

ANA T. MILLER-TER KUILE

ana.miller-ter-kuile@nau.edu
ana.kuile@usda.gov
719-580-1002
<https://anamtk.weebly.com/>
github.com/anamtk

EDUCATION:

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| 2021 | Ph.D. Ecology, Evolution, and Marine Biology. University of California Santa Barbara. Advisor: Dr. Hillary Young |
| 2012 | B.S. with Honors, Earth Systems – Biosphere Track. Stanford University. Research Mentor: Dr. Rodolfo Dirzo |

PROFESSIONAL EXPERIENCE:

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| 2021-present | Postdoctoral Scholar. Northern Arizona University School of Informatics, Computing, and Cyber Systems and USFS Rocky Mountain Research Station. |
| 2021 | Environmental Data Initiative Summer Data Fellow. Environmental Data Initiative and the USFS Rocky Mountain Research Station. |
| 2015-2021 | Graduate Researcher. National Science Foundation (NSF) Division of Environmental Biology (DEB) Award #1457371. University of California Santa Barbara (UCSB). |
| 2019-2020 | Teaching Fellow. NSF Alliances for Graduate Education and the Professoriate (AGEP). UCSB and California State University at Channel Islands Hispanic Serving Institution (HSI) Alliance. |
| 2019 | Teaching Assistant. University of California Natural Reserve System (UCNRS). University of California Santa Cruz (UCSC). |
| 2013-2015 | Youth Volunteer Coordinator. Grand Canyon Trust and AmeriCorps. |
| 2014 | Field Research Coordinator. UCSB. |
| 2013 | Interpretive Field Ranger. United States Forest Service and Student Conservation Association. |
| 2013 | Research Assistant. Carnegie Institute of Washington Department of Global Ecology. Stanford University. |
| 2013 | Field Research Assistant. Department of Biology. University of California Berkeley. |
| 2008-2012 | Research Assistant. Department of Biology. Stanford University |

PUBLICATIONS: (†denotes undergraduate mentee co-author)

