Seren Villwock

Ithaca, New York
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EDUCATION

Cornell University Ithaca, NY
School of Integrative Plant Sciences 2020 - present
Plant Breeding and Genetics PhD student

Lewis & Clark College Portland, OR
Bachelor of Arts in Biology, with honors 2015 - 2018
GPA: 4.0

School for International Training Rwanda & Uganda
Summer course: Peace & Conflict Studies in the Lake Victoria Basin 2016

RESEARCH EXPERIENCE

Graduate research assistant Ithaca, NY
Cornell University, School of Integrative Plant Sciences AUG 2020 - present
Field of Plant Breeding and Genetics
(Advisor: Dr. Jean-Luc Jannink)

- Investigating the effects of the historical *Manihot glaziovii* introgression on vigor, yield, and quality traits in cassava (*M. esculenta*) breeding germplasm with molecular genetics methods
- Testing hypotheses about the relationship between carotenoids and dry matter content in tubers
- Conducted summer field work at the International Institute of Tropical Agriculture, Nigeria

Undergraduate thesis research Portland, OR
Lewis & Clark College (Advisor: Dr. Paulette Bierzychudek) JAN - DEC 2018

- Thesis: "Evaluating the Potential for the Evolution of Polygenic Glyphosate Resistance in Portland Populations of the Landscape Weed *Cardamine hirsuta*"
- Assessed shifts in herbicide sensitivity over multiple generations of *C. hirsuta* populations in greenhouse experiment using dose-response curve modeling in R
- Mentored two first-generation college student assistants interested in STEM research

NSF Research Experience for Undergraduates internship St. Louis, MO
Donald Danforth Plant Science Center (PI: Dr. Malia Gehan) MAY - AUG 2018

- Conducted study on temperature and water stress response in *Setaria* with high-throughput phenotyping using Python-based image processing software "PlantCV"
- Presented research at public symposium

PROFESSIONAL EXPERIENCE

Plant Tissue Culture Technician Portland, OR
Conception Nurseries OCT 2019 - JUNE 2020

- Cultured and propagated plantlets using sterile technique in production environment

- Conducted observational experiments to help optimize micropropagation protocols

Lead Resident Advisor   Portland, OR
Lewis & Clark College Campus Living   AUG 2016 - MAY 2018

- Provided educational programs, paraprofessional counseling, policy enforcement, and crisis management for a residence hall complex housing the Multicultural Engagement community

Farming for Peace Program Logistics Manager   Lira, Uganda
Children of Peace Uganda   OCT 2015 - SEPT 2017

- Co-designed and implemented an agricultural training course for youth affected by war in northern Uganda in collaboration with local nonprofit
- Recipient of the 2017 $10,000 Davis Projects for Peace grant at Lewis & Clark College

Lab and Teaching Assistant   Portland, OR
Biology Department, Lewis & Clark College   JAN - MAY 2017

- Assisted with lab instruction, preparation, grading, and projects for the Investigations in Genetics and Evolutionary Biology course

Biology Tutor   Portland, OR
Student Academic Affairs Board, Lewis & Clark College   SEPT 2015 - DEC 2017

- Helped students review Investigations in Ecology and Environmental Science, Investigations in Genetics and Evolution, and Cell Biology course material

AWARDS AND HONORS

Cornell University Recruitment Fellowship	2020
Phi Beta Kappa, junior year inductee	2018
Phi Beta Kappa Association of Oregon STEM scholarship	2018
Kent Swanson Jr. Memorial Biology Scholarship	2016 - 2018
Lewis & Clark Trustee Endowed Scholarship	2015 - 2018
Lewis & Clark Leadership & Service Award	2015 - 2018
Davis Projects for Peace grant recipient	2017
Optimist Club of Texas State Young Texanne of the Year	2014

PUBLICATIONS

Chan, A.W., Villwock, S.S., Williams, A.L., and Jannink, J-L. (in press). "Sexual dimorphism and the effect of wild introgressions on recombination in cassava (*Manihot esculenta* Crantz) breeding germplasm." *G3: Genes, Genomes, Genetics.*

SKILLS

Laboratory skills:

Plant tissue culture, gel electrophoresis, spectrophotometry, sterile technique, fluorescence microscopy, media preparation, restriction digest analysis, PCR, primer design, molecular cloning gene cloning, KASP marker design

Coding languages: R, Python, Linux