

## EDUCATION

### Stanford University (Palo Alto, CA)

PhD candidate in Biology (Ecology and Evolution)

2019 Sep - Present

### 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

2014 Aug - 2018 May

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## MANUSCRIPTS

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1. Kirk D, Straus S, Childs M, **Harris M**, Couper L, Davies J, Forbes C, Gehman A, Groner M, Harley C, Lafferty K, Skinner E, O'Connor MI, Mordecai EA. [Temperature impacts on dengue incidence are nonlinear and mediated by climatic and socioeconomic factors](#). *PLOS Climate*. In press.
2. Turner MA, Singleton AL, **Harris MJ**, Harryman I, Lopez CA, Forde R, Muraida C, Jones JH. [Minority-group incubators and majority-group reservoirs for climate change adaptation](#). *Phil Trans B*. 2023 Sep.
3. **Harris MJ**, Cardenas KJ, Mordecai EA. [Social divisions and risk perception can drive divergent epidemic dynamics and large second and third waves](#). *Evol Hum Sci*. 2023 Feb.
4. Holcomb KM, Mathis S, Staples JE, Fischer M, Barker CM, Beard CB, Nett RJ, Keyel AC, Marcantonio M, Childs ML, Gorris ME, Rochlin I, Hamins-Puértolas M, Ray EL, Uelmen JA, DeFelice N, Freedman AS, Hollingsworth BD, Das P, Osthus D, Humphreys JM, Nova N, Mordecai EA, Cohnstaedt LW, Kirk D, Kramer LD, **Harris MJ**, Kain MP, Reed EMX, Johansson MA. [Evaluation of an open forecasting challenge to assess skill of West Nile virus neuroinvasive disease prediction](#). *Parasites Vectors*. 2023 Jan.
5. **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.
6. Childs ML\*, Kain MP\*, **Harris MJ\***, 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. (\*denotes shared first author)
7. 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.
8. 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.
9. **Harris MJ**, Hay SI, Drake JM. [Evidence of critical slowing down prior to malaria resurgence in Kericho, Kenya](#). *Biol Lett*. 2020 Mar.
10. **Harris MJ**, Caldwell JM, Mordecai EA. [Climate drives spatial variation in Zika epidemics in Latin America](#). *Proc Royal Soc B*. 2019 Aug.
11. 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.
12. 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.

## PREPRINTS

1. Jalbert, M, Harris MJ, Williams L. [Who is perceived to be an expert on COVID-19 vaccines on social media?: Biomedical credentials confer expertise, even among vaccine-hesitant and conservative observers](#). In review.
2. **Harris MJ**, Murtfeldt R, Wang S, Mordecai EA, West JD. [The role and influence of perceived experts in an anti-vaccine misinformation community](#). In review.

## PRESENTATIONS

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### **The role and influence of perceived experts in an anti-vaccine misinformation community**

- Epidemics. Bologna, Italy. 2023 Nov. Presentation.
- Trust and Safety Research Conference. Stanford University. 2023 Sep. Lightning talk.
- Sunbelt Social Network Conference. Portland, OR. 2023 Jun. Presentation.
- Center for an Informed Public Weekly Meeting. University of Washington. 2023 Feb. *Invited speaker*.

### **Social division and vaccine misinformation: Connecting decisions and diseases**

- MIDAS Webinar series ([recording](#)). 2023 Jul. Presentation.

### **Understanding and countering health misinformation**

- Distinguished Humphrey Fellowship Program: Media and Information. University of Washington. 2023 Jun. *Invited speaker*.

### **Estimating the changing burden of dengue per degree of climate warming**

- MIDAS Annual Meeting. Atlanta, Georgia. 2023 Oct. Poster.
- Bay Area Ecology and Evolution of Infectious Diseases. San Francisco State University. 2023 Mar. Poster.

### **Awareness-based protective behavior in a split population**

- Weitz Lab Presentation. Georgia Institute of Technology. 2022 Sep. *Invited Speaker*.
- 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.
- Annual Global Health Research Convening. 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.

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

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

### **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. University of Georgia. 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. 2020 Feb. Poster.
- Ecology and Evolution of Infectious Diseases. UC Santa Barbara. 2017 Jun. Poster.
- Undergraduate Research Conference at the Interface of Biology and Mathematics. NIMBIOS. 2016 Oct.
- National Conference on Undergraduate Research. 2016 Apr. Presentation.

