

HANNAH E. MARX

Assistant Professor & Herbarium Curator

Department of Biology, Museum of Southwestern Biology
University of New Mexico
Albuquerque, NM, USA

Pronouns: [she/her/hers](#)

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Website: <http://www.hannahmarx.com>

GitHub: <https://github.com/hmarx>

[Google Scholar Profile](#)

RESEARCH INTERESTS

Ecological and evolutionary drivers of diversity in natural communities across space and time; island biogeography; alpine flora; introduced species; evolution of cold tolerance; community phylogenetics; comparative genomics; polyploidy; bioinformatics; biodiversity informatics; botanical collections; extended specimens.

EDUCATION

- | | |
|------|---|
| 2016 | Ph.D. Bioinformatics & Computational Biology , University of Idaho, Moscow, ID
Dissertation: <i>Disentangling drivers of floristic diversity in island systems using phylogenetic approaches</i>
Advisor: Dr. David Tank (Department of Biology) |
| 2008 | B.S. Biology (Plant Biology) , University of Washington, Seattle, WA |

PROFESSIONAL EXPERIENCE

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|--------------|---|
| 2021–present | Assistant Professor & Herbarium Curator , University of New Mexico |
| 2018–2020 | Postdoctoral Research Fellow , Smith & Dick Labs, University of Michigan
<i>Evolution of cold tolerance in alpine plants</i> |
| 2016–2018 | Postdoctoral Research Associate , Barker & Dlugosch Labs, University of Arizona
<i>Genomic plasticity in response to changing environments</i> |
| 2014–2015 | Chateaubriand & NSF Graduate Research Opportunities Worldwide (GROW) Fellow , Lavergne Lab, Laboratoire d'Ecologie Alpine, France
<i>Integrating functional trait and functional genomic diversity of alpine invaders</i> |
| 2011–2016 | NSF Graduate Research Fellow , Tank Lab, University of Idaho |
| 2008–2010 | Laboratory Technician , Olmstead Lab, University of Washington
<i>Molecular phylogeny of the plant order Lamiales</i> |
| 2009 | Field Research Aid , Halpern Lab, University of Washington
<i>Plant surveys of alpine meadows across the Three Sisters Wilderness, Oregon</i> |
| 2006–2008 | Undergraduate Research Assistant , Olmstead Lab, University of Washington
<i>Molecular phylogeny and systematics of the plant family Verbenaceae</i> |

PEER REVIEWED PUBLICATIONS

*graduate student mentee

**undergraduate mentee

2023

22. Ernst A*, Barak R, Glasenhardt M, Kramer A, Larkin D, **Marx HE**, Poulton K, Hipp A. Dominant species establishment may influence invasion resistance more than phylogenetic or functional diversity. Accepted for Publication (22 Sept 2023): *Journal of Applied Ecology*

2022

21. Bach W, Kreft H, Craven D, König C, Schrader J, Taylor A, Dawson W, Essl F, Lenzner B, **Marx HE**, Meyer C, Pergl J, Pysek P, van Kleunen M, Winter M, Weigelt P. 2022. Phylogenetic composition of native island floras influences naturalized alien species richness. *Ecography* e06227 <https://doi.org/10.1111/ecog.06227>
20. Ernst A*, Barak R, Hipp A, Kramer A, **Marx HE** & Larkin A. 2022. The invasion paradox dissolves when using phylogenetic and temporal perspectives. *Journal of Ecology* 110: 443–456. <https://doi.org/10.1111/1365-2745.13812>
19. Figueroa H*, **Marx HE**, Beatriz de Souza Cortez M*, Grady C, Engle-Wrye NJ*, Beach J, Stewart A, Folk R, Soltis D, Soltis P & Smith S. 2022. Contrasting patterns of phylogenetic diversity and alpine specialization across the alpine flora of the American mountain range system. *Alpine Botany* 132: 107–122. <https://doi.org/10.1007/s00035-021-00261-y>
18. Morales-Briones DF, Gehrke B, Huang CH, Liston A, Ma H, **Marx HE**, Tank DC & Yang Y. 2022. Analysis of paralogs in target enrichment data pinpoints multiple ancient polyploidy events in *Alchemilla s.l.* (Rosaceae). *Systematic Biology* 71(1): 190–207. <https://doi.org/10.1093/sysbio/syab032>

