

**Peggy Ann Schultz**  
**Kansas Biological Survey and Environmental Studies**  
**University of Kansas**

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**Professional Preparation**

1983	B.A.S	Zoology, University of Massachusetts.
1988	M.S.	Biology, University of Michigan
1996	Ph.D.	Botany, Duke University

**Appointments**

2017- Director of two EPSCoR MAPS Workforce Development initiatives, Kansas Ecosystems for Elementary Students and the Ecosystems of Kansas Summer Institute

2015- Research Specialist, University of Kansas and the Kansas Biological Survey

2011-2015 Director of Science Outreach, Department of Biology

2008-2015 Faculty Instructor, Environmental Biology L350

2002-2015 Assistant Research Scientist, Indiana University, Bloomington, IN

2002-2005 Faculty Instructor, Introductory Biology Laboratory (L113)

2000-2002 Research Associate, Indiana University, Bloomington, IN 1998-2000 Assistant Research Scientist, University of California, Irvine, CA

1996-1998 Postdoctoral Associate, Argonne National Laboratory, Argonne, IL

1994-1995 Visiting Instructor, Carolina Ohio Science Education Network (COSEN), Duke University

**Publications**

- Delavaux, Camille S., Patrick Weigelt, Wayne Dawson, Jessica Duchicela, Franz Essl, Mark van Kleunen, Christian König, Jan Pergl, Petr Pyšek, Anke Stein, Marten Winter, Peggy Schultz, Holger Kreft, James D. Bever. 2018. Mycorrhizal fungi shape global plant biogeography. *Nature Ecology and Evolution*. Revision invited.
- Lubin Terra K., Peggy Schultz, James D. Bever, Helen M. Alexander, 2019. Are two strategies better than one? Manipulation of seed density and soil community in an experimental prairie restoration. *Restoration Ecology*. Submitted.
- Koziol, Liz, Peggy A Schultz, Geoffrey L House, Jonathan T Bauer, Elizabeth L Middleton, James D Bever. 2018. The Plant Microbiome and Native Plant Restoration: The Example of Native Mycorrhizal Fungi. *BioScience*, 68: 996–1006.
- Middleton, Elizabeth, Sarah Richardson, Liz Koziol, Corey E. Palmer, Zhanna Yermakov, Jeremiah A. Henning, Peggy A. Schultz, and James D. Bever. 2015. Locally-adapted arbuscular mycorrhizal fungi improve vigor and resistance to herbivory of native prairie plant species. *Ecosphere*. 6:276. <http://dx.doi.org/10.1890/ES15-00152.1>
- Shelton, A.L., J.A. Henning, P.A. Schultz, K. Clay, 2014. Effects of Abundant White-Tailed Deer on Vegetation, Animals, Mycorrhizal Fungi, and Soils. *Forest Ecology and Management*. 320: 39-49.
- Duchicela, J, K.M. Vogelsang, W. Kaonongbua, E. Middleton, P.A. Schultz, and J.D. Bever. 2012. Non-

native plants and soil microbes contribute to reduced soil aggregate stability in disturbed North American grasslands. *New Phytologist*. 196: 212–222.

Middleton, E., J. D. Bever and P. A. Schultz. 2010. The effect restoration methods on the quality of the restoration and resistance to invasion by exotics. *Restoration Ecology*. 18: 181–187.

Bever, J. D. and P. A. Schultz. 2005. Mechanisms of arbuscular mycorrhizal mediation of plant-plant interactions. In: *The Fungal Community*. 4th Ed. J. Dighton and P. Oudemans, Eds. Taylor and Francis, Boca Raton. Pp. 443-459.

Reynolds H L, K M Vogelsang, A E Hartley, J D Bever, and P A Schultz. 2005. Variable responses of old-field perennials to arbuscular mycorrhizal fungi and phosphorus source. *Oecologia*. 167: 141–152.

Bever, J. D., P. A. Schultz, R. M. Miller, L. Gades and J. D. Jastrow. 2003. Prairie mycorrhizal fungal inoculant may increase native prairie plant diversity on restored sites. *Ecological Restoration*. 21: 311-312.

Schultz, P. A., R.M. Miller, C. Rivetta, J. Jastrow and J. Bever. 2001. Evidence of a mycorrhizal mechanism for the adaptation of *Andropogon gerardii* to high and low nutrient prairies. *American Journal of Botany*. 88:1650-1656.

Bever, J. D., P. A. Schultz, A. Pringle, and J. B. Morton. 2001. Arbuscular mycorrhizal fungi: More diverse than meets the eye and the ecological tale of why. *Bioscience*. 51: 923-931.

Schultz, P. A., J. D. Bever, and J. Morton. 1999. *Acaulospora colossica* sp. nov. from an field in North Carolina and morphological comparisons with similar species, *A. laevis* and *A. koskei*. *Mycologia*. 91: 677-683.

Bever, J. D., J. B. Morton, J. Antonovics, and P. A. Schultz. 1996. Host dependent sporulation and species diversity of arbuscular mycorrhizal fungi in a mown grassland. *Journal of Ecology*. 84: 71-82.

### **Synergistic activities**

1. I developed outreach programs to provide the local and regional community information about the ongoing research within the Biology Department as well as basic information about biology. Much of my activity has focused on K-12 education. In 2014, I created the Biology Summer Institute where high school teachers from across Indiana were invited to attend a week-long program where they learned about the research programs of participating labs and developed experiments with faculty they could take back to their classrooms. I have begun a similar program for high school teachers in Kansas as part of the Kansas EPSCoR MAPS. It is called Ecosystems of Kansas Summer Institute <https://epscoroutreach.ku.edu/>
2. I also developed and coordinated programs in schools with teams of graduate students, and undergraduates focused on experimentation and hands on learning of the life science standards for kindergarten and third grade. I am currently coordinating and implementing Kansas Ecosystems for Elementary Students. Our team goes into classrooms and provide hands on experimentally driven activities focused on the life science standards for elementary students using local ecosystems. We work with approximately 250 students in Topeka and Lawrence.
3. I have organized, and presented within, several symposia and workshops on the role of mycorrhizal fungi in restoration for land managers, including the Nature Conservancy

4. I have taught Environmental Biology for Non-Majors, local ecology for K-12 Educators, Global environmental change, the introductory Environmental studies course at the University of Kansas, Power for the people and course focused on types of energy used in Kansas. I will be teaching an environmental education in the spring of 2019