JAZLYN MOONEY
University of Southern California
1050 Childs Way Building: Ray R. Irani Hall
Los Angeles, CA 90089
email: jazlynmo@usc.edu
website: https://mooney-lab.github.io/

APPOINTMENTS

University of Southern California
Gabilan Assistant Professor in Quantitative and Computational Biology   **2022-Present**

EDUCATION

Stanford University of California
Postdoc in Biology   **2020- January 2022**
Advisor: Noah Rosenberg

University of California Los Angeles
Ph.D. in Genetics and Genomics   **2015-September 2020**
Advisor: Kirk Lohmueller

University of New Mexico
BS with Honors Anthropology and Biology (Summa Cum Laude)   **2010-May 2014**
Honors Thesis: "Inferring Evolutionary History from Ancestry Informative Markers (AIMs)"
Advisor: Jeffrey Long

AWARDS AND HONORS

USC Women in Science and Engineering Gabilan Assistant Professorship	**2022**
UCLA Human Genetics Leena Peltonen Award winner	**2019**
Platform Session moderator for the American Society of Human Genetics annual meeting	**2018**
Presidential Scholarship at University of New Mexico	**2010-2014**
New Mexico Lottery Success ABQ Scholarship	**2010-2014**
Undergrad Minority Scholarship	**2013**
Honors Award/Anthropology Scholarship	**2013**
Enterprise Rent-a-Car Diversity Scholarship	**2011**
Dean's List at University of New Mexico	**2010-2014**

TEACHING EXPERIENCE

University of Southern California   **Spring 2024-**
Instructor for QBIO115g Ethics in Biology, Medicine, and Statistics
University of Southern California   **Spring 2023**
Co-Instructor for QBIO105 Introduction to Quantitative Biology Seminar
University of Southern California   **Fall 2022-**
Co-Instructor for QBIO475 Statistical and Evolutionary Genetics
San Francisco State University   **Fall 2020**
Instructor for BIOL 870 Biology Colloquium
University of California Los Angeles   **Fall 2020**
Co-instructor for HUMGEN 19: How Genetics has Contributed to Racial Injustice in America and the World
University of California Los Angeles   **Fall 2019**
Teaching Assistant for Population Genetics
University of California Los Angeles   **Fall 2017**
Computational instructor for Advanced Human Genetics
University of California Los Angeles   **Fall 2016**
Teaching Assistant Genetics

DEPARTMENTAL AND UNIVERSITY SERVICE

Member of Graduate Committee Jalen Langie (Epidemiology)	**2024**
Member of Graduate Committee Teagan Biatto (MEB)	**2024**
Co-organizer Center for Ecological and Evolutionary Dynamics (CEED) Seminar Series	**2023-**
Member of Graduate Committee Bryan Dinh (CBB)	**2023**
Member of Graduate Committee Yan Yin (Jenny) Cheung (MEB)	**2023**
Member of Graduate Committee Daniel Olivares-Cordero (MEB)	**2023**
Member of Graduate Committee Jenna Dilworth (MEB)	**2023**

Member of Master's Committee Caroline Solis (CSUN-EEB)	**2023**
Member of Graduate Committee Joseph Hale (MCB)	**2022**
Member of Graduate Committee Ilan Goldstein	**2022**
Member of Graduate Committee Dallace Francis (CBB)	**2022**
Faculty founder of Women and other Minoritized Genders in Computational Biology	**2022-**
Member of CBB graduate admissions committee	**2021-**

