Bridger Huhn

PROFILE

PhD Candidate
Passionate about using data
to answer actionable questions

CONTACT

bhuhn@uwyo.edu

121 Ave. de Bel-Air,
La Tour-du-Peilz 1814,
Vaud, Switzerland

COMPUTATIONAL SKILLS

Fluent in R & Python (programming languages)

Experience with Julia

Utilize version control platforms such as GitHub/ GitLab

Database management & design in SQLite

HPC programming and optimization

OTHER SKILLS

Plant indentification

Grant Writing

Scientific illustration using Adobe Illustrator/ Photoshop

Employee management/scheduling and mentoring

LaTeX document preparation

Scientific writing for general audience

WORK EXPERIENCE

PhD Candidate & TA @ University of Wyoming

August 2019 - Present (Anticipated defense in January)

Write grants to fund research

Design experimental procedures to test data against models

Interpret data using machine learning algorithms

Quantify uncertainty of models and test against data

Present findings to audiences ranging from experts to general public

Supervising undergraduate technicians in the field, lab and computing projects

Data Science Intern - Western Ecosystems Technology inc

October 16 - February 2024

Use machine learning to predict Lake levels in a glacially fed, reservoir controlled lake.

Build and test multiple long short-term memory (LSTM) neural network models in Python against lake-level data

Use LSTM to determine most informative drivers of lake levels

Technical Research Aid - PhD @ Argonne National Lab

July 31 2023 - June 16 2024

Use machine learning and statistical analysis tools in Python and R to assist in predictions of bioenergy production

Optimize julia scripts on high performance compute clusters

6th GRADE SCIENCE TEACHER @ BUTLER MIDDLE

September 2016 - May 2018

Write grants to fund innovative, technology-based lessons

Collaborate with team members to create engaging cross curricular lessons

Collect student performance data and adjust instruction accordingly

GROUP LEADER @ PARKS & RECREATION

Summers of 2013 - 2018

Plan/ Coordinate all activities for children (ages 5-12 2013-2016) (ages 12-16 in 2017-2018)

Supervised 3 employees per day

Maintain budget

Coordinate programming with nonprofits and local business

LABORATORY TECHNICIAN @ UNIVERSITY OF WYO-

November 2011 - May 2016

Used various scientific instruments to prepare samples and take measurements

Developed new hydroponic methods for growing Brassica rapa (field mustard, bok choy… etc.)

Designed figures for scientific publications

EDUCATION

BACHELOR OF SCIENCE (BIOLOGY) @ UNIVERSITY OF WYO

BACHELOR OF ARTS (ART) @ UNIVERSITY OF WYO

September 2011 - May 2016

GRANTS & AWARDS

BIODIVERSITY RESEARCH ENHANCEMENT GRANT

2022-2023

Funded research to examine the biophysical drivers of rarity in endemic plants in Wyoming

Funded outreach workshops and talks to communicate findings of this research

Dennis H. Knight Graduate Fellowship

2023

Awarded in recognition of outstanding academic record and promise of productive scholarship

BIODIVERSITY RESEARCH ENHANCEMENT GRANT

2021

Funded research to examine the biophysical drivers of rarity in endemic plants in the Greater Yellowstone Ecosystem

WYOMING NATIVE PLANT SOCIETY MARKOW FELLOWSHIP

2021

Funded research on the biophysical traits that allow an extremely rare endemic plant to survive in Wyoming's stressful habitats

CANYONS EDUCATION FOUNDATION INNOVATION

2017

Purchased class set of virtual reality headsets and tablets to create more immersive

PUBLICATIONS

Carmela Rosaria Guadagno, Brent E Ewers, Heather N Speckman, Timothy L Aston, Bridger

J Huhn et al. Membrane failure and fluorescence predict mortality. Plant Physiology, July

2017, pp.00581.2016; DOI: 10.1104/pp.16.00581

ARTICLES & REPORTTS

Life on a Dune: How Penstemon haydenii (Blowout Beardtongue) Survives the Harsh Conditions of a Shifting Landscape

Bulletin of the American Penstemon Society, Volume 82, 2023

Why is Desert Yellowhead (Yermo xanthocephalus) so rare?

Castillej, Publication of the Wyoming Native Plant Society, Mar 2023, Volume 42(1)

Examining the biophysical properties of the sand dune endemic, Penstemon haydenii (blowout beardtoungue) to elicit survival strategies.

Final Report for BLM Carbon County, Wyoming 2022

CURRENT PROJECTS

TESTING BIOPHYSICAL MECHANISMS TO EXPLAIN ENDEMIC PLANT LOCATIONS IN THE GREATER YELLOWSTONE ECOSYSTEM

Investigate physiological traits of narrow endemic plants and their competitors to predict drivers of rare plant scarcity

EXAMINING THE BIOPHYSICAL PROPERTIES OF THE SAND DUNE ENDEMIC, PENSTEMON HAYDENII TO ELICIT SURVIVAL STRATEGIES

Use a first principals process based model to examine how an endangered plant moves matter and energy on a shifting landscape compared to more widespread plants.

TESTING EFFECTS OF SHADE AVOIDANCE RESPONSE ON GROWTH PARTITIONING AND RELATIVE GROWTH RATE OF SUGAR BEET

Use biophysical measurements to elicit the effect of neighboring competitors on sugar beet's relative growth rate and biomass

NOTABLE TALKS

ANNUAL PROGRAM IN ECOLOGY SYMPOSIUM WORKSHOP SERIES

2022 Title: Testing Biophysical Mechanisms to Develop Parsimonious Models of Plant

Presented & organizing committee member

GUILD OF ROCKY MOUNTAIN ECOLOGISTS AND EVOLUTIONARY BIOLOGISTS MEETING

2022 Title: Testing Biophysical Mechanisms to Explain Endemic Plant Locations in the Greater Yellowstone Ecosystem

ANNUAL PROGRAM IN ECOLOGY SYMPOSIUM

2021 Title: The Biophysics of Wyoming's Endemic Plants
2022 Title: Testing Biophysical Mechanisms to Develop Parsimonious Models of Plant physiology

Presented & organizing committee member

BIODIVERSITY SCIENCE CAFE

2023 Title: Why Are Some Plants in Wyoming Extremely Rare?

Public outreach event