

# Maggie R. Wagner

## *Curriculum vitae*

### CONTACT INFORMATION

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### EDUCATION

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Ph.D., Genetics and Genomics, Duke University	2010 - 2016
Major Advisor: Thomas Mitchell-Olds	Durham, NC
B.S., Plant Biology, University of Michigan	2005 - 2009
<i>Highest Honors and Highest Distinction</i>	Ann Arbor, MI

### EMPLOYMENT

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NSF Plant Genome Postdoctoral Research Fellow	2016 - 2019
North Carolina State University, Oregon State University	Raleigh, NC Corvallis, OR
Co-advisors: Peter Balint-Kurti, James Holland, Posy Busby	

### PEER-REVIEWED PUBLICATIONS (\* denotes equal author contributions)

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See my Google Scholar profile for links and more information

7. Busby PE, C Soman, **MR WAGNER**, ML Friesen, J Kremer, A Bennett, M Morsy, J Eisen, J Leach, JL Dangl (2017) [Research priorities for harnessing plant microbiomes in sustainable agriculture](#). *PLoS Biology* 15(3): e2001793
6. D'Amato AW, DA Orwig, A Barker Plotkin, PK Schoonmaker, **MR WAGNER** (2017) [Long-term structural and biomass dynamics of virgin \*Tsuga canadensis\*-\*Pinus strobus\* forests following hurricane disturbance](#). *Ecology* 98(3): 721-733
  - This paper reports work done as an REU student at Harvard Forest (2009)
5. **WAGNER MR**, DS Lundberg, TG del Rio, SG Tringe, JL Dangl, T Mitchell-Olds (2016) [Host genotype and age shape the leaf and root microbiomes of a wild perennial plant](#). *Nature Communications* 7:12151

4. WAGNER MR, DS Lundberg, D Coleman-Derr, SG Tringe, JL Dangl, T Mitchell-Olds (2014) [Natural soil microbes alter flowering phenology and the intensity of selection on flowering time in a wild Arabidopsis relative.](#) Ecology Letters **17**: 717-726
  - *Featured*: Research Highlights, The role of the microbiome in shaping evolution. B Koskella (2014) Evolutionary Applications **7**: 519-520
  - This paper has a minor correction: Ecology Letters **18**: 218-220
3. Anderson JT\*, MR WAGNER\*, CA Rushworth, K Prasad, T Mitchell-Olds (2014) [The evolution of quantitative traits in complex environments.](#) Heredity **112**: 4-12
2. Olson-Manning CF, MR WAGNER, T Mitchell-Olds (2012) [Adaptive evolution: Evaluating empirical support for theoretical predictions.](#) Nature Reviews Genetics **13**:867-877
1. WAGNER MR (2012) [Ecological details matter in island biogeography: A case study on the Samoan orchids.](#) American Midland Naturalist **167**:1-12

## **PRE-PRINTS AND OTHER PUBLICATIONS**

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3. Geml J and MR WAGNER (2017) [Out of sight, but no longer out of mind: Towards an increased recognition of the role of soil microbes in plant speciation.](#) New Phytologist *in press*
2. WAGNER MR and T Mitchell-Olds (2017) [Plasticity of plant defense and its evolutionary implications in wild populations of \*Boechera stricta\*.](#) bioRxiv DOI: 10.1101/144626. In review at Evolution
1. WAGNER MR and T Mitchell-Olds (2011) [Repeated phenotypic changes highlight molecular targets of convergent evolution.](#) Genome Biology **12**(8): 124

## **MANUSCRIPTS IN PREPARATION (full drafts available on request)**

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1. WAGNER MR and T Mitchell-Olds. [Effects of abiotic and biotic soil variation on constitutive glucosinolate production in \*Boechera stricta\*.](#) Target journal: Plant and Soil

## GRANTS

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NCSU Plant Soil Microbial Community Consortium (\$50,000)	2017 - 2018
NCSU Plant Soil Microbial Community Consortium (\$50,000)	2016 - 2017
Doctoral Dissertation Improvement Grant (NSF - \$20,407)	2013 - 2016
Lewis and Clark Fund for Field Research (Am. Phil. Soc. - \$4,500)	2012
Rosemary Grant Award (Soc. for the Study of Evolution - \$2,000)	2012
Grant in Aid of Research (Duke U. Department of Biology - \$1,000)	2011 - 2012
Grant in Aid of Research (Sigma Xi - \$400)	2011

## FELLOWSHIPS AND AWARDS

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Plant Genome Postdoctoral Fellowship (NSF - \$216,000)	2016 - 2019
Harold Sanford Perry Prize for best dissertation research in the Plant Sciences (Duke University)	2016
Katherine Goodman Stern Fellowship (Duke University - \$22,030)	2015 - 2016
Graduate Research Fellowship (NSF - \$132,000)	2012 - 2015
James B. Duke Fellowship (Duke University - \$20,000)	2010 - 2013
Chancellor's Fellowship (Duke University - \$5,000)	2010

## TEACHING AND MENTORING

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Teaching assistant: BIO557 (Microbial Ecology Lab) 2016

- Sole instructor for 4 lab sessions

Undergraduate research mentor

9. Jessie Torres | North Carolina State U. 2017 - present
8. Joe Roberts | North Carolina State U. 2017 - present
7. Matthew Bucklin | North Carolina State U. 2017
6. Ilea Chau (honors thesis advisee) | Duke U. 2012 - 2016
5. Mary Skapek (honors thesis advisee) | Duke U. 2015 - 2016

