# International Conference on Single Cell Research 2016 Tokyo, Japan





#### Date:

16th, 17th November, 2016

#### Venue:

Ito International Research Center, The University of Tokyo, Tokyo, Japan

#### **Organizer:**

Organizing Committee of the International Conference on Single Cell Research 2016

### **PROGRAM**

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# Program

~ Oral Presentation ~

## International Conference on Single Cell Research 2016 Ito International Research Center, The University of Tokyo, Tokyo, Japan

		Day1: Wed	nesday Nov	ember 16th, 2016		
Category	Time	Name	Affiliation	Title		
Opening Remark	08:50-09:00	Haruko Takeyama	Waseda Univ., JAPAN			
Special talk	09:00-09:20	Hideki Kambara	The Society for Single-Cell Surveyor			
Session1: Single-cell Omics Part1, Single-cell genomics						
KEYNOTE 1	09:20-09:45	Sten Linnarsson	Karolinska Inst., Sweden	TOWARDS A COMPLETE ATLAS OF MAMMALIAN BRAIN CELL TYPES		
KEYNOTE 2	09:45-10:10	Andreas Schlitzer	Bonn Univ., Germany	UNRAVELLING MYELOID CELL HETEROGENEITY IN THE AGE OF SINGLE CELL BIOLOGY		
Invited	10:10-10:25	Sumio Sugano	Univ. Tokyo, JAPAN	SINGLE CELL RESPONSE TO A TYROSINE KINASE INHIBITOR		
Invited	10:25-10:40	Kun Zhang	UCSD, USA	SEQUENCING AND MAPPING OF RNA MOLECULES IN HUMAN ADULT BRAIN		
	10:40-10:55	BREAK	I			
Invited	10:55-11:10	Itoshi Nikaido	RIKEN, JAPAN	DISASSEMBLING REGIONALIZATION OF NEUROECTODERM BY SINGLE-CELL TRANSCRIPTOME ANALYSIS		
Invited	11:10-11:25	Joakim Lundeberg	KTH, Sweden	PROFILING THE TRANSCRIPTOME IN SITU		
Invited	11:25-11:40	Yi Eve Sun	UCLA, USA/ Tongji Univ., China	SINGLE CELL TRANSCRIPTOME ANALYSIS AND ITS APPLICATION IN STEM CELL RESEARCH		
Contributed	11:40-11:52	Nozomu Yachie	Univ. Tokyo, JAPAN	BARCODE FUSION GENETICS FACILITATES MEASURING THE DYNAMICS OF MOLECULAR NETWORKS		
Contributed	11:52-12:04	Masataka Shirai	Hitachi Ltd., JAPAN	VERTICAL FLOW ARRAY CHIPS FOR HIGHLY SENSITIVE SINGLE-CELL GENE EXPRESSION ANALYSIS		
Industry	12:04-12:14	Mike Hawes	Dolomite Bio	TECHNOLOGY FOR HIGH THROUGHPUT SINGLE CELL RNA-SEQ AND OTHER SINGLE CELL RESEARCH		
	12:15-13:15	LUNCH				
		Lunch seminar	Illumina K.K.			
	13:15-14:45		Р	OSTER SESSION (DAY 1)		
Award ceremony	14:45-14:50		Award c	eremony for Prof. Tomas Laurell		
·		s	ession2: Microflu	idics/MEMS		
KEYNOTE 3	14:50-15:15	Thomas Laurell	Lund Univ., Sweden	ACOUSTOFLUIDIC PURIFICATION OF EXTRACELLULAR VESICLES AND SUBMICRON PARTICLES		
KEYNOTE 4	15:15-15:40	Takehiko Kitamori	Univ. Tokyo, JAPAN	MICRO/NANOFLUIDICS FOR SINGLE CELL ANALYSIS		
KEYNOTE 5	15:40-16:05	Daniel Chiu	Univ. Washington, USA	SINGLE CELL ANALYSIS OF SUSPENSION AND ADHERENT CELLS FOR UNDERSTANDING CANCER BIOLOGY		
	16:05-16:20	BREAK				
Invited	16:05-16:20 16:20-16:35	Masanobu Yamamoto	Purdue Univ., USA	MICROPARTICLE DETECTION ON REFLECTIVE PHASE GRATING DISC		
Invited Invited				MICROPARTICLE DETECTION ON REFLECTIVE PHASE GRATING DISC ELECTROMICROFLUIDIC ASSEMBLY ON CELL AND HYDROGEL		
	16:20-16:35	Masanobu Yamamoto	USA National Taiwan			
Invited	16:20-16:35 16:35-16:50	Masanobu Yamamoto Shih-Kang Fan	USA  National Taiwan Univ., Taiwan  Tsinghua Univ.,	ELECTROMICROFLUIDIC ASSEMBLY ON CELL AND HYDROGEL SINGLE CELL ANALYSIS USING DROP-ON-DEMAND INKJET PRINTING		
Invited Invited	16:20-16:35 16:35-16:50 16:50-17:05	Masanobu Yamamoto Shih-Kang Fan Jin-Ming Lin	USA  National Taiwan Univ., Taiwan Tsinghua Univ., China	ELECTROMICROFLUIDIC ASSEMBLY ON CELL AND HYDROGEL  SINGLE CELL ANALYSIS USING DROP-ON-DEMAND INKJET PRINTING AND PROBE ELECTROSPRAY IONIZATION MASS SPECTROMETRY  HIGH TROUGHTPUT SINGLE CELL ANALYSIS FOR TARGET GENOMIC		
Invited  Invited  Contributed	16:20-16:35 16:35-16:50 16:50-17:05 17:05-17:17	Masanobu Yamamoto Shih-Kang Fan Jin-Ming Lin Katsuyuki Shiroguchi	USA  National Taiwan Univ., Taiwan  Tsinghua Univ., China  RIKEN, JAPAN  Univ. Tokyo,	ELECTROMICROFLUIDIC ASSEMBLY ON CELL AND HYDROGEL  SINGLE CELL ANALYSIS USING DROP-ON-DEMAND INKJET PRINTING AND PROBE ELECTROSPRAY IONIZATION MASS SPECTROMETRY HIGH TROUGHTPUT SINGLE CELL ANALYSIS FOR TARGET GENOMIC SEQUENECES  MICRO/EXTENDED-NANO SAMPLING INTERFACE FOR LIVING SINGLE		

