

## **Naomi Suzanne Fraga**

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### **Education**

- 2015 Ph.D. Botany, Claremont Graduate University; Dissertation: Diversity, Endemism, and Conservation of California monkeyflowers: a case study in *Erythranthe* section *Paradantha* (Phrymaceae). Advisor: Dr. Lucinda McDade
- 2005 M.S. Botany, Claremont Graduate University; Thesis: A Vascular Flora of the Owens Peak Eastern Watershed, southern Sierra, Kern County, California. Advisor: Dr. J. Travis Columbus
- 2002 B.S. Botany, California State Polytechnic University, Pomona; Senior Thesis: A Short Flora of Short Canyon, Kern County, California. Advisor: Dr. Curtis Clark.

### **Professional Experience**

- 2015-Present Director of Conservation Programs, California Botanic Garden (CalBG)– Provide programmatic leadership and management to the Plant Conservation Program at CalBG; including preparation of agreements and grant proposals, planning and conduction of research, reports, budget management, training and supervision of staff and interns, dissemination of research through publishing of scientific papers and presentations at professional meetings. I am responsible for fundraising and management of a 1.4 million-dollar annual budget and provide direction for 15+ staff members, including mentorship for undergraduate interns.
- 2016-Present Research Assistant Professor, Claremont Graduate University–I currently advise three graduate students, teach a course on rare plant conservation, and lead readings on floristics methods.
- 2008-2014 Conservation Botanist, CalBG
- 2003-2008 Botanical Field Studies Coordinator, CalBG
- 2005-2006 Lecturer, UCLA Extension– Taught General Botany for Gardeners and Plant Identification and Taxonomy for the Certificate in Gardening and Horticulture Program
- 2000-2003 Herbarium Curatorial Assistant, CalBG
- 2001 J. Paul Getty Multicultural Internship, CalBG

### **Awards and Fellowships**

- 2021 Center for Biological Diversity, E.O. Wilson Biodiversity Award
- 2021 Center for Plant Conservation, Star Award
- 2020 U.S. Fish and Wildlife Service, Recovery Champion
- 2018 American Public Gardens Association Kittleman Scholarship for Aspiring Garden Leaders
- 2018 American Society of Plant Taxonomists (ASPT) Public Policy Award
- 2010 Robert and Patricia Switzer Foundation Fellow
- 2010 California Botanical Society Graduate Student Meeting: Best Student Presentation
- 2008 U.S. Fish and Wildlife Service Certificate of Appreciation

## Intramural Service

Center for Plant Conservation, Conservation Officer (2006-Present)  
Living Collections Committee (2013-2015, 2019-Present)  
Scientific Research Permit Coordinator (2012-Present)  
California Plant Rescue, Institutional Representative (2014-Present)  
Seed LA, Institutional Representative (2017-Present)