2021

17. **Marx HE**, Carboni M, Douzet R, Perrier C, Delbart F, Thuiller W, Lavergne S, Tank D. 2021. Can functional genomic diversity provide novel insights into mechanisms of community assembly? A pilot-study from an invaded alpine streambed. *Ecology and Evolution* 11: 12075– 12091. <https://doi.org/10.1002/ece3.7973>
16. Simon ADF*, **Marx HE**, Starzomski BM. 2021. Phylogenetic restriction of plant invasion in drought-stressed environments: implications for insect-pollinated plant communities in water-limited ecosystems. *Ecology and Evolution* 11: 10042– 10053. <https://doi.org/10.1002/ece3.7776>
15. **Marx HE**, Jorgensen SA*, Wisely E*, Li Z*, Dlugosch KM & Barker MS. 2021. Pilot RNA-seq data from 24 species of vascular plants at Harvard Forest. *Applications in Plant Sciences* 9(2): e11409. <https://doi.org/10.1002/aps3.11409>

2020

14. **Marx HE**, Scheidt S, Barker MS & Dlugosch KM. 2020. TagSeq for gene expression in non-model plants: A pilot study at the Santa Rita Experimental Range NEON core site. *Applications in Plant Sciences* 8(11): e11398. <https://doi.org/10.1002/aps3.11398>

13. Baniaga AE*, **Marx HE**, Arrigo N & Barker MS. 2020. Polyploid plants have faster rates of multivariate climatic niche evolution than their diploid relatives. *Ecology Letters* 23: 68-78. <https://doi.org/10.1111/ele.13402>

2019

12. One Thousand Plant Transcriptomes Initiative. 2019. One thousand plant transcriptomes and the phylogenomics of green plants. *Nature* 574: 679–685. <https://doi.org/10.1038/s41586-019-1693-2>
11. Daijiang L, Trotta L, **Marx HE**, Allen JM, Sun M, Soltis DE, Soltis PS, Guralnick RP & Baiser B. 2019. For comparing phylogenetic diversity among communities, go ahead and use synthesis phylogenies. *Ecology* 100(9): e02788. <https://doi.org/10.1002/ecy.2788>
10. **Marx HE**, Richards M**, Johnson GM* & Tank DC. 2019. Increasing phylogenetic stochasticity at high elevations on summits across a remote North American wilderness. *American Journal of Botany* 106(7): 958–970. <https://doi.org/10.1002/ajb2.1328> [GitHub](#)

2018

9. Lu-Irving P, **Marx HE** & Dlugosch K. 2018. Leveraging contemporary species invasions to test phylogenetic hypotheses of trait evolution. *Current Opinion in Plant Biology* 42: 95–102. <https://doi.org/10.1016/j.pbi.2018.04.011>
8. Landis JB, Soltis DE, Li Z, **Marx HE**, Barker MS, Tank DC & Soltis PS. 2018. Impact of whole-genome duplication events on diversification rates in angiosperms. *American Journal of Botany—Special Issue: Using and Navigating the Plant Tree of Life* 105(3): 348–363. <https://doi.org/10.1002/ajb2.1060>

2017

7. **Marx HE**, Dentant C, Renaud J, Delunel R, Tank DC & Lavergne S. 2017. Riders in the sky (islands): using a mega-phylogenetic approach to understand plant species distribution and coexistence at the altitudinal limits of angiosperm plant life. *Journal of Biogeography* 44(11): 2618–2630. <https://doi.org/10.1111/jbi.13073> [GitHub](#)
6. Yang Y, Moore MJ, Brockington SF, Timoneda-Monfort A, Feng T, **Marx HE**, Walker JF & Smith SA. 2017. An efficient field and laboratory workflow for plant phylotranscriptomic projects. *Applications in Plant Sciences* 5(3): 1600128. <https://doi.org/10.3732/apps.1600128>

2016 & earlier

5. **Marx HE**, Giblin DE, Dunwiddie PW & Tank DC. 2016. Deconstructing Darwin’s Naturalization Hypothesis in the San Juan Islands using community phylogenetics and functional traits. *Diversity and Distributions* 22: 318–331. <https://doi.org/10.1111/ddi.12401> [GitHub](#)
4. Goldberg CS, Tank DC, Uribe-Convers S, Bosworth WR, **Marx HE** & Waits LP. 2012. Species designation of the Bruneau Dune tiger beetle (*Cicindela waynei*) is supported by phylogenetic analysis of mitochondrial DNA sequence data. *Conservation Genetics* 13: 373–380. <https://doi.org/10.1007/s10592-011-0295-9>
3. **Marx HE**, O’Leary N, Yuan YW, Lu-Irving P, Tank DC, Múlgura ME & Olmstead RG. 2010. A molecular phylogeny and classification of Verbenaceae. *American Journal of Botany* 97(10): 1647–1663. <https://doi.org/10.3732/ajb.1000144>

