

Andrew Siefert

Curriculum Vitae

Department of Evolution and Ecology
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Current appointment

2014–present Postdoctoral Scholar, Department of Evolution and Ecology, University of California, Davis
Supervisor: Sharon Strauss

Education

2014 Ph.D., Biology, Syracuse University. Dissertation: *Intraspecific trait variation and community assembly in old-field grasslands*
Advisors: Mark Ritchie, Jason Fridley

2007 B.S., Environmental Resource Management, Pennsylvania State University
Advisor: Hunter Carrick

Publications

- Bowsher, A., **Siefert, A.**, Shetty, P., Anacker, B., Strauss, S.Y., and Friesen, M.L. 2017. Transcriptomic responses to conspecific and congeneric competition in coexisting *Trifolium*. *Journal of Ecology*, in press.
- Pierce, S., ..., **Siefert, A.**, et al. 2017. A global method for calculating plant CSR ecological strategies applied across biomes worldwide. *Functional Ecology*, in press.
- Fajardo, A. and **Siefert, A.** 2016. Temperate rain forest species partition fine-scale gradients in light availability based on their leaf mass per area. *Annals of Botany* 118: 1307-1315.
- Siefert, A.** and Ritchie, M.E. 2016. Intraspecific trait variation drives functional responses of old-field plant communities to nutrient enrichment. *Oecologia* 181: 245-255.
- Fajardo, A. and **Siefert, A.** 2016. Phenological variation in leaf functional traits within species. *Oecologia* 180: 951-959.
- Siefert, A.** et al. 2015. A global meta-analysis of the relative extent of intraspecific trait variation in plant communities. *Ecology Letters* 18: 1406-1419.
- Siefert, A.**, Lesser, M., and Fridley, J.D. 2015. How do climate and dispersal traits limit ranges of tree species along latitudinal and elevational gradients? *Global Ecology and Biogeography*, 24: 581-593.
- Siefert, A.**, Fridley, J.D., and Ritchie, M.E. 2014. Community functional responses to soil and climate at multiple spatial scales: when does intraspecific variation matter? *PLOS ONE* 9:e111189.
- Moles, A., ..., **Siefert, A.**, et al. 2014. Which is a better predictor of plant traits: temperature or precipitation? *Journal of Vegetation Science* 25: 1167-1180.

- Siefert, A.**, Ravenscroft, C., Weiser, M. and Swenson, N.G. 2013. Patterns of functional beta diversity reveal deterministic community assembly processes in eastern North American trees. *Global Ecology and Biogeography* 22: 682-691.
- Siefert, A.** 2012. Incorporating intraspecific variation in tests of trait-based community assembly. *Oecologia* 170: 767-775.
- Siefert, A.**, Ravenscroft, C., *et al.* 2012. Scale dependence of vegetation-environment relationships: a meta-analysis of multivariate data. *Journal of Vegetation Science* 23: 942-951.
- Siefert, A.** 2012. Spatial patterns of functional divergence in old-field plant communities. *Oikos* 121: 907-914.
- Kattge, J., ..., **Siefert, A.**, *et al.* 2011. TRY- a global database of plant traits. *Global Change Biology* 17: 2905-2935.
- Carrick, H.J., Godwin, C.M., Johnston-Greenwald, M., Rilk, C., **Siefert, A.**, and Tzilkowski, C.J. 2007. Evaluation of water quality in a spring fed stream based upon benthic algae and macroinvertebrates. *Journal of the Pennsylvania Academy of Sciences* 80: 71-78.

Manuscripts in review:

- Siefert, A.**, Zillig, K., Friesen, M.L., and Strauss S.Y. Mutualists stabilize coexistence of congeneric legumes (in review, *Proceedings of the National Academy of Sciences*).
- Siefert, A.**, Zillig, K.W., Friesen, M.L., and Strauss, S.Y. Soil biota influence plant-soil feedbacks and plant-plant interactions of co-occurring, congeneric clovers (in review, *American Journal of Botany*).
- Fajardo, A. and **Siefert, A.** Intraspecific variation in leaf traits is positively related to species' niche breadth (in review, *Ecology*).
- Li, Y., ..., **Siefert, A.**, *et al.* Habitat filtering determines the pattern of niche packing along a global species richness gradient (in review, *Journal of Ecology*).

Grants, fellowships, and awards

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| 2015 | Gourevitch Memorial Award in Biology, Syracuse University (\$200) |
| 2012 – 2014 | Doctoral Dissertation Improvement Grant, National Science Foundation (\$13,769). <i>Community trait responses to environmental variation: assessing the roles of species turnover, genetic differentiation, and phenotypic plasticity.</i> |
| 2011 – 2014 | Graduate Research Fellowship, National Science Foundation (\$128,000). <i>Trait-based plant community assembly: incorporating space and intraspecific variation.</i> |
| 2012 | Best Poster Presentation, Syracuse University Life Sciences Symposium (\$150) |
| 2007 | Summer Research Scholarship, Pennsylvania State University (\$1,500) |
| 2007 | Best Undergraduate Oral Presentation, Penn State Environmental Chemistry Student Symposium (\$100) |
| 2003 – 2007 | Schreyer Honors College Academic Excellence Award, Pennsylvania State University |