## Publications

- Fraga N.S.**, A.L. Miller, S.J. De Groot, C. Lee, C.L. Lund, and K. Moore-O'Leary. 2021. Status of the Amargosa niterwort (Amaranthaceae) in California and Nevada. *California Fish and Wildlife Special CESA Issue*:78-95.
- Bell D.S., **N.S. Fraga**. 2021. Newly discovered populations of *Astragalus tricarinatus* (triple-ribbed milkvetch; Fabaceae) are found on carbonate soils in the Santa Rosa Mountains. *Madroño*. 67 (4), 211-217.
- Fraga, N.S.** 2021. Ethics of plant reintroduction in the 21<sup>st</sup> century. *Fremontia* 48: 36-38
- Grossenbacher D., L. Makler, M. McCarthy, and **N. Fraga**. 2021. Abiotic Environment Predicts Micro- but Not Macroevolutionary Patterns of Flower Color in Monkeyflowers (Phrymaceae). *Front. Plant Sci.*  
<https://doi.org/10.3389/fpls.2021.636133>
- Parker S.P., A. Zdon, W.T. Christian, B.S. Cohen, M. Palacios Mejia, **N.S Fraga**, E.E. Curd, K. Edalati, M.A. Renshaw. 2021. Conservation of Mojave Desert Springs: Status, Threats, and Policy Opportunities. *Biological Conservation*. 30: 311-327.
- Palacios Mejia, M., E. Curd, K. Edalati, M.A. Renshaw, R. Dunn, D. Potter, **N.S. Fraga**, J. Moore, J. Saiz, R. Wayne, S.S. Parker. 2020. The utility of environmental DNA from sediment and water samples for recovery of observed plant and animal species from four Mojave Desert springs. *Environmental DNA*. 00: 1-17.
- Nesom G.L., **N.S. Fraga**, W.R. Barker, P.M. Beardsley, D.C. Tank, B. G. Baldwin, R. G. Olmstead. 2019. Response to "The case for the continued use of the genus name *Mimulus* for all monkeyflowers". *Taxon*. 68: 624-627.
- Nesom, G.L., **N.S. Fraga**. 2019. *Erythranthe* In: Flora of North America, North of Mexico. Vol. 17. Oxford Univ. Press, New York, Oxford.
- Fraga N.S.** and C.J. Mills. 2019. Floristic discoveries in mid-elevation sky islands and surrounding valleys in the northern Mojave Desert, Inyo County, California. Exploring ends of eras in the eastern Mojave Desert, The Desert Symposium Proceedings. pg. 82-88.
- Fraga N.S.** 2018. Phrymaceae, in Jepson Flora Project (eds.) Jepson eFlora, Revision 6, [http://ucjeps.berkeley.edu/eflora/eflora\\_display.php?tid=93790](http://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=93790)
- Parker, S.P., G.P. Pauly, J. Moore, **N.S. Fraga**, J.J. Knapp, Z. Principe, B.V. Brown, J.M. Randall, B.S. Cohen, T.A. Wake. 2018. Adapting the bioblitz to meet conservation needs. *Conservation Biology*. <https://doi.org/10.1111/cobi.13103>
- Meyer E., N. Jensen, and **N.S. Fraga**. 2014. Seed banking California's rare plants. *California Department of Fish and Game*. 100: 79-85.
- Soza, V.L., S.D. Boyd, L.J. Gross, and **N.S. Fraga**. 2013. Vascular Flora of the Verdugo Mountains and San Rafael Hills, Los Angeles County, California. *Crossosoma* 39: 1-140
- Fraga N.S.** 2012. A Revision of *Erythranthe montioides* and *Erythranthe palmeri* (Phrymaceae), with descriptions of five species from California and Nevada, USA. *Aliso* 30: 49-68.

- Fraga N.S.**, L.J. Gross, E.A. Kempton, and D.S. Bell. 2012. Reappearance of the vanishing buckwheat. A status review of *Eriogonum evanidum* (Polygonaceae). *Madroño* 59: 150-155.
- Barker, W.R., G.L. Nesom, P.M. Beardsley, and **N.S. Fraga**. 2012. A taxonomic conspectus of Phrymaceae: A narrowed circumscription for *Mimulus*, new and resurrected genera, and new names and combinations. *Phytoneuron* 39: 1-60,
- Fraga N.S.**, L.J. Gross., D.S. Bell, O. Mistretta, J. Wood and T.S. Stoughton. 2011. The Vascular Flora of the Upper Santa Ana River Watershed, San Bernardino Mountains, California. *Crossosoma*.37: 9-111
- Fraga N.S.** 2008. Conservation Status of *Mimulus shevockii* Heckard & Bacig. (Phrymaceae). *Crossosoma* 34: 50–56.
- Fraga N.S.** 2008. The Vascular Flora of the Owens Peak Eastern Watershed, southern Sierra Nevada. California. *Aliso*. 25: 1-26.
- Fraga N.S.** 2007. A Conservation Plan for *Mimulus shevockii* Heckard & Bacig. (Phrymaceae). Rancho Santa Ana Occasional Publications #7. 22 p.
- Fraga N.S.** 2006. A short flora of Short Canyon, Kern County, California. *Crossosoma* 32: 1–30.

