

Elin Swank

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*All references are available for contact through the provided email

EDUCATION

WESTERN CAROLINA UNIVERSITY

Master of Science: Biology

CULLOWHEE, NORTH CAROLINA

January 2021 - July 2023

APPALACHIAN STATE UNIVERSITY

Bachelor of Science: Sustainable Development (SD)

BOONE, NORTH CAROLINA

August 2011- August 2015

- Concentration: Agroecology and Sustainable Agriculture
 - ASU Sustainable Development farm: Research animal feed to weight gain ratio, plant production, soil health, permaculture, and farm practices
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GRADUATE RESEARCH

50+hours/week

Microbial Communities as Indicators of Ecosystem Functions at Two Sites in Great Smoky Mountains National Park

(ProQuest Open Access Publication number – 30309378)

Project Advisor- Dr. Sean O'Connell (Email: soconnell@email.wcu.edu)

Advising Committee- Dr. Beverly Collins (Email: collinsb@email.wcu.edu)

Dr. Anjana Sharma (Email: asharma@email.wcu.edu)

Dr. Greg Adkison (Email: gadkison@email.wcu.edu)

- Plan and write scientific report detailing purpose, sampling, laboratory and statistical methods, findings, and important implications of microbial communities on landscape ecology
 - Collect samples, extract genomic DNA, perform polymerase chain reaction, agarose gel and denaturing gradient gel electrophoresis testing for DNA quality and quantity
 - Evaluate microbial community taxonomic data according to ensure standard quality control/assurance practices for interrelated taxa and ecosystem functional capacities using R and R-Studio to produce data summary and visualizations
 - Coordinate with Great Smoky Mountains National Park Appalachian Highlands Science Learning Center and Discover Life in America to ensure grant requirements were met and exceeded
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PROFESSIONAL EXPERIENCE

Great Smokey Mountains National Park Science Colloquium

March 2023

In partnership with Discover Life in America

Presenter- *Microbial Communities as Indicators of Ecosystem Function and Sustainability*

Western Carolina University

CULLOWHEE, NORTH CAROLINA

Teaching Assistant

January 2021- August 2023; 30+ hours/week

Courses: Human Biology, Environmental Biology, Microbial Health and Nutrition, Principles of General Microbiology and Microbial Ecology

- Prepared laboratory to teach lab topics and procedures improving student understanding
- Utilized online classroom platform for student assignments, grades, and communications

VOLUNTEER EXPERIENCE

Bent Creek Experimental Forest

ASHEVILLE, NORTH CAROLINA

Total Hours- 106

June 2021 - August 2021; 15+ hours/week

Supervisor – Jacquelyne Adams (Email: jacquelyne.l.adams@usda.gov)

- Collected and organized forestry data including location, light, soil temperature and water content according to quality control and assurance standards using GPS, maps, GIS, soil moisture and temperature probe and densiometer
- Identified plants and insects from juvenile to adult stages of growth
- Worked outdoors for long hours in extreme weather and topographical conditions

EMPLOYMENT

United States Department of Agriculture – Agricultural Research Service

Pecan Breeding and Genetics

COLLEGE STATION, TEXAS

Biological Science Laboratory Technician

January 2025 - September 2025; 40+ hours/week

Supervisor – Angelyn Hilton (Email: Angelyn.Hilton@usda.gov)

- Managed laboratory researching pecan genetics, breeding, and pathogens
- Researched microbial pathogens of pecan using sterile technique to sample, plate, isolate, incubate, and observe cultures using microscopy
- Performed RNA and DNA extractions from multiple plant tissue types, and fungal tissue analyzing the results using spectrophotometry
- Established standard operating procedures, and protocols for fieldwork and laboratory processing
- Supported staff in field and lab work emphasizing a team approach to meeting program goals

American Conservation Experience - Emerging Professionals in Conservation Program

National Park Service –

Carl Sandburg Home National Historic Site

HENDERSONVILLE, NORTH CAROLINA

Biological Science Technician

July 2024 - January 2025; 40+ hours/week

Supervisor – Carol Fields (Email: Carol_Fields@nps.gov)

- Researched local ecology to write, plan, and enact conservation efforts for a globally rare ecosystem within the park
- Identified, recorded, and managed ecological and GPS data of rare and invasive plants
- Created and managed a database for the Nestwatch bird breeding population monitoring program
- Conducted field surveys for research, disaster recovery, and other park management goals
- Fieldwork also included management and removal of invasive species through physical and mechanical means

Forest Stewards

CULLOWHEE, NORTH CAROLINA

Forestry Technician

May 2022 - June 2022; 40+ hours/week

Supervisor – Peter Bates (Email: bates@email.wcu.edu)

- Setup national forestry standardized research plots using GPS and GIS, measuring tapes, compasses, and clinometers
- Collected forest inventory, fire, brush, fuel and individual health data for fire control monitoring and watershed health assessments using standardized plot sampling methods
- Managed forest inventory through chemical application and physical removal of invasive or undesirable species

Heartwood Tree Service

CHARLOTTE, NORTH CAROLINA

Grounds man/ Operator

January 2019 - August 2020; 40+ hours/week

- Operated heavy equipment (mini skid steer, 12"- 30" woodchippers, dump truck, grapple truck, stump grinder)
- Performed visual health analysis land and provided management advice for client purposes
- Supported arborists activities by running ropes for safe and controlled pruning and removal
- Operated small equipment like chainsaws and hedge trimmers as well as unpowered equipment such as hand saws, pole saws, shovels, pulleys, blocks, safety equipment and PPE

FAIRWAY GREEN

Lawn Technician/Crew Lead

Denali Park Village

Bell staff

JASMINE'S GARDENS

Landscaping Sub-Contractor

SOLAR CITY

Photovoltaic Systems Installer

CHARLOTTE, NORTH CAROLINA

August 2018 - December 2018; 40+ hours/week

Denali National Park, Alaska

June 2017 - September 2017; 40+ hours/week

BOONE, NORTH CAROLINA

June 2016 - May 2017; 40+ hours/week

COCKEYSVILLE, MARYLAND

November 2015 - March 2016; 40+ hours/week

OTHER EXPERIENCE/CERTIFICATES/SKILLS

Research and Analysis Tools/Skills –

- R, R-Studio - programming language and software used for data organization, analysis, document creation, and presentation; 5 years, 30+hours/week
- Git, Github - version control software used for tracking changes during software development; 5 years, 30+hours/week
- Datacamp - R: Data analyst, SQL: Associate data analyst