

Samantha Snodgrass

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Education

Grinnell College

Bachelor of Arts in Biology, Environmental Studies

- GPA 3.823 | 4.00, 160.0 credits
- Phi Beta Kappa
- Departmental Honors

Grinnell, IA

May 2016

Iowa State University

Ph. D. Candidate in Plant Biology

- GPA 4.00 | 4.00, 55.0 credit hours **(2017-current)**
- Promoted to candidate **(November 2019)**

Ames, IA

ABD

NSF Research Traineeship Program: Predictive Plant Phenomics **(2018)**

- Joined by competitive invitation
- Interdisciplinary training in plant biology, data science, and engineering

Workshops

Summer Institute of Statistical Genetics **(July 2018)** University of Washington

- Computational and advanced population genetics workshop

P3 Data Carpentry Boot Camp **(August 2018)** Iowa State University

- Introduction to Unix, Python, and R languages

Preparing Future Faculty **(August 2020-)** Iowa State University

- Multiple-semester program to prepare graduate students and post-doctoral fellows for careers in academia

Fellowships, Scholarships, Awards

NSF Graduate Research Fellowship Program Fellow **(April 2019)**

2020 ASPB Conviron Scholar **(December 2019)**

Predictive Plant Phenomics peer mentoring award **(May 2020)**

Employment and Research Experience (in chronological order)

Research Assistant, Iowa State University (August 2017 –)

- Performed research with labs on rotation in maize, fig wasp, and cotton systems
- Currently a member of Dr. Matthew Hufford's research group **(April 2018 -)**

Partners in Education Post Bachelorate Fellow, Grinnell College (January 2017 – May 2017)

- Provide tutoring and other forms of support for at risk first year undergraduate students
- Conduct outreach for students to engage them in the program and other opportunities

Conservation and Land Management Internship Program (Chicago Botanic Garden) and the Bureau of Land Management, Anchorage, Alaska, Eric Geisler. (June 2016- November 2016)

- Seeds of Success program: Identified plants in the field and lab, collected and cleaned seed for research and restoration, used ArcGIS to map collection areas
- AIM monitoring project: Conducted AIM protocol on placer mines
- ANSEP Outreach: Presented forestry careers to low income and minority middle school students as part of a long-term program to increase diversity in the STEM fields, particularly focused on Native Alaskans

Prof. Wendel Lab Research Assistant, Iowa State University (Summer 2015)

- Conducted microscopy research on *Gossypium* cell size

Mentored Advanced Project (MAP) on Sustainability in Grinnell (Spring 2015-Spring 2016)

- Focus on storm water management and landscaping
- Extensive literature research
- Designed survey to collect local opinions about water and landscaping
- Interviewed members of the community for opinions and management ideas

Undergraduate Biology Mentor

- Biology 251: Molecules Cells and Organisms (Fall 2014, 2015)
- Biology 252: Organisms, Evolution and Ecology (Spring 2016)
 - Conducted twice weekly, hour long mentor sessions for the class
 - Facilitated discussion on biological concepts

Publications and Presentations

Publications

In Review: Gates, D.J., D. Runcie, G.M. Janzen, A. Romero-Navarro, M. Willcox, K. Sonder, **S.J. Snodgrass**, F. Rodríguez-Zapata, R.J.H. Sawers, R. Rellán-Álvarez, E.S. Buckler, S. Hearne, M.B. Hufford, J. Ross-Ibarra. Single-gene resolution of locally adaptive genetic variation in Mexican maize. [[preprint](#)]

Ou, S., J. Liu, K.M. Chougule, A. Fungtammasan, A.S. Seetharam, J. Stein, V. Llaca, N. Manchanda, A.M. Gilbert, X. Wei, C. Chin, D.E. Hufnagel, S. Pedersen, **S. Snodgrass**, K. Fengler, M. Woodhouse, B.P. Walenz, S. Koren, A.M. Phillippy, B. Hannigan, R.K. Dawe, C.N. Hirsch, M.B. Hufford, Doreen Ware. **2020**. Effect of sequence depth and length in long-read assembly of the maize inbred NC358. *Nature Communications* In Press [[preprint](#)]

Snodgrass, S.J., M.B. Hufford. **2018**. “Domestication Genomics: untangling the complex history of African rice”. *Current Biology*. 28: R786-R788

Manchanda, N., **S.J. Snodgrass**, J. Ross-Ibarra, M.B. Hufford. **2018**. Evolution and adaptation in the maize genome. In *The Zea mays Genome*, Bennetzen, Flint-Garcia, Hirsch, Tuberosa (Eds.), Springer Nature Publishing

Snodgrass, S., Jareczek, J., Wendel, J. F. 2017. “An examination of nucleotypic effects in diploid and polyploid cotton” *Annals of Botany* **9**: plw082; doi:10.1093/aobpla/plw082

Presentations

Plant and Animal Genome Conference **January 14, 2020** “Heterosis in the Genomics Era: Single Parent Expression”

P3 Symposium **November 9, 2018** “Hybrid Maize in the Genomics Era: Single Parent Expression, Complementation, and Heterosis”

Iowa State Interdepartmental Plant Biology Student Seminar **August 29, 2018** “Exploring Hybrid Maize in the Genomics Era: single parent expression, complementation, and heterosis”

Iowa State Interdepartmental Plant Biology Student Seminar Series **December 6, 2017** “Nucleotypic effects on guard cells, epidermal pavement cells, and pollen grains in *Gossypium*”

Research, Scholarship, and Creative Activity Symposium at Grinnell College **April 12, 2016** “Stormwater and Landscaping on Grinnell College's Campus”

Awarded admittance into the digital archive of student scholarship of the Grinnell College Library (<https://digital.grinnell.edu/islandora/object/grinnell%3A13258>)

Grinnell College Biology Department Student Seminar **February 23, 2016** “Nucleotypic effects on guard cells, epidermal pavement cells, and pollen grains in *Gossypium*”

Poster Sessions

Annual Maize Genetics Conference, **March 14-17, 2019** St. Louis “Hybrid maize in the genomics era: single parent expression, complementation and heterosis”

Midstates Consortium Conference for Physical Science, **November 13, 2015** Chicago “Water and Landscape Management on Grinnell College Campus”

AASHE Conference **October 27, 2015**, Minneapolis “Lessons from Germany to the US 2: Water”

Grinnell College Family Weekend **September 23, 2015** “Lessons from Germany to the US 2: Water”

Service

MaizeGDB Editorial Board Member (**January 2020-**)

- Found and summarized papers for the monthly paper spotlight of MaizeGDB

Plant Biology GSO, Iowa State University

- Vice President (**2018**)
- President (**2019**)

Predictive Plant Phenomics GSO, Iowa State University

- Social Media Chair (**2019**)