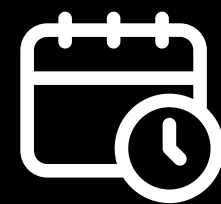


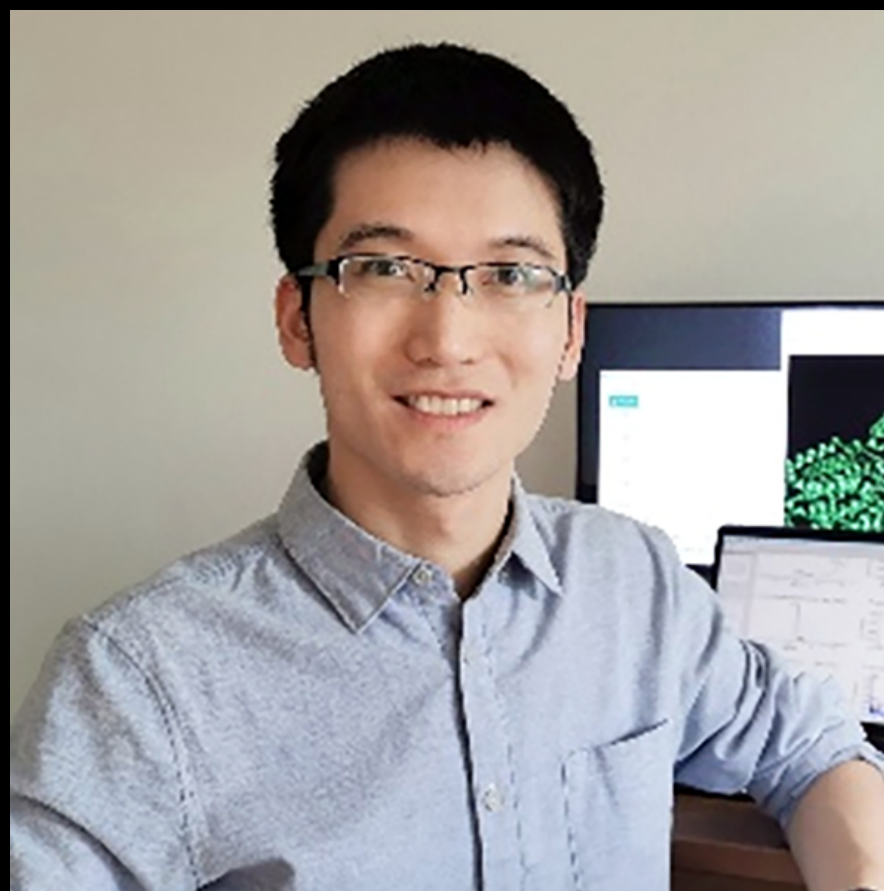
A MOLECULAR ATLAS OF SUBCELLULAR RNA LOCALIZATION AND INTERACTION USING PROXIMITY LABELING



Thursday 24 April 2025
9.30am (SGT , GMT+8)

About the speaker

Shuo Han graduated from Tsinghua University in 2014 with a bachelor's degree in chemical biology and a minor in computer science. He then did his PhD work with Dr. Alice Ting at Stanford University from 2014-2020, during which he developed numerous APEX proximity labeling technologies for mapping molecular interaction. Shuo subsequently worked with Dr. Philip Beachy as a postdoctoral fellow at Stanford to study epithelial stem cell and tissue regeneration, before starting his own lab at SIBCB in 2023. Shuo's research has been recognized by the Damon Runyon Cancer Research Foundation Fellow Award, Stanford Dean's Fellowship, Sammy Kuo Award in Neuroscience, Bio-X Bowes Fellowship, and Chinese Government Award for Outstanding Students Abroad, among others.



Dr. Shuo Han

Shanghai Institute of Biochemistry and Cell
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Via Zoom



About the seminar

The spatial distribution of RNA in cells profoundly affects various processes such as RNA production, modification, translation, and degradation. Dysregulated RNA localization leads to many RNA-related diseases such as neurodegeneration. Therefore, profiling the dynamic spatial distribution of RNA in different cell types at the transcriptome level is key to in-depth understanding of how RNA regulates cell fate and function. Using chemical biology methods such as protein evolution and probe design, our research group focuses on developing RNA proximity labeling and enrichment technologies based on genetically-encoded enzymatic tools¹⁻⁴. We aim to apply our proximity labeling toolkit to comprehensively map RNA composition and RNA-protein interactions in different subcellular regions in diverse cell types, such as neurons and cancer cells. These novel resources and tools will help to mechanistically dissect cell-type specific RNA localization and interaction patterns, and provide a new roadmap for diagnosing RNA-related diseases at the molecular level.

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