Maike L Morrison

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Education ....

2020–	**Stanford University**	**Stanford, CA**
	PhD in Biology (Ecology & Evolution)	

2016–2020	**The University of Texas at Austin**	**Austin, TX**
	BS in Mathematics, Dean's Scholars Honors Program	GPA: 3.94
	Distinctions in Service and Leadership, and Research	

Research Experience ....

Sep 2020– Present — **Graduate Research Assistant** — **Stanford, CA**
Supervised by Dr. Noah Rosenberg in the Stanford University Department of Biology.
· Developing an F_{ST}-based tool for measuring ancestry variation in inference of population structure.

Dec 2017– Present — **Evolutionary Genetics Undergraduate Research Assistant** — **Austin, TX**
Supervised by Dr. Mark Kirkpatrick in the UT Austin Department of Integrative Biology.
· Applied the MCMC-based species delimitation program BPP to genetic data from the superabundant marine cyanobacteria *Prochlorococcus marinus* in order to delimit ecotypes.

Aug 2017– Present — **Mathematical Epidemiology Undergraduate Research Assistant** — **Austin, TX**
Supervised by Dr. Lauren Ancel Meyers in the UT Austin Department of Integrative Biology.
· Modeled demand for COVID-19 isolation beds for the Austin homeless population based on epidemic projections; discussed findings with city leaders.
· Analyzed the Texas counties and school districts with the highest conscientious vaccination exemption rates. Modeled the sociodemographic predictors of these exemptions.

Aug 2019– May 2020 — **Senior Honors Mathematics Thesis** — **Austin, TX**
Supervised by Dr. Stephen Walker in the UT Austin Departments of Mathematics.
· Wrote thesis titled: "Mathematical Statistics in Epidemiology: A Discussion of the Mathematical Concepts Employed in Regression Analyses and Studies of Disease Spread."

May 2019– Jul 2019 — **UC San Francisco Amgen Scholars Program** — **San Francsico, CA**
Supervised by Dr. John Witte in the UCSF Department of Biostatistics & Epidemiology. Participant in UCSF's Summer Research Training Program. Funded by the Amgen Foundation.
· Conducted genome-wide association studies to identify single-nucleotide polymorphisms (SNPs) significantly associated with immune response strength to 22 distinct antigens.

Jun 2018– Aug 2018 — **The Mathematical Biosciences Institute NSF REU** — **State College, PA**
Supervised by Dr. Ephraim Hanks in the Penn State University Department of Statistics. Participant in the MBI Research Experience for Undergraduates program at Ohio State University.
· Explored dynamics of disease spread over patchy terrain through extensive simulation study.

Aug 2016– Aug 2017 — **UT Austin Freshman Research Initiative** — **Austin, TX**
Participated in a hands-on wet-lab training course; awarded a summer research fellowship.
· Used CRISPR/Cas9 to study histone proteins in *Saccharomyces cerevisiae*.

Publications ....

Peer-Reviewed **Morrison M***, Castro LA*, Meyers LA (2020). Conscientious vaccination exemptions in kindergarten to eighth-grade children across Texas schools from 2012 to 2018: A regression analysis. *PLOS Medicine* 17(3): e1003049.

Kachuri L, Francis SS, **Morrison ML**, Wendt GA, Bossé Y, Cavazos TB, Rashkin SR, Ziv E, Witte JS (2020). The landscape of host genetic factors involved in immune response to common viral infections. *Genome Medicine* 12(93): 1-18.

Under Review Ingle T, **Morrison ML**, Wang X, Karman V, Mercer T, Fox S, Meyers LA. Projecting COVID-19 isolation bed requirements for people experiencing homelessness.

In Prep. Miyagi M*, **Morrison ML***, Kirkpatrick M. How many ecotypes are there in the world's most abundant photosynthetic organism?

*These authors contributed equally

Honors, Awards, & Fellowships ....

2020–2023 **Stanford Graduate Fellowship**
Nominated by Biology Department and selected by university-wide committee. Provides three years of stipend and tuition to top science and engineering graduate students. ($250K award)

2020 **University Co-op Mitchell Award for Outstanding Undergraduate Research**
Awarded annually to five undergraduates from across UT Austin. ($5K award)

2020 **Dean's Honored Graduate: University of Texas College of Natural Sciences**
Awarded to 1% of College of Natural Science graduates; selected through faculty panel vote.

2020 **UT Austin Mathematics Special Departmental Honors**
Earned in recognition of mathematics academic achievement and thesis project.

2020 **NSF Graduate Research Fellowship Program, Honorable Mention**

2019–2020 **Alan Kaylor Cline Dean's Scholars Scholarship**
Peer-nominated award for students portraying the ideals of a Dean's Scholar: academic achievement, research involvement, and commitment to improving the program. ($3K award)

2019–2020 **Phi Beta Kappa**
Junior year election

2019 **Undergraduate Diversity at Evolution Award**
Covered registration, travel, meals, and lodging for the 2019 Evolution Meeting. ($2K award)

2019 **Barry M. Goldwater Scholarship**
Awarded to top science, engineering, & mathematics undergraduates in the US. ($7.5K award)

2018–2020 **University of Texas University Honors: College Scholar**
Earned in recognition of academic achievement in math and science coursework.

