# James Ferrare

jferrare@stanford.edu | jamesferrare.github.io | jferrare.bsky.social

## Education

**Stanford University** | *Stanford, California*     2020 – Present
PhD in Biophysics
Advisor: Benjamin Good
Thesis: Evolutionary dynamics of large adapting populations

**Tulane University** | *New Orleans, Louisiana*     2017 – 2018
M.Sc. in Physics

**Tulane University** | *New Orleans, Louisiana*     2013 – 2017
B.S. in Physics, Mathematics, and International Development, *Magna cum laude.*

## Research Experience

**Stanford University** | *Stanford, California*     2020 – Present
*Graduate student, Biophysics Program*
Advisor: Benjamin Good

**Kavli Institute for Theoretical Physics** | *Santa Barbara, California*     Summer 2024
*Student, Quantitative Biology School*

**National Institutes of Health** | *Bethesda, Maryland*     2020 – 2022
*Post-baccalaureate fellow, Single Molecule Biophysics Lab*
Advisors: Keir Neuman and Jonathan Silver

**Institute for Science and Technology** | *Klosterneuberg, Austria*     2018 – 2019
*Intern, Computational Neuroscience Lab*
Advisors: Anna Andersson and Gašper Tkačik

**Institute for Science and Technology** | *Okinawa, Japan*     2018 – 2019
*Intern, Biological Complexity Lab*
Advisors: Davide Chiuchiù and Simone Pigolotti

**Tulane University** | *New Orleans, Louisiana*     2017 – 2018
*Undergraduate researcher, Femtosecond and Terahertz Spectroscopy Lab*
Advisor: Diyar Talbayev

**Tulane University and Partners In Development** | *Port au Prince, Haiti*     2016 – 2018
*Principal Investigator, Analyzing the Efficacy of Chronic Disease Programs in Haiti*
Advisor: Elisabeth Gleckler

**Tulane University and La Fundación Paraguaya** | *Asunción, Paraguay*     2017 – 2018
*Undergraduate researcher, Innovative Energy Solutions In Paraguay*
Advisor: Colin Crawford

## Publications

**J. Ferrare**, D. Wong and B. Good. "The dynamics of horizontal gene transfer in rapidly adapting populations." *In Prep*, 2025.

**J. Ferrare** and B. Good. "Evolution of evolvability in rapidly adapting populations." *Nature Ecology and Evolution*, 2024. Link.

Q. Li, **J. Ferrare**, J. Silver et al. "Cholesterol in the cargo membrane amplifies tau inhibition of kinesin-1-based transport." *Proceedings of the National Academy of Sciences*, 2023. Link.

D. Chiuchiù, **J. Ferrare**, and S. Pigolotti. "Assembly of heteropolymers via a network of reaction coordinates" *Physical Review E.*, 2019. Link

## Fellowships and Awards

| | |
|---|---|
| ARCS Pre-doctoral Fellowship, *Stanford University* | 2024 - Present |
| SMBE Young Investigator Travel Award, *Stanford University* | 2023 |
| Bio-X Travel Award, *Stanford University* | 2022, 2023 |
| Gates-Cambridge Scholarship Finalist, *Tulane University* | 2018 |
| J. William Fulbright Scholarship, *Tulane University* | 2018 |
| George C. Marshall Scholarship Finalist, *Tulane University* | 2017 |
| George J. Mitchell Scholarship Finalist, *Tulane University* | 2017 |
| Student Leaders in Service Award, *Tulane University* | 2016 |
| McKeever Civic Engagement Scholarship, *Tulane University* | 2016 |
| Stone Award for Best Undergraduate Paper on a Latin American Topic, *Tulane University* | 2016 |
| Newcomb Tulane Taylor Summer Travel Grant, *Tulane University* | 2014, 2016 |
| Conference Presentation Award, *Tulane University* | 2016 |
| TULASO Scholarship, *Tulane University* | 2015 |
| Stellar Tulane Academic Recognition Scholarship, *Tulane University* | 2014 |

## Conferences and Presentations

| | |
|---|---|
| Society for Molecular Biology and Evolution (poster), *Puerto Vallarta, Mexico* | 2024 |
| Society for Molecular Biology and Evolution (poster), *Ferrara, Italy* | 2023 |
| American Physical Society (talk), *Las Vegas, Nevada* | 2023 |
| Bay Area Population Genetics (poster), *Berkeley, California* | 2023 |
| Bay Area Population Genetics (poster), *Stanford, California* | 2022 |
| Population, Evolutionary and Quantitative Genetics (poster), *Monterrey, California* | 2022 |
| Tulane Physics Research Colloquium (poster), *New Orleans, Louisiana* | 2017 |
| Birmingham Southern Latin American Studies Symposium (talk), *Birmingham, Alabama* | 2016 |

## Professional Experience

| | |
|---|---|
| **Withum Smith and Brown**, Data consultant \| *Bethesda, Maryland* | 2019 − 2020 |
| **Tulane Academic Success Center**, Tutor \| *Bethesda, Maryland* | 2017 − 2018 |
| **New Orleans Emergency Medical Services**, Volunteer EMT \| *Bethesda, Maryland* | 2015 − 2017 |
| **New Orleans Child Advocacy Center**, Intern \| *New Orleans, Louisiana* | 2017 − 2018 |
| **Covenant House**, Intern \| *New Orleans, Louisiana* | Summer 2015 |