Naupaka B. Zimmerman

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Curriculum Vitae

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General Background

Scientifically, I am fascinated by the cryptic microbial symbioses that occur in the leaves of all plants. How do these these microbial communities modulate photosynthetic carbon assimilation and transpiration rates in living leaves? How do they modulate decomposition post senescence? I am tackling these questions using field studies, greenhouse manipulations, microscopy, environmental sequencing, and bioinformatics.

My teaching efforts focus on courses rooted in project- and inquiry-based pedagogies. These allow students to experience the thrill of scientific discovery, not only in the field or in the research lab, but also in the classroom. This opportunity to participate in active scientific inquiry plays a key role in increasing a sense of belongingness for students traditionally excluded from STEM.

More broadly, I am an advocate for the principles of open science, including open access to code and data, computational reproducibility, pre-publication review via preprints, and open access publication.

Education

2013 PhD, Biological Sciences (Ecology and Evolution)
Stanford University, Stanford, CA.
Dissertation advisor: Peter Vitousek

2005 AB, Environmental Science & Public Policy, Cultural Anthropology, with Honors,
Harvard University, Cambridge, MA.
Thesis advisor: Sheila Jasanoff

Appointments

2022-present *Associate Professor (tenured)*, Biology, University of San Francisco
2020-present *Graduate Program Director*, Biology, University of San Francisco
2017-2022 *Assistant Professor*, Biology, University of San Francisco
2013-2016 *LSRF Postdoctoral Fellow,* Plant Sciences, U of Arizona. Mentor: AE Arnold
2013 *Postdoctoral Teaching Fellow in Biology,* Stanford University
2009-2012 *NSF Graduate Research Fellow,* Stanford University
2006-2007 *Head Teacher,* IBS Academy, Seoul, South Korea
2003-2005 *Summer Research Intern,* US Forest Service Institute of Pacific Islands Forestry

Awards

2011 Best Student Oral Presentation, Mycological Society of America
2010 Forest Fungal Ecology Research Award, Mycological Society of America
2001 United States Presidential Scholar, National Merit Scholar, AP Scholar

Research

Publications

16 peer-reviewed articles, 4 other articles, 2 software packages

Publications in Review or Revision

E Gibson‡, **NB Zimmerman**. Urban biogeography of fungal endophytes across San Francisco. *In revision.* GitHub Repository.

JM U'Ren, S Oita, F Lutzoni, J Miadlikowska, B Ball, I Carbone, G May, **NB Zimmerman**, D Valle, V Trouet, AE Arnold. Host-specific responses to climate define symbioses in threatened boreal forests. *In revision.*

Peer-Reviewed Publications

16. SL Ishaq, FJ Parada Flores, PG Wolf, CY Bonilla, MA Carney, A Benezra, E Wissel, M Friedman, KM DeAngelis, JM Robinson, AK Fahimipour, MB Manus, L Grieneisen, LG Dietz, A Chauhan, A Pathak, S Kuthyar, JD Stewart, MR Dasari, E Nonnamaker, M Choudoir, PF Horve, **NB Zimmerman**, AJ Kozik, KW Darling , AL Romero-Olivares, J Hariharan, N Farmer, K Maki, JL Collier, K O'Doherty, J Letourneau, J Kline, PL Moses, N Morar. Introducing the Microbes and Social Equity Working Group: Considering the Microbial Components of Social, Environmental, and Health Justice. 2021. *mSystems*. 6(4).
article DOI: 10.1128/mSystems.00471-21

15. JM U'Ren, F Lutzoni, J Miadlikowska, **NB Zimmerman**, I Carbone, G May, AE Arnold. Host availability drives distributions of fungal endophytes in the imperiled boreal realm. 2019. *Nature Ecology & Evolution* 3, p. 1430–1437
article DOI: 10.1038/s41559-019-0975-2

14. JW Atkins, G Bohrer, RT Fahey, BS Hardiman, TH Morin, AEL Stovall, **NB Zimmerman**, CM Gough. Quantifying vegetation and canopy structural complexity from terrestrial LiDAR data using the forestr R package. 2018. *Methods in Ecology and Evolution*. 9, p. 2057–2066.
article DOI: 10.1111/2041-210X.13061

13. YL Huang#, **NB Zimmerman**, AE Arnold, A.E. Observations on the Early Establishment of Foliar Endophytic Fungi in Leaf Discs and Living Leaves of a Model Woody Angiosperm, *Populus trichocarpa* (Salicaceae). 2018. *Journal of Fungi*, 4(58).
article DOI: 10.3390/jof4020058

12. K Jordan, M Corvellec, ED Wickes, **NB Zimmerman**, JM Duckles, T Teal. Short-format workshops build skills and confidence for researchers to work with data. *American Society for Engineering Education Conference and Exhibition*, St. Lake City, UT, June 2018.
article URL: peer.asee.org/30960.pdf

11. E Hart, P Barmby, D LeBauer, F Michonneau, S Mount, T Poisot, KH Woo, **NB Zimmerman**, J Hollister. Ten Simple Rules for Digital Data Storage. 2016. *PLoS Computational Biology.* 12(10): e1005097.
article DOI: 10.1371/journal.pcbi.1005097

10. J U'Ren, J Miadlikowska, **NB Zimmerman**, F Lutzoni, JE Stajich, AE Arnold. Contributions of North American endophytes to the phylogeny, ecology, and taxonomy of Xylariaceae (Sordariomycetes, Ascomycota). 2016. *Molecular Phylogenetics and Evolution* 98, p. 210–232
article DOI: 10.1016/j.ympev.2016.02.010

9. A Wolf, **NB Zimmerman,** W Anderegg, P Busby, J Christensen. Altitudinal shifts of the native and introduced flora of California in the context of 20th century warming. 2016. *Global Ecology and Biogeography* 25(4), p. 418–429
article DOI: 10.1111/geb.12423
press: theguardian.com**,** theatlantic.com, phys.org, climatecentral.org

8. RL White, AE Sutton, R Salguero-Gómez, T Bray, H Campbell, E Cieraad, N Geekiyanage, L Gherardi, AC Hughes, PS Jørgensen, T Poisot, L DeSoto, **NB Zimmerman**. The next generation of Action Ecology: Novel approaches towards global ecological research. 2015 *Ecosphere* 6:art134
article DOI: 10.1890/ES14-00485.1

7. SE Hampton, S Anderson, SC Bagby, C Gries, X Han, E Hart, MB Jones, WC Lenhardt, A MacDonald, W Michener, JF Mudge, A Pourmokhtarian, M Schildhauer, KH Woo, **NB Zimmerman.** The Tao of Open Science for Ecology. 2015 *Ecosphere* 6:art120
article DOI: 10.1890/ES14-00402.1

