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Benjamin L. Rice | CV | 1

Benjamin L. Rice

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Education and Training

Postdoctoral Fellowships:

Associate Research Scholar 2022-present
High Meadows Environmental Institute, Princeton University

Presidential Postdoctoral Research Fellow 2019-2022
Department of Ecology and Evolutionary Biology, Princeton University

Graduate:

HARVARD UNIVERSITY, CAMBRIDGE, MA 2013-2019
PhD, Department of Organismic and Evolutionary Biology
Graduate School of Arts and Sciences Prize Fellowship

Undergraduate:

ARIZONA STATE UNIVERSITY, TEMPE, AZ 2008-2012
Bachelor of Science in Microbiology, Minor in Global Health
Summa cum laude (GPA 4.0) and graduate of Barrett, The Honors College

Academic Awards and Fellowships

Presidential Postdoctoral Research Fellowship (\$166,000)
Princeton University program to support scholars who contribute to the University's diversity (2019-2022)

Certificate of Distinction in Teaching, Office of Undergraduate Education, Harvard University
Department of Organismic and Evolutionary Biology (2018-2019)

Graduate School of Arts and Sciences Prize Fellowship (\$144,000)
Harvard University (2013-2019)

James Mills Peirce Fellowship (\$18,000)
*Scholarship for the top incoming students in natural sciences, mathematics, and engineering
Harvard Graduate School of Arts and Sciences (2013-2016)*

Postbaccalaureate Scholar, NIH-PREP Program (\$21,000)
*Award to encourage individuals from diverse backgrounds to pursue a research-focused doctoral degree
National Institutes of Health (NIH) and Arizona State University (ASU) (2012-2013)*

Moeur Award from the ASU Alumni Association
Arizona State University: Awarded for graduating with the highest GPA in a department (2012)

The College of Liberal Arts and Sciences Dean's Undergraduate Research Scholarship
for the Life Sciences (\$2,500)
Arizona State University: Awarded to one student in the life sciences to fund an undergraduate research proposal (2011)

National Hispanic Scholarship from the National Merit Scholarship Program (\$92,000)
Arizona State University (2008-2012)

Research Experience and Appointments

Associate Research Scholar High Meadows Environmental Institute (HMEI), Princeton University Advisor: C. Jessica E. Metcalf, PhD	2022-present
Presidential Postdoctoral Research Fellow Department of Ecology and Evolutionary Biology, Princeton University Advisor: C. Jessica E. Metcalf, PhD	2019-2022
Doctoral Student Department of Organismic and Evolutionary Biology, Harvard University Advisor: Daniel L. Hartl, PhD; Co-Advisor: Christopher D. Golden, PhD	2013-2019
NIH Postbaccalaureate Research Education Program (PREP) Fellowship School of Life Sciences and Center for Evolutionary Medicine and Informatics, Arizona State University Principal Investigator: Ananias A. Escalante, PhD	2012-2013
Intern, Introduction to Neotropical Research and Culture Program Smithsonian Tropical Research Institute, Gamboa, Panama Principal Investigator: W. Owen McMillan, PhD	Summer 2012
Field Assistant, Sonoran Desert Tortoise (<i>Gopherus morafkai</i>) Monitoring Project Arizona Department of Game and Fish, Threatened Wildlife Project Principal Investigator: Andrew Bridges, Applied Biological Sciences Graduate Program, ASU	Spring 2012
Visiting Student Researcher, Centro Latino Americano de Investigacion en Malaria Latin American Center for Malaria Research and Control, Caucesco Research Center, Cali, Colombia	Fall 2011

