

**Research Assistant position in Human Genomics and Computational Biology Lab,
School of Life Sciences, Westlake University**

Introduction about the Lab/ Research Field

Mosaicism happens because a mutation arises at some point after the zygote is created. Mosaic mutations arising early during development generally are present in relatively high proportion of cells, affecting high proportion of tissues and are likely to be transmitted to the next generation. Mosaic mutations are common in normal human genomes and have been reported to be implicated in a variety of disorders, but the prevalence and influence of early-developmental mosaics in most human diseases, including cancers, is still largely unknown. In addition, the relationship between different developmental-stage mutation profiles, as well as the impact of embryonic mutations on varied diseases are largely unexplored. Moreover, current methods are restricted to detecting rare mosaic mutations partly due to technical difficulties, and the invaluable information imbedded in common mosaic variants is highly neglected.

Our goal is to explore and understand the origin and impact of somatic mutations in human genomes. We will devote our efforts to draw a comprehensive view of mosaic variants in human genomes by developing new bioinformatics methods identifying both rare and common mosaic variants. We will then expand our focus to decipher the mutation mechanisms, mutation consequences and elucidate the relationship between early developmental mosaic mutations and diseases developed later in life. We would also make use of neutral mosaic mutations to study embryonic developmental processes in disease individuals.

Our lab is primarily a computational biology group that uses and develops a wide range of genomic, bioinformatic, and statistical methods to do data-mining and answer biological questions. We would work closely with hospitals to carry out a series of studies on (but not limited to) mosaic mutations. Successful candidates will join our supportive and productive team to complete scientific research projects. We are always looking for new group members with passion, talent, and grit!

Lab website: <https://douymylab.github.io/>

Lab page on Westlake University:

https://sls.westlake.edu.cn/en/Faculty/202104/t20210407_9168.shtml

Job Description

Position 1: Lab manager (1)

Job Responsibilities:

- 1) Purchase and maintenance of laboratory equipment & consumables;
- 2) Complete wet-lab experiments such as single-cell whole-genome amplification and sequencing library preparations, etc.
- 3) Responsible for lab orientation, meeting arrangements, organization of team building activities, etc.;
- 4) Collection of sample tissues and information (collaborate with the hospital);
- 5) Assist laboratory members to complete scientific research projects.

Job Requirements:

- 1) Have Bachelor's or Master's degree in biology or other related fields;
- 2) Candidates with rich experience in lab management & lab establishment would be given priority consideration;
- 3) Have wet-lab experience in molecular biology, biochemical, cell culture, genomics, etc., familiar with high-throughput sequencing technology.
- 4) Candidate with research experience in single-cell genome amplification, sequencing library construction, etc. will be given priority consideration;
- 5) Work conscientiously and responsibly, proactive and collaborative.

Position 2: Research Assistant in Genomics (1-3)

Job Responsibilities:

- 1) Purchase and maintenance of laboratory equipment & consumables;
- 2) Complete wet-lab experiments such as single-cell whole-genome amplification and sequencing library preparations, etc.
- 3) Assist lab orientation, meeting arrangements, organization of team building activities, etc.;
- 4) Assist collection of sample tissues and information (collaborate with the hospital);
- 5) Assist laboratory members to complete scientific research projects.

Job Requirements:

- 1) Have Bachelor's or Master's degree in biology or other related fields;
- 2) Have wet-lab experience in molecular biology, biochemical, cell culture, genomics, etc., familiar with high-throughput sequencing technology.
- 3) Candidate with research experience in single-cell genome amplification, sequencing library construction, etc. will be given priority consideration;
- 4) Work conscientiously and responsibly, proactive and collaborative.

Position 3: Research Assistant in Computational Biology (1-3)

Job Responsibilities:

- 1) Maintain the lab website and manage the data generated by the lab;
- 2) Assist in maintaining the software tools developed by the lab;
- 3) Assist in applying for and downloading public data sets;
- 4) Assist in installing and maintaining software on the lab server;
- 5) Assist in collecting sample tissues (cooperate with hospital);
- 6) Assist others in completing research projects.

Job Requirements:

- 1) Have (or about to have) Bachelor or Master's degree in Biology, Computer Science or other related areas;

- 2) Have excellent communication skills;
- 3) Have good English writing skills;
- 4) Be familiar with Linux operating system and experienced in at least one programming language.

Compensation and Benefits

The research team offers a competitive compensation package commensurate with the selected candidate's qualifications and experience. Candidates will enjoy "wuxianyijin" and relevant benefits of Westlake University.

How to apply

Please send your detailed resume (in pdf format) to douyanmei@westlake.edu.cn. Please indicate "Application Research Assistant (Your name)" in the email subject line. We will email the result of the preliminary screening of the application and contact the candidates who have passed for further interview.