

Maike L Morrison

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Education

- 2020– **Stanford University** **Stanford, CA**
PhD in Biology (Ecology & Evolution)
Dr. Noah Rosenberg, advisor
- 2016–2020 **The University of Texas at Austin** **Austin, TX**
BS in Mathematics, Dean's Scholars Honors Program
Drs. Lauren Ancel Meyers & Mark Kirkpatrick, advisors

Research Experience

- Sep 2020– **Doctoral Student Researcher** **Stanford, CA**
Present *Dr. Noah Rosenberg, Stanford University Department of Biology*
 - Developed FSTRUCT, an F_{ST} -based tool for measuring ancestry variability.
 - Quantifying compositional variability in other areas of biology, such as the human microbiome.
- Mar 2023– **Visiting Scientist, International Agency for Research on Cancer** **Lyon, France**
Sep 2023 *Dr. Nicolas Alcala, International Agency for Research on Cancer*
 - Quantified variability of mutational signature data using novel statistical methods.
- Jun 2022– **Complex Systems Summer School Student** **Santa Fe, NM**
July 2022 *Santa Fe Institute*
 - Explored the effects of spatial immune structure on infectious disease dynamics.
- May 2019– **UCSF Amgen Scholars Program** **San Francisco, CA**
Jul 2019 *Dr. John Witte, UC San Francisco Department of Biostatistics & Epidemiology*
 - Conducted genome-wide association studies of immune response strength to 22 antigens.
- Jun 2018– **The Mathematical Biosciences Institute NSF REU** **State College, PA**
Aug 2018 *Dr. Ephraim Hanks, Penn State University Department of Statistics*
 - Explored dynamics of disease spread over patchy terrain through simulation study.

Peer-Reviewed Publications

Morrison ML & Rosenberg NA (2023). Mathematical bounds on Shannon entropy given the abundance of the i th most abundant taxon. Accepted at *Journal of Mathematical Biology*.

Morrison ML, Alcala N, Rosenberg NA (2022). FSTRUCT: an F_{ST} -based tool for measuring ancestry variation in inference of population structure. *Molecular Ecology Resources*, 22, 2614– 2626.

Ingle T, **Morrison ML**, Wang X, Mercer T, Karman V, Fox S, Meyers LA (2021). Projecting COVID-19 isolation bed requirements for people experiencing homelessness. *PLOS One*, 16(5), e0251153.

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.

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.

*These authors contributed equally

Teaching

- Fall 2023 **BIO 388: CEHG Seminar - Microbiome Ecology & Evolution** **Stanford Univ.**
Instructor of Record *Dr. Noah Rosenberg*
 · Co-organizing the Fall 2023 Seminar in Computational, Evolutionary, and Human Genomics.
- Winter 2022 **BIO 187: Mathematical Population Biology** **Stanford University**
Graduate Teaching Assistant *Dr. Noah Rosenberg*
 · Graded problem sets.
 · Presented lectures on mathematical bounds on F_{ST} and Shannon entropy.
- Winter 2021 **BIO 85: Evolution** **Stanford University**
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.

Awards & Fellowships

- 2022 Stanford Biology Department Excellence in Teaching Award
- 2021–2025 NSF Graduate Research Fellowship Program
- 2020–2025 Stanford Graduate Fellowship (*\$250K award*)
- 2020 University Co-op Mitchell Award for Outstanding Undergraduate Research (*\$5K award*)
- 2020 NSF Graduate Research Fellowship Program, Honorable Mention
- 2019–2020 Phi Beta Kappa, junior year election
- 2019 Barry M. Goldwater Scholarship

Conference Presentations

Oral Presentations

- Aug 2023 **Ecological Society of America Annual Meeting** Portland, OR
 “Quantifying compositional variability in microbial communities”
- 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

Poster Presentations

- Dec 2022 **The Human Microbiome: Ecology and Evolution (Keystone Symposia)** Banff, AB
 “A diversity statistic for quantifying microbiome stability.”
- June 2022 **Population, Evolutionary, & Quantitative Genetics Conference** Pacific Grove, CA
 “FSTruct: An F_{ST} -based tool for quantifying ancestry variability.”
Genetics Society of America Poster Award
- 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

University Service

2021–2022	Co-Organizer, Eco-Evo Lunch	Stanford University
2021	Co-Organizer, Biology Pre-Orientation Program (BioPOP)	Stanford University