Curriculum Vitae
Iman Hamid

Contact Information:
Email: imanhamid95@gmail.com

Education:

Duke, University Program in Genetics and Genomics, PhD
2017-present
Advisor: Dr. Amy Goldberg
Certificate in College Teaching
GPA: 4.0

UCLA, Major in Biology, Bachelor of Science
2013-2016
Departmental Highest Honors, Summa cum laude
GPA: 4.0

Current Work:

Scientist, Population Genetics at Variant Bio: May 2021-Nov 2022 & May 2022-present
I am passionate about advancing computational and statistical methods to study genetic variation. I currently develop and implement population and statistical genetic methods to identify associations with clinically relevant traits, design and test approaches for unique population histories and genetic architectures (admixed & founder populations), validate associations and variant-to-gene confidence using literature / public databases for drug target prioritization, communicate results to cross-functional teams and internal/external stakeholders and partners.

Past Research Experience:

Graduate Researcher (PhD), Duke University: August 2017 – Feb 2022
My dissertation research focused on how selection can quickly shape genetic variation in recently admixed populations. Through this research, I integrated genetic ancestry information and genomic simulations to detect adaptation in populations with mixed ancestry, conceived and implemented new summary statistics to characterize evolutionary history in admixed populations, and developed novel applications of machine learning and computer vision methods to localize adaptive genetic variants.

NASA Ames Research Center, Space Biosciences Division: June 2016 – June 2017
I worked as Research Associate under Drs. Sharmila Bhattacharya and Ravikumar Hosamani to investigate the biomedical impacts of long-term spaceflight. I worked to determine the genetic and molecular responses to hypergravity-induced endoplasmic reticulum stress in Drosophila melanogaster. I also worked on characterizing the loss of dopaminergic neurons and associated behavioral changes in flies exposed to chronic hypergravity.

Honors Research in Ecology and Evolutionary Biology: March 2015-March 2016
I worked with graduate student Deborah Bird in Dr. Blaire Van Valkenburgh's functional morphology lab. Using 3D models rendered from skull CT scans, we studied differences in olfactory skull morphology, specifically the cribriform plate, across the order Carnivora. We asked whether these differences were a result of ecology or phylogeny and tested the predictions that olfactory gene repertoires reflected ecological reliance on olfaction and that aquatic animals have evolved smaller olfactory anatomy as compared with terrestrial species.

Teaching Experience:

Instructor: Fall 2021

Course: *Human evolutionary genetics*

Topics: population genetics, computational genomics methods, human evolution

Teaching Assistantship: Fall 2019

Course: *Gateway to Biology: Molecular Biology*

Duties: laboratory instruction, office hours, grading

Guest Lecture: Fall 2020 (planned: November 16, 2020)

Course: *Evolution* – Monmouth University, invited by Dr. Megan Phifer-Rixey

Topics: population history, adaptation, genetic variation, evolution

Other Work Experience:

GCB Summer Scholars Program in Genome Sciences and Medicine: May – July 2018

I worked under Dr. Susanne Haga as a graduate assistant for this summer research opportunity for freshmen and sophomore underrepresented minority undergraduates. I mentored nine students while they worked on their research, abstracts, and posters. I also designed and led workshops on communicating with advisors and applying to graduate schools.

Publications:

Hamid I, Korunes K, Schrider D, Goldberg A. Localizing Post-Admixture Adaptive Variants with Object Detection on Ancestry-Painted Chromosomes. **2023**. *Molecular Biology and Evolution*, 40: msad074

Hamid I, Korunes K, Beleza S, Goldberg A. Rapid adaptation to malaria facilitated by admixture in the human population of Cabo Verde. **2021**. *eLife*, 10:e63177

Bird DJ, Hamid I, Fox-Rosales L, Van Valkenburgh B. Olfaction at depth: Cribriform plate size declines with dive depth and duration in aquatic arctoid carnivorans. **2020**. *Ecology and Evolution*, 10: 6929-6953.

Marion SB, Hamid I, Manzano-Winkler B, Noor MAF. Naturally occurring recessive lethal alleles in a natural population of Drosophila melanogaster appear to result from single locus loss of function effects. **2018**. *Drosophila Information Service*, 101: 60-63.

