

Schuyler D. Smith

Ph.D. Candidate - Bioinformatics and Computational Biology
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Education

Ph.D.	Bioinformatics and Computational Biology	pres.
	Iowa State University of Science and Technology, Ames, IA	
M.S.	Quantitative Genetics	2015
	Texas A&M University, College Station, TX	
B.S.	Genetics	2012
	Iowa State University of Science and Technology, Ames, IA	

Experience

Iowa State University of Science and Technology	2017 - pres.
Genomics and Environmental Research in Microbial Systems Lab, Ames, Iowa	
Graduate Research Assistant - Ph.D.	
University of Wisconsin-Madison	2015 - 2016
Potato Breeding and Genetics Laboratory, Madison, Wisconsin	
Graduate Research Assistant - Ph.D.	
United States Department of Agriculture - ARS	2014
Arid-Land Agricultural Research Center. Maricopa, Arizona	
Biological Science Technician (Internship)	
Texas A&M University	2013 - 2015
Maize Breeding and Genetics Program, College Station, Texas	
Graduate Research Assistant - M.S.	
Monsanto Company	2012
Huxley Research Station. Huxley, Iowa	
Maize Breeding Intern	
DuPont Pioneer	2011
Willmar Research Station. Willmar, Minnesota	
Maize Product Trait Development Intern - 6 month	
United States Department of Agriculture - ARS	2010 - 2011
Soybean Genomics Laboratory - Graham Lab. Ames, Iowa	
Undergraduate Research Assistant	

Publications

- Schuyler D. Smith**, P Colgan, F Yang, EL Rieke, ML Soupier, TB Moorman, HK Allen, A Howe. *Investigating the dispersal of antibiotic resistance associated genes from manure application to soil and drainage waters in simulated agricultural farmland systems*. PLOS One. journal.pone.0222470 September, 2019.
- Schuyler D. Smith** *phyloSMITH: an R-package for reproducible and efficient microbiome analysis with phyloseq-objects*. Journal of Open Source Software. 10.21105/joss.01442 June, 2019.
- J Choi, EL Rieke, TB Moorman, ML Soupier, HK Allen, **SD Smith**, A Howe. *Practical implications of erythromycin resistance gene diversity on surveillance and monitoring of resistance*. FEMS microbiology ecology. 10.1093/femsec/fiy006 January, 2018.
- Schuyler D. Smith**, E Heffner, SC Murray. *Molecular analysis of genetic diversity in a Texas maize breeding program*. Maydica. cabdirect.org/abstract/201 2015.

Posters

- Smith, S.D.** *phyloSMITH: an R-package for reproducible and efficient microbiome analysis with phyloseq-objects*. Presented at the 27th ISMB/18th ECCB. 2019, July 21-25. Basel, Switzerland.
- Smith, S.D.**, Villanueva, P.E., Fukami, T., Howe, A. *Co-Occurrence Networks Reveal Key OTUs in Flower Nectar Microbiomes Across Dispersal Treatments*. Presented at the 17th ISME. 2018, August 12-17. Leipzig, Germany & the NSF Research Traineeship (NRT) Annual Meeting. 2018, September 27-28. Arlington, Virginia.
- Smith, S.D.**, Howe, A. *Examining Antibiotic Resistance Gene (ARG) horizontal transfer and introduction through farmland soil microbiomes as a result of modern farming practices*. Presented at the 3rd Annual Front Range Computational & Systems Biology Symposium: Microbiome. 2017, June 12-13. Fort Collins, Colorado.
- Smith, S.D.**, Endelman, J.B. *Genotyping by Sequencing for Autotetraploid Species*. Presented at the 5th International Conference on Quantitative Genetics. 2016, June 12-17. Madison, Wisconsin. & the 11th Annual National Association of Plant Breeders Meeting. 2016, August 15-18. Raleigh, North Carolina.

Software

phyloSMITH: an R-package for reproducible and efficient microbiome analysis with phyloseq-objects.

Awards, Fellowships, Honors, & Recognitions

Iowa State University of Science and Technology

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| • Selected P3 representative for 2018 NSF-NRT Annual Meeting | 2018 |
| • College of Engineering Interdepartmental Research Fellow | 2017 - pres. |
| • NSF-NRT Predictive Plant Phenomics Fellow | 2017 - 2018 |
| • Academic Recognition Award | 2008 - 2012 |

Texas A&M University

- Willie May Harris Fellow

2013 - 2014

Certifications

- Data Carpentry - Course Instructor 2017

Outreach and Workshops Taught

- Data Carpentry: Ecology Workshop - Python 2019
- Girls in Science Initiative 2019
Science Center of Iowa, Des Moines, IA
- Introduction to Data Analysis for Biology Graduate Students. 2017 & 2018
Iowa State University, Ames, IA
- EDAMAME: *Explorations in Data Analyses for Metagenomic Advances in Microbial Ecology.* 2017 & 2018
- BCB Data Analysis Language Workshops
Introduction to Unix 2017 & 2018
Introduction to Python 2017

Applicable Skills

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|----------|----------------|-----------------------------------|-----------|
| • R | • Shell (BASH) | • L ^A T _E X | • Linux |
| • C++ | • SQL | • Markdown | • Windows |
| • Python | • html | • Git | • MacOS |