Amber D. Gunter

865-789-9179 | agunter6@vols.utk.edu | Knoxville, TN 37920

EDUCATION

Expected 2026

M.S. Environmental and Soil Sciences
University of Tennessee, Knoxville

Minor: Statistics and Data Science

GPA: 3.93

May 2024

B.S. Environmental and Soil Sciences *summa cum laude*
University of Tennessee, Knoxville

Concentration: Conservation Agriculture & Environmental Sustainability

Minors: International Agriculture & Natural Resources, Food & Agricultural Business, Plant Sciences, Watershed Management

GPA: 3.99

Coursework: Experimental Design & Data Analysis for Biological Research, Soilborne Pathogens, Environmental Soil Chemistry, Soil Classification & Genesis, Nutrient Management & Fertilizers, Soil Microbiology, Organic & Biochemistry, Environmental Stormwater Management, Climatology, Environmental Instrumentation & Monitoring, GIS Applications in Agriculture & Environmental Science, Global Dynamics of Food & the Environment, Agribusiness Management, Agricultural & Environmental Law, Food Policy, Organic & Sustainable Crop Production, Entomology & Plant Pathology, Field & Forage Crop Production, World Food & Fiber Plant Production, Global Animal Agriculture Systems

RESEARCH & PROFESSIONAL EXPERIENCE

Aug. 2025-present

Graduate Teaching Assistant
University of Tennessee Dept. of Biosystems Engineering & Soil Science

- Support student learning by leading lab activities, grading assignments, and hosting office hours for ESS 424 *Environmental Stormwater Management*

Aug. 2024-present

Graduate Research Assistant
University of Tennessee Dept. of Biosystems Engineering & Soil Science

- Design and lead field-scale soil health research in Tennessee grazing and row crop systems, focusing on dynamic physical, chemical, and biological indicators.
- Coordinate seasonal sampling, manage project logistics, and synthesize results for presentations and publication.

- Operate and maintain laboratory instruments for analysis of soil carbon and nitrogen.
- Analyze soil health and microbial community data using RStudio and Excel.
- Collaborate with fellow graduate students and lab group to ensure projects are completed on time and to standard.
- Supervise and mentor undergraduate interns on lab protocols and research methods.

Jul. 2023-July 2024 **Undergraduate Research Assistant**
University of Tennessee Dept. of Biosystems Engineering & Soil Science

- Supported research on soil health and nutrient cycling across diverse management systems, including sampling, lab analyses, and data management.
- Performed laboratory analyses, including permanganate oxidizable carbon (POXC), microbial biomass carbon (MBC), water-extractable organic carbon (WEOC), soil organic carbon (SOC), and soil texture.
- Assist with field sample collection activities and contribute to data collection by recording results and maintaining accurate records.

May 2023-May 2024 **Undergraduate Research Assistant**
University of Tennessee Dept. of Entomology & Plant Pathology

- Participated in two international field campaigns in Belize, assisting with fungal community sampling and data collection on cacao (*Theobroma cacao* L.) under agroforestry systems.
- Peer editing of manuscripts, grant proposals, and presentations.

Aug. 2023-Dec. 2023 **Undergraduate Teaching Assistant**
University of Tennessee Depts. of Biosystems Engineering & Soil Science and Entomology & Plant Pathology

- Supported student learning by leading lab activities, grading assignments, and hosting office hours for courses ESS 334 *Soil Nutrient Management and Fertilizers*, ESS 120 *Soils and Civilizations*, and EPP 123 *Chocolate: Bean to Bar*.

Jul. 2022-Aug. 2023 **Student Farm Worker**
East Tennessee AgResearch & Education Center Organic Crops Unit

- Maintained research plots and supported organic production trials by assisting with planting, irrigation, harvesting, and USDA Organic compliance documentation.
- Assisted with planting, harvesting, packing, and distribution of produce for a Community Supported Agriculture (CSA) program

May 2022-Mar. 2023 **Undergraduate Research Assistant**
University of Tennessee Dept. of Plant Sciences

- Assisted with the collection, analysis, and recording of data related to experiments using laser-guided, variable-rate spray application of pesticides in nursery crops and orchard production in both field and lab settings.
- Scouted targeted crops for signs of pests and disease, collected foliar and fruit samples, and collected insects.
- Reviewed and edited extension publications on irrigation calculations.
- Assisted multiple labs in the department with greenhouse, lab, and field projects as needed.

