Curriculum vitae

NAUPAKA B. ZIMMERMAN

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USF Campus Address:
Harney 219C
2130 Fulton Street
San Francisco, CA 94117-1080

Website: zimmermanlab.org
Google Scholar: profile
ORCID: 0000-0003-2168-6390
Altmetrics: impactstory.org
GitHub: github.com/naupaka

GENERAL BACKGROUND

RESEARCH INTERESTS

Environmental microbial ecology, particularly in relation to plant-microbe interactions. Foliar endophytic fungal community diversity, function, and evolution using field studies, greenhouse manipulations, environmental sequencing, and bioinformatic approaches.

APPOINTMENTS

2017-present *Assistant Professor*, Dept. of Biology, University of San Francisco
2013-2016 *Gordon and Betty Moore Postdoctoral Fellow of the Life Sciences Research Foundation*
U of Arizona, Plant Sciences. Mentor: A. Elizabeth 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 *Research intern* US Forest Service, Institute of Pacific Islands Forestry (summers)

EDUCATION

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

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

SUPPLEMENTARY SCIENTIFIC TRAINING AND SHORT COURSES

2013 *Frontiers and Techniques in Plant Science*. Cold Spring Harbor, NY
2013 *Next-Generation Sequencing and Population Genomics.* Hopkins Marine Station, Monterey, CA
2011 *Metagenomics workshop.* DOE Joint Genome Institute. Walnut Creek, CA.

LANGUAGES AND ANALYTICAL EXPERIENCE

R, perl/bioperl, python, MATLAB, ArcGIS, SQL, LaTeX, markdown, Linux/Unix, git
Plant gene expression analysis using RNA-Seq and qPCR, high throughput DNA extraction and PCR from environmental samples, Illumina/454 sequencing, DGGE, T-RFLP
Pyrolysis Gas Chromotography/Mass Spectrometry (Py/GC/MS), GC/MS for VOCs
Web development: HTML/CSS, Drupal, MediaWiki, WordPress

PUBLICATIONS AND OTHER PRODUCTS

PEER-REVIEWED PUBLICATIONS (* denotes equal author contributions)

Jana M. U'Ren, François Lutzoni, Jolanta Miadlikowska, **Naupaka B. Zimmerman**, Ignazio Carbone, Georgiana May, A. Elizabeth Arnold. Host availability drives distributions of fungal endophytes in the imperiled boreal realm. 2019. *Nature Ecology & Evolution* 3, p. 1430–1437
doi: 10.1038/s41559-019-0975-2

Jeff W. Atkins, Gil Bohrer, Robert T. Fahey, Brady S. Hardiman, Timothy H. Morin, Atticus E. L. Stovall, **Naupaka Zimmerman**, Christopher M. 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.
doi: 10.1111/2041-210X.13061

Yu-Ling Huang, **Naupaka Zimmerman**, A. Elizabeth 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).
doi: 10.3390/jof4020058

Kari Jordan, Marianne Corvellec, Elizabeth D. Wickes, **Naupaka Zimmerman**, Jonah M. Duckles, Tracy Teal. Short-format workshops build skills and confidence for researchers to work with data. Paper presented at the ASEE Conference and Exhibition, St. Lake City, UT, June 2018.
URL: peer.asee.org/30960.pdf

Edmund Hart, Pauline Barmby, David LeBauer, François Michonneau, Sarah Mount, Timothée Poisot, Kara H. Woo, **Naupaka B. Zimmerman**, Jeffrey Hollister. Ten Simple Rules for Digital Data Storage. 2016. *PLoS Computational Biology.* 12(10): e1005097.
doi: 10.1371/journal.pcbi.1005097

Jana U'Ren, Jolanta Miadlikowska, **Naupaka B Zimmerman**, François Lutzoni, Jason E Stajich, A. Elizabeth 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
doi: 10.1016/j.ympev.2016.02.010

Adam Wolf, **Naupaka Zimmerman,** William Anderegg, Posy Busby, Jon 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
doi: 10.1111/geb.12423
press: theguardian.com**,** theatlantic.com, phys.org, climatecentral.org

