

Wanjun Gu

286 N Mayfair Ave, Daly City, CA 94015

Wanjun.gu@ucsf.edu • (949) 771-4066 • <https://www.linkedin.com/in/wanjungu/>

Education

University of California, San Francisco, San Francisco, CA

Sept 2023 - Present

Ph.D., Biological and Medical Informatics

University of California, San Diego, La Jolla, CA

Sept 2016 - June 2020

B.S., Chemical Engineering

B.A., Economics - Econometrics and Quantitative Economics

Research Experience

Graduate Researcher, UC San Francisco

Sept 2023-Present

PI: Dr. Sergio Baranzini

- Using DNA-sequence-based machine learning models to interrogate whole genome sequencing datasets and GWAS summary statistics
- Using heterogenous biological knowledge graph to analyze bulk and single-cell RNA sequencing datasets
- Created an R library (bolt4jr) as an interface to retrieve network data from the neo4j bolt protocol

Research Data Scientist, UC San Diego School of Medicine

June 2020-Sept 2023

PI: Dr. Tatum Simonson¹, Dr. Rany Salem², Dr. Chantal Darquenne³

- ¹Identified convergent natural selection signals between the Andean and Tibetan highlanders.
- ¹Constructed a family genetics database with deep phenotyping of Latinx participants from El Centro, CA
- ¹Led five bulk and single-cell transcriptomics projects in the pulmonary division regarding sleep, meditation, kidney disease, E-cigarette exposure, and pulmonary hypertension
- ²Developed a novel statistical method to test for pleiotropy using GWAS summary statistics
- ²Performed quality-control on large-scale WGS files from the database of Genotypes and Phenotypes (dbGaP)
- ²Identified new genetic loci associated with glucose tolerance test outcomes in the HAPO dbGaP cohort.
- ²Created a GUI-based open-source variant annotation tool that specializes regulatory variants.
- ³Developed LobarGeom, a 4D-CT image segmentation software for the rat lungs
- ³Developed in-silico LADDER: a database for lung Aerosol dosimetry for drug and environmental research

Undergraduate Researcher, University of California, San Diego

Oct 2016-June 2020

PI: Dr. Judy Kim¹, PI: Dr. Tatum Simonson², PI: Dr. Chantal Darquenne³, PI: Dr. Francesco Paesani⁴

- (Oct 2016-Oct 2018) ¹Cultured and harvested bacteria cells to extract the protein Azurin, a model protein to study long-distance electron transfer
- (Nov 2017-June 2020) ²Studied genetic and physiological adaptation to altitude in Tibetan residents in Xining, Qinghai China (2200 m)
- (Dec 2018-June 2020) ³Proposed a model to showcase the heterogeneity of inhaled aerosol deposition in the mice lungs
- (Oct 2017-Jan 2018) ⁴Created scripts to calculate Lennard Jones potential energy of a system based on Monte Carlo simulation

Research Intern, University of Tokyo, Japan

June 2018-Sept 2018

PI: Dr. Keisuke Goda

- (June 2018-Aug 2018) Developed a Convolutional-Neural-Network-based machine learning algorithm to enhance the resolution of microscopic images

Volunteering Experience

Research Project Lead, UCSF AI4ALL

Jun 2024-Aug 2024

UCSF AI4ALL is a program promoting diversity and inclusion in the field of Artificial Intelligence (AI) and inspiring future leaders to know, think about, and use AI

- Led a 3-week-long summer program of a group of high-school students to bring an AI project of their proposal from start to finish

Scientist in Residence, Skype-A-Scientist

Oct 2024-Present

Skype-A-Scientist is a nonprofit educational organization that enables scientists to video conference with students in classrooms about cutting-edge research topics

- Introducing the concept of statistics and population genetics to middle-school and high-school students through virtual lectures
- Hosting Q&A sessions to answer questions from students interested in a career in research.

Data Scientist, Steps2Walk

Feb 2021-Present

Steps2Walk is a podiatrist's philanthropist organization that performs surgical care of disabling foot and ankle deformities while educating orthopedic surgeons in under-served regions of the world.

- Proposing a new classification system for Progressive Collapsing Foot Deformity (PCFD).
- Proposing a novel clinical metrics to guide surgical procedures of insertional Achilles tendinitis.