Peer-reviewed manuscripts

- 2022 **Miller-ter Kuile, A. A.** Apigo, A. Bui, K. Butner⁺, J. Childress, S. Copeland⁺, B. DiFiore, E. Forbes, M. Klope, C. Motta⁺, D. Orr, K. Plummer⁺, D. Preston, H. Young. Changes in invertebrate food web structure between high- and low-productivity environments are driven by intermediate but not top predator diet shifts. *Biology Letters*. <https://doi.org/10.1098/rsbl.2022.0364>
- Miller-ter Kuile, A. A.** Apigo, A. Bui, B. DiFiore, E. Forbes, M. Lee⁺, D. Orr, D. Preston, R. Behm⁺, T. Bogar⁺, J. Childress, R. Dirzo, M. Klope, K. Lafferty, J. McLaughlin, M. Morse, C. Motta⁺, K. Park, K. Plummer⁺, D. Weber⁺, R. Young⁺, H. Young. Predator-prey interactions of terrestrial invertebrates are determined by predator body size and species identity. *Ecology*. <https://doi.org/10.1002/ecy.3634>.
- 2021 Preston, D., E. Crone, **A. Miller-ter Kuile**, C. Lewis, E. Sauer, D. Trovillion. Nonnative freshwater snails: a synthesis of invasion status, mechanisms of introduction, and ecological roles. *Freshwater Biology*. <https://doi.org/10.1111/fwb.13848>.
- Parsons, J⁺, D. Orr, C. Motta⁺, G. Sehgal, **A. Miller-ter Kuile**, H. Young. The effects of climate and grazing on oak seedling germination and survival in a California oak woodland. *Forest Ecology and Management*. <https://doi.org/10.1016/j.foreco.2021.119650>.
- Miller-ter Kuile, A.,** A. Apigo, H. Young. Effects of surface sterilization on diet DNA metabarcoding data of invertebrate consumers in mesocosms and natural environments. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.7968>.
- Miller-ter Kuile, A.,** D. Orr, A. Bui, R. Dirzo, M. Klope, D. McCauley, C. Motta⁺, H. Young. Impacts of rodent eradication on seed predation and plant community biomass on a tropical atoll. *Biotropica*. <https://doi.org/10.1111/btp.12864>.
- 2018 Lafferty, K., J. McLaughlin, D. Gruner, T. Bogar⁺, A. Bui⁺, J. Childress, M. Espinoza, E. Forbes, C. Johnston, M. Klope, **A. Miller-ter Kuile**, M. Lee⁺, K. Plummer⁺, D. Weber⁺, R. Young⁺, H. Young. Local extinction of the Asian tiger mosquito (*Aedes albopictus*) following rat eradication on Palmyra Atoll. *Biology Letters*. <https://doi.org/10.1098/rsbl.2017.0743>.
- Hardesty-Moore, M, S. Deinet, R. Freeman, G. Titcomb, E. Dillon, K. Stears, M. Klope, A. Bui⁺, D. Orr, H. Young, **A. Miller-ter Kuile**, L. Hughey, D. McCauley. Migration in the Anthropocene: how collective navigation, environmental system, and taxonomy shape the vulnerability of migratory species. *Phil. Trans. B: Biological Sciences*. <https://doi.org/10.1098/rstb.2017.0017>.
- 2017 Nigro, K., S. Hathaway, A. Wegmann, **A. Miller-ter Kuile**, R. Fisher, H. Young. Stable isotope analysis as an early monitoring tool for community-scale effects of rat eradication. *Restoration Ecology*. <https://doi.org/10.1111/rec.12511>.
- Young, H., **A. Miller-ter Kuile**, D. McCauley, R. Dirzo. Cascading community and ecosystem consequences of introduced palms in tropical islands. *Canadian Journal of Zoology*. <https://doi.org/10.1139/cjz-2016-0107>.

- 2013 Young, H., D. McCauley, R. Dunbar, M. Hutson, **A. Miller-ter Kuile**, R. Dirzo. The roles of productivity and ecosystem size in determining food chain length in tropical Pacific islets. *Ecology*. <https://doi.org/10.1890/12-0729.1>.

In Review, Submitted, or In Preparation

- 2022 Emery, K, **A. Miller-ter Kuile**, H. Lowman, M. Gans, J. Dugan, B. Miller. *In prep.* Kelp survival in the Santa Barbara Channel is driven by oceanic conditions and kelp size.
- Miller-ter Kuile, A.**, V. Saab, J. Dudley, M. Wright, J. Sanderlin, K. Ogle. *In prep.* Stage-dependent responses to forest management for a focal bird species in the western USA.
- Sanderlin, J., J. Dudley, T. Cross, **A. Miller-ter Kuile**, V. Saab. *In prep.* Occupancy of white-headed woodpecker in Oregon and Idaho CFLRP regions is driven by treatment effects and other environmental covariates at multiple scales.

Datasets

- 2022 **Miller-ter Kuile, A.** et al. Data from: Changes in Invertebrate Food Web Structure Between High- and Low-productivity Environments are Driven by Intermediate but Not Top Predator Diet Shifts, Dryad, Dataset, <https://doi.org/10.25349/D9C334>
- Fornwalt, P.J., **A. Miller-ter Kuile**, J.M. Frank, and S. Alton. Meteorological data for the Manitou Experimental Forest, Colorado, USA, 1936-1997 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/93a30be37e64feeb86275e8473030cd9>.
- 2021 **Miller-ter Kuile, A.** et al. Predator-prey interactions of terrestrial invertebrates are determined by predator body size and species identity, Dryad, Dataset, <https://doi.org/10.25349/D9M038>
- Miller-ter Kuile, A.**, A. Apigo, H. Young. Consumer and diet DNA metabarcoding data from terrestrial arthropod predators on Palmyra Atoll. *BioProject: PRJNA715709*. NCBI BioProject Database.
- Miller-ter Kuile, A.** A. Apigo, H. Young. Effects of consumer surface sterilization on diet DNA metabarcoding data of terrestrial invertebrates in natural environments and feeding trials, Dryad, Dataset, <https://doi.org/10.5061/dryad.gqnk98snc>.
- 2020 **Miller-ter Kuile, A.**; D. Orr, A. Bui, R. Dirzo, M. Klope, D. McCauley, C. Motta⁺, H. Young. Impacts of rodent eradication on seed predation and plant community biomass. v2, Dryad, Dataset, <https://doi.org/10.5061/dryad.xsj3tx9cp>.
- Miller-ter Kuile, A.**, A Apigo, H. Young. Effects of surface sterilization on diet DNA metabarcoding data of invertebrate consumers in mesocosms and natural environments. *BioProject: PRJNA639981*. NCBI BioProject Database.

