CSCB
Cancer and Stem Cell Biology

# CSCB Seminar Series

**Title:**

## " Single Cell Genome Analysis for Precision Cancer Medicine "


**Abstract:**

Tumor-infiltrating lymphocytes (TILs) and the immune gene signature correlate with clinical progression in breast cancer. We isolated single cells from four breast cancer patients with different molecular subtypes to analyze the whole transcriptome. Based on copy number alterations (CNAs) in gene expression patterns, tumor cells could be separated from microenvironmental non-tumor cells. Although the pure population of tumor cells from four different subtypes displayed the characteristics of each subtype, heterogeneity was observed in the gene expression of cancer-related pathways. Most non-tumor cells were infiltrated immune cells, which showed the immune-suppressive signature in the triple-negative breast cancer-type sample. Immune cells for the luminal type of breast cancer consisted of activated lymphocytes. In this study, we uncovered molecular characteristics of TILs in breast cancers by single cell transcriptome analysis, especially through CNA-based separation of tumor and non-tumor cells.


**Date:**

**5th September 2016 (Monday)**

**Time:**

**12.00pm to 1.00pm**

**Venue:**

**Meeting Room 7C, Level 7**
**Duke-NUS Medical School**
**8 College Road, S169857**

(Opposite Singapore General Hospital, Block 6/7)

**Host:**

**Patrick TAN , MD PhD**
Professor
Programme in Cancer & Stem Cell Biology
Duke-NUS Medical School

**"No registration is required."**
Any enquiry, please contact:
Beatrice Tan (Tel: 6516 7923)

**Speaker:**




**Woong-Yang PARK, MD PhD**
Director/Professor
Samsung Genome Institute
Samsung Medical Centre
Seoul , Korea


**Biography:**

After earning MD and PhD from Seoul National University, I was trained in Rockefeller University as a postdoctoral fellow in Robert Darnell Lab on molecular neuro-oncology. Since 1998, I worked in Seoul National University College of Medicine as a professor in biochemistry in the field of human diseases with genomic techniques such as microarray and NGS. As PI or co-Investigator on several projects, I have laid the groundwork for the genomic analysis on Mendelian disorders such as skeletal dysplasia, deafness, and retinitis pigmentosa. I moved to Samsung Genome Institute as a director in 2013 to expand my research in genome data-driven medicine for precision oncology.

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