

# Christopher E. Nieters

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**Current Position:** Graduate Research Assistant  
University of Georgia  
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Athens, GA 30306

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**Education:** M.S. - Horticulture, 2022 - Current  
University of Georgia, Athens, GA  
Research topic: Hydroponic nutrient solution management in CEA

B.S. - Botany, 2017  
University of Wyoming, Laramie, WY  
Undergraduate research: High-throughput root phenotyping across *B. rapa* morphotypes

**Research Experience:** *Ferrarezi Controlled Environment Agriculture Lab, University of Georgia, 2022 - Current:*

- Design and construct vertical farm research space
- Data logger programming for automation and environmental controls
- Nitrate and nitrate reductase transcript quantification in lettuce
- Manage undergraduate researchers

*Plenty Unlimited Inc, 2018 - 2022:*

- Crop physiological assessments and phenotyping
- LED lighting research: light quality and quantity impact on leafy greens and fruiting crops
- Hydroponic strawberry production: cultivar screening and system validation
- Experiment planning, design, and execution
- Programming (R) and statistical analysis

*Ewers Plant Physiological Ecology Lab, University of Wyoming,  
2016 - 2018:*

- Phenotyping *B. rapa* accessions for above and below ground carbon partitioning
- Quantifying PSII stress via chlorophyll a fluorescence using FluoPen/MultispeQ/LICOR 6400/Fluorcam
- Sterile preparation of non-structural carbohydrate/pigment extraction
- Diurnal CO<sub>2</sub> assimilation surveys of *B. vulgaris*
- Soil, stem, and leaf water potential quantification

*Wyoming Natural Diversity Database (WYNDD), University of Wyoming,  
2015:*

- Field collection methodology
- Delineation of wetland plots
- Soil core horizon classification
- Dataset management

**Presentations:**

Upcoming: American Society for Horticultural Science 2023. Orlando, Florida. Oral Presentation. *Waste Not, Want Not: Strategies for Managing Hydroponic Nutrient Solutions in a Vertical Farm*. Chris Nieters, Rhuanito Soranz Ferrarezi, Anish Malladi, Paul R. Fisher, Pedro Furlani, Melanie Yelton and Micah Gilbert.

American Society for Horticultural Science 2021. Denver, Colorado. Poster Presentation. *Cotyledon Competency in CEA: Light Response Curve Analysis across Emerging Mizuna Leaf Tissues*. Chris Nieters, Phoebe Killea, Alia Gonzales, Tessa Pocock.

American Geophysical Union 2017. New Orleans, Louisiana. Poster presentation. *Mind the Roots: Phenotyping Below-Ground Crop Diversity and Its Influence on Final Yield*. Christopher Nieters, Carmela Rosaria Guadagno, Sarah Lemli, Atefeh Hosseini and Brent E Ewers.

University of Wyoming Undergraduate Research Day 2017. Laramie, Wyoming. Poster presentation. *How can temporal dynamics in root growth improve model predictions of crop yield?* Christopher Nieters, Carmela R. Guadagno, Brent E. Ewers.

**Academic Lab  
Teaching/Lectures:**

Lab TA: HORT 3200 - Hydroponics and Protected Horticulture  
Lecture (1/30/2023): HORT 3200 - Hydroponic Plant Nutrition

**Academic Awards  
and Nominations:**

- CWT Penland and Nyla Penland Memorial Scholarship for Outstanding Botany Senior Student (2017)
- Wilhelm G and Ragnhild Solheim Memorial Scholarship (2017)
- University of Wyoming Dean's List (2017)
- University of Wyoming President's List (2016)
- Hathaway Performance Scholarship (2013 - 2017)

**Academic Service &  
Volunteering:**

- SBG Athens Blood Drive (2023)
- Athens Hunger Bowl Food Drive (2023)
- Plenty Plant Physiology Discussion Group (2020)
- Plenty R-gonauts R Programming Learning Group (2019)
- Laramie Humane Society Dog Walker (2018)
- University of Wyoming Botany & Biology Club (2015 - 2017)

**References:**

References available upon request