

Charleston W.K. Chiang

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Curriculum Vitae

Academic Appointment

2024-present	Associate Professor <i>with tenure</i> , University of Southern California Center for Genetic Epidemiology, Department of Population and Public Health Sciences Keck School of Medicine
2024-present	Associate Professor, University of Southern California (<i>joint</i>) Department of Quantitative and Computational Biology Dornsife College of Letters, Arts, and Sciences
2023-present	Associate Director, Center for Genetic Epidemiology
2022-present	Member, USC Norris Comprehensive Cancer Center Cancer Epidemiology Program
2019-2024	Assistant Professor, University of Southern California (<i>joint</i>) Department of Quantitative and Computational Biology Dornsife College of Letters, Arts, and Sciences
2018-2024	Assistant Professor, University of Southern California (<i>primary</i>) Center for Genetic Epidemiology, Department of Population and Public Health Sciences Keck School of Medicine

Education and Training

parental leaves in 2013 and 2016 (and 2022).

2017 [#]	Postdoctoral Research Fellow, UCLA Center for Neurobehavioral Genetics, Semel Institute
2015 [#]	Ruth L. Kirschstein NRSA Postdoctoral Research Fellow, UCLA Department of Ecology and Evolutionary Biology
2011	Ph.D., Genetics, Harvard University Division of Medical Sciences, Program in Biological and Biomedical Science Leder Human Biology and Translational Medicine Program Scholar Department of Genetics
2005	B.S., Microbiology, Immunology, and Molecular Genetics, UCLA Mathematics (minor), Statistics (minor) Summa Cum Laude, College Honors Program Scholar

Funded Projects and Grants

Current

Years	Role	Source	Total Costs
2021-2026	PI (PI: Chiang)	NIGMS R35GM142783	\$2,035,683
An evolutionary framework to elucidate and interpret the genetic architecture of complex traits in diverse populations			
2022-2027	PI (PI: Chiang)	NHGRI R01HG011646	\$3,996,329
Leveraging the evolutionary history to improve identification of trait-associated alleles and risk stratification models in Native Hawaiians			
2023-2027	PI (PI: Chiang)	NHGRI R01HG012605	\$2,160,123
A genome-wide genealogical framework for statistical and population genetic analysis			

2021-2026	co-I	(PI: Mancuso)	NHGRI R01HG012133	\$4,205,166
Characterizing the evolutionary architecture of complex disease within and across diverse populations				
2022-2027	co-I	(PI: de Smith)	NCI R01CA248771	\$3,815,580
Understanding the increased risk of childhood acute lymphoblastic leukemia in Latinos				
2024-2029	co-I	(PI: Darst)	NHLBI R01HL174378	\$3,587,678
Leveraging metabolomics to identify factors contributing to health disparities in Native Hawaiian individuals				

Mentored Trainee Grants

2022-2024	Mentor	(PI: Bryan L. Dinh)	NHGRI F31HG012159	\$138,108
Genomic resources and references for genetic investigation of an understudied population				
2023-2027	Mentor	(PI: Jalen Langie)	NCI F31CA278359	\$190,776
Exploring the impact of genetic ancestry on acute lymphoblastic leukemia risk in Latino populations				

Publications

Numerically **bolded** (including equal contributions): **12** first-, **22** corresponding- or senior- authorship

* equal contributions, † corresponding author, **bolded names** denote group member

Through 2023, 33 out of 60 publications were in journals with impact factor (IF) > 8 at the year of publication.

Preprints and manuscripts in preparation

72. Agasaro O*, Xu H*, Sheng X, Fuller H, Albanes D, Conti DV, Haiman CA, **Chiang CWK**, Ye K, Darst BF. "Circulating metabolite levels vary by genetic ancestry in diverse populations." *In preparation*
71. **Langie J**, **Chan TF**, Yang W, Kang AY, Morimoto L, Stram DO, Mancuso N, Ma X, Metayer C, Lupo PJ, Rabin KR, Scheurer ME, Wiemels JL, Yang JJ, de Smith AJ*, **Chiang CWK***†. "The impact of Indigenous American-like ancestry on risk of acute lymphoblastic leukemia in Hispanic/Latino children." **medRxiv** 2025: <https://www.medrxiv.org/content/10.1101/2025.01.14.25320563v1>. *In review at Am J Hum Genet.*
70. **Tang J**, **Chiang CWK***†. "A genealogy-based approach for revealing ancestry-specific structures in admixed populations." **bioRxiv** 2025: <https://www.biorxiv.org/content/10.1101/2025.01.10.632475v1> *In revision at Am J Hum Genet.*
69. **Malomane DK***†, Williams MP, Huber CD, Mangul S*, Abedalthagafi M*†, **Chiang CWK***†. "Patterns of population structure and genetic variation within the Saudi Arabian population." **bioRxiv** 2025: <https://www.biorxiv.org/content/10.1101/2025.01.10.632500v1>. *In review at Am J Hum Genet.*
68. Wang L, Xu H, Simons RL, Beach RL, Beach SR, Lei MK, Ong ML, Philibert R, Mielke MM, Sun Y, Lu Y, **Chiang CWK**, Darst BF, Ye K. "Higher African ancestry proportion is associated with an attenuated increase of serum phosphorylated tau181 in a longitudinal study of aging African Americans." *In revision at Neurology.*
67. Streicher SA, Guillermo C, Park SY, **Chiang CWK**, Sheng X, Bogumil D, Park SL, Cheng I, Stram DO, Conti DV, Haiman CA, Wilkens LR, Le Marchand L. "Characterizing cancer patterns in Okinawan vs. mainland Japanese Americans: The Multiethnic Cohort." *In review at Int. J. of Cancer.*

66. Im C, Raduski AR, Mills LJ, et al. "Genome-wide association study of childhood B-cell acute lymphoblastic leukemia reveals novel African ancestry-specific susceptibility loci." *In review at Nat Genet*.
65. Oleksyk TK*, Wolfsberger WW*, Huang YN, et al. "Challenges and recommendations in establishing national genomic projects" *In revision at Cell*.
64. Lu Y, Xu H, Sun Y, Ihejirika SA, **Chiang CWK**, Darst BF, Song S, Shen Y, Ye K. "Gene-diet interaction analysis in UK Biobank identified genetic loci that modify the association between fish oil supplementation and the incidence of dementia." **medRxiv** 2024: <https://www.medrxiv.org/content/10.1101/2024.11.08.24316999v1>. Submitted
63. Xu H, Sun Y, Francis M, Cheng CF, Modulla NTR, Brenna JT, **Chiang CWK**, Ye K. "Shared genetic basis informs the roles of polyunsaturated fatty acids in brain disorders." **medRxiv** 2023: <https://doi.org/10.1101/2023.10.03.23296500>. In revision at **J Lipid Res**.
62. Lo YC, Tian H, Chan TF, Jeon S, Alatorre K, Dinh B, Maskarinec G, Taparra K, Nakatsuka N, Yu M, Chen CY, Lin YF, Wilkens LR, Le Marchand L, Haiman CA, **Chiang CWK**[†]. "Transferability of polygenic scores for anthropometric traits and Type II Diabetes to the Native Hawaiian population." **medRxiv** 2023: <https://www.medrxiv.org/content/10.1101/2023.12.25.23300499v1>. In accepted at **Communications Biology**.
61. Fan C[†], Cahoon JL, Dinh BL, Ortega-Del Vecchyo VD, Huber CD, Edge MD, Mancuso N, **Chiang CWK**[†]. "A likelihood-based framework for demographic inference from genealogical trees." **bioRxiv** 2023: <https://www.biorxiv.org/content/10.1101/2023.10.10.561787v1>. In press at **Nature Genetics**.

