

James Ferrare

jferrare@stanford.edu | jferrare98.github.io/- | jferrare.bsky.social

Education

Stanford University <i>Stanford, California</i> PhD in Biophysics Advisor: Benjamin Good Thesis: Evolutionary dynamics of large adapting populations	2020 – Present
Tulane University <i>New Orleans, Louisiana</i> M.Sc. in Physics	2017 – 2018
Tulane University <i>New Orleans, Louisiana</i> B.S. in Physics, Mathematics, and International Development Thesis: Analyzing the efficacy of chronic disease programs in Haiti	2013 – 2017

Research Experience

Stanford University <i>Stanford, California</i> <i>Graduate student, Biophysics Program</i> Advisor: Benjamin Good	2020 – Present
Kavli Institute for Theoretical Physics <i>Santa Barbara, California</i> <i>Student, Quantitative Biology School</i>	Summer 2024
National Institutes of Health <i>Bethesda, Maryland</i> <i>Post-baccalaureate fellow, Single Molecule Biophysics Lab</i> Advisors: Keir Neuman and Jonathan Silver	2020 – Present
Institute for Science and Technology <i>Klosterneuberg, Austria</i> <i>Intern, Computational Neuroscience Lab</i> Advisors: Anna Andersson and Gašper Tkačik	2018 – 2019
Institute for Science and Technology <i>Okinawa, Japan</i> <i>Intern, Biological Complexity Lab</i> Advisors: Davide Chiuchiu and Simone Pigolotti	2018 – 2019
Tulane University <i>New Orleans, Louisiana</i> <i>Undergraduate researcher, Femtosecond and Terahertz Spectroscopy Lab</i> Advisor: Diyar Talbayev	2017 – 2018
Tulane University and Partners In Development <i>Port au Prince, Haiti</i> <i>Principal Investigator, Analyzing the Efficacy of Chronic Disease Programs in Haiti</i> Advisor: Elisabeth Gleckler	2016 – 2018
Tulane University and La Fundación Paraguaya <i>Asunción, Paraguay</i> <i>Undergraduate researcher, Innovative Energy Solutions In Paraguay</i> Advisor: Colin Crawford	2017 – 2018

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

Conferences and Presentations

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

Professional Experience

Withum Smith and Brown , Data consultant <i>Bethesda, Maryland</i>	2019 – 2020
Tulane Academic Success Center , Tutor <i>Bethesda, Maryland</i>	2017 – 2018
New Orleans Emergency Medical Services , Volunteer EMT <i>Bethesda, Maryland</i>	2015 – 2017
New Orleans Child Advocacy Center , Intern <i>New Orleans, Louisiana</i>	2017 – 2018
Covenant House , Intern <i>New Orleans, Louisiana</i>	Summer 2015