Book Reviews

2016 Forbes, E, **A. Miller-ter Kuile**, D. Orr, G. Titcomb. Navigating the Cascades of Circumstance. *Science*. <https://doi.org/10.1126/science.aaf7138>.

RESEARCH GRANTS:

2017	Faculty Senate Grant. EEMB, UCSB. “Do missing links alter food web structure and stability across environments?” Role: Student Investigator.	\$12,000
2016	Research Experiences for Undergraduates (REU) Supplement. NSF. “Incorporating plant-pollinator mutualisms into ecological networks.” Role: Student Mentor.	\$8,000
2012	Summer Research Grant. School of Earth Sciences, Stanford University. “Body size and stable isotopes of arthropod predators across environments”.	\$5,500
2011	Undergraduate Research and Advising Major Grant. School of Earth Sciences, Stanford University. “The role of environmental context on abundance, body size, and food web structure of terrestrial arthropods on Palmyra Atoll”.	\$5,000

FELLOWSHIPS AND SCHOLARSHIPS:

2021	Environmental Data Initiative (EDI) Data Science Fellowship.	\$5,000
2019-2021	NSF AGEP Hispanic Serving Institutions Fellowship. UCSB.	\$31,500
2017-2021	Graduate Research Fellowship. NSF.	\$140,300
2019	Gordon Research Conference Carl Storm Underrepresented Minority Fellowship. Gordon Research Conferences.	\$600
2015-2017	Graduate Opportunity Fellowship. UCSB.	\$79,500
2012	Strategies for Ecology Education, Diversity and Sustainability (SEEDS) Travel Grant. Ecological Society of America (ESA).	\$1,000
	SEEDS National Field Trip Travel Grant (Cedar Creek LTER). ESA.	\$1,000
	SEEDS National Field Trip Travel Grant (Havasupai Nation). ESA.	\$1,000
2011	Vice Provost of Undergraduate Education Faculty Grant. Stanford University.	\$5,000
2010	Vice Provost of Undergraduate Education Grant. Stanford University.	\$5,000

HONORS AND AWARDS:

2019-2020	NSF AGEP Hispanic Serving Institutions Fellowship. UCSB.
2017-2021	Graduate Research Fellowship. NSF.
2017	Mildred Mathias Educational Research Award. UCNRS.
2015-2017	Graduate Opportunity Fellowship. UCSB.
2012	Mansfield-Wefald Senior Thesis Prize. Telluride Association.

INVITED SEMINARS:

2022	Northern Arizona University School of Informatics, Computing, and Cybersystems EcoInformatics Seminar. Flagstaff, AZ.
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CONFERENCE ACTIVITIES:

Presentations

- 2022 International Statistical Ecology Conference. Cape Town, South Africa
Wilson Ornithological Society Annual Meeting. Santa Fe, NM. (*invited symposium speaker*)
- 2019 eDNA Working Group. UCSB.
Gordon Research Seminar: Plant-Herbivore Interactions. Ventura, CA.
The Wildlife Society Western Section Annual Meeting. Fish Lake, CA.