Teaching and mentorship

- 2015–present Undergraduate research mentor, ESA Strategies for Ecology Education, Diversity and Sustainability (SEEDS), UC Davis Chapter
- 2014 Certificate in University Teaching, Future Professoriate Program, Syracuse University
- 2013–2014 Presenter and instructor, Syracuse University Project Advance (program linking Syracuse University with local high school teachers)
- Spring 2013 Instructor, Exceptional Life (undergraduate biology course), Syracuse University
- Spring 2013 Invited lecturer, Multivariate Statistics (graduate course), Syracuse University
- Spring 2011 Teaching assistant, Integrative Biology (undergraduate lab), Syracuse University
- 2009 – 2011 Teaching assistant, General Biology (undergraduate lab), Syracuse University
- Summer 2007 State Parks Interpreter, Massachusetts Dept. of Conservation & Recreation

Invited talks

- 2017 Biology Seminar, Shepherd University
- 2017 Ecology and Evolutionary Biology Seminar, Virginia Tech
- 2016 Evolution, Ecology, and Behavior Seminar, University of Virginia
- 2016 Biology Department Seminar, University of San Francisco
- 2015 Center for Population Biology Seminar, University of California, Davis
- 2015 Conservation Science Seminar, Chicago Botanic Garden
- 2015 Guest Scientist Lecture, Cleveland Botanical Garden
- 2015 Fridays in the Garden (public seminar), Holden Arboretum, Kirtland, OH

Contributed presentations

- Siefert, A.**, Zillig, K.W., Friesen, M.L., and Strauss, S.Y. 2016. Testing the role of niche differences and rhizobial mutualists in stabilizing coexistence of congeneric legumes. Ecological Society of America Annual Meeting, Fort Lauderdale, FL.
- Siefert, A.**, Zillig, K.W., Friesen, M.L., and Strauss, S.Y. 2015. Soil mutualists mediate interactions of *Trifolium* species: implications for fine-scale co-occurrence. Ecological Society of America Annual Meeting, Baltimore, MD.
- Siefert, A.** and Lesser, M. 2014. Up the mountain, north to the pole: do species' elevational and latitudinal limits match? International Biogeography Society Special Meeting, Montreal.
- Siefert, A.**, Fridley, J.D., and Ritchie, M.E. 2013. Variation in plant functional traits across a latitudinal gradient: does intraspecific variation matter? 11th INTECOL Congress, London, UK.
- Siefert, A.**, Swenson, N.G., and Weiser, M. 2013. Scale dependence of vegetation-environment relationship: a case study on North American trees. International Biogeography Society Biennial Meeting, Miami, FL.
- Siefert, A.**, Ravenscroft, C., Weiser, M. and Swenson, N.G. 2012. Patterns of functional beta diversity reveal deterministic assembly processes in North American tree communities. Ecological Society of America Annual Meeting, Portland, OR.

- Siefert, A.** 2011. Spatial patterns of functional diversity in old-field plant communities. Ecological Society of America Annual Meeting, Austin, TX.
- Siefert, A.** and Mills, E.M. 2009. Temperature and nutrients influence interannual variability of phytoplankton succession in Oneida Lake, NY. Great Lakes Research Consortium Annual Meeting, Syracuse, NY.
- Siefert, A.** and Carrick, H.J. 2007. Effects of fish in stream food webs. International Association of Great Lakes Research Annual Conference, University Park, PA.
- Siefert, A.** and Carrick, H.J. 2007. Top-down trophic interactions in a benthic stream community. Environmental Chemistry Student Symposium, Pennsylvania State University.
- Siefert, A.** and Green, T. 2005. Effects of changes in canopy cover on understory vegetation in the Long Island Pine Barrens. Pine Barrens Research Forum, Brookhaven, NY.

Previous research experience

- 2008 – 2009 Limnology Research Technician, Cornell Biological Field Station, Bridgeport, NY
- 2006 – 2007 Honors Thesis Research, stream food web interactions, Pennsylvania State University
- 2005 – 2007 Research Assistant, Stream Ecology Lab, Pennsylvania State University
- Summer 2005 Summer Undergraduate Internship, Forest Health Monitoring Program, Brookhaven National Laboratory, Upton, NY
- 2004 – 2005 Research Assistant, urban landscape ecology, Pennsylvania State University

Service, outreach, and affiliations

- 2014–present Postdoctoral Associate, Center for Population Biology, UC Davis
- 2012–present Reviewer, National Science Foundation, *American Naturalist*, *Australian Journal of Botany*, *Ecography*, *Ecological Monographs*, *Ecology*, *Ecology Letters*, *Ecosphere*, *Functional Ecology*, *Global Ecology and Biogeography*, *Journal of Biogeography*, *Journal of Ecology*, *Journal of Vegetation Science*, *Methods in Ecology and Evolution*, *New Phytologist*, *Oecologia*, *Oikos*, *PLOS ONE*, *Axios Reviews*
- 2011–present Member and data contributor, TRY Initiative (plant trait database)
- 2014 Organizer, working group on intraspecific trait variation in plant communities, Center for Functional and Evolutionary Ecology, Montpellier, France
- 2012–2013 Vice President, Biology Graduate Student Organization, Syracuse University
- 2009–2010 Presenter, Environmental Field Days (environmental education program for Syracuse area 6th grade students), Green Lakes State Park, Fayetteville, NY
- 2010–present Member, Ecological Society of America, International Biogeography Society, International Association of Vegetation Science