Nicole M. Spanier

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Education

Ph.D. in Evolution, Ecology, and Behavior August 2021-Present
Indiana University-Bloomington, Bloomington, IN

M.S. in Biology December 2021
Villanova University, Villanova, PA

B.S. in Biology, *magna cum laude* May 2020
Villanova University, Villanova, PA
Accepted to 5-year B.S./M.S. program

Research Experience

Graduate Student Researcher August 2021-Present
Principal Investigator: Dr. Richard Phillips
Indiana University-Bloomington, Bloomington, IN

- Researching microbial drought legacy effects on Indiana hardwood tree ecophysiology

Research Assistant May 2017-August 2021
Principal Investigator: Dr. Samantha Chapman
Villanova University, Villanova, PA

- Contributing to the WETFEET (Warming Ecosystem Temperatures in a Florida Ecotone Experiencing Transition- https://www.wetfeetproject.com/) project investigating how mangrove encroachment and warming in wetlands affects aboveground and belowground processes in northeastern Florida
- Creating and implementing research on how fiddler crabs can alter the productivity of mangroves and soil processes
- Conducted ample field work in the salt marsh environment

National Science Foundation Research Scholar June 2019-August 2019
Principal Investigator: Dr. Virginia Jin
University of Nebraska-Lincoln, Lincoln, NE

- National Science Foundation Research Experience for Undergraduates (REU)
- Created and implemented research project on how tilling method determines soil greenhouse gas emissions
- Designed and distributed infographic displaying research results for the general public and farmers

Volunteer Research Assistant July 2018
Smithsonian Global Change Research Wetland, Edgewater, MD

- Collected growth data from elevated CO_2 and nitrogen plots in salt marsh

Teaching and Managerial Experience

Tutoring Coordinator August 2020-May 2021
Villanova University, Villanova, PA

- Taught tutors best practices for effective tutoring appointments
- Assisted the Assistant Director of Tutoring Services with answering questions from tutors and tutees, managing tutoring schedules, providing essential audits of tutoring record keeping and attendance for 4 campus tutoring centers

Private Tutor October 2020-May 2021
Wyzant.com tutor

- Tutored multiple high school students in biology in preparation for AP exams and Pennsylvania State Keystone Exams

Peer Tutor October 2017-May 2021
Villanova University, Villanova, PA

- Tutored with The Learners' Studio, Villanova Athletics, and the Center for Access, Success, and Achievement in classes including General Biology and Biostatistics

Honors and Awards

AAAS/Science Program for Excellence in Science August 2020-Present

- Nominated by Dr. John Olson, Chair of Villanova University Biology Department

Beta Beta Beta Biological Honor Society Membership April 2018-Present

- Participated in mentoring program to advise an underclassman Biology major

Dean's List August 2016-May 2020

- Awarded all 8 semesters of undergraduate career

First Place Poster Presentation August 2019

- Nebraska Summer Research Symposium, University of Nebraska-Lincoln, Lincoln, NE
- Competed against 105 other scholars

Grants Awarded

GRASSS Summer Stipend Award, Villanova University CBEST $2.865 June 2021
Summer Research Grant, Villanova University Biology Department, $2,200 June 2021
Summer Research Grant, Villanova University Biology Department, $2,350 June 2020
National Science Foundation Research Experience Fellowship, $6,000 June 2019
Summer Research Housing and Stipend Award at Villanova University $5,000 June 2018

Presentations

International Wetlands Conference, Virtual October 2021

Poster

Spanier, N., Chapman, S.. Effects of fiddler crab bioturbation on mangroves on the northeastern Florida coast.

Lightning Talk Presenter November 2020

WETFEET Project Symposium

Spanier, N., Effects of fiddler crab bioturbation on mangroves on the northeastern Florida coast.

Lecturer July 2020

Villanova's Center for Biodiversity and Ecosystem Stewardship Summer Science Slam

Spanier, N.. Structural Equation Modeling of the WETFEET Project.

Guest Lecturer September 2019

Growing into Sustainability through Agriculture Class; Villanova University

Lectured on research done during REU at University of Nebraska-Lincoln on comparison of greenhouse gas emissions from different tillage regimes

Undergraduate Research Symposium, Villanova University October 2019

Poster

Spanier, N., Schmer, M., Jin, V.. Disk tillage results in a greater carbon footprint than no tillage in a corn-soybean rotation system.

Student Research Symposium, University of Nebraska-Lincoln August 2019

Poster

Spanier, N., Schmer, M., Jin, V.. Disk tillage results in a greater carbon footprint than no tillage in a corn-soybean rotation system.

Undergraduate Research Symposium, Villanova University September 2018

Poster

Spanier, N., Fell, C., Beadle, A., Geoghegan, E., Chapman, S.. Root Biomass and its role in combating sea level rise.

Skills and Techniques

- Data processing and statistical analysis (R, JMP 14/15, SigmaPlot)
- Science communication for general public
- Ability to travel and conduct fieldwork
- Plant cultivation
- Excellent team working skills
- Ability to work under pressure and on multiple projects
- Use of LiCOR 7000, Qubit Q-BOX RP1LP, SCI Leaf Porometer, atLeaf CHL Plus chlorophyll meter, Refractometer, scanning electron microscope, roller mill, and redox probe
- Skilled in fabrication of root decomposition bags and root ingrowth bags, fabrication of mesocosms, soil respiration measurements, general chemistry skills, and root sorting of soil cores