### Select Contracts and Grants

- American Public Gardens Association. 2020. U.S. Forest Service Tree Gene Conservation Project., *Juglans californica*. \$5,721
- Angeles National Forest. 2021. BAER Post Fire Invasive Species Management, \$281,000
- Angeles National Forest. 2013-present. Invasive Species Management, \$1,489,171
- Angeles National Forest. 2013-present. Rare Plant Studies \$144,978
- Bureau of Land Management (BLM). 2019-2020. Botanical Inventory and Vegetation Mapping of the Amargosa Wild and Scenic River, \$31,697.98
- BLM. 2020-2023. Rare Plant Surveys in Development Focus Areas for Renewable Energy in the California Desert District, \$54,278.
- BLM. 2019-2021. Seed Conservation Sensitive Species in the California Desert District, \$89,878.04.
- BLM Award. 2013-2015. # L09AC15862. Southern California Botanical Projects, \$266,000
- BLM. 2015-2020. Award # L13AC00180. Southern California Botanical Projects, \$658,498
- Center for Plant Conservation. 2019-2021. California Biodiversity Initiative, Rare Plant Seed Banking, \$500,000
- Los Padres National Forest. 2014. Floristic Inventories in Wilderness areas, \$18,000
- National Fish and Wildlife Foundation (NFWF). 2019-2021. Restoring Plant Diversity in Fire Affected Watersheds on the Angeles National Forest, \$493,658.34
- NFWF. 2020-2022. Improving Plant Diversity in Fire Affected Watersheds in Angeles National Forest, \$201,551.76
- National Forest Foundation (NFF). 2021-2022. Powerhouse Rare Plants Restoration; *Lepechinia rossii*, \$108,897.
- NFF. 2019. Continued Restoration in the Upper Big Tujunga Restoration on the Angeles National Forest, \$16,000
- NFF. 2014-2017. Upper Big Tujunga Restoration on the Angeles National Forest, \$549,500
- NFF. 2015-2019. Chaparral Restoration on the Angeles National Forest. \$534,980

Patagonia. 2019. Southern California Plant Rescue, \$9,000  
 Pacific Southwest Region 5, Forest Service. 2010-2013. Rare Plant Evaluations and Management Plans, 10-CS-11052007-111, \$145,000  
 San Bernardino National Forest (SBNF). 2020. Deep Creek Wild and Scenic River Surveys, \$38,589.63  
 SBNF, 2017. Blue Cut and Pilot Fire Inventory, \$50,324  
 SBNF, 2016. Lake Fire Floristic Inventory, \$28,000  
 SBNF, 2014-2016 Bighorn Mountain Wilderness Floristic Study, \$32,078.60  
 SBNF, 2010. North Sugarloaf Mountain Floristic Surveys, 62,080  
 SBNF, 2008-2010 Santa Ana River Watershed Floristic Surveys, \$470,592  
 SBNF, 2008. Baldwin Basin Floristic Surveys, \$21,297  
 Sequoia National Forest, 2012-2014. Floristic Inventories in Wilderness areas, \$21,000  
 The Nature Conservancy (TNC). 2021. Lithium mining impact analysis for Renewable Energy, \$9,000  
 TNC. 2018-2019. Floristic Inventory and Vegetation Assessment of Desert Springs, \$39,520  
 TNC. 2018. Rare Plant Surveys on the Castle Glen Preserve, San Bernardino County, \$10,000  
 TNC. 2015-2017. Floristic Inventory and Vegetation Mapping on the Santa Clara River Ventura County. \$117,116.57  
 TNC. 2017. Floristic Surveys in Amargosa River, Inyo County California \$5,000  
 U.S. Fish and Wildlife Service (USFW). 2019-2024. Status Surveys for Five at Risk Species, \$201,000  
 USFWS, 2018-2021. Traditional Section 6 Developing Species Specific Management Actions and Conservation Strategies for Three Federally Listed Plant Species in the Amargosa River Basin, Inyo County, California, \$96,609  
 USFWS. 2012-2013. Surveys of *Phacelia stellaris* (Boraginaceae), \$20,100  
 USWS. 2006-2010. Conservation Strategy and Seed Banking for *Trichostema austromontana* subsp. *compactum*, \$24,584

