

Harpo Faust

Herbarium Collections Manager & Botanist
UNM Herbarium, Museum of Southwestern Biology
Department of Biology
University of New Mexico
Albuquerque, NM, USA

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INTERESTS

Floristics, Herbarium Curation, Systematics & Taxonomy, Ferns and Fern Allies, Collection Data Research & Applications, Field Work, Queer Botanical History, Natural History, Humanitarian Aid

EDUCATION

M.S. Biology: Botany 2021
Thesis: *A Vascular Flora of the Selkirk Mountains of Idaho*, Advisor: Dr. David Tank
Thesis Committee: Dr. Jack Sullivan, Dr. Eva Strand, Dr. Barbara Ertter & Ben Legler M.S.
University of Idaho, Moscow, ID

B.A. Environmental Studies, with Education 2013
Departmental Honors
University of California, Santa Cruz, Santa Cruz, CA

CURRENT POSITION

Senior Collections Manager 2022- Current
University of New Mexico Herbarium, Museum of Southwestern Biology, Albuquerque, NM

- *Oversee the largest herbaria in the state of New Mexico, including day to day curation, data management, and facilities management
- *Maintain working knowledge of the flora of New Mexico
- *Train & supervise students & volunteers in field and museum based botanical sampling & archival curation
- *Coordinate all fieldwork based out of the UNM Herbarium, including permits & permissions
- *Facilitate specimen-based research with students & research associates
- *Perform individual research drawing on divisions collections
- *Perform a myriad of outreach activities to schools, universities, agencies, and community
- *Perform herbarium division facilities management and maintenance
- *Upkeep all technology, imaging equipment, microscopes, and databases for division
- *Create and implement up to date protocols for division

MUSEUM ACTIVITIES

- *Actively working with undergraduate students, graduate students, volunteers, collaborators and personally towards expanding collection breadth and coverage with regular collecting activities
- *Expanding herbariums connections to other collections in the state and working towards integrating multiple under curated collections in the state into the UNM Herbarium
- *Maintaining active relationships with botanists, biologists, and supervisors across all state agencies in New Mexico and Colorado (Natural Heritage Program, State Forestry Division, Forest Service, National Park Service, Navajo Nation, Bureau of Land Management, Fish and Game)
- *Active training of over 25 students and volunteers in collection methods, voucher specimen preparation, curation, databasing methods, and taxonomic concepts

- *Active public outreach with identification nights and collection trainings
- *Active outreach with an average of 12 tours a year
- *Active loan and exchange program with herbaria across the world, averaging 12 loans a year
- *Participation in UNM courses and activities with active specimen check out
- *Host regular activity with an average of 200 visitors a year
- *Regular use of specimens in research, both physical specimens, genetic tissue, and database use resulting in the most publications based on specimens out of any division at the MSB
- *Increased digitization of herbaria records, such as field notes to loan history, to division history
- *Regularly update divisions website, brochure, sticker, design, and outreach materials

ACADEMIC APPOINTMENTS

Adjunct Biology Faculty

Spring 2023

BIO 419: Botanical Diversity & Preservation, University of New Mexico, Albuquerque, NM

- *Designed an upper division course with lab component, rooted in exposure and development of botanical collection skills and research as well as botanical diversity in the southwest
- *Managed and trained undergraduate senior biology students in herbaria skills
- *Organized and facilitated guest lecture series to increase exposure to different botanical careers
- *Lead students through collections-based research projects, including formal presentations at UNM Research Day

Research Associate

2021

University of Arizona, Tumamoc Laboratory, Tucson, AZ

- *Collaborated with ARIZ & Tumamoc Scientists to lay the groundwork for a floristic inventory of the Volcan Tres Virgenes region in Baja Sur, Mexico
- *Reviewed & confirmed all prior collections from region in ARIZ herbaria
- *Coordinated with regional stakeholders in Baja, MX

