Akriti Bhattarai

19 Pheasant Crossing, Glastonbury, CT 06033
Phone: 860-690-3185 | Email: akritib2017@gmail.com

EDUCATION

University of Connecticut, Storrs, CT (August 2021)
Bachelor of Sciences: Molecular and Cell Biology, Statistics
Honors Program (GPA: 3.998/4.00)
Honors Thesis: *Identifying and Characterizing Disease Resistance Genes in the White Pines*
Awards:

Nutmeg Scholarship; Deans' list: Fall 2017 through Spring 2021; Babbidge Scholar: 2018, 2019, 2020; UConn OUR SURF Grant 2020;

Relevant coursework:

Introduction to Molecular Evolution and Bioinformatics, Big Data Science for Biologists, Practical Genomics in Ecology and Evolution, Statistical Computing, Introduction to Statistical Learning

WORK EXPERIENCE

Plant Computational Biology Lab, University of Connecticut, Storrs, CT
Student lab and field technician, July 2021 – September 2021
Research Technician, October 2021 – current

- Analyze various types of sequencing data, perform genome assembly and annotation, and de-novo transcriptome assembly.
- Utilize protein domain analysis to identify and annotate disease resistance genes across white pine species.
- Work closely with other lab members and help to guide newer researchers through the tutorials and project-specific questions.

RESEARCH INTERNSHIPS

Donald Danforth Plant Science Center, St. Louis, MO
REU Intern, May 2019 - August 2019

- Utilized an open-source image analysis software, PlantCV, to extract plant image area of thousands of pearl millet images from a high-throughput phenotyping experiment.
- Identified high performing lines under drought stress based on plant image area and water use over time, and selected lines for RNA sequencing.
- Analyzed RNA sequencing data to identify differentially expressed genes between high performing and low performing pearl millet lines under drought stress.

Boyce Thompson Institute, Ithaca, NY
Plant Genome Research Program Intern, June 2018 - August 2018

- Developed R scripts for data manipulation and filtering.

- Performed multivariable regression models for a transcriptome-wide association study with the goal of identifying genes whose expression levels were related to maize leaf cuticle development and cuticular evaporation rate.

FORWARD Nepal, Bharatpur, Nepal
Summer Intern, June 2017- July 2017

- Composed a questionnaire and interviewed villagers in the Building Community Enterprises of Smallholders in Bangladesh and Nepal (BCES) project to develop a case study that assessed the impact of road access and infrastructure on the quality of life and food security of the farmers.

International Maize and Wheat Improvement Center, Mexico
Global Maize Program Biotechnology Laboratory
Borlaug-Ruan International Intern, June 2016 - August 2016

- Tested a crude DNA extraction protocol on maize endosperm and analyzed the quality of DNA produced to verify if it would function with KASP genotyping assays.
- Improved the DNA extraction protocol and used it as a basis to develop a semi-automated crude DNA extraction protocol utilizing the Biomek FXP liquid handler.
- Received the *Elaine Szymoniak Best Intern Award* for outstanding work and dedication.

PRESENTATIONS

Bhattarai, A., Starovoitov, A., Sarker, S., Swenson, N., Wegrzyn, J., "Assembly and annotation of the American beech *(Fagus grandifolia)* genome". Poster presented at: International Plant and Animal Genome Conference; Jan 11-15, 2020; San Diego, CA, USA;

Bhattarai, A., & Wegrzyn, J., "Identifying and Classifying Potential Disease Resistance Genes in White Pines". Poster presented at: International Plant and Animal Genome Conference; Jan 8-12, 2022; San Diego, CA, USA; [Poster abstract accepted]

RELEVANT SKILLS

Computer Skills: Microsoft Office - Word, Excel, PowerPoint, Publisher
Programming and Statistical Analysis: Python, R, GNU Bash
Bioinformatics and Imaging Analysis: PlantCV, working on a High-Performance Computing cluster, genome assembly, genome annotation, transcriptome assembly, differential expression analysis, protein domain and motif analysis, phylogenetic analysis