

Michelle V. Evans

MALADIES INFECTIEUSES ET VECTEURS : ÉCOLOGIE, GÉNÉTIQUE, ÉVOLUTION ET CONTRÔLE
INSTITUT DE RECHERCHE POUR LE DÉVELOPPEMENT

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Education

Ph.D Integrative Conservation and Ecology

UNIVERSITY OF GEORGIA, ODUM SCHOOL OF ECOLOGY

Athens, GA

2015-2020

- *Advisors:* John Drake & Courtney Murdock
- Graduate Certificate in Geographic Information Science

B.A. Environmental Studies (Ecology) & African Studies

WASHINGTON UNIVERSITY IN ST. LOUIS

St. Louis, MO

2007-2011

- awarded *magna cum laude* honors
- *Honors Thesis:* The relative strength of top-down and bottom-up trophic dynamics in the context of habitat isolation

Professional Appointments

Institut de Recherche pour le Développement

POST-DOCTORAL RESEARCHER

France

May 2021 - Present

Pivot

RESEARCH INTERN

Madagascar

March - May 2019

University of California - Santa Cruz

WEST NILE VIRUS RESEARCH TECHNICIAN

Browns Valley, CA

June - Sept. 2014

Peace Corps

AGROFORESTRY ADVISOR

Guinea, West Africa

Nov. 2011 - Feb. 2014

Publications

Undergraduate Researchers*, Co-lead Authors†

20. Portois, Julie D., Krti Tallam, Isabel Jones, Elizabeth Hyde, Andrew Chamberlin, [Michelle V. Evans](#), Felana A. Ithantamalala, Laura F. Cordier, Bénédicte R. Razafinjato, Rado J.L. Rakotonanahary, Andri-tiana Tsirinomen'ny Aina, Patrick Soloniaina, Sahondraritera H. Raholiarimanana, Celestin Razafinjato, Matthew H. Bonds, Giulio A. De Leo, Susanne Sokolow, Andres Garchitorea. 2023. Climate, land-use and socio-economic factors can predict malaria dynamics at fine spatial scales relevant to local health actors: evidence from rural Madagascar. *PLoS Global Public Health*. In press.
19. [Evans, Michelle V.](#)†, Tanjona Andréambeloson†, Mauricianot Randriamihaja, Felana A. Ithantamalala, Laura Cordier, Giovanna Cowley, Karen Finnegan, Feno Hanitriniaina, Ann C. Miller, Lanto Marovavy Ralan-tomalala, Andry Randriamahaso, Bénédicte R. Razafinjato, Emeline Razanahanitriniaina, Rado J.L. Rakotonanahary. Isaïe Jules Andriamiandra, Matthew H. Bonds. Andres Garchitorea. 2022. Geo-graphic barriers to care persist at the community healthcare level: evidence from rural Madagascar. *PLoS Global Public Health* 2(12):e0001028. doi: 10.1371/journal.pgph.0001028.
18. [Evans, Michelle V.](#) and John M. Drake. 2022. A data-driven horizon scan of bacterial pathogens at the wildlife-livestock interface. *EcoHealth* 19(2):246-258. doi: 10.1007/s10393-022-01599-3.