Day2: Thursday November 17th, 2016						
Category	Time	Name	Affiliation	Title		
Session3: Imaging/Detection Technology						
KEYNOTE 6	09:00-09:25	Ulf Landegren	Uppsala Univ., Sweden	MOLECULAR TOOLS FOR PARALLEL ANALYSES, EVEN AT SINGLE CELL RESOLUTION		
KEYNOTE 7	09:25-09:50	Steven Boxer	Stanford Univ., USA	NEW APPROACHES TO STUDY SINGLE VIRUS FUSION AND PROXIMITY IN CELL MEMBRANES		
Invited	09:50-10:05	Amy Shen	OIST, JAPAN	NANOPLASMONIC SENSORS FOR SENSITIVE DETECTION OF BIOMOLECULES		
Invited	10:05-10:20	Young-Tae Chang	NUS, Singapore	BACKGROUND-FREE FLUORESCENT IMAGING IN LIVE CELLS		
	10:20-10:35	BREAK				
Invited	10:35-10:50	Alan Nelson	VisionGate, Inc., USA	NON-INVASIVE SINGLE CELL SPUTUM TEST FOR ENDOBRONCHIAL DYSPLASIA, ENABLING CHEMOPREVENTION THERAPY FOR LUNG CANCER		
Invited	10:50-11:05	Caroline Gallant	Uppsala Univ., Sweden	SIMULTANEOUS MULTIPLEX MEASUREMENT OF RNA AND PROTEINS IN SINGLE CELLS		
Invited	11:05-11:20	Itaru Hamachi	Kyoto Univ., JAPAN	LIGAND-DIRECTED CHEMISTRY FOR PROTEIN LABELING AND IMAGING IN LIVE CELL SYSTEMS		
Contributed	11:20-11:32	Kazuaki Sawada	Toyohashi Univ. Tech., JAPAN	NON LABEL NEUROTRANSMITTER IMAGE SENSOR SYSTEM FOR SPATIOTEMPORAL ANALYSIS OF CEREBRAL FUNCTION		
Contributed	11:32-11:44	Hiroko Bannai	RIKEN, JAPAN	APPROACH TO THE BRAIN FUNCTION BY IMAGING SINGLE MOLECULE BEHAVIOR IN SINGLE, LIVING CELLS		
Contributed	11:44-11:56	Etsuo Susaki	Univ. Tokyo, JAPAN	CUBIC: CELL-OMICS ANALYSIS OF WHOLE ORGAN/BODY TOWARD THE ORGANISM-LEVEL SYSTEMS BIOLOGY		
			JAPAN	THE ORGANISM-LEVEL STSTEMS BIOLOGY		
	11:56-13:00	LUNCH	JAFAN	THE ORGANISM-LEVEL STSTEMS BIOLOGY		
	11:56-13:00 13:00-14:30	LUNCH		OSTER SESSION (DAY 2)		
	13:00-14:30		P			
KEYNOTE 8	13:00-14:30		P	OSTER SESSION (DAY 2)		
KEYNOTE 8 KEYNOTE 9	13:00-14:30 Session	n4: Single-cell Omics Par	t2, Proteomics, N	OSTER SESSION (DAY 2)  Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR		
	13:00-14:30 Session 14:30-14:55	n4: Single-cell Omics Par Nader Pourmand	t2, Proteomics, Nucsc, UCSC, USA Arizona State	OSTER SESSION (DAY 2)  Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE		
KEYNOTE 9	13:00-14:30  Session 14:30-14:55 14:55-15:20	n4: Single-cell Omics Par Nader Pourmand Deirdre Meldrum	T2, Proteomics, N UCSC, USA Arizona State Univ., USA HudsonAlpha,	OSTER SESSION (DAY 2)  Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND		