Rachel L. White, Alexandra E. Sutton, Roberto Salguero-Gómez, Timothy Bray, Heather Campbell, Ellen Cieraad, Nalaka Geekiyanage, Laureano Gherardi, Alice C. Hughes, Peter Søgaard Jørgensen, Timothee Poisot, Lucia DeSoto, and **Naupaka Zimmerman**. The next generation of Action Ecology: Novel approaches towards global ecological research. 2015 *Ecosphere* 6:art134
doi: 10.1890/ES14-00485.1

PEER-REVIEWED PUBLICATIONS (CONTINUED)

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

Peter Søgaard Jørgensen, Frederic Barraquand, Vincent Bonhomme, Timothy J. Curran, Ellen Cieraad, Thomas G. Ezard, Laureano A. Gheradi, R. Andrew Hayes, Timothee Poisot, Roberto Salguero-Gómez, Lucía DeSoto, Brian Swartz, Jennifer M. Talbot, Brian Wee, and **Naupaka Zimmerman.** Connecting people and ideas from around the world: Global innovation platforms for next-generation ecology and beyond. 2015. *Ecosphere* 6:art68
doi: 10.1890/ES14-00198.1

Naupaka Zimmerman, Jacques Izard, Christian Klatt, Jizhong Zhou, Emma Aronson. The Unseen World: Environmental microbial sequencing and identification methods for ecologists. 2014. *Frontiers in Ecology and the Environment* 12(4), p. 224–231
doi: 10.1890/130055
F1000 doi: 10.3410/f.718384400.793495106

Frédéric Barraquand, Thomas HG Ezard, Peter S Jørgensen, **Naupaka Zimmerman**, Scott A Chamberlain, Roberto Salguero-Gómez, Timothy J Curran, Timothée Poisot. Lack of quantitative training among early-career ecologists: a survey of the problem and potential solutions. 2014. *PeerJ* 2:e285
doi: 10.7717/peerj.285
data: 10.7717/peerj.285/supp-1

Posy Busby*, **Naupaka Zimmerman***, Dave Weston, Sarah Jawdy, Jos Houbraken, George Newcombe. Leaf endophytes and host genotype in *Populus* alter severity of damage from the necrotrophic leaf pathogen, *Drepanopeziza populi.* 2013. *Ecosphere* 4(10) art125
doi: 10.1890/ES13-00127.1

Naupaka Zimmerman and Peter Vitousek. Fungal endophytes exhibit environmental structuring across a Hawaiian landscape. 2012. *Proceedings of the National Academy of Sciences* 109(32), p. 13022–13027
doi: 10.1073/pnas.1209872109
data: NCBI SRX153137

Naupaka Zimmerman, R. Flint Hughes, Susan Cordell, Patrick Hart, Heather Kalei Chang, David Perez, Ryan Kaipoalohaakala Like, Rebecca 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
doi: 10.1111/j.1744-7429.2007.00371.x
data: 10.5061/dryad.vp86v3r0

OTHER PUBLICATIONS (NOT PEER REVIEWED)

Allison K. Shaw, Daniel E. Stanton, Sarah R. Supp, Amber Budden, Stephanie Eby, Pamela L. Reynolds, Roberto Salguero-Gómez, Daniel R. Scholes, **Naupaka B. Zimmerman**. Ecology postdocs in academia: primary concerns and possible solutions. 2015. *ESA Bulletin* 96, p.140–152

doi: 10.1890/0012-9623-96.1.140

Peter Søgaard Jørgensen, Vincent Bonhomme, Thomas H G Ezard, R Andrew Hayes, Timothée Poisot, Roberto Salguero-Gomez, Salvatrice Vizzini, **Naupaka Zimmerman**. A global network of next generation ecologists. 2011. *INTECOL Bulletin* 5 (2) 4–6.

Naupaka Zimmerman, Rob Salguero-Gomez, Jorge Ramos. The Next Generation of Peer Reviewing. 2011. *Frontiers in Ecology and the Environment* 9(4), p. 199 guest editorial

doi: 10.1890/1540-9295-9.4.199

SOFTWARE (R PACKAGES)

Jeff Atkins, Gil Bohrer, Robert Fahey, Brady Hardiman, Chrisopher Gough, Timothy Morin, Atticus Stovall and **Naupaka Zimmerman** (2018). forestr: Ecosystem and Canopy Structural Complexity Metrics from LiDAR. R package version 1.0.1.

