Kuan-lin Huang, Ph.D.

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MISSION

Empower every person to live healthily to 100-year-old by providing accurate & personalized prediction of disease risk, effective treatment, and health outcome.

APPOINTMENT/EMPLOYMENT

Assistant Professor, Genetics and Genomic Sciences 2018 October-Present
Faculty, Mount Sinai Center for Transformative Disease Modeling
Faculty, Icahn Genomics Institute
Associate Member, Tisch Cancer Institute
Icahn School of Medicine at Mount Sinai, NY, USA

Address: 1399 Park Avenue, 4 - 420-C, New York, NY 10029
Tel: (212) 824-6134 (x56134)
Lab website: www.ComputationalOmicsLab.org

Co-Founder and Chief Unboxer, Open Box Science (OpenBoxScience.Org) 2020 May-Present
Open Box Science (OBS) is a 501c3 non-for-profit that I started to provide a worldwide, open platform for science education and communication. The OBS community has hosted >200 webinars, breaking barriers to scientific knowledge and advances. My involvement with OBS is approved by Mount Sinai FCOI committee, so long I receive zero compensation from OBS.

GAPS IN EMPLOYMENT

Not applicable

EDUCATION

Postdoctoral Fellow, Department of Medicine, Washington University in St. Louis**,** MO 2018 September
Advisor: Dr. Li Ding (Multi-Omics Algorithms)

Ph.D., Genetics and Genomics, Washington University in St. Louis**,** MO 2018 February
Dissertation: *Multi-omics Portraits of Cancer*
Advisor: Dr. Li Ding (Cancer Genomics, 2014-2018)
Drs. Alison M. Goate and Carlos Cruchaga (Statistical Genetics & Alzheimer's Disease, 2013-2014)
Awards: Taiwanese Ministry of Education Ph.D. Scholarship / Lucille P. Markey Pathway in Human Pathobiology

B.A., Wesleyan University, Middletown, CT 2012 May
High Honors. Thesis research in Molecular Biology & Biochemistry (Advisor: Dr. Scott G. Holmes)
Honors. Thesis installation exhibition in Studio Art (Advisor: Jeffrey Schiff)
Awards: Freeman Full-Ride Four-Year Scholarship (1~2 Taiwanese students/year) / Howard Hughes Summer Research Fellowships / Scott Biomedical Prize / the only person in class awarded 2 *Honors*

CERTIFICATION

Not applicable

LICENSURE

Not applicable

HONORS/AWARDS

1. **Mount Sinai Alzheimer's Disease Research Center (ADRC) Scholar** [Institutional] 2023
2. **NIGMS Maximizing Investigators' Research Award (MIRA) for ESI** [National] 2020-2025
3. **Alzheimer's Association International Conference (AAIC) Fellowship** [International] 2016
4. **First Place Winner, Skandalaris Healthcare Hackathon** [Regional] 2015
5. **Taiwanese Ministry of Education Ph.D. Scholarship** [National] 2014-2015

6. **Lucille P. Markey Pathway in Human Pathobiology** [Institutional] 2014
7. ***Honors* (Studio Art) & *High Honors* (Molecular Biology) Dissertations, Wesleyan University** [Institutional] 2012
   The only person in the 2012 class to receive two *honors* designations
8. **Scott Biomedical Prize, Wesleyan University** [Institutional] 2012
   Awarded to one graduating senior showing strong promise in biomedical research
9. **Howard Hughes Undergraduate Research Scholarship** [National] 2010, 2011
   Awarded two terms to support full-time summer undergraduate research in molecular genetics
10. **Freeman Asian Full-Ride Scholarship for Wesleyan University, CT** [International] 2008-2012
    Merit-based, full-ride scholarship awarded to 1~2 Taiwanese students per year to attend Wesleyan University
11. **Math and Science Gifted Program at Chien-Kuo Senior High School, Taiwan** [National] 2005-2008
    Admitted to the most competitive academic program (60 students/yr) in the lowest-acceptance-rate high school in Taiwan
12. **Youth Athlete-Diplomat Representing Taiwan for the 2006 Asian Games, Doha, Qatar** [National] 2006
    Chosen as 1 of the 4 Youth Athlete-Diplomat representing Taiwan for the 2006 Asian Games

PATENTS

Not applicable

OTHER ENTREPRENEURIAL ACTIVITIES

1. **Co-Founder and Chief Unboxer,** Open Box Science 501(c)(3) 2020-Present
2. **Co-Founder and CEO,** DeepGene LLC 2016-2017