OTHER ACTIVITIES

Member of GSA Nominating Committee	**2024**
Co-organizer SACNAS Scientific/STEM Symposia Session Workshop *"Introduction to Data Analysis in R using the Tidyverse"*	**2022**
Co-organizer of SMBE 2021 symposium "*Population genetics of identity-by-descent and runs of homozygosity: causes, consequences, and utility*" with Zachary Szpiech	**2021**
Co-organizer SACNAS Scientific/STEM Symposia Session Workshop "*Beyond Excel: Data Visualization with RStudio to Improve Your Posters, Presentations, and Publications*"	**2019**
Student Advisory Committee Member for Graduate Programs in Bioscience (GPB) at UCLA	**2018-2020**
Organizing Committee, UCLA QCBio Annual Career Panel and Networking Event	**2017**
American Society of Human Genetics Member	**2015-2023**
Member of the Association for Multi-Ethnic Bioscientists' Advancement at UCLA	**2015-2020**
Founder and Chair of the Association for Multi-Ethnic Bioscientists' Advancement at UCLA	**2015-2020**
Primate Enrichment at Rio Grande Zoo in New Mexico	**2010-2015**

INVITED PRESENTATIONS

Seminar for The Center for Behavior Evolution and Culture, UCLA, Los Angeles, CA	**2024**
Seminar for Precision health and genomics: Indigenous Mentoring and Ethics (PrIME), CU Anschutz, Denver Colorado	**2024**
Seminar for the Department of Biology, CSUN, Los Angeles, CA	**2024**
Seminar for Opportunities in Research (MORE), Cal State East LA, Los Angeles, CA	**2024**
Seminar for the Department of Ecology and Evolutionary Biology, UCI, Irvine, California	**2023**
Seminar for the Department of Evolution, Ecology, and Organismal Biology, UCR, Riverside, CA	**2023**
Seminar for the San Diego Wildlife Alliance, Escondido, CA (*virtual*)	**2023**
Seminar for the Center of Ecological and Evolutionary Dynamics, Los Angeles, CA	**2023**
Seminar for the Natural History Museum Los Angeles County, Los Angeles, CA	**2022**
Seminar for Introduction to Genetics, Ethics, and Society, Stanford University, Stanford, CA	**2022**
Seminar for the USC Computational Biology Symposium, USC, Los Angeles, CA	**2022**
Seminar for the Molecular Biology Interdepartmental Doctoral Program, UCLA, Los Angeles, CA	**2022**
Seminar for The Center for Theoretical and Evolutionary Genetics, UC Berkeley, Berkeley, CA (*virtual*)	**2022**
Seminar for the Department of Ecology and Evolutionary Biology, U of A, Tucson, AZ	**2022**
Seminar for the Department of Ecology and Evolutionary Biology, MSU, Lansing, MI (*virtual*)	**2022**
Seminar for the Department of Biology, SDSU, San Diego, CA	**2022**
Seminar for Department of Biology, PSU, State College, PA	**2021**
Seminar for the Department of Genetics, UGA, Athens, GA (*virtual*)	**2021**
Seminar for the Department of Quantitative and Computational Biology, USC, Los Angeles, CA	**2021**
Seminar for the Molecular Biology Interdepartmental Doctoral Program, UCLA, Los Angeles, CA	**2021**
Seminar for the Department of Biology Colloquium, CSU Dominguez Hills, Carson, CA (*virtual*)	**2021**

CONFERENCE PRESENTATIONS

Eugenics Panel at The Allied Genetics Conference (TAGC)
> 2024 TAGC

Population genetics in Wild and Captive Populations of Conservation Concern: Challenges and Opportunities
> 2024 Keynote Conservation Genomic Paris

Considerations for Inferring Demography and Detecting Selection in Understudied Species in the Genomics Era
> 2024 Invited Speaker for SMBE 2024 session on New computational approaches to estimate past demographic events and natural selection

Armstrong EE, **Mooney JA**. Reference Bias Differentially Impacts Estimates of Genetic Load and Diversity: A Case Study in Canidae
> 2024 Plant and Animal Genomics (PAG) XXXI
> 2023 California Islands Symposia X

Armstrong EE, **Mooney JA**, Solari KA, Kim BY, Barsh GS, Grant VB, Greenbaum G, Kaelin CB, Panchenko K, Pickrell JK, Rosenberg N., et al. *Unraveling the Genomic Diversity and Evolutionary History of Captive Tigers in the United States*.
> 2023 Evolution

Mooney JA, Marsden CD, Yohannes A, Wayne RK, Lohmueller KE. *Long-term small population size, deleterious variation, and altitude adaptation in the Ethiopian wolf, a severely endangered canid*.

