

Program

TUESDAY, JUNE 27, 2017

15:00–17:00 Registration

17:10–17:15 Opening Remarks: Mikiko C. SIOMI

17:15–18:05 **Plenary Lecture 1**

Chairs: Mikiko C. SIOMI
Tetsuro HIROSE

A small RNA-based innate immune system guards the integrity of germ cell genomes24

Gregory James HANNON
(Cancer Research UK, Cambridge Institute, UK)

18:05–18:55 **Plenary Lecture 2**

Chairs: Mikiko C. SIOMI
Tetsuro HIROSE

Nuclear noncoding RNAs: more surprises26

Joan A. STEITZ
(Molecular Biophysics & Biochemistry, Yale U/
Howard Hughes Medical Institute, USA)

18:55–20:30 Welcome Reception

WEDNESDAY, JUNE 28, 2017

9:00–12:30 **Session A**

Chairs: Mikiko C. SIOMI
Jörg VOGEL

9:00–9:30 **[A-1]**
Grad-seq discovers the third domain of small RNA-mediated gene regulation in bacteria28

Jörg VOGEL
(University of Wuerzburg, Institute for Molecular Infection Biology,
Germany)

9:30–10:00 **[A-2]**
The poly(A) tail blocks RDR6 from converting self transcripts into the substrates for gene silencing30

Yukihide TOMARI
(Institute of Molecular and Cellular Biosciences,
The University of Tokyo, Japan/
Department of Computational Biology and Medical Sciences,
Graduate School of Frontier Sciences,
The University of Tokyo, Japan)

10:00–10:30 [A-3]	MicroRNA Processing and Regulation	32
	<u>Vic Narry KIM</u> (Center for RNA Research, Institute for Basic Science, Korea/ School of Biological Sciences, Seoul National University, Korea)	
10:30–11:00	Coffee Break	
11:00–11:30 [A-4]	Molecular mechanism of piRNA biogenesis	34
	<u>Mikiko C. SIOMI</u> (Department of Biological Sciences, Graduate School of Science, The University of Tokyo, Japan)	
11:30–12:00 [A-5]	Transcription biology of heterochromatic small RNA source loci	36
	<u>Julius BRENNECKE</u> (Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA), Austria)	
12:00–12:30 [A-6]	Roles of PIWI-piRNA complexes in mammalian ovaries	38
	<u>Haruhiko SIOMI</u> (Department of Molecular Biology, Keio University School of Medicine, Japan)	
12:30–14:00	Lunch	
14:00–17:15	Session B Chairs: Takehiko KOBAYASHI Andrés AGUILERA	
14:00–14:30 [B-1]	Stimuli-specific activation of chromosomal sites by non-coding RNA transcription	40
	<u>Kunihiro OHTA</u> (Department of Life Sciences, The University of Tokyo, Japan)	
14:30–15:00 [B-2]	Functional and genomic evolution after duplication	42
	<u>Hideki INNAN</u> (SOKENDAI, The Graduate University for Advanced Studies, Japan)	
15:00–15:30 [B-3]	RNA processing-chromatin crosstalk to warrant optimal RNA bio- genesis and prevent genetic instability	44
	<u>Andrés AGUILERA</u> (CABIMER, University of Seville, Spain)	
15:30–16:00	Coffee Break	

- 16:00–16:30 [B-4]
Non-coding transcription induces rDNA instability and cellular senescence46
Takehiko KOBAYASHI
(Institute of Molecular and Cellular Biosciences,
The University of Tokyo, Japan)
- 16:30–17:00 [B-5]
Splicing-associated pausing of RNA polymerase II is enforced by ubiquitination of the catalytic subunit50
David TOLLERVEY
(Wellcome Trust Centre for Cell Biology, University of Edinburgh, UK)
- 17:00–17:15 [B-6 (PS NO.40)]
Heterochromatin suppresses gross chromosome rearrangements through RNAP II eviction in fission yeast centromeres129
Takuro NAKAGAWA
(Department of Biological Sciences, Graduate School of Science,
Osaka University, Japan)

17:30–19:30 Dinner

19:30–21:30 Poster Session [I]: Odd Numbers

THURSDAY, JUNE 29, 2017

9:00–12:15 **Session C**

Chairs: Tetsuro HIROSE
Howard Y. CHANG

- 9:00–9:30 [C-1]
Genome Regulation by Long Noncoding RNAs52
Howard Y. CHANG
(Stanford University School of Medicine, USA)
- 9:30–10:00 [C-2]
Eleanor non-coding RNA defines the active chromatin domain during breast cancer recurrence54
Noriko SAITOH
(Department of Cancer Biology, The Cancer Institute of JFCR, Japan)
- 10:00–10:15 [C-3 (PS NO.50)]
An atlas and functional evidence of human long non-coding RNAs with accurate 5'ends139
Jordan A. RAMILOWSKI
(Division of Genomics Technologies,
RIKEN Center of Life Science and Technologies, Japan)