### **Selected Technical Reports/Publications**

**Fraga N.S.**, and S.D. De Groot. 2019. Botanical Inventory and Vegetation Assessment of 55 Springs in the Mojave Desert, California. Submitted to Sophie Parker, The Nature Conservancy. 16p.

Washburn Loraine, and **Fraga N.S.** 2017. Conservation of Nevin's Barberry (*Berberis nevinii*) in San Francisquito Canyon, Angeles National Forest. Submitted to Janet Nickermen, Angeles National Forest. 61 p.

**Fraga, N.S.**, S.D. DeGroot. 2015. Botanical Surveys and Vegetation Mapping Along the Santa Clara River. Submitted to Sophie Parker, The Nature Conservancy. 29p.

**Fraga, N.S.**, T. La Doux, L. Prince, M. Harding, and J. Hoines. 2015. Conservation assessment for triple-ribbed milkvetch (*Astragalus tricarinatus*, Fabaceae) in Joshua Tree National Park. Natural Resource Report NPS/JOTR/NRR—2015/999. National Park Service, Fort Collins, CO.

**Fraga, N.S.**, T. La Doux, L. Prince, M. Harding, and J. Hoines. 2014. Conservation assessment for Parish's daisy (*Erigeron parishii*, Asteraceae) in Joshua Tree National Park. Natural Resource Report NPS/JOTR/NRR—2014/887. National Park Service, Fort Collins, CO.

O'Brien B. and **N.S. Fraga**. 2013. Surveys of *Phacelia stellaris* (Brand's phacelis, Boraginaceae) across its historic range in the United States. submitted to USFWS. 43 p.

**Fraga N.S.** and J. Pilapil. 2012. Botanical surveys and a species distribution model for *Astragalus tricarinatus* (triple-rib milkvetch, Fabaceae) submitted to BLM. 23p.

**Fraga N.S.** and K. Kietzer. 2009. A conservation strategy for *Trichostema austromontanum* subsp. *compactum* (Hidden Lake blue curls; Lamiaceae), submitted to USFWS. 38 p.

### **Invited Speaker**

2022. University of California, San Diego

2021. Southern California Botanists Symposium.

2021. University of Wyoming, Laramie. Student nominated seminar speaker.

2021. University of California Riverside, Palm Desert Campus. Coachella Wild Lecture Series: [recorded presentation](#)

2021. 7th annual Environmental Education Symposium Collaborative Serving Riverside and San Bernardino Counties.

