

Roshni A. Patel

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POSITIONS

Assistant Professor, Dept. of Data Science, University of Oregon

2025 - present

EDUCATION

Postdoctoral researcher, University of Southern California

2024 - 2025

Advised by Prof. Michael “Doc” Edge

Ph.D., Genetics, Stanford University

2018 - 2024

Advised by Prof. Jonathan Pritchard

B.A., Molecular and Cell Biology, University of California Berkeley

2014 - 2018

PUBLICATIONS

RA Patel, CL Weiss, J Zhu, H Mostafavi, YB Simons, JP Spence, JK Pritchard (2025). Characterizing selection on complex traits through conditional frequency spectra. *Genetics* 229: iyae210. DOI: [10.1093/genetics/iyae210](https://doi.org/10.1093/genetics/iyae210).

R Valbuena*, AK Nigam*, J Tycko, P Suzuki, K Spees, Aradhana, S Arana, P Du, **RA Patel**, ..., MC Bassik (2024). Prediction and design of transcriptional repressor domains with large-scale mutational scans and deep learning. *bioRxiv* (under review at *Nature Biotechnology*). DOI: [10.1101/2024.09.21.614253](https://doi.org/10.1101/2024.09.21.614253).

RA Patel*, RA Ungar*, ..., DO Martschenko (2024). Increasing equity in science requires better ethics training: a course by trainees, for trainees. *Cell Genomics* 4: 100554. DOI: [10.1016/j.xgen.2024.100554](https://doi.org/10.1016/j.xgen.2024.100554).

RA Patel*, SA Musharoff*, JP Spence, ..., JK Pritchard (2022). Genetic interactions drive heterogeneity in causal variant effect sizes for gene expression and complex traits. *American Journal of Human Genetics* 109: 1286-1297. DOI: [10.1016/j.ajhg.2022.05.014](https://doi.org/10.1016/j.ajhg.2022.05.014).

CONFERENCE PRESENTATIONS

“Population genetic perspectives on complex trait architecture across populations”

Probabilistic Modeling in Genomics (ProbGen) Conference (talk)

2024

“Population genetic models of complex trait variation”

Bay Area Population Genomics Conference, Stanford, CA (talk)

2023

“The impact of selection on the genetic architecture of complex traits”

Department of Genetics, Stanford University (talk)

2023

“Expanding ethics education for trainees: creating and evaluating a course on genetics, ethics, and society”

American Society of Human Genetics Conference (poster)

2022

Department of Genetics, Stanford University (talk)

2022

“Genetic interactions drive heterogeneity in causal variant effect sizes for gene expression and complex traits”

Population, Evolutionary, and Quantitative Genetics Conference (talk)

2022

Cohort for Heart and Aging Research in Genomic Epidemiology Conference (poster)

2022

Department of Genetics, Stanford University (talk)

2022

INVITED TALKS

“Complex trait architecture across populations: opportunities and considerations”	
Emerging Genomic Scientist Symposium, University of California Los Angeles	2024
“Population genetic models of complex trait variation”	
Center for Admixed Populations and Health Equity, University of California Los Angeles	2023
“The impact of selection on the genetic architecture of complex traits”	
Center for Genomics and Precision Medicine, Stanford University	2023
“Genetic interactions drive heterogeneity in causal variant effect sizes for gene expression and complex traits”	
TOPMed Annual Meeting	2023
Variant Effects Seminar Series, Atlas of Variant Effects Alliance	2022
Center for Admixed Populations and Health Equity, University of California Los Angeles	2022
“The other impact factor: reasoning through the social and ethical implications of genetics research”	
Department of Biomedical Informatics, Stanford University	2022
“Ethics education: by geneticists, for geneticists”	
Center for Biomedical Ethics, Stanford University	2022
“Outreach and student advocacy”	
Department of Genetics, Stanford University	2021

HONORS AND AWARDS

UCLA Emerging Genomic Scientist Fellow	2024
Stanford Student Award for Excellence in Teaching	2023
Stanford Center for Computational, Evolutionary, and Human Genetics Predoctoral Fellowship	2022
Edward M. Blount Award, University of California Berkeley	2018
Graduation with Highest Distinction in General Scholarship, University of California Berkeley	2018
Berkeley Undergraduate Research Apprenticeship Program Summer Fellowship	2017

TEACHING EXPERIENCE

Primary instructor

Introduction to Genetics, Ethics, and Society, Stanford University	2021 - 2023
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Guest lectures

Introduction to Genetics, Ethics, and Society, Stanford University	2025
Ethics in Biology, Medicine and Statistics, University of Southern California	2025, 2024
Bioethics, University of California Los Angeles	2025
Statistics and Evolutionary Genetics, University of Southern California	2024
Human Variation: Race, Genetics, and Evolution, College of William & Mary	2023

Workshops

Monterey County Migrant Education Program Summer Camp (“BioJam”)	2021 - 2023
Introductory Data Analysis with Python (5-day workshop), Stanford University	2021

Teaching assistant

Biophysical Chemistry, University of California Berkeley	2017 - 2018
Introduction to Computer Science, University of California Berkeley	2016
General Chemistry, University of California Berkeley	2015

Pedagogical training

Course Design Institute for Graduate Students and Postdoctoral Scholars, Stanford University	2021
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SERVICE

Outreach and JDEI

Vice President, BioJam	2021 - 2023
Founder and Co-lead, Stanford Genetics Diversity, Equity, and Inclusion Committee	2020 - 2022
Mentor, Bay Area Graduate Pathways Symposium	2020 - 2022
Mentor, Stanford Biosciences First-Year Mentorship Program	2019 - 2022
Co-lead, Stanford Science Justice Reading Group	2019 - 2020

Press

What Makes a “Good” Scientist?, <i>From where does it STEM? podcast</i> [interview]	2024
Personal Genetics Education & Dialogue: Community Spotlight [interview]	2024
“‘All of Us’ genetics chart stirs unease over controversial depiction of race”, <i>Nature News</i> [source]	2024