

**CMMC Novel Technologies Webinar Series**

**Wednesday 10th April 2024**

**2PM CMMC Seminar Room (building 66)**

## **The power of ONE**

# **How single-cell technologies are revolutionising biological discoveries**

### **Speaker**

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### **Highlights**

In this presentation, I shall delve into the cutting-edge developments in single-cell technologies and their applications across a diverse range of fields, including developmental biology, oncology, cardiovascular disease, and ageing. Technology highlights include single-cell Whole Genome Sequencing (scWGS) and sub-cellular spatial transcriptomics such as Stereo-seq . By employing primary template-directed amplification (PTA) for whole genome amplification, scWGS can achieve unparalleled coverage and uniformity in single-cell genome sequencing. Meanwhile, Stereo-seq emerges as the state-of-the-art technology for spatial transcriptomics, delivering whole transcriptome mapping at unprecedented subcellular resolution.

In addition, I shall also discuss the potential of single-cell multiomics for insights into how genotype and phenotype correlate at the single-cell level, where phenotype could be defined as gene expression, protein, or even spatial distribution.

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