

## Evan A. Perkowski

Ph.D. Candidate

Smith Plant Ecophysiology Lab

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### Education

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#### Ph.D. Biology

**Expected May 2023**

Texas Tech University, Lubbock, TX

Major Advisor: Dr. Nicholas G. Smith

Dissertation: "The influence of nutrient acquisition and nutrient allocation on plant responses to environmental change"

#### B.S. Biology

Widener University, Chester, PA

**May 2018**

Advisor: Dr. Janice L. Krumm

Thesis: "Fungal endophyte complex affects *Capsicum annuum* growth and drought tolerance"

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### Professional Appointments

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Treasurer, West Texas Association for Botany – 2021-2022.

Executive Board, Texas Tech University Association of Biologists – Dept. of Biological Sciences, 2020-2022.

Vice President, Texas Tech University Association of Biologists – Dept. of Biological Sciences, 2019-2020.

Graduate Teaching Assistant, Texas Tech University – Dept. of Biological Sciences, 2018 to present.

Georeferencing Assistant, Delaware Museum of Natural History, 2017-2018.

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### Selected Awards and Fellowships

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**Helen DeVitt Jones Graduate Fellowship.** 2021-2023. Texas Tech University.

**Graduate Research Fellowship Program – Honorable Mention.** 2019. National Science Foundation.

**Outstanding Undergraduate Researcher.** 2018. Widener University.

**First Place Undergraduate Poster Presentation.** 2018. Mid-Atlantic Ecological Society of America.

**William R. Bailey Scholarship and Research Award.** 2017. Widener University.

**Nicholas D. Caputo Student-Faculty Research Collaboration Award.** 2016. Widener University.

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### Selected Research and Travel Awards

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**Texas Ecological Laboratory.** 2021. "Defining drivers of plant nitrogen across resource gradients to improve agricultural, ranch, and wildlife management II". Graduate researcher. PI: Nicholas G. Smith. \$13,155.72.

**Texas Ecological Laboratory.** 2020. "Defining drivers of plant nitrogen across resource gradients to improve agricultural, ranch, and wildlife management". Graduate researcher. PI: Nicholas G. Smith. \$15,459.55.

**Mid-Atlantic Ecological Society of America Travel Grant.** 2017. Partial travel funding to attend the 2017 Ecological Society of America Annual Meeting in Portland, OR. \$800.

**Strategies for Ecology Education, Diversity and Sustainability (SEEDS) Travel Grant.** 2017. Partial travel funding to attend 2017 Ecological Society of America Annual Meeting in Portland, OR. \$400.

**Clinton Global Initiative Grant.** 2016. "Entomopathogenic fungi as a biocontrol method of insect pests: the use of entomopathogens for improved human health and a cleaner environment". Primary researcher. PI: Janice L. Krumm. \$2,000.

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### Publications in preparation (can provide completed draft upon request)

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**Perkowski EA, DW Frey, CL Goodale, NG Smith.** Soil nitrogen availability modifies plant water and nitrogen economics in a closed canopy temperate forest: a direct test of photosynthetic least-cost theory

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**Peer-reviewed Journal Articles (\* = corresponding author; JIF = 2021 ISI journal impact factor)**

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2. **Perkowski EA\***, EF Waring, NG Smith. Root mass carbon costs to acquire nitrogen are determined by nitrogen and light availability in two species with different nitrogen acquisition strategies. *Journal of Experimental Botany* 72(15): 5766-5776 (JIF: 7.0).
1. Krumm JL\*, **EA Perkowski**, KE Mecouch, JL Woods, EK Shea, I Goraya, T Tran. 2018. Teaching and mentoring across traditional boundaries: 2 institutions, 3 mentors, 10 students, and 1 global data set. *Perspectives on Undergraduate Research and Mentoring* Special Issue: Mentoring Undergraduate Research in Global Contexts. ([link to paper](#))

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**Published code and datasets**

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1. Waring EF, **EA Perkowski**, NG Smith. 2020. Light-by-nitrogen greenhouse experiment dataset and R code (v1.0). *Zenodo/GitHub*. DOI: [10.5281/zenodo.4091580](https://doi.org/10.5281/zenodo.4091580).