OTHER PROFESSIONAL ROLES

Active Peer-Reviewer: average 15 manuscripts/year, * indicates multiple times

Grant Proposals

***Ad Hoc Peer-Review*:** Arizona Alzheimer's Disease Core Center Grant* / Wellcome Trust International Fellowships

Research Manuscripts

Guest Associate Editor: Frontiers in Aging Neuroscience (Topic: Advancing Clinical Neuroscience by Multi-Omic Driven Approaches Towards Personalized Medicine: Opportunity, Challenges, and the Future)

***Ad Hoc Peer-Review*:** Bioinformatics* / BMC Bioinformatics / BMC Genomics / BMC Neurology / BMJ Medicine / Cell Reports / Cell Reports Medicine* / Clinical Proteomics / Communications Medicine / EMBO Molecular Medicine / Frontiers in Genetics / Genome Medicine* / Human Molecular Genetics / iScience / Molecular and Cellular Proteomics / Nature Cancer / Nature Communications* / Nature Medicine / npj Digital Medicine / PLOS Computational Biology

Active Memberships for Professional Societies: American Association for Cancer Research (AACR)/ International Society to Advance Alzheimer's Research and Treatment (ISTAART)/ International Society for Computational Biology (ISCB)

RESEARCH PROFILE

I am a human genomicist with track records in statistical genetics, DNA-sequencing (DNA-Seq) studies, proteomic biomarkers, multi-omic algorithm and software development. My research aims to provide accurate risk assessment and treatment options based on each individual's genome. In my Ph.D. and post-doc, I served as the lead analyst for multiple national/international consortium projects, including IGAP (GWAS), TCGA PanCanAtlas Germline Working Group (DNA-Seq), and CPTAC (Proteomics). My first-author contributions (Huang et al.) include genome-wide association studies (GWAS) of complex diseases (Nature Neuro 2017), large-scale DNA-Seq analyses of cancer (Cell 2018), proteogenomics integration for patient-derived models (Nature Comm 2017), and software for analyzing multi-omic data (MCP 2019, Nature Comm 2021). The genomic datasets I processed and the bioinformatic tools I developed have been cited and used in thousands of other studies.

I started my independent laboratory at ISMMS in Oct 2018, and my research program is guided by three principles: (1) be inclusive of diverse populations, (2) be comprehensive of multi-modal big data, and (3) catch it early for personalized prevention and interception of disease etiologies. As of March 2023, I have published 16 last-author research articles since ISMMS, and have an H-index: 34, Citations: 10,650 based on Google Scholar. My lab's primary contribution to science includes unveiling pathogenic variants in diverse populations, developing statistical software for multi-omics big data, identifying genetic predictors of treatment outcomes, and constructing machine-learning (ML) models to predict disease risks and treatments using personalized multi-omics.

CLINICAL PROFILE

Not applicable

MENTORSHIP PROFILE

Since I started my lab at ISMMS, I have served as primary mentors for 4 postdoc fellows, 1 hem/onc fellow, 1 PhD student, and 5 MS students whose primary affiliation is at ISMMS. My lab also hosts summer students (volunteer or DEI programs) and MD students for research project each year. External trainees who have completed first-author papers for which I am the primary mentor (last-author) include 1 high-school student, 2 undergrads, 2 MD students, 2 PhD students, 1 postdoc. Additionally, I serve on thesis committees for 5 PhD students and 3 MS students at ISMMS. My trainees come from diverse backgrounds, countries, and religions; internal/external trainees have gone on to successful careers in world-renowned companies and academic institutions after training, including Harvard, Columbia, Stanford, St. Jude, ISMMS, and Genentech.

I continue to hone my mentorship skills through reading, feedback from trainees, and mentors. I see mentorship as how I can contribute to growing a forest for the larger scientific community. Trees reach for the sky, like how budding researchers explore and advance in their scientific pursuits. As a tree planter, my job is to help them thrive: identify and amplify directions where they are growing best while helping to avoid dead ends. To provide the needed nutrients and water, but also guide them to where they could derive needed resources independently.

DIVERSITY AND INCLUSION IMPACT

I advocate for diversity, equity, and inclusion (DEI) at my lab, institution, and non-for-profit. In 2018, the initial 8 postdocs, graduate, and medical students in my lab represent 7 different nationalities and 6 major religion groups. I establish lab guidelines to ensure everyone's voice is heard. For example, in each lab meeting, the presenter warm-up the floor by asking an open question, where every member is required to provide a perspective. In any presentation, everyone is required to speak up at least once. At the institutional level, I promote these values by actively participating in departmental and/or institutional DEI initiatives, including hosting and lecturing for DEI scholars each year.

More, I am passionate about addressing cross-country DEI challenges in science. To provide some context, the US ranks 10th in 198 countries in GDP ($76,027), compared to the bottom 47 countries with GDP of less than $5,000. In 2020, I recruited two friends and co-founded an 501(c)(3) non-profit for open science & communication. In two years, the NGO has hosted 200+ free talks for a worldwide audience spanning over 70 countries. The OBS community follows a guideline of inviting early-career researchers (i.e., first authors) from diverse backgrounds, and we constantly broadcast our free events to discipline-specific interest groups in Latin America, Asia, Europe, African, and Australia.

