

Postdoctoral Fellows & Research Scientists in AI-Driven Human Genomics and Computational Biology

Statistical Genetics Laboratory, School of Life Sciences, Westlake University
Hangzhou, China

The opportunity

The Statistical Genetics Laboratory at Westlake University is seeking 3–5 highly motivated Postdoctoral Fellows or Research Scientists to work at the interface of artificial intelligence, human genetics, and multi-omics.

You will help build the next generation of AI models for population-scale genomic and multi-omics data — developing methods that turn genome variation into biological insight, and insight into new therapeutic targets. If you are excited by deep learning, large-scale data, and questions of human health and disease, we would like to hear from you.

About the lab

The Statistical Genetics Laboratory studies human genome variation to understand how genetic differences shape disease and health, providing the theoretical and technical foundation for better prevention, diagnosis, and treatment. Our current research directions include (but are not limited to):

- AI in genomics and multi-omics
- Single-cell and spatial omics in human genetics
- Population genomics-based discovery of new disease therapeutic targets
- Pangenome, structural variants, and population health
- Cancer genetics and multi-omics
- Development of high-performance bioinformatics methods and tools

The lab has a strong track record in developing widely adopted methods and tools, including GCTA-GREML, COJO, SMR, fastGWA, and gsMap, and maintains rich resources spanning human genetics, multi-omics, single-cell, and

spatial datasets. Researchers have access to a dedicated GPU platform and high-performance computing cluster capable of supporting the development and training of large-scale AI models.

Learn more at <https://yanglab.westlake.edu.cn/>

About the Principal Investigator

Professor Jian Yang is Chair Professor of Statistical Genetics at Westlake University and a New Cornerstone Investigator. He received his PhD from Zhejiang University in 2008, completed postdoctoral training at the QIMR Berghofer Medical Research Institute in Australia (2008–2011), and held positions from Research Fellow through to Professor at the University of Queensland (2012–2020) before joining Westlake University in 2020. His research focuses on the genetics and genomics of complex human traits, and he has developed a series of pioneering methods that are now widely used across human genetics. He was the 2012 recipient of the Centenary Institute Lawrence Creative Prize, in recognition of his contribution to solving the ‘missing heritability’ paradox. He was subsequently awarded the Australian Academy of Science Ruth Stephens Gani Medal for distinguished research in human genetics (2015), the Prime Minister’s Prize for Science (Frank Fenner Prize for Life Scientist of the Year, 2017), and was selected for the New Cornerstone Investigator Program (2025). He has published over 240 papers, which have received >130,000 citations.

What you will do

- Develop deep learning methods, including approaches based on graph neural networks, Transformers, and diffusion models, and apply them to single-cell and spatial multi-omics research and its integration with human genetics.
- Build large-scale AI models, such as foundation models, large language models, and AI agents, for population genomic and multi-omics data, to

interpret and predict the relationships between genome variation and complex traits and diseases, and to advance AI-driven therapeutic target discovery.

- Collaborate with colleagues within the lab and across other research groups on projects at the intersection of AI and genomics.
- Communicate your science: write research papers and present your work at national and international conferences and workshops.

What we are looking for

- A PhD (obtained or expected soon), awarded no more than 10 years ago.
- Integrity, strong scientific motivation, sound academic ethics, and a collaborative spirit, i.e., someone who is self-driven and able to advance research proactively and efficiently.
- A background in computer science, artificial intelligence, bioinformatics, computational biology, biostatistics, or a related field. Experience in machine learning / deep learning algorithm development and application (e.g. fluency with PyTorch, TensorFlow, or similar frameworks) is highly desirable.
- Strong programming skills and experience with large-scale data analysis, including working on Linux platforms or computing clusters (e.g. proficiency in Python, R, and Shell). Experience with AI model development, training, and deployment, or with method and analysis-pipeline development, is a plus. Experience with genomics or multi-omics data analysis is advantageous but not required.
- Strong English communication skills, with the ability to write analysis reports and research papers in English.
- A recent first-author publication in a leading journal or high-profile conference in your field.

What we offer

- A competitive salary, commensurate with your ability and in line with Westlake University's policies.
- A stable working environment and a world-class research platform, with support for grant applications and tailored support for your career development according to your interests and goals.
- Funding incentives: for those awarded a China Postdoctoral Science Foundation grant or a provincial postdoctoral research grant, the Hangzhou municipal government provides 1:1 matching funding.
- Relocation support: postdoctoral fellows who remain in (or relocate to) Hangzhou after completing their postdoc receive a settlement subsidy of RMB 400,000 per person.
- Deep institutional strength in complex-trait genetics, statistical genetics, and bioinformatics method development, together with extensive data resources and cutting-edge computing infrastructure (GPU platform + HPC cluster).

How to apply

Please send the following materials as PDF files to statgenlab@westlake.edu.cn, with the email subject line: "Application for Postdoc or Research Scientist: [Your Name]"

1. A detailed CV.
2. A cover letter, including your research achievements, a brief future research plan, and your reasons for applying.

Shortlisted candidates who meet the requirements will be contacted to arrange an interview. This advertisement remains open until the positions are filled.

Westlake University is an equal-opportunity employer committed to building a diverse and inclusive research community. We welcome applications from candidates of all backgrounds.