2020. Society for Ecological Restoration, Southwest Chapter.

2020. Keck Sciences Seminar, Claremont, CA.

2019. Claremont Rotary Club, Claremont, CA.

2018. California Native Plant Society (CNPS), Channel Islands Chapter, Santa Barbara, CA.

2018. CNPS Mojave Chapter, Yucca Valley, CA.

2017. CNPS Los Angeles Santa Monica Mountains Chapter.

2017. Southern California Botanists Symposium, Claremont, CA.

2017. California Invasive Plant Council, Palm Springs, CA.

2016. CNPS Orange County Chapter, Fullerton, CA.

2016. CNPS San Luis Obispo Chapter, San Luis Obispo, CA.

2015. CNPS San Gabriel Mountains Chapter, Pasadena CA.

2015. CNPS Shasta Chapter, Redding CA.

2015. CNPS Mojave Chapter, Victorville, CA.

2015. Maturago Museum, Ridgecrest, CA.

2015. Theodore Payne Foundation, Sun Valley, CA.

2015. Tilden Regional Park Botanic Garden Berkeley, CA.

2015. Pritzlaff Conservation Symposium, Santa Barbara Botanic Garden.

2013. Southern California Botanists Symposium, Claremont, CA.

2013. Enhancing the Persistence of Narrow Endemic Plant Species, Escondido, CA.

2012. The California Desert Research Symposium, Redlands, CA.

2012. CNPS Riverside-San Bernardino Chapter, Riverside, CA.

2010. Southern California Botanists Symposium, Fullerton, CA.

2010. CNPS Kern County Chapter, Bakersfield, CA.

2010. CNPS San Gabriel Mountains Chapter, Altadena, CA.

2009. University Club, Claremont, CA.

2008. CNPS Bristlecone Chapter, Bishop, CA.

2007. Maturago Museum, Ridgecrest, CA.

### **Selected Papers Presented at Meetings**

- England J., Bell, D. and **Fraga N.S.** 2021. Post-Fire Surveys for Rare Plants and Invasive in the San Bernardino Mountains. California Invasive Plant Council Symposium.
- Fraga, N.S. 2021. Botanical advocacy in action: a case study promoting the conservation of *Eriogonum tiehmii* (Polygonaceae). Botany 2021 Virtual.
- Fraga, N.S. 2020. Charactering the flora of desert springs in the Mojave Desert, Society for Conservation Biology, Virtual.
- Fraga, N.S. 2019. Charactering the flora of desert springs in the Mojave Desert. Botany 2019. Tucson, AZ.
- Fraga, N.S. 2019. Impacts of invasive plant species to *Erythranthe shevockii* (Phrymaceae). California Invasive Plant Council Symposium. Riverside, CA.
- Fraga, N.S. 2018. Cultivating diversity in the next generation of botanical professionals: botanical training and education for urban and underserved populations. American Public Gardens Association Conference. Anaheim, CA.
- Fraga, N.S. 2017. Hidden Lake bluecurls *Trichostema austromontanum* subsp. *compactum* (Lamiaceae): conservation success for a diminutive annual. Botany 2017. Fort Worth, TX.
- Fraga, N.S. 2016. Diversity, endemism and conservation of California monkeyflowers (Phrymaceae): a case study in *Erythranthe* section *Paradantha* Botany 2016. Savannah, GA
- Fraga, N.S. 2014. Is self-pollination an evolutionary dead end? The evolution of mating systems in *Erythranthe* section *Paradantha* (Phrymaceae). Evolution 2014. Raleigh NC.
- Fraga N.S. 2013. Examining historical biogeography and rarity in *Erythranthe* section *Paradantha* (Phrymaceae). California Botanical Society Graduate Student Meeting. University of California, Berkeley, CA
- Fraga, N.S. 2012. Small flowered plants travel farther: the evolution of mating systems in *Mimulus* section *Paradanthus* (Phrymaceae). Botany 2012. Columbus OH.
- Fraga N.S. 2012. The Importance of Systematics to Conserving Biodiversity: a case study in western North American *Mimulus* (Phrymaceae). Society for Conservation Biology Conference. Oakland, CA
- Fraga N.S. 2012. Conservation, Taxonomy, and Reproductive Biology of *Erythranthe* Section *Paradantha* (Phrymaceae). The California Desert Research Symposium, Redlands, CA.
- Fraga N.S. 2010. Cryptic species diversity in the *Mimulus palmeri* clade (Phrymaceae). Evolution. Portland, OR
- Fraga N.S. 2009. Unraveling the *Mimulus montioides* species complex (Phrymaceae). Botany 2009; Snowbird, UT
- Fraga N.S. 2009. *Mimulus shevockii* (Phrymaceae): A conservation plan in action. CNPS Conference, SAC, CA

### **Training, Advising, and Mentoring**

Manage a department of 15-20 staff members as Director of Conservation Programs at California Botanic Garden. I directly supervise the following staff:

- Duncan Bell (Senior Field Botanist)
- Cheryl Birker (Seed Conservation Program Manager)
- Andrew Castro (Invasive Plant Team Lead)
- Joy England M.S. (Rare Plant Botanist)

- Carrie Kiel Ph.D. (Conservation Geneticist)
- Billy Sale M.S. (Restoration Project Manager)
- Rachel Wing M.S. (Invasive Plant Team Lead)

#### Advisor M.S. Students

- Peri Lee Pipkin (2021-in progress)
- Nina House (2019-in progress)
- Carolyn Mills (2018-progress)
- Maria Jesus (2018-2021) Currently working as Conservation Program Assistant at CalBG
- Sophia Winitzky (2016-2019) Currently PhD student Montana State University

#### Graduate Student Committees

- Courtney Matzke, M.S. Student, Claremont Graduate University (2021- in progress)
- Kim Schaefer, M.S. Student, Claremont Graduate University (2021- in progress)
- Selena Vencgo, M.S. Student, Claremont Graduate University (2021- in progress)
- Marty Purdy, M.S. student, Claremont Graduate University (2019-in progress)
- Harrison McGowan M.S. student, California State University Long Beach (2018- in progress)
- Keir Morse PhD student, Claremont Graduate University (2017-in progress)
- Christina Varnava, M.S student, Claremont Graduate University (2018-2021)

#### Plant Conservation Interns

- 2021 Naomi Lo (Chaffey College)
- 2020 Daniel Garcia (Pomona College)
- 2019 Carlos Garcia, Jocelyn Gonzalez Tiffany Larrabee, Mariana Ramirez-Rodriguez, and Byron Valdez
- 2018 Sophia Li and Ashley Royce
- 2017 Maribel Cardenas, Haley Deal, Matthew McCarthy, Jocelyn Navarro, Gabriel Steinmetz, and Nathan Vega
- 2016 Nasreen Alkam, Corina Godoy, Daisy Lopez, Mitch Miralaie, Valerie Smissen, Amy Tims
- 2015 Josh Brito, Sandra Llamas, Marian Martinez, Nicolette Torres, Koto Tikande, John Woodruff
- 2014 Marcel Befford, Eric Garcia, Kristina Louie, Silvia Olivares, Glen Morison, Rico Ramirez, Karina Robles, Katie Rowland, and Perrine Veguer
- 2013 Jessica Chu, Deidre Conocchioli, Sarah Fisher, Kristin Forgrave, Monica Rodriguez, Michelle Terrazino,
- 2012 Joella Simmons Adkins, Aaron Sedgewick, and Sarah Lindsay Ward
- 2011 Terry Higgins
- 2010 Elizabeth Ashbaker, Joshua Paolini, Jennifer Pilapil, Baby Snigdha
- 2009 Jessica Corbett
- 2008 Duncan Bell
- 2007 Lucila Reccia and Erika Gardner

#### High School Student Mentorship

- 2017-2019 Alegria Garcia

## **Mentions in the Press / Media Coverage of Research**

2021. Los Angeles Times. California builds a 'Noah's Ark' to protect wildlife from extinction by fire and heat [Link](#)
2021. Wired Magazine. The Lithium Mine Versus the Wildflower [Link](#)
2021. Vogue. Why California's Super Bloom Is Under Siege [Link](#)
2020. The Guardian. Unfathomable destruction!: thousands of rare wildflowers wiped out in Nevada [Link](#)
2020. New Scientist. Rare plant may prevent the first lithium quarry in the US from opening [Link](#)
2019. The Nevada Independent. Conservation group seeks to protect rare buckwheat near proposed lithium mine. [Link](#)
2019. LAist. Joshua Tree National Park Just Got 4,500 Acres Bigger, And The Flowers Are Poppin' [Link](#)
2018. Desert Sun. Once threatened, this rare plant is recovering in the San Jacinto Mountains. [Link](#)
2017. LA Times. Native flowers aren't the only plants in 'super-bloom' this spring — nasty weeds have also flourished. [Link](#)
2015. Efforts growing to preserve state's threatened plant species. [Link](#)

