

Samantha B. Sambado, PhD

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EDUCATION

- 2025 **PhD Ecology & Evolution.** University of California Santa Barbara
Committee: Cherie Briggs & Andy MacDonald (chairs), Holly Moeller, Andrea Swei
- 2024 **MA Probability & Applied Statistics.** University of California Santa Barbara
- 2019 **MS Microbiology.** San Francisco State University
Advisor: Andrea Swei
- 2016 **BS Ecology & Evolutionary Biology.** University of California Los Angeles

PROFESSIONAL POSITIONS

- 2025 Postdoctoral Scholar. **Disease Ecology in a Changing World.** Stanford University
Advisor: Erin Mordecai

RESEARCH INTERESTS

Disease ecology, vector-borne diseases, statistical modeling, data science

PUBLICATIONS

- X) Lilly M, A Crews, A Lawrence, J Salomon, **S Sambado**, L Cerna, K Ring, C Peng, G Shaw, S Summers & A Swei. Functional vertebrate group diversity differentially impacts vector-borne pathogen transmission & genetic diversity. *In review: Proceedings B* (submitted 9/23)
- X) Raharinirina H, **S Sambado**, Y Richard, R Nandrianina Ravelojaona, R Zafimahery, F Mihaja Ratsoavina. Distribution and habitat use by the eastern woolly lemur, *Avahi laniger* (Gmelin 1788), in the fragmented forests of the New Protected Area (NAP) of Ambohidray in Moramanga, Central-Eastern Madagascar. *In revisions: Madagascar Conservation & Development* (submitted 7/24)
- X) Broughton H, A Crews, M Lilly, **S Sambado**, J Salomon, A Lawrence, K Ring, J Clark, G Shaw, S Summers, A Nakano & A Swei. Environmental change and species biodiversity loss differentially impact ticks infected and uninfected with Lyme Disease. *In revisions: Science Advances* (submitted 7/24)
- X) **Sambado S**, T Sipin, Z Rennie, A Larsen, J Cunningham, A Quandt, D Sousa & A J MacDonald. The paradoxical impact of drought on West Nile virus risk: insights from long-term ecological data. *In revisions: Proceedings B* (submitted 9/24) preprint doi: 10.1101/2025.01.21.634155

- X) **Sambado S** & S J Ryan. Ecological and socioeconomic factors associated with globally reported tick-borne viruses. *In revisions: Nature Medicine Communications* (submitted 10/24) preprint doi: 10.1101/2024.10.11.617937
- X) MacDonald A J, D Sousa, A Quandt, **S Sambado**, T Sipin, Z Rennie & A Larsen. Extreme climate whiplash events drive divergent responses of mosquito-borne diseases. *In review: Proceedings of the National Academy of Sciences Nexus* (submitted 11/24)
- X) **Sambado S** & C J Briggs. Data analysis in R to gain insights for conservation: examples from long-term ecological research. *In revisions: Lessons in Conservation* (submitted 11/24)
- X) **Sambado S**, G Dayton, K M Zilliacus, S Dewees, A J MacDonald, C J Briggs. Wildfire-disturbance and ecological cascades: teasing apart the direct and indirect effects of fire severity on tick populations. *In review: Journal of Applied Ecology* (submitted 2/25)
12. **Sambado S**, A Sparkman, A Swei, A J MacDonald, H S Young, J Salomon, A Crews, K Ring, S Copeland & C J Briggs. Climate-driven variation in the phenology of juvenile *Ixodes pacificus* on lizard hosts. *In press: Parasites & Vectors* preprint doi: 10.21203/rs.3.rs-5671938/v1
11. Copeland S, **S Sambado**, D Orr, A Bui, A Swei & H Young (2025) Variable effects of wildlife & livestock on questing tick abundance across a topographical-climatic gradient. *Ecosphere* 16(2): e70190 doi.org/10.1002/ecs2.70190
10. **Sambado S***, B Lee*, D Farrant, A Boser, K Ring, D Hyon, A Larsen & A MacDonald (2025) Novel bat-monitoring dataset reveals targeted foraging with agricultural and pest control implications. *Ecology and Evolution* 15:e70819 doi/10.1002/ece3.70819 *co-first author
9. Shaw G, M Lilly, V Mai, J Clark, S Summers, K Slater, S Karpathy, A Nakano, A Crews, A Lawrence, J Salomon, **S Sambado** & A Swei (2024) The roles of habitat isolation, landscape connectivity, and host community in tick-borne pathogen ecology. *Royal Society Open Science* 11:240837 doi.org/10.1098/rsos.240837
8. **Sambado S**, A MacDonald, A Swei & C Briggs (2024) Climate associated variation in the within-season dynamics of juvenile ticks in California. *Ecosphere* 15(11):e70064 doi.org/10.1002/esc2.70064
7. MacDonald A, D Hyon, **S Sambado**, K Ring & A Boser (2024) Remote sensing of temperature-dependent mosquito & viral traits predicts field surveillance-based mosquito-borne disease risk. *Ecology* e4420 doi.org/10.1002/ecy.4420
6. Galletti MFBM, J Hecht, J McQuiston, J Gartin, J Cochran, B Blocker, B Ayres, M Allerdice, L Beati, W Nicholson, A Snellgrove, C Paddock & US Tick MALDI-TOF consortium (A Kennedy, R Eisen, G Molaei, P Lado, J Foley, J Goddard, J Occi, K Padgett, L Dykstra, M Nolan, R Cortinas, **S Sambado**, S Fink, S Campbell, Y Romer) (2024) Harnessing MALDI-TOF MS as an integrative taxonomic tool to identify tick