SKILLS & ABILITIES

Fieldwork & Research Design

- Experience conducting field-based research in domestic and international agricultural systems
- Skilled in soil sampling, plot layout, and field data collection in grazing, row crop, and agroforestry systems
- Familiar with USDA Organic Certification procedures and documentation

Laboratory Techniques

- Soil health analyses: POXC, MBC, WEOC, SOC, bulk density, aggregate stability, pH, nutrient extractions
- Microbial methods: respiration assays, phospholipid fatty acid (PLFA) sample collection and preparation, fungal culturing, PCR, and gel electrophoresis
- Instrumentation: liquid and dry combustion elemental analyzers, centrifuges, pH and EC meters, microplate readers, microvolume spectrophotometers, dual head infiltrometers, soil moisture and temperature sensors, laboratory ovens and incubators, analytical balances, fume hoods, vacuum pumps, and autoclaves.

Data Analysis & Software

- Statistical analysis using RStudio and Quarto (ANOVA, regression modeling, data visualization)
- Proficient in Microsoft Excel, Word, and PowerPoint
- GIS tools: ArcGIS Pro, ArcGIS Online, Survey123

Technical & Digital Tools

- Familiar with DNA sequencing software (Sequencher, NCBI BLAST)
- Comfortable learning new lab protocols, instruments, and digital workflows

Equipment & Operations

- Experience operating tractors, tractor implements, excavators, and mowers in research settings
- Experience with soil sampling tools, including hydraulic Giddings probe and hand augers

Communication & Collaboration

- Strong written and verbal communication skills for scientific writing, presentations, and outreach

- Experienced in mentoring undergraduate students and collaborating within interdisciplinary lab teams

ACADEMIC HONORS & AWARDS

- Hazelwood Graduate Scholarship Fund, 2024
- Graduated summa cum laude, 2024
- Dean's List 2022-2024
- Top Upper-Class Scholar in Environmental and Soil Science, 2023
- B. Ray Thompson Undergraduate Scholarship, 2023
- Gamma Sigma Delta, 2022-present
- Alpha Alpha Alpha, 2022-present

ASSISTANTSHIPS & SERVICE

- Graduate Teaching Assistantship, 2025-present
- Graduate Research Assistantship, 2024-present
- Served as a member of a search committee for a position within the Dean's Office, 2024-2025
- Participated in Hurricane Helene disaster relief efforts, including on-site cleanup in affected areas and coordination of food and supply distribution from Knoxville to impacted communities, 2024
- Helped pack and load excess CSA produce for delivery to a local food pantry, supporting community food access and reducing post-harvest waste, 2022-2023
- Volunteered at Second Harvest Food Bank's warehouse to help pack and organize donations for regional distribution, 2019

PROFESSIONAL MEMBERSHIPS

- Soil Science Society of America (SSSA), 2025-present
- American Society of Agronomy (ASA), 2025-present
- Crop Science Society of America (CSSA), 2025-present

SEMINAR PRESENTATIONS

Gunter, A. Literature Review Seminar M.S. University of Tennessee, Department of Environmental & Soil Sciences Seminar (ESS 503). Spring 2025.

PRESENTATIONS WITH PUBLISHED ABSTRACTS

Ash L, Nestler G, Odoi M, Brabazon H, **Gunter A**, Whaley L, Boggess S, Ownley B, Moulton K, Marlin J, Shoemaker D, Hadziabdic D (2025) Endophytic fungal communities from agroforestry and wild leaves of Criollo cacao (*Theobroma cacao* L.) in Southern Belize at the end of the wet season. Joint Meeting of the Caribbean and Southern Division American Phytopathological Society, Gainesville, FL, March 9-13, 2025.

Nestler G, Ash L, Odoi M, Brabazon H, **Gunter A**, Whaley L, Boggess S, Ownley B, Moulton K, Marlin J, Shoemaker D, Hadziabdic D (2025) A survey of fungal communities harbored in wild and agroforestry leaves of Criollo cacao during the dry season in Belize. Joint Meeting of the Caribbean and Southern Division American Phytopathological Society, Gainesville, FL, March 9-13, 2025.