https://CRAN.R-project.org/package=forestr

Scott Chamberlain, Kara Woo, Andrew MacDonald, **Naupaka Zimmerman** and Gavin Simpson (2018). pangaear: Client for the 'Pangaea' Database. R package version 0.6.0.

https://CRAN.R-project.org/package=pangaear

FELLOWSHIPS, GRANTS, AND AWARDS

GRANTS

2014 US DOE Joint Genome Institute Community Science Program Sequencing Grant. Title: Mechanisms of Interaction in the Foliar Fungal Microbiome of *Populus trichocarpa.* (co-PI)
2010-2012 NSF Doctoral Dissertation Improvement Grant. (co-PI) $15,000
2009 SCORE Grant, Stanford Biology Dept. $2,000.
2008 SCORE Grant, Stanford Biology Dept. $2,000.
2004 Harvard College Research Program. Sponsor: Paul Moorcroft. $1,000

FELLOWSHIPS

2013-2016 Life Sciences Research Foundation Postdoctoral Fellowship $180,000
2009-2012 NSF Graduate Research Fellowship $121,500

AWARDS AND SCHOLARSHIPS

2011 Best Student Oral Presentation, Mycological Society of America Annual Meeting. $200
2010 Forest Fungal Ecology Research Award, Mycological Society of America. $1,000
2009 Graduate Student Scholarship, Big Island Federal Credit Union. $2,500
2001 United States Presidential Scholar, National Merit Scholar, AP Scholar

TRAVEL AWARDS

2014 FESIN Travel Award, Mycological Society of America. $900
2012 Travel Award, New Phytologist Symposium on the Plant Microbiome, $1000
2011 Travel Award, Ecological Society of America Microbial Ecology Section. $250
2011 FESIN Travel Award, Mycological Society of America. $1000
2012 Travel Award, Stanford Biology Dept. $800
2010 Travel Award, Stanford Biology Dept. $800
2004 *Ecological Informatics* Travel Award to Intl Assn. of Veg Sci. Mtg. $300

PRESENTATIONS, POSTERS, ORGANIZED SESSIONS

SCIENTIFIC PRESENTATIONS AND POSTERS (* denotes invited)

2018 *Naupaka Zimmerman. Life within leaves: Hawaiian endophytic fungal diversity at the landscape scale. (invited seminar) Dept of Biology, San Francisco State University. San Francisco, CA. October 23, 2018.

2018 *Naupaka Zimmerman and A. Elizabeth Arnold. The effects of fungal endophyte inoculation on physiological performance in *Populus trichocarpa*. (oral presentation) Meeting of the Ecological Society of America. New Orleans, LA.

2018 *Naupaka Zimmerman, Posy Busby, Edward Barge, Rytas Vilgalys, A. Elizabeth Arnold, George 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 Naupaka Zimmerman, Jana U'Ren, A. Elizabeth Arnold. High resolution genotyping reveals extensive diversification of trichome-associated fungi at high elevation sites in Hawai'i. (oral presentation) Ecological Society of America Meeting. Portland, OR.

SCIENTIFIC PRESENTATIONS AND POSTERS (CONTINUED)

2017 Naupaka Zimmerman, Jana U'Ren, A. Elizabeth Arnold. Endophytic communities of high elevation ʻōhiʻa. (oral presentation) Hawai'i Ecosystems Meeting. Hilo, HI.

2016 Naupaka Zimmerman, Jennifer E. Johnson, Yu-Ling Huang, David J.P. Moore, A. Elizabeth Arnold. The effects of foliar fungal endophytes on plant physiological performance. (oral presentation) Ecological Society of America Meeting. Ft. Lauderdale, FL.

2016 Naupaka Zimmerman, A. Elizabeth Arnold, Peter 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 Naupaka Zimmerman, A. Elizabeth Arnold, Peter 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) Ecological Society of America Meeting. Baltimore, MD. doi: 10.6084/m9.figshare.1506841

2015 *Naupaka Zimmerman, Barraquand Frederic, Peter Søgaard Jørgensen, Tim Poisot, Roberto Salguero-Gomez, Allison K. Shaw, Daniel E. Stanton. Where do we go from here? Early-career perspectives on the challenges and opportunities facing Ecology in the 21st Century (oral presentation) Ecological Society of America Meeting. Baltimore, MD. doi: 10.6084/m9.figshare.1509928

2015 *Naupaka Zimmerman, A. Elizabeth Arnold, Peter 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 Naupaka Zimmerman and Posy Busby. Foliar fungi in Populus: Community assembly and pathogen resistance. (oral presentation) Ecological Society of America Meeting. Sacramento, CA. doi: 10.6084/m9.figshare.1134635

2013 Naupaka Zimmerman and Peter Vitousek. Environmental Factors are more effective at explaining differences in tropical fungal endophyte communities than distance. (oral presentation) Ecological Society of America Meeting. Minneapolis, MN.

