

# Maike L Morrison

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## Education .....

2020–	<b>Stanford University</b> <i>PhD in Biology (Ecology &amp; Evolution)</i>	<b>Stanford, CA</b>
2016–2020	<b>The University of Texas at Austin</b> <i>BS in Mathematics, Dean's Scholars Honors Program</i> Distinctions in Service and Leadership, and Research	<b>Austin, TX</b> GPA: 3.94

## Research Experience .....

Sep 2020– Present	<b>Graduate Research Assistant</b> <i>Supervised by Dr. Noah Rosenberg in the Stanford University Department of Biology.</i> <ul style="list-style-type: none"><li>· Developing an <math>F_{ST}</math>-based tool for measuring ancestry variation in inference of population structure.</li></ul>	<b>Stanford, CA</b>
Dec 2017– Present	<b>Evolutionary Genetics Undergraduate Research Assistant</b> <i>Supervised by Dr. Mark Kirkpatrick in the UT Austin Department of Integrative Biology.</i> <ul style="list-style-type: none"><li>· Applied the MCMC-based species delimitation program BPP to genetic data from the super-abundant marine cyanobacteria <i>Prochlorococcus marinus</i> in order to delimit ecotypes.</li></ul>	<b>Austin, TX</b>
Aug 2017– Present	<b>Mathematical Epidemiology Undergraduate Research Assistant</b> <i>Supervised by Dr. Lauren Ancel Meyers in the UT Austin Department of Integrative Biology.</i> <ul style="list-style-type: none"><li>· Modeled demand for COVID-19 isolation beds for the Austin homeless population based on epidemic projections; discussed findings with city leaders.</li><li>· Analyzed the Texas counties and school districts with the highest conscientious vaccination exemption rates. Modeled the sociodemographic predictors of these exemptions.</li></ul>	<b>Austin, TX</b>
Aug 2019– May 2020	<b>Senior Honors Mathematics Thesis</b> <i>Supervised by Dr. Stephen Walker in the UT Austin Departments of Mathematics.</i> <ul style="list-style-type: none"><li>· Wrote thesis titled: “Mathematical Statistics in Epidemiology: A Discussion of the Mathematical Concepts Employed in Regression Analyses and Studies of Disease Spread.”</li></ul>	<b>Austin, TX</b>
May 2019– Jul 2019	<b>UC San Francisco Amgen Scholars Program</b> <i>Supervised by Dr. John Witte in the UCSF Department of Biostatistics &amp; Epidemiology. Participant in UCSF's Summer Research Training Program. Funded by the Amgen Foundation.</i> <ul style="list-style-type: none"><li>· Conducted genome-wide association studies to identify single-nucleotide polymorphisms (SNPs) significantly associated with immune response strength to 22 distinct antigens.</li></ul>	<b>San Francisco, CA</b>
Jun 2018– Aug 2018	<b>The Mathematical Biosciences Institute NSF REU</b> <i>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.</i> <ul style="list-style-type: none"><li>· Explored dynamics of disease spread over patchy terrain through extensive simulation study.</li></ul>	<b>State College, PA</b>
Aug 2016– Aug 2017	<b>UT Austin Freshman Research Initiative</b> <i>Participated in a hands-on wet-lab training course; awarded a summer research fellowship.</i> <ul style="list-style-type: none"><li>· Used CRISPR/Cas9 to study histone proteins in <i>Saccharomyces cerevisiae</i>.</li></ul>	<b>Austin, TX</b>

## 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 .....

- 2021–2026     **NSF Graduate Research Fellowship Program**  
*Nationally competitive award providing three years of stipend and tuition support for students in research-based graduate programs. (\$138K award)*
- 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.*

## Teaching .....

- Winter **BIO 85: Evolution** **Stanford University**  
 2021 *Graduate Teaching Assistant* *Drs. Dmitri Petrov & Molly Schumer*
- 30-student introductory undergraduate course taught fully online.
  - Wrote problem sets, weekly quizzes, and exams.
  - Prepared and delivered presentations and activities to weekly discussion sections.

## 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 .....

### Oral Presentations

- 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*.