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**Selected Oral Presentations (presenter indicated by an asterisk if other than self)**

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- Perkowski EA**, DW Frey, CL Goodale, NG Smith. 2021. Nutrient availability increases whole plant growth, but not leaf photosynthesis, in a closed canopy temperate forest Ecological Society of America Annual Meeting (remote).
- Perkowski EA**, EF Waring, NG Smith. 2021. Carbon costs to acquire nitrogen are determined by interactions between nitrogen availability and light availability in two species with different acquisition strategies. Botanical Society of America Annual Meeting (remote)
- Waring EF\*, **EA Perkowski**, NG Smith. 2020. Nitrogen acquisition strategy and photosynthetic demand drive allocation responses in cotton and soybean. Botanical Society of America Annual Meeting (remote)
- Perkowski EA**, NG Smith. 2019. The influence of microbial symbioses on leaf- and whole-plant acclimation to global change. Texas Tech Annual Biological Sciences Symposium. Texas Tech University, Lubbock, TX.
- Perkowski EA**, D Politz, FE Weaver, JL Krumm. 2018. Fungal endophyte complex affects pepper (*Capsicum annuum*) seedling growth and drought response. Student Projects Day. Widener University, Chester, PA.
- Perkowski EA**, AN Myers, JL Krumm. 2018. Effects of monophagous host plant diets on lipid and water content in the polyphagous moth *Epimecis hortaria*. Eastern Branch of the Entomological Society of America Meeting. Annapolis, MD.

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**Selected Poster Presentations**

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- Perkowski EA**, EF Waring, NG Smith. 2020. Plant carbon costs to acquire nitrogen are determined by interactions between nitrogen acquisition strategy, nitrogen demand, and nitrogen availability. Graduate Climate Conference (remote due to COVID-19).
- Perkowski EA**, EF Waring, NG Smith. 2020. Nitrogen demand shifts carbon belowground allocation, but not nutrient acquisition in cotton and soybean. Annual meeting of the Ecological Society of America (remote due to COVID-19).
- Perkowski EA**, AN Myers, JL Krumm. 2018. Effects of monophagous host plant diets on lipid and water content in the polyphagous moth *Epimecis hortaria*. Annual meeting of the Ecological Society of America. New Orleans, LA.
- Perkowski EA**, D Politz, RW Morris, JL Krumm. 2017. Fungal endophyte complex affects pepper plant (*Capsicum annuum*) seedling growth and drought response. Annual meeting of the Ecological Society of America. Portland, OR.

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**Teaching and Mentoring**

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**Courses:**

- Plant Ecophysiology (BIOL 4350)**. Texas Tech University: Spring 2021. Teaching assistant and technical support to assist running course in synchronous hybrid format due to COVID-19.

**Biology of Plants Laboratory (BIOL 1401).** Texas Tech University: Fall 2021, Fall 2020, Spring 2020, Summer 2019, Summer 2019, Fall 2019, and Fall 2018. Solo-taught teaching assistantship, 2 lab sections per semester, ~25 students per lab section.

**General Biology II Laboratory (BIOL 1404).** Texas Tech University: Spring 2019. Solo-taught teaching assistantship, two lab sections per semester, ~25 students per lab section.

*Undergraduate Mentees:*

Joseph Terrones (TTU), Jose Villeda (TTU), Darby Reiss (Widener University), Christine Vanginault (Southwestern University), Aneesa Harper (TTU), Amariany Gomez (TTU), Abigail Bell (TTU), Jorge Ochoa (TTU), Mitej Dongarkar (TTU), Leah Ortiz (TTU).

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**Professional Memberships**

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Botanical Society of America, 2020-present

Ecological Society of America, 2017-present