Peer-Reviewed and Published

60. Metayer C, Spector LG, Scheurer ME, **Jeon S**, Scott RJ, Takagi M, Clavel J, Manabe A, Ma X, Hailu EM, Lupo PJ, Milne E, Urayama KY, Bonaventure A, Kato M, Meirhaeghe A, **Chiang CWK**, Morimoto LM, Wiemels JL. "One carbon (folate) metabolism and development of childhood acute lymphoblastic leukemia: a genetic pathway analysis from the Childhood Cancer and Leukemia International Consortium." **Cancer Epidemiol Biomarkers Prev**. 2024 Jun 21. doi: 10.1158/1055-9965.EPI-24-0189. Online ahead of print
59. Cahoon JL, Rui X*, Tang E*, Simons C, Langie J, Chen M, Lo YC, **Chiang CWK**[†]. "Imputation Accuracy Across Global Human Populations." **Am J Hum Genet**. 2024 May 2;111(5):979-989. doi: 10.1016/j.ajhg.2024.03.011. Epub 2024 Apr 10.
58. Hangai M, Kawagushi T, et al. "Genome-wide assessment of genetic risk loci for childhood acute lymphoblastic leukemia in Japanese patients." **Haematologica**. 2024 Apr 1;109(4):1247-1252. doi: 10.3324/haematol.2023.282914.
57. de Smith AJ*, Wahlster L*, **Jeon S***, Kachuri L, Black S, **Langie J**, Cato LD, Nakatsuka N, **Chan TF**, Xia G, Mazumder S, Yang W, Gazal S, Eng C, Hu D, Buchard EG, Ziv E, Metayer C, Mancuso N, Yang JJ, Ma X, Wiemels JL, Yu F*, **Chiang CWK***, Sankaran VG*. "A noncoding regulatory variant in *IKZF1* increases acute lymphoblastic leukemia risk in Hispanic/Latino children." **Cell Genom**. 2024 Apr 10;4(4):100526. doi: 10.1016/j.xgen.2024.100526. Epub 2024 Mar 26.
 - NCI Epidemiology and Genomics Research Program (EGRP) 2024 Research highlights
56. Brandt DYC[†], Huber CD[†], **Chiang CWK**[†], Ortega-Del Vecchyo VD[†]. "The Promise of Inferring the Past using the Ancestral Recombination Graph." **Genome Biol Evol**. 2024 Feb 1;16(2):evae005. doi: 10.1093/gbe/evae005.

55. **Dinh BL, Tang E**, Taparra K, Nakatsuka N, Chen F, **Chiang CWK[†]**. “Recombination map tailored to Native Hawaiians may improve robustness of genomic scans for positive selection.” **Hum Genet.** 2024 Jan;143(1):85-99. doi: 10.1007/s00439-023-02625-2. Epub 2023 Dec 29.
54. Link V, Schraiber JG, **Fan C, Dinh B**, Mancuso N, **Chiang CWK**, Edge MD. “Tree-based QTL mapping with expected local genetic relatedness matrices.” **Am J Hum Genet.** 2023 Dec 7;110(12):2077-2091. doi: 10.1016/j.ajhg.2023.10.017.
53. **Chan TF, Rui X**, Conti DV, Fornage M, Graff M, Haessler J, Haiman C, Highland HM, Jung SY, Kenny E, Kooperberg C, Le Marchand L, North KE, Tao R, Wojcik G, Gignoux CR, PAGE Consortium, **Chiang CWK***, Mancuso N*. “Estimating heritability explained by local ancestry and evaluating stratification bias in admixture mapping from summary statistics.” **Am J Hum Genet.** 2023 Nov 2;110(11):1853-1862. doi: 10.1016/j.ajhg.2023.09.012. Epub 2023 Oct 23.
52. **Jeon S, Lo YC**, Morimoto LM, Metayer C, Ma X, Wiemels JL, de Smith AJ, **Chiang CWK[†]**. “Evaluating Genomic Polygenic Risk Scores for Childhood Acute Lymphoblastic Leukemia in Latinos.” **HGG Adv.** 2023 Sep 13:100239. doi: 10.1016/j.xhgg.2023.100239.
51. **Sheng X**, Xia L, **Cahoon JL**, Conti DV, Haiman CA, Kachuri L, **Chiang CWK[†]**. “Inverted genomic regions between reference genome builds in humans impact imputation accuracy and decrease the power of association testing.” **HGG Adv.** 2022 Nov 11;4(1):100159. doi: 10.1016/j.xhgg.2022.100159. eCollection 2023 Jan 12.
50. Li S, **Chiang CWK**, Myint SS, Arroyo K, **Chan TF**, Morimoto L, Metayer C, de Smith AJ, Walsh KM, Wiemels JL. “Localized variation in ancestral admixture identifies pilocytic astrocytoma risk loci among Latino children.” **PLoS Genet.** 2022 Sep 7;18(9):e1010388. doi: 10.1371/journal.pgen.1010388.
49. Qin X, **Chiang CWK**, Gaggiotti OE. “Deciphering signatures of natural selection via deep learning.” **Brief Bioinform.** 2022 Sep 2:bbac354. doi: 10.1093/bib/bbac354.
48. Yu F, Cato LD, Weng C, Liggett LA, **Jeon S**, Xu K, **Chiang CWK**, Wiemels JL, Weissman JS, de Smith AJ, Sankaran VG. “Variant to function mapping at single-cell resolution through network propagation.” **Nat Biotechnol.** 2022 Jun 6. doi: 10.1038/s41587-022-01341-y.
47. Qin X, **Chiang CWK**, Gaggiotti OE. “KLFDAPC: a supervised machine learning approach for spatial genetic structure analysis.” **Brief Bioinform.** 2022 Jun 2:bbac202. doi: 10.1093/bib/bbac202.
46. **Fan C[†]**, Mancuso N*, **Chiang CWK*[†]**. “A genealogical estimate of genetic relationships.” **Am J Hum Genet.** 2022 May 5;109(5):812-824. doi: 10.1016/j.ajhg.2022.03.016.
45. Fernandez-Rhodes L, Graff M, et al. “Ancestral diversity improves discovery and fine-mapping of genetic loci for anthropometric traits – the Hispanic/Latino Anthropometry Consortium.” **HGG Adv.** 2022 Mar 11;3(2):100099. doi: 10.1016/j.xhgg.2022.100099.
44. **Jeon S**, de Smith AJ, Li S, **Chen M, Chan TF**, Muskens IS, Morimoto LM, Dewan AT, Mancuso N, Metayer C, Ma X, Wiemels JL[†], **Chiang CWK[†]**. “Genome-wide trans-ethnic meta-analysis identifies novel susceptibility loci for childhood acute lymphoblastic leukemia.” **Leukemia.** 2022 Mar;36(3):865-868. doi: 10.1038/s41375-021-01465-1.
43. Darst BF, Hughley R, et al. “A rare germline *HOXB13* variant contributes to risk of prostate cancer in men of African ancestry.” **Eur Urol.** 2022 Jan 11:S0302-2838(21)02271-5. doi: 10.1016/j.eururo.2021.12.023.

42. **Chen M[†], Chiang CWK[†]**. “Allele frequency differentiation at height-associated SNPs among continental human populations.” **Eur J Hum Genet**. 2021 Oct;29(10):1542-1548. doi: 10.1038/s41431-021-00938-2.
41. Kachuri L, **Jeon S**, DeWan AT, Metayer C, Ma X, Witte JS, **Chiang CWK**, Wiemels JL, de Smith AJ. “Genetic determinants of blood cell traits influence susceptibility to childhood acute lymphoblastic leukemia.” **Am J Hum Genet**. 2021 Oct 7;108(10):1823-1835. doi: 10.1016/j.ajhg.2021.08.004.
40. **Chiang CWK[†]**. “The opportunities and challenges of integrating population histories into genetic studies for diverse populations: a motivating example from Native Hawaiians.” **Front Genet**. 2021 Sep 27;12:643883. doi: 10.3389/fgene.2021.643883.
39. Ganel L, Chen L, Christ R, Vangipurapu J, Young E, Das I, Kanchi K, Larson D, Regier A, Abel H, Kang CJ, Scott A, Havulinna A, **Chiang CWK**, Service S, Freimer N, Palotie A, Ripatti S, Kuusisto J, Boehnke M, Laakso M, Locke A, Stitzel NO, Hall IM. “Mitochondrial genome copy number measured by DNA sequencing in human blood is strongly associated with metabolic traits via cell-type composition differences.” **Hum Genomics**. 2021 Jun 7;15(1):34. doi: 10.1186/s40246-021-00335-2.
38. Chen L, Abel HJ, Das I, Larson DE, Ganel L, Kanchi KL, Regier AA, Young EP, Kang CJ, Scott AJ, Chiang C, Wang X, Lu S, Christ R, Service SK, **Chiang CWK**, Havulinna AS, Kuusisto J, Boehnke M, Laakso M, Palotie A, Ripatti S, Freimer NB, Locke AE, Stitzel NO, Hall IM. “Association of structural variation with cardiometabolic traits in Finns.” **Am J Hum Genet**. 2021 Apr 1;108(4):583-596. doi: 10.1016/j.ajhg.2021.03.008.
37. Graff M, et al. “Discovery and fine-mapping of height loci via high-density imputation of GWASs in individuals of African ancestry.” **Am J Hum Genet**. 2021 Apr 1;108(4):564-582. doi: 10.1016/j.ajhg.2021.02.011.
36. **Sun H*, Lin M***, Russell EM, Minster RL, **Chan TF, Dinh BL**, Naseri T, Reupena MS, Lum-Jones A, OLaGA Study Group, Cheng I, Wilkens LR, Le Marchand L, Haiman CA, **Chiang CWK[†]**. “The impact of global and local Polynesian genetic ancestry on complex traits in Native Hawaiians.” **PLoS Genet**. 2021 Feb 11; doi: 10.1371/journal.pgen.1009273.
35. Iksan OA, et al. “Analysis of the Kazakh tribe Baiuly based on the distribution of the Y-chromosome haplogroups.” **Int J Biol Chem**. 2021 Jan; 13(2):80-87. doi: 10.26577/ijbch.2020.v13.i2.10.
34. Pua CJ, et al. “Genetic Studies of Hypertrophic Cardiomyopathy in Singaporeans Identify Variants in TNNI3 and TNNT2 that Are Common in Chinese Patients.” **Cir Genom Precis Med**. 2020 Oct;13(5):424-434. doi: 10.1161/CIRCGEN.119.002823.
33. Chen MH, Raffield LM, Mousas A, et al. “Trans-ethnic and Ancestry-Specific Blood-Cell Genetics in 746,667 individuals from 5 Global Populations.” **Cell**. 2020 Sep 3;182(5):1198-1213.e14. doi:10.1016/j.cell.2020.06.045.
32. **Lin M**, Caberto C, Wan P, Li Y, Lum-Jones A, Tiirikainen M, Pooler L, Nakamura B, Sheng X, Porcel J, Lim U, Setiawan VW, Le Marchand L, Wilkens LR, Haiman CA, Cheng I, **Chiang CWK[†]**. “Population-specific reference panels are crucial for the genetic analyses: an example of the *CREBRF* locus in Native Hawaiians.” **Hum Mol Genet**. 2020 Aug 3;29(13):2275-2284. doi: 10.1093/hmg/ddaa083.
31. **Chen M[†]**, Sidore C, Akiyama M, Ishigaki K, Kamatani Y, Schlessinger D, Cucca F, Okada Y, **Chiang CWK[†]**. “Evidence of Polygenic Adaptation in Sardinia at Height-Associated Loci Ascertained from the Biobank Japan.” **Am J Hum Genet**. 2020 Jul 2;107(1):60-71. doi: 10.1016/j.ajhg.2020.05.014.