6. PS Jørgensen, F Barraquand, V Bonhomme, TJ Curran, E Cieraad, TG Ezard, LA Gheradi, RA Hayes, T Poisot, R Salguero-Gómez, L DeSoto, B Swartz, JM Talbot, B Wee, and **NB Zimmerman.** Connecting people and ideas from around the world: Global innovation platforms for next-generation ecology and beyond. 2015. *Ecosphere* 6:art68
article DOI: 10.1890/ES14-00198.1

5. NB Zimmerman, J Izard, C Klatt, J Zhou, E Aronson. The Unseen World: Environmental microbial sequencing and identification methods for ecologists. 2014. *Frontiers in Ecology and the Environment* 12(4), p. 224–231
article DOI: 10.1890/130055
F1000 DOI: 10.3410/f.718384400.793495106

4. F Barraquand, THG Ezard, PS Jørgensen, **NB Zimmerman**, SA Chamberlain, R Salguero-Gómez, TJ Curran, T Poisot. Lack of quantitative training among early-career ecologists: a survey of the problem and potential solutions. 2014. *PeerJ* 2:e285
article DOI: 10.7717/peerj.285
data DOI: 10.7717/peerj.285/supp-1

3. P Busby§, **NB Zimmerman§**, D Weston, S Jawdy, J Houbraken, G Newcombe. Leaf endophytes and host genotype in *Populus* alter severity of damage from the necrotrophic leaf pathogen, *Drepanopeziza populi*. 2013. *Ecosphere* 4(10) art125
article DOI: 10.1890/ES13-00127.1

2. NB Zimmerman, P Vitousek. Fungal endophyte communities reflect environmental structuring across a Hawaiian landscape. 2012. *Proceedings of the National Academy of Sciences* 109(32), p. 13022–13027
article DOI: 10.1073/pnas.1209872109
data accession: NCBI SRX153137

1. NB Zimmerman, RF Hughes, S Cordell, P Hart, HK Chang, D Perez, RK Like, R Ostertag. Patterns of Primary Succession of Native and Introduced Plants in Lowland Wet Forests in Eastern Hawai'i. 2008. *Biotropica* 40(3), p. 277-284
article DOI: 10.1111/j.1744-7429.2007.00371.x
data DOI: 10.5061/dryad.vp86v3r0

Other Publications (not peer reviewed)

4. JM U'Ren, **NB Zimmerman**. Oaks provide new perspective on seed microbiome assembly. 2021. *New Phytologist*, 230 p. 1293-1295 commentary
article DOI: 10.1111/nph.17305

3. AK Shaw, DE Stanton, SR Supp, A Budden, S Eby, PL Reynolds, R Salguero-Gómez, DR Scholes, **NB Zimmerman**. Ecology postdocs in academia: primary concerns and possible solutions. 2015. *ESA Bulletin* 96, p.140–152
article DOI: 10.1890/0012-9623-96.1.140

2. PS Jørgensen, V Bonhomme, THG Ezard, RA Hayes, T Poisot, R Salguero-Gomez, S Vizzini, **NB Zimmerman**. A global network of next generation ecologists. 2011. *INTECOL Bulletin* 5 (2) 4–6.

1. NB Zimmerman, R Salguero-Gomez, J Ramos. The Next Generation of Peer Reviewing. 2011. *Frontiers in Ecology and the Environment* 9(4), p. 199 guest editorial
article DOI: 10.1890/1540-9295-9.4.199

Software (R packages)

2. J Atkins, G Bohrer, R Fahey, B Hardiman, C Gough, T Morin, A Stovall, **NB Zimmerman** (2018). forestr: Ecosystem and Canopy Structural Complexity Metrics from LiDAR. R package version 1.0.1.
package URL: https://CRAN.R-project.org/package=forestr

1. S Chamberlain, KH Woo, A MacDonald, **NB Zimmerman,** G Simpson (2018). pangaear: Client for the 'Pangaea' Database. R package version 0.6.0.
package URL: https://CRAN.R-project.org/package=pangaear

Grants, Fellowships, and Scholarships

Total funding received from competitive grants, fellowships, scholarships: $723,118

Current Federal Grants

2022-2024 NSF Office of Advanced Cyberinfrastructure (OAC)
Title: CyberTraining: Implementation: Medium: Collaborative Research: Data4Ecology.org: A Learning, Resource, and Community Platform for Computational and Data-Centric Ecology Courses
Personnel: Benjamin J Galluzzo (lead PI, Clarkson), Eric Simoneau (co-PI, 33Sigma Learning Labs), **Naupaka Zimmerman** (PI, USF)
Total Award Size: $999,996
USF Award: $79,512 (NSF OAC #2118305)

2020-2023 NSF Division of Environmental Biology (DEB; Macrosystems Program)
Title: Collaborative Research: MSA: RUI: Development and Validation of a Continuous Soil Respiration Product at Core Terrestrial NEON Sites
Personnel: **Naupaka Zimmerman** (PI, USF), John Zobitz (PI, Augsburg University)
Total Award Size: $299,535
USF Award: $199,106 (NSF DEB #2017860)

2014-2023 DOE Joint Genome Institute (JGI) Community Science Program (CSP)
Title: Mechanisms of Interaction in the Foliar Fungal Microbiome of *Populus trichocarpa.*
Personnel: Posy Busby (lead PI), **Naupaka Zimmerman** (co-PI), Rytas Vilgalys (co-PI), A. Elizabeth Arnold (co-PI), George Newcombe (co-PI)
Award Size: Large-scale DNA sequencing & analysis performed by JGI (CSP #1665)

Completed Federal Grants

2016-2019 NSF Extreme Science and Engineering Discovery Environment (XSEDE)
Title: Ecology and Evolution in the Foliar Fungal Microbiome
Personnel: **Naupaka Zimmerman** (PI)
Award Size: Super-computing Access (50,000 Service Units; DEB #160006)

2010-2013 NSF Division of Environmental Biology Doctoral Dissertation Improvement Grant (DEB DDIG)
Title: Dissertation Research: Fungal endophytes and forest ecosystem function
Personnel: Peter Vitousek (PI), **Naupaka Zimmerman** (co-PI)
Award Size: $15,000 (DEB #1010504)

Other Grants

2018 R Consortium (A Collaborative Project of the Linux Foundation)
Title: Developing Tools and Templates for Teaching Materials
Personnel: François Michonneau (lead author), **Naupaka Zimmerman** (co-author), Tracy Teal (co-author)
Award Size: $10,000

2017-2022 USF internal competitive funding
Personnel: **Naupaka Zimmerman** (PI)
Award Size (cumulative): $110,450

Fellowships

2013-2016 Gordon & Betty Moore Postdoctoral Fellowship from the Life Sciences Research Foundation
Title: Understanding plant-fungal interactions in leaves: how labile are life histories?
Award Amount: $180,000