Publications

1. Rice BL, Rasambainarivo F, Nova N, Sheen J, Wesolowski A, Metcalf CJE, Hampson H. **What drives pathogen circulation when host density is low? Insight from carnivores** (in prep *Journal of Applied Ecology* March 2026)
2. Suarez PO, Burchell L, ..., Rice BL, ..., et al. **CommonLID: Re-evaluating State-of-the-Art Language Identification Performance on Web Data**. 2026 Jan 25 [pre-print, [arXiv:2601.18026](https://arxiv.org/abs/2601.18026)]
3. Wu SM, Gupta SS, Ravelomanantsoa MA, Andry S, Viana DF, Zamborain-Mason J, Uzomah UA, Randriamady HJ, Howard C, Friedman G, Castonguay A, Hazen J, Milner DA, Rice BL, Golden CD. **Prevalence of multiple human intestinal parasites across diverse environments in Madagascar**. *PLoS Neglected Tropical Diseases* (under review February 2026)
4. Sheen J, Howerton E, Burrows H, Rice BL, Saad-Roy C. **Challenges for infectious disease interventions during global change**. *PLoS Global Public Health* (under review February 2026)
5. Baker RE, Stamper AR, Burrows H, Spacey OG, Chung MV, Rice BL, Yang W, Wagner CE, Metcalf CJE. **The future of infectious diseases in a changing climate**. *Nature Medicine* (under review February 2026)
6. Menezes A, Koffi D, Rice BL, Metcalf CJE, Graham AL, Cauchemez S, Peeters M, Toure AO, Dosso M, Ayoub A, Roche B. **Seroprevalence of endemic and emergent coronaviruses among SARS-COV-2 patients and healthcare workers in Abidjan, Côte d'Ivoire**. *BMC Infectious Diseases* (accepted 16 March 2026)
7. Rasambainarivo F, Hinson B, Rasolofoniaina O, Chelaghma S, Junge RE, Metcalf CJE, Williams CV, Rice BL. **Evolutionary history, longevity and terrestriality predict *Toxoplasma gondii* seroprevalence in**

- free-ranging non-human primates. *International Journal for Parasitology: Parasites and Wildlife*. 2025 Sep 30;28:101143. [[Pubmed: 41127356](#)]
8. Haba Y, ..., [Rice BL](#) ..., et al. Ancient origin of an urban underground mosquito. *Science*. 2025 Oct 23;390(6771):eady4515. [[Pubmed: 41129649](#)]
 9. [Rice BL](#), Raobson E, Miharisoa S, Rebalihia M, Lewinski J, Raharinirina H, Greenhouse B, Golden CD, Vecchi GA, Wesolowski A, Grenfell B, Metcalf CJE. Vaccination to mitigate climate-driven disruptions to malaria control in Madagascar. *Science*. 2025 Jul 17;389(6757):eadp5365 [[Pubmed: 40674494](#)]
 10. Kostandova N, Schluth S, Alleyne-Young C, Arambepola R, Atuhaire F, Bérubé S, Chin T, Cleary E, Azuero OC, García-Carreras B, Grantz K, Hitchings M, T Huang AT, Kishore N, Lai S, Larsen SL, Loiate S, Martinez P, Meredith H, Purbey R, Ramiadantsoa T, Read J, [Rice BL](#), Rosman L, Ruktanonchai N, Salje H, Schaber KL, Tatem AJ, Wang J, Cummings DAT, Wesolowski A. A systematic review of using population-level human mobility data to understand SARS-CoV-2 transmission. *Nature Communications*. 2024 Dec 3;15:10504. [[Pubmed: 39627231](#)]