Together, we aim to build a future where scientists have equal access to knowledge, training, and can communicate seamlessly across boundaries.

OVERALL IMPACT

As a human genomicist, my research goal is to provide accurate risk assessment and treatment options based on an individual's genome. My first-author contribution to science include GWAS, DNA-Seq, proteogenomic studies of complex diseases (cancer and neurodegeneration) as well as development of several software for analyzing multi-omic data. The genomic datasets I processed and the bioinformatic tools I developed have been cited and used in thousands of other studies. Since starting my independent laboratory at ISMMS in 2018, I have published 16 last-author research articles, with an H-index of 34 and 10,650 citations based on Google Scholar. I have also mentored a diverse group of trainees who have gone on to successful careers in world-renowned companies and academic institutions. Additionally, I am passionate about promoting diversity, equity, and inclusion (DEI) in science, and have co-founded a non-profit for open science and communication, which has hosted over 200 free talks for a worldwide audience spanning over 70 countries.

GRANTS, CONTRACTS, FOUNDATION SUPPORT

PAST GRANTS

Funding Source/Project Title	Role in Project	Dates	Total Costs	Supplemental Info
Google Cloud Pilot Grant (Huang) **A Web-based Simulator for Pandemic Containment Strategies**	PI	4/1/2020 - 10/1/2020	$14,000	
Mount Sinai Genetics and Genomic Sciences Pilot Grant (Gang) **A Novel Epigenetic Mark in Alzheimer Disease and Aging**	Co-I	10/1/2019 - 10/1/2020	$50,000	

CURRENT GRANTS

Funding Source/Project Title	Role in Project	Dates	Total Costs	Supplemental Info
American Cancer Society RSG-22-115-01-DMC (Huang)	PI	01/01/2023-12/31/2026	$757,857	

Pan-ancestry Identification of Pathogenic Variants affecting DNA Repair				
Mount Sinai FBI/ADRC Mount Sinai ADRC Scholar Award (Elahi, Huang, Goate) **Unbiased Discovery of Early Molecular Dysregulations in Alzheimer's Disease**	M-PI	01/01/2023-12/31/2023	$60,000	
NIH NIGMS R35 GM138113 (Huang) **Integrative Approaches for Identifying Causal Gene-Cell Type Pairs of Complex Disease**	PI	9/15/2020-7/31/2025	$2,115,345	
NIH NINDS R01 NS116006 (Raj) **The Role of Myeloid Cells in Parkinson's Disease**	Co-I	4/1/2021-3/31/2026	$3,398,901	
NIH NIA R01 AG072300 (Castellano) **Mechanisms of TIMP2-mediated hippocampal revitalization in Alzheimer's disease**	Co-I	5/1/2021-04/31/2024	$1,518,274	

PENDING GRANTS

Funding Source/Project Title	Role in Project	Dates	Total Costs	Supplemental Info
NIH NIA U01 AG079849 (Goate, Renton, Marcora, O'Reilly) **Elucidation of brain cell type-specific Alzheimer's disease genetic risk mechanisms in diverse populations**	Co-I	7/1/2023 - 6/30/2028	$12,865,629	
NIH NHGRI R01HG013085 (Do, Itan) **Towards building an atlas of variant function for clinical interpretation**	Co-I	7/1/2023 - 6/30/2028	$4,209,637	
NIH NCI U01CA282267 (Huang, Lucas, O'Reilly) **Genetics-informed Biomarker Strategy for Pancreatic Cancer Detection**	M-PI (contact)	7/1/2023 - 6/30/2028	$5,062,276	
NIH NLM R01LM14391 (Song) **Multi-scale modelling of cross-modal, high-resolution molecular data to dissect aberrant disease mechanisms in tissue ecosystem**	Co-I	12/1/2023 - 11/30/2027	$1,679,230	
NIH NCI R01CA286073 (Dominguez-Sola) **Genetics-informed Biomarker Strategy for Pancreatic Cancer Detection**	Co-I	9/1/2023 - 8/31/2028	$3,776,455	
NIH NIA R01AG (O'Reilly, Huang) **A pathway-driven approach to stratified medicine for AD**	M-PI	12/1/2023 - 11/30/2028	$4,205,575	

