

**Mallory Harris**  
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**EDUCATION**

**Stanford University (Palo Alto, CA)**  
**University of Georgia (Athens, GA)**  
*B.S. Mathematics, B.S. Computational Biology*  
*Interdisciplinary Writing Certificate, Spanish Minor*  
GPA: 3.93, summa cum laude with Highest Honors

2019 Sep-Present  
2014 Aug-2018 May

**PUBLICATIONS**

**Harris MJ**, Mordecai EA. [Social divisions and risk perception can drive divergent epidemic dynamics and large second and third waves](#). In review.

**Harris MJ**, Tessier-Lavigne E, Mordecai EA. [The interplay of policy, behavior, and socioeconomic conditions in early COVID-19 epidemiology in Georgia](#). *J Ga Public Health Assoc*. 2021 Nov. 8(2), Article 4.

**Harris MJ\***, Childs ML\*, Kain MP\*, Kirk D, Couper L, Nova N, Delwel I, Ritchie J, Becker AD, Mordecai EA. [The impact of long-term non-pharmaceutical interventions on COVID-19 epidemic dynamics and control: the value and limitations of early models](#). *Proc Royal Soc B*. 2021 Aug. 288(1957): 20210811. (\*denotes shared first author)

Couper LI, Farner JE, Caldwell JM, Childs ML, **Harris MJ**, Kirk DG, Nova N, Shocket M, Skinner EB, Uricchio LH, Exposito-Alonso M, Mordecai EA. [How will mosquitoes adapt to climate warming?](#) *eLife*. 2021 Aug.10:e69630.

Chande A, Lee S, **Harris MJ**, Nguyen Q, Beckett SJ, Hilley T, Andris C, Weitz JS. [Real-time interactive website for US-county-level COVID-19 event risk assessment](#). *Nat Hum Behav*. 2020 Dec. 4(12): 1313-1319.

**Harris MJ**, Hay SI, and Drake JM. [Evidence of critical slowing down prior to malaria resurgence in Kericho, Kenya](#). *Biol Lett*. 2020 Mar. 16(3): 20190713.

**Harris MJ**, Caldwell JM, and Mordecai EA. [Climate drives spatial variation in Zika epidemics in Latin America](#). *Proc Royal Soc B*. 2019 Aug. 286: 20191578.

Shocket MS, Anderson CB, Caldwell JM, Childs ML, MacDonald AJ, Howard ME, Nova N, Han S, **Harris MJ**, Mordecai EA. [Environmental drivers of vector-borne diseases](#). *Population Biology of Vector-Borne Diseases*. Oxford UP. 2018.

Zhang JY, Lee JH, Gu X, Wei ZZ, **Harris MJ**, Yu SP, Wei L. [Intranasally Delivered Wnt3a Improves Functional Recovery after Traumatic Brain Injury by Modulating Autophagic, Apoptotic, and Regenerative Pathways in the Mouse Brain](#). *J Neurotrauma*. 2018 Mar. 35(5) 802-813.

**PRESENTATIONS**

**Awareness-based protective behavior in a population with strong group divisions**

- Annual Meeting of the Ecological Society of America. Palais des congrès de Montréal. 2022 Aug. Presentation.
- Ecology and Evolution of Infectious Diseases. Emory University. 2022 Jun. Poster.
- Ann. Stanford University. 2022 Apr. Poster.
- Bay Area Ecology and Evolution of Infectious Diseases. UC Santa Cruz. 2022 Feb. Presentation.
- Ecology and Evolution of Infectious Diseases. Centre National de la Recherche Scientifique. 2021 Jun. Poster.

**Scientific integrity and academic accountability**

- Current Issues in Genetics. Stanford Department of Genetics. 2021 Dec. Presentation. *Invited speaker*.
- Workshop in Biostatistics. Stanford Department of Biomedical Data Science. 2021 Nov. Presentation. *Invited speaker*.