17. Rasambainarivo, Fidisoa, Tanjona Ramiadantsoa, Antso Raherinandrasana, Santatra Randrianarisoa, Benjamin L. Rice, [Michelle V. Evans](#), Benjamin Roche, Fidiniaina Mamy Randriatsarafara, Amy Wesolowski, Jessica C. Metcalf. Prioritizing COVID-19 vaccination efforts and dose allocation within Madagascar. *BMC Public Health*. doi:10.1186/s12889-022-13150-8.
16. [Evans, Michelle V.](#), Siddharth Bhatnagar, John M. Drake, Courtney C. Murdock, Shomen Mukherjee. 2022. Socio-ecological dynamics in urban systems: An integrative approach to mosquito-borne disease in Bengaluru, India. *People and Nature* 4(3):730-743. doi: 10.1002/pan3.10311.
15. Russell, Marie C.[†], Catherine M. Herzog[†], Zachary Gajewski, Chloe Ramsay, Fadoua El Moustaid, [Michelle V. Evans](#), Tishna Desai, Nicole L. Gottdenker, Sara L. Hermann, Alison G. Power, Andrew C. McCall. 2022. Both consumptive and non-consumptive effects of predators impact mosquito populations and have implications for disease transmission. *eLife* e71503. doi: 10.7554/eLife.71503.
14. Rakotonanahary, Rado J.L., Herinjaka Andriambolamanana, Benedicte Razafinjato, Estelle M. Raza-Fanomezananahary, Vero Ramanandraitsiory, et al. Matthew H. Bonds. 2021. Integrating health systems and science to respond to COVID-19 in a model district of rural Madagascar. *Frontiers in Public Health* 9:654299. doi: 10.3389/fpubh.2021.654299
13. [Evans, Michelle V.](#), John M. Drake, Lindsey Jones*, Courtney C. Murdock. 2021. Assessing temperature-dependent competition between two invasive mosquito species. *Ecological Applications* e02334. doi: 10.1002/eap.2334.
12. [Evans, Michelle V.](#), Matthew H. Bonds, Laura F. Cordier, John M. Drake, Felana Ihantamalala, Justin Haruna, Ann C. Miller, Courtney C. Murdock, Marius Randriamanambtsoa, Estelle M. Raza-Fanomezananahary, Bénédicte R. Razafinjato, Andres C. Garchitorena. 2021. Socio-demographic, not environmental, risk factors explain fine-scale spatial patterns of diarrhoeal disease in Ifanadiana, rural Madagascar. *Proceedings of the Royal Society B* 288:20202501. doi:10.1098/rspb.2020.2501.
11. Wimberly, Michael, Justin K. Davis, [Michelle V. Evans](#), Andrea Hess, Philip M. Newberry, Nicole Solano-Asamoah, Courtney C. Murdock. 2020. Land cover affects microclimate and temperature suitability for arbovirus transmission in an urban landscape. *PLoS Neglected Tropical Diseases* 14(9):e008614. doi:10.1371/journal.pntd.0008614.
10. [Evans, Michelle V.](#), Andres Garchitorena, Rado J.L. Rakotonanahary, John M. Drake, Benjamin Andriamihaja, Elinambinina Rajaonarifara, Calistus N. Ngonghala, Benjamin Roche, Matthew H. Bonds, Julio Rakotonirina. 2020. Reconciling model predictions with low reported cases of COVID-19 in Sub-saharan Africa: Insights from Madagascar. *Global Health Action* 13(1):1816044. doi:10.1080/16549716.2020.1816044.
9. [Evans, Michelle V.](#), Philip M. Newberry, Courtney C. Murdock. 2020. Carry-over effects of the larval environment in mosquito-borne disease systems. In: J. M. Drake, M. Strand, M. Bonsall (Eds.), *Population Biology of Vector-Borne Diseases*. Oxford University Press. *Book Chapter*.
8. Reitmayer, Christine M., [Michelle V. Evans](#), Kerri L. Miazgowiec, Philip M. Newberry, Nicole Solano-Asamoah, Blanka Tesla, and Courtney C. Murdock. 2020. Mosquito-virus Interactions. In: J. M. Drake, M. Strand, M. Bonsall (Eds.), *Population Biology of Vector-Borne Diseases*. Oxford University Press. *Book Chapter*.
7. [Evans, Michelle V.](#), Carl W. Hintz*, Lindsey Jones*, Justine Shiao, Nicole Solano, John M. Drake, Courtney C. Murdock. 2019. Microclimate and larval habitat density predict adult *Aedes albopictus* abun-

dance in urban areas. *The American Journal of Tropical Medicine and Hygiene*. doi:10.4269/ajtmh.19-0220.

