

CBC SEMINAR ANNOUNCEMENT



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Extreme Imaging for Large-Scale Single-Cell Analysis

Cellular heterogeneity is a central challenge of biology in which there are cell-to-cell differences even within the same species. Population-averaged measurements of cellular behaviors do not represent the behaviors of any individual cell. A few notable examples of cellular heterogeneity are the resistance of cancer cells to anticancer drugs and the metabolic heterogeneity of microorganisms. In this talk, I present extremely fast multi-modal imaging technology combined with artificial intelligence on a microfluidic platform for large-scale single-cell analysis. The imaging technology is enabled by an integration of three world's-fastest imaging modalities (bright-field, fluorescence, Raman) based on optical frequency combs. It provides information-rich images of numerous single cells in a short period of time to address and exploit cellular heterogeneity. In the talk, I discuss the principles and various applications of the technology.

Date:	25th October 2017 (Wednesday)
Time:	11:00am – 12:30pm
Venue:	SPMS Research & Graduate Studies Office Conference Room
Host:	Dr Ronald Ulbricht (Postdoc in Asst Prof Loh Zhi Heng's group)