species of public health importance. *Scientific Reports* 14:19834 doi.org/10.1038/s41598-024-69768-8

5. Salomon J, **S Sambado**, A Crews, S Sidhu, A Almarinez, R Grgich & A Swei (2023) Macro-parasites & micro-parasites co-exist in rodent communities but are influenced by different community-level parameters. *Journal for Parasitology: Parasites & Wildlife* 22:51-59 doi.org/10.1016/j.ijppaw.2023.08.006
4. MacDonald A, S McComb & **S Sambado** (2022) Linking Lyme disease ecology & epidemiology: reservoir host identity, not richness, determines tick infection & human disease in California. *Environmental Research Letters* 17:114041 doi.org/10.1088/1748-9326/ac9ece
3. Paddock C, K Slater, A Swei, M Zambrano, J Kleinjan, K Padgett, M Saunders, E Andrews, E Trent, J Zhong, **S Sambado**, C Goldsmith, E Pascoe, J Foley, R Lane & S Karpathy (2022) Detection & isolation of *Rickettsia tillamookensis* (Rickettsiales: Rickettsiaceae) from *Ixodes pacificus* (Acari: Ixodidae) from multiple regions of California. *Journal of Medical Entomology* 59:1404-1412 doi.org/10.1093/jme/tjac038
2. Salomon J, A Lawrence, A Crews, **S Sambado** & A Swei (2021) Host infection & community composition predict vector burden. *Oecologia* 196:305-316 doi.org/10.1007/s00442-021-04851-9
1. **Sambado S**, A Crews, J Salomon & A Swei (2020) Mixed mode transmission promotes persistence of an emerging tick-borne disease. *Ecosphere* 11(6):e03171 doi.org/10.1002/esc2.3171

FELLOWSHIPS

**Proposals I wrote the first draft of; ^C proposals with Cherie; ^A proposals with Andy*

<i>\$100,627 in awarded fellowships</i>		
2024	Graduate Division Dissertation Fellowship*	\$10,833
2023	VERENA Fellow-In-Residence with Dr. Sadie Ryan*	\$5,000
2023	CDC CoE PacVec Training grant* ^A	\$25,000
2022	UCSB Broida-Hirschfelder Graduate Fellowship*	\$8,000
2021	UCSB Nejat Ezal Fellowship*	\$2,000
2021	CDC CoE PacVec Training grant* ^C	\$25,000
2018	CDC CoE PacVec Training grant*	\$24,794

