

Stanford Postdoctoral Position: Spatial Multi-Omics and Genomics Technology Development

Location: [Tang Lab](#), Stanford University

Duration: Initial appointment of 1–2 years with possibility of extension

Start Date: ASAP (flexible)

The Tang Lab at Stanford University is seeking a postdoctoral scholar to lead the development of a new experimental platform for spatial multi-omic analysis of biological tissues. Our lab builds biological measurement infrastructure—engineering systems that standardize how information is extracted from complex biological samples. By controlling the physical interface between biology and measurement, we aim to generate structured, high-quality datasets that enable rigorous quantitative analysis and predictive modeling of biological systems.

One major effort in the lab is the **μDicer platform** (<https://www.nature.com/articles/s41378-024-00756-8>; <https://www.biorxiv.org/content/10.64898/2025.12.12.694048v1>). μDicer is a micro-dissection system that dices tissue sections into defined spatial units while preserving spatial context. We are currently developing methods to transfer diced tissue voxels into indexed multi-well plates, enabling spatially indexed sampling that remains compatible with conventional high-depth molecular assays such as RNA sequencing and epigenomic profiling.

The goal of this project is to develop experimental and analytical workflows that combine spatial voxel sampling with modern sequencing technologies to enable flexible and scalable spatial molecular profiling. More broadly, this work aims to establish a new experimental framework for spatial multi-omic analysis that complements existing spatial transcriptomics technologies.

Responsibilities

The postdoctoral scholar will:

- Develop low-input sequencing workflows (RNA-seq and related assays) from spatially indexed tissue voxels
- Evaluate RNA quality, library complexity, and sequencing performance from spatial samples
- Design experiments integrating spatial sampling with multi-omic molecular assays
- Develop analysis pipelines for spatial genomics datasets
- Work closely with engineering team members developing the μDicer platform
- Collaborate with Stanford genomics facilities and external biological collaborators

This position offers substantial intellectual ownership and the opportunity to shape a new technology platform at the interface of engineering and genomics. The postdoctoral scholar will play a leading role in defining the experimental and analytical direction of the project, with strong opportunities for first-author publications as the platform matures. The successful candidate will also help define the scientific applications of the platform in collaboration with biological and clinical partners.

Qualifications

Required

- PhD in bioengineering, genomics, molecular biology, computational biology, or a related field
- Hands-on wet-lab experience with sequencing-based assays (RNA-seq, single-cell genomics, or related methods)
- Experience working with biological samples such as tissues, cells, or nucleic acids
- Strong interest in developing new experimental technologies

Preferred

- Experience with spatial transcriptomics or single-cell genomics
- Experience with low-input sequencing workflows
- Experience analyzing genomics datasets in Python or R
- Ability to work across engineering and biological disciplines

Environment

The Tang Lab operates at the interface of engineering and quantitative biology to develop new biological measurement platforms. We collaborate widely across Stanford and with external partners in genomics, cancer biology, and clinical research, providing opportunities to work with diverse biological systems and translational applications.

Application

Please apply through the following form: <https://forms.gle/1vic3xFvaBt8qsRw7>.

Applications will be reviewed on a rolling basis.