30. Marcus JH, Posth C, Ringbauer H, Lai L, Skeates R, Sidore C, Beckett J, Furtwangler A, Olivieri A, **Chiang CWK**, Al-asadi H, Dey K, Joseph TA, Liu CC, Der Sarkissian C, Radzeviciute R, Michel M, Gradoli MG, Marongiu P, Rubino S, Mazzarello V, Rovina D, La Fragola A, Serra RM, Bandiera P, Bianucci R, Pompianu E, Murgia C, Guirguis M, Orquin RP, Tuross N, van Dommelen P, Haak W, Reich D, Schlessinger D, Cucca F, Krause J, Novembre J. "Genetic history from the Middle Neolithic to present on the Mediterranean island of Sardinia." **Nat Comm**. 2020 Feb 24;11(1):939. doi: 10.1038/s41467-020-14523-6.
29. de Smith AJ, Walsh KM, Morimoto LM, Francis SS, Hansen HM, **Jeon S**, Gonseth S, **Chen M**, **Sun H**, Luna-Fineman S, Antillón F, Girón V, Kang AY, Smirnov I, Shao X, Whitehead TP, Barcellos LF, Jolly KW, Healy J, Laverdière C, Sinnett D, Taub JW, Birch JM, Thompson PD, Pombo-de-Oliveira MS, Spector LG, DeWan AT, Mueller BA, **Chiang CWK**, Metayer C, Ma X, Wiemels JL. "Heritable variation at the chromosome 21 gene *ERG* is associated with acute lymphoblastic leukemia risk in children with and without Down syndrome." **Leukemia**. 2019 Nov;33(11):2746-2751. doi: 10.1038/s41375-019-0514-9.
28. Locke AE*, Steinberg KM*, **Chiang CWK***, Service S*, Havulinna A, Stell L, Pirinen M, Abel HJ, Chiang CC, Fulton RS, Jackson AU, Kang CJ, Kanchi KL, Koboldt DC, Larson DE, Nelson J, Nicholas TJ, Pietila A, Ramensky V, Ray D, Scott LJ, Stringham HM, Vangipurapu J, Welch R, Yajnik P, Yin X, Eriksson JG, Ala-Korpela M, Jarvelin MR, Manniko M, Laivouri H, FinnGen Project, Dutcher SK, Stitzel NO, Wilson RK, Hall IM, Sabatti C, Palotie A, Salomaa V, Laakso M, Ripatti S, Boehnke M, Freimer NB. "Exome sequencing of Finnish isolates enhances rare-variant association power." **Nature**. 2019 Aug;572(7769):323-328. doi: 10.1038/s41586-019-1457-z.
27. Sohail M, Maier RM, Ganna A, Bloemendal A, Martin AR, Turchin MC, **Chiang CWK**, Hirschhorn JN, Daly MJ, Patterson N, Neale B, Mathieson I, Reich D, Sunyaev SR. "Polygenic adaptation on height is overestimated due to uncorrected stratification in genome-wide association studies." **eLife**. 2019 Mar 21;8. Pii: e39702. doi: 10.7554/eLife.39702.
26. **Chiang CWK**[†], Mangul S, Robles C, Sankararaman S. "A comprehensive map of genetic variation in the world's largest ethnic group – Han Chinese." **Mol Bio Evol**. 2018 Nov 1;35(11):2736-2750. doi: 10.1093/molbev/msy170.
25. **Chiang CWK**[†], Marcus J, Sidore C, Biddanda A, Al-asadi H, Zoledziwska M, Pitzalis M, Busonero F, Maschio A, Pistis G, Steri M, Angius A, Lohmueller KE, Abecasis G, Schlessinger D, Cucca F, Novembre J[†]. "Genomic history of the Sardinian population." **Nat Genet**. 2018 Oct;50(10):1426-1434. doi: 10.1038/s41588-018-0215-8.
24. Ganna A, et al. "Quantifying the impact of rare and ultra-rare coding variation across the phenotypic spectrum." **Am J Hum Genet**. 2018 Jun 7;102(6):1204-1211. doi: 10.1016/j.ajhg.2018.05.002.
23. Kim DS, et al. "Novel association of TM6SF2 rs58542926 genotype with increased serum tyrosine levels and decreased apoB-100 particles in Finns." **J Lipid Res**. 2017 Jul;58(7):1471-1481. doi: 10.1194/jlr.P076034.
22. Ganel L, et al. "SVScore: an impact prediction tool for structural variation." **Bioinformatics**. 2017 Apr 1;33(7):1083-1085. doi: 10.1093/bioinformatics/btw789.
21. Reid JS, Jeff J, et al. "A principal component meta-analysis on multiple anthropometric traits identifies novel loci for body shape in >170,000 individuals of the GIANT Consortium." **Nat Commun**. 2016 Nov 23;7:13357. doi: 10.1038/ncomms13357.
20. Chen CH, Yang JH, **Chiang CWK**, Hsiung CN, Wu PE, Chang LC, Chang J, Song IW, Yang SL,

Chen YT, Liu FT, Shen CY. "Population structure of Han Chinese in the modern Taiwanese population based on 10,000 participants in the Taiwan Biobank project." **Hum Mol Genet.** 2016 Dec 15;25(24):5321-5331. doi: 10.1093/hmg/ddw346.