 11. Naiara CM, [Rice BL](#), Villela DAM. Disentangling the seasonality effects of malaria transmission in the Brazilian Amazon Basin. *Royal Society Open Science*. 2024 Jul 3;11(7):231764. [[Pubmed: 39076372](#)]
 12. Rasambainarivo F, Randrianarisoa S, Rasolofoniaina OA, [Rice BL](#), Metcalf CJE. Assessing the impact of preventative measures to limit the spread of *Toxoplasma gondii* in wild carnivores in Madagascar: A modeling study. *Conservation Biology*. 2024 May 27:e14300. [[Pubmed: 38801293](#)]
 13. Golden, CD, Levis A, Zamborain-Mason J, [Rice BL](#), Wu SM, Allen LH, Hampel D, Hazen J, Metcalf CJE, Randriamady HJ, Shahab-Ferdows S, Haneuse S. Prevalence of micronutrient deficiencies across diverse environments in rural Madagascar. *Frontiers in Nutrition*. 2024 May 16 [[Pubmed: 38826583](#)]
 14. [Rice BL](#), Lessler J, McKee C, Metcalf CJE. Why do some coronaviruses become pandemic threats when others do not? *PLoS Biology*. 2022 May 16;20(5):e3001652. [[Pubmed: 35576224](#)]
 15. Rasambainarivo F, Ramiadantsoa T, Rahehinandrasana A, Randrianarisoa S, [Rice BL](#), Evans MV, Roche B, Randriatsarafara FA, Wesolowski A, Metcalf CJE. Prioritizing COVID-19 vaccination efforts and dose allocation within Madagascar. *BMC Public Health*. 2022 Apr 12;22(1):724. [[Pubmed: 35413894](#)]
 16. Ramiadantsoa T, Metcalf CJE, Rahehinandrasana A, Randrianarisoa S, [Rice BL](#), Wesolowski A, Randrianarisoa S, Randriatsarafara FM, Rasambainarivo F. Existing human mobility data sources poorly predicted the spatial spread of SARS-CoV-2 in Madagascar. *Epidemics*. 2022 Mar;38:100534. [[Pubmed: 34915300](#)]
 17. [Rice BL](#), Annapragada A, Baker RE, Bruijning M, Dotse-Gborgbortsi W, Mensah K, Miller IF, Motaze NV, Rahehinandrasana A, Rajeev M, Rakotonirina J, Ramiadantsoa T, Rasambainarivo F, Yu W, Grenfell BT, Tatem AJ, Metcalf CJE. Variation in SARS-CoV-2 outbreaks across sub-Saharan Africa. *Nature Medicine*. 2021 Feb 2. s41591-021-01234-8. [[Pubmed: 33531710](#)]
 18. Baker RE, Mahmud AS, Miller IF, Rajeev M, Rasambainarivo F, [Rice BL](#), Takahashi S, Tatem AJ, Wagner CE, Wang L, Wesolowski A, Metcalf CJE. Infectious disease in an era of global change. *Nature Reviews Microbiology*. 2021 Oct 13;20(4):193-205. [[Pubmed: 34646006](#)]
 19. [Rice BL](#), Douek DC, McDermott AB, Grenfell BT, Metcalf CJE. Why so few (or so many) circulating coronaviruses? *Trends in Immunology*. 2021 Sep;42(9):751-763. [[Pubmed: 34366247](#)]
 20. [Rice BL](#), Golden CD, Randriamady HJ, Rakotomalala ANAA, Vonona MA, Anjaranirina EJG, Hazen J, Castro MCC, Metcalf CJE, Hartl DL. Fine-scale variation in malaria prevalence across ecological regions in Madagascar: A cross-sectional study. *BMC Public Health*. 2021 May 29;21(1):1018 [[Pubmed: 34051786](#)]