10:15–10:45 Coffee Break

10:45–11:15 [C-4]	Sorting RNA for function or decay	56
	<u>Torben Heick JENSEN</u> (Department of Molecular Biology and Genetics, Aarhus University, Denmark)	
11:15–11:45 [C-5]	Molecular dissection of architectural noncoding RNA elements and machinery	58
	<u>Tetsuro HIROSE</u> (Institute for Genetic Medicine, Hokkaido University, Japan)	
11:45–12:15 [C-6]	Observation of sub-micron size nuclear bodies using super-resolution microscopy	60
	<u>Shinichi NAKAGAWA</u> (Hokkaido University, Japan)	
12:30–14:00	Lunch	
14:00–17:15	Session D	
	Chairs: Hiroshi ASAHARA Juan A. VALCARCEL	
14:00–14:30 [D-1]	tRNA-related RNA technologies	62
	<u>Hiroaki SUGA</u> (Department of Chemistry, The University of Tokyo, Japan)	
14:30–15:00 [D-2]	Networks of alternative splicing regulation in cancer	64
	<u>Juan VALCÁRCEL</u> (Centre de Regulació Genòmica (CRG)/ Universitat Pompeu Fabra (UPF)/ ICREA, Spain.)	
15:00–15:30 [D-3]	The role of RNA editing in T cell development	66
	<u>Yukio KAWAHARA</u> (Department of RNA Biology and Neuroscience, Graduate School of Medicine, Osaka University, Japan)	
15:30–16:00	Coffee Break	
16:00–16:15 [D-4 (PS NO.58)]	Identification of hormone-dependent lncRNAs that mediate estrogen signaling pathway in breast cancer	148
	<u>Kazuhiro IKEDA</u> (Division of Gene Regulation and Signal Transduction, Research Center for Genomic Medicine, Saitama Medical University, Japan)	
16:15–16:45 [D-5]	miRNAs in Cancer, Arthritis and Homeostasis	68
	<u>Hiroshi ASAHARA</u> (Tokyo Medical and Dental University, Japan)	

16:45–17:15 [D-6]

Chromosomal Enhancer Nuclear Syntax: Ligand-Dependent 3D Redistribution of “First Tier” Enhancers Generate Mega-Enhancers that Associate with Subnuclear Phase-separated Structures to Dictate Enhancer Robustness70

Michael G. ROSENFELD

(Howard Hughes Medical Institute, School of Medicine,
Department of Medicine, University of California, San Diego, USA)

17:30–19:30 Dinner

19:30–21:30 Poster Session [II]: Even Numbers

FRIDAY, JUNE 30, 2017

9:00–12:15 **Session E**

Chairs: Hirohide SAITO
Gene YEO

9:00–9:30 [E-1]

RNA circuits with small molecule induction from self-replicating RNA alphaviruses and modified RNA72

Ron WEISS

(Synthetic Biology Center, Department of Biological Engineering,
Massachusetts Institute of Technology, USA)

9:30–10:00 [E-2]

Synthetic RNA switch technologies to distinguish and program living cells74

Hirohide SAITO

(Center for iPS Cell Research and Application, Kyoto University, Japan)

10:00–10:30 [E-3]

Expanding world of RNA modifications associated with various biological processes78

Tsutomu SUZUKI

(Department of Chemistry and Biotechnology,
The University of Tokyo, Japan)

10:30–11:00 Coffee Break

11:00–11:15 [E-4 (PS NO.3)]

Potent, reversible and specific chemical inhibitors of eukaryotic ribosome biogenesis91

Shigehiro A. KAWASHIMA

(Graduate School of Pharmaceutical Sciences,
The University of Tokyo, Japan/The Rockefeller University, USA)

11:15–11:45 [E-5]

Insights into RNA processing from large-scale generation and analysis of enhanced CLIP data80

Gene YEO

(University of California, San Diego, USA)

11:45–12:15 [E-6]

A possible link between specific transfer RNA methylation and tumorigenic phenotype of breast cancer84

Kozo TOMITA

(Department of Computational Biology and Medical Sciences,
Graduate School of Frontier Sciences,
The University of Tokyo, Japan)

12:15–12:25 **Announcement of Grant Recipients**

12:25–12:35 **Closing Remarks:** Takehiko KOBAYASHI

12:35–13:00 **Lunch**