2009-2012 NSF Graduate Research Fellowship
Title: Endophytic fungal communities: environmental constraints and functional diversity
Award Amount: $121,500

Scholarships and Travel Awards

2014 FESIN Travel Award, Mycological Society of America. $900
2012 Travel Award, New Phytologist Symposium on the Plant Microbiome, $1,000
2012 Travel Award, Stanford Biology Dept. $800
2011 Travel Award, Ecological Society of America Microbial Ecology Section. $250
2011 FESIN Travel Award, Mycological Society of America. $1,000
2010 Travel Award, Stanford Biology Dept. $800
2009 Graduate Student Scholarship, Big Island Federal Credit Union. $2,500
2004 *Ecological Informatics* Travel Award to Intl. Assn. of Veg Sci. Mtg. $300

Presentations and Posters

Scientific Presentations and Posters

2020 NB Zimmerman*. Physiology, Ecology, and Evolution in the Phyllosphere. (invited seminar) Ecosystems Center, Marine Biological Laboratory. Woods Hole, MA.

2018 NB Zimmerman*. Life within leaves: Hawaiian endophytic fungal diversity at the landscape scale. (invited seminar) Dept of Biology, San Francisco State University. San Francisco, CA.

2018 NB Zimmerman*, AE Arnold. The effects of fungal endophyte inoculation on physiological performance in *Populus trichocarpa*. (oral presentation) ESA Annual Meeting. New Orleans, LA.

2018 NB Zimmerman*, P Busby, E Barge, R Vilgalys, AE Arnold, G Newcombe. Mechanisms of Interaction in the Foliar Fungal Microbiome of *Populus trichocarpa*. (poster presentation) Department of Energy Joint Genome Institute Annual User Meeting. San Francisco, CA.

2017 NB Zimmerman, J U'Ren, AE Arnold. High resolution genotyping reveals extensive diversification of trichome-associated fungi at high elevation sites in Hawai'i. (oral presentation) ESA Annual Meeting. Portland, OR.

2017 NB Zimmerman, J U'Ren, AE Arnold. Endophytic communities of high elevation ʻōhiʻa. (oral presentation) Hawai'i Ecosystems Meeting. Hilo, HI.

2016 NB Zimmerman, JE Johnson, YL Huang, DJP Moore, AE Arnold. The effects of foliar fungal endophytes on plant physiological performance. (oral presentation) ESA Annual Meeting. Ft. Lauderdale, FL.

2016 NB Zimmerman, AE Arnold, P Vitousek. A highly diverse clade of melanized fungi associated with the leaves and trichomes of the endemic tree *Metrosideros polymorpha* at high elevation sites in Hawai'i. (oral presentation) Hawai'i Ecosystems Meeting. Hilo, HI.

2015 NB Zimmerman, AE Arnold, P Vitousek. A highly diverse clade of melanized fungi associated with the leaves and trichomes of the endemic tree *Metrosideros polymorpha* at high elevation sites in Hawai'i. (oral presentation) ESA Annual Meeting. Baltimore, MD. DOI: 10.6084/m9.figshare.1506841

2015 NB Zimmerman*, B Frederic, PS Jørgensen, T Poisot, R Salguero-Gomez, AK Shaw, DE Stanton. Where do we go from here? Early-career perspectives on the challenges and opportunities facing Ecology in the 21st Century (oral presentation) ESA Annual Meeting. Baltimore, MD. DOI: 10.6084/m9.figshare.1509928

2015 NB Zimmerman*, AE Arnold, P Vitousek. A highly diverse clade of melanized fungi associated with the leaves and trichomes of the endemic tree *Metrosideros polymorpha* at high elevation sites in Hawai'i. (poster and invited oral presentation) Fungal Genetics Conference. Asilomar, CA.

2014 NB Zimmerman, P Busby. Foliar fungi in Populus: Community assembly and pathogen resistance. (oral presentation) ESA Annual Meeting. Sacramento, CA. DOI: 10.6084/m9.figshare.1134635

2013 NB Zimmerman, P Vitousek. Environmental Factors are more effective at explaining differences in tropical fungal endophyte communities than distance. (oral presentation) ESA Annual Meeting. Minneapolis, MN.

2012 NB Zimmerman, P Vitousek. Pyrosequencing of tropical fungal endophytes provides evidence for adaptation to high elevation. (oral presentation) ESA Annual Meeting. Portland, OR.

2012 NB Zimmerman*, P Vitousek. There is more to ʻōhiʻa than meets the eye. (oral presentation) Hawaiʻi Conservation Conference. Honolulu, HI.
Recording URL: vimeo.com/50646324

2012 NB Zimmerman, P Busby, D Weston, G Newcombe. Interactions between Endophytes and a Pathogen in leaves of *Populus angustifolia*. (poster) New Phytologist Symposium on the Plant Microbiome. Rhodes, Greece.

2011 NB Zimmerman, P Busby, D Weston, G Newcombe. Foliar Fungi in Poplar: Friends or Foes? (oral presentation) UC Santa Cruz-Stanford Species Interaction Workshop. Stanford, CA.

2011 NB Zimmerman, P Vitousek. Fungals in the Jungles: Endophytic Fungal Diversity at the Landscape Scale. (poster) Metagenomics workshop at the DOE Joint Genome Institute. Walnut Creek, CA.

2011 NB Zimmerman, P Vitousek. Landscape biogeography of foliar fungal endophytes in the tropics. (oral presentation) ESA Annual Meeting. Austin, TX.

2011 NB Zimmerman, P Vitousek. Fungals in the Jungles: Endophytic Fungal Diversity at the Landscape Scale. (oral presentation) Mycological Society of America Meeting. Fairbanks, AK.

2010 NB Zimmerman, P Vitousek. Biogeography of Tropical Fungal Endophytes (oral presentation) UCSC-Stanford Species Interaction Workshop. Santa Cruz, CA.

2009 NB Zimmerman, P Vitousek. The Phascinating Phyllosphere: Linking Aboveground and Belowground Processes. (oral presentation) Hawaiʻi Ecosystems Meeting, Hilo, Hawaiʻi

2008 NB Zimmerman, P Vitousek. Fungal Endophytes in ʻŌhiʻa: Looking Beyond the Leaves. (oral presentation) Hawaii Ecosystems Meeting, Hilo, HI

2004 NB Zimmerman, RF Hughes, S Cordell, P Hart, HK Chang, and D Perez. The state of lowland wet forests in Hawaiʻi: Variation in ecosystem dynamics and impacts of invasive species. (oral presentation) International Association for Vegetation Science, Kailua-Kona, HI

2004 NB Zimmerman, RF Hughes, S Cordell, P Hart, HK Chang, and D Perez. The state of lowland wet forests in Hawaiʻi: Variation in ecosystem dynamics and impacts of invasive species. (oral presentation) Hawaiʻi Conservation Conference, Honolulu, HI

2004 NB Zimmerman, RF Hughes, S Cordell, P Hart, HK Chang, and D Perez. The state of lowland wet forests in Hawaiʻi: Variation in ecosystem dynamics and impacts of invasive species. (oral presentation) Hawaiʻi Ecosystems Meeting, Hilo, HI

Pedagogy Presentations and Posters

2022 NB Zimmerman, J Zobitz**.** Building a cohort of PUI faculty to use NEON soil respiration data in undergraduate classes. Meeting of the Ecological Society of America. Montreal, Quebec, Canada. Poster.

