

# Haoyang ZHANG

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## EXPERIENCE

- Assistant Researcher, Lund University Nov. 2025 –  
*Clinical Memory Research, Supervisor: Niklas Mattson-Carlgrén*
- Postdoctoral Researcher, Lund University Nov. 2023 – Oct. 2025  
*Protein Bioinformatics, Supervisor: Mauno Vihinen*
- Visiting Researcher, Children's Hospital of Fudan University Jun. 2023 – Oct. 2023  
*Center for Molecular Medicine*
- Assistant Researcher, Children's Hospital of Jiangnan University Dec. 2022 – Oct. 2023  
*Department of Pediatric Laboratory*
- Research Assistant, The University of Hong Kong Jan. 2018 – May. 2018  
*School of Biological Sciences, Supervisor: Tanja Sobko*
- Research Assistant, The Chinese University of Hong Kong Jun. 2017 – Dec. 2017  
*School of Public Health and Primary Care, Supervisor: Maggie Haitian Wang*

## EDUCATION

- PhD (*Bioinformatics*), Sun Yat-sen University Sep. 2018 – Jun. 2022  
*School of Data and Computer Science, Supervisor: Yuedong Yang*
- MSc (*Epidemiology & Biostatistics*), The Chinese University of Hong Kong Sep. 2016 – Jun. 2017  
*School of Public Health and Primary Care, Supervisor: Maggie Haitian Wang*
- BMed (*Preventive Medicine*), Sun Yat-sen University Sep. 2010 – Jun. 2016  
*School of Public Health*

## GRANTS

- MultiPark, Travel Grant 2026  
*For poster presentation at the Alzheimer's Association International Conference (AAIC), 13,550 SEK*
- The Royal Physiographic Society in Lund, Research Grant 2024 – 2026  
*Developing a Comprehensive Database for Investigating Genetic Relationships within Phenotypes, 80,000 SEK*
- The Gyllenstierna Krapperup's Foundation, Research Grant 2024–2025  
*Unveiling Networked Causality Landscape for Novel Causal Connections (KR2024-0123), 20,000 SEK*

## PRESENTATIONS

- IEEE International Conference on Bioinformatics and Biomedicine (BIBM) Dec. 2021  
*IEEE Computer Society, Virtual Conference. Oral presentation.*
- Workshop on Interdisciplinary Research of Mathematics, Computer Science and Biology May. 2019  
*Institute of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing. Oral presentation.*

## PUBLICATIONS

(# contributed equally, \* corresponding). Full list at my Google Scholar.

First author:

1. **Zhang H**, Kabir M, Vihinen M\*. PON-Del predictor for sequence-retaining protein deletions. *PLOS Computational Biology*. 2026. [article][code]
2. **Zhang H**, Luan X, Vihinen M\*. Proteome-wide analysis of human deletions. *Proteins: Structure, Function and Bioinformatics*. 2025. [article]
3. **Zhang H**, [...], Vihinen M\*. There will always be variants of uncertain significance. Analysis of VUSs. *NAR Genomics and Bioinformatics*. 2024. [article]
4. **Zhang H\***, [...], Zheng L. Letter to the Editor: Is Omeprazole a contributing risk factor for osteoarthritis (OA)? *Journal of Translational Medicine*. 2024. [letter]
5. **Zhang H#**, [...], Chen Y\*. Symptom profiles and vaccination status for COVID-19 after the adjustment of the dynamic zero-COVID policy in China: an observational study. *Journal of Medical Virology*. 2023. [article] [code]
6. **Zhang H**, [...], Zhao H\*. Identification of putative causal relationships between type 2 diabetes and blood-based biomarkers in East Asians by Mendelian randomization. *American Journal of Epidemiology*. 2022. [article]
7. **Zhang H**, [...], Zhao H\*. Mendelian randomization study reveals a population-specific putative causal effect of type 2 diabetes in risk of cataract. *International Journal of Epidemiology*. 2022. [article] [code]
8. **Zhang H**, [...], Yang Y\*. DGAT-onco: A differential analysis method to detect oncogenes by integrating functional information of mutations. *IEEE BIBM*. 2021. [article] [code]