**The interplay of policy, behavior, and socioeconomic conditions in early COVID-19 epidemiology in Georgia**

- Bay Area Ecology and Evolution of Infectious Diseases. University of California, Davis. 2021 Apr. Presentation.
- Annual Meeting of the Ecological Society of America. 2020 Aug. Presentation.

### Early warning signals of malaria elimination in Haiti

- Center for Undergraduate Research Opportunities Symposium. University of Georgia. 2018 Apr. Poster.

### Climate drives spatial variation in Zika epidemic characteristics in Latin America.

- Bay Area Ecology and Evolution of Infectious Diseases. Stanford University. 2019 Mar. Poster.
- Population Biology of Vector-Borne Diseases Symposium. Center for the Ecology of Infectious Diseases. 2018 Feb. Poster.

### Evidence of critical slowing down prior to malaria resurgence in Kericho, Kenya

- Bay Area Ecology and Evolution of Infectious Diseases. University of California, Berkeley. Feb 2020. Poster.
- Ecology and Evolution of Infectious Diseases. UC Santa Barbara. 2017 Jun. Poster.
- National Conference on Undergraduate Research. 2016 Apr. Presentation.
- Center for Undergraduate Research Opportunities Symposium. University of Georgia. 2016 Apr. Presentation.
- Undergraduate Research Conference at the Interface of Biology and Mathematics. NIMBIOS. 2016 Oct.

### Reducing teen pregnancy: the case for comprehensive sex education in Georgia

- Center for Undergraduate Research Opportunities Symposium. University of Georgia. Mar 2015.

## RESEARCH EXPERIENCE

### Pandemic Scenario Modeling and Science Communication Workshop

2022 Jun

*Ecology and Evolution of Infectious Diseases*

### Summer Institute in Statistics and Modeling in Infectious Diseases

2020 Jul

- Participated in modules on Simulation-based Inference for Epidemiological Dynamics and Causal Inference

### Critical Slowing Down in Vector-Borne Disease Systems

2016 Jan - Aug 2019

*John Drake, University of Georgia, Odum School of Ecology*

- Conducted time series analysis to predict malaria resurgence in Kericho, Kenya.
- Developed a stochastic Ross Macdonald coupled-map lattice spatial simulation of malaria elimination in Haiti and tested the performance of spatial early warning signal detection software in this system.

### Detecting Climate Drivers of Zika Virus

2017 May - July 2017

*Erin Mordecai, Stanford University, Department of Biology*

- Constructed spatial and spatiotemporal models of epidemic parameters for Zika virus in Latin America against climate and population covariates (NSF-REU).

### Voting Rights Data Institute

Jun 2018 - Jul 2018

*Metric Geometry and Gerrymandering Group, Tufts University*

- Participated in collaborative workshop on establishing a legally accepted quantitative framework based on Markov chain Monte Carlo methods to identify partisan gerrymandering.

## COMMUNICATION AND OUTREACH

### Identifying and combatting scientific misinformation

Organized educational panels and workshops to teach students how to effectively communicate and advocate around controversial scientific topics (e.g., climate change, vaccination) and identify scientific misinformation.

*Scientists Speak Up (Co-President)*

- [Debunking scientific misinformation on social media](#) (organizer and workshop leader). Jan 2022.
- Dismantling disinformation workshop (organizer and workshop leader). 2021 Nov.
- [Denialism: From COVID-19 to climate change](#) (organizer and moderator). 2021 Nov.
- [Going viral: How COVID misinformation spreads online](#) (organizer and moderator). 2021 Jul.

*Interviews and appearances*

- [The person who knows](#). *Against the Rules*. 2022 May.
- [Mis/disinformation 101](#) (invited speaker). Hosted by Georgia State Rep. Rebecca Mitchell. Mar 2022.
- [These doctors' groups are cheering on the anti-vax truckers](#). *Mother Jones*. 2022 February.

### The science of herd immunity

Organizing a public panel on misconception around herd immunity and new research frontiers in immunology, infectious disease modeling, and human behavior ([recording](#)).