21. Glennon EE, Bruijning M, Lessler J, Miller IF, [Rice BL](#), Thompson RN, Wells K, Metcalf CJE. **Challenges in modeling the emergence of novel pathogens.** *Epidemics*. 2021 Oct 22;37:100516. [[Pubmed: 34775298](#)]
22. Raselimanana M, [Rice BL](#), Kappeler PM, Eckhardt FS. **Phenology and growth plasticity under climatic variation in a short-lived chameleon.** *Salamandra*. 2021 Aug 15;57(3): 435–443. [[Link](#)]
23. Rasambainarivo F, Rasoanomenjanahary A, Rabarison JH, Ramiadantsoa T, Ratovoson R, Randremanana R, Randrianarisoa S, Rajeev M, Masquelier B, Heraud JM, Metcalf CJE, [Rice BL](#). **Monitoring for outbreak-associated excess mortality in an African city: Detection limits in Antananarivo, Madagascar.** *International Journal of Infectious Diseases*. 2020 Nov 26;103:338-342. [[Pubmed: 33249289](#)]
24. Arisco NJ, [Rice BL](#), Tantely LM, Girod R, Emile GN, Randriamady HJ, Castro MC, Golden CD. **Variation in *Anopheles* distribution and predictors of malaria infection risk across regions of Madagascar.** *Malaria Journal*. 2020 Sep 29;19(1):348. [[Pubmed: 32993669](#)]
25. Golden CD, [Rice BL](#), Randriamady HJ, Vonona AM, Randrianasolo JF, Tafangy AN, Andrianantenaina MY, Arisco NJ, Emile GN, Lainandrasana F, Mahonjolaza RFF, Raelson HP, Rakotoarilalao VR, Rakotomalala AANA, Rasamison AD, Mahery R, Tantely ML, Girod R, Annapragada A, Wesolowski A, Winter A, Hartl DL, Hazen J, Metcalf CJE. **Study Protocol: A Cross-Sectional Examination of Socio-Demographic and Ecological Determinants of Nutrition and Disease Across Madagascar.** *Frontiers in Public Health*. 2020 Sep 17;8:500. [[Pubmed: 33042943](#)]
26. Arisco N, [Rice BL](#), Tantely LM, Girod R, Emile GN, Randriamady HJ, Castro MC, Golden CD. **Deforestation and malaria in Madagascar: a new framework to explore linkages in the absence of robust health reporting infrastructure.** *The Lancet Planetary Health*. 2019 September 3, p. 14. [[Link](#)]
27. Golden CD, Borgerson C, [Rice BL](#), Allen LH, Anjaranirina EJG, Barrett CB, Gephart J, Hampel D, Hartl DL, Knippenberg E, Ralalason D, Ramihantaniarivo H, Randriamady H, Shahab-Ferdows S, Vaitla B, Volkman SK, Vonona MA, Myers SS. **Cohort Description of the Madagascar Health and Environmental Research-Antongil (MAHERY-Antongil) Study in Madagascar.** *Frontiers in Nutrition*. 2019;6: 109. [[Pubmed: 31428615](#)]
28. Pasolli E, Asnicar F, Manara S, Zolfo M, Karcher N, Armanini F, Beghini F, Manghi P, Tett A, Ghensi P, Collado MC, [Rice BL](#), DuLong C, Morgan XC, Golden CD, Quince C, Huttenhower C, Segata N. **Extensive novel human microbiome diversity revealed by over 150,000 genomes from metagenomes spanning age, geography, and lifestyle.** *Cell*. 2019 Jan 24;176(3):649-662.e20. [[Pubmed: 30661755](#)]
29. Vaitla B, Collar D, Smith MR, Myers SS, [Rice BL](#), Golden CD. **Predicting nutrient content of ray-finned fishes using phylogenetic information.** *Nature Communications*. 2018 Sep 25;9(1):3742. [[Pubmed: 30254265](#)]
30. [Rice BL](#), Golden CD, Randriamady HJ, Arisco NJ, Hartl DL. **Integrating approaches to study land use change and hotspots of malaria transmission in rural Madagascar: an observational study.** *The Lancet Planetary Health*. 2018 May 01, Vol.2, p.S19. [[Link](#)]
31. Golden CD, Anjaranirina EJG, Fernald LCH, Hartl DL, Kremen C, Milner DA Jr, Ralalason DH, Ramihantaniarivo H, Randriamady H, [Rice BL](#), Vaitla B, Volkman SK, Vonona MA, Myers SS. **Cohort Profile: The Madagascar Health and Environmental Research (MAHERY) study in North-eastern Madagascar.** *International Journal of Epidemiology*. 2017 Dec 1;46(6):1747-1748d. [[Pubmed: 29040632](#)]
32. [Rice BL](#), Golden CD, Anjaranirina EJ, Botelho CM, Volkman SK, Hartl DL. **Genetic evidence that the Makira region in northeastern Madagascar is a hotspot of malaria transmission.** *Malaria Journal*. 2016 Dec 20;15(1):596. [[Pubmed: 27998292](#)]

