and negative interactions in driving grassland community dynamics. *American Naturalist*. 175(2):160-173.

Farrer, E.C. and D.E. Goldberg. 2009. Litter drives ecosystem and plant community changes in cattail invasion. *Ecological Applications*. 19:398-412.
*Reviewed by Faculty of 1000, "Recommended"
*Most outstanding University of MI EEB graduate student publication award 2009

PUBLICATIONS – IN PREPARATION

Farrer, E.C. and K.N. Suding. Carbon allocation in a winner and loser species in response to N deposition. *American Journal of Botany*, *in prep.* (to be submitted Fall 2012)

Farrer, E.C., I.W. Ashton, J. Knape, and K.N. Suding. Competitive and direct effects of global change factors on an alpine plant community: a population dynamic modeling approach. *Global Change Biology*. *in prep.* (to be submitted Fall 2012)

- Formica, A., **E.C. Farrer**, N. Boelman, K.N. Suding. Woody encroachment over 62 years in the Rocky Mountain alpine tundra. *Arctic, Antarctic, and Alpine Research*, in prep. (to be submitted Fall 2012)
- Farrer, E.C.** and D.E. Goldberg. Small-scale spatial structuring of plants and soil characteristics in a grassland ecosystem. *Plant and Soil*. in prep. (to be submitted Winter 2013)

PUBLISHED ABSTRACTS AND PAPERS PRESENTED

- Farrer, E.C.** and K.N. Suding. 2012 Carbon allocation to soil microbes and storage differs in a winner and loser species during nitrogen deposition. Abstract, Ecological Society of America Annual Meeting.
- Formica, A.F., **E.C. Farrer** and KN Suding. 2012. Salix shrub expansion over the past 62 years in rocky mountain alpine tundra. Abstract, Ecological Society of America Annual Meeting.
- Hallett, L.M., E. Cleland, S.L. Collins, T.L. Dickson, **E.C. Farrer**, L.A. Gherardi, KL Gross, J. Hsu, L. Turnbull and K.N. Suding. 2012. Compensatory dynamics increase along a gradient of precipitation variability in US grasslands. Abstract, Ecological Society of America Annual Meeting.
- Hicks, S., **E.C. Farrer**, R.L. Sinsabaugh, K.N. Suding, and A. Porras-Alfaro. 2012. Root endophyte communities are affected by nitrogen differentially in two co-dominant alpine tundra plants from Niwot, LTER. Abstract, Ecological Society of America Annual Meeting.
- Hicks, S., **E.C. Farrer**, R.L. Sinsabaugh, A. Porras-Alfaro, K.N. Suding, L. Taylor. 2012. Plant-fungi relationships, and the destructive effects of nitrogen pollution. Mycological Society of America Annual Meeting, New Haven, Connecticut.
- Farrer, E.C.**, I.W. Ashton, and K.N. Suding. 2011. Global change factors interact and modify competitive interactions among alpine species: a population dynamic modeling approach. Abstract, Ecological Society of America Annual Meeting.
- Suding, K.N., **E.C. Farrer**, S. Hicks, A. Porras-Alfaro, and M. Spasojevic. 2011. Winners and losers in response to nitrogen addition. Abstract, Ecological Society of America Annual Meeting.
- Foxman, B., J. Wu, **E. Farrer**, D. Goldberg, J. Younger, C. Xi. 2011. Dynamics of Urinary Catheter Microbial Communities. Abstract, Keystone Symposia: Microbial Communities as Drivers of Ecosystem Complexity (C8). Breckenridge, CO.
- Farrer, E.C.** and D.E. Goldberg. 2010. Mechanisms and reversibility of effects of invasive cattail on native wetlands. Abstract, Ecological Society of America Annual Meeting.
- Srinivasan, U, A. Wen, L. Zhang, **E.C. Farrer**, C.F. Marrs, D.E. Goldberg, J. Thomas, R. Weyant, R. Crout, D. McNeil, M.L. Marazita, B. Foxman. 2010. Does oral bacterial diversity predict progression to caries in children? Results of a pilot study. Abstract, International Society for Microbial Ecology, Annual Meeting.
- Farrer, E.C.** and D.E. Goldberg. 2009. Plant-soil feedbacks in the field: A test in a perennial grassland. Abstract, Ecological Society of America Annual Meeting.
- Farrer, E.C.** and D.E. Goldberg. 2009. Mechanisms and reversibility of effects of invasive cattail on native wetlands. Abstract, Odum Conference, New York Invasive Species Research Institute, Rensselaerville, NY.
- Goldberg, D.E, W.C. Currie, R. Wildova, and **E.C. Farrer**. 2009. Mechanisms of plant invasion: from basic biology to useful management tools? Invited symposium

