



NIDDK P30 Center for Molecular Studies in Digestive and Liver Diseases Research Seminar



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"Roles of T Cell Memory in Health and Disease"

Thursday, May 18, 2023

12:00 – 1:00 PM EST

901 Biomedical Research Building or [Via Zoom](#)

A central problem faced by multi-cellular organisms is the need for rare progenitor cells to continually produce terminally differentiated cells while also preserving a self-renewing lineage. What mechanisms allow a progenitor cell to give rise to two daughter cells that adopt such different fates? One potential solution is an evolutionarily conserved mechanism called asymmetric cell division, during which a dividing cell imparts unequal inheritance of its components to its two daughter cells, making them different from inception.

We have applied single-cell gene expression measurements from CD8+ T lymphocytes sequentially after microbial infection in vivo to identify transcriptional signatures that control the eventual fates of these cells. We have also utilized single-cell approaches aimed at improving the molecular understanding of the inflammatory bowel diseases and identifying new diagnostic and therapeutic targets for these diseases. We anticipate our research will contribute to our understanding of a multitude of processes, including stem cell and tissue regeneration, immunity, autoimmunity, and cancer.