City University of Hong Kong

Department of Biomedical Sciences

presents a seminar

Single-cell RNA Sequencing

Dr Andrew Farmer

Vice President

R&D, Clontech Laboratories, Inc.

Date: 3 December 2014 (Wednesday)
Time: 3:00–4:00 pm
Venue: G5-317, Green Zone, 5/F Academic 1,
City University of Hong Kong, Kowloon Tong

Abstract

Next Generation Sequencing (NGS) has increased our understanding of biology by enabling highly sensitive RNA expression analysis throughout the transcriptome, across a wide dynamic range. Two powerful applications, single cell RNA-seq and stranded RNA-seq, have been the focus of considerable efforts in protocol innovation. By utilizing the template switching activity of reverse transcriptase, Clontech's patented SMART™ technology has enabled researchers to analyze their most challenging samples. The dT-primed SMART-based RNA-seq protocol, designed to work with high-quality RNA or whole cells, is the gold standard for single cell analysis. This technology has also been adapted for transcriptome analysis for the Fluidigm C1 platform. SMART's applicability has recently been extended to noncoding RNA and mRNA from degraded samples. The purpose of this seminar is to take a deeper look into new approaches required to study genomics and transcriptomics at the single- cell level, and technologies that are being developed to do so.

About the Speaker

Dr. Farmer obtained his undergraduate degree in physiology from Oxford University. He went on to do his doctoral studies there, working on the control of liver differentiation with Dr. Stephen Goss at the Dunn School of Pathology. On coming to the USA in 1990, Dr. Farmer did post-doctoral research in the field of tumor suppressor genes; working first with Dr. Eric Stanbridge at UC, Irvine and later on BRCA1 with Dr. Wen-Hwa Lee at the Institute for Biotechnology in San Antonio Tx.

Dr Farmer joined Clontech in 1998 as developing scientist for the Tet-Systems. While at Clontech, Dr. Farmer invented a recombination-based cloning system known as the CreatorTM System. As director of Cell and Molecular Biology at Clontech, he was responsible for the development of several of Clontech's product lines, including: Two-hybrid systems, viral expression systems, Inducible expression systems, cell biology products, fluorescent reporters, the Creator and In-Fusion Cloning systems, and the RNAi product line.

Currently, Dr Farmer is Clontech's Vice President of R&D.

Contact

Dr Eddie Ma (Tel 3442-9328; Email eddiema@cityu.edu.hk)

All are welcome