

# Alexander L. Kuhn

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## Qualifications Summary

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- Experience with SQL, python, and version control through completion of Udacity's Nanodegree Program: Programming for Data Science
- Experience with plant identification, conducting field research, writing scientific papers, and constructing management plans
- Proficient in ArcGIS, Microsoft Office
- Knowledge of conservation management techniques, field identification and sampling, data analysis, and scientific writing
- Strong leadership skills including organization, communication, and project management

## Education

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Ph.D., **Ecology and Evolutionary Biology** Current

*University of California, Irvine*

Awards/Honors: Ridge to Reef Fellowship; Francisco J. Ayala Graduate Fellowship; UC Irvine's Graduate Dean Recruitment Fellowship

B.S., **Conservation Biology** | Minor in Microscopy, *magna cum laude.* 2015

*State University of New York College of Environmental Science and Forestry (SUNY-ESF)*

Syracuse, NY

Awards/Honors: Patricia & Jeffrey '77 Morrell Scholarship, President's List, and Dean's List

A.S., **Liberal Arts**

*SUNY Broome Community College*

2010

Binghamton, NY

## Professional Experience

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**Data Curator** 2015-2017

*Microfungi Collections Consortium (MiCC), University of Illinois, Urbana-Champaign*

- Digitize fungal herbarium collections for use in an online database, MyCoPortal
- Train other institutions involved in the NSF-funded project to digitize their herbaria
- Foster communication among the many participants and work with the PI to create and submit bimonthly reports to NSF as this is a nationwide project
- Manage project to monitor progress and data quality of 38 other participating institutions

## Research Experience

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**Researcher of Laboulbeniales** 2014-2015

*Undergraduate Research Experience, Environmental and Forest Biology Department, SUNY-ESF*

- Investigated the morphological variation and phylogenetic relationships of Laboulbeniales
- Studied the correlation between the number of cells along the perithecium and evolutionary history of species
- Photographed preserved specimen for quantification and comparing data to cladograms

**Student Digitizer**

2014

*Environmental and Forest Biology Department (NSF-funded), SUNY-ESF*

- Digitized SUNY-ESF's mycological herbarium in collaborative effort to promote the use of fungal specimen data to address research questions related to species range, spread of invasive or pathogenic species, and changes in phenology
- Photographed labels, annotation slips, and specimens, digitized specimen labels, and transferred information to an open-access online portal
- Developed skills in herbarium and data management

- Broadened knowledge of fungal taxonomy and specimen handling

### **Researcher of Nutrient Uptake Assessment**

2014

Undergraduate Research Experience, Environmental and Forest Biology Department, SUNY-ESF

- Explored nutrient uptake with arbuscular and ectomycorrhizal associated trees in response to fertilization
- Studied the effect of nutrient addition (N, P, or both N and P) to nutrient uptake of temperate hardwoods
- Compared differences in uptake between AM associated trees (red maple) and EM associated trees (yellow birch)

### **Researcher of Microbial Enzymatic Activity along a Forest Gradient**

2014

*Research Experiences for Undergraduates (REU)*, Indiana University Bloomington

- Measured differences in potential decomposition rates along a gradient of arbuscular mycorrhizae-dominated forest to ectomycorrhizal-dominated forest
- Quantified enzymatic activity from samples extracted from hyphal ingrowth bags
- Part of a larger project to better understand role of soil microbes in decomposition and nutrient cycling in temperate hardwood forests

### **Independent Researcher of Effect of Moisture Availability on Myxomycete Species Richness**

2013

- Tested how moisture content of decaying birch logs effects species richness of myxomycetes present
- Performed visual quantification of fruiting bodies and calculation of water content (percent by weight)

### **Student Participant: Ecological Monitoring & Bio Assessment**

2013

*Cranberry Lake Biological Station*, Cranberry Lake, NY

- Participated in a combination of lecture, lab, and field studies to develop a better understanding of research and sampling methods, experimental procedures, and an introduction to NE North American biodiversity
- Participated in three weeks of intensive field work and a lecture series focusing on mycology, herpetology, ornithology, ichthyology, entomology, statistics, botany, and soils
- Conducted an independent group field research project to determine relationship between moisture content of substrate and richness of slime mold fruiting bodies

### **Student Participant: Adirondack Flora**

2013

*Cranberry Lake Biological Station*, Cranberry Lake, NY

- Participated in two-week integrated field and lab course on Adirondack region vascular plant identification and recognition of ecological characteristics