2012 Naupaka Zimmerman and Peter Vitousek. Pyrosequencing of tropical fungal endophytes provides evidence for adaptation to high elevation. (oral presentation) Ecological Society of America Meeting. Portland, OR.

2012 *Naupaka Zimmerman and Peter Vitousek. There is more to ʻōhiʻa than meets the eye. (oral presentation) Hawaiʻi Conservation Conference. Honolulu, HI. vimeo.com/50646324

SCIENTIFIC PRESENTATIONS AND POSTERS (CONTINUED)

2012 Naupaka Zimmerman, Posy Busby, David Weston, George Newcombe. Interactions between Endophytes and a Pathogen in leaves of *Populus angustifolia*. (poster) New Phytologist Symposium on the Plant Microbiome. Rhodes, Greece.

2011 Naupaka Zimmerman, Posy Busby, David Weston, George Newcombe. Foliar Fungi in Poplar: Friends or Foes? (oral presentation) UC Santa Cruz-Stanford Species Interaction Workshop. Stanford, CA.

2011 Naupaka Zimmerman and Peter 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 Naupaka Zimmerman and Peter Vitousek. Landscape biogeography of foliar fungal endophytes in the tropics. (oral presentation) Ecological Society of America Meeting. Austin, TX.

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

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

2009 Naupaka Zimmerman and Peter Vitousek. The Phascinating Phyllosphere: Linking Aboveground and Belowground Processes. (oral presentation) Hawai‘i Ecosystems Meeting, Hilo, Hawai‘i

2008 Naupaka Zimmerman and Peter Vitousek. Fungal Endophytes in ‘Ōhi‘a: Looking Beyond the Leaves. (oral presentation) Hawaii Ecosystems Meeting, Hilo, HI

2004 Naupaka Zimmerman, R. F. Hughes, S. Cordell, P. Hart, H.K. Chang, and D. Perez. The state of lowland wet forests in Hawai‘i: Variation in ecosystem dynamics and impacts of invasive species. (oral presentation)
International Association for Vegetation Science, Kailua-Kona, HI
Hawai‘i Conservation Conference, Honolulu, HI
Hawai‘i Ecosystems Meeting, Hilo, HI

ORGANIZED SCIENTIFIC SESSIONS

2011 Emma Aronson and **Naupaka Zimmerman**. Microbial Ecology using Metagenomics. Organized Oral Session, Meeting of the Ecological Society of America. Austin, TX.

2010 Naupaka Zimmerman and Kimberly Epps. Scaling genes to ecosystems: Building the bridge between microbial ecology and global processes. Organized Oral Session, Meeting of the Ecological Society of America. Pittsburgh, PA.

INVITED SCIENTIFIC WORKSHOP PARTICIPANT

2015 Building Global Ecological Understanding. June 2-5, 2015. University of Delaware, Newark, Delaware. Website.

2015 Developing, Maintaining, and Employing Large Computational Frameworks for the Ecological Sciences. April 13- 17, 2015. Statistical and Applied Mathematical Sciences Institute, North Carolina. Website and GitHub organization.

TEACHING AND MENTORING

TEACHING (including curriculum development and course design)

2020 Spring BIOL 395/396 Urban Ecology U of San Francisco
2020 Spring BIOL 319 Ecology U of San Francisco
2019 Fall BTEC 640 Bioinformatics U of San Francisco
2019 Fall BIOL 422/423 Bioinformatics + Lab U of San Francisco
2019 Summer BIOL 102/L California Ecology + Lab U of San Francisco
2019 Spring BIOL 356/357 General Microbiology + Lab U of San Francisco
2018 Fall BIOL 422/423 Bioinformatics + Lab U of San Francisco
2018 Fall CS 640 Bioinformatics U of San Francisco
2018 Summer BIOL 102/L California Ecology + Lab U of San Francisco
2018 Spring BIOL 319 Ecology U of San Francisco
2017 Fall BIOL 395/396 Bioinformatics + Lab U of San Francisco
2017 Fall CS 640 Bioinformatics U of San Francisco
2017 Summer BIOL 102/L California Ecology + Lab U of San Francisco
2017 Spring BIOL 356/357 General Microbiology + Lab U of San Francisco
2013 Spring *Lead Instructor* BIO 44Y Biology Core Lab in Ecology Stanford
2006-2007 *Head Teacher*. IBS Academy. Seoul, Korea.