CLINICAL TRAILS PARTICIPATION

Not applicable

TRAINEES

Name	Level of Trainee	Role in Training [Date]	Training Venue	Trainee's Immediate Outcome
Jordan Rosen, BS	MS student	Master's research mentor **[2022-]**	ISMMS	
Nathalie Ramos, BS	MS student	Master's research mentor **[2022-]**	ISMMS	
Megan Wojciechowicz, BS	PhD student	PhD advisor **[2022-]**	ISMMS	
Tefike Okotete	Undergraduate student	Research mentor for intern projects **[2022]**	ISMMS (trainee at NYU)	Continuing undergraduate studies at NYU

Raj Vaza, BS	MS student	Master's research mentor **[2022-]**	ISMMS	
Yuqi Liu	Undergraduate student	Research mentor for volunteer projects **[2021-]**	ISMMS (trainee at NYU)	
Michael Wang, MD	PhD student	Research mentor for visiting scholar **[2019-2022]**	ISMMS (trainee at PUMC)	Resident Surgeon, Peking Union Medical College
Tzipora Weinberger, BS	Master's student	Master's research mentor **[2020-2022]**	ISMMS	Data Scientist, Hackensack Meridian Health
Rikhiya Ghosh, PhD	Postdoc	Postdoc mentor **[2021-]**	ISMMS	
Jimmy Zhang	High school student	Research mentor **[2019-2021]**	ISMMS (trainee at Queens High School for the Sciences)	Undergraduate, Columbia University
Tomi Jun, MD	Hem/onc Fellow	Research mentor **[2019-2021]**	ISMMS	Medical Director, SEMA4 *Genentech (current)*
Zishan Wang, PhD	Postdoc	Postdoc mentor **[2019-]**	ISMMS	
Jing Wang, PhD	Postdoc	Postdoc mentor **[2019]**	ISMMS	Data Scientist, Amazon
Abdulkadir Elmas, PhD	Postdoc	Postdoc mentor **[2019-]**	ISMMS	
William Lee, BS	Master's student	Master's research mentor **[2019-2020]**	ISMMS	Bioinformatician, ISMMS (w/ Andrew Sharp)
Tao Qing, PhD	Postdoc	Advised on collaborative projects with Dr. Lajos Pustzai **[2019-2022]**	ISMMS (trainee at Yale)	Senior Scientist, Freenome
Katherine Houlahan, PhD	PhD student	Advised on collaborative projects with Dr. Paul Boutros **[2019-2021]**	ISMMS (trainee at UCLA)	Postdoc, Stanford (w/ Christina Curtis)
Guanlan Dong, BS	Undergraduate student	Research mentor for volunteer projects **[2019-2020]**	ISMMS (trainee at WashU)	Harvard B.I.G. PhD program
Ninad Oak, PhD	PhD student	Advised on collaborative projects with Dr. Sharon Plon **[2018-2020]**	ISMMS (trainee at Baylor)	Scientist, St. Jude Children's Hospital

PhD Dissertation Committee:
Yihan Zhao (Genetics and Genomic Sciences)**/Nicole Zatorski** (Pharmacology and Therapeutics Discovery)/**Miriam Saffern** (Immunology)/**Aanay Shah** (Clinical and Translational Research)**/Julia Zhao** (Genetics and Genomic Sciences) /**Katrin Bauer** (external, University Medical Center Mainz)

MS Dissertation Committee:
Nile Rizvi (Biomedical Sciences) / **Gauri Ganesh** (Biomedical Sciences) / **Andy Yang** (Biomedical Sciences)

PhD Rotation Students:
Miriam Saffern (Immunology, 2020)/ **Rebecca Signer** (Genetics and Genomic Sciences, 2021)/ **Hannah Kittrell** (Genetics and Genomic Sciences, 2022)/ **Megan Wojciechowicz** (Pharmacology and Therapeutics Discovery, 2022)/**Eric Park** (Genetics and Genomic Sciences, 2022)

Medical Students (mostly second semester of M1 ~ first semester of M2):
Prag Batra (2018-2020)**, Serena Tharakan** (2019-2020)**, Alexandra Capellini** (2019-2020)**, Matthew Williams** (2019-2020)**, Daniel Fulop** (2019-2022), **Makda Zewde** (2020-)**, Suraj Jaladanki** (2019-2021)**, Gabriel Santos Malave** (2020-2021)**, Chang Moon** (2020-2021), **Luo Song** (2021-2022), **Varun Subramaniam** (2022-), **Kevin Spehar** (2022-), **Yash Lahoti** (2023-)

TEACHING ACTIVITIES

1. **Teaching Assistant and Guest Lecturer,** Washington University in Saint Louis, MO 2014-2017
2. **Community Health Project Founder and Leader**, Matibabu Foundation, Kenya 2013
3. **English Instructor** for compulsory substitute military service, Zhuwei Elementary School, Taiwan 2012-2013
4. **Teaching Assistant,** Wesleyan University, CT 2010-2011