6. Kaul, RajReni B.[†], [Michelle V. Evans](#)[†], Courtney C. Murdock, John M. Drake. 2018. Spatio-temporal spillover risk of yellow fever in Brazil. *Parasites & Vectors* 11:488. doi: 10.1186/s13071-018-3063-6.
5. [Evans, Michelle V.](#), Justine C. Shiao, Nicole Solano*, Melinda A. Brindley, John M. Drake, Courtney C. Murdock. 2018. Carry-over effects of urban larval environments on the transmission potential of dengue-2 virus. *Parasites & Vectors* 11:426. doi:10.1186/s13071-018-3013-3.
4. [Evans, Michelle V.](#), Courtney C. Murdock, John M. Drake. 2018. Anticipating emerging mosquito-borne flaviviruses in the USA: What comes after Zika? *Trends in Parasitology* 34(7):544. doi:10.1016/j.pt.2018.02.010
3. Murdock, Courtney C., [Michelle V. Evans](#), Taylor McClanahan*, Kerri Miazgowiec, and Blanka Tesla. 2017. Fine-scale variation in microclimate across an urban landscape changes the capacity of *Aedes albopictus* to vector arboviruses. *PLoS Neglected Tropical Diseases* 11(5):e0005640; doi:10.1371/journal.pntd.0005640.
2. Mordecai, Erin, Jeremy Cohen, [Michelle V. Evans](#), Prithvi Gudapati, Leah R. Johnson, Catherine A. Lippi, Kerri Miazgowiec, et al. 2017. Detecting the impact of temperature on transmission of Zika, dengue and chikungunya using mechanistic models. *PLoS Neglected Tropical Diseases* 11(4):e0005568, doi:10.1101/063735.
1. [Evans, Michelle V.](#), Tad A. Dallas, Barbara A. Han, Courtney C. Murdock, and John M. Drake. 2017. Data-driven identification of potential Zika virus vectors. *eLife* 6: e22053. doi:10.7554/eLife.22053.

Service

OUTREACH

2022	Ecological and Epidemiological Modeling in Madagascar , Instructor	<i>Madagascar</i>
2016 - 18	EcoReach , Volunteer	<i>Athens, GA</i>
2016 - 18	Experience UGA , Volunteer	<i>Athens, GA</i>
2017	STEMZone , Volunteer	<i>Athens, GA</i>
2016	Center for Undergraduate Research Opportunities , Volunteer	<i>Athens, GA</i>

MENTORING

2017	Lindsey Jones , Population Biology of Infectious Diseases REU Program	<i>Athens, GA</i>
2017	Abigail Lecroy , Dept. of Infectious Diseases Undergraduate Researcher	<i>Athens, GA</i>
2016	Nicole Solano , Population Biology of Infectious Diseases REU Program	<i>Athens, GA</i>

DEPARTMENTAL LEADERSHIP

2019	Webmaster , Odum School of Ecology Graduate Student Organization	<i>Athens, GA</i>
2018	Co-Chair , Odum School of Ecology Graduate Student Symposium	<i>Athens, GA</i>
2017	Chair , Organized ICON Network & Cooperative (OINC)	<i>Athens, GA</i>
2017	Peer Instructor , Data Carpentry for Ecologists	<i>Athens, GA</i>
2016	Seminar Representative , Odum School of Ecology Graduate Student Organization	<i>Athens, GA</i>
2016	Secretary , Organized ICON Network & Cooperative (OINC)	<i>Athens, GA</i>

JOURNAL REFEREEING

Acta Tropica, American Journal of Tropical Medicine and Hygiene, Communications Biology, Ecology Letters, EcoHealth, Ecosphere, Health Policy and Technology, Journal of Applied Ecology, Journal of Medical Entomology, Journal of Theoretical Biology, Landscape Ecology, Parasites and Vectors, Patterns, PLoS One, PLoS Global Public Health, PLoS Neglected Tropical Diseases, Scientific Reports, Urban Ecosystems