2017 **Freshman Research Initiative Summer Research Fellowship**
Funded summer research through a UT Austin program. ($1,250 award)

2016–2020 **University of Texas College of Natural Sciences Scholarship**
Awarded to recruit top applicants to the College of Natural Sciences. ($10K award)

2016–2020   **Dean's Scholars Honors Program**
A research-focused honors community limited to 1.5% of undergraduates in the UT Austin College of Natural Sciences.

Leadership ....

May 2018–   **Elected Chair, Dean's Scholars Honors Program Council**   **UT Austin**
May 2019   Coordinated all program events; managed budget of $35,000; organized first-ever alumni newsletter; spearheaded fundraising more than $13,000 for endowment; authored legislation calling for student notification of sexual misconduct violations among UT faculty.

Sep 2016–   **Elected Member, Dean's Scholars Honors Program Council**   **UT Austin**
May 2020   Elected to the governing body for Dean's Scholars, a research-focused honors community. Planned program events, which included dinners, trips, community service & outreach, mentorship, and research events.

May 2017–   **Chair, Dean's Scholars Distinguished Lecture Series Committee**   **UT Austin**
May 2018   Led committee to organize, advertise, and moderate a lecture and dinner with Dr. Carole Baldwin, Director of Vertebrate Zoology at the Smithsonian National Museum of Natural History, in 2018.

Sep 2016–   **Member, Dean's Scholars Distinguished Lecture Series Committee**   **UT Austin**
May 2020   Planned dinner for Dr. Miguel Nicolelis, who spoke on brain-machine interfaces in 2017; advised 2019 DLSC Chair on the 2019 Lecture with Nobel Laureate Dr. Rainer Weiss; advised 2020 DLSC Chair on the planned 2020 Lecture with Nobel Laureate Dr. Jim Allison.

University Service ....

Sep 2017–   **Student Ambassador, College of Natural Sciences Admissions**   **UT Austin**
May 2020   Represented UT Natural Sciences at admissions events and meetings with prospective students.

Sep 2017–   **Student Recruiter, College of Natural Sciences Honors Center**   **UT Austin**
May 2020   Represented the CNS Honors Center at events and as a contact for prospective students.

Dec 2018–   **Selection Committee Member, Jean Holloway Award**   **UT Austin**
Mar 2019   CNS nominee to the selection committee for the Holloway Award for Excellence in Teaching.

Conference Presentations ....

<u>Oral Presentations</u>

Aug 2019   **UCSF Summer Research Training Program Symposium**   San Francisco, CA
"Genome-Wide Association Study of Immune Response to Twelve Common Pathogens."
SRTP Award for Outstanding Oral Presentations

Apr 2019   **Undergraduate Research Forum at UT Austin**   Austin, TX
"How Many Species Make Up the World's Most Abundant Photosynthetic Organism?"
FSTI Award for Excellence in Oral Presentation

Nov 2018   **Capital of Texas Undergraduate Research Conference**   Austin, TX
"Analyzing Conscientious Vaccination Exemption Rates in Texas."
Award of Excellence for an Outstanding Oral Presentation of Research

Aug 2018   **Mathematical Biosciences Institute Capstone Conference**   Columbus, OH
"Distinguishing Resource Selection from Heavy-Tailed Dispersal in Spatial Epidemic Models."
Link to recording. (co-presented with Emily Strong)

Poster Presentations

Aug 2019   **UCSF Summer Research Training Program Symposium**   San Francisco, CA.
"Genome-Wide Association Study of Immune Response to Twelve Common Pathogens."

Jun 2019   **Evolution Meeting**   Providence, RI
"How Many Ecotypes are Comprised by the World's Most Abundant Photosynthetic Organism?"
Undergraduate Diversity at Evolution Award Program

Apr 2019   **Longhorn Research Poster Session**   Austin, TX
"Modeling Conscientious Vaccination Rates in Texas Metropolitan Areas."

Aug 2018   **Mathematical Biosciences Institute Capstone Conference**   Columbus, OH
"Distinguishing Resource Selection from Heavy-Tailed Dispersal in Spatial Epidemic Models."

Apr 2018   **Undergraduate Research Forum at the University of Texas at Austin**   Austin, TX
"Conscientious Vaccination Exemption Rates in Texas: A Longitudinal Analysis of Trends and Predictors."

Media Coverage ....

March 13, 2020   **Live television interview:** Discussed Texas vaccination exemptions with Amanda Salinas on FOX 7's *Good Day Austin*, an Austin-area morning show.

March 12, 2020   **"Which Texans are less likely to vaccinate their kids?"** By Wes Rapaport, *KXAN* (Austin's NBC affiliate).

March 11, 2020   **"UT study: White, suburban, college educated Texans less likely to vaccinate children."** By Matthew Quick, *FOX 7 Austin*.

March 10, 2020   **"Rich White Texans Are Running With Anti-Vax Misinformation."** By Julia Ries, *VICE*.

March 10, 2020   **"White, College-Educated, Wealthier Parents Less Likely to Vaccinate their Children, Texas Study Reveals."** By Kashmira Gander, *Newsweek*.

April 3, 2018   **"8 Undergrads Doing Research You Must Know About."** By Annie Zhang, *The University of Texas at Austin College of Natural Sciences News*.