

Gabrielle D. Sandstedt

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EDUCATION

2016-2022 Ph.D., Department of Genetics, University of Georgia, Athens, GA.
2013-2016 B.S. (Biology) *magna cum laude*. Arizona State University West Campus, Glendale, AZ

RESEARCH EXPERIENCE

2017-2022 University of Georgia, Department of Genetics.
Graduate Student Research Assistant with Dr. Andrea Sweigart

- Dissertation topic: Evolutionary, developmental, and genetic mechanisms of reproductive isolation in yellow monkeyflowers, *Mimulus*.

2016 University of Georgia, Department of Genetics
Graduate Student Research Rotation Student with Dr. Michael White

- Examined the evolution of a neo-Y chromosome of the three-spined stickleback, *Gasterosteus aculeatus*, using bioinformatics.

2016 University of Georgia, Department of Genetics
Graduate Student Research Rotation Student with Dr. Allen Moore

- Conducted mating trials of burying beetles, *Nicrophorus vespilloides*, to associate their behaviors with the expression of *inotocin*, a gene involved in pair-bond formation.

2015 University of Texas Southwestern, Department of Developmental Biology
Summer Undergraduate Research Fellow with Dr. Huaqi Jiang

- Identified enhancer regions involved in the homeostasis and regeneration of intestinal stem cells in the midgut of adult fruit flies, *Drosophila melanogaster*.

2014-2016 Arizona State University-West Campus
Undergraduate Research Assistant with Dr. Pamela Marshall

- Determined fungicidal effect of potential anti-fungal agents on yeast, *Saccharomyces cerevisiae*.

PUBLICATIONS

Peer Reviewed

2021 Sandstedt, G. D., Wu, C. A., & Sweigart, A. L. (2021). Evolution of multiple postzygotic barriers between species of the *Mimulus tilingii* complex. *Evolution* DOI: <https://doi.org/10.1111/evo.14105>*

*Featured in *Evolution Digest: The role of postzygotic isolation in Mimulus speciation*.

Preprint

2022 Sandstedt, G. D. & Sweigart, A.L. (2022). Developmental evidence for parental conflict in driving *Mimulus* species barriers. *bioRxiv*.

AWARDS/HONORS

Awarded

2021 Robin Hightower Award, University of Georgia, Department of Genetics (\$1000)
2020 Genetics Graduate Student Association Travel Award for Professional Development, University of Georgia, Department of Genetics (\$1000)
2019 Society for the Study of Evolution Travel Stipend for 2019 Evolution Meeting in Providence, Rhode Island (\$500)
2019 Genetics Graduate Student Association Travel Award for Professional Development, University of Georgia, Department of Genetics (\$1000)
2019-20 Jan and Kirby Alton Fellowship, University of Georgia, Department of Genetics (\$28,000)

- 2018-19 NIH Genetics Training Grant Fellowship, University of Georgia Graduate School (\$28,000)
- 2018 Genetics Graduate Student Association Travel Award for Professional Development, University of Georgia, Department of Genetics (\$500)
- 2017-18 GRO fellowship, University of Georgia Graduate School (\$25,000)
- Honorable Mention*
- 2017 *Investigating developmental and genetic mechanisms underlying hybrid seed lethality between Mimulus species.* National Science Foundation Graduate Research Fellowship Program.

PRESENTATIONS/POSTERS

Presentations

- 05/2022 *Investigating the developmental, genetic, and evolutionary underpinnings of postzygotic barriers in Mimulus*, Exit Seminar, Athens, GA.
- 06/2021 *Investigating differences in endosperm balance number among Mimulus species and its involvement in hybrid seed inviability*, The Evolution Conference (Virtual).
- 04/2021 *Investigating the evolutionary, developmental, and genetic underpinnings of postzygotic barriers in Mimulus*. Enthusiasts of Diversity, Genetics, and Evolution (EDGE), Athens, GA.
- 03/2021 *Investigating differences in endosperm balance number among Mimulus species and its involvement in hybrid seed inviability*, Plant Functional Genomics (PFG), Athens, GA.
- 06/2019 *Rapid evolution of postzygotic reproductive isolation among Mimulus tilingii groups*, The Evolution Conference, Providence, RI.
- 03/2019 *Closely related Mimulus tilingii taxa are morphologically and genetically distinct and strongly reproductively isolated*, Plant Functional Genomics (PFG), Athens, GA.
- 10/2018 *Morphological differentiation and reproductive isolation among Mimulus species*. Enthusiasts of Diversity, Genetics, and Evolution (EDGE), Athens, GA.
- 10/2018 *Parent-of-origin effects on hybrid seed lethality between populations of the Mimulus tilingii species complex*. Southeastern Population Ecology and Evolutionary Genetics (SEPEEG), Mountain Lake Biological Station, VA.