2021 NB Zimmerman*. Using 4DEE and project-based learning to build a microbial ecology perspective into undergraduate microbiology courses. ESA Annual Meeting. Virtual Meeting (due to COVID-19).

2021 NB Zimmerman*. Using NEON data to CURE an undergraduate ecology lecture course. ESA Annual Meeting. Virtual Meeting (due to COVID-19).

2021 NB Zimmerman. Using SARS-CoV-2 data from NCBI in Undergraduate Classes. ESA Annual Meeting. Virtual Meeting (due to COVID-19).

2020 NB Zimmerman*. Using NEON data to CURE an undergraduate ecology lecture course. ESA Annual Meeting. Virtual Meeting (due to COVID-19).

2019 NB Zimmerman*. Using NEON data to CURE an undergraduate ecology lecture course. ESA Annual Meeting. Louisville, KY.

Student Research Products

Student Presentations and Posters At National and International Conferences

2022 S Gao#, NB Zimmerman. Microbes Out of Water: Drying-Rewetting Stress on Organic Farm Soil. Ecological Society of America Annual Meeting. Montreal, Quebec, Canada. Poster.

2021 A Sango#, NB Zimmerman. Using PurpleAir Data to Study the Relationship between Urban Air Quality and Aerial Fungal Microbiomes. Ecological Society of America Annual Meeting. Virtual conference (due to COVID-19). Oral Presentation.

2020 A Sango#, NB Zimmerman. In the Air We Breathe: Effects of Air Quality on Outdoor Aerial Microbial Diversity in Urban Ecosystems. International Society of Microbial Ecology Unity in Diversity. Virtual conference (due to COVID-19). Poster.

2020 D Newberger#, NB Zimmerman. The contribution of foliar fungi to agricultural soil microbiomes in an organic cropping system. Ecological Society of America Annual Meeting. Virtual conference (due to COVID-19). Poster.

2019 E Gibson‡, NB Zimmerman. Urban Biogeography of Foliar Fungal Endophytes in *Metrosideros excelsa* Planted throughout San Francisco. American Society for Microbiology Annual Meeting. San Francisco, CA. Poster and invited talk.

Student Presentations and Posters at Local Conferences

2022 S Gao#. Microbes Out of Water: Drying-Rewetting Stress on Organic Farm Soil. USF Creative Activity and Research Day. Poster.
* *Winner: Best Graduate Student Poster Award*

2022 N Ashburner-Wright‡. Observing the presence of fungal endophytes in experimentally-inoculated *Populus trichocarpa* leaves. USF Creative Activity and Research Day. Poster.

2022 C Tran‡, N Ashburner-Wright‡, D Newberger#. Assessing Pathogenicity of *Alternaria* Fungi Associated with Leaves of Cover Crops in an Organic Cropping System. USF Creative Activity and Research Day. Poster.

2021 S Gao#. Microbes Out of Water: Drying-Rewetting Stress on Organic Farm Soil. USF Creative Activity and Research Day. Oral Presentation.

2021 A Sango#. A Systematic Review of the Application of Remote Sensing Techniques for Imaging Land Use Variation in Urban Environments. USF Creative Activity and Research Day. Poster.

2021 M Kuan‡, C Tran‡, D Newberger#. Hidden Consequences: The Effects of Daikon Radish on the Microbial Communities of Purple Vetch in Cover Crop Mixtures. USF Creative Activity and Research Day. Poster.

2020 J Krastins#. Systemic Primer Bias in Studying Soil Fungi in an Artificial Rainforest. USF Creative Activity and Research Day. Poster.

2020 A Sango#. Effects of Air Quality on Outdoor Aerial Microbial Diversity in Urban Ecosystems. USF Creative Activity and Research Day. Poster.

2020 D Newberger#, S Gao#, A Maria+. The contribution of foliar fungi to agricultural soil microbiomes in an organic cropping system. USF Creative Activity and Research Day. Poster.

2020 E Ovet‡. Symbiosis Between *Arabidopsis thaliana* and *Colletotrichum tofieldiae* for Enhanced Phytoremediation of Indoor Volatile Organic Compounds. USF Creative Activity and Research Day. Poster.

2020 MB Kuan‡, C Tran‡, D Newberger#. Phylogenetic Relationships of Foliar Bacteria Within Cover Crops in an Organic Cropping System. USF Creative Activity and Research Day. Poster.
* *Winner: Best Undergraduate Abstract Award*

2019 D Newberger#. The contribution of foliar fungi to agricultural soil microbiomes in an organic cropping system. USF Creative Activity and Research Day. Poster.

2019 J Krastins#. Effects of Endophytes on Drought Resistance of *Populus trichocarpa*. USF Creative Activity and Research Day. Poster.

2018 J Copeland#. Preliminary Analysis of Fungal Endophyte Communities Within *Populus* spp. Reveals Predominance of Three Distinct Taxa. USF Creative Activity and Research Day. Oral Presentation.

2018 E Gibson‡. Urban biogeography of fungal endophytes across San Francisco. USF Creative Activity and Research Day. Poster.

High School Science Fair Projects

2020 A Maria+. The Effect of Cover Crop Species on Phyllosphere Bacteria Communities. Synopsys Science Fair. San Jose, CA.
2019 A Maria+. Does Dissolved Nitrogen Predict Chlorophyll Concentration Among Different Types of Aquatic Algal Communities? Synopsys Science Fair. San Jose, CA.

Supplementary Training and Skills Development

Supplementary Scientific Training, Short Courses, Workshops Taken

2022 LEEF Advanced Photosynthesis Training Course. LI-COR. Lincoln, NE
2015 Building Global Ecological Understanding. June 2-5, 2015. University of Delaware, Newark, Delaware. Website.
2013 Frontiers and Techniques in Plant Science. Cold Spring Harbor, NY
2013 Next-Generation Sequencing & Population Genomics. Hopkins Marine Station. Monterey, CA
2011 Metagenomics training workshop. DOE Joint Genome Institute. Walnut Creek, CA.