GRANTS & AWARDS

<i>\$70,940 in awarded funding for research</i>		
2024	Entomological Society of America Program Enhancement Funds	\$400

2024	UCSB Ellen Schamberg Burley Award*	\$1,000
2023	UCSB Hybrid Online & Technology-enhanced Teaching Mini-grant* ^C	\$1,500
2023	U of Washington Biostatistics Summer Institutes Scholarship (SISMID)*	\$3,185
2022	UCSB GradDiv Write-in*	\$500
2022	UCSB Depart. of Ecology Evolution & Marine Biology Block Grant*	\$7,000
2021	UC NRS Mathias Graduate Student Research Grant*	\$3,000
2021	UCSB Depart. of Ecology Evolution & Marine Biology Travel Grant*	\$93
2021	UCSB Academic Senate Faculty Research Grant* ^C	\$12,559
2020	UC NRS Mathias Graduate Student Research Grant*	\$3,000
2019	UCSB Depart. of Ecology Evolution & Marine Biology Block Grant	\$37,203
2019	NorCal Parasitology Balamuth-Horen Award	\$500
2019	SFSU Instructionally Related Research Award*	\$500
2018	SFSU Instructionally Related Research Award*	\$500

TEACHING & MENTORING

Certificates

2024 **UCSB Certificate in College & University Teaching (CCUT)**

- Designed for doctoral students who wish to demonstrate competence & experience in preparation for teaching at the university level
- Took courses in pedagogy, developed a research paper on instructional technology, served as an Instructor of Record for a course & created a 57-page teaching portfolio

2021 **Certified Instructor for The Carpentries** (*Carpentries.org*)

- Certified instructor to teach live coding & data science workshops

Courses taught

2023 **Instructor of Record.** UCSB EEMB 146: Biometry (Analysis of Biological Data)

- Designed lecture materials, delivered live lectures, created professional development portal for students, held office hours, led article discussions for ~90 students

2021 **Graduate Teaching Assistant.** UCSB EEMB 146: Biometry

- Responsible for leading two, two-hour computer lab sections, grading lab assignments, holding office hours, helped design & grade final projects where students produced individual reports on dataset of their choice using statistical skills learned throughout the course for ~50 students (Spring 2020, Winter 2021, Spring 2021)

2018 **Graduate Teaching Assistant.** SFSU BIOL 490: Ecology of Infectious Diseases

- Responsible for leading one, two-hour computer lab section, grading lab assignments, holding office hours & help design computer labs for ~30 students

Guest lectures

- UCSB EEMB 145 *Terrestrial Microbiology* (2022, 2023)
- UCSB EEMB 146 *Biometry* (2021)
- SFSU BIOL 490 *Ecology of Infectious Diseases* (2018)

Student mentoring

- **SFSU** (8 research experience); **UCSB** (36 PhD application process)

RELEVANT EXPERIENCE

2023 UCSB PI Dr. Andy MacDonald, Graduate Student Researcher

Developed statistical models on the impact of fluctuating drought on mosquito-borne disease risk in California's Central Valley (*USDA funded project*)

2022 UCSB PI Dr. Hillary Young, Graduate Student Researcher

Promoted DEI activities including coordination of mentorship program, curated professional development workshops, engaged with department & university DEI initiatives

2021 UCSB PI Dr. Cherie Briggs, Graduate Student Researcher

Built ecological models to link climate with host-pathogen interactions for Chytridiomycosis, caused by *Batrachochytrium* fungi (*DoD funded project*)

2018 SFSU PI Dr. Andrea Swei, Graduate Student Researcher

Executed a rigorous field season & developed molecular tools for a land fragmentation project while recruiting & training undergraduate students (*NSF CAREER funded project*)

2017 Cary Institute of Ecosystem Services PI Dr. Rick Ostfeld, Project Assistant

Collected ecological data & human health records for [The Tick Project](#) to investigate environmental methods to reduce human disease risk (*CDC funded project*)