Conference Steering Committees

- 2014 Uplift Climate Summit. Flagstaff, AZ.

Posters

- 2019 Gordon Research Conference: Plant-Herbivore Interactions. Ventura, CA.
2012 ESA Annual Meeting, Portland, OR.

TEACHING EXPERIENCE:

School of Informatics, Computing, and Cyber Systems, NAU

Graduate-level coursework

Guest lab instructor. INF 626: Applied Bayesian Modeling.

Fall 2022, 8 students

School of Informatics, Computing, and Cyber Systems, NAU

Graduate-level coursework

Invited lecturer. INF 601: Professional and Career Development.

Fall 2022, 6 students

Department of Biology, CSU Channel Islands

Undergraduate-level coursework

Teaching Fellow. BIOL 471: Soil Science.

Fall 2019, 14 students

UC Natural Reserve System and UC Santa Cruz

Undergraduate-level coursework

Teaching Assistant. BIOL/ENVS 188: California Ecology and Conservation Field Course.

Spring 2019, 27 students

Grand Canyon Trust

Undergraduate and High School-level coursework

Field Trip Curriculum Developer and Trip Leader: Colorado Plateau Conservation Advocacy

Spring-Fall 2014, 40 students

Spring-Fall 2015, 45 students

WORKSHOP INSTRUCTION:

Department of Ecology, Evolution, and Marine Biology, UCSB

Graduate-level technical content

Co-Instructor: Introduction to R for Ecologists

Spring 2021, 30 students

Southern California Coastal Water Research Project

Graduate-level technical content

Instructor: Generalized linear models in ecology using R

Fall 2020, 16 students

Department of Ecology, Evolution, and Marine Biology, UCSB

Graduate-level technical content

Instructor: Generalized linear models and generalized linear mixed models in ecology

Winter 2017, 8 students

Summer 2020, 25 students

Department of Ecology Evolution, and Marine Biology, UCSB

Graduate-level technical content

Instructor: Bioinformatics for eDNA and ecology

Fall 2018, 4 students

Spring 2019, 2 students

Cheadle Center for Biodiversity & Ecological Restoration

Graduate-level technical content

Instructor: DNA extraction and high throughput sequencing in ecology

Fall 2019, 4 students

Island Conservation and Northern Illinois University

Graduate-level technical content

Instructor: DNA extraction, sequencing, and bioinformatics for eDNA and ecology

Winter 2019, 3 students

MENTORING:

Undergraduate Mentees and Student affiliations (+ denotes mentee-led project):

2019-2020	Clarisa Martinez, University of California Irvine
	Alistair Dobson ⁺ , EEMB, UCSB
	Kirsten Butner ⁺ , EEMB, UCSB
2018-2019	Tessa Chou. Molecular, Cellular, and Developmental Biology (MCDB), UCSB.
	Emily Lutz. MCDB, UCSB.
2017-2020	Carina Motta ⁺ . EEMB, UCSB.
2016	An Bui. EEMB, UCSB.
2016	Michelle Lee ⁺ . NSF REU, UCLA.
2016	Taylor Bogar ⁺ . NSF REU, UCSB.
2016	David Weber. Department of Biology, Stanford University.
2015	Katie Plummer. Department of Biology, Stanford University.

Post-graduate mentees and student affiliations:

2019-2020	Frida Perez. MS Student. University of California Los Angeles
	Brandon Quintana. MS Student. California State University Fullerton.
	John Parsons ⁺ . Independent researcher, UCSB.
	Ruby Harris-Gavin ⁺ . MS student, UCSB.
	Stephanie Copeland ⁺ . Independent researcher, UCSB.

2017-2020 Michelle Lee⁺. PhD student, UCSB.
2018-2020 Wieteke Holthuijzen⁺. MS Student, Northern Illinois University.