19. **Chiang CWK[†]**, Ralph, P, Novembre J[†]. "Conflations of short identity-by-descent segments bias their inferred length distribution." **G3: Genes, Genomes, Genetics.** 2016 May 1; 6(5):1287-1296. doi: 10.1534/g3.116.027581.
18. Winkler TW, Justic AE, Graff M, Barata L, et al. "The influence of age and sex on genetic associations with body composition: a large-scale genome-wide interaction study." **PLoS Genet.** 2015 Oct 1;11(10):e1005378. doi: 10.1371/journal.pgen.1005378. eCollection 2015 Oct.
17. Zoledziwska M*, Sidore C*, **Chiang CWK***, Sanna S*, Mulas A, Steri M, Busonero F, Marcus JH, Marongiu M, Maschio A, Del Vecchio DO, Floris M, Meloni A, Delitala A, Concas MP, Murgia F, Biino G, Vaccargiu S, Nagaraja R, Lohmueller KE; UK10K Consortium, Timpson NJ, Soranzo N, Tachmazidou I, Dedoussis G, Zeggini E; Understanding Society Scientific Group, Uzzau S, Jones C, Lyons R, Angius A, Abecasis GR, Novembre J, Schlessinger D, Cucca F. "Height-reducing variants and selection for short stature in Sardinia." **Nat Genet.** 2015 Nov;47(11):1272-81. doi: 10.1038/ng.3368.
16. Sidore C, Busonero F, Maschio A, Porcu E, Naitza S, Zoledziwska M, Mulas A, Pistis G, Steri M, Danjou F, Kwong A, Ortega Del Vecchio VD, **Chiang CWK**, Bragg-Gresham J, Pitzalis M, Nagaraja R, Tarrier B, Brennan C, Uzzau S, Fuchsberger C, Atzeni R, Reinier F, Berutti R, Huang J, Timpson NJ, Toniolo D, Gasparini P, Malerba G, Dedoussis G, Zeggini E, Soranzo N, Jones C, Lyons R, Angius A, Kang HM, Novembre J, Sanna S, Schlessinger D, Cucca F, Abecasis GR. "Genome sequencing elucidates Sardinian genetic architecture and augments association analyses for lipid and blood inflammatory markers." **Nat Genet.** 2015 Nov;47(11):1352-6. doi: 10.1038/ng.3403.
15. Yang WY, Platt A, **Chiang CWK**, Eskin E, Novembre J, Pasaniuc B. "Spatial localization of recent ancestors for admixed individuals." **G3: Genes, Genomes, Genetics.** 2014 Nov 3; 4(12):2505-18. doi: 10.1534/g3.114.014274.
14. Wang SR, Agarwala V, Flannick J, **Chiang CWK**, Altshuler D, GoT2D Consortium, Hirschhorn JN. "Simulation of Finnish population history, guided by empirical genetic data, to assess power of rare variant tests in Finland." **Am J Hum Genet.** 2014 May 1;94(5):710-20. doi: 10.1016/j.ajhg.2014.03.019.
13. Olalde I, Sanchez-Quinto F, Datta D, Marigorta UM, **Chiang CWK**, Rodriguez JA, Fernandez-Callejo M, Gonzalez I, Montfort M, Matas-Lalueza L, Civit S, Luiselli D, Charlier P, Pettener D, Ramirez O, Navarro A, Himmelbauer H, Marques-Bonet T, Lalueza-Fox C. "Genomic analysis of the blood attributed to Louis XVI (1754-1793), king of France." **Sci Rep.** 2014 Apr 24;4:4666. doi: 10.1038/srep04666.
12. Olalde I, Allentoft ME, Sanchez-Quinto F, Santpere G, **Chiang CWK**, DeGiorgio M, Prado-Martinez J, Rodriguez JA, Quilez J, Rasmussen S, Ramirez O, Marigorta UM, Fernandez-Callejo M, Prada ME, Encinas JM, Nielsen R, Netea MG, Novembre J, Sturm RA, Sabeti P, Marques-Bonet T, Navarro A, Willerslev E, Lalueza-Fox C. "Derived immune and ancestral pigmentation alleles in a 7,000-year-old Mesolithic European." **Nature.** 2014 Mar 13;507(7491):225-8. doi: 10.1038/nature12960.
11. Monda KL, Chen GK, Taylor KC, Palmer CD, et al. "A meta-analysis identifies new loci associated with body mass index in individuals of African ancestry." **Nat Genet.** 2013 Jun;45(6):690-6. doi: 10.1038/ng.2608.

10. Turchin MC*, **Chiang CWK***, Palmer CD, Sankararaman S, Reich D, Genetic Investigation of Anthropometric Traits (GIANT) Consortium, Hirschhorn JN. "Evidence of widespread selection on standing variation in Europe at height-associated SNPs." **Nat Genet.** 2012 Sep;44(9):1015-9. doi: 10.1038/ng.2368.
9. **Chiang CWK**, Liu CT, Lettre G, Lange LA, Jorgensen NW, Keating BJ, Vedantam S, Nock NL, Franceschini N, Reiner AP, Demerath EW, Boerwinkle E, Rotter JI, Wilson JG, North KE, Papanicolaou GJ, Cupples LA, Genetic Investigation of Anthropometric Traits (GIANT) consortium, Murabito JM, Hirschhorn JN. "Ultraconserved elements in the human genome: association and transmission analyses of highly constrained single-nucleotide polymorphisms." **Genetics.** 2012 Sep;192(1):253-66.
8. Dauber A, Yu Y, Turchin MC, **Chiang CWK**, Meng Y, Demerath EW, Patel SR, Rich SS, Rotter JI, Schreiner PJ, Wilson JG, Shen Y, Wu BL, Hirschhorn JN. "Genome-wide association of copy number variation reveals an association between short stature and the presence of low frequency genomic deletions." **Am J Hum Genet.** 2011 Dec 9;89(6):751-9.
7. **Chiang CWK**, Gajdos ZKZ, Korn JM, Butler JL, Hackett R, Guiducci C, Nguyen T, Wilks R, Forrester T, Henderson KD, Le Marchand L, Henderson BE, Haiman CA, Cooper RS, Lyon HN, Zhu X, McKenzie CA, Palmert MR, Hirschhorn JN. "The efficacy of detecting variants with small effects on the Affymetrix 6.0 platform using pooled DNA." **Hum Genet.** 2011 Nov;130(5):607-21.
6. Zhu X, Young JH, Fox E, et al. "Combined admixture mapping and association analysis identifies a novel blood pressure genetic locus on 5p13: contributions from the CARE consortium." **Hum Mol Genet.** 2011 Jun 1;20(11):2285-95.
5. Kang SJ*, **Chiang CWK***, Palmer CD*, Tayo BO, Lettre G, Butler JL, Hackett R, Adeyemo AA, Guiducci C, Berzins I, Nguyen TT, Feng T, Luke A, Shriner D, Ardlie K, Rotimi C, Wilks R, Forrester T, McKenzie CA, Lyon HN, Cooper RS, Zhu X, Hirschhorn JN. "Genome wide association of anthropometric traits in African and African derived populations." **Hum Mol Genet.** 2010 Jul 1;19(13):2725-38.
4. **Chiang CWK**, Gajdos ZKZ, Korn JM, Kuruvilla FG, Butler JL, Hackett R, Guiducci C, Nguyen T, Wilks R, Forrester T, Haiman C, Henderson KD, Le Marchand L, Henderson BE, Palmert MR, McKenzie CA, Lyon HN, Cooper RS, Zhu X, Hirschhorn JN. "Rapid assessment of genetic ancestry in populations of unknown origin by genome-wide genotyping of pooled samples." **PLoS Genet.** 2010;6(3):e1000866.
3. **Chiang CWK***, Derti A*, Schwartz D, Chou MF, Hirschhorn JN, Wu C-t. "Ultraconserved elements: Analyses of dosage sensitivity, motifs, and boundaries." **Genetics.** 2008 Dec;180(4):2277-93.
2. Keating BJ, Tischfield S, Murray SS, et al. "Concept, Design and Implementation of a Cardiovascular Gene-centric 50K SNP Array for Large-scale Genomic Association Studies." **PLoS ONE.** 2008;3(10):e3583.
1. Dewing P, **Chiang CWK**, Sinchak K, Sim H, Fernagut P, Kelly S, Chesselet M, Micevych P, Albrecht KH, Harley VR, Vilain E. "Direct regulation of adult brain function by the male-specific factor SRY." **Curr Biol.** 2006, Feb 21;16(4): 415-420.

Contributed Abstracts: Talks

bolded name denotes group member.

