

Katelyn J. Butler, Ph.D.

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Summary

As a biology educator, I am a passionate advocate of evidence-based teaching and learning practices. My biological expertise is in molecular plant sciences, but I enjoy teaching across the biology curriculum and mentoring undergraduate research students. My mission as an educator is to instill in all my students a relentless curiosity, unwavering confidence, and robust science-nerd excitement as they discover their place in the biological field.

Education

Ph.D. Plant Pathology; University of Wisconsin – Madison

Thesis: *Investigating soybean cyst nematode resistance: Efficacy of Rhg1 in diverse plant species and the identification of novel resistance mechanisms from wild soybean*

Advisor: Andrew F. Bent, PhD

Minor: Plant Breeding, Plant Genetics

B.A. Biology; Judson University, Honors Program

Minor: Chemistry, *Summa cum laude*.

Teaching

Assistant Professor of Biology and Department Chair; Anderson University | 2020 – Present

Courses taught: Non-Majors Biology, Microbiology Labs, Nursing Microbiology Labs, Introductory Plant Biology, Advanced Molecular Biology & Genetics, Plant Pathology, Cell Biology, First Year Experience

Assistant Professor of Biology; Anderson University | 2018 – 2020

Courses taught: Non-Majors Biology, Microbiology Labs, Nursing Microbiology Labs, Introductory Plant Biology, Advanced Molecular Biology & Genetics, Plant Pathology, Cell Biology, First Year Experience

WISCIENCE Scientific Teaching Fellow; University of Wisconsin – Madison | 2017

Extensive training and application of evidence-based teaching; Co-developed and taught freshman science seminar of 20 students.

Teaching Assistant; University of Wisconsin – Madison | 2016

Responsible for two lab sections of 20 non-major students each, guest lecture to class of 150. Graded lab reports and exams, provided lead instruction during labs, and helped students with experimental design.

Professional Activities, Service & Outreach

AP Biology Reader | 2020

STEM Field Trip, Biology Leader, Anderson University | 2018-Present

Developed and led hands-on laboratory activities for local high school students visiting Anderson University.

What's Eating my Plants, University of Wisconsin-Madison | 2013-18

Developed and led outreach activities to a wide variety of audiences. Events include: Boy Scouts Plant Science Merit Badge Workshop (2015,2017), Wisconsin Youth Institute – World Food Prize (2016), Expanding Your Horizons (2015,2016), Family Science Nights (2014-2017), Latino Youth Summit (2014)

APS Idea Café Table Host, Plant Health San Antonio, TX | 2017

Co-Led a discussion on impostor phenomenon at the annual American Phytopathological Society. Well-attended by APS members from across career stages.

Chairperson; Plant Pathology Graduate Colloquium, University of Wisconsin-Madison | 2015-16

Led team of six graduate students responsible for organizing seminars, serving as student-faculty liaisons on committees, and planning student events. Developed and implemented student body opinion survey that was well received by department faculty.

Seminar Organizer; Plant Pathology Graduate Colloquium, University of Wisconsin-Madison | 2014-15

Elected councilmember. Responsible for organizing student-led professional development seminar. Student representative on the department curriculum committee.

Publications

Butler KJ. 2020. Green Design: How do leaf structures optimize photosynthesis and promote survival? CourseSource. <https://doi.org/10.24918/cs.2020.17>

Butler, K. J., Chen, S., Smith, J. M., Wang, X., & Bent, A. F. (2019). Soybean Resistance Locus *Rhg1* Confers Resistance to Multiple Cyst Nematodes in Diverse Plant Species. *Phytopathology*, 109(12), 2107–2115. <https://doi.org/10.1094/PHYTO-07-19-0225-R>

McPherson, B.D., **Butler, K.J.** (2019) Writing Children's Stories to Improve Engineering Student's Communication with Non-Engineering Audiences. Proceedings of the 2019 ASEE Illinois-Indiana Section Conference, March 22-23, 2019. DOI: [10.5703/1288284316906](https://doi.org/10.5703/1288284316906)

Horgan, K. & Henderson, J. (2015). Resistance genes of *Oryza sativa* for protection against *Xanthomonas oryzae* pv. *oryzae*, the causative agent of bacterial leaf blight. *Journal of Student Research*, 4(1), 12-17.

