

Postdoctoral Fellowships in Cancer Genome Instability

Postdoctoral training positions are available in the laboratory of [Dr. Peter Ly, Ph.D.](#) in the [Children's Medical Center Research Institute](#) at UT Southwestern to study the mechanistic causes and consequences of genomic instability in cancer. The [Ly Laboratory](#) is pursuing several exciting projects related to how cell cycle defects and mitotic errors are linked to large-scale genomic rearrangements. These alterations range from simple translocations and deletions to catastrophic forms of chromothripsis that ultimately shapes the complex mutational landscape of cancer genomes. We are also investigating how diverse DNA damage repair pathways respond to DNA double-strand breaks induced by mitotic errors, as well as their contribution to the maintenance of genome integrity. Our research program employs a number of state-of-the-art approaches, including CRISPR-based screening, high-resolution live-cell microscopy, molecular cytogenetics, and genomics.

Recent Publications:

- Lin et al. Mitotic clustering of pulverized chromosomes from micronuclei. *Nature* (2023)
- Mazzagatti et al. Boveri and beyond: Chromothripsis and genomic instability from mitotic errors. *Molecular Cell* (2024)
- Hu et al. Non-homologous end joining shapes the genomic rearrangement landscape of chromothripsis from mitotic errors. *Nature Communications* (2024)
- Engel et al. The Fanconi anemia pathway induces chromothripsis and ecDNA-driven cancer drug resistance. *Cell* (2024)

Candidates must hold a Ph.D. and/or M.D. degree(s) prior to starting. Experience in cell and molecular biology, genetics, biochemistry, microscopy, and/or computational biology leading to publication(s) in peer-reviewed journals and/or pre-prints is strongly preferred. Successful applicants are expected to develop and lead an independent research project within the broad themes of the laboratory.

Information on our postdoctoral training program, benefits, and a virtual tour can be found at <http://www.utsouthwestern.edu/postdocs> and <https://cri.utsw.edu/postdoctoral-fellowships>.

Interested individuals should send a CV, statement of interest, and a list of three references to:

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