31. **Chiang CWK, Malomane DK**, Williams MP, Huber CD, Mangul S, Abedalthagafi M. "Patterns of population structure and genetic variation within the Saudi Arabian population." American Association of Biological Anthropologists (AABA), Baltimore, MD, Mar 2025.
30. Izarraras-Gomez A, Huber CD, **Chiang CWK**, Ortega-Del Vecchyo VD. "Inference of the distribution of fitness effects using local genealogies." Probabilistic Modeling in Genomics (ProbGen), Cold Spring Harbor, NY, Mar 2025.
29. **Tang J** and **Chiang CWK**. "A genealogy-based approach for revealing ancestry-specific structures in admixed populations." American Society of Human Genetics (ASHG), Denver, CO, Nov 2024.
28. **Chiang CWK** and **Fan C**. "A genealogy-based framework to estimate population structure and demographic history." Society of Molecular Biology and Evolution (SMBE), Puerto Vallarta, Mexico, Jul 2024.
27. **Chiang CWK** and **Fan C**. "A genealogy-based framework to estimate population structure and demographic history." The Allied Genetics Conference (TAGC), Washington DC, Mar 2024.
26. **Cahoon JL**, Mathieson I, **Chiang CWK**, Mathieson S. "Leveraging deep learning to infer archaic human introgression from ancestral recombination graphs." The Allied Genetics Conference (TAGC), Washington DC, Mar 2024. (withdrawn due to inability to attend)
25. **Chiang CWK**. "A genealogy-based framework to estimate population structure and demographic history." The 3rd AsiaEvo Conference, Singapore, Dec 2023.
24. **Chiang CWK, Cahoon JL, Rui X, Tang E, Simons C, Langie J, Chen M, Lo YC**. "Imputation Efficacy Across Diverse Global Human Populations." International Genetic Epidemiology Society (IGES), Nashville, TN, Nov 2023. *Poster Highlight Talk / Best Poster Award*
23. **Langie J, Jeon S**, Ma X, Metayer C, de Smith AJ, Wiemels JL, **Chiang CWK**. "Identifying Acute Lymphoblastic Leukemia Risk Loci in Latino Children via Admixture Mapping." American Society of Human Genetics (ASHG), Washington DC, Nov 2023.
22. **Chiang CWK, Cahoon JL, Rui X, Tang E, Simons C, Langie J, Chen M, Lo YC**. "Imputation Efficacy Across Diverse Global Human Populations." International Society for Evolution, Medicine & Public Health (ISEMPH), Irvine, CA, Aug 2023.
21. **Cahoon JL, Rui X, Tang E, Simons C, Langie J, Chen M, Lo YC, Chiang CWK**. "Imputation Efficacy Across Global Human Populations." Southern California Evolutionary Genetics and Genomics Meeting (Scale), Irvine, CA, May 2023.
20. **Dinh BL, Tang E**, Wilkens LR, Le Marchand L, Haiman CA, **Chiang CWK**. "Population-specific Recombination Maps Reduce False Positive Findings in Genomic Scans of Adaptations." Southern California Evolutionary Genetics and Genomics Meeting (Scale), Irvine, CA, May 2023.
19. **Jeon S**, Gazal S, Mancuso N, Meyayer C, Ma X, Wiemels JL, **Chiang CWK**, de Smith AJ. "Risk allele associated with childhood acute lymphoblastic leukemia at the *IKZF1* locus is associated with Indigenous American ancestry and absent in European-ancestry populations." American Society of Human Genetics (ASHG), Los Angeles, CA, Oct 2022.
18. Link V, **Fan C, Chiang CWK**, Mancuso N, Edge MD. "ARG-based association mapping." Society of

17. **Fan C**, Mancuso N, **Chiang CWK**. “A likelihood-based framework for demographic inference from genealogical trees.” Society of Molecular Biology and Evolution (SMBE) Everywhere Symposium, virtual, Sep 2022.
16. Link V, **Fan C**, **Chiang CWK**, Mancuso N, Edge MD. “ARG-based association mapping.” Population, Evolutionary, and Quantitative Genetics (PEQG), Pacific Grove, CA, Jun 2022.
15. Hughley R, Darst BF, Andrews C, Berndt SI, Sheng X, Kote-Jaral Z, Lachance J, **Chiang CWK**, Jalloh M, Abediyi A, Aisuodionoe-Shadrac O, Adusei B, Mante S, Mensah J, Adjei A, Chanock SJ, Watya S, Eeles RA, Rebbeck TR, Conti DV, Haiman CA, MADCaP Consortium, PRACTICAL Consortium, and African Ancestry Prostate Cancer Consortium. “Germline *HOXB13* variant contributes to risk of prostate cancer in men of African ancestry.” American Society of Human Genetics (ASHG), virtual, Oct 2021.
14. **Chiang CWK**, **Fan C**, Mancuso N. “A genealogical estimate of genetic relationships to improve detection of population structure over time.” International Genetic Epidemiology Society (IGES), virtual, Oct 2021.
13. **Jeon S**, de Smith AJ, Musken IS, Metayer C, Ma X, Wiemels JL, **Chiang CWK**. “Multi-ethnic genome-wide association study of Acute Lymphoblastic Leukemia.” International Genetic Epidemiology Society (IGES), Seoul, Korea, July 2020 (Online due to COVID-19). Best Poster/Lightning Talk Award.
12. **Chen M**, Sidore C, Akiyama M, Ishigaki K, Kamatani Y, Schlessinger D, Cucca F, Okada Y, **Chiang CWK**. “Evidence of polygenic adaptation at height-associated loci in mainland Europeans and Sardinians.” Bay Area Population Genetics Meeting (BAPG), Berkeley, California, Nov 2019.
11. **Chen M**, Sidore C, Akiyama M, Ishigaki K, Kamatani Y, Schlessinger D, Cucca F, Okada Y, **Chiang CWK**. “Re-examining the evidence of polygenic adaptation at height loci in mainland European and Sardinia.” Southern California Evolution Meeting (Scale), Irvine, California, Oct 2019.
10. Lettre G, Chen MH, Raffield L, Mousas A, Jiang T, Akbari P, Sakaue S, Bao EL, Lareau CA, **Chen M**, **Chiang CWK**, Okada Y, Sankaran VG, Soranzo N, Reiner A, Johnson AD, Auer P, Blood-Cell Consortium. “The genetic architecture of hematological traits within and between populations.” American Society of Human Genetics (ASHG), Houston, TX, Oct 2019.
9. **Lin M**, Caberto C, Wan P, Lum-Jones A, Tiirikainen M, Le Marchand L, Wilkens L, Haiman C, Cheng I, **Chiang CWK**. “Oceanian reference panels are crucial for understanding the impact of a Polynesian-specific variant on adiposity in Native Hawaiians.” 23andMe Genome Research Day, Mountain View, California, Jun 2019.
8. **Chiang CWK**, Mangul S, Robles C, Kretzschmar WW, Cai N, Kendler KS, Sankararaman S, Flint J. “A comprehensive map of genetic variation in the world’s largest ethnic group – Han Chinese.” Society for Molecular Biology & Evolution (SMBE), Yokohama, Japan, Jul 2018.
7. **Chiang CWK**, Locke AE, Steinberg KM, Service S, Abel H, Havulinna AS, Chiang C, Stell L, Stringham HM, Jackson AU, Pirinen M, Ray D, Larson DE, Koboldt DC, Scott LJ, Fulton RS, Nelson J, Nicholas TJ, Yajnik P, Ramensky V, Stitzel NO, Wilson RK, Hall IM, Sabatti C, Ripatti S, Salomaa V, Palotie A, Laakso M, Boehnke M, Freimer NB. “Insights to the population structure and genetic architecture of cardiometabolic traits in 20,029 Finnish exomes.” American Society of Human Genetics (ASHG) Orlando, FL, Oct 2017.

6. **Chiang CWK**, Locke AE, Steinberg KM, Service S, Abel H, Havulinna AS, Chiang C, Stell L, Stringham HM, Jackson AU, Pirinen M, Ray D, Larson DE, Koboldt DC, Scott LJ, Fulton RS, Nelson J, Nicholas TJ, Yajnik P, Ramensky V, Stitzel NO, Wilson RK, Hall IM, Sabatti C, Ripatti S, Salomaa V, Palotie A, Laakso M, Boehnke M, Freimer NB. "Insights to the genetic architecture of cardiometabolic traits empowered by 20,000 exomes and the history of Finland." Gordon Research Conference (GRC), Human Genetics & Genomics, Stowe, VT, Jul 2017.
5. **Chiang CWK**, Sidore C, Zoledziwska M, Marcus JH, Al-asadi H, Abecasis GR, Schlessinger D, Cucca F, Novembre J. "Population genetic insight to the study of human height." International Society for Evolution, Medicine & Public Health (ISEMPH), Durham, NC, Jun 2016.
4. Novembre J, **Chiang CWK**, Marcus J, Sidore C, Zoledziwska M, Steri M, Al-asadi H, Sanna S, Abecasis G, Schlessinger D, Cucca F. "The population structure and demographic history of Sardinia in relationship to neighboring populations." American Society of Human Genetics (ASHG), San Diego, CA, Oct 2014.
3. **Chiang CWK**, Ralph P, Novembre J. "Conflations of short IBD blocks can bias inferred length of IBD blocks." Society for Molecular Biology & Evolution (SMBE), San Juan, PR, Jun 2014.
2. Turchin MC, **Chiang CWK**, Palmer CD, Hirschhorn JN, GIANT consortium. "Intra-European allele frequency differences at height-associated SNPs suggest widespread selection on standing variation." Cold Spring Harbor Laboratory (CSHL), The Biology of Genomes, Cold Spring Harbor, NY, May 2011.
1. **Chiang CWK**, Dewing P, Vilain E. "The genetic effect of the male-determining gene Sry on brain sexual dimorphism and function." Southern California Conference of Undergraduate Research (SCCUR), Whittier College, Whittier, CA, Nov 2004.