Corresponding author:

1. Wang R#, [...], **Zhang H\***. Wearable Device–Measured Physical Activity and Risk of MAFLD in Adolescents. *American Journal of Preventive Cardiology*. 2025. [article] [code]
2. Chen H#, [...], **Zhang H\***. Sex differences in the genetic relationship between type 2 diabetes and cataract: Insights from East Asian and European Populations. *Medicine Advances*. 2025. [article]
3. Chen H#, [...], **Zhang H\***. Resilience of Pediatric Healthcare Services in an Urban Hospital in China During the COVID-19 Pandemic in Late 2022. *BMJ Paediatrics Open*. 2025. [letter] [code]
4. Yang F#, [...], **Zhang H\***. Potential Alternative and Novel Biomarkers for Paediatric MAFLD: exploratory evidence from a Chinese cohort. *BMC Gastroenterology*. 2025. [article] [code]

Co-author:

1. Shen C#, Wan C#, Yu C#, Shen T#, **Zhang H**, Xiao J, You Y, Shen X, Li J, Ling W, Huang R\*, Xue H\*, Chen X\*. Dietary anthocyanins alleviates age-dependent hepatic steatosis by expanding *Limosilactobacillus reuteri* and modulating gut microbiota–bile acid–hepatic FXR signaling. *Hepatology*. 2026. [article]
2. Qi M, **Zhang H**, Xiu X, He D, Cooper DN, Yang Y, Zhao H\*. Genetic evidence for T-wave area from 12-lead electrocardiograms to monitor cardiovascular diseases in patients taking diabetes medications. *Human Genetics*. 2024. [article]
3. Lin S, **Zhang H**, Qi M, Cooper DN, Yang Y, Yang Y, Zhao H\*. Inferring the genetic relationship between brain imaging-derived phenotypes and risk of complex diseases by Mendelian randomization and genome-wide colocalization. *Neuroimage*. 2023. [article]

4. Chen X#, Chen S#, Pang J#, Huang R, You Y, **Zhang H**, Xiao J, Xue H\*, Ling W\*. Hepatic steatosis aggravates atherosclerosis via small extracellular vesicle-mediated inhibition of cellular cholesterol efflux. *Journal of Hepatology*. 2023. [article]
5. Xiu X#, **Zhang H**#, Xue A, Cooper DN, Yan L, Yang Y\*, Yang Y\*, Zhao H\*. Genetic evidence for a causal relationship between type 2 diabetes and peripheral artery disease in both Europeans and East Asians. *BMC Medicine*. 2022. [article]
6. Sun D, Jin Y, Wang T, Zheng K, Rios R, **Zhang H**, Targher G, Byrne C, Yuan W, Zheng M\*. MAFLD and risk of CKD. *Metabolism*. 2021. [article]
7. Wang MH#\*, Lou J#, Cao L#, Zhao S, Chan RW, Chan PK, Chan MC, Chong MK, Wu WK, Wei Y, **Zhang H**, Zee BC, Yeoh EK\*. Characterization of key amino acid substitutions and dynamics of the influenza virus H3N2 hemagglutinin. *Journal of Infection*. 2021. [article]
8. Zhao M#, **Zhang H**#, Waters TH, Chung JP, Li TC, Chan D\*. The effects of daily meteorological perturbation on pregnancy outcome: follow-up of a cohort of young women undergoing IVF treatment. *Environmental Health*. 2019. [article]

## AWARDS

- MSCA Postdoctoral Fellowships, Seal of Excellence (92.4/100, not funded due to budget constraints) 2025

## Bioinformatics Tools

- rsidmap (developer): Rapid mapping of genomic positions to rsid. [link]
- DGAT-onco (developer): Detecting oncogenes by comparing mutational profiles. [link]

## Genetics Databases

- MR Catalog (developer): Database for phenotype-wise genetic relationship investigation. [link]
- PON-DEL (developer): Database for predicting the pathogenicity of protein deletions. [link]
- MOCRdb (developer): Multi-omics causal resource database (in development). [link]
- LU-PSB Server (maintainer): Protein variant database of Protein Bioinformatics Group at Lund University. [link]