Horgan, K. & Henderson J. (2015). miRNA mediated post-transcriptional gene regulation in response to abiotic stress in plants. *Journal of Student Research*. 4(1), 21-28.

Oral & Poster Presentations

Butler KJ, McPherson BD. Writing Children's Stories improves STEM major non-specialist communication. Poster. Plant Biology National Meeting. San Jose, CA. August 2019.

Butler, KJ. Modern Day Plant Disease Epidemics: How our favorite foods are threatened. Anderson University Science and Engineering Lecture Series. Oral Presentation. Anderson, IN. March 2019.

Butler, KJ. Nematodes, beans and genes. Association of Colleges of the Chicago Area Chemistry Seminar Series. Oral Presentation. Judson University. Elgin, IL. October 2017.

Butler, KJ., Soybean resistance locus *Rhg1* confers resistance to cyst nematodes in diverse plant families. Oral presentation. Plant Health National Meeting. San Antonio, TX. August 2017.

Horgan, KJ., 7 Grand Challenges of Global Food Security. Students and Post Doc Seminar. Oral presentation. University of Wisconsin-Madison. Madison, WI. October 2015.

Horgan, KJ., et. al. Towards the identification of novel soybean cyst nematode resistance genes. Poster presentations.

International Society of Plant-Microbe Interactions. Portland, OR. July 2016

Norman Borlaug Summer Institute for Global Food Security. West Lafayette, IN. June 2015.

Cook, D.E., **Horgan, KJ.,** et. al. Distinct copy number, coding sequence and locus methylation patterns underlie *Rhg1* mediated soybean resistance to soybean cyst nematode. Poster presentations.

International Society for Molecular Plant Microbe Interactions. Rhodes, Greece. July 2014

Molecular and Cellular Biology of the Soybean Conference. Minneapolis, MN. August 2014

Horgan, KJ., Creation of a geranyl pyrophosphate synthase-limonene synthase self-processing polyprotein to improve limonene production in *Camelina sativa*. Oral presentations.

National Conference for Undergraduate Research. LaCrosse, WI. April 2013.

Judson University Student Research Symposium. Elgin, IL. April 2013.

Danforth Plant Science REU Symposium. St. Louis, MO. August 2012

Student Oral & Poster Presentations

Hackler CA, **Butler KJ.** Investigating the role of gamma-SNAP in *Arabidopsis* root development. Butler Undergraduate Research Conference. Student oral presentation. Indianapolis, IN. April 2020.

*Cancelled but Accepted

Grants & Awards

Transforming Education in Plant Biology; American Society of Plant Biologists (\$4500)	2019-2021
PUI Faculty Travel Award, American Society of Plant Biologists (\$2000)	2019
Travel Award, <i>Course Source</i> Writing Workshop	2019
William T. Dibble Terra International Inc. Scholarship	2017
Borlaug Summer Institute Fellow	2015
Presidential Scholars Award	2013
NSF REU Internship	2012

Student Research Projects

Brooke Franz – Investigating the Role of gamma-SNAP in *Arabidopsis* osmotic stress response | 2020

Carly Hackler – Investigating the role of gamma-SNAP in *Arabidopsis* root development. | 2019-2020
 Hackler CA, **Butler KJ**. Investigating the role of gamma-SNAP in *Arabidopsis* root development. Butler Undergraduate Research Conference. Student oral presentation. Indianapolis, IN. April 2020.

Conner Hoover – NASA SEEDS– Will space radiation impact tomato growth and development? | 2020

Victoria Baver, Mallory Cloer, Katherine Essick, Carly Hackler, Bryce Holt, Samantha Kagey – Investigating bacterial antagonism of *Penicillium digitatum* for potential biological control. Plant Pathology CURE | 2020

Mallory Cloer – Biological antagonism of *Fusarium* spp. by soil-dwelling bacteria | 2020

Collaborated Articles

Teaching Science to Nonmajors? Rethink the Goals and Assessments (2020). Course Hero.
<https://www.coursehero.com/faculty-club/best-lessons/katelyn-butler/>

Butler, K.J., Marks M.E., (2018) Impostor Syndrome and You: A Discussion of a Little-Discussed Phenomenon. IS-MPMI Newsletter. <http://ow.ly/bkN530idAgC>

Current Professional Affiliations

American Society of Plant Biologists	2018-Present
PUI Section	
Midwest Section	

Updated: June 18, 2020