Contributed Abstracts: Posters (Last 2 Years)

From 2016-2024, 11 of 29 submitted abstracts at ASHG received the Reviewer's Choice Award or Platform Talk. **bolded** name denotes group member.

65. **Chiang CWK**, Edge MD, Link V, **Tang J**, **Dinh BL**, **Cahoon J**, Schraiber JG, Ortega-Del Vecchyo VD, Huber CD, Mancuso N, **Fan C**. "A genealogy-based framework to infer the demographic history, genetic structure, and phenotype association." Probabilistic Modeling in Genomics (ProbGen), Cold Spring Harbor, NY, Mar 2025.
64. Liu T, **Langie J**, Yang W, Morimoto LM, Ma X, Metayer C, Lupo PJ, Scheurer ME, Yang JJ, Wiemels JL, **Chiang CWK**, de Smith AJ. "Genome-wide association study of acute lymphoblastic leukemia in Hispanic/Latino children identifies a putatively novel risk locus at chr5q31.1." American Society of Hematology (ASH), San Diego, CA, Dec 2024.
63. **Dinh BL**, **Wang X**, **Tian H**, **Tang J**, Sheng X, Carlson JC, Weeks DE, Wilkens LR, Le Marchand L, Haiman CA, **Chiang CWK**. "Statistical and population genetic approaches to enhance the discovery of trait-associated loci in understudied populations with small sample size." American Society of Human Genetics (ASHG), Denver, CO, Nov 2024. *Reviewer's Choice Abstract*
62. **Wang X**, **Dinh BL**, Sheng X, Young E, Leask M, Taparra K, Stamp LK, Dalbeth N, Murphy R, de Zoysa J, Naseri T, Reupena MS, Viali S, Castel SE, Merriman TR, Carlson JC, Weeks DE, Wilkens LR, Le Marchand L, Hall I, Haiman CA, Stitzel N, **Chiang CWK**. "A multi-ancestry reference panel from 10,721 individuals to improve the genotype imputation for individuals of East Asian- and Polynesian-ancestry." American Society of Human Genetics (ASHG), Denver, CO, Nov 2024.

61. **Langie J**, Morimoto L, Ma X, Metayer C, Wiemels JL, de Smith AJ, **Chiang CWK**. “The impact of Indigenous American ancestry on the risk of acute lymphoblastic leukemia and the implications for future study designs.” American Society of Human Genetics (ASHG), Denver, CO, Nov 2024.
60. **Malomane DK**, Mangul S, Abedalthagafi M, **Chiang CWK**. “The allelic architecture of functionally deleterious variants in the Saudi Arabian population.” American Society of Human Genetics (ASHG), Denver, CO, Nov 2024.
59. Bogumil D, Sheng X, Wan P, Xia L, Streicher S, Huang B, **Chiang CWK**, Chen F, Wilkens LR, Le Marchand L, Haiman CA, Conti DV. “The Multiethnic Cohort: a resource for the study of genetic and non-genetic cancer risk across populations.” American Society of Human Genetics (ASHG), Denver, CO, Nov 2024.
58. Buchanan CM, Patel SG, Arafin R, Phillips M, Aparente-Grace B, Reid HA, Drake KM, Merriman ME, Phipps-Green A, Cadzow M, Merriman TR, **Chiang CWK**, Minster RL, Roxburgh RH. “Tracking down PINK1 Parkinsonism in Aotearoa – New Zealand.” Biochemical Society, London, UK, Nov 2024.
57. **Langie J**, Morimoto L, Ma X, Metayer C, Wiemels JL, de Smith AJ, **Chiang CWK**. “The impact of Indigenous American ancestry on the risk of acute lymphoblastic leukemia and the implications for future study designs.” American Association for Cancer Research (AACR), Los Angeles, CA, Sep 2024.
56. Streicher SA, Park SY, **Chiang CWK**, Sheng X, Bogumi D, Conti DV, Haiman CA, Wilkins LR, Le Marchand L. “Characterizing cancer patterns in Okinawan vs. mainland Japanese Americans: The Multiethnic Cohort.” American Association for Cancer Research (AACR), San Diego, CA, Apr 2024.
55. **Dinh BL**, **Wang X**, Sheng X, **Tang E**, Chen F, Young E, Taparra K, Castel SE, Merriman TR, Wilkens LR, Le Marchand L, Hall IM, Stitzel N, Haiman CA, **Chiang CWK**. “A reference panel to improve genotype imputation for Native Hawaiians.” Pacific Symposium on Biocomputing (PSB), Kona, HI, Jan 2024.
54. **Chiang CWK**, **Cahoon JL**, **Dinh BL**, Ortega-Del Vecchyo D, Huber CD, Edge MD, Mancuso N, **Fan C**. “A likelihood-based framework for demographic inference from genealogical trees.” American Society of Human Genetics (ASHG), Washington DC, Nov 2023.
53. **Dinh BL**, Sheng X, **Tang E**, Chen F, Young E, Taparra K, Wilkens LR, Le Marchand L, Hall IM, Stitzel N, Haiman CA, **Chiang CWK**. “A reference panel to improve genotype imputation for Native Hawaiians.” American Society of Human Genetics (ASHG), Washington DC, Nov 2023.
52. **Malomane DK**, Mangul S, Abedalthagafi MA, **Chiang CWK**. “Patterns of population structure and genetic variation within the Saudi Arabian population.” American Society of Human Genetics (ASHG), Washington DC, Nov 2023.
51. **Jeon S**, **Dinh BL**, **Fan C**, Sheng X, Chen F, Wilkens L, Le Marchand L, Haiman CA, **Chiang CWK**. “Pattern of genetic variation and population structure in Native Hawaiians.” American Society of Human Genetics (ASHG), Washington DC, Nov 2023. *Reviewer’s Choice Abstract* (withdrawn due to inability to attend)
50. Agasaro O, Xu H, Sheng X, Fuller H, Albanes D, Conti DV, Haiman CA, **Chiang CWK**, Ye K, Darst BF. “Circulating metabolite levels vary by genetic ancestry in individuals of African ancestry.” American Society of Human Genetics (ASHG), Washington DC, Nov 2023.

49. **Chiang CWK, Cahoon JL, Rui X, Tang E, Simons C, Langie J, Chen M, Lo YC.** “Imputation Efficacy Across Diverse Global Human Populations.” Gordon Research Conference (GRC), Human Genetics & Genomics, Waterville, NH, Jul 2023.

Invited Talks and Colloquia

- 2025.02.13 Department of Biostatistics
University of Michigan, Ann Arbor, Ann Arbor, MI.
- 2024.02.22 Department of Biomolecular Engineering
University of California, Santa Cruz, Santa Cruz, CA.
- 2024.02.09 Institute for Genomic Health
Icahn School of Medicine at Mount Sinai, New York, NY
- 2023.12.21 Institute for Genome Sciences, Department of Life Sciences
National Yang Ming Chiao Tung University, Taipei, Taiwan.
- 2023.12.14 Institute of Epidemiology and Preventive Medicine
National Taiwan University, Taipei, Taiwan.
- 2023.07.19 Department of Genetics
University of Pennsylvania, Philadelphia, PA.
- 2023.06.30 Genomic Medicine Institute Seminar, Department of Biomedical Sciences
Seoul National University College of Medicine, Seoul, Korea.
- 2023.02.07 Department of Molecular and Human Genetics
Baylor College of Medicine, Houston, TX.
- 2022.11.02 Population Biology Seminar Series
University of Southern California, Los Angeles, CA.
- 2022.11.01 Gerardo Heiss Cardiovascular Epidemiology Seminar
University of North Carolina at Chapel Hill, Chapel Hill, NC.
- 2022.07.15 Native Hawaiian Community Advisory Board (*outreach*)
University of Hawai'i Cancer Center, Honolulu, HI.
- 2021.10.06 American Association for Cancer Research (AACR) Conference on The Science of Cancer Health Disparity.
Session on “Heterogeneity Within the Asian and Pacific Islander Diaspora”
- 2020.01.22 Department of Genetics
University of Georgia, Athens, GA.
- 2019.09.09 International Laboratory of Human Genome Research (LIIGH)
National University of Mexico (UNAM), Queretero, Mexico.
- 2019.08.29 Quantitative Computational Biology Section, Department of Biological Sciences
University of Southern California, Los Angeles, CA.
- 2018.06.08 Informatics Center for Neurogenetics and Neurogenomics (ICNN) Symposium
University of California, Los Angeles (UCLA), Los Angeles, CA.
- 2018.04.18 Asian Evo Conference, Symposium on “Human Evolution and Adaptation”
China National GeneBank, Shenzhen, China.
- 2018.04.13 Institute of Biomedical Sciences (IBMS)
Academia Sinica, Taipei, Taiwan.
- 2017.04.13 Center for Genetic Epidemiology, Department of Preventive Medicine
University of Southern California, Los Angeles, CA.
- 2017.02.23 Virginia Institute for Psychiatric and Behavioral Genetics
Virginia Commonwealth University, Richmond, VA.
- 2017.01.26 Department of Anthropology
University of Utah, Salt Lake City, UT.
- 2015.05.06 CAS-MPG Partnered Institute of Computational Biology
Chinese Academy of Science, Shanghai, China.

