

CSCB Seminar Series

The ecDNA Epigenome: from Permissive Chromatin to Actionable Vulnerability

Date: 2nd Dec 2025 (Tuesday)

Time: 2pm - 3pm (SGT)

Venue: Meeting Room 7C

For details, please contact:

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Abstract:

Extrachromosomal DNA (ecDNA) is a key driver of oncogene amplification and therapeutic resistance in many aggressive cancers. Despite the clinical importance, its actionable vulnerabilities have remained elusive. In this talk, I will share our recent discovery of a key vulnerability in ecDNA-driven tumors: a heightened replication stress caused by pervasive transcription on ecDNA. We leveraged this finding to develop a novel synthetic lethal strategy to overcome drug resistance. By combining CHK1 inhibition with a targeted therapy, we achieved sustained tumor regression in a mouse tumor model, advancing a new therapeutic strategy for treating ecDNA-driven cancers.

Speaker:



Dr Guiping WANG

Postdoctoral Fellow

Stanford University School of Medicine

Dr. Guiping Wang earned her PhD in Chemistry from Harvard University and is currently a Postdoctoral Fellow at the Stanford University School of Medicine. She develops and applies cutting-edge imaging and sequencing methods to understand the fundamental principles linking molecular-level organization to cellular functions and pathological states.

Host:

Dr Tam Wai Leong

Associate Professor (Adjunct), Department of Biochemistry,
Yong Loo Lin School of Medicine, NUS

Deputy Executive Director, Genome Institute of Singapore, A*STAR

**No registration is required.
All are welcome.**