33. Daniels RF, Rice BL, Daniels NM, Volkman SK, Hartl DL. **The utility of genomic data for Plasmodium vivax population surveillance.** *Pathogens and Global Health*. 2015 May;109(3):153-61. [[PubMed: 25892032](#)]
34. Rice BL, Acosta MM, Pacheco MA, Carlton JM, Barnwell JW, Escalante AA. 2014. **The origin and diversification of the merozoite surface protein 3 (msp3) multi-gene family in Plasmodium vivax and related parasites.** *Molecular Phylogenetics and Evolution*. 2014 Sep;78:172-84. [[PubMed: 24862221](#)]
35. Rice BL, Acosta MM, Pacheco MA, Escalante AA. 2013. **Merozoite surface protein 3 alpha as a genetic marker for epidemiologic studies in Plasmodium vivax: a cautionary note.** *Malaria Journal*. 2013 Aug 21;12(1):288. [[PubMed: 23964962](#)]

Research Funding and Grants

Ecological dynamics of frog parasites and frog-biting midges in Madagascar	2025
£5,000 British Ecological Society (BES) Small Research Grant	
Estelle Raobson (PI), <u>Rice BL</u>	
Role: Mentor for student research grant; Provided feedback for grant writing and supplementary funding	
New approaches to investigating climate change and vector-borne parasites in Madagascar	2024
\$5,000 Princeton Center for Health and Wellbeing Seed Grant	
<u>Rice BL</u> , Metcalf CJE (PI)	
Role: co-PI. Led grant writing, data collection, data analysis, and manuscript preparation	
Accelerating malaria elimination in the face of extreme weather disruptions	2023
\$50,000 Global Institute for Disease Elimination, Falcon Awards for Disease Elimination – The Climate Edit	
<u>Rice BL</u> (PI), Rebalih M, Metcalf CJE	
Role: PI. Led grant writing, data collection, data analysis, and manuscript preparation	
Malaria-malnutrition epidemiology and ecology in Southeast Madagascar	2022-2024
\$1,250,000 CRS SCP4 – Malaria Strategic Change Platform Fund	
<u>Rice BL</u> (PI), Rebalih M, Golden CD, Hazen J	
Role: PI. Led grant writing, data collection (field study), analysis, and manuscript preparation	
Parasite genomics of imported and local infections of malaria in Madagascar	2023-2024
\$140,000 Johns Hopkins Malaria Research Institute Pilot Grant	
Wesolowski A (PI), <u>Rice BL</u>	
Role: Assisted with grant writing, led sample collection (field study), will assist with data analysis	
Biodiversity Conservation and Health at the Human-Domestic Animal-Wildlife Interface in Madagascar	2021-2022
\$100,000 Barron Family Biodiversity Research Challenge Fund, High Meadows Environmental Institute	
Metcalf CJE (PI), Rasambainarivo F, <u>Rice BL</u>	
Role: Assisted with grant writing, sample collection (field study), data collection and analysis	
Targeting malaria-malnutrition co-interventions in remote communities in Southeast Madagascar	2020-2022
\$320,000 CRS SCP4 – Malaria Strategic Change Platform Fund	
<u>Rice BL</u> (PI), Golden CD, Hazen J	
Role: Led grant writing, data collection (field study), analysis, and manuscript preparation	
Optimizing COVID-19 vaccination distribution in low-income settings in Madagascar as a case study	2021-2022
\$15,000 Princeton Center for Health and Wellbeing Seed Grant	
Rasambainarivo F (PI), <u>Rice BL</u> , Metcalf CJE	

Role: Assisted with grant writing and data analysis

The need to strengthen surveillance in resource poor settings 2020-2021

\$15,000 | Princeton Center for Health and Wellbeing Seed Grant

Rice BL, Rasambainarivo F, Metcalf CJE (PI)

Role: co-PI. Led grant writing, data collection, data analysis, and manuscript preparation

The ecological and evolutionary dynamics of human and wildlife parasites in Madagascar 2019-2022

\$9,000 | Presidential Postdoctoral Research Fellowship Fund, Dean of the Faculty, Princeton University

Rice BL (PI), Metcalf CJE

Role: PI. Led grant writing, data collection, data analysis, and manuscript preparation

The relationship between environmental change and human nutrition and health in Madagascar 2016-2017

\$65,000 | Wellcome Trust Our Planet, Our Health Program (grant 106866/Z/15/Z)

Metcalf CJE (PI), Rice BL, Golden CD

Role: Led fieldwork and data collection that enabled project, assisted with data analysis and writing

Socio-demographic and ecological determinants of nutrition and disease across Madagascar in Madagascar 2016-2017

\$100,000 | United States Agency for International Development (from grant AID-FFP-A-14-00008)

Golden CD (PI), Hazen J, Rice BL

Role: Led fieldwork and data collection, assisted with data analysis and writing

Teaching Experience

Teaching Faculty (Instructor of Record), Global Health Program 351: Epidemiology
An Ecological and Evolutionary Perspective, Undergraduate Course, Princeton University Spring 2022

Teaching Fellow, Organismic and Evolutionary Biology 242: Population Genetics
Certificate of Distinction in Teaching, Office of Undergraduate Education
Harvard University Spring 2019

Teaching Fellow, Organismic and Evolutionary Biology 50: Genetics and Genomics
Certificate of Distinction in Teaching, Office of Undergraduate Education
Harvard University Fall 2015, Fall 2018

Teaching Fellow, Environmental Science and Public Policy 90D: Planetary Health
Harvard University Spring 2018

Mentorship Experience

(*location of international teaching and mentorship efforts shown in **bold**)

