

CARI DANON FICKEN

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RESEARCH INTERESTS

Plant resource use strategies • trait-based ecology • climate change impacts on community and ecosystem functioning • plant-mycorrhizal-soil interactions • species coexistence • nutrient cycling following disturbance

EDUCATION

Duke University, PhD in Ecology 2012 – 2018 (expected, May)
Title: *Effects of Fire and Drought on Ecological Processes Via Plant-Soil Interactions*
Advisor: Justin Wright
Kenyon College, BA in Biology 2005 – 2009

PUBLICATIONS *published and in review*

1. Ficken, CD and JP Wright. Testing for niche differentiation: nitrogen uptake and biomass regrowth have contrasting relationships with root traits. *In review*: Ecology.
2. Ficken, CD and JP Wright. 2017. Effects of fire frequency on litter decomposition as mediated by changes to litter chemistry and soil environmental conditions. PLoS ONE. <https://doi.org/10.1371/journal.pone.0186292>.
3. Ficken, CD and JP Wright. 2017. Contributions of microbial activity and ash deposition to post-fire nitrogen availability in a pine savanna. Biogeosciences. doi:10.5194/bg-2016-303.
4. Bernhardt, ES, J Blaszcak, CD Ficken, M Fork, K Keiser, E Seybold. (All authors contributed equally.) 2017. Catchy phrase or critical advance? Assessing and enhancing the impact of the hot spot hot moment concept in ecosystem science. Ecosystems. doi: 10.1007/s10021-016-0103-y
5. Phillips, RL, CD Ficken, M Eken, J Hendrickson, and O Beerli. 2016. Wetland soil carbon in a watershed context for the Prairie Pothole Region. Journal of Environmental Quality. 45(1): 368-375.
6. Ficken, CD, M Fork, and M Fuller. 2015. The drivers of landscape pattern: Physical template, biotic interactions, and disturbance regime. Teaching Issues and Experiments in Ecology, Vol. 10. http://tiee.esa.org/vol/v10/issues/figure_sets/ficken/abstract.html
7. Ficken, CD and E Menges. 2014. Seasonal wetlands on the Lake Wales Ridge, Florida: Does a seed bank persist despite long term disturbance? Wetlands Ecology & Management (6): 373-385. DOI 10.1007/s11273-013-9308-4
8. Phillips, RL and CD Ficken. *Nitrous oxide emissions at the surface of agricultural soils in the Red River Valley of the north, U.S.A.* In: Understanding Greenhouse Gas Emission from Agricultural Management. Guo, L, AS Gunasekara, and LL McConnell, Eds. ACS Symposium Series 1072. American Chemical Society: Washington, D.C., 2011, pp 29 – 49.

PUBLICATIONS *in preparation*

1. Ficken, CD and JM Warren. Soil respiration sensitivity to drought differs between an arbuscular and an ectomycorrhizal system. *In prep*: Plant and Soil
2. Holm, JA, A Rammig, B Smith, D Medvigy, JW Lichstein, J Dukes, CD Allen, C Beier, KS Larsen, CD Ficken, W Pockman, W Anderegg and Y Luo. Modeling extreme drought impacts on terrestrial ecosystems when thresholds are exceeded.

GRANTS, FELLOWSHIPS and AWARDS

Jo Rae Wright Fellowship for Outstanding Women in Science - \$5000 (2017)
NSF Doctoral Dissertation Improvement Grant - \$20,403 (2016)
American Society of Naturalists Student Research Award - \$2000 (2016)
DOE-ORNL Go! Fellowship - \$50,000 (2015-2017)
New Phytologist Best Student Presentation - \$500 (2015)
Bass Summer Research Fellowship - \$5,500 (2015)
Aleane Webb Dissertation Research Award - \$400 (2015)
Sigma Xi Grant-in-Aid of Research - \$500 (2014)
NSF Graduate Research Fellowship Program Honorable Mention (2013)
Duke University Biology Grant-in-Aid of Research - \$792 (2013)

PRESENTATIONS and INVITED TALKS

1. Ficken, CD and JM Warren. "Linking mycorrhizal functioning to soil carbon dynamics under extreme drought". Poster presentation: AGU Annual Meeting 2016.
2. Ficken, CD and JM Warren. Effects of mycorrhizae on carbon cycling in response to extreme drought. 2016. Poster presentation. Gordon Research Conference "Unifying Ecology Across Scales".
3. Ficken, CD and JP Wright. Differential plant responses to N pulses. 2015. Oral Presentation. Ecological Society of America. *Winner of Biogeosciences Section New Phytologist Best Student Presentation Award*
4. Ficken, CD and JP Wright. Fire-driven increases in soil nitrogen availability in a longleaf pine forest. 2014. Poster Presentation. Ecological Society of America.
5. Ficken, CD. "Soil moisture and fire history drive nutrient availability and productivity in a longleaf pine savanna". 2013. Poster Presentation. Ecological Society of America.
6. Ficken, CD. "How do disturbances structure ecosystems?" 2013 Invited talk to the *Singapore International School*.
7. Ficken, CD. "Comparing the seed banks of disturbed and undisturbed and reference seasonal ponds on Archbold Biological Station and adjacent Reserve". 2011. Oral Presentation. Annual Meeting of the Plant Biologists of South Florida.
8. Ficken, CD. "Comparing the vegetation communities of disturbed and reference wetlands: A seed bank study" 2012. Oral Presentation to Archbold Expeditions scientists.

PROFESSIONAL SERVICE ACTIVITIES

- Peer reviewer: Global Change Biology, Phil. Transactions B, Rhizosphere, Wetlands Ecology & Management
- CLIMMANI-INTERFACE workshop "After the extreme: Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded". Florence, Italy, April 2016. Poster presented.

OUTREACH EXPERIENCE

Group Mentor, Woman and Math (WAM)- **Durham, NC**

Science Camp Counselor, Females Excelling in Math, Engineering and Sciences- **Durham, NC**

Research Mentor, *Archbold Biological Station*- **Venus, FL**

Undergraduate Biology Advisor, *Kenyon College*- **Gambier, OH**

TEACHING EXPERIENCE

Teaching Assistant, BIOL 361: Field Ecology (Duke University)

Teaching Assistant, BIOL 212: General Microbiology (Duke University)

Head Teaching Assistant, BIOL 104: Biology of Female Sexuality (Kenyon College)

Teaching Assistant, BIOL 244: Experimental Animal Physiology (Kenyon College)