

Wanjun Gu

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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 Specialization Track

Research Experience

Research Data Analyst, UC San Diego School of Medicine June 2020-Present

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

- ¹Identifying convergent natural selection signals between the Andean and Tibetan highlanders.
- ¹Constructing a family genetics database with deep phenotyping of Latinx participants from El Centro, CA.
- ¹Leading five bulk and single-cell transcriptomics projects in the pulmonary division regarding sleep, meditation, kidney disease, E-cigarette exposure, and pulmonary hypertension.
- ²Developing a novel statistical method to test for pleiotropy using GWAS summary statistics
- ²Performing quality-control on large-scale WGS files from the database of Genotypes and Phenotypes (dbGaP)
- ²Identifying new genetic loci associated with glucose tolerance test outcomes in the HAPO dbGaP cohort.
- ²Creating 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) Cultured and harvested bacteria cells to extract the protein Azurin, a model protein to study long-distance electron transfer.
- (Nov 2017-June 2020) Studied genetic and physiological adaptation to altitude in Tibetan residents in Xining, Qinghai China (2200 m).
- (Dec 2018-June 2020) Proposed a model to showcase the heterogeneity of inhaled aerosol deposition in the mice lungs.
- (Oct 2017-Jan 2018) Created 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

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

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

Li, Y.[#], **Gu, W.**[#], Hepokoski, M., Pham, H., Tham, R., Kim, Y. C., Simonson, T. S., & Singh, P. (2023). Energy Metabolism dysregulation in Chronic Kidney Disease. *Kidney360*.
<https://doi.org/10.34067/KID.0000000000000153>

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)

[Under Review]

Katie O'Brien, **Wanjun Gu**, Julie Houck, Lorenz Holzner, Hong Yung, Jenna Armstrong, Alice Sowton, Ruby Baxter, Paula Darwin, Lilian Toledo-Jaldin, Litzzi Lazo-Vega, Any Moreno-Aramayo, Valquiria Miranda-Garrido, Jonathan Shortt, Christopher Matarazzo, Hussna Yasini, Graham Burton, Lorna Moore, Tatum Simonson, Andrew Murray, and Colleen Julian “Genomic selection signals in Andean highlanders reveal adaptive placental metabolic phenotypes that are disrupted in preeclampsia.” *Hypertension* (Submitted in Jun 2022; Manuscript ID: HYPE/2023/21748)

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.” *Nature Communications* (Resubmitted in Oct 2022; Reference Number: NCOMMS-22-41795-T)

Ana Sanchez-Azofra, **Wanjun Gu**, Jorge A. Masso-Silva, David Sanz-Rubio, Marta Marin-Oto, Pablo Cubero, Ana V. Gil, Esteban M. Moya, Laura A. Barnes, Omar Mesarwi, Tatum S. Simonson, Laura Crotty Alexander, Jose M. Marin, Atul Malhotra. “IL-6, hs-CRP, and G-CSF as markers of COPD-OSA overlap syndrome.” *Sleep* (Resubmitted in Nov 2022; Manuscript ID: SLEEP-2022-0924)

Quinn T. Cowan, Sifeng Gu, **Wanjun Gu**, Brodie L. Ranzau, Tatum S. Simonson, Alexis C. Komor. “Development and Characterization of Multiplexed Orthogonal Base Editing Systems.” *Nature Biotechnology* (Submitted in May 2022; Manuscript ID: NBT-RA56912A)

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* (Submitted in Oct 2022; Manuscript ID: APH-2022-11-0399)

Abstract, Posters and Presentations

Wanjun Gu (2023), 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 (2023), 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 (2022). 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

Hall1, 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.u-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
- Population Genetics: iHS, XP-EHH, Fst, ΔDAF, 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

- Student Organization Management
- Mentoring and Peer Coaching

References

Dr. Atul Malhotra (Research Mentor)

Professor

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La Jolla, CA 92093

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amalhotra@health.ucsd.edu

Dr. Tatum Simonson (Research Mentor)

Associate Professor and John B. West Endowed Chair

Department of Medicine, Section of Physiology

Director, Center of Physiological Genomics of Low Oxygen (CPGLO)

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La Jolla, CA 92093

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Dr. Rany Salem (Research Mentor)

Assistant Professor

Department of Family Medicine & Public Health

University of California, San Diego

La Jolla, CA 92093

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