

# KACIE RING, PHD CANDIDATE

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## Education

### University of California, Santa Barbara

Ecology, Evolution, and Marine Sciences PhD

Advisors: Cherie Briggs and Andrew MacDonald

Committee: Hillary Young and Andrea Swei

Fall 2020-Spring 2026\*

\*expected completion date

### San Francisco State University

Microbiology M.S. GPA 4.0

Master's Thesis: "Host blood meal identity modifies vector gene expression and competency"

Advisor: Andrea Swei

Committee: Seemay Chou and Ravinder Sehgal

Fall 2018-Spring 2020

### University of California, Santa Cruz

Ecology and Evolutionary Biology B.S. GPA 3.55

Dean's List, Undergraduate Researcher

Senior Thesis: "The Effect of Marine Subsidies on Insectivorous Lizard Abundance in Baja California"

Advisor: Donald Croll

Fall 2013-Spring 2017

## Publications

\*denotes corresponding author

Peer Reviewed

1. MacDonald, A; TJ. Sipin, **K Ring** (2025). Spillover risk for yellow fever virus is amplified by forest–urban interface in the Amazon. *Biol Lett* ; 21 (12):20250555  
<https://doi.org/10.1098/rsbl.2025.0555>
2. Broughton, H; A Crews, M Lilly, S Sambado, J Salomon, A Lawrence, **K Ring**, J Clark, G Shaw, S Summers, A Nakano, A Swei (2025). Climate differentially impacts ticks infected and uninfected with *Borrelia burgdorferi*. *Sci. Adv.* **11**, eads2181. DOI: [10.1126/sciadv.ads2181](https://doi.org/10.1126/sciadv.ads2181)
3. Lilly, M; A Crews, A Lawrence, J Salomon, S Sambado, L Cerna, **K Ring**, et al. (2025). "Functional Vertebrate Group Diversity Differentially Impacts Vector-Borne Pathogen Transmission and Genetic Diversity." *Ecosphere* 16(6): e70292. <https://doi.org/10.1002/ecs2.70292>
4. Detmer, R; S Miller, A Dubel, **K Ring**, J Christian, C Briggs, A Rassweiler, H Moeller (2025) A Busse balloon in the lagoon: herbivore behavior generates spatial patterns in coral reef ecosystems. *Ecology Letters*, 28: e70098. <https://doi.org/10.1111/ele.70098>
5. Sambado, S, A Sparkman, A Swei, A Macdonald, H Young, J Salomon, A Crews, **K Ring**, S Copeland, C Briggs. (2025) Climate-driven variation in the phenology of juvenile *Ixodes pacificus* on lizard hosts. *Parasites Vectors* **18**, 141 . <https://doi.org/10.1186/s13071-025-06749-4>
6. Fenosoa, Z.S.E., Brook, C.E., Dunham, A.E., Rakotomanana, H.F., Razafindraibe, H. and **\*Ring, K.A.** (2025), Gut Passage in Lemurs Enhances the Germination of Mistletoe Seeds *Bakerella gonoclada*, in a Madagascar Rainforest. *Afr J Ecol*, 63: e70012. <https://doi.org/10.1111/aje.70012>
7. Lee, B, S Sambado, D.N. Farrant, A Boser, **K Ring**, D Hyon, AE Larsen, and AJ MacDonald (2025) Bat activity reveals targeted foraging with agricultural and mosquito implications. *Ecol Evol*, 15:e70819. <https://doi.org/10.1002/ece3.70819>
8. MacDonald, A.J., D Hyon, S Sambado, **K Ring**, and A. Boser (2024). Remote Sensing of Temperature-Dependent Mosquito and Viral Traits Predicts Field Surveillance-Based Disease Risk. *Ecology* 105(11): e4420. <https://doi.org/10.1002/ecy.4420>
9. **Ring, K.**, Couper, L. I., Sapiro, A. L., Yarza, F., Yang, X. F., Clay, K., Mateusiak, C., Chou, S., & Swei, A. (2022). Host blood meal identity modifies vector gene expression and competency. *Molecular Ecology*, 31, 2698–2711. <https://doi.org/10.1111/mec.16413>