Guest Presenter, Expanding Your Horizons Conference (EYH)

Apr 2018, Apr 2019

EYH Conference supports underrepresented young women along their path to a STEM career

- Demonstrated the combustion of gummy bear candies (2018), and the extraction of DNA from strawberries (2019)

Leadership Experience

Science Policy Advocate, UCSF Federal Government Relations

Aug 2024

- Represented UCSF in discussions on precision medicine and research funding
- Provided expert insights on computational genomics and the continuation of large genome cohorts.

Co-founder, DIVOC Tutors, free tutoring service in response to COVID19.

Mar 2020-May 2021

Co-founder and President, Chinese Engineering Society at UC San Diego

Feb 2019-June 2021

International Student Peer Coach, Student Success Office at UC San Diego

Sept 2019-June 2020

Publications

Indicates co-authorship

Zhu, M., Sempson, S., **Gu, W.**, Wang, C., Sun, S., Hunt, K. J., et al. (2024). A modified method for measuring the calcaneal moment arm on weight-bearing computed tomography. J. Foot Ankle Res. 18, 338–341.

Zhu, M., **Gu, W.**, Wang, C., Sun, S., Sempson, S., Zhang, M., et al. (2024). Different positions of weightbearing CT images can influence the hindfoot alignment evaluation using 2-dimensional methodology. Foot Ankle Int. 45, 1390–1396.

Gu, W., Mirsaidi-Madjdabadi, S., Ramirez, F., Jr, Simonson, T. S., and Makino, A. (2024).

Transcriptome meta-analysis of Kawasaki disease in humans and mice. Front. Pediatr. 12, 1423958.

Quinn T. Cowan, Sifeng Gu, **Wanjun Gu**, Brodie L. Ranzau, Tatum S. Simonson, Alexis C. Komor. Development of multiplexed orthogonal base editor (MOBE) systems. *Nature Biotechnology* (2024). <https://doi.org/10.1038/s41587-024-02240-0>

Elijah S. Lawrence[#], **Wanjun Gu**[#], Ryan Bohlender, Cecilia Anza-Ramirez, Amy M. Cole, James J. Yu, Hao Hu, Erica C. Heinrich, Katie M. O'Brien, Carlos A. Vasquez, Patrick T. Bruck, James E. Hall, Esteban A. Moya, Jennifer J. Reeves, Marco A. Bauk, Rany M. Salem, Jose-Luis Macarlupu, Noemi Corante, Eduardo Gaio, Keolu P. Fox, Alexis C. Komor, Atul Malhotra, Frank L. Powell, Gianpiero L. Cavalleri, Chad D. Huff, Francisco C. Villafuerte, and Tatum S. Simonson. "Evidence for convergent high-altitude adaptation at EPAS1/HIF2A in humans." *Science Advances* (Accepted in Jan 2024; Reference Number: adj5661)

K. A. O'Brien, **W. Gu**, J. A. Houck, L. M. W. Holzner, H. W. Yung, J. L. Armstrong, A. P. Sowton, R. Baxter, P. M. Darwin, L. Toledo-Jaldin, L. Lazo-Vega, A. E. Moreno-Aramayo, V. Miranda-Garrido, J. A. Shortt, C. J. Matarazzo, H. Yasini, G. J. Burton, L. G. Moore, T. S. Simonson, A. J. Murray, C. G. Julian, Genomic Selection Signals in Andean Highlanders Reveal Adaptive Placental Metabolic Phenotypes That Are Disrupted in Preeclampsia. *Hypertension*. 81, 319–329 (2024).

Moya EA, Yu JJ, Brown S, **Gu W**, Lawrence ES, Carlson R, Brandes A, Wegeng W, Amann K, McIntosh SE, Powell FL, Simonson TS. "Tibetans exhibit lower hemoglobin concentration and decreased heart response to hypoxia with distinct CO2 responses at intermediate altitude relative to Han Chinese." *Acta Physiologica* (2024) <https://doi.org/10.3389/fphys.2024.1334874>

M. Zhu, M. A. Maher, **W. Gu**, K. J. Hunt, M. S. Myerson, S. Li, Content validation of the progressive collapsing foot deformity classification. *Journal of the Foot & Ankle*. 17, 156–162 (2023).