Mentor, CAFE RCC Climate and Health Community Mentor Matchmaking Program
National Institute for Medical Research (NIMR), **Tanzania**; coordinated by Boston University School of Public Health Fall 2025

Co-Founder and Funder, Molecular Ecology Journal Club in Madagascar
Princeton University; University of Antananarivo; Mahaliana Laboratory, **Madagascar** 2019-2020, 2024-present

Instructor, Princeton Global Health Program Summer Internship in Madagascar
"Princeton Madagascar One Health Research Initiative"
Betampona Reserve and Mananjary District, **Madagascar** Summer 2022, 2024, 2025

Co-mentor, Princeton Environmental Institute Summer Internship in Madagascar
"Health and Conservation at the Human-Domestic Animal-Wildlife Interface in Madagascar"
Betampona Reserve and Mahaliana Laboratory, **Madagascar** Summer 2022, 2023, 2024

Mentor, EEB Scholars Program 2023-2024

Program to support students from underrepresented groups applying to EEB PhD programs Department of Ecology and Evolutionary Biology, Princeton University	
Workshop Leader: CVs and Cover Letters for Graduate Applications University of Antananarivo, Madagascar Biodiversity Center, Antananarivo, Madagascar	Dec 2022, May 2023, Dec 2023
Workshop Leader, Workshop on malaria and malnutrition data analysis in R (1-day, virtual) Epidemiology students and Ministry of Health, Kenya	Apr 2024
Instructor, Disease Ecology: Advanced Module Universidade Estadual Paulista, South American Institute for Fundamental Research, Sao Paulo, Brazil	Oct 2022
Co-Founder, Malagasy STEM Master's Student Scholarship and Network Princeton University, University of Antananarivo, Madagascar	2020-2021
Instructor, Mol'Ecol: Molecular Ecology and R in Madagascar workshop Princeton Environmental Institute; Mahaliana Laboratory, Madagascar	Summer 2019
Instructor, E ² M ² : Ecological and Epidemiological Modeling in Madagascar Institut Pasteur Madagascar and Princeton University	Jan 2019
Mentor, Planetary Health Undergraduate Research Fellowship Program in Madagascar Harvard University and MAHERY Madagascar	2017-2018
Mentor, Student Success Jobs Program, Boston, MA Harvard University and Brigham Women's Hospital program for underrepresented high school students in the sciences	2015-2016

Research Presentations

Oral Presentations

- 2026 Mar | Johns Hopkins University Institute for Planetary Health
[Invited Seminar] Vector-borne disease landscapes under extreme weather
- 2025 Nov | Department of Ecology and Evolution, Stony Brook University
[Invited Seminar] Evolutionary ecology of malaria parasites in a changing world
- 2025 Nov | Ecology and Evolution of Infectious Disease (EEID) - East Coast, Penn State University
[Invited Talk] Extreme weather events and malaria ecology in southeast Africa
- 2025 Oct | RBM Vector Control Working Group (VCWG) Task Team on Vector Control in Humanitarian Emergencies
[Invited Seminar: Virtual] Mitigating climate-driven disruptions to malaria control in Madagascar
- 2025 Oct | Club EvMed (coordinated by Duke University)
[Invited Seminar: Virtual] Extreme weather and malaria control (and minimizing the impact of disruptions)
- 2025 May | Gorongosa National Park, Mozambique
[Invited Talk] Parasite ecology, public health, and conservation in Madagascar
- 2025 Jan | Department of Environmental Studies, New York University (NYU)
[Invited Seminar] Madagascar as a lens onto the ecology and evolution of malaria in a changing world
- 2024 Dec | Parasitology Group, Cambridge University, Cambridge, UK
[Invited Talk] Notes on the evolutionary ecology of *Plasmodium* parasites from Madagascar
- 2024 Dec | Molecular Ecology and Evolution at Bangor, Bangor University, Wales, UK
[Invited Seminar] Madagascar as a lens onto the evolutionary ecology of malaria parasites
- 2024 Nov | American Society of Tropical Medicine and Hygiene (ASTMH), New Orleans, LA, USA
[Oral Presentation] Malaria control and vaccination in the context of tropical cyclones
- 2024 Sep | Institute for Genomics and Evolutionary Medicine (IGEM), Temple University
[Invited Seminar] Notes on the ecology and evolution of malaria parasites in Madagascar
- 2024 Sep | Sahel Mosquito Network Meeting, hosted at Princeton University
[Invited Talk] Extreme weather events and malaria dynamics in Madagascar
- 2024 Sep | Ecology and Evolutionary Biology Department Seminar Series, Princeton University