Assistant Curator

2018–2021

Stillinger Herbarium, University of Idaho, Moscow, ID

- *Day to day curatorial maintenance of largest herbaria in Idaho
- *Annotated misidentified collections & updated taxonomy of collections
- *Oversaw undergraduate staff & volunteers working with the collections: mounting specimens, accessioning specimens, filing specimens, imaging specimens and database management
- *Performed a myriad of outreach activities to schools, universities, agencies, and community, including Plant ID nights, Open Houses, Tours & Forays

Teaching Assistant

2019

BIO 460/560 Field Course: Advanced Field Botany Summer Course, University of Idaho, McCall, ID

- *Assisted with classroom and field work for a two-week graduate level botany intensive
- *Taught collection methods, taxonomy, a Poaceae intensive, and database use to the class
- *Helped locate field sites & identified, processed, and accessioned collections made during the course

Teaching Assistant Lab

2020

BIO 213 Lab: Principle of Biological Structure and Function, University of Idaho, Moscow, ID

- *Taught lab portion of large undergraduate biology course required for majors
- *Facilitated weekly lab experiments
- *Graded weekly lab reports
- *Guided students semester research project

PROFESSIONAL EXPERIENCE

Contract Botanist

2022

Arizona ESA Species Recovery for Acuna Cactus (*Echinomastus erectocentrus* var. *acunensis*), AZ

- *Designed field study to assess status of endangered species, including mapping potential species habitat and establishing updated demography plots
- *Designed data collection protocols and methods specific to project needs
- *Worked with land managers and agencies to facilitate ongoing research & required permissions

- Lead Botanist** 2021
PG Environmental, Arizona & Southwest States
 - *Worked as lead Botanist for southwest crew monitoring wetland health through private consulting company on BLM Lands
 - *Coordinated with regional agencies regarding taxa of concern and access
 - *Traveled to all southwest states to perform botanical surveys of targeted wetlands in rugged conditions
 - *Accurately identified wetland plants across all southwest wetlands
 - *Maintained required botanical collections for NWCA protocol

- Contract Botanist** 2021
*ESA Surveys for Whitebark Pine (*Pinus albicaulis*), in Sawtooth National Forest, ID*
 - *Worked in rugged sub-alpine mountains, including backpacking approaches
 - *Monitored historical plots of Whitebark Pine across the Sawtooth Mountains
 - *Assessed health of endangered plant populations
 - *Identified and surveyed associated plant taxa of Whitebark Pine

- Contract Botanist** 2021
*Fountaingrass (*Pennisetum setaceum*) Surveys for Coronado National Forest, Catalina Mountains, AZ*
 - *Worked in rugged desert mountains, utilizing satellite imagery to navigate to and access large areas of potential habitat for an invasive species
 - *Monitored and surveyed new Fountaingrass populations in Catalina Mountains
 - *Identified, surveyed and collected other targeted invasive species taxa

- Research Project Manager** 2018-2020
University of Idaho, Biological Sciences & Stillinger Herbarium, Sandpoint, ID
 - *Designed study & project objectives, protocols, data management & organization
 - *Maintained active communication with land managers in region & project collaborators
 - *Hired, trained and facilitated field technicians
 - *Facilitated field work in rugged sub-alpine mountainous regions

- Staff** 2019
Idaho Fish & Wildlife Program, Moscow, ID
 - *Served as botanical expert for large wildlife research project
 - *Reviewed all vegetation samples for wildlife study
 - *Synthesized and created taxonomic resources for study, including master species list

- Biological Research Technician (Plants)** 2018
Oregon State University, Institute of Natural Resources, Corvallis, OR
 - *Performed AIM botanical surveys of eastern Oregon sagebrush steppe
 - *Navigated to remote field plots, maintained field gear and vehicles
 - *Managed data for field plots, tracked species throughout season
 - *Worked as head botanist in smaller crew & taught species identification to other members