Y. Li[#], **W. Gu**[#], M. Hepokoski, H. Pham, R. Tham, Y. C. Kim, T. S. Simonson, P. Singh, Energy Metabolism Dysregulation in Chronic Kidney Disease. *Kidney360*. 4, 1080–1094 (2023).

A. Sanchez-Azofra, **W. Gu**, J. A. Masso-Silva, D. Sanz-Rubio, M. Marin-Oto, P. Cubero, A. V. Gil, E. A. Moya, L. A. Barnes, O. A. Mesarwi, T. Marin, T. S. Simonson, L. E. Crotty Alexander, J. M. Marin, A. Malhotra, Inflammation biomarkers in OSA, chronic obstructive pulmonary disease, and chronic obstructive pulmonary disease/OSA overlap syndrome. *J. Clin. Sleep Med*. 19, 1447–1456 (2023).

Borojeni, A. A. T., **Gu, W.**, Asgharian, B., Price, O., Kuprat, A. P., Singh, R. K., Colby, S., Corley, R. A., & Darquenne, C. (2023). In Silico Quantification of Intersubject Variability on Aerosol Deposition in the Oral Airway. *Pharmaceutics*, 15(1), 160.

Cecilia Anza-Ramirez[#], **Wanjun Gu**[#], Jose-Luis Macarlupu, Romulo Figueroa-Mujica, Gustavo A Vizcardo-Galindo, Erica C Heinrich, Michael Tift, Harrieth Wagner, Peter David Wagner, Tatum S Simonson, Francisco C Villafuerte. "Preserved peak exercise capacity in Andean highlanders with Chronic Mountain Sickness both before and after isovolumic hemodilution." *The Journal of Applied Physiology* (Accepted in Nov 2022; Manuscript ID: JAPPL-00439-2022)

Sanchez-Azofra, A., Villafuerte, F. C., DeYoung, P. N., Gilbertson, D., **Gu, W.**, Moya, E. A., Vizcardo-Galindo, G., Figueroa-Mujica, R., Anza-Ramirez, C., Macarlupú, J. L., Pham, L. V., Wagner, P., Malhotra, A., Simonson, T. S., & Mesarwi, O. A. (2022). Isovolemic hemodilution in chronic mountain sickness acutely worsens nocturnal oxygenation and sleep apnea severity. *Journal of Clinical Sleep Medicine: JCSM: Official Publication of the American Academy of Sleep Medicine*. <https://doi.org/10.5664/jcsm.10136>

Asgharian, B., Price, O., Borojeni, A. A. T., Kuprat, A. P., Colby, S., Singh, R. K., **Gu, W.**, Corley, R. A., & Darquenne, C. (2022). Influence of Alveolar Mixing and Multiple Breaths of Aerosol Intake on Particle Deposition in the Human Lungs. *Journal of Aerosol Science*. (In production. <https://doi.org/10.2139/ssrn.4042662>)

Moshensky, A., Brand, C. S., Alhaddad, H., Shin, J., Masso-Silva, J. A., Advani, I., Gunge, D., Sharma, A., Mehta, S., Jahan, A., Nilaad, S., Olay, J., **Gu, W.**, Simonson, T., Almarghalani, D., Pham, J., Perera, S., Park, K., Al-Kolla, R., ... Crotty Alexander, L. E. (2022). Effects of mango and mint pod-based e-cigarette aerosol inhalation on inflammatory states of the brain, lung, heart, and colon in mice. *eLife*, 11. <https://doi.org/10.7554/eLife.67621>

Yu, J. J., Non, A. L., Heinrich, E. C., **Gu, W.**, Alcock, J., Moya, E. A., Lawrence, E. S., Tift, M. S., O'Brien, K. A., Storz, J. F., Signore, A. V., Khudyakov, J. I., Milsom, W. K., Wilson, S. M., Beall, C. M., Villafuerte, F. C., Stobdan, T., Julian, C. G., Moore, L. G., ... Simonson, T. S. (2022). Time Domains of Hypoxia Responses and -Omics Insights. *Frontiers in Physiology*, 13, 885295.

Li, S., Zhu, M., **Gu, W.**, Hamati, M., Hunt, K. J., de Cesar Netto, C., Simonson, T. S., & Myerson, M. S. (2022). Diagnostic Accuracy of the Progressive Collapsing Foot Deformity (PCFD) Classification. *Foot & Ankle International*., 43(6), 800–809.