- presentation, Odum Conference, Understanding and managing biological invasions as dynamic processes: Integrating information across space and time, Rensselaerville, NY.
- Farrer, E.C.**, D.E. Goldberg, and A.A. King. 2009. Time lags and the balance of positive and negative interactions in driving grassland community dynamics. Abstract, Midwest Ecology and Evolution Conference.
- Farrer, E.C.** and D.E. Goldberg. 2008. Inferring plant-soil feedbacks from community dynamics. Abstract, Ecological Society of America Annual Meeting.
- Farrer, E.C.** and D.E. Goldberg. 2006. Litter drives plant community and ecosystem dynamics in *T. x glauca* invasion. Abstract, Ecological Society of America Annual Meeting.
- Farrer, E.C.** and D.E. Goldberg. 2004. Cattail (*Typha*) invasion in three Great Lakes marshes: possible causes and consequences. Abstract, American Institute of Biological Sciences (AIBS) Annual Meeting.

INVITED/IN HOUSE PRESENTATIONS

- 2012 Mountain Research Station Summer Seminar Series, University of Colorado, Boulder, *Carbon allocation and soil microbes explain plant species response to N deposition*
- 2005 Ecology and Evolutionary Biology Lunch Seminar, University of Michigan, *Cattail invasion in Great Lakes marshes: plant community and ecosystem dynamics*
- 2005 UMBS summer symposium talk, *The effects of the invasive cattail Typha x glauca on a Great Lakes marsh: changes in plant community and ecosystem dynamics*
- 2004 UMBS summer symposium talk, *The effects of invasive cattail on nutrient dynamics in a coastal marsh*
- 2003 UMBS summer symposium talk, *The distribution of wetland invasives (Typha spp. and Lythrum salicaria) in Northern Michigan and their effects on native species diversity*

TEACHING

- 2009 Co-lecturer, **Woody Plants** (NRE436), University of Michigan
- 2006-07 Graduate Student Instructor, **Woody Plants Lab** (NRE437), University of Michigan
- 2003-07 Graduate Student Instructor, **Introductory Biology Lab** (BIOL162), University of Michigan
- 2004 Graduate Student Instructor, **Plant Diversity Lab** (BIOL255), University of Michigan
- 2001 Teaching Assistant, **General Botany Lab** (BIOL 182), Kalamazoo College

PROFESSIONAL SOCIETY AFFILIATIONS

Ecological Society of America
 Botanical Society of America
 Society of Wetland Scientists

PROFESSIONAL SERVICE AND OUTREACH

- 2012 Peer reviewer for *Oecologia*, *Perspectives in Plant Ecology, Evolution and Systematics*.
- 2011 Peer reviewer for the NSF, *Ecology*, *American Naturalist*, *Methods in Ecology and Evolution*, *Journal of Plant Ecology*.
- 2010 Peer reviewer for *Journal of Ecology*, *Biological Invasions*, *OIKOS*.

- 2009 Press release with Nancy Ross-Flanigan (News Service at University of Michigan). Monday Dec. 21, 2009. Emily Farrer, Deborah Goldberg, and Aaron King. *The past matters to plants.*
- 2009 Peer reviewer for *Journal of Botany*.
- 2008 Featured in a story in the Douglas Lake Report (A report to Alumni and Friends of the University of Michigan Biological Station). Fall 2008 issue. *Graduate Student Profile: researching one community, being supported by another.*
- 2008 Featured in a story in LSA magazine by Rebekah Murray (Assistant Editor, LSA magazine, University of Michigan) about jobs that entail fieldwork and ongoing *Typha x glauca* research. Spring 2008 issue. *Dirty (Green) Jobs: For three LSA students environmental work is downright filthy.*
- 2008 Peer reviewer for *Soil Science Society of America Journal*.
- 2007-08 Mentored an undergraduate as part of the UROP (undergraduate research opportunity) program at University of Michigan
- 2006-07 EEB Lunch Coordinator, scheduled and organized talks by faculty, students, and outside sources for our weekly departmental seminar.
- 2006 Press release with Nancy Ross-Flanigan (News Service at University of Michigan). Wednesday Aug. 9, 2006. Emily Farrer and Deborah Goldberg. *Invasive species alter habitat to their benefit.*