2015.04.30	Center for Genomic Sciences University of Hong Kong, Hong Kong, SAR, China.
2015.04.09	Institute of Biomedical Sciences (IBMS) Academia Sinica, Taipei, Taiwan.

Academic Awards and Recognitions

2024	Dean's Early Career Award for Excellence in Mentoring, Keck School of Medicine, USC
2023	Human Genetics and Genomics Advances Early Career Investigator Award
2020	Undergraduate Research Associate Program Award, USC (To support undergraduate researchers S. Rashid and S. Sommerer in AY 2020-21)
2017	ASHG Charles J. Epstein Trainee Award for Excellence in Human Genetics Research (Semifinalist)
2013-2015	National Institute of Health NRSA Postdoctoral Fellowship, F32
2010	Summer Institute in Statistical Genetics Travel Scholarship
2007-2010	National Science Foundation Graduate Fellowship
2005	Director's Fellowship, Yale University (declined)
2005	Phi Beta Kappa Society
2004	Ira J. and Shirley Spoon Honors Collegium Scholarship, UCLA
2003	Golden Key International Honour Society
2001	CRC Press Freshmen Chemistry Achievement Award
2001	The National Society of Collegiate Scholar
2001	Alpha Lambda Delta Honor Society
2001	Phi Eta Sigma Honor Society

Mentored Student, Staff, and Postdocs

Abbreviations: **PIBBS**, Programs in Biomedical and Biological Sciences PhD program; **CBB**, Computational Biology and Bioinformatics PhD program; **MBBO**, Marine Biology and Biological Oceanography PhD program; **QB**, Quantitative Biology undergraduate program, USC; **HB**, Human Biology undergraduate program, USC; **CS**, Computer Science undergraduate program, USC.

Year	Name	Program or Position	Role
<u>Current Trainee</u>			
2023-current	Ji Tang, Ph.D.	Postdoctoral Fellow, USC	Postdoc advisor
2023-current	Indu Sharma, Ph.D.	Postdoctoral Fellow, USC	Postdoc advisor
2019-current	Tsz Fung Chan	Ph.D. student, Epidemiology, USC	PhD co-advisor
2020-current	Bryan Dinh	Ph.D. student, CBB, USC	PhD advisor
2021-current	Jalen Langie	Ph.D. student, Epidemiology, USC	PhD advisor
2023-current	He Tian	Ph.D. student, Epidemiology, USC	PhD advisor
2024-current	Xinran Wang	Ph.D. student, Epidemiology, USC	PhD advisor
2025-current	Leqi Tan	Ph.D. student, PIBBS, USC	PhD advisor
2025-current	Ke Wu	M.S. student, Transl. Biotech., USC	--
2024-current	Rishee Venkatesh	B.S. student, QB, USC	--
2025-current	Lan Trieu	B.S. student, QB, USC	--
2023-current	Eunice Lee, Ph.D.	Senior Research Associate, USC	--
2024-current	Eaaswarkhanth Muthukrishnan, Ph.D.	Research Associate, USC	--
2024-current	Kimberli Alatorre	Programmer Analyst I, USC	--
2025-current	Subarna Biswas, M.D. Ph.D.	Research Scientist, USC	--

Graduate Student Committees

2019-2023	Olzhas Iksan	Ph.D. student, Genetics, Kazakh National University	Ph.D. Dissertation (external member)
2020	Maria Ruggeri	Ph.D. student, MBBO, USC	Qualifying Exam (external member)
2021-2022	Qianxi Feng	Ph.D. student, Epidemiology, USC	Ph.D. Dissertation
2021	Changqing Su	M.S. student, Biostatistics, USC	M.S. Thesis
2021-2022	Shaobo Li	Ph.D. student, PIBBS, USC	Ph.D. Dissertation
2022-2023	Yating Zeng	M.S. student, Biostatistics, USC	M.S. Thesis
2022-current	Huifang Xu	Ph.D. student, Genetics, University of Georgia	Ph.D. Dissertation (external member)
2023	Michaela Ince	Ph.D. student, PIBBS, USC	Qualifying Exam
2023	Bida Gu	Ph.D. student, CBB, USC	Qualifying Exam
2024-current	Lu Wang	Ph.D. student, Genetics, University of Georgia	Ph.D. Dissertation (external member)
2025	Janis (Junjian) Liu	Ph.D. student, CBB, USC	Qualifying Exam

Former Trainee

2018-2019	Hanxiao Sun	M.S. student, Biostatistics, USC	MS advisor
2018-2020	Meng Lin, Ph.D.	Postdoctoral Fellow, USC	Postdoc advisor
2018-2021	Minhui Chen, Ph.D.	Postdoctoral Fellow, USC	Postdoc advisor
2018-2023	Soyoung Jeon	Ph.D. student, PIBBS, USC Postdoctoral Fellow, USC	PhD advisor Postdoc advisor
2019-2020	Samuel Sommerer	B.S. student, QB/CS, USC	--
2019-2023	Caoqi Fan	Ph.D. student, CBB, USC	PhD advisor
2020-2021	Sydney Rashid	B.S. student, QB, USC	--
2020-2022	Xinyue Rui	M.S. student, Biostatistics, USC B.S. student, Mathematics, USC USC Provost Fellowship (2020, 21) Jennifer Battat USC Scholarship	MS advisor
2021-2023	Ying-Chu Lo, Ph.D.	Postdoctoral Fellow, USC USC-Taiwan Postdoc Fellowship	Postdoc advisor
2021-2023	Christopher Simons	B.S. / M.S. student, QB, USC	--
2021-2023	Echo Tang	B.S. student, QB, USC	--
2021-2024	Jordan Cahoon	B.S. student, CS, USC USC Viterbi Fellowship (2020-24) Barry Goldwater Scholarship (2023) Discovery Fellowship (2024) QCB Google Alumni Award (2024)	--
2023	Melody McBride	B.S. student, HB, USC	--
2023-2024	Xinran Wang	Programmer Analyst I, USC	--
2022-2025	Dorcus Malomane, Ph.D.	Postdoctoral Fellow, USC	Postdoc advisor

Rotation and Other Visiting Students

2018 Spr	Kuochang Tseng	Rotation student, PIBBS, USC	--
2018 Spr	Charles Bramlett	Rotation student, PIBBS, USC	--
2018 Fall	Audrey Nickle	Rotation student, PIBBS, USC	--
2021 Sum	Dandan Peng	Rotation student, CBB, USC	--
2022 Spr	Ilkwon Cho	Rotation student, CBB, USC	--
2023 Sum	Zachary Chang	High school intern	--
2023 Fall	Yinqiao Wang	Rotation student, Epidemiology, USC	--
2024 Spr	Yifan Zhang	Rotation student, Epidemiology, USC	--
2024 Spr	Juanita Quino	Rotation student, Epidemiology, USC	--
2024 Spr	Matthew Williams	Visiting postdoc, Penn State U	--
2024 Sum	Evelyn Kim	High school intern	--
2024 Sum	Kimberli Alatorre	Post-baccalaureate intern	--

Teaching

2021-present	Course Director, University of Southern California PM 534 (Statistical Genetics: Introduction to Medical Population Genetics) 3 units, Fall Term
2020	Guest Lecturer, University of Southern California PM 533 (Genetic and Molecular Epidemiology), 1hr/term, Fall Term
2020	Guest Lecturer, University of Hawai'i Cancer Center Multiethnic Cohort T32 Postdoctoral Fellowship Seminar Series, 1hr, Spring Term
2019-2021	Guest Lecturer, University of Southern California BISC 577A (Computational Biology Laboratory), 2hrs/term, Fall Term
2009	Teaching Assistant, Harvard University. LS1B (Genetics, Genomics, and Evolution), Spring Term
2008	Guest Lecturer, Harvard Medical School. Genetics 228 (Genetics in Medicine; "Using Genetics Databases"), Fall Term
2007	Teaching Assistant, Harvard Medical School. Genetics 228 (Genetics in Medicine), Fall Term

Departmental and University Service

Abbreviations: **CGE**, Center for Genetic Epidemiology; **DPPHS**, Department of Population and Public Health Sciences, USC; **QCB**, Department of Quantitative Computational Biology, USC. **PIBBS**, Programs in Biomedical and Biological Sciences PhD program; **CBB**, Computational Biology and Bioinformatics PhD program.