ADMINISTRATIVE LEADERSHIP APPOINTMENTS

Abbreviations: Mount Sinai GGS (Department of Genetics and Genomic Sciences), Mount Sinai TDM (Center for Transformative Disease Modeling)

EDUCATION
Co-lead, GGS Departmental Cancer Genomics WIP, Icahn School of Medicine at Mount Sinai 2021-Present

Co-lead, TDM Seminar Series, Icahn School of Medicine at Mount Sinai 2020-2021

GENERAL ADMINISTRATION

Member, GGS Faculty Search Committee, Icahn School of Medicine at Mount Sinai 2022-Present
Member, GGS Faculty Engagement Committee, Icahn School of Medicine at Mount Sinai 2021-Present
Member, GGS Faculty Mentorship Committee, Icahn School of Medicine at Mount Sinai 2021-Present
Member, Postdoc Advisory Committee, Icahn School of Medicine at Mount Sinai 2020-2022

PUBLICATIONS

H-index: 34 (accessed 3/25/2023), Citations: 10,650 (Google Scholar)

Peer-Reviewed Original Contributions [*Co-first authors. #Co-corresponding authors. %Consortium authorship]:

Summary of peer-reviewed research articles: 5 first-author (Nat Comm 2017, Nat Neuro 2017, Cell 2018, MCP 2019, Nat Comm 2021), 2 co-first author (Neoplasma 2016, Cancer Cell 2020). Since ISMMS appointment in 2018, 16 last-author research articles.

1. Yeast Tdh3 (glyceraldehyde 3-phosphate dehydrogenase) is a Sir2-interacting factor that regulates transcriptional silencing and rDNA recombination.
   Ringel AE, Ryznar R, Picariello H, **Huang KL**, Lazarus AG, Holmes SG.
   PLoS Genet. 2013;9(10):e1003871. doi: 10.1371/journal.pgen.1003871. Epub 2013 Oct 17. PMID: 24146631
2. Patterns and functional implications of rare germline variants across 12 cancer types.
   Lu C*, Xie M*, Wendl MC*, Wang J*, McLellan MD*, Leiserson MD*, **Huang KL**, Wyczalkowski MA, Jayasinghe R, Banerjee T, Ning J, Tripathi P, Zhang Q, Niu B, Ye K, Schmidt HK, Fulton RS, McMichael JF, Batra P, Kandoth C, Bharadwaj M, Koboldt DC, Miller CA, Kanchi KL, Eldred JM, Larson DE, Welch JS, You M, Ozenberger BA, Govindan R, Walter MJ, Ellis MJ, Mardis ER, Graubert TA, Dipersio JF, Ley TJ, Wilson RK, Goodfellow PJ, Raphael BJ, Chen F, Johnson KJ, Parvin JD, Ding L.
   Nat Commun. 2015 Dec 22;6:10086. doi: 10.1038/ncomms10086. PMID: 26689913 **[Covered by 17 news outlets]**
3. Pan-cancer methylation and expression profiling of adenocarcinomas revealed epigenetic silencing in the WNT signaling pathway.
   Li J*, **Huang KL*,** Zhang T, Li H, Zhao J, Wang H.
   Neoplasma 2016; 63 (2), 208-214
4. Systematic discovery of complex insertions and deletions in human cancers.
   Ye K, Wang J, Jayasinghe R, Lameijer EW, McMichael JF, Ning J, McLellan MD, Xie M, Cao S, Yellapantula V, **Huang KL**, Scott A, Foltz S, Niu B, Johnson KJ, Moed M, Slagboom PE, Chen F, Wendl MC, Ding L.
   Nat Med. 2016 Jan;22(1):97-104. doi: 10.1038/nm.4002. Epub 2015 Dec 14. PMID: 26657142 **[Covered by 9 news outlets]**
5. Proteogenomics connects somatic mutations to signalling in breast cancer.
   Mertins P, Mani DR, Ruggles KV, Gillette MA, Clauser KR, Wang P, Wang X, Qiao JW, Cao S, Petralia F, Kawaler E, Mundt F, Krug K, Tu Z, Lei JT, Gatza ML, Wilkerson M, Perou CM, Yellapantula V, **Huang KL**, Lin C, McLellan MD, Yan P, Davies SR, Townsend RR, Skates SJ, Wang J, Zhang B, Kinsinger CR, Mesri M, Rodriguez H, Ding L, Paulovich AG, Fenyö D, Ellis MJ, Carr SA; NCI CPTAC.
   Nature. 2016 Jun 2;534(7605):55-62. doi: 10.1038/nature18003. Epub 2016 May 25. PMID: 27251275 **[Covered by 4 news outlets]**
6. Chitinase-3-like 1 protein (CHI3L1) locus influences cerebrospinal fluid levels of YKL-40.
   Deming Y, Black K, Carrell D, Cai Y, Del-Aguila JL, Fernandez MV, Budde J, Ma S, Saef B, Howells B, Bertelsen S, **Huang KL**, Sutphen CL, Tarawneh R, Fagan AM, Holtzman DM, Morris JC, Goate AM, Dougherty JD, Cruchaga C.
   BMC Neurol. 2016 Nov 10;16(1):217. doi: 10.1186/s12883-016-0742-9. PMID: 27832767
7. Proteogenomic integration reveals therapeutic targets in breast cancer xenografts.
   Huang KL*, Li S*, Mertins P*, Cao S, Gunawardena HP, Ruggles KV, Mani DR, Clauser KR, Tanioka M, Usary J, Kavuri SM, Xie L, Yoon C, Qiao JW, Wrobel J, Wyczalkowski MA, Erdmann-Gilmore P, Snider JE, Hoog J, Singh P, Niu B, Guo Z, Sun SQ, Sanati S, Kawaler E, Wang X, Scott A, Ye K, McLellan MD, Wendl MC, Malovannaya A, Held JM, Gillette MA, Fenyö D, Kinsinger CR, Mesri M, Rodriguez H, Davies SR, Perou CM, Ma C, Reid Townsend R, Chen X, Carr SA, Ellis MJ, Ding L.
   Nat Commun. 2017 Mar 28;8:14864. doi: 10.1038/ncomms14864. PMID: 28348404 **[Covered by 8 news outlets]**
8. Genome-wide association study identifies four novel loci associated with Alzheimer's endophenotypes and disease modifiers.
   Deming Y, Li Z, Kapoor M, Harari O, Del-Aguila JL, Black K, Carrell D, Cai Y, Fernandez MV, Budde J, Ma S, Saef B, Howells B, **Huang KL**, Bertelsen S, Fagan AM, Holtzman DM, Morris JC, Kim S, Saykin AJ, De Jager PL, Albert M, Moghekar A, O'Brien R, Riemenschneider M, Petersen RC, Blennow K, Zetterberg H, Minthon L, Van Deerlin VM, Lee VM, Shaw LM, Trojanowski JQ, Schellenberg G, Haines JL, Mayeux R, Pericak-Vance MA, Farrer LA, Peskind ER, Li G, Di Narzo AF; Alzheimer's Disease Neuroimaging Initiative (ADNI); Alzheimer Disease Genetic Consortium (ADGC); Kauwe JS, Goate AM, Cruchaga C.