- Mordecai EA, Harris MJ. [Will we ever reach herd immunity to Covid-19?](#) *The Guardian*. 2022 Jan.
- Mordecai EA, Harris MJ, Lipsitch M. [Opinion: The US may never hit the herd immunity threshold. That's OK](#). *New York Times*. 2021 May.

- [Herd immunity probably not necessary to end pandemic, experts say](#). *Stanford Daily*. 2021 Apr.

### COVID-19 event risk assessment planning tool

Text and conceptualization for an interactive map of daily COVID-19 risk by event size and county.

- [What is your COVID-19 risk attending a dinner party, small bar, or even a wedding?](#) *Local Memphis*. 2021 Aug.
- [Tool shows Wisconsin gatherings mean high risk of COVID-19 exposure](#). *Wisconsin Public Radio*. 2020 Nov.
- [New map shows risk of COVID-19 encounter during Thanksgiving across the US](#). *WBIR*. 2020 Nov.
- [Study: here are the chances you'll be exposed to COVID-19 in a group setting](#). *WSOC-TV*. 2020 Jul.
- Weitz JS, Harris MJ, Chande AT, Gussler JW, Rishishwar L, Jordan IK. [Online COVID-19 dashboard calculates how risky reopenings and gatherings can be](#). *Scientific American*. 2020 May.

### Potential long-term intervention strategies for COVID-19

Text and conceptualization for an interactive model illustrating potential outcomes of various short and long-term non-pharmaceutical interventions to control COVID-19.

- [The imprecise science of predicting the spread of COVID-19](#). *Civil Beat*. 2020 Apr.

### Girlology and Guyology

2016 Jan – Aug 2018

Managed social media to provide online resources on sexual health and puberty to parents and adolescents. Ran online advertising for doctor-led puberty and sex education programs in 22 states nationwide. Selected by Federal Office of Women's Health to lead digital educational initiative on sexually transmitted infections.

## TEACHING

<b>Ecology and Evolution of Infectious Disease in a Changing World</b> (Course Assistant)	2021 Spring
<b>Biology and Global Change</b> (Teaching Assistant)	2021 Winter
<b>Introduction to Research in Ecology and Evolutionary Biology</b> (Teaching Assistant)	2020 Spring
<b>Athens Area Girls Math Team</b> (Lead Instructor)	2015 Fall – Spring 2017
<b>Introduction to Higher Mathematics</b> (Grader)	2015 Fall
<b>Barrow Elementary School Math and English Intervention Program</b> (Tutor)	2015 Fall – Spring 2017
<b>MATHCOUNTS</b> (Curriculum Coordinator, School Coordinator, Head Coach)	2014 Fall – Spring 2017

## MENTORSHIP

<b>Ella Tessier-Lavigne</b> (King Center Summer Undergraduate Research)	2020 Summer
<b>Ann Marie Abraham</b> (Biology Summer Undergraduate Research Program and Honors Thesis)	2021 Summer – Spring 2022
<b>Vincent Thai</b> (bioBUDS Winternship, Undergraduate)	2022 Winter
<b>Amanda Pohlman</b> (Rotation Graduate Student)	2022 Winter
<b>Kimberly Cardenas</b> (Biology Summer Undergraduate Research Program)	2022 Summer

## GRADUATE COURSEWORK

Health Policy Modeling (BIO 231)  
 Advanced Topics in Mathematical Evolutionary Biology (BIO 287A)  
 Structural Equation Modeling for Ecologists (MS&E 292)  
 Mathematical Biology (MATH 6780)  
 Probability (MATH 6600)

## AWARDS AND HONORS

<b>ARCS Scholar Award</b>	2022 May
<b>Knight-Hennessy Scholarship</b>	2018 Sep
<b>Presidential Award of Excellence</b>	2018 Apr
<b>Goldwater Scholarship</b>	2017 Apr
<b>Foundation Fellowship</b>	2014 Aug