



## VIRTUAL BIOLOGY COLLOQUIUM

Friday, 17 Mar 2023 | 10 am | Online Zoom Session

Hosted by Assoc. Prof Low Boon Chuan

# Dissecting human diseases using CRISPR-associated gene editing tools



**By Jiang Tingting**

*Icahn School of Medicine at Mount Sinai*

Mutations within the coding regions of genes can give rise to the malfunctional proteins and RNAs that impart varying biological consequences (e.g., dysregulated signal transduction pathways). Genetic variations are associated with a wide range of pathogenic conditions, although the mechanisms are not always clear. The development of sophisticated genome-editing techniques promises to interrogate pathogenesis processes at single-nucleotide resolution. My lab exploits CRISPR-based editing tools to investigate disease-associated genetic aberrations from two perspectives: (1) understanding how genetic alterations cause corresponding pathogenic conditions, and (2) investigating the potential therapeutic outcomes by accurately repairing genetic lesions. In this talk, I will present two major topics: (1) Identifying novel therapeutic targets for liver cancer therapy using high-throughput CRISPR screen, and (2) developing novel gene editors to program large genomic rearrangements for treating a liver disease.

### About the Speaker

*Dr. Jiang received her Ph.D. from the National University of Singapore in 2016, working on spatial-temporal regulations of cell signaling in cancers at the Mechanobiology Institute. She joined Dr. Wen Xue's lab for her postdoctoral research in the RNA Therapeutics Institute at the University of Massachusetts Medical School in 2017. She engineered versatile CRISPR-based gene editing tools to treat different genetic diseases. She started a tenure-track assistant professor position at Icahn School of Medicine at Mount Sinai in the November of 2022.*

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