Acta Neuropathol. 2017 May;133(5):839-856. doi: 10.1007/s00401-017-1685-y. Epub 2017 Feb 28. PMID: 28247064

9. GenomeVIP: a cloud platform for genomic variant discovery and interpretation.
Mashl RJ, Scott AD, **Huang KL**, Wyczalkowski MA, Yoon CJ, Niu B, DeNardo E, Yellapantula VD, Handsaker RE, Chen K, Koboldt DC, Ye K, Fenyö D, Raphael BJ, Wendl MC, Ding L.
Genome Res. 2017 Aug;27(8):1450-1459. doi: 10.1101/gr.211656.116. Epub 2017 May 18. PMID: 28522612

10. A common haplotype lowers PU.1 expression in myeloid cells and delays onset of Alzheimer's disease.
Huang KL, Marcora E, Pimenova AA, Di Narzo AF, Kapoor M, Jin SC, Harari O, Bertelsen S, Fairfax BP, Czajkowski J, Chouraki V, Grenier-Boley B, Bellenguez C, Deming Y, McKenzie A, Raj T, Renton AE, Budde J, Smith A, Fitzpatrick A, Bis JC, DeStefano A, Adams HHH, Ikram MA, van der Lee S, Del-Aguila JL, Fernandez MV, Ibañez L; International Genomics of Alzheimer's Project; Alzheimer's Disease Neuroimaging Initiative; Sims R, Escott-Price V, Mayeux R, Haines JL, Farrer LA, Pericak-Vance MA, Lambert JC, van Duijn C, Launer L, Seshadri S, Williams J, Amouyel P, Schellenberg GD, Zhang B, Borecki I, Kauwe JSK, Cruchaga C, Hao K, Goate AM.
Nat Neurosci. 2017 Aug;20(8):1052-1061. doi: 10.1038/nn.4587. Epub 2017 Jun 19. PMID: 28628103 **[Covered by 10 news outlets]**

11. Breast tumors educate the proteome of stromal tissue in an individualized but coordinated manner.
Wang X, Mooradian AD, Erdmann-Gilmore P, Zhang Q, Viner R, Davies SR, **Huang KL**, Bomgarden R, Van Tine BA, Shao J, Ding L, Li S, Ellis MJ, Rogers JC, Townsend RR, Fenyö D, Held JM.
Sci Signal. 2017 Aug 8;10(491):eaam8065. doi: 10.1126/scisignal.aam8065. PMID: 28790197