SOFTWARE CARPENTRY AND DATA CARPENTRY — https://carpentries.org/

2017-present Genomics curriculum steering committee, Lesson Infrastructure subcommittee

2015-present Co-maintainer of R lesson materials (swcarpentry/r-novice-gapminder and datacarpentry/R-genomics). See carpentries.org/maintainers/ for more details.

Instructor at two-day intensive workshops to teach scientists foundational computer skills, including scripting in python or R, version control with git, the command line, structured data (e.g. SQL), reproducible research.

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

INVITED WORKSHOP INSTRUCTOR

Summer 2018 *Instructor* "Reproducible Research" NEON Data Skills Institute. National Ecological Observatory Network. Boulder, CO.
Summer 2017 *Instructor* "Reproducible Research" NEON Data Skills Institute. National Ecological Observatory Network. Boulder, CO.
Summer 2016 *Instructor* "Reproducible Research" NEON Work with Data Institute. National Ecological Observatory Network. Boulder, CO. Website and GitHub repository.
Spring 2016 *Instructor* "Using R to Analyze Microbiome Data" Metagenomics: High Throughput Analysis of Microbiomes. City of Knowledge, Panama. GitHub repository.

GUEST LECTURES

Fall 2018 *Guest Lecturer* "Linear Regression" MATH 102 Biostatistics U of San Francisco
Spring 2016 *Guest Lecturer* "Endophytes" PLP 550 Principles of Plant Microbiology U of Arizona
Fall 2015 *Guest Lecturer* "Fungal Endophytes" PLP 329A Microbial Diversity U of Arizona
Spring 2015 *Guest Lecturer* "Bioinformatics for fungal community ecology" PLP 575 Advanced Mycology U of Arizona
Spring 2014 *Guest Lecturer* "The Endophyte-Pathogen Continuum" PLP 550 Principles of Plant Microbiology U of Arizona
Spring 2014 *Guest Lecturer* "Fungi and the Carbon Cycle" EEB 527 Microbial Biogeochemistry and Global Change U of Arizona
Fall 2013 *Guest Lecturer* "Modeling Succession" BIO 101 Ecology Stanford
Fall 2012 *Guest Lecturer* "Modeling Succession" BIO 101 Ecology Stanford
Fall 2011 *Guest Lecturer* "Endophyte Biogeography" BIO 321 Ecological Genetics Stanford
Fall 2011 *Guest Lecturer* "Modeling Succession" BIO 101 Ecology Stanford
Fall 2008 *Guest Lecturer* "Korean Academies" EDUC 170 Schooling and Asian Cultures UCSC

TEACHING ASSISTANTSHIPS

Fall 2010 *Teaching Assistant* BIO 117 Ecology of the Hawaiian Islands Stanford
Fall 2009 *Teaching Assistant.* BIO 101 Ecology Stanford
Spring 2009 *Teaching Assistant.* BIO 216 Terrestrial Biogeochemistry Stanford
Summer 2008 *Teaching Assistant.* BIO 16N Island Ecology Stanford
Spring 2008 *Teaching Assistant.* BIO 44Y Biology Core Lab in Ecology Stanford
Fall 2007 *Teaching Assistant.* BIO 101 Ecology Stanford

OTHER MENTORING

2010-2019 Conference mentor in ESA's Strategies for Ecology, Education, Diversity and Sustainability (SEEDS) undergraduate mentorship program
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 Arizona Science and Engineering Fair
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

Student Advising and Mentoring (U of San Francisco)

Primary Advisor, Graduate (MS)

2019-present Ashley Sango (Biology)
2018-present Jason Krastins (Biology)
2018-present Derek Newberger (Biology)
2017-2019 Joshua Copeland (Biology)

