

AUSTIN KOONTZ

Center for Tree Science, Morton Arboretum

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EDUCATION

Master's of Science, Biology December 2020
Utah State University (USU) *Logan, UT*
Overall GPA: 4.0

Bachelor of Science, Neuroscience May 2014
University of Nevada (UNR) *Reno, NV*
Honor's College
Magna Cum Laude
Overall GPA: 3.715

RESEARCH EXPERIENCE

Wolf Plant Genetics & Systematics Lab, USU September 2018 - December 2020
Master's Student *Logan, UT*

- Used RADseq data to analyze the genetic separation between members of the *Primula cusickiana* species complex and determine correct species assignment

Pearse Evolutionary Ecology Lab, USU September 2018 - December 2020
Master's Student *Logan, UT*

- Developed a pipeline within R environment using phylogenetic transformations and simulated communities and phylogenies to determine effects of species boundaries on community diversity
- Wrote and published [SymbiotaR2](#) R package
- Served as the system administrator of the Pearse Lab server (Ubuntu OS)

Van der Linden Neurogenetics Lab, UNR September 2013 - May 2014
Lab Assistant & Honor's Undergraduate Student *Reno, NV*

- Performed various molecular procedures as part of an undergraduate thesis project: DNA extraction (MiniPrep), PCR, gel electrophoresis, NGS library prep

PROFESSIONAL EXPERIENCE

Hoban Conservation Lab, Morton Arboretum July, 2021 - Present
Research Assistant II *Lisle, IL*

- Run bioinformatic analyses on sequencing data in contribution to population and conservation genetics research
- Collaborate with researchers within and beyond the Morton Arboretum to further advances in tree science

Hamilton Robotics January 2015 - May 2018
Applications Specialist II *Reno, NV*

- Wrote scripts automating lab procedures with Hamilton pipetting robots—primarily Illumina NGS library prep, but also blood typing and single cell gene expression assays
- Worked on a team with engineers and project managers serving as the primary technical support contact for automation customers

PROGRAMMING LANGUAGES AND SOFTWARE

Proficient	R, BASH, L ^A T _E X, VENUS (Hamilton proprietary software), ArcGIS
Familiar	Python, Ruby, Java
Population Genetics Software	Stacks2, <i>ipyrad</i> , STRUCTURE, <i>adegenet</i> , VCFtools

PUBLICATIONS

Koontz, Austin and Pearse, William D. 2020. SymbiotaR2: Downloading Data from Symbiota2 Portals into R. R package, Version 0.0-1. Journal of Open Source Software, GitHub repository: <https://github.com/pearselab/SymbiotaR2>

Koontz, Austin, Pearse, William D., and Wolf, Paul G. 2020 (*In Prep*). Pronounced genetic separation among varieties of the *Primula cusickiana* species complex, a Great Basin endemic. Preprint: <https://www.biorxiv.org/content/10.1101/2021.03.19.436082v1.abstract>

Koontz, Austin, and Pearse, William D. (*In Prep*). A Phylogenetically-based Solution to Ambiguous Species Delimitation in Studies of Assemblage Structure. GitHub repository: https://github.com/akoontz11/OTU_Phylogeny

(*Co-authored*) Lembrechts, JJ, Aalto, J, Ashcroft, MB, et al. SoilTemp: A global database of near-surface temperature. Glob Change Biol. 2020; 00: 1– 14. <https://doi.org/10.1111/gcb.15123>

(*Co-authored*) Stachewicz, Jacob D., et al. 2020 (*In Prep*) Strong trait correlation and phylogenetic signal in North American ground beetle (Carabidae) morphology. Preprint: <https://www.biorxiv.org/content/10.1101/2021.02.12.431029v1.abstract>

PRESENTATIONS

Koontz, Austin, Pearse, William D., and Wolf, Paul G. Resolving the systematics of an endangered primrose species complex (*Primula cusickiana*) to inform management in the Great Basin region of the United States. Ecological Society of America, Oral presentation. Salt Lake City, UT, U.S. August 6 2020.

Koontz, Austin, Waring, Bonnie, and Pearse, William D. Using phylogenetic transformations to account for effects of sequencing error and intra-specific variation on operational taxonomic unit (OTU) assignment in microbial ecology. Oral presentation, Ecological Society of America. Louisville, Kentucky, U.S. August 15 2019.

HONORS & AWARDS

Honor's Undergraduate Research Award (UNR)	November 2013
Ecology Center Graduate Research Award (USU; \$1,895)	March 2019
Ivan J. Palmblad Graduate Research Award (USU; \$2,000)	March 2019
Margaret Williams Research Grant (Nevada Native Plant Society ; \$1,000)	March 2019
Dr. Lawrence H. Piette Graduate Scholarship (USU; \$600)	April 2019