12. Perspective on Oncogenic Processes at the End of the Beginning of Cancer Genomics.
Ding L, Bailey MH, Porta-Pardo E, Thorsson V, Colaprico A, Bertrand D, Gibbs DL, Weerasinghe A, **Huang KL**, Tokheim C, Cortés-Ciriano I, Jayasinghe R, Chen F, Yu L, Sun S, Olsen C, Kim J, Taylor AM, Cherniack AD, Akbani R, Suphavilai C, Nagarajan N, Stuart JM, Mills GB, Wyczalkowski MA, Vincent BG, Hutter CM, Zenklusen JC, Hoadley KA, Wendl MC, Shmulevich L, Lazar AJ, Wheeler DA, Getz G; Cancer Genome Atlas Research Network.
Cell. 2018 Apr 5;173(2):305-320.e10. doi: 10.1016/j.cell.2018.03.033. PMID: 29625049 **[Covered by 21 news outlets]**

13. Pathogenic Germline Variants in 10,389 Adult Cancers.
Huang KL, Mashl RJ, Wu Y, Ritter DI, Wang J, Oh C, Paczkowska M, Reynolds S, Wyczalkowski MA, Oak N, Scott AD, Krassowski M, Cherniack AD, Houlahan KE, Jayasinghe R, Wang LB, Zhou DC, Liu D, Cao S, Kim YW, Koire A, McMichael JF, Hucthagowder V, Kim TB, Hahn A, Wang C, McLellan MD, Al-Mulla F, Johnson KJ; Cancer Genome Atlas Research Network; Lichtarge O, Boutros PC, Raphael B, Lazar AJ, Zhang W, Wendl MC, Govindan R, Jain S, Wheeler D, Kulkarni S, Dipersio JF, Reimand J, Meric-Bernstam F, Chen K, Shmulevich I, Plon SE, Chen F, Ding L.
Cell. 2018 Apr 5;173(2):355-370.e14. doi: 10.1016/j.cell.2018.03.039. PMID: 29625052 **[Covered by 28 news outlets]**

14. Pan-cancer analysis of somatic mutations across 21 neuroendocrine tumor types.
Cao Y, Zhou W, Li L, Wang J, Gao Z, Jiang Y, Jiang X, Shan A, Bailey MH, **Huang KL**, Sun SQ, McLellan MD, Niu B, Wang W, Ding L, Ning G.
Cell Res. 2018 May;28(5):601-604. doi: 10.1038/s41422-018-0019-5. Epub 2018 Mar 5. PMID: 29507395

15. Mass Spectrometry-Based Proteomics Reveals Potential Roles of NEK9 and MAP2K4 in Resistance to PI3K Inhibition in Triple-Negative Breast Cancers.
Mundt F, Rajput S, Li S, Ruggles KV, Mooradian AD, Mertins P, Gillette MA, Krug K, Guo Z, Hoog J, Erdmann-Gilmore P, Primeau T, Huang S, Edwards DP, Wang X, Wang X, Kawaler E, Mani DR, Clauser KR, Gao F, Luo J, Davies SR, Johnson GL, **Huang KL**, Yoon CJ, Ding L, Fenyö D, Ellis MJ, Townsend RR, Held JM, Carr SA, Ma CX.
Cancer Res. 2018 May 15;78(10):2732-2746. doi: 10.1158/0008-5472.CAN-17-1990. Epub 2018 Feb 22. PMID: 29472518

16. Integrative omics analyses broaden treatment targets in human cancer.
Sengupta S*, Sun SQ*, **Huang KL**, Oh C, Bailey MH, Varghese R, Wyczalkowski MA, Ning J, Tripathi P, McMichael JF, Johnson KJ, Kandoth C, Welch J, Ma C, Wendl MC, Payne SH, Fenyö D, Townsend RR, Dipersio JF, Chen F, Ding L.
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***For reference 22-42, I was acknowledged as part of the ICGC Pan-Cancer Analysis of Whole Genomes Consortium (PCAWG) based on my work to help test and establish the WashU variant-calling pipeline that helped generate the PCAWG genomic mutation data going into these projects. Otherwise, for most these papers, I did not directly contribute to other parts.

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Other Peer Reviewed Publications:

1. Ten Simple Rules for landing on the right job after your PhD or postdoc.
Huang KL. *PLoS Computational Biology* 2020. [PLoS ten simple rules series]: **8,000+ reads counting only the first year of publication**.

