

Cassandra Wattenburger

SOIL AND PLANTS · MICROBIOLOGY · DATA SCIENCE

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Skills

Lab and Field experimental design, field sampling, greenhouse experiments, high-throughput sequencing, qPCR
Data Science R, Python, Git, GitHub, reproducible workflows, data management and visualization
Statistics linear & mixed models, dimension reduction, algorithm development, unsupervised learning

Experience

RESEARCH

Graduate Research Assistant (Ph.D.)

Ithaca, NY

CORNELL UNIVERSITY | ADVISOR DR. DANIEL BUCKLEY

Jan. 2018 - present

- Researched the role of bacterial population dynamics in soil carbon cycling
- Developed method and statistical tools to measure bacterial taxon growth and death in soils using amplicon sequencing data and internal standards

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

Data Leadership Team Member

Ithaca, NY

VACCINATION CONVERSATIONS WITH SCIENTISTS | CORNELL UNIVERSITY

March. 2022 - present

- Performed preliminary analyses of collected data in R using reproducible workflow
- Collaborated with other team members to identify analysis needs and share code
- Scheduled and led data leadership meetings

Advisory Board Member

Ithaca, NY

CAREERS BEYOND ACADEMIA | CORNELL UNIVERSITY

Aug. 2020 - 2021

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

President & Treasurer

SOIL AND CROPS SCIENCES GRADUATE STUDENT ASSOCIATION | CORNELL UNIVERSITY

Ithaca, NY
Aug. 2019 - present

- Lead association activities
- 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 - 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, wrote, 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
- Wrote content

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