Committee Member, Graduate (MS)

2019-present Hannah Hayes (Biology, PI: Sevan Suni)
2019-present Sophie Lyons (Biology, PI: Nicole Thometz)
2019-present Melissa Hernandez (Biology, PI: Sevan Suni)
2019-present Alec Chiono (Biology, PI: John Paul)
2017-present Tiffany Kho (Biology, PI: John Paul)
2017-present Nila Le (Biology, PI: John Paul)
2018-2019 Allison Bogisich (Biology, PI: Jen Dever)
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

2019-present Ralphyn Pallikunnath (Biology)
2017-2018 Theresa Keith (Biology)
2017-2018 James Hurst-Hopf (Biology)

Undergraduate Researchers (non-thesis)

2020-present Christina Tran (Biology)
2020-present Marcello Kuan (Biology)
2019-present Natalie Ashburner-Wright (Biology)
2019-2020 Victoria Lamar (Business)
2018-present Emre Ovet (Biology)
2017 Julian Murdzek (Environmental Science)

Visiting Research Interns

2019-present Sarah Gao

High School Researchers

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

Student Conference Presentations and Posters

2019 Emma Gibson, Naupaka 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 Science Fair Projects

2019 Amirtha Maria. Does dissolved nitrogen predict chlorophyll concentration among different types of aquatic algal communities? Synopsys Science Fair. San Jose, CA.

Supplementary Courses, Workshops, and Training in Teaching and Mentoring

2018 National Ecological Observatory Network (NEON) + Quantitative Undergraduate Biology Education and Synthesis (QUBES) Faculty Mentoring Network
press: NEON blog

2018 Jupyter Reproducible Science Hackathon: Curriculum & Workflow Development
GitHub repo: Reproducible-Science-Curriculum/RR-Jupyter-hackathon-Jan-2018

2017 Quantitative Undergraduate Biology Education and Synthesis project (QUBES) Dig Into Data Faculty Mentoring Network

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/

2014 STCH 595: Colloquium in Science Teaching and Learning, U of Arizona

2013 Software Carpentry (carpentries.org/instructors/) Instructor Training Course

2012-2013 Mentor in Teaching (MinT) Fellow, Stanford University

2012 CTL 312: Sci & Engineering Course Design, Stanford Center for Teaching & Learning

2011 EDUC 332x: Environmental Education, Stanford Graduate School of Education

2008 CTL 231: Future Faculty Seminar, Stanford Center for Teaching & Learning

PROFESSIONAL ACTIVITIES AND SERVICE

JOURNAL, SOFTWARE, AND GRANT PROPOSAL REVIEWING

2008-present Ad-hoc reviewer:

Journals (certified record available at publons.com/a/25441):

American Journal of Botany, Annals of Microbiology, Applied and Environmental Microbiology, BioScience, Biotropica, Diversity and Distributions, Ecological Research, Ecology, Ecology and Evolution, Ecosystems, Environmental Microbiology, Environmental Microbiology Reports, 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: *NERC (UK), NSF (USA)*

ROpenSci (formal review of packages for R programming language): *restez, phylota*

2018, 2019, 2020 Invited panelist, National Science Foundation, BIO Directorate

2019-present Steering Committee, EcoEvoRxiv Preprint Server (https://ecoevorxiv.org/)

2010-2013 Associate Editor: Stanford Journal of Law, Science, and Policy

SERVICE (BY ORGANIZATION)

Service to the University of San Francisco

2019-present USF Faculty Association Policy Board Representative (elected)

Service to the USF College of Arts and Sciences

2019-present Diversity in STEM Committee

2018-present Dean's Medal Committee

2020 MS in Data Science Faculty Search Committee external member

2018-2019 Harney Science Center Space Committee

Service to the USF Biology Department

2018-present Assistant Director, Biology Graduate Program

2017-present Biology Graduate Studies Committee

2019 Biology Dept. Faculty Search Committee

National Ecological Observatory Network (NEON)

2018-present Data Standards Technical Working Group

2017-present Microbial Technical Working Group (chair, 2019-present)

International Association for Ecology (INTECOL – intecol.org)

2017-present Webmaster

2013-2017 Governing Board member

International Network of Next-Generation Ecologists (INNGE – innge.net)

INNGE is a network of early career researchers in the ecological and related sciences (details on website).