2. Yuan YW, Liu C, **Marx HE** & Olmstead RG. 2010. An empirical demonstration of using PPR (pentatricopeptide repeat) genes as phylogenetic tools: phylogeny of Verbenaceae and the Verbena complex. *Molecular Phylogenetics and Evolution* 54: 23–35. <https://doi.org/10.1016/j.ympev.2009.08.029>
1. Yuan YW, Liu C, **Marx HE** & Olmstead RG. 2009. The PPR (pentatricopeptide repeat) gene family, a tremendous resource for plant phylogenetic studies. *New Phytologist* 182: 272–283. <https://doi.org/10.1111/j.1469-8137.2008.02739.x>

Book Reviews:

Marx, HE. 2021. Review of: *Field Guide to the Trees of the Gila Region of New Mexico*, by Richard Stephen Felger, James Thomas Verrier, Kelly Kindscher, and Xavier Raj Herbst Khera. *Plant Science Bulletin* 67(3) 2021: 204–205.

In Review or Revision (preprints available upon request):

Lombardi EM, Faust H, **Marx HE.** Merging digitized historical collections information with open-access spatial data to identify priorities for future collection efforts. *In Review*.

Feng K*, Walker JF, **Marx HE**, Goncalves DJP, Yang Y, Brockington SF, Moore MF, Rabeler RK, Smith SA. Polyploidy events and arctic-alpine adaptations in the Caryophyllaceae. *In Review*.

Figuerola H*, **Marx HE**, Grady C, Beach J, Folk R, Soltis D, Soltis P, Stewart A & Smith S. Quantifying niche similarity among New World seed plants. *In Revision*.

Johnson GM*, **Marx HE** & Tank DC. A Floristic inventory of the high Idaho batholith ecoregion in the mountains of central Idaho, U.S.A. *In Revision*.

GRANTS

Awarded:

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| 2023 | Anderson (PI), Barrow (co-PI), Campbell (co-PI), Cook (co-PI), Marx (co-PI) . National Science Foundation CSBR: “Sustainability in Vapor-phase Nitrogen of a World-class Frozen Biorepository at the Museum of Southwestern Biology” University of New Mexico [\$740,018] |
| 2022 | Marx (PI) . National Science Foundation ADVANCE Women in STEM Faculty Development Award sub-award: “Landscape genomics and local adaptation of piñon pine across the intermountain west” University of New Mexico [\$10,000] |
| 2022 | Copeland (co-PI), Fletcher (co-PI), Harris (co-PI), Marx (co-PI) , Beining (co-PI). Program for Enhancing Research Capacity (PERC). “ARTSLab Interdisciplinary Fabrication Equipment (ARTSLIFE)” University of New Mexico [\$63,656] |
| 2021 | Marx (PI) . Research Allocations Committee (RAC) Grant: “Adaptability of piñon pine (<i>Pinus edulis</i>) populations to future hot droughts” University of New Mexico [\$10,000] |

- 2021 ***Transfer of PI* Marx (PI)**. National Science Foundation Digitization TCN: “Collaborative Research: Using Herbarium Data to Document Plant Niches in the High Peaks and High Plains of the Southern Rockies—Past, Present, And Future” University of New Mexico [\$190,944]
- 2015 **Marx (PI)**. IBEST Technology Access Grant: “An integrated approach to understanding eco-evolutionary invasion dynamics in an alpine system” University of Idaho [\$14,456]
- 2013 **Marx (PI)**. Stillinger Herbarium Expedition Funds: “Sky Islands of Idaho: phylogenetic community composition of alpine flora” University of Idaho. [\$2,428]
- 2012 **Marx (PI)**. Stillinger Herbarium Expedition Funds: “Sky Islands of Idaho: phylogenetic community composition of alpine flora” University of Idaho [\$5,436]

Submitted:

- 2021 Anderson (PI), Cook (co-PI), Campbell (co-PI), Barrow (co-PI), **Marx (co-PI)**. National Science Foundation CSBR: Natural History Collection: “Building Infrastructure for Proactive Science-based Approaches to Critical Societal Issues” [\$1,210,472]. Declined.

