

2018 Core-to-core symposium

Biotechnology Towards Next Generation Single Cell Analysis

Date: 25th October, 2018

Venue: Singapore Polytechnic, T11A 4F

Contact:

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Organizer

Prof. Haruko Takeyama
Waseda University
TWins

Single-cell analysis is becoming more and more important after the finding that there are diversity between clonal cells. Microscopy and FACS were the major tools for single-cell analysis, but due to the advances in the nucleotide amplification methods and detection methods, information rich analysis against single-cell is budding. Speakers from variety of fields relating to single-cell analysis are welcome in this symposium.



AIST-Waseda University
Computational Bio Big-Data
-Open Innovation Laboratory
(CBBDOIL)

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Core-to-Core Program



WASEDA Bioscience Research
Institute in Singapore (WABIOS)

25th, October 2018

Biotechnology Towards Next Generation Single Cell Analysis

9:20- 9:30; **Opening Remarks**; Haruko Takeyama

Session I (Chair, Haruko Takeyama)

9:30-10:00; **Plenary Lecture 1**; Motoichi Kurisawa (A*STAR, IBN)

“Green Tea Based-Nanomedicine for Cancer Therapy”

*catechin - polymer
drug delivery*

10:00-10:20; Takafumi Inoue (Waseda University, TWIns)

“Changes in molecular dynamics of CaMKII and calmodulin during neuronal excitation revealed by FCS”

10:20-10:40; Li Peng (Singapore Polytechnic, CBLS)

“Explore HIV-1 diagnostic biomarkers through next generation sequencing”

HIV mutation by next g. seq.

10:40-11:00; Coffee Break

Session II (Chair, Hideki Itoh)

11:00-11:10; Hiroataka Fujita (Waseda University, TWIns)

“Quantitative analysis of native mRNAs by fluorescence correlation spectroscopy”

11:10-11:20; Chihiro Adachi (Waseda University, TWIns)

“Hedge Hog pathway induces ATP release and calcium oscillation in hippocampal astrocytes”

11:20-11:30; Masato Kogawa (Waseda University, TWIns, CBBB-OIL)

“New techniques for comprehensive single microbial genomics: single droplet MDA and ccSAG”

11:30-11:50; Hiroko Matsunaga (Waseda University, TWIns)

“Site-specific RNA-seq from ultra-small tissues”

11:50-13:00; Lunch on site

Session III (Chair, Shinya Aoyama)

13:00-13:20; Joshua Teo (Singapore Polytechnic, CBLS)

“Near Infrared Fluorophore-tagged Chloroquine in Plasmodium falciparum Diagnostic Imaging”

13:20-13:40; Masahiro Ando (Waseda University, Research Organization for Nano & Life Innovation)

“Label-free molecular imaging of single-cells by Raman microspectroscopy coupled with multivariate curve resolution”

13:40-14:00; Kazuko Okamoto (Riken, QBiC)

“Single molecular analysis of a core-transcription factor at single cell level highlights the function of “pioneering” action”

14:00-14:20; Masanobu Horie (Kyoto University, RIRC)

“Substrate stiffness dependent growth properties of human induced pluripotent stem cells”

14:20-14:40; Coffee Break

Session IV (Chair, Masaki Takahashi)

14:40-15:10; **Plenary Lecture 2**; Haruko Takeyama (Waseda University, Twins, CBBD-OIL)

“New approaches to finding the sleepers in the microbiome”

15:10-15:30; Daniela Moses (NTU, SCELSE)

“Deconvoluting Genomes from Complex Metagenomic Samples”

15:30-15:50; Hiroyuki Sasaki (Waseda University, TWIns)

“Effect of exercise timing on mouse intestinal microbiota under inulin feeding”

15:50-16:10; Masamitsu Sato (Waseda University, TWIns)

“Temporal Change of Single-Cell Transcriptome Reveals a “Wake-Up” Signal of Yeast Cells upon Nutrition Change”

16:10-16:20; Short break

Session V (Chair, Satoshi Arai)

16:20-16:40; Chris Jun Hui Ho (A*STAR, SBIC)

“Advances in Biophotonics Sensing and Imaging Technologies”

16:40-17:00; Hideki Itoh (A*STAR, SRIS)

“Single cell analysis on energy metabolism by fluorescence lifetime imaging microscopy”

17:00-17:30; **Keynote Lecture**; Frank Eizenhaber (A*STAR, BII)

“Darkness in the human gene and protein function space: Modest

illumination by the life science literature and the trend for protein function
discovery decline since 2000”

17:40-17:50; **Closing Remarks**; Takafumi Inoue

24th ~ 26th; Poster presentation and lab. viewing at #05-02 Helios (WABIOS)