PROFESSIONAL SERVICE:

Peer-review activities

Journal reviewer: *PLoS ONE*, *Biological Conservation*, *Ecological Solutions and Evidence*, *Functional Ecology*, *Molecular Ecology Resources*

Professional memberships and associations

Ecological Society of America (ESA) Strategies for Ecology Education, Diversity, and Sustainability (SEEDS)
Telluride Association
R-Ladies, Santa Barbara Chapter

DEPARTMENTAL AND INSTITUTIONAL SERVICE:

University of California Santa Barbara

2021 Co-organizer, Introduction to R for Ecologists Workshop
2017-2018 Co-organizer, Statistical Methods and Data Visualization in Ecology Workshop

Stanford University

2011-2013 Docent, Jasper Ridge Biological Preserve

OUTREACH, EDUCATION, AND DIVERSITY RELATED ACTIVITIES:

2021 Facilitation Assistant, Introduction to Data Science for Ecologists, University of Wisconsin, Madison, Data Science Hub
2020 Facilitation Assistant, R for Data Science Workshop, California Aquatic Bioassessment Workgroup
2017-2020 Interviewer, Telluride Association Summer Programs
2019 Panelist, Careers in Conservation Panel, EEMB 133, UCSB
Panelist, Womxn in STEM, Womxn in STEM Residence Hall, UCSB
Panelist, Graduate School in STEM, Biomolecular Sciences Club, UCSB
2017, 2018 Judge, Santa Barbara County Science Fair
2017-2018 Co-organizer, Statistical Methods and Data Visualization in Ecology Workshop
2016, 2017 Mentor, NSF REU Program
2016-2017 Editor/Contributor, “Roots to STEM” blog
2012 Instructor, East Side Field Studies. East Side Academy and Jasper Ridge Biological Preserve. Stanford University.
Guest Instructor, Redwood Environmental Academy of Leadership. Redwood Academy and Stanford University.
Instructor, GeoKids. School of Earth Sciences. Stanford University.

MEDIA COVERAGE:

2020 Fernandez, Sonia. “Plot Twist”. UCSB Current
Kaplan, Matt. “Kill one unwanted species and another arises”. The Economist

Shyr, Luna. “To restore Palmyra Atoll, getting rid of rats was just the first step.”Atlas Obscura

WORKSHOPS ATTENDED:

2021	Culturally Responsive Education in Environmental Data Science Workshop. Environmental Data Science Inclusion Network. Data Publishing Training Workshop. Environmental Data Initiative.
2020	Software Carpentry Instructor Training. Software Carpentry. Generalized Linear Models and their Extensions in Ecology. UCSB.
2019	NSF AGEPS Summer Teaching Institute. UCSB. eDNA Working Group, UCSB Sexual Harassment Prevention in Ecology Field Settings. UCNRS.
2018	Professional Development Seminar: Academic Positions. UCSB.
2017-2018	Statistical Methods and Data Visualization in Ecology. UCSB.
2017	NIMBioS Mathematical Biology Summer Graduate Program, University of Tennessee. Software Carpentry Workshop, EcoDataScience, UCSB.
2016	Foundations in Ecology. UCSB.

ADDITIONAL SKILLS AND EXPERTISE:

Quantitative skills

Bayesian and frequentist statistical approaches for complex ecological data
Bioinformatics pipelines for DNA metabarcoding
Reproducible and transparent data cleaning, analysis, and visualization
Data archiving and metadata preparation

Software

R/RStudio (*proficient*)
Git/GitHub (*proficient*)
Mendeley/Zotero (*proficient*)
Adobe Illustrator/Affinity Designer (*proficient*)
USEARCH, MEGAN, DADA2, command line for bioinformatics (*proficient*)
RShiny (*proficient*)
JAGS (in R) (*proficient*)
QGIS (*proficient*)
SLURM for high performance cluster computing (*proficient*)
SQL (*working knowledge*)
Python (*working knowledge*)
JMP (*working knowledge*)

Certificates

Assessment as Pedagogy Teacher Training Certificate
Software Carpentry Instructor