Zhen, X., Moya, E. A., Gautane, M., Zhao, H., Lawrence, E. S., **Gu, W.**, Barnes, L. A., Yuan, J. X.-J., Jain, P. P., Xiong, M., Catalan Serra, P., Pham, L. V., Malhotra, A., Simonson, T. S., & Mesarwi, O. A. (2022). Combined intermittent and sustained hypoxia is a novel and deleterious cardio-metabolic phenotype. *Sleep*, 45(6). <https://doi.org/10.1093/sleep/zsab290>

Li, Ying, Mark Hepokoski, **Wanjun Gu**, Tatum Simonson, and Prabhleen Singh. 2021. "Targeting Mitochondria and Metabolism in Acute Kidney Injury." *Journal of Clinical Medicine Research* 10 (17): 3991.

Gu, W. & Darquenne, C. Heterogeneity in lobar and near-acini deposition of inhaled aerosol in the mouse lung. *Journal of Aerosol Science*. 151, 105642 (2021)

Abstract, Posters and Presentations

Wanjun Gu, Erin N. Gilbertson, Sergio Baranzini, Rany S. Salem, John A. Capra. Machine learning reveals 3D regulatory mechanisms for height-associated haplotypes. Podium presentation and abstract accepted at the 2024 American Society of Human Genetics (ASHG) conference, Dever, CO, United States, November 2024

Wanjun Gu, Jiachen Xi, Binxi Xie, Steven Cao, Rany Salem. Simulating and Testing Pleiotropy from GWAS Summary Statistics. Abstract accepted at the 2024 American Society of Human Genetics (ASHG) conference, Dever, CO, United States, November 2024

Jane Li, **Wanjun Gu**, Rany Salem, Jingjing Li, Surya P Bhatt, Amy L. Non, Tatum S. Simonson. Neanderthal Introgressed Variants are Associated with Lung Function. Abstract accepted at the 2024 American Society of Human Genetics (ASHG) conference, Dever, CO, United States, November 2024

Wanjun Gu, Esteban Moya, Francisco Villafuerte, Tatum Simonson. Putatively adaptive missense variant at Adrenergic Receptor Alpha-1A associated with decreased risk of Chronic Mountain Sickness in Andean highlanders. Abstract accepted at 2023 American Physiological Summit (APS), Los Angeles, CA, United States, April 2023

Wanjun Gu, Sarah Mirsaidi-Madjdabadi, Francisco Ramirez, Tatum Simonson, Ayako Makino. The transcriptomic profile of Kawasaki Disease in humans and mice. Abstract accepted at 2023 American Physiological Summit (APS), Los Angeles, CA, United States, April 2023

Wanjun Gu. Distinct Genetic Markers Associated with COVID-19 Severity in Latinx Populations from the Americas. Featured presentation at the Physiologists APS California Chapter (CASP) Annual Conference, the Lundquist Institute for Biomedical Innovation at Harbor-UCLA Medical Center, Torrance, CA, Nov 2022

W. Gu, E. S. Lawrence, R. J. Bohlender, C. Anza-Ramirez, A. M. Cole, J. J. Yu, H. Hu, E. C. Heinrich, K. A. O'Brien, C. A. Vasquez, Q. T. Cowan, P. T. Bruck, K. Mercader, M. Alotaibi, T. Long, J. E. Hall, E. A. Moya, M. A. Bauk, J. J. Reeves, M. C. Kong, R. M. Salem, G. Vizcardo-Galindo, J-L. Macarlupu, R. Figueroa-Mujica, D. Bermudez, N. Corante, E. Gaio, K. P. Fox, V. Salomaa, A. S. Havulinna, A. J. Murray, A. Malhotra, F. L. Powell, M. Jain, A. C. Komor, G. L. Cavalleri, C. D. Huff, F. C. Villafuerte, T. S. Simonson (2022). Genetic and phenotypic high-altitude adaptation at EPAS1/HIF2A in Andean highlanders. Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

S. Fassardi, E. S. Lawrence, **W. Gu**, M. C. Kong, A. Lin, E. A. Moya, J. E. Hall, K. A. O'Brien, T. S. Simonson (2022). Identification of a putatively adaptive promoter variant in PRKAA1 in Andean highlanders and associations with hypoxia adaptation. Abstract and oral presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