Analytical Experience and Computational Skills

Computational languages and frameworks: R, perl/bioperl, python, MATLAB, HTML, CSS, bash/zsh, SQL (SQLite, PostgreSQL, MySQL/MariaDB), LaTeX, markdown, Linux/Unix, git, vim, emacs, make, grep/sed/awk, Docker, Vagrant, Continuous Integration (GH Actions/Travis CI), ArcGIS, Drupal, MediaWiki, WordPress

Molecular techniques: Plant gene expression analysis using RNA-Seq and qPCR, high throughput DNA extraction and PCR from environmental samples, Illumina/454/Sanger sequencing and library prep, DGGE, T-RFLP

Elemental analysis: Pyrolysis Gas Chromotography/Mass Spectrometry (Py/GC/MS), Gas Chromatography/Mass Spectrometry (GC/MS) for measurement of Volatile Organic Compounds (VOCs)

Teaching and Mentoring

Teaching

New Courses Designed and Taught

Bioinformatics *Undergraduate upper division lab course (14 students)*
2021 Fall BIOL 422/423. USF
2021 Spring BIOL 422/423. USF
2019 Fall BIOL 422/423. USF
2018 Fall BIOL 422/423. USF
2017 Fall BIOL 395/396. USF

Bioinformatics *Graduate-level lecture course (25-35 students)*
2021 Fall BTEC 640. USF
2020 Fall BTEC 640. USF
2019 Fall BTEC 640. USF
2018 Fall CS 640. USF
2017 Fall CS 640. USF

Biology of COVID-19 *Undergraduate honors college seminar (12 students)*
2021 Spring HONC 390. USF

Biology of COVID-19 *Pre-frosh seminar (12 students)*
2020 Fall BIOL 190. USF

California Ecology *Undergraduate core field class for non-majors (12 students)*
2021 Summer BIOL 102/L. USF
2020 Summer BIOL 102/L. USF
2019 Summer BIOL 102/L. USF
2018 Summer BIOL 102/L. USF
2017 Summer BIOL 102/L. USF

Core Lab in Ecology *Undergraduate lab/field course (~100 students total, 15/section)*
2013 Spring *Lead Instructor* BIO 44Y. Stanford

Ecology *Undergraduate upper division lecture course (20 students)*
2022 Spring BIOL 319. USF
2020 Spring BIOL 319. USF
2018 Spring BIOL 319. USF

General Microbiology *Undergraduate upper division lab course (14 students)*
2019 Spring BIOL 356/357. USF
2017 Spring BIOL 356/357. USF

Urban Ecology *Undergraduate upper division field course (14 students)*
2022 Spring BIOL 424/425. USF
2020 Spring BIOL 395/396. USF

2006-2007 Many subjects. IBS Academy. Seoul, Korea. (6-20 students/class)

Other Courses Taught

Genetics Lab *Lab course for Biology majors (~100 students total, 16/section)*
2018 Spring BIOL 311. USF

Microbiology Lab *Lab course for Nursing majors (~100 students total, 16/section)*
2023 Spring BIOL 135. USF

Computational Training Delivered

Instructor for nearly 50 workshops and seminars around the world over the past 10 years.

Workshops and Seminars

2021 SR Supp, AJ Kerkhoff, ME Aiello-Lammens, **NB Zimmerman**. Bringing Computational Data Sciences to Your Undergraduate Ecology Classroom. Workshop. ESA Annual Meeting. (Virtual due to COVID).

2019 NB Zimmerman. Docker for Teaching. Carpentries Online Skill Seminar. presentation DOI: 10.6084/m9.figshare.8132849.v2

2019 SR Supp, AJ Kerkhoff, ME Aiello-Lammens, **NB Zimmerman**. Bringing Computational Data Sciences to Your Undergraduate Ecology Classroom. Workshop. ESA Annual Meeting. Louisville, KY.

2019 NB Zimmerman, A Tredennick. Data Visualization Using R and ggplot. Workshop. ESA Annual Meeting. Louisville, KY. GitHub: naupaka/esa_ggplot2_2019

2018 NB Zimmerman, A Tredennick. Data Visualization Using R and ggplot. Workshop. ESA Annual Meeting. New Orleans, LA. GitHub: naupaka/esa_ggplot2_2018

2018 NB Zimmerman, G Simpson. Introduction to community data analysis using the vegan package in R. Workshop. ESA Annual Meeting. New Orleans, LA. GitHub: naupaka/esa_intro_vegan_2018

2017 NB Zimmerman. Using Git and GitHub for Open Science. Presentation. University of California San Francisco. San Francisco, CA

2017 A Tredennick, **NB Zimmerman**. Data Visualization Using R and ggplot. Workshop. ESA Annual Meeting. Portland, OR. GitHub: atredennick/esa_ggplot2_2017

2017 NB Zimmerman, G Simpson. Introduction to community data analysis using the vegan package in R. Workshop. ESA Annual Meeting. Portland, OR. GitHub: naupaka/esa_intro_vegan_2017

2016 A MacDonald, **NB Zimmerman**, Andrew Tredennick. Workshop. An Introduction to R for Ecologists. ESA Annual Meeting. Ft. Lauderdale, FL. GitHub: aammd/Intro_R_ESA_2016

2016 A Tredennick, **NB Zimmerman**. Data Visualization Using R and ggplot. Workshop. ESA Annual Meeting. Lauderdale, FL. GitHub: atredennick/esa_data_viz_2016

2016 NB Zimmerman, G Simpson. Introduction to community data analysis using the vegan package in R. Workshop. ESA Annual Meeting. Lauderdale, FL. GitHub: naupaka/esa_intro_vegan_2016

2016 G Simpson, **NB Zimmerman**. Workshop. Advanced community data analysis using the vegan package in R. ESA Annual Meeting. Lauderdale, FL. GitHub: gavinsimpson/esa-advanced-vegan-2016

2016 NB Zimmerman. Open-source Hardware for Ecologists: Using the Arduino and Raspberry Pi platforms for logging ecological data. Presentation. ESA Annual Meeting. Ft. Lauderdale, FL. presentation DOI: 10.6084/m9.figshare.3580713.v2

2015 NB Zimmerman, A MacDonald, G Simpson, N Ross. Workshop. An Introduction to R for Ecologists. ESA Annual Meeting. Baltimore, MD. GitHub: naupaka/Intro_R_ESA_2015

2015 NB Zimmerman, A Tredennick. Workshop. Data Visualization Using R and ggplot. ESA Annual Meeting. Baltimore, MD. GitHub: atredennick/esa_data_viz_2015

2015 NB Zimmerman, G Simpson. Workshop. Introduction to community data analysis using the vegan package in R. ESA Annual Meeting. Baltimore, MD. GitHub: naupaka/esa_intro_vegan_2015

2015 G Simpson, **NB Zimmerman**. Workshop. Advanced community data analysis using the vegan package in R. ESA Annual Meeting. Baltimore, MD. GitHub: gavinsimpson/esa-advanced-vegan-2015

2015 NB Zimmerman. Version Control with Git. Seminar. U of Arizona Department of Mathematics. Tucson, AZ.

2014 Organizing Committee member. National Center for Ecological Analysis and Synthesis (NCEAS) Open Science Codefest. nceas.github.io/open-science-codefest/ Santa Barbara, CA.