- [Invited Seminar] Tropical cyclones and malaria in Madagascar
- 2024 Sep | School of Life Sciences, Arizona State University
[Invited Seminar] Genomic and one health approaches to malaria ecology in Madagascar
- 2024 Jul | Madagascar Biodiversity Center, Antananarivo, Madagascar
[Invited Seminar] Malaria and climate change in Madagascar: Modeling the impacts of extreme weather events
- 2024 Jun | Climate Detection and Attribution Science Workshop, University of the West Indies, Kingston, Jamaica
[Invited Talk] Tropical cyclones and vector-borne diseases: A case study on malaria in Madagascar
- 2024 May | Genetics Symposium Honoring Gregor Mendel, Harvard University
[Invited Talk] Evolutionary genetics of malaria parasites in Madagascar
- 2024 Feb | Global Institute for Disease Elimination Annual Symposium, Abu Dhabi, UAE
[Invited Flash Talk] Tropical cyclones and malaria dynamics in Madagascar
- 2023 Dec | Falcon Awards for Disease Elimination, The Climate Edit, Global Institute for Disease Elimination
[Invited Talk: Virtual] Accelerating malaria elimination in the face of extreme weather disruptions (Madagascar)
- 2023 Oct | Futures of Malaria Research Symposium, Johns Hopkins Malaria Research Institute
[Oral Presentation] Hitting hotspots: Probing mass treatment approaches to reducing malaria transmission using Madagascar as a case study
- 2023 Jul | 13th International Mammalogical Conference, Anchorage, AK
[Co-author on oral presentation presented by Fidisoa Rasambainarivo] Introduced Pathogens and Conservation: Disentangling transmission between carnivores in Madagascar
- 2022 Oct | Institute for Global Health Technologies, Rice University
[Invited Seminar] The ecology of infectious diseases in a changing world: Coronaviruses, Malaria, and Madagascar
- 2022 May | Madagascar Biodiversity Center, Antananarivo, Madagascar
[Invited Seminar] Ecology and Evolution of Malaria Parasites (Mostly in Madagascar)
- 2022 Apr | World Malaria Day Symposium, Johns Hopkins Malaria Research Institute
[Lightning Talk: Virtual] Spatiotemporal variation within a high malaria prevalence district: The Mananjary Cohort Study in southeastern Madagascar
- 2020 Sep | International Humboldt Day Seminar, Madagascar
[Invited Talk: Virtual] Parasites in Madagascar: Hosts as Islands on Islands
- 2019 Dec | American Embassy MEET US Talk Series, Antananarivo, Madagascar
[Invited Seminar] New Approaches to Understanding Health in Rural Communities in Madagascar
- 2019 Aug | Association for Tropical Biology and Conservation, Antananarivo, Madagascar
[Oral Presentation] Small-scale spatial variation in malaria prevalence and deforestation among human communities near priority areas in Madagascar
- 2018 Oct | Futures of Malaria Research Symposium, Johns Hopkins Malaria Research Institute
[Oral Presentation] Exploring spatial patterns in malaria prevalence across eco-regions of Madagascar
- 2018 May | Planetary Health Alliance 2nd Annual Meeting, University of Edinburgh
[Oral Presentation] From genes to geography: Integrating approaches to study land use change and hotspots of malaria transmission in rural Madagascar
- 2016 Jul | Institut Pasteur Madagascar, Infectious Disease Unit, Antananarivo, Madagascar
[Invited Talk] Notes on the ecology and evolutionary biology of *Plasmodium falciparum* in the Maroantsetra region of Madagascar

Poster Presentations

- 2025 Nov | American Society of Tropical Medicine and Hygiene, Toronto, ON
Malaria and nutritional status following tropical cyclones in southeast Madagascar
- 2024 Jun | Ecology and Evolution of Infectious Diseases (EEID) Conference, Stanford University
Modeling malaria control and vaccination in the context of tropical cyclones: Madagascar as a case study
- 2024 Apr | World Malaria Day Symposium, Johns Hopkins Malaria Research Institute
Modeling malaria infection dynamics and control following two tropical cyclones in Madagascar