4. Mary Elizabeth McLaughlin   Duke U.	2015
3. Cassie Yuan   Duke U.	2015
2. Ritujith Jayakrishnan,   Duke U.	2012 - 2013
1. Yvonne Lu   Duke U.	2012 - 2013
Guest lecturer: IB Biology, Hillside High School   Durham, NC	2010

## INVITED TALKS

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### Leaf microbiome composition and pathogen resistance share a genetic basis in maize

9. Ecol. Society of America organized oral session | New Orleans, LA Aug 2018

### Patterns and consequences of breeding-induced metagenome variation in maize.

8. Hanson Wade Microbiome AgBioTech Summit | Raleigh-Durham, NC Feb 2018  
7. Plant & Animal Genome conference XXVI workshop | San Diego, CA Jan 2018  
6. U. Oregon, Institute of Ecology and Evolution seminar | Eugene, OR Nov 2017  
5. Crop Science Society of America conference symposium | Tampa, FL Oct 2017  
4. Ecological Society of America organized oral session | Portland, OR Aug 2017

### Plant-associated microbiomes during host evolution in agriculture and in the wild.

3. East Carolina U., Research in Progress seminar | Greenville, NC Apr 2017

### Plasticity of glucosinolate content and implications for local adaptation in *Boechera stricta*.

2. U. Michigan Early Career Scientists Symposium | Ann Arbor, MI Mar 2017

### The role of soil microbes in local adaptation and the evolution of plant functional traits.

1. Ecological Society of America organized oral session | Baltimore, MD Aug 2015

## CONTRIBUTED PRESENTATIONS

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[ ] denote posters

### Patterns and consequences of breeding-induced metagenome variation in maize.

- [15.] Plant Animal Genome Conference XXV | San Diego, CA Jan 2017  
[14.] NSF Plant Genome Research Program conference | Arlington, VA Sep 2016

Effects of host genotype and glucosinolate content on the foliar microbiome of a wild *Arabidopsis* relative.

[13.] Phytobiomes Symposium | Santa Fe, NM Nov 2016

The role of soil microbes in local adaptation and the evolution of plant functional traits.

[12.] Duke Joint Ecology/Marine Lab Symposium | Beaufort, NC Nov 2015

[11.] U. Michigan Early Career Scientists Symposium | Ann Arbor, MI Mar 2015

[10.] Duke Genomics of Microbial Systems Symposium | Durham, NC Nov 2014

Genotype-environment interactions shape expression of quantitative traits in a wild *Arabidopsis* relative.

9. Duke Genetics and Genomics student seminar series | Durham, NC Oct 2014

Soil microbial communities cause differential selection and plasticity of flowering time in the wild mustard *Boechera stricta*.

8. Society for Study of Evolution annual conference | Raleigh, NC Jun 2014

- *Finalist, Hamilton Award for Outstanding Student Presentation*

7. American Society of Naturalists conference | Asilomar, CA Jan 2014

6. Duke Population Biology seminar series | Durham, NC Sep 2013

Approaches to studying the evolution of genotype-environment interactions.

5. Duke Population Biology seminar series | Durham, NC Apr 2013

Do genotype-environment interactions shape secondary chemistry and the microbiome?

[4.] 12<sup>th</sup> Gordon Research Conference | Ventura, CA Feb 2013

[3.] 28<sup>th</sup> New Phytologist Symposium | Rhodes, Greece May 2012

Habitat-specific regulation of glucosinolate content by a wild *Arabidopsis* relative.

2. Duke Genetics and Genomics student seminar series | Durham, NC Sep 2011

1. International *Boechera* Community Summit | Fort Collins, CO Jun 2011

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## **PROFESSIONAL ACTIVITIES AND SERVICE**

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Invited speaker, North Carolina Microbiome Consortium, Durham, NC, May 2017

Invited panel speaker, University of North Carolina Clean Tech Summit  
“Can Biologicals Meaningfully Increase Food Production While Protecting the Environment?” Chapel Hill, NC, March 2017

Invited participant, AgMicrobiomes Consortium Meeting, Asilomar, CA, March 2016

Ecological Society of America, 2015 - present

Co-organizer, Duke Population Biology Seminar Series, 2013 - 2014

Co-chair, Duke Biology Graduate Student Steering Committee, 2012-2013

Society for the Study of Evolution, 2011-2013

Manuscript review: American Fern Journal, Ecology Letters, Environmental and Experimental Botany, Environmental Microbiology (2), FEMS Microbiology Letters, Functional Ecology (2), Microbiome, Molecular Ecology, Molecular Ecology Resources, mSphere, Nature, Nature Communications, New Phytologist (3), Phytobiomes, Proceedings of the National Academy of Sciences, Soil Biology and Biochemistry

## **OUTREACH AND COMMUNITY SERVICE**

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DNA Day Ambassador | Southern Vance High School, Henderson, NC April 2017

Speaker, CALS Partners Meeting on academic-farmer-industry partnerships | Raleigh, NC March 2017

Consultant, The Science and Entertainment Exchange of the National Academy of Sciences | Los Angeles, CA 2014—present

Duke Center for Science Education | Durham, NC 2013—2014  
Designed and coordinated outreach event at Lowe’s Grove Middle School, “Food Fight: Evolution of Plant Defenses”

Co-founder and co-chair, Duke Biology Outreach Committee 2013-2014

Science and Earth Connections volunteer, Girl Scouts of the Silver Sage Council | Shoup, ID 2011