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KEYNOTE 9  Invited  Invited	13:00-14:30  Session  14:30-14:55  14:55-15:20  15:20-15:35  15:35-16:05  16:05-16:20	Nader Pourmand Deirdre Meldrum Jian Han BREAK Gyungah Jun	Pt2, Proteomics, Nucsc, USA Arizona State Univ., USA HudsonAlpha, USA Eisai Inc., USA Leiden Univ.,	Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND PROFILE GENES IMPORTANT FOR IMMUNE FUNCTIONS  SINGLE CELL CONCEPT FOR ALZHEIMER DISEASE DRUG DEVELOPMENT		
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Invited  Invited  Contributed  Contributed	13:00-14:30  Session  14:30-14:55  14:55-15:20  15:20-15:35  15:35-16:05  16:05-16:20  16:20-16:32  16:32-16:44	Nader Pourmand  Deirdre Meldrum  Jian Han  BREAK  Gyungah Jun  Hans Tanke  Tomoko Yoshino	P t2, Proteomics, N UCSC, USA Arizona State Univ., USA HudsonAlpha, USA Eisai Inc., USA Leiden Univ., Netherlands Tokyo Univ. Agri. & Tech., JAPAN Kyusyu Univ.,	Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND PROFILE GENES IMPORTANT FOR IMMUNE FUNCTIONS  SINGLE CELL CONCEPT FOR ALZHEIMER DISEASE DRUG DEVELOPMENT  MONITORING OF IMMUNOTHERAPY: TOWARDS HOME DIAGNOSTICS  HIGH-THROUGHPUT SINGLE-CELL MANIPULATION TOWARDS CIRCULATING TUMOR CELL SEQUENCING  SINGLE-CELL MULTIMOLECULAR PHENOTYPING BY USING THE CELL		
Invited  Invited  Contributed  Contributed  Contributed	13:00-14:30  Session  14:30-14:55  14:55-15:20  15:20-15:35  15:35-16:05  16:05-16:20  16:20-16:32  16:32-16:44  16:44-16:56	Nader Pourmand  Deirdre Meldrum  Jian Han  BREAK  Gyungah Jun  Hans Tanke  Tomoko Yoshino  Takeshi Bamba	P t2, Proteomics, N UCSC, USA Arizona State Univ., USA HudsonAlpha, USA  Eisai Inc., USA Leiden Univ., Netherlands Tokyo Univ. Agri. & Tech., JAPAN  Kyusyu Univ., JAPAN	OSTER SESSION (DAY 2)  Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND PROFILE GENES IMPORTANT FOR IMMUNE FUNCTIONS  SINGLE CELL CONCEPT FOR ALZHEIMER DISEASE DRUG DEVELOPMENT  MONITORING OF IMMUNOTHERAPY: TOWARDS HOME DIAGNOSTICS  HIGH-THROUGHPUT SINGLE-CELL MANIPULATION TOWARDS CIRCULATING TUMOR CELL SEQUENCING  SINGLE-CELL MULTIMOLECULAR PHENOTYPING BY USING THE CELL CHIP MS SYSTEM  TOWARDS UNDERSTANDING THE LINKAGE BETWEEN MULTIPLE OMICS LAYERS  IDENTIFICATION OF UNDIFFERENTIATED IPS CELLS WITH COHERENT ANTI-STOKES RAMAN SCATTERING MICROSCOPY		
