

Stacy Li

PhD Candidate

@ stacy-l@berkeley.edu 🏠 stacy.li in linkedin.com/in/li-stacy 🐙 github.com/stacy-l 📄 Google Scholar

EDUCATION

- » May 2025 **Ph.D. INTEGRATIVE BIOLOGY, EMPHASIS IN COMPUTATIONAL AND GENOMIC BIOLOGY**
August 2019 *University of California, Berkeley*
Proposed thesis : Developing sequencing methods for studying the population genomics of aging
- May 2016 **B.S. MICROBIAL BIOLOGY**
August 2012 *University of California, Berkeley*
Highest distinction (top 3% major graduates)

RESEARCH EXPERIENCE

- Present**
January 2021 **Graduate Researcher, SUDMANT LAB, University of California, Berkeley**
Studying the genomic basis of aging across diverse populations.
- Developing a novel method for characterizing complex haplotypes and germline mutations using ultra-sensitive linked-read sequencing (*haplotagging*); funded via NIH Genomics Training Grant
 - Awarded Laboratory for Genomics Research Innovation Award (\$100,000) to further optimize haplotagging method for haplotype-specific CRISPR therapeutic targeting.
 - Building pipeline to robustly demultiplex unique molecular identifiers (UMIs) and identify germline mutations and structural variants from haplotagging data.
 - Collaborating with NOAA and CCGP to create a reference genome for *Sebastes paucispinis*, along with assessing the impact of overfishing on population genetics via low-coverage sequencing.
- August 2020**
April 2020 **Graduate Researcher, HSU LAB & MARSON LAB, University of California, Berkeley**
Collaborative research response to benchmark the performance of both authorized and unauthorized COVID-19 rapid antigen tests.
- Conducted daily literature review of COVID-19 case studies, focusing on tracking incubation, symptom emergence, and potential biomarkers for COVID immune response.
 - Performed daily round-up reports of circulating rapid tests using a combination of publicly available import-export data, clinical vendor catalogs, overseas suppliers, and social media reports.
- January 2021**
August 2019 **Graduate Researcher, SHAPIRA LAB, University of California, Berkeley**
Studying the role of host genetics and aging in shaping the gut microbiota.
- Developed end-to-end protocol and designed analysis pipeline for 16S metagenomic studies of gut microbiota in *C. elegans* mutants.
 - Responsible for maintaining and managing sequencing runs on Illumina MiniSeq.
 - Received Honorable Mention for NSF GRFP proposal ("Investigating the evolutionary processes underlying host-microbiota interactions").
- August 2019**
April 2018 **Research Associate, VIEWPOINT THERAPEUTICS, South San Francisco, CA**
Research and development of molecular therapeutics for cataracts.
- Assessed cytotoxicity of drug compounds in mammalian cell and & ex vivo tissue culture models.
 - Performed *in vitro* efficacy screens of second-generation compounds.
 - Designed internal data analysis pipelines and visualization interfaces for research and clinical teams.
 - Developed an image analysis algorithm in Python to categorize cataract severity in canine models and monitor progression over time.
- April 2018**
March 2016 **Research Associate, AOBIOME THERAPEUTICS, San Francisco, CA**
Characterizing the structure and function of the human skin microbiota.
- Characterized temporal persistence dynamics of a live bacterial therapeutic, *Nitrosomonas eutropha* using qPCR and fluorescent reporter assays.
 - Developed a novel protocol for using a gelatin-alginate matrix to longitudinally assess inflammatory biomarkers and bacterial metabolites following topical application of *N. eutropha*.
- May 2016**
July 2013 **Research Assistant, NIYOGI LAB, University of California, Berkeley**
*Studying the genetics of photosynthesis and light sensitivity in *Chlamydomonas reinhardtii*.*
- Designed and conducted longitudinal analyses of light-sensitive mutant growth under high and low light conditions.
 - Genotyped and analyzed mutant proteins using gradient chloroplast extraction, PCR, gel electrophoresis, and Western blots.

August 2015 June 2015	Clinical Research Assistant, PROJECT VIETNAM FOUNDATION, Los Angeles, CA <i>Characterizing the prevalence of pediatric anemia in rural farming communities.</i> <ul style="list-style-type: none"> ➤ Collected and processed blood samples in patients ranging from ages 2-17 in rural communes of Ba Vì district. ➤ Used R to generate summary tables describing study demographics and sample data.
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ORAL PRESENTATIONS

Li, S., Scalable sequencing techniques for studying the population genomics of aging. UC Berkeley Center for Computational Biology Retreat. Los Altos, California. November 4-6, 2022.

POSTER PRESENTATIONS

Li, Stacy., Rocha, J., Vazquez, J.M., et al. Haplotype and de novo mutation structural variant inference using linked-read sequencing. UC Berkeley Center for Computational Biology Retreat. Los Altos, California. November 4-6, 2022.

AWARDS

Fall 2022, Spring 2022 : Graduate Fellow. UC Berkeley Center for Computational Biology

Spring 2021 : Honorable Mention. NSF Graduate Research Fellowship Program

TEACHING

Present May 2021	Principal Coordinator, UC BERKELEY CENTER FOR COMPUTATIONAL BIOLOGY <ul style="list-style-type: none"> ➤ Responsible for hiring and managing staff and organizing logistics of workshop series, in addition to head lecturer duties. ➤ Led revamp of teaching resources, focusing on applications of open-source data science packages (Pandas, Matplotlib, Numpy and Scipy stack) and integration with Google Colaboratory.
Fall 2021	Graduate Student Instructor, IB 134L – PRACTICAL GENOMICS <ul style="list-style-type: none"> ➤ Instructed 55 undergraduate students : responsibilities included developing genomics tutorials and laboratory assignments, debugging and advising for independent projects, and holding office hours for both lecture/lab.
Summer 2021; Fall 2020	Graduate Student Instructor, BIO 1B – GENERAL BIOLOGY LECTURE & LABORATORY <ul style="list-style-type: none"> ➤ Instructed 60 undergraduate students : responsibilities included leading lab activities, supervising undergraduate teaching assistants, writing quizzes, grading quizzes and exams, and holding office hours.
May 2021 December 2020	Lecturer, UC BERKELEY CENTER FOR COMPUTATIONAL BIOLOGY <ul style="list-style-type: none"> ➤ Delivered interactive lecture series in biological data science, focusing on broad applications of the Python programming language and package ecosystem for genomics data analysis.
Spring 2021	Graduate Student Instructor, MCB 104 – GENETICS, GENOMICS, & CELL BIOLOGY <ul style="list-style-type: none"> ➤ Instructed 62 undergraduate students : responsibilities included guiding best practices for virtual learning, leading discussion and review sections, writing weekly quizzes, and holding office hours.

MENTORSHIP

Present January 2022	Graduate Fellow, BERKELEY CONNECT FOR COMPUTATIONAL BIOLOGY <i>Mentoring undergraduate students interested in pursuing studies in computational biology.</i> <ul style="list-style-type: none"> ➤ Hosting lecture & discussion series for undergraduates, focusing on introducing modern research topics and techniques in computational biology. ➤ Individually meet with mentees to create semesterly goals and identify longer-term goals and paths towards research and careers in science.
Summer 2022	Graduate Mentor, CAL GENOMICS UNDERGRADUATE RESEARCH PROGRAM <i>Organized and served as a mentor for an undergraduate research workshop.</i> <ul style="list-style-type: none"> ➤ Mentored undergraduates across four independent research projects centering on California biodiversity. ➤ Prepared materials and managed project timelines for field collection, DNA extraction, Nanopore sequencing, and data analysis.