E. Moya, J. Reeves, **W. Gu**, E. Lawrence, J. Hall, T. Simonson (2022). Cardiovascular associations and signals of selection at the Adrenergic Receptor Alpha-1A gene (ADRA1A) in high-altitude Andeans. Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

Hall, M. C. Kong, **W. Gu**, J. J. Yu, C. Anza-Ramirez, K. Fox, F. Villafuerte, M. Gotesman, T. S. Simonson (2022). Genetic variation related to the regulation and expression of hemoglobin isoforms among global populations. Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

V. Thaker, **W. Gu**, S. Cao, R. Salem (2022). Genome-wide association study analysis of glucose response in oral glucose tolerance test (OGTT). Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

K. O'Brien, **W. Gu**, J. A. Houck, L. M. W. Holzner, J. L. Armstrong, A. P. Sowton, P. M. Darwin, L. Toledo-Jaldin, L. G. Moore, A. J. Murray, T. S. Simonson, C. G. Julian (2022). Mechanisms of adaptation in high-altitude pregnancy: association of genotype with oxygen delivery and placental metabolism. Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

E. Richard, S. Cao, **W. Gu**, A. Shadyab, R. Salem (2022). Trans-ancestry genome-wide analysis of kidney disease in individuals with type 2 diabetes. Abstract and poster presentation at the American Society of Human Genetics (ASHG) conference, Los Angeles, CA, United States, Oct 2022

Wanjun Gu, Mingjie Zhu (presenter), Melissa L Carpenter, Kenneth J Hunt, Mark S Myerson, Shuyuan Li (2022). The Pathologic Achilles Insertion Angle (PAIA): A Novel Angular Measurement to Guide Both Evaluation and Treatment of Insertional Achilles Tendinopathy. Abstract and poster presentation at the Orthopedic Research Symposium at University of Colorado Boulder, Oct 2022

Wanjun Gu, Mingjie Zhu (presenter), Sera Sempson, Chao Wang, Mark S Myerson, Kenneth J Hunt, Mingzhu Zhang, Shuyuan Li. Foot and Ankle Offset (FAO) does not reflect the actual hindfoot alignment in cases involving ankle and/or sagittal foot and ankle deformities. American Orthopedic Foot and Ankle (AOFAS) annual meeting, Quebec, Canada, September 14-17, 2022.

Wanjun Gu, Mingjie Zhu (presenter), Sera Sempson, Chao Wang, Mark S Myerson, Kenneth J Hunt, Mingzhu Zhang, Shuyuan Li. Why is Foot and Ankle Offset (FAO) inadequate in assessing three dimensional hindfoot alignment on weightbearing CT scans: facts and mathematical evidence. European Foot & Ankle Society (EFAS) Congress 2022, Edinburgh, UK, October 27-29, 2022.

Wanjun Gu, Mingjie Zhu (presenter), Melissa Carpenter, Kenneth J Hunt, Mark S Myerson, Shuyuan Li. A novel personalized angular measurement to guide both evaluation and treatment of Insertional Achilles Tendinopathy. University of Colorado 4th Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship. Denver, USA, October 5, 2022.

Wanjun Gu, Mingjie Zhu (presenter), Melissa Carpenter, Kenneth J Hunt, Mark S Myerson, Shuyuan Li. A novel personalized angular measurement to guide both evaluation and treatment of Insertional Achilles Tendinopathy. European Foot & Ankle Society (EFAS) Congress 2022, Edinburgh, UK, October 27-29, 2022.

O'Brien KA, **Gu W**, Houck JA, Holzner LMW, Armstrong J, Sowton AP, Darwin PM, Toledo-Jaldin L, Moore LG, Murray AJ, Simonson TS, Julian CG. Mechanisms of adaptation in high-altitude pregnancy: association of genotype with oxygen delivery and placental metabolism. Annual meeting of the American society of human genetics USA 2022.