Bird DJ, Murphy WJ, Fox-Rosales L, Hamid I, Eagle RA, Van Valkenburgh B. Olfaction written in bone: Cribriform plate size parallels olfactory receptor gene repertoires in Mammalia. **2018**. *Proceedings of the Royal Society B,* 285: 20180100.

Posters and Presentations (^*indicates presenter*)**:**

Hamid I^, Korunes K, Beleza S, Goldberg A. Ancestry-aware statistics for detecting rapid adaptation in admixed populations. Poster Presentation, EMBO PopGen, Procida, Italy, April 2020, POSTPONED MARCH **2021**: COVID-19.

Hamid I^, Korunes K, Beleza S, Goldberg A. Rapid adaptation to malaria in under 20 generations in the admixed human population of Cape Verde. Oral presentation, Club EvMed Student Spotlight, Virtual, September **2020**.

Hamid I^, Korunes K, Beleza S, Goldberg A. Rapid adaptation to malaria in an admixed population from Cape Verde. Poster Presentation, SMBE, Québec City, Canada, June **2020**, CANCELLED: COVID-19.

Hamid I, Korunes K, Beleza S, Goldberg A^. Characterizing strong adaptation in an admixed population over 20 generations. Oral Presentation, TAGC, Washington, DC, April **2020**, VIRTUAL: COVID-19.

Hamid I^, Marion S*, Glenn E, Noor M. Identifying the genetic basis and distribution of lethal mutations in a natural population of Drosophila melanogaster. Poster presentation, Evolution, Providence, RI, June **2019**.

Hamid I^, Hosamani R, Bhattacharya S. Hypergravity, Endoplasmic Reticulum Stress, and the Unfolded Protein Response in Drosophila. Oral presentation, American Society for Gravitational and Space Research, Cleveland, OH, October **2016**.

Honors and Awards:

Bass Instructional Fellowship: Instructor of Record (2020)
NSF Graduate Research Fellowship Honorable Mention (2019)
Duke Graduate School Dean's Graduate Fellowship (2017)
Duke BioCoRE Scholar (2017-present)
Phi Beta Kappa National Honor Society (2016-present)
Golden Key International Honour Society (2015-present)
Jo-Belle Wolf Scholarship (2015)
Ella Okern Scholarship (2015)
Phi Eta Sigma Honor Society (2014-present)
Alpha Lambda Delta Honor Society (2014-present)
WM Stout Memorial Scholarship (2014)
Rose Gilbert in Memory of Maggie Gilbert Honors Scholarship (2014)
UCLA Achievement Scholarship (2013-2016)
UCLA University Grant (2013-2015)
UCLA Scholarship Recognition Award (2013)
UCLA May Ballard Scholarship (2013)
UCLA A. & R. Miller Scholarship (2013)
FEEA- Federal Employee Scholarship (2013)
NARFE Scholarship (2013)

Outreach:

MicroMoles: Learning STEMs from Curiosity: 2018-present

I am the President and Founder of this student group which writes short, illustrated children's stories based on recent graduate student publications.

UNC Morehead Planetarium IMPACTS Scholar: 2018-2019

As an IMPACTS scientist, I worked with professional informal science educators to design and conduct science-related classroom and community expo activities for the local community.

NC Museum of Natural Sciences: 2017-2019

I was a regular volunteer at the Visual World Investigate Lab, where I facilitated public interactions and explorations of the NCMNS makerspace.

DOinGG: 2017-present

I am a participant in my graduate program's outreach activities geared towards scientific education and communication to local schools.

Project Literacy at UCLA: 2015-2016

I mentored students from underprivileged backgrounds in academic and personal aspects. The aim is to improve literacy rates in students (all grade levels) from local schools and encourage them to pursue higher education.

Leadership & Involvement:
Volunteerism Employee Resource Group Lead: 2023-present
BioCoRE Professional Development Student Leadership Team: 2020-2022
Representative, Graduate and Professional Student Council General Assembly: 2018-2020
Committee Member, Genetics and Genomics Recruitment: 2017-2018
Recruitment for Duke Graduate School at ABRCMS: November 2018