Invited  Invited  Contributed  Contributed  Contributed  Contributed	13:00-14:30  Session  14:30-14:55  14:55-15:20  15:20-15:35  15:35-16:05  16:05-16:20  16:20-16:32  16:32-16:44  16:44-16:56  16:56-17:08	Nader Pourmand Deirdre Meldrum Jian Han BREAK Gyungah Jun Hans Tanke Tomoko Yoshino Takeshi Bamba Yuichi Taniguchi	P  t2, Proteomics, N  UCSC, USA  Arizona State Univ., USA  HudsonAlpha, USA  Eisai Inc., USA  Leiden Univ., Netherlands  Tokyo Univ. Agri. & Tech., JAPAN  Kyusyu Univ., JAPAN  RIKEN, JAPAN  Hitachi Ltd., JAPAN	Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND PROFILE GENES IMPORTANT FOR IMMUNE FUNCTIONS  SINGLE CELL CONCEPT FOR ALZHEIMER DISEASE DRUG DEVELOPMENT  MONITORING OF IMMUNOTHERAPY: TOWARDS HOME DIAGNOSTICS  HIGH-THROUGHPUT SINGLE-CELL MANIPULATION TOWARDS CIRCULATING TUMOR CELL SEQUENCING  SINGLE-CELL MULTIMOLECULAR PHENOTYPING BY USING THE CELL CHIP MS SYSTEM  TOWARDS UNDERSTANDING THE LINKAGE BETWEEN MULTIPLE OMICS LAYERS  IDENTIFICATION OF UNDIFFERENTIATED IPS CELLS WITH COHERENT ANTI-STOKES RAMAN SCATTERING MICROSCOPY  Award ceremony		
Invited  Invited  Contributed  Contributed  Contributed  Contributed	13:00-14:30  Session  14:30-14:55  14:55-15:20  15:20-15:35  15:35-16:05  16:05-16:20  16:20-16:32  16:32-16:44  16:44-16:56  16:56-17:08	Nader Pourmand Deirdre Meldrum Jian Han BREAK Gyungah Jun Hans Tanke Tomoko Yoshino Takeshi Bamba Yuichi Taniguchi	P  t2, Proteomics, N  UCSC, USA  Arizona State Univ., USA  HudsonAlpha, USA  Eisai Inc., USA  Leiden Univ., Netherlands  Tokyo Univ. Agri. & Tech., JAPAN  Kyusyu Univ., JAPAN  RIKEN, JAPAN  Hitachi Ltd., JAPAN	OSTER SESSION (DAY 2)  Metabolomics Cellomics and Bioinfomatics  SINGLE CELL AND BEYOND: NANOPIPETTE TECHNOLOGY FOR CONTINUOUS SINGLE-CELL INTERROGATION  SINGLE CELL CELLOMICS AND METABOLOMICS FOR PREDICTIVE HEALTH  SINGLE CELL MULTIPLEX PCR AND NGS PAIGING TCR CHAINS AND PROFILE GENES IMPORTANT FOR IMMUNE FUNCTIONS  SINGLE CELL CONCEPT FOR ALZHEIMER DISEASE DRUG DEVELOPMENT  MONITORING OF IMMUNOTHERAPY: TOWARDS HOME DIAGNOSTICS  HIGH-THROUGHPUT SINGLE-CELL MANIPULATION TOWARDS CIRCULATING TUMOR CELL SEQUENCING  SINGLE-CELL MULTIMOLECULAR PHENOTYPING BY USING THE CELL CHIP MS SYSTEM  TOWARDS UNDERSTANDING THE LINKAGE BETWEEN MULTIPLE OMICS LAYERS  IDENTIFICATION OF UNDIFFERENTIATED IPS CELLS WITH COHERENT ANTI-STOKES RAMAN SCATTERING MICROSCOPY		

Post-conference meeting: Saturday November 19th, 2016