Posters

- 10/2019 *Rapid evolution of postzygotic reproductive isolation among M. tilingii groups*. The Plant Center Retreat, Helen, GA.
- 03/2019 *Closely related Mimulus tilingii taxa are morphologically and genetically distinct and strongly reproductively isolated*, Speciation Gordon Research Conference, Ventura, Ca.
- 09/2018 *Incipient divergence within the Mimulus tilingii species complex*. The Plant Center Retreat, Helen, GA.
- 05/2018 *Reciprocal differences in hybrid seed lethality within the Mimulus tilingii species complex*. Population, Evolutionary, and Quantitative Genetics Conference, Madison, WI. (Poster)
- 10/2017 *Reciprocal differences in hybrid seed lethality between subspecies in the Mimulus tilingii complex*. The Plant Center Retreat, Helen, GA.
- 06/2017 *Reciprocal differences in hybrid seed lethality between subspecies in the Mimulus tilingii complex*. The Evolution Conference, Portland, OR.
- 04/2016 *Antimicrobial activity of natural product extracts from a Botánica in Phoenix, Arizona against Saccharomyces cerevisiae*. Undergraduate Research and Creative Projects Symposium, Glendale, AZ.
- 08/2015 *Identification of intestinal stem cell enhancers in the adult Drosophila melanogaster midgut*. Summer Undergraduate Research Fellowship Program, Dallas, TX.

MENTORING AND TEACHING

- 2021 Teaching Assistant, Department of Genetics, University of Georgia. GENE 3200.
- 2020-2022 Graduate Laboratory Assistant, University of Georgia, BIO1104L.

- 2020-2022 Undergraduate Mentor to Jaylin Knight, *determining the genetic basis of F1 hybrid sterility in Mimulus*, University of Georgia.
- 2019-2020 Supervised undergraduate thesis research for Jasmine Hawkins, *Using chromosome squashes to investigate differences in chromosome number among the Mimulus tilingii species complex*, University of Georgia.
- 2019-2020 Supervised undergraduate thesis research for Jenna Mathwig, *Quantifying hybrid necrosis within Mimulus tilingii*, University of Georgia.
- 2018-2020 Undergraduate Mentor to Tylanna Baker, determining mechanistic basis of hybrid seed lethality between *Mimulus* species, University of Georgia.
- 2018 Research Experience Undergraduate Mentor to Sydney Dilworth, characterizing reproductive isolation within *M. tilingii* species complex, University of Georgia.
- 2017-18 Supervised undergraduate thesis research for Mason Lin, *Quantifying reproductive isolation within the Mimulus tilingii species complex*, University of Georgia.
- 2017 Teaching Assistant, Department of Genetics, University of Georgia. GENE 3200, ¼ TA position consisting of grading.

OUTREACH / SERVICE

- 2021 Advocates for anti-racism in life sciences at UGA Mentoring Program. Athens GA.
- 2020 Writer and reviewer for Athens Science Observer. Athens, GA.
- 2019 Volunteer for Career Day at East Jackson Elementary School. Athens, GA.
- 2018-2019 Genetics Graduate Student Association Secretary. University of Georgia, Athens, GA.
- 2018-2020 Vice President of Membership for Athens Science Café. Athens, GA.
- 2018-2019 Volunteer at Experience UGA Science Fair for Cedar Shoals, speaking with high school students about research opportunities at UGA, Athens, GA.
- 2017-2022 Programming board member for Athens Science Café, Athens, GA.
- 2017 Volunteer representative at Genetics Graduate Student Association STEMzone booth, Athens, GA.
- 2017-19 Volunteer Junior Judge at Georgia Science and Engineering Fair. Athens, GA.
- 2017 Volunteer at Sandy Creek Nature Center, Athens, GA.

ADDITIONAL TRAINING

- 2021 Training in Equity, Diversity, and Inclusion. University of Georgia, Athens, GA.
- 2019 Professional Development Workshop. Plant Center Retreat, Helen, GA.
- 2019 Diverse Careers Workshop. The Evolution Conference, Providence, RI.
- 2018 Professional Development Workshop. Plant Center Retreat, Helen, GA.
- 2018 Mentoring workshop. Plant Center Retreat, Helen, GA.
- 2018 Introduction to R Language. University of Georgia, Athens, GA.
- 2018 Research Experience Undergraduate Mentor Workshop. University of Georgia, Athens, GA.
- 2017 Grant writing and review process workshop. Plant Center Retreat, Helen, GA.
- 2017 Work-life balance workshop. Plant Center Retreat, Helen, GA.
- 2016 *Python Language Basics I & II*. University of Georgia. Athens, GA.
- 2015 Society for Advancement of Chicanos/Hispanics and Native Americans in Science, University of Texas Southwestern. Dallas, TX.
- 2015 *General Topics in Genetics*. Summer Undergraduate Research Fellowship, University of Texas Southwestern. Dallas, TX.