2014-present Governing Board member

2014-2016 Secretary

2010-present Co-founder, working group participant, Web site developer

SERVICE (BY ORGANIZATION, CONTINUED)

Ecological Society of America
2019-present Microbial Ecology Section Secretary
2019 Ad Hoc Committee on Gender Harassment
2017-present Early Career Ecologist Section webmaster
2012-present Professional Ethics and Appeals Committee
2014 Founding member, Open Science Section
2011-2012 Ecology for a New Generation Committee
2010-2011 Chair, Student Section; ESA Council member (*ex officio*)
2009-2011 Meetings Committee
2009-2012 Eugene P. Odum Education Award Committee
2009-2010 Vice-Chair, Student Section
2008-2009 Treasurer, Student Section

Mycological Society of America
2012 Founding member, Student Section

Hawaii Conservation Alliance
2009-2013 Abstract and Program Committee
2009-2011 Emerging Professionals Committee

Stanford Biology Department
2009, 2012 Graduate Studies Committee
2008-2009 Ecology and Evolution Lunch Seminar Coordinator

ORGANIZED WORKSHOPS

2019 Sarah R. Supp, Andrew J. Kerkhoff, Matthew E. Aiello-Lammens, **Naupaka Zimmerman**. Bringing Computational Data Sciences to Your Undergraduate Ecology Classroom. Meeting of the Ecological Society of America. Louisville, KY.

2019 Naupaka Zimmerman, Andrew Tredennick. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. Louisville, KY. GitHub: naupaka/esa_ggplot2_2019

2018 Naupaka Zimmerman, Andrew Tredennick. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. New Orleans, LA. GitHub: naupaka/esa_ggplot2_2018

2018 Naupaka Zimmerman, Gavin Simpson. Introduction to community data analysis using the vegan package in R. Meeting of the Ecological Society of America. New Orleans, LA. GitHub: naupaka/esa_intro_vegan_2018

2017 Andrew Tredennick, **Naupaka Zimmerman**. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. Portland, OR. GitHub: atredennick/esa_ggplot2_2017

2017 Naupaka Zimmerman, Gavin Simpson. Introduction to community data analysis using the vegan package in R. Meeting of the Ecological Society of America. Portland, OR. GitHub: naupaka/esa_intro_vegan_2017

ORGANIZED WORKSHOPS (CONTINUED)

2016 Andrew MacDonald, **Naupaka Zimmerman**, Andrew Tredennick. An Introduction to R for Ecologists. Meeting of the Ecological Society of America. Ft. Lauderdale, FL. GitHub: aammd/Intro_R_ESA_2016

2016 Andrew Tredennick, **Naupaka Zimmerman**. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. Lauderdale, FL. GitHub: atredennick/esa_data_viz_2016

2016 Naupaka Zimmerman, Gavin Simpson. Introduction to community data analysis using the vegan package in R. Meeting of the Ecological Society of America. Lauderdale, FL. GitHub: naupaka/esa_intro_vegan_2016

2016 Gavin Simpson, **Naupaka Zimmerman**. Advanced community data analysis using the vegan package in R. Meeting of the Ecological Society of America. Lauderdale, FL. GitHub: gavinsimpson/esa-advanced-vegan-2016

2015 Alexandra E. Sutton, **Naupaka Zimmerman**. Building a Broader Community in Ecology and the Related Sciences. Meeting of the Ecological Society of America. Baltimore, MD.

2015 Naupaka Zimmerman, Andrew MacDonald, Gavin Simpson, and Noam Ross. An Introduction to R for Ecologists. Meeting of the Ecological Society of America. Baltimore, MD. GitHub: naupaka/Intro_R_ESA_2015

2015 Naupaka Zimmerman, Andrew Tredennick. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. Baltimore, MD. GitHub: atredennick/esa_data_viz_2015

2015 Naupaka Zimmerman, Gavin Simpson. Introduction to community data analysis using the vegan package in R. Meeting of the Ecological Society of America. Baltimore, MD. GitHub: naupaka/esa_intro_vegan_2015

2015 Gavin Simpson, **Naupaka Zimmerman**. Advanced community data analysis using the vegan package in R. Meeting of the Ecological Society of America. Baltimore, MD. GitHub: gavinsimpson/esa-advanced-vegan-2015

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 Naupaka Zimmerman, Andrew Tredennick. Data Visualization Using R and ggplot. Meeting of the Ecological Society of America. Sacramento, CA. GitHub: naupaka/esa_data_viz_2014

2014 Naupaka Zimmerman, Gavin Simpson. Community Data Analysis Using the Vegan Package in R. Meeting of the Ecological Society of America. Sacramento, CA. GitHub: naupaka/esa_vegan

ORGANIZED WORKSHOPS (CONTINUED)

2014 Sue Silver, **Naupaka Zimmerman**. What Editors Want: An Author's Guide to Scientific Publishing. Meeting of the Ecological Society of America. Sacramento, CA.