- 2023 Oct | American Society of Tropical Medicine and Hygiene, Chicago, IL
Exploring the cost effectiveness of proactive case detection in hard-to-reach, high incidence communities from a cohort study in southeast Madagascar
- 2022 Nov | American Society of Tropical Medicine and Hygiene, Seattle, WA
Stratifying Malaria Control Approaches in Madagascar: Monitoring Spatio-temporal Variation and the Impact of Extreme Weather Events in the Coastal Mananjary District
Malaria Burden and Malnutrition within Mananjary District, Southeastern Madagascar: The Potential Impact of Improved Multisectoral Programming
Larval performance, breeding habitat preference, and interspecific competition between *Aedes albopictus* and *Aedes aegypti* in Madagascar
- 2022 Oct | Futures of Malaria Research Symposium, Johns Hopkins Malaria Research Institute, Baltimore, MD
Spatial and temporal variation within a malaria hotspot in southeast Madagascar
- 2013 Nov | American Society of Tropical Medicine and Hygiene, Washington, DC
Recombination and resolution: A note about *Plasmodium vivax* merozoite surface protein 3 alpha as a molecular marker
- 2012 Nov | American Society of Tropical Medicine and Hygiene, Atlanta, GA
A more ancient origin for high copy number of the merozoite surface protein 3 (MSP3) family
Limitations of single gene mitochondrial approaches for identifying species of malarial parasites
- 2012 Mar | 19th Annual Undergraduate Research Symposium, School of Life Sciences, Arizona State University
Evolution of the merozoite surface protein 3 gene family in the malaria parasite *Plasmodium vivax* and related species
- 2011 Dec | American Society of Tropical Medicine and Hygiene, Philadelphia, PA
Similar diversity of the merozoite surface protein 3 alpha (MSP3α) subfamily in Thai and Venezuelan *Plasmodium vivax* populations
- 2011 Mar | 18th Annual Undergraduate Research Symposium, School of Life Sciences, Arizona State University
The genetic diversity of merozoite surface protein 3-alpha in *Plasmodium vivax*

Press Coverage of Research Work

- NPR (18 July 2025)
Cyclones stoke malaria in Madagascar (featured on “All Things Considered”)
<https://knpr.org/2025-07-18/cyclones-stoke-malaria-in-madagascar>
- Institut Pasteur de Madagascar (16 May 2021)
Hétérogénéité spatiale des facteurs de risque de contracter le paludisme à Madagascar
<http://www.pasteur.mg/heterogeneite-spatiale-des-facteurs-de-risque-de-contracter-le-paludisme-a-madagascar/>
- Nature Africa* (17 March 2021)
Capturing the complexity of COVID-19 in sub-Saharan Africa
<https://www.nature.com/articles/d44148-021-00009-0>
- High Meadows Environmental Institute - Princeton University Homepage (17 February 2021)
True toll of coronavirus on sub-Saharan Africa may be obscured by tremendous variability in risk factors and surveillance.
<https://www.princeton.edu/news/2021/02/17/true-toll-coronavirus-sub-saharan-africa-may-be-observed-tremendous-variability>

Academic Service: Peer Review

Reviewer for the following journals and publishers:
Nature, *PNAS*, *Current Biology*, *Infection Genetics Evolution*, *Malaria Journal*, *PLOS Computational Biology*, *The Lancet Global Health*, *Journal of Animal Ecology*, *International Journal of Epidemiology*, *Oxford University Press*, *BMC Public Health*, *EcoHealth*

Extracurricular and Volunteer Work

- Fellow, Climate Change and Health Research Coordinating Center (CAFÉ RCC)
Research Translation Lab, Boston University School of Public Health, the Harvard T.H. Chan
School of Public Health, and the National Institutes of Health (NIH)

Fall 2024
- Wilderness First Aid Certified

2024
- Volunteer, Election Protection Arizona
Coconino County and Tuba City, Navajo Nation, Arizona

October-November 2020
- Board Member, MAHERY (Madagascar Health and Environmental Research) NGO

2016-present
- Participant in Study Abroad Program on Health and Human Ecology in New Zealand
School of Human Evolution and Social Change, Arizona State University

2009
- Proficient in Spanish (7 years)
- Proficient in Malagasy (8 years)