2014 NB Zimmerman, A Tredennick. Workshop. Data Visualization Using R and ggplot. ESA Annual Meeting. Sacramento, CA. GitHub: naupaka/esa_data_viz_2014

2014 NB Zimmerman, G Simpson. Workshop. Community Data Analysis Using the Vegan Package in R. ESA Annual Meeting. Sacramento, CA. GitHub: naupaka/esa_vegan

2013 NB Zimmerman. Git for Scientists. Presentation. International Association for Ecology Congress. London, England. GitHub: naupaka/git_intro

2013 J Talbot, **NB Zimmerman**. Presentation. Approaches to Data Visualization. International Association for Ecology (INTECOL) Congress. London, England.

2013 NB Zimmerman, K Ram, A Tredennick. Workshop. Data Visualization Using R. ESA Annual Meeting. Minneapolis, MN.

Software Carpentry and Data Carpentry Instructor and Trainer

The Carpentries (https://carpentries.org) is a global non-profit organization that aims to teach scientists foundational computer skills, including inter alia scripting in python or R, version control with git, the command line, structured data (e.g. SQL), and reproducible research. For each of the below locations, I was an instructor at a two-day intensive workshop.

2019 UC San Francisco
2018 Online Training of New Instructors
2017 UC San Francisco (x2), Stanford, Online Training of New Instructors
2016 U of Wisconsin – Madison, U of Arizona (x2)
2015 St. Joseph's Hospital (Phoenix, AZ), Tulane University, U of Arizona (x2), U of Texas–Arlington, Statistical and Applied Mathematical Sciences Institute, Washington State University
2014 UC Davis, Stanford, Arizona State University

Invited Workshop Instructor

2018 "Reproducible Research" NEON Data Skills Institute. National Ecological Observatory Network. Boulder, CO.
2017 "Reproducible Research" NEON Data Skills Institute. National Ecological Observatory Network. Boulder, CO.
2016 "Reproducible Research" NEON Work with Data Institute. National Ecological Observatory Network. Boulder, CO. Website and GitHub repository
2016 "Using R to Analyze Microbiome Data" Metagenomics: High Throughput Analysis of Microbiomes. Instituto de Investigaciones Científicas (INDICASAT). Panama City, Panama. GitHub repository
2015 "Developing, Maintaining, and Employing Large Computational Frameworks for the Ecological Sciences" Statistical and Applied Mathematical Sciences Institute, North Carolina. Website and GitHub organization.

GUEST LECTURES

2020 "Cheese Microbiomes" CHEM 310 Kitchen Science USF
2018 "Linear Regression" MATH 102 Biostatistics USF
2016 "Endophytes" PLP 550 Principles of Plant Microbiology UA
2015 "Fungal Endophytes" PLP 329A Microbial Diversity UA
2015 "Bioinformatics for fungal community ecology" PLP 575 Advanced Mycology UA
2014 "Endophyte-Pathogen Continuum" PLP 550 Principles of Plant Microbiology UA
2014 "Fungi & the Carbon Cycle" EEB 527 Micro Biogeochemistry & Global Change UA
2013 "Modeling Succession" BIO 101 Ecology Stanford
2012 "Modeling Succession" BIO 101 Ecology Stanford
2011 "Endophyte Biogeography" BIO 321 Ecological Genetics Stanford
2011 "Modeling Succession" BIO 101 Ecology Stanford
2008 "Korean Academies" EDUC 170 Schooling and Asian Cultures UC Santa Cruz

Teaching Assistantships

2010 BIO 117 Ecology of the Hawaiian Islands Stanford
2009 BIO 101 Ecology Stanford
2009 BIO 216 Terrestrial Biogeochemistry Stanford
2008 BIO 16N Island Ecology Stanford
2008 BIO 44Y Biology Core Lab in Ecology Stanford
2007 BIO 101 Ecology Stanford

Mentoring

Student Mentoring

Primary Advisor, Graduate (MS)

2020-2022 Sarah Gao (Biology)
2019-2022 Ashley Sango (Biology)
2018-2021 Jason Krastins (Biology)
2018-2021 Derek Newberger (Biology)
2017-2020 Joshua Copeland (Biology)

Committee Member, Graduate (MS)

2021-present William Ryan (Biology, PI: Scott Nunes)
2021-present Erin Hall (Biology, PI: Sevan Suni)
2021-present Yukiye Koide (Biology, PI: Sangman Kim)
2021-present Lana Rasoul (Biology, PI: Christina Tzagarakis-Foster)
2021-2022 Jackson Valler (Biology, PI: Jen Dever)
2019-present Hannah Hayes (Biology, PI: Sevan Suni)
2019-present Melissa Hernandez (Biology, PI: Sevan Suni)
2019-2021 Sophia Lyons (Biology, PI: Nicole Thometz)
2019-2021 Alec Chiono (Biology, PI: John Paul)
2018-2019 Allison Bogisich (Biology, PI: Jen Dever)
2017-2021 Tiffany Kho (Biology, PI: John Paul)
2017-2019 Nila Le (Biology, PI: John Paul)
2017-2018 Alexandra Gonzalez (Biology, PI: Jen Dever)
2017-2018 Genevieve Chiong (Biology, PI: James Sikes)

Primary Advisor, Undergraduate Honors Thesis

2017-2018 Emma Gibson (Biology)

Committee Member, Undergraduate Honors Thesis

2021-2022 Kayleigh Little (Biology)
2021-2022 Ally Kuwana (Biology)
2020-2021 Cate Gwinn (Biology)
2020-2021 Alex Palaicios (Biology)
2019-2020 Ralphyn Pallikunnath (Biology)
2017-2018 Theresa Keith (Biology)
2017-2018 James Hurst-Hopf (Biology)

Undergraduate Researchers (non-thesis)

2023 Ava Albert (Biology)
2021 Chloe Jones-Livingstone (Environmental Science)
2021-2022 Nivedita Ghosh (Biology)
2020-2022 Christina Tran (Biology)
2020-2021 Marcello Kuan (Biology)
2019-2022 Natalie Ashburner-Wright (Environmental Science)
2019-2020 Sayeh Jafari (Biology)
2019-2020 Reina Rios (Biology)
2019-2020 Victoria Lamar (Business)
2018-2020 Emre Ovet (Biology)
2017 Julian Murdzek (Environmental Science)

Visiting Research Interns

2019-2020 Sarah Gao

High School Researchers

2018-2020 Amirtha Maria (Presentation High School, San Jose, CA)

Faculty Mentoring

2023 NEON Soil Flux Faculty Mentoring Network. Co-organized with John Zobitz (Augsburg University), run via QUBES (Quantitative Undergraduate Biology Education and Synthesis) for 6 faculty across the US. Semester-long training on the use of gas exchange instrumentation, R programming, and culturally responsive teaching and research methods. Funded via a grant from NSF. Website.