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

2013 Naupaka Zimmerman, Karthik Ram, Andrew Tredennick. Data Visualization Using R. Meeting of the Ecological Society of America. Minneapolis, MN.

2013 Sue Silver, Joey Bernhardt, **Naupaka Zimmerman**. What Editors Want: An Author's Guide to Scientific Publishing. Meeting of the Ecological Society of America. Minneapolis, MN.

2011 Talbot, Jenny, **Naupaka Zimmerman**, Andréa L. Kuchy, Jorge Ramos. Shaping the Future: How students can set a precedent for planetary stewardship. Meeting of the Ecological Society of America. Austin, TX.

2011 Rob Salguero-Gomez, **Naupaka Zimmerman**, Jorge Ramos, Sue Silver. Things they don't typically teach you in graduate school: peer-review inside out. Meeting of the Ecological Society of America. Austin, TX.

2010 Talbot, Jenny, Matthew D. Whiteside, Roberto Salguero-Gomez, **Naupaka Zimmerman**, Andréa L. Kuchy. Fight for what's right: become a student leader in planetary stewardship. Meeting of the Ecological Society of America. Pittsburgh, PA.

OTHER PRESENTATIONS AND PANELS (* denotes invited**)**

2019 Naupaka Zimmerman*. NSF BIO Advisory Council. Washington, D.C.

2019 Naupaka Zimmerman*. Using NEON data to CURE an undergraduate ecology lecture course. Meeting of the Ecological Society of America. Fort Lauderdale, FL.

2019 Naupaka Zimmerman*. Docker for Teaching. Carpentries Online Skill Seminar. doi: 10.6084/m9.figshare.8132849.v2

2019 Naupaka Zimmerman*. Professional development presentation to Biology Club. City College of San Francisco. San Francisco, CA.

2017 Naupaka Zimmerman*. Open Access Publishing. Gleeson Library, University of San Francisco. San Francisco, CA

2017 Naupaka Zimmerman*. Jumpstart Your Academic Job Search Panel. Stanford University. Stanford, CA

2016 Naupaka Zimmerman. Open-source Hardware for Ecologists: Using the Arduino and Raspberry Pi platforms for logging ecological data. Meeting of the Ecological Society of America. Ft. Lauderdale, FL. doi: 10.6084/m9.figshare.3580713.v2

OTHER PRESENTATIONS AND PANELS (CONTINUED)

2015 Naupaka Zimmerman. Version Control with Git. (invited seminar) U of Arizona Department of Mathematics. Tucson, AZ.

2014 Naupaka Zimmerman*. Graduate school in Ecology. (panelist) U of Arizona Dept. of Ecology and Evolutionary Biology. Tucson, AZ.

2013 Naupaka Zimmerman. Git for Scientists. (oral presentation) International Association for Ecology Congress. London, England. GitHub: naupaka/git_intro

2013 Naupaka Zimmerman*. Student Orientation. Meeting of the Ecological Society of America. Minneapolis, MN.

2012 Naupaka Zimmerman*. Student Orientation. Meeting of the Ecological Society of America. Portland, OR.

2009 Naupaka Zimmerman*. Graduate school in the sciences. U of Hawaii Hawaiian Internship Program. Hilo, HI.

COMMUNITY INVOLVEMENT AND OUTREACH

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

PROFESSIONAL SOCIETY MEMBERSHIPS

National Association of Biology Teachers (2018–present)
Association for Computing Machinery (2017–present)
Genetics Society of America (2014–present)
American Society for Microbiology (2011–present)
Mycological Society of America (2010–present)
International Association for Ecology (2010–present)
Ecological Society of America (2007–present)
American Geophysical Union (2007–present)