

Symposium Schedule

.....November 27 (TUE).....

9:00 - 9:05 Opening Remark
KAMBARA, Hideki (Hitachi Ltd., Japan)

Session 1: Imaging Technology and MEMS

Chairperson: KAMBARA, Hideki

9:05 - 9:30 “Atto-Little Chromatography Using Extended-Nano Channel Fabricated on a Glass Microchip”

KITAMORI, Takehiko (The University of Tokyo, Japan)

9:30 - 9:55 “Evolutionary Bioimaging with Super-Duper Luminescent Proteins”

NAGAI, Takeharu (Osaka University, Japan)

9:55-10:15 “Single Cell Based Devices for Analyzing Cellular Signals”

TAMIYA, Eiichi (Osaka University, Japan)

10:15-10:35 “Bio-Imaging for Detection Of Cell Surface Carbohydrates and Intracellular microRNA”

JU, Huangxian (Nanjing University, China)

10:35-10:50 Break (15 min)

Introduction of Analytical Tools from Industrial Fields

Chairperson: UEDA, Mitsuyoshi

10:50-11:00 “Fluidigm Biomark Single-Cell Gene Expression”

JONES, Bob (Fluidigm, USA)

11:00-11:10 “Multiplexed Single Cell Microarrays”

NETTIKADAN, Saju (NanoInk, Inc., USA)

11:10-11:20 “Genome Analysis of Individual Cells”

KORFHAGE, Christian (QIAGEN GmbH, Germany)

11:20-11:30 “Quantitative Introduction of Bio-Molecular Substances into Cultured Cells Using Automated Microinjector (CI-2500)”

CHUNG, Jihye (¹ Fujitsu Ltd., ² Waken B Tech Co. Ltd., Japan)

11:30-11:50 Break (20 min)

11:50-12:50 Poster Short Presentation 1

Chairperson: ARAKAKI, Atsushi

12:50-14:20 Poster Presentation 1 with Lunch

Session 2: Molecular Tools for Single-Cell Analysis

Chairperson: MATOBA, Ryo

14:20-14:45 “Not Your Obaasan’S (お婆さん’s) GFP: New Tools for Imaging and Controlling Interactions in Cells”

BOXER, Steven (Stanford University, USA)

14:45-15:05 “Quantitative Comparison of Protein Dynamics in Live Cells and in vitro by In-Cell ¹⁹F-NMR”

HAMACHI, Itaru (Kyoto University, Japan)

15:05-15:25 “Functional Characterization of Single Cells”

SÖDERBERG, Ola (Uppsala University, Sweden)

15:25-15:45 “Novel Stigmatic Mass Microscope Using Laser Ionization”

HAZAMA, Hisanao (Osaka University, Japan)

15:45-16:05 “What Do FRET Biosensors Show in Single Living Cells?”

MATSUDA, Michiyuki (Kyoto University, Japan)

16:05-16:25 Break (20 min)

General Session

Chairperson: HAMACHI, Itaru

16:25-16:37 “Analysis of Protein and Protein Complexes via Proximity Ligation”

WU, Di (Uppsala University, Sweden)

16:37-16:49 “Microcavity Array System for Isolation of Circulating Tumor Cells in Cancer Patients”

HOSOKAWA, Masahito (Shizuoka Cancer Center Research Institute, Japan)

- 16:49-17:01** **“From Single Cell Type to Single-Cell Transcriptome with nanoCAGE”**
PLESSY, Charles (RIKEN Omics Science Center)
- 17:01-17:13** **“Initialization and Cell Cycle Study of Single Cells Using Micro-Orifice Electroporation Device”**
OKEYO, Kennedy (The University of Tokyo, Japan)
- 17:13-17:25** **“Standardization of Human iPS Cells with Single Cell Technology”**
TANAKA, Michihiro (Kyoto University, Japan)
- 17:25-17:37** **“Cross-Omics Studies on Gene Regulation Networks of K562 Cell”**
LU, Zuhong (Southeast University)
- 18:00-20:00** **Evening Chat**

.....**November 28 (WED)**.....

Session 3: Omics

Chairperson: TAMIYA, Eiichi

- 9:00 - 9:25** “Gene Expression Analysis at Single-Cell Resolution”
SHIRAI, Masataka (Hitachi Ltd., Japan)
- 9:25 - 9:50** “Single-Cell Biosignatures”
MELDRUM, Deirdre (Arizona State University, USA)
- 9:50-10:10** “Development of Microbial Cell Factories for The Production of Bio-Fuels and Bio-Based Chemicals Based on Systems Biology Approaches”
KONDO, Akihiko (Kobe University, Japan)
- 10:10-10:30** “Quantitative Analysis of Single-Cell Transcriptomes”
LINNARSSON, Sten (Karolinska Institute, Sweden)
- 10:30-10:50** “Application of Metabolomics to High Resolution Phenotype Analysis”
FUKUSAKI, Eiichiro (Osaka University, Japan)
- 10:50-11:00** **Break (10 min)**
- 11:00-12:00** **Poster Short Presentation 2**
Chairperson: BAMBA, Takeshi
- 12:00-13:30** **Poster Presentation 2 with Lunch**

Session 4: Developmental and Medical Applications

Chairperson: BOXER, Steven

- 13:30-13:50** “Noninvasive Prenatal Detection of Fetal Chromosomal Aneuploidy in China”
HUANG, Huan (Nanjing Medical University, China)
- 13:50-14:15** “Conducting HIV Vaccine Trials in Africa: Update, Opportunities and Challenges”
JAOKO, Walter (University of Nairobi, Kenya)
- 14:15-14:40** “Mechanism and Reconstitution in vitro of Germ Cell Development in Mice”

SAITOU, Mitinori (Kyoto University, Japan)

14:40-15:00 “Single Cell Gene Expression Analysis for Hematopoietic Stem Cells”

YAMATO, Masayuki (Tokyo Women’s Medical University, Japan)

15:00-15:10 **Poster Award Ceremony**

KAMBARA, Hideki (Hitachi Ltd., Japan)

15:10-15:30 **Break (20 min)**

Chairperson: TAKEYAMA, Haruko

15:30-15:55 “Single Cell Morphometry in True 3D Using Cell-CT”

NELSON, Alan (Arizona State University, USA)

15:55-16:15 “FDD-MB System, the Present and the Future”

TAKABAYASHI, Haruo¹., SEKIZAWA, Akihiko² (¹Kanazawa Medical University, ²Showa University School of Medicine, Japan)

16:15-16:35 “NGS of Immune Repertoire: Technologies and Applications”

HAN, Jian (HudsonAlpha Institute for Biotechnology, USA)

16:35-16:55 “Ultra-Low Input Amplification-Free Whole-Genome Bisulfite Sequencing: A Step Toward Single-Cell Methylomics”

ITO, Takashi (The University of Tokyo, Japan)

16:55-17:00 **Closing Remark**

BOXER, Steven (Stanford University, USA)