Year	Role	Service
2023	Member	DPPHS IT/Computing Committee
2021, 2024	Ad hoc Interviewer	MD/PHD Admission Committee
2021	Member	CGE Scientific Review Committee
2021-2022	Member	DPPHS Junior Faculty Committee
2021	Member	DPPHS Statistical Genetics Curriculum Committee
2020-present	Chair	CGE Seminar Series
2020-present	Webmaster	CGE webpage design and launch
2020, 2022, 2023, 2025	Ad hoc Interviewer	CBB Ph.D. Admission Committee
2019-present	Member, Co-chair	DPPHS Epidemiology Ph.D. Admission Committee
2019	Member	QCB Faculty Search Committee
2018-2020	Member, ad hoc interviewer	PIBBS Ph.D. Admission Committee
2018	Member	DPPHS Biostatistics Ph.D. Admission Committee

Professional Services and Scientific Communities

Editorship and Editorial Board:

Guest Associate Editor (PLoS Genetics, 2023)
Associate Editor (Frontier in Genetics, 2021-current)
Review Editor (Frontier in Genetics, 2018-2021)

Invited Manuscript Reviewer:

Nature Science	Nature Genetics Science Advances	Nature Communications PNAS
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Am J Hum Genet
Genetics
PLoS Genetics
npj Genomic Medicine
Human Molecular Genetics
Bioinformatics
BMC Genomics
Scientific Reports

HGG Advances
G3: Genes, Genomes, Genetics
PLoS Computational Biology
Genome Medicine
Human Genetics
Evol Med Public Health
Human Genomics
Nutrition and Diabetes

Cell Genomics
Molecular Biology and Evolution
PLoS ONE
Genome Biology
Eur J Hum Genet
iScience
Frontiers in Genetics

American Society of Human Genetics (ASHG):

Member, 2007-present

Judge, DNA Day Essay Contest, 2014, 2015, 2017, 2021

Program Abstract Reviewer, Evolutionary and Population Genetics, 2017

Mentor, Trainee-Mentor Luncheon, Evolution and Population Genetics, 2019

Member, Awards Committee, 2021-2023

Session Moderator, “Novel Aspects of Modeling Genetic Architectures of Complex Traits,” 2024

Grant Reviewer (*ad hoc*):

Human Frontier Science Program (Reviewer, 2018)

Medical Research Council NIRG (Reviewer, 2019)

NSF CAREER Award (Reviewer, 2021)

German Israeli Foundation (GIF) for Scientific Research and Development (Reviewer, 2022)

NIH Genetic Variation and Evolution (GVE) study section (Reviewer, Jun 2024)

Wellcome Discovery Award (Reviewer, 2024)

Symposia Organizer:

1st AsiaEvo Conference, “Human Evolution and Adaptation” (2018)

Society of Molecular Biology and Evolution, “Using Ancestral Recombination Graphs (ARGs) to infer Evolutionary Processes” (2022)

Grand Rounds Panelist:

Genomic Screening and Preventive Health by Noura Abul-Husn, DPPHS (2024)

Membership:

American Society for Human Genetics (ASHG)

Society for Molecular Biology & Evolution (SMBE)

International Society of Evolution Medicine and Public Health (ISEMPH)

American Association of Physical Anthropologists (AAPA)

International Genetic Epidemiology Society (IGES)

Genetic Society of America (GSA)

American Association for the Advancement of Science (AAAS)

American Association of Biological Anthropologists (AABA)

Media Appearances, Engagement, and Coverage

“Filling in genomic blanks for disease studies works better for some groups than others”

Keck School of Medicine News, Apr 10, 2024

<https://keck.usc.edu/news/filling-in-genomic-blanks-for-disease-studies-works-better-for-some-groups-than-others/>

“*IKZF1* Genetic Variant May Contribute to Disparities in Risk of ALL in Pediatric Hispanic and Latino Patients”

The ASCO (American Society of Clinical Oncology) Post, Apr 2, 2024

https://ascopost.com/news/march-2024/ikzf1-genetic-variant-may-contribute-to-disparities-in-risk-of-all-in-pediatric-hispanic-and-latino-patients/#new_tab

“USC researchers find genetic variant contributing to disparities in childhood leukemia risk”
Keck School of Medicine News, Mar 26, 2024
<https://keck.usc.edu/news/usc-researchers-find-genetic-variant-contributing-to-disparities-in-childhood-leukemia-risk/>

“Inside HGG Advances: A Chat with Charleston Chiang”
Human Genetics and Genomics Advances, Jan 20, 2023
<https://www.ashg.org/hgga/inside-hgga-with-charleston-chiang/>

“COVID-19 vaccine eligibility expands to anyone over the age of 16 in L.A. county”
USC Annenberg Media, Apr 13, 2021
<https://www.uscannenbergmedia.com/2021/04/13/covid-19-vaccine-eligibility-expands-to-anyone-over-the-age-of-16-in-la-county/>

“Polynesian ancestry linked to obesity in study of Native Hawaiians”
Genetic Obesity News, Feb 15, 2021
<https://geneticobesitynews.com/2021/02/15/polynesian-ancestry-linked-obesity-diabetes-heart-disease-risk-study/>

“Native Hawaiian genetic ancestry linked to metabolic diseases”
The Academic Times, Feb 11, 2021
<https://academictimes.com/native-hawaiian-genetic-ancestry-linked-to-metabolic-diseases/>

“Global, Local Polynesian Ancestry Influence Disease Risk Among Native Hawaiians”
Genomeweb, Feb 11, 2021
<https://www.genomeweb.com/genetic-research/global-local-polynesian-ancestry-influence-disease-risk-among-native-hawaiians#.YCWpkBNKjBI>

“Genetic ancestry linked to diabetes, heart failure and obesity among Native Hawaiians”
Keck School of Medicine News, Feb 11, 2021
<https://keck.usc.edu/genetic-ancestry-linked-to-diabetes-heart-failure-and-obesity-among-native-hawaiians/>

“Polynesian ancestry linked to obesity, diabetes in Native Hawaiians”
Honolulu Star Advertiser, Feb 11, 2021
<https://www.staradvertiser.com/2021/02/11/breaking-news/polynesian-ancestry-linked-to-obesity-diabetes-in-native-hawaiians/>

“Genetics contributes to diabetes, HF, obesity risk in Native Hawaiian individuals”
Healio, Feb 11, 2021
https://www.healio.com/news/cardiology/20210211/genetics-contributes-to-diabetes-hf-obesity-risk-in-native-hawaiian-individuals?utm_medium=social&utm_source=twitter&utm_campaign=scheduledpost

“Accuracy of Genotyping Chips Called into Question”
The Scientist, Jul 24, 2019
<https://www.the-scientist.com/news-opinion/accuracy-of-genotyping-chips-called-into-question--66198>

“Hidden Stories of Chinese Migration and Culture Found in Giant Genetic Study”
The New York Times, Oct 5, 2018
<https://www.nytimes.com/2018/10/05/science/china-genetics.html>

Outreach, Community Engagements and Services

Hoyt Art Gallery, USC

Community outreach pairing local visual artist with biomedical researcher to collaborate for innovative artistic representation of ongoing research at Keck School of Medicine

2018, 2022, 2023 Partnered Biomedical Researcher

“A PhD is Not Enough” book club seminar series, Graduate Society in Biostatistics and Epidemiology (GSBE), Department of Population and Public Health Sciences, USC

2022 Faculty Panelist

“How to get a postdoc” workshop, Department of Ecology and Evolutionary Biology, UCLA

2015 Panelist

Science in the News, Boston, MA.

Science in the News is a free evening seminar series for the public aimed at explaining and discussing today's hottest scientific topics without the hype or exaggeration often introduced by media coverage.

2005-2006 Lecture Coordinator

“Stem Cells: Hope or Hype?” lecture series (2005)

“Obesity and Diabetes” lecture series (2006)

MATHCOUNTS, Suzanne Middle School, Walnut, CA

MATHCOUNTS is a nation-wide program for 6th to 8th grade students designed to elicit interest in mathematics through teamwork and competition.

2003-2005 Head Coach, Suzanne Middle School

1999-2003 Assistant Coach, Suzanne Middle School

2006, 2008, 2013 Volunteer, East San Gabriel Valley Chapter, CA