## **Teaching Experience**

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### **Graduate Teaching Assistant**

*Present*

*Physiology Laboratory (BioSci E112L)*

- Lead students through laboratory exercises related to physiology
- Grade written lab reports and smaller homework assignments
- Hold office hours to assist student in writing and understanding physiological concepts

*Field Freshwater Ecology Lab (BioSci E179L)*

- Assist faculty in instructing students on the biodiversity and abiotic characteristics of wetlands
- Assist in grading written lab reports
- Hold office hours to assist students in writing and preparing for practical examination

*Life Sciencing from Aristotle to Venter (BioSci 56)*

- Hold office hours
- Assist faculty in course content development and student assessment

## **Undergraduate Teaching Assistant**

2013

*Organismal Biology and Ecology: Department of Environmental and Forest Biology, SUNY-ESF*

- Aided graduate teaching assistants in weekly workshops
- Facilitate in-class discussions
- Taught undergraduates study techniques, reinforced lecture topics, and time management skills to better succeed in course
- Assisted faculty member and graduate teaching assistants with classroom instruction, exams, record keeping, and other miscellaneous projects
- Answered specific questions students had regarding lecture material, assignments, and exam expectations
- Recruited by professor for outstanding work in the course the previous year

## **Peer Tutor**

2013

*Organismal Biology and Ecology: Department of Environmental and Forest Biology, SUNY-ESF*

- Reviewed course work, assignments, and exams with students to support lecture material and strengthen understanding of biological theory, vocabulary, taxonomy, and organismal physiology
- Helped students develop more effective study techniques
- One-on-one and small group settings

## **Community Outreach and Campus Service**

Co-Founder and President of QT STEM

2017-present

- Campus organization to build stronger community, representation, and visibility of LGBT+ people in the STEM fields
- Organize and lead general meetings and board meetings; coordinate activity of board members; write and submit funding requests (have received \$4,000 to date)

Panelist at "Reclaiming STEM" workshop

2018

- Spoke on panel about experiences as a diversity advocate for LGBTQ people in STEM and higher education

Moderator at UCI Climate Solutions Summit

2018

- Introduced panelists, moderated discussion on climate solutions for land management practices

Volunteer at Orange County Regional Science Olympiad

2017

- Helped with administration and grading of ecology event

Volunteer Judge at Middle School Science Fair

2017

- MacArthur Fundamental Intermediate Science Fair in Santa Ana, CA

Featured Scientist in K-8 Science Textbook

2017

- In participation with the California Fair Education Act, Pearson Education Inc. is including biographies of out LGBT scientists in newly-developed textbooks to promote the success of students from diverse backgrounds

Panel Member for REU Workshop

2017

- Invited as a guest to speak about my experiences as an REU student for a workshop for undergraduates put on by UCI grad student members of SACNAS

Alpha Xi Sigma Honors Society

2013-2014

- Invited to society based on academic achievement; membership conditional with at least twenty hours of community service per semester

Onondaga Lake Bioblitz

2014

- Volunteered with other SUNY ESF faculty and students to conduct a bioblitz at Onondaga Lake State Park and aided in the identification of fungi

Clark's Reservation Bioblitz

2014

- Volunteered with SUNY-ESF faculty and students to conduct a bioblitz at Clark's Reservation State Park and aided in the identification of fungi

Educational Outreach

2013

- Served as judge/guide for Syracuse City School District Environmental Challenge science fair

**Presentations**

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*Long-term consequences of an invasive beetle and its fungal symbionts.* Talk presented at the Center for Environmental Biology Workshop: Decolonizing Ecology and Indigenous Land Co-Management. May 2019.

*Long-term consequences of an invasive beetle and its fungal symbionts.* Talk presented at the Winter Ecology and Evolutionary Biology Graduate Student Symposium. March 2019.

*Production and turnover of microbial biomass along a forest gradient of dominant mycorrhizal type.* Poster presented at the Environmental Research Poster Symposium at UC Irvine. December 2017

*Microfungi Collections Consortium (MiCC).* Poster presented at Mycological Society of America Meeting in Berkeley, CA. August 2016

*MyCoPortal: an online database of North American myxomycete collections.* Talk presented at Great Smokey Mountains Myxoblitz and Symposium. July 2016