## ***Relevant Professional Experience***

- 2025 Santa Fe Institute - Micro-Working Group**  
Loss of Stabilization in Declining North American Birds
- 2025 UCSB – PI Dr. Cherie Briggs | UC Climate Action funded project**  
Graduate student researcher | Enhancing richness and resilience of CA amphibian communities
- 2024 Santa Fe Institute - Complexity-GAINS International School | NSF funded program**  
Ecological persistence and resilience | Sete, France
- 2024 UCSB – Instructor of Record**  
Biometry (~90 students)| lecturer for the analysis of biological data
- 2023 Moorea Coral Reef Ecosystem Resilience Working Group**  
Developed and worked on projects related to drives of ecosystem stability
- 2023 UMR PIMIT – PI Dr. Pablo Tortosa | NIH funded project**  
Visiting student researcher | Identifying and diagnosing ticks and tick-borne pathogens in Madagascar
- 2023 UCSB – PI Dr. Cherie Briggs | DoD funded project**  
Graduate student researcher | integral projection model on amphibian fungal pathogen growth dynamics
- 2019 SFSU, PI Dr. Andrea Swei | NSF CAREER funded project**  
Graduate student researcher | Field and molecular ecology of CA tick-borne pathogens
- 2018 Stanford University, PI Dr. Jose Dinneny**  
Research Technician | Molecular mechanisms of water and nutrient sensing in roots

## ***Presentations***

(only denotes presentations within PhD )

\*Invited talk

- 2025 Science by the Pint: Science talks for everyone at Draughtsman Aleworks**  
Defining the relationship: Animal interactions in Madagascar’s Rainforests  
**Science Pub: Santa Barbara Natural History Museum**  
Defining the relationship: Animal interactions in Madagascar’s Rainforests  
**UCSB Ecology, Evolution, and Marine Biology’s Graduate Research Symposium**  
Tick-Talker: evaluating the impact of education outreach on tick-related knowledge and confidence
- 2024 \* Materials Research Laboratory Science Teacher Workshop**  
How to give a 3-minute research talk: Healthy Humans, Healthy Forests  
**\* Entomological Society of America**  
Tick-Talker: discovering the joy of science communication through education on disease prevention  
**\* UCSB's Wine and Wisdom (donor event)**  
Healthy Humans, Healthy Forests (adapted to UCSB’s Allosphere)  
**\* UCSB’s Parents and Family Weekend**  
Healthy Humans, Healthy Forests  
**Ecological Society of America Conference**  
The impact of anthropogenic land-use on host-ectoparasite-pathogen interactions in Northeast Madagascar  
**Mosquito and Vector Control Association of California Conference,**  
Tick-Talk: Evaluating animation as an educational tool  
**\* Pacific Southwest Center of Excellence in Vector-borne Disease Annual Meeting**  
Tick-Talk: Evaluating animation as an educational tool  
**UCSB Ecology, Evolution, and Marine Biology’s Graduate Research Symposium**  
Host disassembly and ectoparasite interactions in Northeast Madagascar
- 2021 Ecological Society of America Conference**  
Host Blood meal identity modifies vector gene expression and competency  
**Invited talk: CDC mosquito and vector control seminar series**  
Determination of LC-50 of permethrin acaricide in the western blacklegged tick  
**Pacific Southwest Center of Excellence in Vector-borne Disease Annual Meeting**  
Determination of LC-50 of permethrin acaricide in the western blacklegged tick

