THE GIS
SPEAKER SERIES

Genome Institute of Singapore
A*STAR GIS

From Maps to Motion: Building Perturbational Atlases at Billion-Cell Scale

Dr Johnny Yu
CSO & Co-Founder, Tahoe Therapeutics

Host: Shyam Prabhakar

Monday 17 August 2026
11.00am – 12.00pm

GIS L2 – Breakout Area
60 Biopolis Street, Genome, Singapore 138672

About The Speaker

Johnny Yu is a Co-founder and the Chief Scientific Officer at Tahoe (formerly Vevo Therapeutics). He leads development of Mosaic, a high-throughput in vivo drug screening platform for AI-powered drug discovery. He also spearheaded Tahoe-100M, the world's largest single-cell frontier dataset, created to accelerate oncology drug development. His work focuses on building frontier datasets and platforms that connect large-scale single-cell biology to therapeutic discovery across multiple cancer indications. He trained at UCSF with Dr. Hani Goodarzi and Dr. Kevan Shokat (both Co-founders of Tahoe) and holds a PhD from UCSF. Prior to UCSF, he was at the Broad Institute and Biogen.

About The Seminar

Cell atlases have provided foundational maps of cellular identity, state, and variation across tissues and disease. The next frontier is to build on these maps by systematically measuring how cells respond to genetic and pharmacological perturbations.

This shift is being enabled by two technical tailwinds: massively scaled and standardized single-cell RNA sequencing, and massively parallel experimental systems such as Mosaic technology, which allow many perturbations, models, and biological contexts to be studied in a common framework.

These datasets can identify disease mechanisms, characterize drug mechanism of action, define determinants of sensitivity and resistance, prioritize targets and combinations, and support machine learning models that predict cellular responses across compounds, genetic backgrounds, and disease contexts. This talk will illustrate case studies across these applications and present Tahoe's progress in generating perturbational datasets approaching one billion cells across multiple perturbation types.

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