FELLOWSHIPS

- 2015–2016 **Bioinformatics & Computational Biology Fellowship**, University of Idaho[\$21,000]
- 2013–2014 **Bioinformatics & Computational Biology Fellowship**, University of Idaho[\$21,000]
- 2013–2014 **Chateaubriand Fellowship**, Embassy of France in the United States [€11,000]
- 2013–2014 **NSF Graduate Research Opportunities Worldwide (GROW) Fellow** [\$5,000]
- 2012 **Bioinformatics & Computational Biology Fellowship**, University of Idaho[\$21,000]
- 2010 **IGERT C-CHANGE Program Trainee**, University of Kansas [\$60,000, declined]
- 2010–2015 **NSF Graduate Research Fellowship Program Fellow** [\$121,500]
- 2007–2008 **Mary Gates Research Scholar**, University of Washington [\$6,000]
- 2006–2007 **HHMI Undergraduate Research Internship**, University of Washington [\$7,000]

AWARDS & HONORS

- 2017 **College of Science Dean’s Award for Graduate Studies**, University of Idaho
- 2015 **GPSA International Travel Award**, University of Idaho [\$759]
- 2013 **Society of Systematic Biologists Graduate Student Research Award** [\$2,000]
- 2013 **Society for the Study of Evolution Rosemary Grant Award** [\$2,250]
- 2013 **BEACON Student Travel Award**, University of Idaho [\$500]
- 2013 **GPSA Travel Award**, University of Idaho [\$490]
- 2012 **GPSA Travel Award**, University of Idaho [\$490]
- 2008 **Young Botanist of the Year Award**, Botanical Society of America

SELECTED PRESENTATIONS

Invited Presentations & Seminars:

- Marx, HE.** Updates on the floristic diversity of the Southern Rocky Mountains. Native Plant Society of New Mexico—Gila Chapter. Silver City, NM. 19 May 2023.
- Marx, HE.** Alpine floristics in western North America: past efforts and future directions. MRT Colloquium. University of New Mexico. 7 March 2023.
- Marx, HE.** Alpine floristics in western North America: past efforts and future directions. Department of Plant Biology, Ecology and Evolution. Oklahoma State University. 3 November 2022.
- Marx, HE.** Alpine systems: Evolution and ecology of alpine plant communities and observations on the effects of climate change. Native Plant Society of New Mexico Conference. Albuquerque, NM. 5 August 2022.
- Marx, HE.** Alpine floristics in western North America: past efforts and future directions. California Botanic Garden. Virtual. 28 April 2022.
- Marx, HE.** Community Transcriptomics: extending axes of functional diversity to inform invasion dynamics. Botany 2021—Symposium: “The Botany of Invasions.” Virtual. July 2021.
- Marx, HE.** Using phylogenies to understand why diverse communities exist in extreme environments. Botany 2020—Colloquium: “Biodiversity synthesis: Linking large phylogenies with species traits and ecologies.” Virtual. July 2020.
- Marx, HE.** Effects of historical geological dynamics on Andean species diversity. Missouri Botanical Garden, Living Earth Collaborative—Symposium: “Patterns and mechanisms of diversity and forest change in the Andes: a global biodiversity hotspot.” September 2019. St. Louis, MO.
- Marx, HE.** Disentangling drivers of floristic diversity on sky islands: from phylogenetics to functional genomics. Department of Ecology, Evolution, and Organismal Biology, Iowa State University. September 2019. Ames, IA.
- Marx, HE.** Disentangling drivers of floristic diversity on sky islands: from phylogenetics to functional genomics. Department of Biological Sciences, University of Calgary. March 2019. Calgary, Canada.
- Marx, HE.** Community ecology through the lens of transcriptomics. Laboratoire d'Écologie Alpine, February 2018. Grenoble, France.
- Marx, HE.** Gene expression plasticity and the persistence of plant species across environmental variation. Plant and Animal Genome XXVI Conference (PAG). January 2018. San Diego, CA.
- Marx, HE.** Disentangling drivers of floristic diversity in natural ecosystems: from functional traits to functional genomics. Department of Biology, Boise State University, March 2017. Boise, ID.
- Marx, HE.** Evolutionary relationships illuminate alpine floristic diversity patterns in a remote North American wilderness. Herbarium, University of Arizona. February 2017. Tucson, AZ.