Books:

2. Solve It Yourself: Fix the World's Problem with Science.

   Huang KL. 2021. [E-book, Paperback, Hardcover]**: Amazon #1 best-seller in Civics, #2 in motivational self-help in April 2021. Author interviews on Podcast, Radio, and TV shows.**

Non-Peer Reviewed Publications:

3. Most popular public searches on gene names.

   Huang KL. *Nature* 2018. [Correspondence]

INVITED PRESENTATIONS

1. Hosted/co-hosted 10+ **Open Box Science** research seminars/career panels/science communication symposiums.
2. Universitätsmedizin der Johannes Gutenberg-Universität Mainz, DIASyM research core, Germany, 2023.
3. University of Alabama at Birmingham (UAB), Department of Genetics, USA, 2023.
4. National Taiwan University Hospital, Precision Medicine Research Group, Taipei, Taiwan 2023.
5. National Sun Yet-Sun University, School of Medicine, Kaohsiung, Taiwan 2022.
6. The 5th Global Conference on Biomedical Engineering (GCBME 2022), Taipei, Taiwan 2022.
7. 2nd CASMS Virtual Conference, USA, 2022.
8. Discussion Leader for Gordon Research Conference on Human Genetic Variation and Disease, USA 2022.
9. Charleston Conference on Alzheimer's Disease (CCAD), Hawaii, USA 2022.
10. VCCC Alliance Monday Livestream, Australia, 2022.
11. Drug Discovery News (DDN) Webinar, USA, 2021.
12. Perlmutter Cancer Center Research Seminar Series, NYU Langone Health, New York, USA, 2021.
13. The Lloyd Sherman Scholars program, Center for Excellence in Youth Education (CEYE), New York, USA, 2021.
14. TCI Big Data Cancer Retreat, Icahn School of Medicine at Mount Sinai, New York, USA, 2021.
15. Sage Bionetwork, Seattle, Washington, USA, 2021.
16. National Taiwan University Hospital (NTUH), Taipei, Taiwan, 2021.
17. National Central University, Taiwan, Taoyuan, Taiwan, 2021.
18. National Health Research Institutes (NHRI), Miaoli, Taiwan, 2021.
19. The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, Ghent, Belgium (virtual), 2020. [Keynote]
20. NGS Teleconference, Kaohsiung Medical University, Kaohsiung, Taiwan (virtual), 2020. [Keynote]
21. Charleston Conference on Alzheimer's Disease (CCAD)[Competition Finalist], South Carolina, USA, 2020.
22. Academia Sinica, Institute of Statistical Science, Taipei, Taiwan, 2020.
23. National Yang-Ming University, Institute of Biomedical Informatics, Taipei, Taiwan, 2020.
24. National Tsing Hua University, Institute of Biomedical Engineering, Hsinchu, Taiwan, 2020.
25. National Yang-Ming University, School of Dentistry, Taipei, Taiwan, 2020.
26. Icahn School of Medicine at Mount Sinai, Department of Genetics and Genomic Sciences, New York, USA, 2019.
27. Wesleyan University, Department of Molecular Biology and Biochemistry, Middletown, USA, 2019.
28. Icahn School of Medicine at Mount Sinai, Center for Transformative Disease Modeling, New York, USA, 2018.
29. The Scripps Research Institute, Skaggs Institute for Molecular Biology, San Diego, USA, 2018.
30. UT Southwestern, Department of Bioinformatics, Dallas, USA, 2018.
31. Oregon Health and Science University, The Knight Cancer Institute, Portland, USA, 2018.
32. UCLA Institute for Quantitative and Computational Biosciences, Los Angeles, USA, 2018.
33. Novartis Institutes for Biomedical Research, Cambridge, USA, 2018.
34. Calico Life Sciences, South San Francisco, USA, 2017.
35. 23andMe, Mountain View, USA, 2017.
36. NCI CPTAC Steering Committee Meeting, Bethesda, USA, 2017.
37. Academia Sinica, IBMS Seminar, Taipei, Taiwan, 2017.
38. TCGA PanCanAtlas Face-to-face Meeting, Houston, USA, 2016.
39. Alzheimer's Association International Conference (AAIC), Toronto, Canada, 2016.
40. American Association for Cancer Research Annual Meeting (AACR), NCI Cloud Pilot Section, New Orleans, USA, 2016.
41. NCI CPTAC Meeting, Bethesda, USA, 2015.

MEDIA RESOURCE / EDUCATIONAL MATERIALS

Through my non-profit Open Box Science, we have made 200+ interactive webinars openly available. These are mainly comprised of research talks by diverse, early-career researchers presenting their first-author publications. As of 2023/03, the OBS YouTube channel has accumulated 38.5k views with over 3.7k watch times from audience across 70+ countries. https://www.youtube.com/openboxscience

VOLUNTARY PRESENTATIONS

Not applicable