

Schuyler D. Smith

Ph.D. Candidate - Bioinformatics and Computational Biology
Department of Agriculture and Biosystems Engineering
College of Engineering
Iowa State University of Science and Technology

+1 (413) 212-9110
schuyler.d.smith@gmail.com
[Google Scholar](#)
github.com/schuyler-smith
4332 Elings Hall
605 Bissell Rd
Ames, IA 50011-10981

Education

Ph.D.	Bioinformatics and Computational Biology	ABD
	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 Soupир, 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 Soupир, 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.

Workshops Taught

- Data Carpentry: Genomics
George Washington University, Washington, D.C. 2020
- Data Carpentry: Ecology
Upper Gwynedd, PA 2019
- Girls in Science Initiaive
Science Center of Iowa, Des Moines, IA 2019
- Data Analyses for Metagenomic Advances in Microbial Ecology
Kellog Research Station, Hickory Corners, MI 2017 & 2018
- Introduction to Data Analysis for Biology Graduate Students.
Iowa State University, Ames, IA 2017 & 2018
- Iowa State BCB Data Analysis Language Workshops
Introduction to Unix 2017 & 2018
Introduction to Python 2017

Awards, Fellowships, Honors, & Recognitions

Iowa State University of Science and Technology

- 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

Applicable Skills

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