Haoyang ZHANG

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EXPERIENCE

- **Assistant Researcher, Lund University** — Nov. 2025 –
  Clinical Memory Research, Supervisor: Niklas Mattson-Carlgren

- **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
  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 prediction 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. 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]

2. 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]

3. 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]

4. Xiu X#, **Zhang H**#, Xue A, Cooper DN, Yan L, Yang Y*, Yang Y*, Zhao H*. A causal relationship between type 2 diabetes and peripheral artery disease is evident in both Europeans and East Asians.
BMC Medicine. 2022. [article]

5. 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]

6. 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]

7. 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]

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]