- Biological Science Technician (Plants)** 2017
Chicago Botanic Garden, Bureau of Land Management, Twin Falls, ID

- *Performed ecosystem and vegetation inventory and assessment surveys using ArcCollector
- *Post-fire rehabilitation monitoring using cover, density, line point intercepts & belt transects of 1-3 year old fires
- *Gathered and managed data for local fuel moisture and fuel loading numbers
- *Monitored and collected qualitative data for a five year emergency stabilization and rehabilitation project; compiled and wrote reports assessing the rehabilitation of three 20,000+ acre fires for state and federal offices, including original surveys, assessments and maps

Wildcrafter

2015

Juniper Ridge, Various Locations in California

- *Worked as a contracted plant harvester of native California plants for perfume company

BOTANICAL SUPERVISION & MANAGEMENT

University of New Mexico Herbarium, Student Staff(12) & Volunteer Staff(13)	2022- <i>Current</i>
University of New Mexico Herbarium, BIO 419 Lab, Students(8)	<i>Current</i>
PG Environmental Consulting Company, Southwest States, Field Technicians(2)	2021
University of Idaho, Graduate Research, Field Technicians(3) & Volunteers(12)	2019-2020
University of Idaho, BIO 213 Lab, Students(24)	2019
University of Idaho, BIO 460 Advanced Field Botany Summer Course, Students(6)	2019
University of Idaho, Stillinger Herbarium, Student & Volunteer Staff (12)	2018-2021

PEER REVIEWED PUBLICATIONS

1. Faust, H, Legler, B & Tank, D. (2022). *A Vascular Flora of the Selkirk Mountains, Bonner and Boundary Counties, Idaho*. *Aliso: A Journal of Systematic and Floristic Botany: Volume 40: Issue 1, Article 2*.
2. Faust, H & Legler, B. (2021). *Noteworthy Collections: Idaho*. *Madroño*, 68(2), 71-74.

PUBLICATIONS IN PREP

1. Lombardi, L., Faust, H. & Marx, H. (2023) *Using historical botanical data to prioritize future collection efforts: identifying patterns and gaps in herbarium holdings from New Mexico*.
2. Killingsworth, S & Faust, H. (2023) *Technical Report: Status Reassessment of the Endangered Acuna Cactus (Echinomastus erectocentrus var. acunensis)*.
3. Kleinkopf, J., Lombardi, L., Marx, H., Faust, H., (2024) *Methods Paper: Old collections & New tools: Using modern taxonomic harmonizing tools to re-organize herbaria*.
4. Faust, H. (2025) *Revised Checklist of the Ferns & Fern Allies of New Mexico*.

GRANTS & FELLOWSHIPS & AWARDS

University of New Mexico, OVPR Outstanding Research Staff Award , Exceptional Support of Research Training \$1,000	2023
New Mexico Native Plant Society , Jack & Martha Carter Grant \$1,500	2023
ESA Section 6 Grant , Arizona \$20,000	2021
Kinnikinnik Native Plant Society , Loise Wythe Grant \$300	2020
Idaho Native Plant Society , White Pine Grant \$1000	2020
Palouse Audubon Society , Graduate Research Student Award \$500	2019
Torrey Botanical Society , Graduate Student Research Fellowship \$1,000	2019
American Society of Plant Taxonomists , Graduate Student Research Grant \$1,200	2019
Stillinger Expedition Grant , University of Idaho \$20,000	2019-2020
Biology Departmental Fellowship , University of Idaho \$24,000	2018-2020
NSF , Citizen Science Grant, CNPS Rare Plant Treasure Hunts \$500	2013

INVITED TALKS & PUBLIC PRESENTATIONS

- *Guest Lecture for Flora of New Mexico Undergraduate Course, University of New Mexico, November 2023.
- *Presentation for the New Mexico Native Plant Society, Taos Chapter Annual Conference, October 2023.
- *Presentation in Floristics & Taxonomy, Botanical Society of America Conference, July 2021.
- *Presentation for the Montana Native Plant Society, Kelsey Chapter, March 2021.
- *Presentation for the Idaho Native Plant Society, White Pine Chapter, Moscow, ID, March 2021.
- *Presentation for the Kinnikinnik Native Plant Society Annual Meeting, Sandpoint ID, November 2020.
- *Rare Plant Assessments, Idaho Rare Plant Conference, February 2020.