## ***Grants, Awards, & Fellowships***

2025	Science Communication in the Parks (SCIP) Fellowship   ESA & NPS   \$3000
2025	UCSB Graduate Community Building award
2025	Charles A. Storke Graduate Research Fellowship   \$2500
2025	Worster Summer Research Fellowship Mentoring Program   \$5000
2025	Dixon-Levy Service Award   \$250
2024	UC-wide Grad Slam, Second place and people's choice award ( <a href="#">link to talk</a> )   \$5000
2024	UCSB Grad Slam Winner   \$2000
2024	UCSB Block Grant   \$8000
2023	CDC CoE PacVec Training grant   \$25,000
2023	UCSB Block Grant   \$4000
2022	Lewis and Clark Field Scholar   \$8000
2022	UCSB Coastal Fund Grant   \$15000
2021	Best Poster Award Ecological Society of America, Disease section   \$100
2020	Honorable mention NSF GRFP
2019	CDC CoE PacVec Training grant   \$24,794

## ***Teaching, Mentoring & Service***

### *Courses taught*

2025	Teaching Assistant UCSB EEMB W22: Concepts and Controversies in Biological Sciences
2024	Teaching Assistant UCSB EEMB 146: Biometry (Analysis of Biological Data), Spring
2024	Instructor of Record UCSB EEMB 146: Biometry (Analysis of Biological Data), Winter
2022	Teaching Assistant UCSB EEMB 146: Biometry (Analysis of Biological Data), Winter
2022	Teaching Assistant UCSB EEMB 120: Introduction to Ecology, Fall
2021	Teaching Assistant UCSB EEMB 146: Biometry (Analysis of Biological Data), Spring & Winter
2021	Teaching Assistant UCSB EEMB 40: Ecology of Infectious Diseases, Fall
2020	Teaching Assistant UCSB EEMB 110: Parasitology, Winter

### *Mentoring and Community Service*

2025	<b>Worster Summer Research Mentorship Program</b> Project: Investigating the Impact of Invasive Species on Amphibian-Parasite Networks in California Ponds Mentee: Pratyush Rallapally
2025	<b>Student Representative EEMB Global Change Biology Faculty Search</b>
2025	<b>Organizer: UCSB Department of Ecology, Evolution, and Marine Biology Graduate Student Symposium</b>
2025	<b>UCSB EEMB Diversity, Equity, and Inclusion working group</b> Officer of the inaugural committee (2024-2025) Working group one (2023) – Recruitment, retention, and professional development
2024	<b>Isla Vista YMCA Girls in Leadership mentorship program (grades 6-12)</b>
2023	<b>Coding 4 Conservation</b> Year-long mentoring program in data analysis techniques and communication for Malagasy students
2022	<b>UCSB EEMB Graduate Student Advisory Committee</b> Social chair, planned community events for the ecology, evolution, and marine biology department.
2022	<b>UCSB Coastal Fund</b> Trained two undergraduates (Kathryn Koo & Arnav Kumar) on field and molecular methods for disease ecology research.
2017	<b>UCSC Doris Duke Conservation Scholars Program</b> Coordinator and teaching assistant for ecological field course that promotes diversity and inclusion in Ecology

**References** Dr. Cheryl Briggs -PhD Principal Investigator([briggs@ucsb.edu](mailto:briggs@ucsb.edu)), Dr. Andy MacDonald- PhD Principal Investigator ([macdonald@bren.ucsb.edu](mailto:macdonald@bren.ucsb.edu)), Dr. Hillary Young- PhD committee member([hillary.young@lifesci.ucsb.edu](mailto:hillary.young@lifesci.ucsb.edu)), Dr. Andrea Swei- PhD committee member & MS Thesis Advisor ([aswei@sfsu.edu](mailto:aswei@sfsu.edu))Dr. Charles Nunn – Project advisor([cnunn@duke.edu](mailto:cnunn@duke.edu)), Dr. Pablo Tortosa - Project advisor ([pablo.tortosa@univ-reunion.fr](mailto:pablo.tortosa@univ-reunion.fr))