Stanford



Zihan Xu

Postdoctoral Scholar, Pathology

Bio

HONORS AND AWARDS

- Honourable Mention, 2026 International Birnstiel Award, Max Birnstiel Foundation, the Research Institute of Molecular Pathology (09/15/2026)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Member, American Association for Cancer Research (AACR) (2025 - present)
- Member, Center for Integrated Cellular Analysis - Centers of Excellence in Genomic Science (CEGS) (2021 - 2026)

PROFESSIONAL EDUCATION

- PhD, Rockefeller University , Genetics and Genomics (2026)
- BM, Shanghai Jiao Tong University School of Medicine (2020)

STANFORD ADVISORS

- Ansuman Satpathy, Postdoctoral Faculty Sponsor

PATENTS

- Zihan Xu, et al. "United States Patent US provisional patent application 63/385,479 PerturbSci-Kinetics"
- Zihan Xu, et al. "United States Patent US provisional patent application 63/789,011 PerturbFate"

Publications

PUBLICATIONS

- **Single-cell multimodal profiling of pan-cancer cell lines uncovers gene regulatory principles underlying intrinsic cell states and environmental features.** *Nature communications*
  Xu, Z., Ugurbil, A., Kwan, J., Schaefer, C., Abdulraouf, A., Lu, Z., Tang, E., Zhou, W., Cao, J.
  2026; 17 (1)
- **Mapping convergent regulators of melanoma drug resistance by PerturbFate.** *Nature*
  Xu, Z., Lu, Z., Ugurbil, A., Abdulraouf, A., Liao, A., Zhang, J., Zhou, W., Cao, J.
  2026; 654 (8117): 261-271
- **Dissecting key regulators of transcriptome kinetics through scalable single-cell RNA profiling of pooled CRISPR screens.** *Nature biotechnology*
  Xu, Z., Sziraki, A., Lee, J., Zhou, W., Cao, J.
  2024; 42 (8): 1218-1223
- **Optics-free spatial genomics for mapping mammalian brain aging by IRISeq.** *Nature neuroscience*
  Abdulraouf, A., Jiang, W., Zhang, Z., Xu, Z., Lu, Z., Merlinsky, T., Liao, A., Doymaz, A., Isakov, S., Raihan, T., Zhou, W., Cao, J.

2026; 29 (7): 1762-1773

- **Transcript-guided targeted cell enrichment for scalable single-nucleus RNA sequencing.** *Cell genomics*
  Liao, A., Zhang, Z., Sziraki, A., Abdulraouf, A., Rehman, A., Xu, Z., Lu, Z., Jiang, W., Arya, A., Lee, J., Maragkakis, M., Zhou, W., Cao, et al
  2026; 6 (3): 101101
- **Organism-wide cellular dynamics and epigenomic remodeling in mammalian aging.** *Science (New York, N.Y.)*
  Lu, Z., Zhang, Z., Xu, Z., Abdulraouf, A., Zhou, W., Cao, J.
  2026; 391 (6788): eadw6273
- **Perturb-ME: Scalable mechanism discovery from phenotype-enriched genome-wide screens** *BioRxiv*
  Wang, H., Gu, J., Frangieh, C., Cuoco, M., Zhao, M., Sett, A., Beyer, T., Pang, K., Stolte, E., Xu, Z., Leskovec, J., Rozenblatt-Rosen, O., Natarajan, et al
  2026
- **A global view of aging and Alzheimer's pathogenesis-associated cell population dynamics and molecular signatures in human and mouse brains.** *Nature genetics*
  Sziraki, A., Lu, Z., Lee, J., Banyai, G., Anderson, S., Abdulraouf, A., Metzner, E., Liao, A., Banfelder, J., Epstein, A., Schaefer, C., Xu, Z., Zhang, et al
  2023; 55 (12): 2104-2116
- **Tracking cell-type-specific temporal dynamics in human and mouse brains.** *Cell*
  Lu, Z., Zhang, M., Lee, J., Sziraki, A., Anderson, S., Zhang, Z., Xu, Z., Jiang, W., Ge, S., Nelson, P. T., Zhou, W., Cao, J.
  2023; 186 (20): 4345-4364.e24
- **Induced lineage promiscuity undermines the efficiency of all-trans-retinoid-acid-induced differentiation of acute myeloid leukemia** *ISCIENCE*
  Tang, Y., Tian, X., Xu, Z., Cai, J., Liu, H., Liu, N., Chen, Z., Chen, S., Liu, F.
  2021; 24 (5)

PRESENTATIONS

- Unraveling Melanoma Phenotype Switching by Single-Cell Multi-modal Genetic Perturbations - Systems Biology: Global Regulation of Gene Expression (3/11/2026 - 3/14/2026)
- Uncovering Convergent Cell State Dynamics Across Divergent Genetic Perturbations Through Single-Cell High-Content CRISPR Screening - 2025 Annual NHGRI CEGS meeting (10/8/2025 - 10/11/2025)
- PerturbSci-Kinetics: Dissecting key regulators of transcriptome kinetics through scalable single-cell RNA profiling of pooled CRISPR screens - 2023 Annual NHGRI CEGS meeting (10/26/2023 - 10/28/2023)