Contributed Talks & Posters: **student co-author, presenter*

Disentangling the Relationships between Paleopolyploidy Events and Arctic-Alpine Adaptations in the Caryophyllaceae

Feng, Keyi*, Joseph Walker, Hannah E Marx, Stephen Smith

- Botany 2023, Boise, ID, July 2023 (talk)

Welcome to piñon country: Evolutionary past, present, and future of the iconic southwestern pine

Macias, Diana*, Ethan Gyllenhaal*, Joseph Kleinkopf*, Will Pockman, Hannah E. Marx

- Evolution 2023, Albuquerque, NM, June 2023 (talk)

Merging digitized collections information with open-access spatial data to identify priorities for future collection efforts

Lombardi, Elizabeth, Harpo Faust, and Hannah E. Marx

- Digital Data in Biodiversity Research Conference, Arizona State University, June 2023 (talk)

Testing a Hypothesis of Alpine Plant Community Assembly in the Cascades Range of Washington State

Kleinkopf, Joseph*, David Giblin, Hannah E. Marx

- Botany 2022, Anchorage, AK. July 2019 (poster)

Evolutionary history of angiosperms across the Neotropics

Marx, Hannah E., Stephen A. Smith, and Christopher W. Dick

- Botany 2019, Tucson, AZ. July 2019 (talk)

Gene expression plasticity and the persistence of plant species across environmental variation

Marx, Hannah E., Brian Maitner*, Eldridge Wisely*, Stacy A. Jorgensen*, Katrina M. Dlugosch, and Michael S. Barker

- Botany 2018, Rochester, MN. Aug. 2018 (talk)
+ Comparative Genomics / Transcriptomics Session Chair

Seasonal variation in gene expression across a community of plants at Harvard Forest.

Marx, Hannah E., Eldridge Wisely*, Stacy A. Jorgensen*, Katrina M. Dlugosch, and Michael S. Barker

- Evolution Meetings, Portland, OR. Jun. 2017 (talk)

Phylogenetic patterns of alien invasion across island archipelagos

Marx, Hannah E., Patrick Weigelt, Sébastien Lavergne, and David Tank

- 8th Biennial Conference of the International Biogeography Society, Tucson, AZ. Jan. 2017 (talk)
+ Biological Invasions Session Chair

Diversity dynamics of alpine flora using mega-phylogenetic approaches

Marx, Hannah E. and David C. Tank

- Botany 2016, Savannah, GA. Aug. 2016 (talk)

Patterns of community assembly on “sky islands” in the French Alps using mega-phylogenetic approaches

Marx, Hannah E., Sébastien Lavergne, Cédric Dentant, and David Tank

- Botany 2015, Edmonton, Canada. Jul. 2015 (talk)
- IBEST Genomics Research Symposium, Moscow, ID. May 2015 (poster)

Dissecting drivers of invaded island communities in a comparative phylogenetic framework

Marx, Hannah E., Patrick Weigelt, Sébastien Lavergne, Wilfried Thuiller, and David Tank

- British Ecological Society & Société Française d'Ecologie. Lille, France. Dec. 2014 (talk)
- Modern Comparative Phylogenetic Methods. Seville, Spain. Nov. 2014 (talk)

- Botany 2014 Conference. Boise, ID. Jul. 2014 (talk)
- University of Göttingen. Göttingen, Germany. Apr. 2014 (talk)

Alien encounters of the floral kind: patterns of community assembly on the San Juan Islands in Washington State

Marx, Hannah E., David Giblin, Peter Dunwiddie, David Tank

- Laboratoire d'Ecologie Alpine. Grenoble, France. Feb. 2014 (talk)
- Botany 2013 Conference. New Orleans, LA. Jul. 2013 (talk)
- Evolution 2013 Conference. Snowbird, UT. Jun. 2013 (talk)

Community phylogenetics of the vascular flora of the San Juan Islands archipelago

Marx, Hannah E., David Giblin, Peter Dunwiddie, David Tank

- College of Science 2012 Student Research Exposition. Moscow, ID. Nov. 2012 (poster)
- First Annual IBEST Research Expo. Moscow, ID. Oct. 2012 (poster)
- Botany 2012 Conference. Columbus, OH. Jul. 2012 (talk)

Workshops & Webinars:

BiotaPhy Project Webinar Training on Data Use Skills

- Phylogenetic Diversity: Integrating Phylogenies with Species and Biogeographic Data (November 16th, 2022)

Phylogenetic Diversity

- Botany 2021 — Workshop “Using Digitized Collections-Based Data in Research: Applications for Ecology, Phylogenetics, and Biogeography”, Virtual, July 2021

CONTRIBUTED DATASETS

Marx HE, Carboni M, Douzet R, Perrier C, Delbart F, Thuiller W, Lavergne S, Tank D. 2021. Can functional genomic diversity provide novel insights into mechanisms of community assembly? A pilot-study from an invaded alpine streambed. [Data set]. Dryad Digital Repository: <https://doi.org/10.5061/dryad.8cz8w9gqs>