## **Featured Guest on Podcasts**

2020. Cultivating Place: Seed Banking a Floristic Province [Link](#)
2020. Botanize! Rare but Not Forgotten [Link](#)
2020. California Forever Podcast: Ep. 5 Hidden Lake Bluecurls [Link](#)
2019. In Defense of Plants Podcast. Ep. 212 - Monkeyflower Extravaganza! [Link](#)

## **Popular Articles**

2021. Critical Limits: an essay on the historic drought of 2021. Spring 2021 Page 4-5. The Matilija: The Newsletter of the California Botanic Garden
2020. An (almost) irrigation-free garden. Summer 2020. Page 30. Flora. [Link](#)
2019. The Amargosa niterwort: A biological wonder, a plant in peril. The Desert Report. [Link](#)
2018. With love, from the Mojave Desert. Meet the Amargosa niterwort. Plant Love Stories. [Link](#)
2016. A wildflower wonderland. RSABG Blog. [Link](#)
2013. Summer showers bring fall flowers. RSABG Blog. [Link](#)
2013. California's Native Garden on the front lines of plant conservation. Garden Variety.

## **Community Engagement**

2020. California Botanic Garden, Conservation Stories, The San Bernardino Mountains [Link](#)
2020. Poppy Hour Episode 1. Theodore Payne Foundation. [Link](#)
2019. A Growing Passion Episode 705: The Big Bloom. [Link](#)
2019. Guest Lecture at Patagonia Pasadena Store on California Native Food Plants.
- 2019: Saging the World: Indigenous Wisdom & The Cultivation of White Sage with Deborah Small, Rose Ramirez and David Bryant.
2018. California Invasive Plant Council Lobby Day, Sacramento
- 2016-2019 Career Presentation for Introductory Biology Class at Cal Poly Pomona

2015-2022. Career Day La Puente High School  
2015-2016. Career Day Citrus College  
2012-2013, 2017. Girl Scouts, Interview with a flower scientist and wildflower walks  
2007-Present. Maturango Museum, Ridgecrest, CA– Annual Wildflower Show Plant Expert.

### **Professional Service**

Amargosa Conservancy, Board Member (2017-Present), Treasurer (2019-Present)  
American Society of Plant Taxonomy (ASPT), Council Member (2017-2020)  
Joint ASPT and BSA Environmental and Public Policy Committee (2017-Present)  
California Botanical Society, First Vice President (2017-2019)  
CNPS Southwest Region Reviewer (2004-Present)  
CNPS Rare Plant Program Committee Member, (2014-Present)  
CNPS San Gabriel Mountains Program Chair (2015-2019) and Grants Committee (2017-Present)  
Claremont Wildlands Conservancy, Botanical Consultation (2017-Present)  
Southern California Botanists; Board Member (2002-Present), Webmaster (2001-present), Secretary (2015- Present), Vice President (2004, 2007- 2009), President (2006, 2013-2014)

### **Organized Symposia and Meetings**

2015 California Native Food Symposium, California Botanic Garden, co-organized with Chia Café Collective and Antonio Sanchez.  
2014 Southern California Plant Communities: Threats and Solutions. Southern California Botanists (SCB).  
2013 Origin and Relationships of the California Flora: Was Raven Ravin'? SCB.

### **Manuscript Reviewer**

Aliso  
Biodiversity and Conservation  
Biological Conservation  
Bulletin of the Southern California Academy of Sciences  
Crossosoma  
Journal of the Botanical Research Institute of Texas  
Madroño

### **Professional Associations**

American Society of Plant Taxonomists  
Botanical Society of America  
California Botanical Society  
California Invasive Plant Council  
California Native Plant Society  
*Eriogonum* Society (lifetime member)  
Nevada Native Plant Society  
Northern California Botanists  
Southern California Botanists  
Society for Conservation Biology