

Ryan J. Williams
Postdoctoral Research Associate
1340 Elings Hall
Ames, IA 50010

Email: ryanw@iastate.edu
Phone: 515-450-6809
Website: <http://ryanjw.github.io>
GitHub Repos: <https://github.com/ryanjw>

Professional Preparation

Iowa State University	Ecology & Evo. Biol. (EEB)	Ph.D. 2014
<i>Minor in Statistics</i>		
Oklahoma State University	Nat. Res. Ecol. & Mgmt. (NREM)	M.S. 2010
Texas A&M University	Biology	B.S. 2007

Appointments

Postdoctoral Research Associate, Ag. & Biosystems Engr., ISU	2015-present
Graduate Research Assistant, EEB, ISU	2010-2014
Guest Graduate Research Assistant, Argonne National Lab, IL	summer 2013
Graduate Research Assistant, NREM, OSU	2008-2010
Research Assistant, Texas A&M U., TX	2007-2008
NSF-REU Fellow, Texas A&M U., TX	2007

Publications

In prep for submission (manuscript can be provided)

Howe AC, **Williams RJ**, Yang F, Meyer F, Hofmockel KS. Identification of a minimal carbon-associated core soil metagenome. *In prep for submission*.

Williams RJ, Bach EB, Howe AC, Hofmockel KS. Multiple abiotic factors structure microbial communities at macro and micro scales concurrently with carbon and nitrogen pools. *In prep for submission*.

Published (3 first author; 4 contributing author)

Hargreaves SK, **Williams RJ**, Hofmockel KS. Environmental filtering of bacterial communities in agricultural soil shifts with crop growth. *Accepted at PLoS One*.

Prober, SM, Leff, JW...**Williams, RJ** [26th author],...(2014) Plant diversity predicts beta but not alpha diversity of soil microbes. *Ecology Letters* **18**(1), 85-95

Williams RJ, Howe A, Hofmockel KS (2014). Demonstrating microbial co-occurrence patterns within and between ecosystems. *Frontiers in Microbiology* 5:358.

Borer, ET,...**Williams, RJ** [52nd author]...(2014). Herbivores and nutrients control grassland plant diversity via light limitation. *Nature* **508**, 517-520.

Williams RJ, Hallgren SW, Wilson GWT, Palmer MW (2013). *Juniperus virginiana* encroachment into upland oak forests alters arbuscular mycorrhizal abundance and litter chemistry. *Applied Soil Ecology* 65, 23-30.

Williams RJ, Hallgren SW, Wilson GWT (2012) Frequency of prescribed burning in an upland oak forest determines soil and litter properties and alters the soil microbial community. *Forest Ecology and Management* 265, 241-247.

Burrell AM, Taylor KG, **Williams RJ**, Cantrell RT, Menz MA, Pepper AE (2011) A comparative genomic map for *Caulanthus amplexicaulis* and related species (Brassicaceae). *Molecular Ecology* 20 (4), 784-798.

Online Education/Outreach Resources

Williams RJ (2015) A walkthrough of co-occurrence analyses.
<http://co-occurrence.readthedocs.org/>

Conference Presentations and Posters (*1st author only included*)

Invited

Williams RJ, Harpole WS, Nutrient Network (2012). A global scale analysis of grassland soil stoichiometry using the Nutrient Network Global Research Cooperative. Results from the Nutrient Network Organized Oral Session, 97th Annual Ecological Society of America Meeting, Portland, OR.

Contributed

Williams RJ, Howe A, Hofmockel KS (2014) Mining soil metagenomes for ecologically relevant extracellular enzymes. 6th Annual Soil Metagenomics Meeting. St. Charles, IL.

Williams RJ, Hofmockel KS, Yang F, Hargreaves SK, Bach EM, Howe A, Keegan K, Meyer F (2013) Soil structure and agricultural management drives niche differentiation among soil microbial communities. 98th Annual Ecological Society of America Meeting, Minneapolis, MN.

Williams RJ, Howe A, Hofmockel KS (2013). Co-occurrence of microbial carbon cycling genes reveals diverse communities with similar functional capacity. 5th Annual Soil Metagenomics Meeting. Bloomingdale, IL. *Poster*

Williams RJ, Hofmockel KS (2013). Automated collection for fine-scale spatiotemporal sampling of soil greenhouse gas flux. Iowa EPSCoR 2013 All Hands Meeting, Cedar Falls, IA. *Poster*

Williams RJ, Hargreaves SK, Isenhardt TI, Schulte-Moore LA, Hofmockel KS (2011). The effect of landscape and cropping system on greenhouse gas emissions in an agroecosystem. 96th Annual Ecological Society of America Meeting, Austin, TX. *Poster*

Williams RJ, Hallgren SW (2011). Prescribed burning in an upland oak forest alters soil carbon and gram negative bacteria. 4th Annual Fire in Eastern Oaks Conference, Springfield, MO. *Poster*

Synergistic Activities

Contributor, Data Carpentry Genomics & Assessment Hackathon

2015

Instructor, Software Carpentry	2013-present
Undergraduate and Graduate Mentor, ISU (10 Under, 3 Grad)	2010-2014
Organizing Committee, EEB Recruitment Weekend	2011-2013
Chair, EEB Brown Bag Seminar Series	2012-2013
Vice President, EEB Graduate Student Organization	2012-2013
Social Chair, EEB Graduate Student Organization	2011-2012

Reviewed Articles for:

Applied Soil Ecology, Computational and Structural Biology, Forest Ecology and Management, Geoderma, Journal of Arid Land

Teaching Experience

Fall 2013 HON 321H: "Our Microbial World: Exploring the Role of Microbes in Ecosystem Processes"- Co-instructor with Sarah Hargreaves (ISU); class was designed by myself and S. Hargreaves

Spring 2012 EEOB 457/557: Microbial Ecology-Guest Lecturer

Professional Membership

Ecological Society of America 2011-present

Awards and Fellowships

Guest Graduate Research Assistant, Argonne National Lab, Argonne, IL	summer 2013
Honors Seminar Instructor Improvement Grant, ISU	2013
ESA Microbial Ecology Student Section Travel Award	2013
ESA Agroecology Student Section Travel Award (<i>returned due to 2 awards</i>)	2013
Professional Advancement Grant, ISU	2011, 2012, 2013
EEB Graduate Research Fellowship, ISU	2010
NREM Graduate Research Fellowship, OSU	2008
NSF-REU Fellowship, Texas A&M U.	2007