## WORKSHOPS AND ACADEMIC ENRICHMENT

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**Mathematics of Malaria Transmission Dynamics** 2023 Nov

*Presented at weeklong workshop by Brin Mathematics Research Center at University of Maryland*

**Agnotology: The New Science of Creating and Preventing Ignorance** 2023 May

*Two-day workshop by Stanford Program in History and Philosophy of Science*

**Visiting Student, Center for an Informed Public** 2023 Jan - Mar

*Working with collaborators on projects related to science misinformation*

**Telling Stories as a Leadership Tool for Change** 2022 Oct

*One-day workshop at Stanford on public narratives and social change*

**Scientific Teaching Institute** 2022 Aug

*Three-day workshop at Stanford on assessment, active learning, and DEI*

**Pandemic Scenario Modeling and Science Communication Workshop** 2022 Jun

*Ecology and Evolution of Infectious Diseases Conference*

**Summer Institute in Statistics and Modeling in Infectious Diseases** 2020 Jul

*Simulation-based Inference for Epidemiological Dynamics, Causal Inference*

**Voting Rights Data Institute** 2018 Jun - Jul

*Metric Geometry and Gerrymandering Group, Tufts University*

## COMMUNICATION AND OUTREACH

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### Social divisions and risk perception drive divergent epidemics and large later waves

Mentored undergraduate researcher developing an [interactive website](#) on awareness-based behavior and diseases.

- **Harris MJ.** [Orcs vs. trolls: Decisions, division, and disease.](#) *Cambridge Core Blog*. 2023 Apr.

### Identifying and countering 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.

- Evidence-based democracy vs. science denial and disinformation. Stanford Program in Science, Technology, and Society. 2022 Nov. *Invited panelist*.

*Scientists Speak Up (Co-President)*

- [Science communication in an age of misinformation](#) (organizer). 2023 May.
- [Scientific publishing reform: Changes at eLife](#) (co-organizer). 2023 Apr.
- [Mitigating medical misinformation](#) (organizer). 2022 May.
- [Debunking scientific misinformation on social media](#) (organizer and workshop leader). 2022 Jan.
- 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*

- [Can 'dirty money' pollute climate scholarship?](#) *Inside Higher Ed*. 2022 Dec.
- [The person who knows.](#) *Against the Rules with Michael Lewis*. 2022 May.
- [Mis/disinformation 101](#) (invited speaker). Hosted by Georgia State Rep. Rebecca Mitchell. 2022 Mar.
- [These doctors' groups are cheering on the anti-vax truckers.](#) *Mother Jones*. 2022 Feb.
- [He's a Stanford professor and a Nobel laureate. Critics say he was dangerously misleading on Covid.](#) *STAT*. 2021 May.

### Scientific integrity and academic accountability

- Epidemiology Supper Club. Stanford Department of Epidemiology. 2022 Oct. *Invited speaker*.
- Current Issues in Genetics. Stanford Department of Genetics. 2021 Dec. *Invited speaker*.
- Workshop in Biostatistics. Stanford Department of Biomedical Data Science. 2021 Nov. *Invited speaker*.

### The science of herd immunity

Organized 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.

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## TEACHING

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|   |                         |
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| <b>Representing Infectious Diseases</b> (Instructor)  | 2022 Fall               |
| <a href="#">A new course examines scientific and cultural representations of disease</a> . <i>Stanford Report</i> . 2023 Jan. |                         |
| <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 – 2017 Spring |
| <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 |

## GUEST LECTURES

**Developing an early model of COVID-19 under various interventions in Santa Clara County**  
*Covid-19 Elective Course (PEDS 220), Winter 2023*

**Introduction to Disease Ecology**  
*Introduction to Ecology (BIO 81), Fall 2022*

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## MENTORSHIP

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| <b>Kimberly Cardenas</b><br>(Biology Summer Undergraduate Research Program, King Center Research Assistant, Merigan Student Scholar Fund in Infectious Diseases and Geographic Medicine, Human Biology Research Exploration) | 2022 Summer –             |
| <b>Eva Gorenburg</b><br>(Undergraduate Research Assistant)   | 2022 Fall                 |
| <b>Amanda Pohlman</b><br>(Rotation Graduate Student)   | 2022 Winter               |
| <b>Vincent Thai</b><br>(bioBUDS Undergraduate Winternship)   | 2022 Winter               |
| <b>Ann Marie Abraham</b><br>(Biology Summer Undergraduate Research Program and Honors Thesis)  | 2021 Summer – 2022 Spring |
| <b>Ella Tessier-Lavigne</b><br>(King Center Summer Undergraduate Research)   | 2020 Summer               |

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## GRADUATE COURSEWORK

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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)

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## REVIEWS

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Epidemics, Royal Society Open Science, PLOS One (2), PLOS Computational Biology, Journal of Racial and Ethnic Health Disparities

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## AWARDS AND HONORS

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| ARCS Scholar Award                                     | 2022 May |
| Knight-Hennessy Scholarship                            | 2018 Sep |
| University of Georgia Presidential Award of Excellence | 2018 Apr |
| Goldwater Scholarship                                  | 2017 Apr |
| University of Georgia Foundation Fellowship            | 2014 Aug |