Marx HE, Scheidt S, Barker MS & Dlugosch KM. 2020. TagSeq for gene expression in non-model plants: A pilot study at the Santa Rita Experimental Range NEON core site. *Applications in Plant Sciences* 8(11): e11398. [Data set]. Zenodo: <https://doi.org/10.5281/zenodo.3740232>

Marx HE, Richards M, Johnson GM, Tank DC. (2019). Data from: Increasing phylogenetic stochasticity at high elevations on summits across a remote North American wilderness. [Data set]. Dryad Digital Repository: <https://doi.org/10.5061/dryad.d06j48t>

Marx HE, Dentant C, Renaud J, Delunel R, Tank DC, Lavergne S (2017). Data from: Riders in the sky (islands): using a mega-phylogenetic approach to understand plant species distribution and coexistence at the altitudinal limits of angiosperm plant life. [Data set]. Dryad Digital Repository: <https://doi.org/10.5061/dryad.mc50c>

Marx HE, Giblin DE, Dunwiddie PW, Tank DC (2015). Data from: Deconstructing Darwin's naturalization conundrum in the San Juan Islands using community phylogenetics and functional traits. [Data set]. Dryad Digital Repository: <https://doi.org/10.5061/dryad.m88g7>

NCBI Sequence Read Archive (SRA):

Functional genomic diversity of invaded and pristine alpine plant communities. 2020. BioProject #PRJNA622490: <https://www.ncbi.nlm.nih.gov/bioproject/PRJNA622490>

Vascular plants sampled from nine high-alpine summit communities. 2020. BioProject #PRJNA530061: <https://www.ncbi.nlm.nih.gov/bioproject/PRJNA530061>

Genomic Plasticity in Response to Variable Environments. 2017. BioProject #PRJNA422719: <https://www.ncbi.nlm.nih.gov/bioproject/PRJNA422719>

TEACHING

Course Design (Instructor of Record)

2023 (Fall)	Instructor , University of New Mexico Flora of New Mexico (BIOL 463L: upper division undergraduate)
2023 (Spring & Fall)	Instructor , University of New Mexico Topics in Alpine Plant Diversity (BIOL 406: seminar)
2022 (Fall)	Instructor , University of New Mexico Plants & People (BIOL 406: upper division undergraduate)
2022 (Spring)	Instructor , University of New Mexico Plant and Animal Form and Function (BIOL 304: undergraduate)
2022 (Spring & Fall)	Instructor , University of New Mexico Topics in Alpine Plant Diversity (BIOL 406: seminar)
2021 (Spring)	Instructor , University of New Mexico Plants & People (BIOL 406: upper division undergraduate)
2017	Co-Instructor , University of Arizona Seminar in Bioinformatics (ECOL 296: introductory undergraduate)

Teaching Assistantships (* *Included developing curricula*)

2013–2015	Graduate Teaching Assistant , University of Idaho Organisms & Their Environment (BIOL 114: undergraduate) *Advanced Field Botany (BIOL 460/560: upper division undergraduate) *Applied Bioinformatics (BIOL 504: upper division undergraduate/graduate)
2014	Teaching Assistant , Université Grenoble Alpes, Grenoble, France *Community Ecology and Evolutionary Biogeography (Masters: graduate)
2011	Teaching Assistant , University of Kansas *Systematic Botany (BIOL 603: upper division undergraduate)
2007	Peer Teaching Assistant , University of Washington Plant Identification and Classification (BIOL 117/317: undergraduate)

Guest Lectures

2023	Guest Lecturer , University of New Mexico Botanical Diversity & Preservation (BIOL 419/519: upper division)
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2022	Guest Lecturer , University of New Mexico Interdisciplinary Museum Science (MSST 529: graduate)
2018	Guest Lecturer , University of Arizona Bioinformatics (ECOL 346: upper division undergraduate)
2017	Guest Lecturer , University of Arizona Bioinformatics (ECOL 346: upper division undergraduate)