FIELD WORK

New Mexico, Colorado	2023
New Mexico, Colorado, Arizona & Nevada	2022
Arizona, Utah, Colorado, Nevada, Idaho & Mexico (Baja)	2021
Idaho & Ecuador	2020
Idaho & Washington	2019
California, Oregon, Washington	2018
Idaho & Nevada	2017
Oregon	2016
California	2012-2015
Number of Collections Made	4900
Herbaria Deposited (ID, WTU, SRP, ARIZ, UNM, MICH, NYBG, MONTU, UTC)	9

PROFESSIONAL MEMBERSHIPS

New Mexico Native Plant Society	2022
Arizona Native Plant Society	2021
Botanical Society of America	2019
American Society of Plant Taxonomists	2019
Torrey Botanical Society	2019
Idaho Native Plant Society	2018
Oregon Native Plant Society	2016
Northern California Botanist	2013
California Native Plant Society	2013

SERVICE

Root & Shoot Inclusive Conference Working Group, <i>Reviewer</i>	2023
Natural History Club, University of New Mexico, <i>Faculty Advisor</i>	2022 - <i>Current</i>
Queer Femmes in Botany: Botanical Society of America Annual Conference, <i>Facilitator</i>	2022
Careers in Botany Panel: Botanical Society of America Annual Conference, <i>Panelist</i>	2022
New Mexico Rare Plant Technical Council, <i>Member</i>	2022
American Society of Plant Taxonomists, Systematics Committee, <i>Student Representative</i> .	2020-2021
Randall Women in Science: Inclusion Diversity Equality Alliance, <i>Student Board Leader</i>	2019-2021
North Idaho Rare Plant Working Group, <i>Member</i>	2019-2021

FORMAL MENTORSHIP

Bryana Olmeda, M.S. Student Biology, University of New Mexico	2022- <i>Current</i>
Joseph Kleinkopf, PhD. Student Biology, University of New Mexico	2022- <i>Current</i>
Erin Berkowitz, M.S. Student Museum Studies, University of New Mexico	2022- <i>Current</i>
Peri Lee Pipkin, M.S. Student Botany, Claremont Graduate University	2019- <i>Current</i>

SCIENCE COMMUNICATION

University of New Mexico Art & Sciences Highlight, MSB Plant Identification Nights	2023
Botanical Society of America, Careers in Botany Profile	2022
University of Idaho, Vandal Explorer Highlight Video	2020

TEACHING EXPERIENCE

Instructor: Plant Identification Nights <i>University of New Mexico Herbarium, Albuquerque, NM.</i>	2022- <i>Current</i>
Instructor: Collections Training <i>University of New Mexico, Sevilleta National Wildlife Refuge, Socorro, NM.</i>	2022
Instructor: Botanical Field Identification & Plant Collection Intensive <i>University of Idaho, Grouse and Grazing Wildlife Study, Rogerson, ID</i>	2019
Instructor & Facilitator: Plant Identification Nights <i>University of Idaho, Stillinger Herbarium, Moscow, ID.</i>	2018-2020
Program Coordinator & Head Educator <i>Willamette Resources and Educational Network, Bureau of Land Management, Eugene, OR</i>	2016
Instructor: Nature Journaling & Grinnell Field Methods <i>California Naturalist Program, UC Santa Cruz Arboretum, Santa Cruz, CA.</i>	2014, 2016
Guide <i>Wild Child Homeschool, Bay Area, CA</i>	2015-2016
Guide & Curriculum Creator <i>Sunol Agricultural Park, Sunol Valley, CA</i>	2015
Guide: Beginners Botany Walk <i>Redwood Coast Tours, Santa Cruz, CA</i>	2015
Instructor: Botany for Herbalists <i>1849 Medicine Garden, San Francisco, CA</i>	2015
Teacher in Residence <i>Slide Ranch, Muir Beach, CA</i>	2014
Teacher <i>Life Lab Science Program, Santa Cruz, CA</i>	2013
Instructor: Natural History Unit <i>Monarch Community School, Santa Cruz, CA</i>	2013
Guide: Trees of Upper Campus, Chaparral Botany, Reproduction in the Forest, Halloween Forest Walk <i>Natural History Walks, Save Upper Campus, Santa Cruz, CA</i>	2012-2014
Teaching Assistant <i>Natural History of UC Santa Cruz Campus Course, Santa Cruz, CA</i>	2012
Assistant Teacher <i>San Lorenzo Valley Elementary, Felton, CA</i>	2012