Katie A O'Brien, **Gu W**, Yu JJ, Lawrence ES, Hall JE, Murray AJ, Salem RM, Simonson TS. Identification of putatively adaptive variants in NOTCH1 in Andean highland natives and association with metabolic and ventilatory phenotypes in the Hispanic population. Notch Signaling in Development, Regeneration and Disease, Gordon Research Conference, Lewiston, ME, United States, July 17 - 22, 2022

Mingjie Zhu, **Wanjun Gu**, Chao Wang, Songmin Sun, Mingzhu Zhang, Shuyuan Li. The Spatial Orientation of The Foot: A Critical Step in Hindfoot Alignment Evaluation on Weight Bearing CT. International Federation of Foot and Ankle Societies (IFFAS) 7th Triennial Scientific Meeting, Santiago, Chile, April 28-30, 2022.

Shuyuan Li, Mingjie Zhu, **Wanjun Gu**, Michael A Hewitt, Sara Buckley, Kenneth J Hunt, Mark S Myerson. Content Validation of the Progressive Collapsing Foot Deformity Classification. International Federation of Foot and Ankle Societies (IFFAS) 7th Triennial Scientific Meeting, Santiago, Chile, April 28-30, 2022.

Shuyuan Li, **Wanjun Gu**, Chao Wang, Mingjie Zhu, Mingzhu Zhang. Foot and Ankle Offset (FAO) does not reflect the actual hindfoot alignment in cases involving ankle and/or sagittal foot and ankle deformities. International Federation of Foot and Ankle Societies (IFFAS) 7th Triennial Scientific Meeting, Santiago, Chile, April 28-30, 2022.

Sánchez-Azofra A, F. C. Villafuerte, P. N. DeYoung, D. Gilbertson, G. Vizcardo-Galindo, R. Figueroa-Mujica, C. Anza-Ramirez, J. L. Macarlupú, **W. Gu**, E. A. Moya, L. V. Pham, P. D. Wagner, A. Malhotra, T. S. Simonson, O. A. Mesarwi. Hemodilution in Chronic Mountain Sickness Worsens Nocturnal Oxygenation and Sleep Apnea Severity. American Thoracic Society Conference (San Francisco, 2022).

A.A.T. Borojeni, **W. Gu**, B. Asgharian, O. Price, A.P. Kuprat, R.K. Singh, S. Colby, R.A. Corley and C. Darquenne. "Quantifying inter-subject variability in oral airway aerosol deposition using computational fluid dynamics." Abstract submitted to the 2021 Society of Toxicology Conference (SOT), San Diego, CA

Shuyuan Li, Mingjie Zhu, **Wanjun Gu**, Mary Hamati, Kenneth Hunt, Cesar de Cesar Netto, Tatum Simonson, and Mark Myerson. "Diagnostic Accuracy and Content Validation of the new Progressive Collapsing Foot Deformity Classification." 2021 AOFAS (American Orthopedics Foot and Ankle Surgery). 2021, 09. Charlotte. e-Poster

Shuyuan Li, Mingjie Zhu, **Wanjun Gu**, et al. Diagnostic Accuracy and Content Validation of the Progressive Collapsing Foot Deformity (PCFD) Classification. Abstract submitted to AAOS (American Academy of Orthopaedic Surgeons) 2022 Annual Meeting, Chicago, IL

Ana Sanchez-Azofra, Francisco C. Villafuerte, Pamela N. DeYoung, Dillon Gilbertson, Gustavo Vizcardo-Galindo, Rómulo Figueroa-Mujica, Cecilia Anza-Ramirez, Jose L. Macarlupú, **Wanjun Gu**, Esteban Moya, Luu Pham, Peter Wagner, Atul Malhotra, Tatum S. Simonson, Omar A. Mesarwi. "Hemodilution in chronic mountain sickness worsens nocturnal oxygenation and sleep apnea severity." Abstract submitted to the American Thoracic Society International Conference, ATS 2022, San Francisco, CA

Gu, Wanjun, Tana Wuren, Ian Xu, Ga Qin, Ma Yan, Guan Wei, Harrieth Wagner, et al. 2020. "Exercise-induced Increase in Hemoglobin Concentration at Intermediate and High Altitudes in Andeans, Tibetans and Han Chinese." FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology 34 (S1): 1–1. Poster presented in: Experimental Biology 2019, San Diego, CA.

Gu, Wanjun, Tana Wuren, Ian Xu, Ga Qin, Ma Yan, Guan Wei, Harrieth Wagner, Ri-Li Ge, Peter Wagner, and Tatum Simonson. 2020. "Tibetan and Han Chinese Oxygen Transport at 2200 M and Simulated 4200 M during Peak Exercise." FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology 34 (S1): 1–1. Poster presented in: Experimental Biology 2019, San Diego, CA.