        2023 Plant and Animal Genomics (PAG) XXX *Invited Presentation*

Mooney JA, Agranat-Tamir L, Pritchard JK, Rosenberg NA. *On the number of genealogical ancestors tracing to the source groups of an admixed population.*
        2022 American Society of Human Genetics (ASHG)
        2022 USC Computational Biology Symposium
        2022 Computational Genomics Summer Institute (CGSI) Symposium

Mooney JA, Yohannes A, Lohmueller KE. *The impact of identity by descent on fitness and disease in dogs.*
        2021 Society for Molecular Biology and Evolution (SMBE)
        2020 Society for Molecular Biology and Evolution (SMBE)

Mooney JA, Huber CD, Service S, Sul JH, Marsden CD, Zhang Z, Sabatti C, Ruiz-Linares A, Bedoya G, Fears SC, Kremeyer B, et al. *Understanding the hidden complexity of Latin American population isolates.*
        2018 Bay Area Population Genomics (BAPG)
        2018 Informatics Center for Neurogenetics and Neurogenomics (ICNN) Symposium

EDITORIAL ACTIVITIES

Guest Editor for BMC Biology: Conservation genomics collection

INVITED REVIEWER FOR

Science, American Journal of Human Genetics, American Journal of Biological Anthropology, Molecular Biology and Evolution, PLoS Genetics, Frontiers in Genetics, Evolution Letters, Evolutionary Applications, Proceedings of the National Academy of Sciences, Heredity

PREPRINTS

Armstrong EE, **Li, C**, Campana, MG, **Ferrari, T**, Kelley, JL, Petrov,DA, Solari, KA, **Mooney, JA**. Recommendations for Population and Individual Diagnostic SNP Selection in Non-Model Species. [Preprint]. 2024 July 06. DOI: 10.1101/2024.07.03.601943

        Co-corresponding author. I supervised QBIO lab trainees Chenyang (Julie) Li and Tessa Ferrari, guided analyses, developed code, and drafted the manuscript. In revision at Molecular Ecology Resources.

Ferrari,T, Feng,S, Zhang,X,, **Mooney,JA.** Towards Simulation Optimization: An Examination of the Impact of Scaling on Coalescent and Forward Simulations. [Preprint]. 2024 April 29. DOI: 10.1101/2024.04.27.591463

        Co-corresponding author. I supervised QBIO lab trainee Tessa Ferrari, guided analyses, developed code, and drafted the manuscript. In revision at Genome Biology and Evolution.

Sweetalana, **Nataneli, S, Mooney, JA**, Szpiech. ZA. Genotypic and phenotypic consequences of domestication in dogs. [Preprint]. 2024 May 05. DOI: 10.1101/2024.05.01.592072

        Co-corresponding author. I guided analyses, developed code, and drafted the manuscript. In revision at Molecular Ecology.

Kreger, J, **Mooney, JA**, Shibata, D, MacLean, AL. Developmental hematopoietic stem cell variation explains clonal hematopoiesis later in life. [Preprint]. 2024 March 05. DOI: 10.1101/2024.03.02.583106

        I helped guide analyses, drafted the manuscript, and helped with revision. In revision at Nature Communications.

PEER REVIEWED PUBLICATIONS

Armstrong EE, **Mooney JA**, Solari KA, Kim BY, Barsh GS, Grant VB, Greenbaum G, Kaelin CB, Panchenko K, Pickrell JK, Rosenberg NA, Ryder OA, Yokoyama T, Ramakrishnan U, Petrov DA, and Hadly EA. Unraveling the genomic diversity and admixture history of captive tigers in the United States. Proc. Natl. Acad. Sci. 121, e2402924121 (2024). doi: 10.1073/pnas.2402924121. Epub 2024 Sep 19. PMID: 39298482.

