

Cassandra Wattenburger

MICROBIOLOGY · SOIL AND PLANTS · DATA SCIENCE

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Skills

Lab and field experimental design, field sampling, greenhouse experiments, next-gen sequencing, qPCR
Data Science R, Python, Git, Github, reproducible workflows
Statistics linear models, multivariate modeling, permutation approaches, bioinformatics, data visualization

Experience

RESEARCH

Graduate Research Assistant (Ph.D.)

Ithaca, NY

CORNELL UNIVERSITY | ADVISOR DR. DANIEL BUCKLEY

Jan. 2018 - present

- Researched the role of bacterial growth dynamics in soil carbon cycling
- Developed method and statistical algorithm to measure bacterial species growth in soils using amplicon sequencing and an internal standard

Graduate Research Assistant (M.S.)

Ames, IA

IOWA STATE UNIVERSITY | ADVISORS DR. LARRY HALVERSON & DR. KIRSTEN HOFMOCKEL

Sept. 2015 - Dec. 2017

- Researched impact of agricultural practices on maize root-associated microbial communities
- Designed and conducted greenhouse and field-based experiments
- qPCR measurement of bacterial and archaeal amoA gene in agricultural soils
- Analyzed root-associated 16S and ITS amplicon sequence data

Laboratory Technician

Paterson, WA

COLUMBIA CREST WINERY

July - Sept. 2014

- Collected and processed samples of fresh and fermenting wine grapes
- Conducted brix, pH, and turbidity tests

Research Intern

Richland, WA

PACIFIC NORTHWEST NATIONAL LABORATORY | MENTOR DR. VANESSA BAILEY

Summers 2010 - 2014

- Managed and conducted various research projects related to the role of soil microbial communities in soil carbon cycling
- Culturing, cloning, DNA extraction, qPCR, GCMS operation

LEADERSHIP

Advisory Board Member

Ithaca, NY

CAREERS BEYOND ACADEMIA | CORNELL UNIVERSITY

Aug. 2020 - present

- Guided Careers Beyond Academia programming
- Designed and presented webinars for professional development, including professionalism and data visualization
- Organized and hosted career panels

Treasurer

Ithaca, NY

SOIL AND CROPS SCIENCES GRADUATE STUDENT ASSOCIATION | CORNELL UNIVERSITY

Aug. 2019 - Aug. 2020

- Created and managed budgets
- Coordinated external speaker visit to Soil and Crop Sciences section seminar series
- Planned and hosted 2020 Soil and Crops Sciences graduate student recruitment and tour events, virtually

President & Treasurer

MICROBIOLOGY GRADUATE STUDENT ORGANIZATION | IOWA STATE UNIVERSITY

Ames, IA

Aug. 2015 - Aug. 2017

- Created and managed budget
- Organized and volunteered in science outreach events for local and state-wide students
- Invited and hosted Interdepartmental Microbiology program seminar speakers

MANAGEMENT

Undergraduate Supervisor/Mentor

IOWA STATE UNIVERSITY & CORNELL UNIVERSITY

Various

Aug. 2015 - present

- Interviewed, trained, and mentored five undergraduate researchers in molecular biology techniques, data analysis, and programming
- Supervised undergraduate honors thesis research
- Provided career advice, support, and letters of recommendation

Github Repository Manager

BUCKLEY LAB GITHUB REPOSITORY

Ithaca, NY

Jan. 2018 - present

- Organized, edited, and updated standard operating protocols in the Buckley Lab GitHub repository

Newsletter Editor

CAREERS BEYOND ACADEMIA | CORNELL UNIVERSITY

Ithaca, NY

Jan. 2018 - Aug. 2019

- Published monthly newsletter distributed to an audience of over 400 via MailChimp
- Interviewed Cornell students and staff for spotlight pieces

Education

Cornell University, Ph.D. (in progress)

SOIL SCIENCE, MINORS IN GENOMICS AND MICROBIOLOGY

Ithaca, NY

Jan. 2018 - present

Iowa State University, M.S.

MICROBIOLOGY

Ames, IA

Sept 2015 - Dec 2017

Western Washington University, B.S.

CELLULAR AND MOLECULAR BIOLOGY, MINOR IN CHEMISTRY, HONORS PROGRAM

Bellingham, WA

Sept 2010 - June 2014

Relevant Training

- 2021 **Carpentries Instructor**, certification
- 2021 **Statistical Learning**, audit, 10 week course, supervised and unsupervised methods
- 2020 **Collaborative and Reproducible Data Science in R**, semester-long course
- 2020 **Linear Models: Regression and ANOVA**, Cornell Statistical Consulting Unit
- 2020 **Intermediate Statistical Analysis Using R**, Cornell Statistical Consulting Unit
- 2018 **Principle Components Analysis**, Cornell Statistical Consulting Unit
- 2017 **Data Wrasslin' in R**, R tidyverse and tidy-data principles
- 2017 **Data Visualization**, R and ggplot2

The Carpentries
edX Stanford
Cornell U.
Cornell U.
Cornell U.
Cornell U.
Iowa State U.
ESA