RELEVANT COURSEWORK

University of Idaho , Moscow, ID	2018-2020
Advanced Field Botany, Principles of Systematics, Ethics for Biologists, Statistical Approaches, Landscape Ecology, Phylogenetics Understanding Reading Group	
Lane Community College , Eugene, OR	2016
Plant Systematics	
Meritt Community College , Oakland, CA	2015
Plant Terminology	
University of California Santa Cruz , Santa Cruz, CA	2012-2013
Natural History Field Quarter (California Vegetation, California Animals and California Conservation and Land Management), Environmental Interpretation, Statistical Methods for Environmental Studies, Environmental Policy, Ecology, Teaching Environmental Education, Introduction to Teaching Science	

TRAININGS

Tropical Botany Graduate Intensive, Missouri and New York Botanical Gardens, Ecuador	2020
Eriogonum Morphometrics Workshop, College of Idaho, Boise, ID	2019
Poaceae Workshop, Jepson Herbarium, Berkeley, CA	2019
Asteraceae and Poaceae Workshops, Botany Washington, WA	2018
Assessment, Monitoring, and Inventory (AIM) Field Methods Course, OR	2018
Women in Wildfire, Los Padres National Forest, Ventura, CA	2017

CERTIFICATIONS

Wilderness Herbal First Responder/ First Aid Certification	2021
<i>Herbal Medics University</i> , Eden, AZ	
Western Herbalism, Field Botany and Wildcrafting Certification	2016
<i>Columbines School of Botanical Studies</i> , Eugene, OR	
California Master Naturalist	2013
<i>University of California Cooperative Extension</i> , Santa Cruz, CA	
Permaculture Design Certification	2011
<i>Merritt Community College</i> , Oakland, CA	

RELEVANT SKILLS

- *Extensive knowledge of Southwest, California, Pacific Northwest, Great Basin, & Intermountain flora
- *Botanical identification using dichotomous keys, both in the field and in herbaria
- *Experience working with ESA and RTE species: monitoring, reporting, surveying
- *Experienced in multiple vegetation monitoring protocols (*Fuels, Assessment, Inventory and Monitoring* (AIM), *Nature Serve, National Wetland Conditional Assessment, Line Point Inventory, Demography Plots*)
- *Experienced in compass map & orienteering, experienced with *ArcMap, Gaia, Collector, Avenza, GIS*
- *Experienced working in inclement conditions, collaborating with others, managing a field crew
- *Over 15 years' experience backpacking and camping in remote wilderness settings
- *Experienced in preparation of voucher specimens and labels, mounting
- *Experience in maintenance, organization, and curation of herbaria
- *Experienced & trained in multiple archival restoration methods
- *Firm grasp of Microsoft Programs, Data Management, & R
- *Experienced in design & outreach communication
- *Experienced in training & coordinating multiple volunteers, students & staff: in the field & in herbaria
- *Conversational Spanish