2016 UC Santa Cruz PI Dr. Marm Kilpatrick, Research Technician

Assisted with data analysis for a transcontinental study of White Nose Syndrome & its pathogenic fungus, *Pseudogymnoascus destructans* (*NSF-NIH EEID funded project*)

ACADEMIC ACTIVITIES & SERVICE

Committees at UCSB in the Ecology & Evolution Department

- Department DEI Committee **ad hoc member** (2023-24)
- **Graduate student advisor** for undergrad Data Analysis Coding Club (2022-23)
- DEI Working Group Recruitment, Retention & Accountability **member** (2022-23)
- Nominated **graduated student representative** at faculty meetings (2022-23)
- Graduate Advisory Committee **member** (2021-23)
- Graduate Student Advisory Committee **president** (2021-22)
- Graduate student DEIW **treasurer** (2020-22)
- Graduate Student Advisory Committee **secretary** (2019-21)

Outreach during PhD

- [Coding 4 Conservation](#) (2022-)
- Science by the Pint (2022-23)
- [EEB Mentor Match Program](#) (2021-23)
- [Skype a Scientist](#) (2020-)

Workshops (applied for & attended)

- UCSB CITRAL Communities of Practice: Course design for equity (2023-24)
- U of Washington SISMID (2023)
 - Causal Inference, Modeling Novel Data Streams, Spatial Statistics
- Western ACK Math Ecology meeting (invited; 2023)
- NCEAS Environmental Data Science Summit (2023)
- Ecological Forecasting Initiative short course (2022)

Peer reviewer

- Nature Communications (1), Ecography (1), Journal of Medical Entomology (2), Ticks & Tick-borne Diseases (1), Environmental Entomology (1), Southwestern Naturalist (1)

RESEARCH PRESENTATIONS

TALKS

- 2025 Sambado et al. *Invited Talk* **Mildred E. Mathias Symposium**
- 2024 Sambado et al. *Invited Talk* **Entomological Society of America Annual Meeting**
Sambado et al. *Invited Talk* **VERENA Lighthouse Seminar**
Sambado et al. **Ecological Society of America Annual Meeting – Contributed Talk**
Sambado et al. **Ecological Society of America Annual Meeting – Inspire Session**
Sambado et al. **CDC PacVec CoE Annual Meeting**
Sambado et al. *Invited Talk* **CSU Cal Poly San Luis Obispo Department of Biological Sciences**
- 2023 Sambado et al. *Invited Talk* **CDC PacVec CoE Seminar Series**
Sambado et al. *Invited Talk* **VERENA Lighthouse Seminar**
Sambado et al. **UCNRS Sedgwick Research Day**
Sambado et al. *Invited Talk* **Mosquito & Vector Management District of Santa Barbara County**
- 2022 Sambado et al. *Invited Talk* **CDC PacVec CoE Annual Meeting**
- 2021 Sambado et al. **Ecological Society of America Annual Meeting**
Sambado et al. *Invited Talk* **Mosquito & Vector Management District of Santa Barbara County**
Sambado et al. **CA Tick-borne Disease Working Group Annual Meeting**

- 2019 Sambado et al. **Northern California Parasitology Annual Meeting** **awarded best student presentation*
Sambado et al. **Mosquito & Vector Control Association of California Annual Meeting**
Sambado et al. *Invited Talk* **CDC PacVec CoE Annual Meeting**
- 2018 Sambado et al. **Northern California Parasitology Annual Meeting**

POSTERS

- 2024 Sambado et al. *Ecology & Evolution of Infectious Diseases Annual Meeting*
- 2023 Sambado et al. *EEMB Graduate Student Symposium*
- 2019 Sambado et al. *Bay Area Ecology & Evolution of Infectious Diseases Annual Meeting*
- 2018 Sambado et al. *Society of Vector Ecology*
Sambado et al. *Ecological Society of America Annual Meeting*