MENTORING & SUPERVISION

University of New Mexico

2023–present	<i>MS Committee Member (Lisa Garcia)</i>
2022–present	<i>Postdoctoral Fellow Advisor (Elizabeth Lombardi)</i>
2022–present	<i>MS Major Advisor (Bryana Olmeda)</i>
2022–present	<i>MS Major Advisor, Museum Studies (Erin Berkowitz)</i>
2022–present	<i>PhD Committee Member (Kathleen Webster)</i>
2022–present	<i>Undergraduate Honors Thesis Mentor (Jeremiah Westerman)</i>
2021–present	<i>PhD Major Advisor (Joseph Kleinkopf)</i>
2021–present	<i>PhD Committee Member (Quinlyn Baine)</i>
2022–2023	<i>MS Committee Member (Nathan Perryman)</i>
2021–2023	<i>PhD Committee Member (Diana Macias)</i>
2021	<i>McNair Scholar Undergraduate Mentor (Nathan Gonzalez)</i>
2023–present	<i>Herbarium undergraduate assistant supervisor (Z Vermette)</i>
2022–present	<i>Herbarium undergraduate assistant supervisor (Jeremiah Westerman)</i>
2022–2023	<i>Herbarium undergraduate assistant supervisor (Xavier Cardona)</i>
2022–2023	<i>Herbarium undergraduate assistant supervisor (Shelby Haney)</i>
2022	<i>Herbarium undergraduate assistant supervisor (Esther Burton)</i>
2022	<i>Herbarium undergraduate assistant supervisor (Lauren Urenda)</i>
2021	<i>Herbarium undergraduate assistant supervisor (Gwendolyn Houston-Hatton)</i>

University of Michigan

2019	<i>Summer Intern Mentor (Amritha Anupindi)</i>
2018–2021	<i>PhD Student Mentor (Hector Figueroa)</i>
2018–2021	<i>External PhD Committee Member (Andrew Simon; University of Victoria)</i>

University of Arizona, Tucson, Arizona

2017	<i>PhD Lab Rotation Supervisor (Eldridge Wisely)</i>
2017–2021	<i>External PhD Committee Member (Adrienne Ernst; Northwestern University & Chicago Botanic Garden)</i>

Laboratoire d'Ecologie Alpine, Grenoble, France

2014	<i>MS Student Mentor (Solène Knipping)</i>
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University of Idaho

2012–2015	<i>Undergraduate Research Mentor (Melissa Richards, Justin Olnes)</i>
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SERVICE & OUTREACH

2023	MSB Open House (Evening at the Museum: NM Museum of Natural History)
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2023	MSB Open House (Specimens behind the science)
2023	MSB Open House (Evolution revealed: and open collections event)
2023	Evolution Meeting Organizer , Phrymaceae Phylogenetics
2023	UNM Herbarium Collecting Foray Organizer , Zuni Mountains
2023	Presenter , Sevilleta REU Program
2023	Member , Scholarship Committee, UNM Biology
2023	Reviewer , NSF Panel (January)
2022–present	Chair , Graduate Student Grants, American Society of Plant Taxonomists
2022	Reviewer , WeR1: Program for Enhancing Research Capacity (PERC)
2022	Instructor , Collection Training for Herbaria, Sevilleta LTER
2022	Organizer , Plant Identification Nights, UNM Herbarium
2022	Reviewer , NSF Panel (April)
2022	Reviewer , NSF Panel (January)
2022	Tour Guide , UNM Herbarium: Botany Course (Mar.), New Mexico School for the Arts (Mar.), CURE Summer Internship Program (July), New Mexico Native Plant Society (August)
2022	Panelist , Curator Panel in Interdisciplinary Museum Science Course
2022	Panelist , Slice of Bio: Research Careers, UNM Biology
2021, 2022	Member , Graduate Student Grants, American Society of Plant Taxonomists
2021	Chair , Senior Collection Manager Search Committee, UNM Herbarium
2021	Member , Freshwater Ecosystems Ecologist Search Committee, UNM Biology
2021, 2022	Panelist , Biology Undergraduate Society (BUGS) Networking Night
2021	Instructor , Intro. Plant Identification, ABQ Backyard Refuge Master Naturalist
2021	Presenter , Sevilleta REU Program
2021	Instructor , Intro. Plant Identification, iNaturalist City Nature Challenge ABQ
2021, 2022, 2023	Judge , Research Day, UNM Biology
2021	Member , Scholarship Committee, UNM Biology
2020	Reviewer , Graduate Student Research Grants, Botanical Society of America
2019	Interview , My Journey in Science Workshop, Iowa State University
2019, 2020	Interview , Skype a Scientist (outreach to 6 classrooms)
2017, 2018, 2019	Reviewer , Graduate Student Research Grants, Society of Systematic Biologists
2017–2020	Mentor , PlantingScience (online student research)
2016–2018	Reviewing Editor , <i>Applications in Plant Science</i>
2015	Organizer , BioBlitz, Coeur d'Alene, ID
2015	Panelist , Prestigious Fellowship Workshop, Washington State University
2014	Panelist , Chateaubriand Fellowship, Grenoble, France
2013	Senator At Large , Graduate and Professional Student Association, U Idaho
2013–2015	Vice President , Student Chapter of the Botanical Society of America, U Idaho
2012–2013	Student Representative , Bioinformatics & Computational Biology, U Idaho
2013	Mentor , Women in Math & Science, Coeur d'Alene, ID
2012	GPSA Representative , Innovation Showcase Planning Committee, U Idaho
2012–2013	Member , GPSA Travel Awards Committee, U Idaho
2012–2013	Senator , Graduate and Professional Student Association (GPSA), U Idaho