Gu, Wanjun, Tana Wuren, Ga Qin, Ma Yan, Guan Wei, Harrieth Wagner, Ri-Li Ge, Peter Wagner, and Tatum Simonson. 2020. "Tibetans and Han Chinese Residents at Intermediate Altitude Respond Differently to Chronic and Simulated Altitude-induced Hypoxia." FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology 34 (S1): 1–1. Poster presented in: Experimental Biology 2019, San Diego, CA.

Wanjun Gu, Chantal. Darquenne, Lobar deposition of inhaled aerosol in the mouse lung: preliminary analysis of the LAPD dataset. Abstract accepted and presentation given in 5th Aerosol Dosimetry Conference 2019, Irvine, CA.

Wanjun Gu, Machine Learning Based Microscopic Imaging Quality Enhancement. Report accepted and presentation given for UTRIP 2018 at University of Tokyo (https://www.s-tokyo.ac.jp/en/utrip/archive/2018/pdf/2_06.pdf), Tokyo, Japan

Yu JJ, Mercader K, **Gu W**, Watrous JD, Long T, Ding J, Anza C, Heinrich EC, Vizcardo G, Villafuerte FC, Jain M, Simonson TS. A multi-omics approach to identifying adaptive variants in high-altitude Andeans. Poster presented at: International Society for Mountain Medicine; 2021 Jun.

Moya EA, Yu JJ, Brown S, Lawrence ES, **Gu W**, Carlson R, Brandes A, Wegeng WA, Amann K, McIntosh SE, Powell FL, Simonson TS. Lower hemoglobin concentration and blunted heart rate responses to hypoxia in Tibetans at intermediate altitude. Poster presented at: International Society for Mountain Medicine; 2021 Jun.

Moya EA, Yu JJ, Brown S, Lawrence ES, **Gu W**, Carlson R, Brandes A, Wegeng WA, Amann K, McIntosh S, Powell FL, Simonson TS. Tibetans at intermediate altitude exhibit lower hemoglobin concentration and distinct responses to poikilocapnic hypoxia relative to Han Chinese residents. Poster presented at: Experimental Biology; 2021 Apr.

Heinrich, Erica C., Cecilia Anza-Ramirez, Michael S. Tift, Jose Luis Marcarlupu, Harrieth E. Wagner, Romulo Figueroa-Mujica, Gustavo Vizcardo-Galindo, **Gu W**, Wagner PD, Villafuerte FC, and Simonson TS. 2018. "Differences in Peak VO₂ among Healthy Andean Highlanders and Males with Chronic Mountain Sickness before and after Isovolemic Hemodilution at 4350m." FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology 32 (S1). https://doi.org/10.1096/fasebj.2018.32.1_supplement.lb412.

Honors and Awards

Travel Award at APS California Chapter 2022 Annual Conference

Nov 2022

Travel award and guest speaker at CASP conference at the Lundquist Institute/Harbor-UCLA Medical Center. Presentation title: Distinct Genetic Markers Associated with COVID-19 Severity in Latinx Populations from the Americas

Reviewers' Choice Abstract at American Society of Human Genetics (ASHG) Conference

Oct 2022

Abstract title: Genetic and phenotypic high-altitude adaptation at EPAS1/HIF2A in Andean highlanders

UC San Diego Triton Research & Experimental learning Scholars (TRELS)

July 2019

Research award for undergraduate students. Research focus: Effects of isovolemic hemodilution in the Andean highlanders

UC San Diego Chancellor's Research Excellence Scholarships (CRES)

June 2018

Summer research award for undergraduate students. Research focus: long-distance electron transfer using the model protein Azurin

Skills

Programming and Bioinformatics

- Scientific programming (R, Bash, Python, MATLAB)
- Network analysis: Neo4j, igraph, Networkx
- Population genetics: iHS, XP-EHH, Fst, Δ DAF, iSAFE
- Bulk/Single-cell transcriptomics: STAR, RSEM, DEseq, EBseq, Seurat
- Genome-wide association study: SAIGE, METAL, Mendelian Randomization
- Medical imaging analysis: ImageJ, 3D Slicer, EBImage

Leadership

- Scientific communication and mentorship
- Student organization management