Other Mentoring (prior to USF)

2014 Molecular and Cellular Biology Undergraduate Honors Mentor. MCBH181. Topic: *The Plant Microbiome* **(**University of Arizona)
2013-2014 High School research mentor (U of Arizona School of Plant Sciences): Cassidy Vernon, Rowen Stokes – root endophytes in buffelgrass (*Cenchrus ciliaris*)
3rd place in Plant Sciences at the Southern AZ Science and Engineering Fair
2010-2021 Conference mentor in ESA's Strategies for Ecology, Education, Diversity and Sustainability (SEEDS) undergraduate mentorship program

2009-2013 Undergrad honors research mentor (Stanford Biology Dept):
Eric Slessarev – nutrient cycling and mycorrhizal symbiosis in nutrient poor soils
Safiyyah Abdul-Khabir – microclimate effects on foliar fungal endophytic communities
Chris Chu – nutrient effects on phyllosphere fungal communities and herbivory
2008, 2009 *Instructor.* Explorations Short Course –Phyte Club: Endophytic Fungi Stanford
2009 Teaching Assistant mentor. Biology 101 Ecology Stanford University
2008-2012 'Big Sibs' mentoring program for new Stanford graduate students in Biology
2007-2012 BioBridge mentoring program for Stanford undergraduates

Supplementary Training in Pedagogy

Supplementary Training Received in General Pedagogy

2023 Promoting Inclusivity, Engagement, and Learning in the Laboratory (USF)
2018-2019 Cultural Awareness, Competence, and Humility (USF)
2018 National Ecological Observatory Network (NEON) + Quantitative Undergraduate Biology Education and Synthesis (QUBES) Faculty Mentoring Network Participant
press: NEON blog
2017 Quantitative Undergraduate Biology Education and Synthesis project (QUBES) Dig Into Data Faculty Mentoring Network Participant
2014 STCH 595: Colloquium in Science Teaching and Learning, U of Arizona
2012-2013 Mentor in Teaching (MinT) Fellow, Stanford University
2012 CTL 312: Sci & Engin. Course Design, Stanford Center for Teaching & Learning
2011 Using Fungi in Educational Contexts (Mycological Soc. of America)
2011 EDUC 332x: Environmental Education, Stanford Graduate School of Education
2008 CTL 231: Future Faculty Seminar, Stanford Center for Teaching & Learning

Supplementary Training Received in Teaching Computational Skills

2023 Environmental Data Science Summit. National Center for Ecological Analysis and Synthesis. Santa Barbara, CA. Website.
2018 Jupyter Reproducible Science Hackathon: Curriculum & Workflow Development
GitHub repo: Reproducible-Science-Curriculum/RR-Jupyter-hackathon-Jan-2018
2017 Software and Data Carpentry (carpentries.org/trainers) Trainer Pedagogy Course
2017 Jupyter Reproducible Science Hackathon: Curriculum & Workflow Development
GitHub repo: Reproducible-Science-Curriculum/RR-Jupyter-Hackathon-Jan-2017
2014 NESCent Reproducible Science Hackathon: Curriculum & Workflow Development
GitHub repo: https://github.com/Reproducible-Science-Curriculum/
2013 Software Carpentry (carpentries.org/instructors/) Instructor Training Course

Service

Service to Professional Societies and Organizations

Ecological Society of America (ESA)

Elected Leadership Roles

2021-2022 Microbial Ecology Section Chair
2020-2021 Microbial Ecology Section Vice Chair
2019-2020 Microbial Ecology Section Secretary
2010-2011 Student Section Chair; ESA Council member (*ex officio*)
2009-2010 Student Section Vice Chair
2008-2009 Student Section Treasurer

Appointed or Invited Committee Memberships

2023 Award Renaming Committee
2022 Governing Board Nominations Committee
2020-present Awards Nominations Subcommittee
2019 Ad Hoc Committee on Gender Harassment
2012-present Professional Ethics and Appeals Committee
2011-2012 Ecology for a New Generation Committee
2009-2011 Meetings Committee
2009-2012 Eugene P. Odum Education Award Committee

Other Service

2014 Founding member, Open Science Section

Organized Scientific Sessions

2023 A Romero-Olivares, M Muscarella, **NB Zimmerman**. Microbes as tools to solve ecological problems for all. Inspire Session, ESA Annual Meeting. Portland, OR.
2022 MJ Choudoir, **NB Zimmerman**, S Ishaq, J Hariharan, S Jech. Adding social contexts to environmental microbiomes. Special Session, ESA Annual Meeting. Montreal, Quebec, Canada.
2021 M Friedman, **NB Zimmerman** , M Trujillo, S Jech, S Ishaq, J Stewart, J Bhatnagar, A Kozik. Microbiomes and Social Equity. Special Session, ESA Annual Meeting. (Virtual due to COVID).
2021 C Glaspie, **NB Zimmerman.** Open Data Resources During a Global Pandemic Organized session, ESA Annual Meeting. (Virtual due to COVID).
2011 E Aronson, **NB Zimmerman**. Microbial Ecology using Metagenomics. Organized Oral Session, ESA Annual Meeting. Austin, TX.
2010 NB Zimmerman, K Epps. Scaling genes to ecosystems: Building the bridge between microbial ecology and global processes. Organized Oral Session, ESA Annual Meeting. Pittsburgh, PA.

Organized Workshops (Professional Development)

2015 AE Sutton, **NB Zimmerman**. Building a Broader Community in Ecology and the Related Sciences. ESA Annual Meeting. Baltimore, MD.
2014 S Silver, **NB Zimmerman**. What Editors Want: An Author's Guide to Scientific Publishing. ESA Annual Meeting. Sacramento, CA.
2013 S Silver, J Bernhardt, **NB Zimmerman**. What Editors Want: An Author's Guide to Scientific Publishing. ESA Annual Meeting. Minneapolis, MN.
2013 NB Zimmerman. Student Orientation. ESA Annual Meeting. Minneapolis, MN.
2012 NB Zimmerman. Student Orientation. ESA Annual Meeting. Portland, OR.
2011 J Talbot, **NB Zimmerman**, AL Kuchy, J Ramos. Shaping the Future: How students can set a precedent for planetary stewardship. ESA Annual Meeting. Austin, TX.
2011 R Salguero-Gomez, **N Zimmerman**, J Ramos, S Silver. Things they don't typically teach you in grad school: peer-review inside out. ESA Annual Meeting. Austin, TX.
2010 J Talbot, MD Whiteside, R Salguero-Gomez, **NB Zimmerman**, AL Kuchy. Fight for what's right: become a student leader in planetary stewardship. ESA Annual Meeting. Pittsburgh, PA.