Scientific Peer Review: *AoB PLANTS* (1) • *Applications in Plant Sciences* (20) • *American Journal of Botany* (2) • *The American Naturalist* (1) • *Ecological Monographs* (1) • *Ecology and Evolution* (2) •

Fire (1) • *Global Ecology and Biogeography* (1) • *Journal of Biogeography* (3) • *Methods in Ecology and Evolution* (2) • *Molecular Ecology* (1) • *Oecologia* (1) • *Oikos* (1) • *Phytotaxa* (1) • *Plant Ecology & Diversity* (1) • *PLoS ONE* (1) • *Systematic Biology* (2) • *PNAS* (1)

Professional Society Membership: American Society of Plant Taxonomists (ASPT); Botanical Society of America (BSA); Native Plant Society of New Mexico (NPSNM); Society for Advancement of Chicanos/Hispanics, and Native Americans in Science (SACNAS); Society of Herbarium Curators (SHC); Society of Systematic Biologists (SSB)

PRESS & SCIENCE COMMUNICATION

April 2022	New Mexico Magazine: “High Aspirations for Alpine Plants”
December 2021	UNM BioBlog: “Christmas Tree, Oh (phylogenetic) Christmas Tree”
2019–present	Monthly contributor , nature newsletter: “HMC Boardwalk Talk”
2018	Muséum de Grenoble , special exposition: “Sur les îles du ciel”
2017	French documentary: “Sur les îles du ciel”
2016	PCEI Science After Hours: “Tank Lab Takeover”
2014	Invited blog post: NSF BEACON Researchers at Work
2012	Video Outreach: “Plants Are Cool, Too! Episode 2 : Fossilized Forests!”

WORKSHOPS & TRAINING

2023	Faculty Fellow in the UNM Student Experience Project (SEP)
2022	AIBS IDEA Conference 2.0: Enabling Scientific Societies to Support Inclusive, Diverse, Equitable, and Accepting (IDEA) Scientific Environments, American Society of Plant Taxonomists Representative, Virtual
2021	Strategic Planning for Herbaria , Society of Herbarium Curators, Virtual
2019	Synthesis Working Group: Patterns and mechanisms of diversity and forest change in the Andes: A global biodiversity hotspot, St. Louis, MO
2019	Amazon Web Services Cloud Computing Workshop , University of Michigan
2018	Amazon-Andes Geo-Genomics ECR Workshop , Wake Forest, SC
2018	Teaching Pedagogy Workshop , University of Arizona
2013	Bodega Applied Phylogenetics Workshop , California
2012	São Paulo School of Advanced Sciences (SPSAS-evo) , Ilhabela, Brazil

FIELDWORK

Zuni Mountains, NM (2023); **Latir Wilderness**, NM (2022); **Sevilleta LTER**, NM (2021); **Santa Rita Experimental Range**, AZ (2017); **Harvard Forest**, MA (2016); **Écrins National Forest (NF)**, France (2014); **Col du Lautaret**, France, (2014); **Sawtooth NF**, ID (Cramer, Snowyside, Castle, Hyndman, Salzberger, & Lee Peaks, 2013); **Payette NF**, ID (2013); **Sawtooth NF**, ID (Thompson, Horstmann, & Braxon Peaks, 2012); **Taylor Ranch**, Frank Church River of No Return Wilderness, ID (2011); **Payette NF**, Idaho (ID/WTU Herbaria, 2011); **San Juan Islands**, WA (WTU Herbarium, 2009); **Channeled Scablands**, WA (WTU Herbarium, 2009); **HJ Andrews Experimental Forest & Three Sisters Wilderness**, OR (2009); **Lolo NF**, MT (WTU Herbarium, 2008); **Southeast Texas** (Verbenaceae expedition, 2008)

Number of Collections (Herbarium Code): 45 (UNM); 104 (ARIZ); 557 (ID); 172 (WTU) = 863 total