Honors

AWARDS

2019	Graduate Education Advancement Board Fellowship , University of Georgia Graduate School	Athens, GA
2019	Agile Scientist Award , Integrative Conservation Program	Athens, GA
2018	2nd Place PhD Presentation , Odum School of Ecology Graduate Student Symposium	Athens, GA
2017	3rd Place PhD Presentation , Odum School of Ecology Graduate Student Symposium	Athens, GA
2016	1st Place Rapid Fire Talk , Odum School of Ecology Graduate Student Symposium	Athens, GA

GRANTS & FELLOWSHIPS

2022	\$571,455 , Wellcome Trust	Madagascar
2017	\$877.00 , Odum Small Grants	Athens, GA
2016	\$1,416.00 , Odum Small Grants	Athens, GA
2016	\$138,000.00 , NSF Graduate Research Fellowship (3 Yrs Funding)	Athens, GA
2015	\$131,625.00 , UGA Graduate School Presidential Fellowship (5 Yrs Funding)	Athens, GA
2013	\$198.26 , Small Project Assistance Grant	Guinea, West Africa
2010	\$4,500.00 , Summer Undergraduate Research Fellowship	St. Louis, MO
2010	\$1,000.00 , Teagle Foundation ExxonMobil Scholarship	St. Louis, MO
2007	\$1,000.00 , Teagle Foundation ExxonMobil Scholarship	St. Louis, MO

Selected Presentations

- Evans, Michelle V. April 2022. “Correcting for case under-ascertainment in malaria passive surveillance with floating catchment area benchmarks”. World Malaria Day Symposium, John Hopkins University. Remote.
- Evans, Michelle V. September 2019. “An integrative approach to mosquito-borne disease in urban areas”. Azim Premji University Science Seminar Series, Bengaluru, India. *Invited speaker*.
- Evans, Michelle V. November 2018. “Mapping mosquitoes: Using community mapping and OSM to identify disease hotspots”. State of the Map Asia 2018. Bengaluru, India.
- Evans, Michelle V., RajReni B. Kaul, Courtney C. Murdock, John M. Drake. August 2018. “What can predictive mapping tell us about the ecology of vector-borne diseases?”. MPE 2013+ Workshop on Global Change and Vector-borne Diseases: Mapping Emerging Infectious Diseases, Fairfax, VA. *Invited speaker*.
- Evans, Michelle V., Nicole Solano, Justine Shiau, John M. Drake, Courtney C. Murdock. October 2017. “Fine-scale microclimate variation across an urban landscape shapes both mosquito population dynamics and arbovirus transmission potential”. Annual Meeting of the Entomological Society of America, Denver, CO.
- Evans, Michelle V. and Courtney C. Murdock. October 2017. “Urban microclimate and mosquito dynamics”. Georgia Mosquito Control Association Annual Meeting, Athens, GA.
- Evans, Michelle V., Nicole Solano, Justine Shiau, Courtney C. Murdock. August 2017. “Urban microclimate influences dengue dynamics in the invasive mosquito, *Aedes albopictus*”. Annual Meeting of the Ecological Society of America, Portland, OR.
- Evans, Michelle V. Nicole Solano, Justine Shiau, Courtney C. Murdock. November 2016. “Urban microclimate and dengue vector competence of the invasive Asian tiger mosquito, *Ae. albopictus*”. Annual Meeting of the American Society of Tropical Medicine and Hygiene. Atlanta, GA. *Poster*.

- Evans, Michelle V. and Courtney C. Murdock. October 2016. “Microclimate and mosquitoes in Athens, GA”. Georgia Mosquito Control Association Annual Meeting, Athens, GA.
- Evans, Michelle V., K. Miazgowicz, B. Tesla, Courtney C. Murdock. June 2016. “Microclimate and mosquitoes across an urban gradient”. Ecology and Evolution of Infectious Disease 14th Annual Meeting, Ithaca, NY. *Poster.*