        Co-first and Co-corresponding author. I worked with Ellie Armstrong (co-first author) on this project. I did many of the analyses and drafted the manuscript. I worked on the submission, correspondence with editor, revisions, and revisions of the manuscript.

Agranat-Tamir L, **Mooney JA**, Rosenberg NA. Counting the genetic ancestors from source populations in members of an admixed population. Genetics. 2024 Apr 3;226(4):iyae011. doi: 10.1093/genetics/iyae011. PMID: 38289724; PMCID: PMC10990421.

        My primary work was on the foundation for this paper, the results from my publication on genealogical ancestors were used as the base to compute genetic ancestors. I read and provided feedback on the manuscript. This manuscript has been resubmitted to Genetics.

Armstrong EE, Bissell KL, Fatima HS, Heikkinen MA, Jessup A, Junaid MO, Lee DH, Lieb EC, Liem JT, Martin EM, Moreno M, Otgonbayar K, Romans BW, Royar K, Adler MB, Needle DB, Harkess A, Kelley JL, **Mooney JA,** Mychajliw AM. Chromosome-level assembly of the gray fox (Urocyon cinereoargenteus) confirms the basal loss of PRDM9 in Canidae. G3 (Bethesda). 2024 Apr 3;14(4):jkae034. doi: 10.1093/g3journal/jkae034. PMID: 38366575; PMCID: PMC10989890.

I am co-last and co-corresponding for the first gray fox reference genome paper. I helped shape the paper and analyses. I provided essential data for PRDM9 analyses.

Mooney JA, Agranat-Tamir L, Pritchard JK, Rosenberg NA. On the number of genealogical ancestors tracing to the source groups of an admixed population. Genetics. 2023 Jul 6;224(3). doi: 10.1093/genetics/iyad079. PubMed PMID: 37410594; PubMed Central PMCID: PMC10324943.

First author. I developed code, conducted analyses, and wrote the manuscript.

Mooney JA, Marsden CD, Yohannes A, Wayne RK, Lohmueller KE. Long-term Small Population Size, Deleterious Variation, and Altitude Adaptation in the Ethiopian Wolf, a Severely Endangered Canid. Mol Biol Evol. 2023 Jan 4;40(1) PubMed Central PMCID: PMC9847632.

First author and co-corresponding. I developed code, conducted analyses, advised undergraduate trainee Abigail Yohannes, and wrote the manuscript.

Mooney JA, Yohannes A, Lohmueller KE. The impact of identity by descent on fitness and disease in dogs. Proc Natl Acad Sci U S A. 2021 Apr 20;118(16) PubMed Central PMCID: PMC8072400.

First author. I developed code, conducted analyses, advised undergraduate Abigail Yohannes, and wrote manuscript.

Sura SA, Smith LL, Ambrose MR, Amorim CEG, Beichman AC, Gomez ACR, Juhn M, Kandlikar GS, Miller JS, **Mooney JA**, Mummah RO, Lohmueller KE, Lloyd-Smith JO. Ten simple rules for giving an effective academic job talk. PLoS Comput Biol. 2019 Jul;15(7):e1007163. doi: 10.1371/journal.pcbi.1007163. eCollection 2019 Jul. PubMed PMID: 31344032; PubMed Central PMCID: PMC6657819.

Assisted with figures and reading the manuscript.

Mooney JA, Huber CD, Service S, Sul JH, Marsden CD, Zhang Z, Sabatti C, Ruiz-Linares A, Bedoya G, Freimer N, Lohmueller KE. Understanding the Hidden Complexity of Latin American Population Isolates. Am J Hum Genet. 2018 Nov 1;103(5):707-726. PubMed Central PMCID:PMC6218714.

First author. I developed code, conducted all but one analysis, and wrote the manuscript.