International Association for Ecology (INTECOL)

Elected Leadership Roles

2013-2017 Governing Board member

International Network of Next-Generation Ecologists (INNGE)

Elected Leadership Roles

2014-2020 Governing Board member
2014-2016 Secretary
2010-2020 Co-founder, working group organizer

National Ecological Observatory Network (NEON)

2018-present Data Standards Technical Working Group
2017-present Microbial Technical Working Group (chair, 2019-2021)

Mycological Society of America (MSA)

2012 Founding member, Student Section

Hawaii Conservation Alliance (HCA)

2009-2013 Abstract and Program Committee
2009-2011 Emerging Professionals Committee

Carpentries

2017-present Genomics curriculum steering committee
2017-2020 Lesson Infrastructure subcommittee

Service to the Broader Profession

Peer Reviewing: Journal Articles, Software, and Grant Proposals

2018-2023 Invited grant panelist, National Science Foundation (1-3 panels/yr)
2019-2022 Steering Committee, EcoEvoRxiv Preprint Server (https://ecoevorxiv.org/)
2010-2013 Associate Editor: Stanford Journal of Law, Science, and Policy

Ad-hoc reviewer

Journals (n = 84 reviews; certified record available via Web of Science):
American Journal of Botany, Annals of Microbiology, Applied and Environmental Microbiology, BioScience, Biotropica, CourseSource, Diversity and Distributions, Ecological Research, Ecology, Ecology and Evolution, Ecosphere, Ecosystems, Environmental Microbiology, Environmental Microbiology Reports, F1000Research, FEMS Microbiology Ecology, Fungal Diversity, Fungal Ecology, HardwareX, ISME J, Journal of Applied Ecology, Journal of Biogeography, Journal of Chemical Ecology, Journal of Ecology, Journal of Open Research Software, Journal of Science Communication, Microbial Ecology, Molecular Ecology, Mycologia, Mycological Progress, New Phytologist, Oecologia, Pacific Science, PeerJ, Plant and Soil, Plant Ecology, PLoS Computational Biology, PLoS ONE, PLoS Pathogens, Proc Royal Soc B, Scientia Agricola, Scientific Reports, Symbiosis

Granting agencies: US National Science Foundation (NSF; n = 7), UK Natural Environment Research Council (NERC; n = 1)

R packages (formal review process via ROpenSci): *restez, phylota*

Invited Panelist (Professional Development)

2023 NB Zimmerman. Macrosystems Ecology for All (NSF RCN) Kickoff Event. Zoom.
2022 NB Zimmerman. Reimagining Grading. (panelist) University of San Francisco Center for Teaching Excellence. San Francisco, CA.
2019 NB Zimmerman. NSF BIO Directorate Advisory Council. Washington, D.C.
2019 NB Zimmerman. Professional development presentation to Biology Club. City College of San Francisco. San Francisco, CA.
2017 NB Zimmerman. Open Access Publishing. Gleeson Library, University of San Francisco. San Francisco, CA
2017 NB Zimmerman. Jumpstart Your Academic Job Search Panel. Stanford University. Stanford, CA
2014 NB Zimmerman. Graduate school in Ecology. (panelist) U of Arizona Dept. of Ecology and Evolutionary Biology. Tucson, AZ.
2009 NB Zimmerman. Grad school in the sciences. UH Hawaiian Internship Program. Hilo, HI.

Website Administrator and Open Source Software Maintainer

2022-present ecoevo.social Mastodon server administrator and moderator
2021-present ROpenSci pangaear package maintainer (interface to PANGAEA database)
2017-2021 ESA Early Career Ecologist Section website maintainer
2017-2020 International Association for Ecology (INTECOL) website maintainer
2015-present Co-maintainer of R lesson materials (swcarpentry/r-novice-gapminder and datacarpentry/R-genomics). See carpentries.org/maintainers for more details.
2010-2020 International Network of Next-Generation Ecologists (INNGE) Webmaster

Service to the University of San Francisco (by level)

Service to the University of San Francisco

2022 USFFA rep, Turning the Tables: Participation & Power in Negotiations, UC Berkeley
2021-2022 USFFA Committee on Committees
2020-present Faculty Advisor, Hui O Hawai'i Student Organization
2020-2021 USFFA Finance Committee, Sabbatical Merit Award Committee
2020-2021 Provost Search Committee, Provost Search Advisory Committee
2020 Summer, 2021 Spring USFFA COVID collective bargaining negotiating team
2019-2022 USFFA Policy Board Representative (elected)
2019-2022 College Council (*ex officio*)
2019-2022 College of Sciences Executive Council (COSEC) (*ex officio*)
** USFFA = USF Faculty Association (union leadership similar to a faculty senate)*

Service to the USF College of Arts and Sciences

2021 MS in Data Science Faculty Search Committee external member
2020 Strategic Academic Planning Task Force (STRAPT) member
2020 MS in Data Science Faculty Search Committee external member
2019-2022 Diversity in STEM Committee
2018-2020 College of Arts and Sciences Dean's Medal Committee
2018-2019 Harney Science Center Space Committee

Service to the USF Biology Department

2021 Biology Dept. Chair, Gerardo Marin Postdoctoral Fellowship Committee
2020-present Director, Biology MS Graduate Program
2018-2020 Assistant Director, Biology MS Graduate Program
2019 Biology Dept. Faculty Search Committee
2017-present Biology Graduate Studies Committee

Service to the Public

2016 Taught class on *Using R for Data Analysis* and *Introductory Statistics* to students from Tucson High School during the BLAST (Biotechnology Lab for Arizona Students and Teachers) summer program

2015 Taught classes on *DNA Sequence Editing* and *How to Give a Scientific Presentation* to students from Tucson High School during the BLAST (Biotechnology Lab for Arizona Students and Teachers) summer program

2014 Taught ~70 students from Tucson High School how to quantify biological diversity over the course of a two-day workshop at the University of Arizona

2014 Judge, Tucson High School Science Fair, Southern Arizona Regional Science and Engineering Fair

2009-2010 Co-organizer, East Palo Alto Academy Internship in Biogeochemistry

2008-2009 Boys & Girls Club SAT tutor for high school students in East Palo Alto.

2008 Judge, Terman Middle School Science Fair, Mountain View, CA