RESEARCH SUPERVISION

Maria Akopyan, Quantitative Biology Postdoctoral Fellow, USC	**2023-**
Shirin Nataneli, Computational Biology and Bioinformatics Graduate Student, USC	**2023-**
Tessa Ferrari, Quantitative Biology undergraduate student, USC Current position Research Technician I in Mooney Lab at USC	**2022-**
Chenyang (Julie) Li, Quantitative Biology Undergraduate student, USC Current position: Graduate student Emory PBEE	**2022-2024**
Tina Lasisi, Quantitative Biology Postdoctoral Fellow, USC Current position: Assistant Professor University of Michigan Department of Anthropology	**2022-2023**
Anika Shrivastava, Quantitative Biology Undergraduate student, USC	**2022-**
Mengdi Chai, Quantitative Biology Undergraduate student, USC Current position: Harvard Master of Science in Computational Biology and Quantitative Genetics	**2022-2023**
Abigail Yohannes, Political Science Undergraduate student, UCLA Current position: North Carolina A&T Master of Science in Data Science and Engineering	**2019-2020**

PRIOR SUCCESSFUL RESEARCH FUNDING

National Science Foundation (NSF) Postdoctoral Research Fellow in Biology (PRFB)	**2021-2022**
Stanford Propel Postdoctoral Scholars (decline for NSF PRFB)	**2021**
Stanford Center for Computational, Evolutionary, and Human Genetics (CEHG)	**2020-2021**
UCLA Dissertation Year Fellowship	**2019**
Graduate Programs in Bioscience Fellowship Incentive Program/Shine Fellowship	**2016**
National Science Foundation Graduate Research Fellowship	**2015**

GRANTS AND FUNDING

NIH R35 ESI-Maximizing Investigators' Research Award (MIRA) **Title**: Population Genomics Across Global Populations: Flexible Methods for Inference and Detecting Rare Recessive Variation **Amount**:2,056,520 **Role**: PI	**2024** **Submitted**
NSF CAREER **Title**: Advanced Computational Methods and Population Genomics for Conservation: Assessing Genetic Diversity, Extinction Risk, and Reference Genome Bias **Amount**:1,170,326 **Role**: PI	**2024** **Submitted**
HHMI Freeman Hrabowski **Title**: Unifying population genetics and comparative genomics for demographic inference and quantifying rare recessive variation **Role**: PI	**2024** **Submitted**
NSF CAREER **Title**: Advanced Computational Methods and Population Genomics for Conservation: Assessing Genetic Diversity, Extinction Risk, and Reference Genome Bias **Amount**:1,170,326 **Role**: PI	**2023** **Not Funded**
NIH R25 Genome Research Experiences to Attract Talented Undergraduates into Genomic Fields to Enhance Diversity (GREAT) **Title**: Enabling research experience in bioinformatics data science to attract underrepresented undergraduates into genomics **Amount**:1,836,782 **Role**: co-PI	**2023** **Not Funded**
President's Sustainability Research Award (PSRA) **Title** Integrating threat distributions with susceptibility distributions to improve conservation outcomes for pollinators **Amount**:250,000 **Role**: co-PI	**2023** **Not Funded**
NIH R35 ESI-Maximizing Investigators' Research Award (MIRA) **Title**: Unifying population genetics and comparative genomics for demographic inference and quantifying rare recessive variation **Amount**:2,044,300 **Role**: PI	**2022** **Not Funded**
NIH R25 Genome Research Experiences to Attract Talented Undergraduates into Genomic Fields to Enhance Diversity (GREAT) **Title**: Enabling research experience in bioinformatics data science to attract underrepresented undergraduates into genomics **Amount**:1,836,555 **Role**: co-PI	**2022** **Not Funded**
HHMI Freeman Hrabowski **Title**: Unifying population genetics and comparative genomics for demographic inference and quantifying rare recessive variation **Role**: PI	**2022** **Not Funded**