

# Program

## TUESDAY, SEPTEMBER 15, 2015

15:00–17:00 **Registration**

17:10–17:20 **Opening Remarks:** Minoru YOSHIDA

17:20–18:20 **Plenary Lecture 1**

Chair: Minoru YOSHIDA

**Establishment & maintenance of mammalian heterochromatin** .....24

Thomas JENUWEIN

(Department of Epigenetics, Max Planck Institute of Immunobiology and Epigenetics, Germany)

18:20–19:20 **Plenary Lecture 2**

Chair: Minoru YOSHIDA

**The Cancer Epigenome** .....26

Peter A. JONES

(Van Andel Research Institute, USA)

19:30–21:00 **Welcome Reception**

## WEDNESDAY, SEPTEMBER 16, 2015

9:00–12:15 **Session A**

**Basic Mechanisms**

Chairs: Robert A. MARTIENSSEN

Yota MURAKAMI

9:00–9:30 **[A-1]**

**A jmjC-domain containing putative histone demethylase, Epe1 protects epigenome against aberrant heterochromatin formation in euchromatin** .....28

Yota MURAKAMI

(Faculty of Science, Hokkaido University, Japan)

9:30–10:00 **[A-2]**

**Heterochromatin assembly and epigenetic inheritance of silenced chromatin domains** .....30

Shivinder S. GREWAL

(National Cancer Institute, National Institutes of Health, USA)

10:00–10:30 **[A-3]**

**PIWI-interacting RNA: its biogenesis and function in Drosophila** ...32

Mikiko C. SIOMI

(Graduate School of Science, The University of Tokyo, Japan)

10:30–11:00 **Coffee Break**

11:00–11:30 [A-4]  
**RNAi promotes heterochromatic silencing through replication-coupled release of RNA polymerase II** .....34  
Robert A. MARTIENSEN  
 (Cold Spring Harbor Laboratory, Cold Spring Harbor, USA)

11:30–12:00 [A-5]  
**From Histone Code to Higher Order Chromatin Structure on Inactive X Chromosome** .....36  
Chikashi OBUSE  
 (Graduate School of Life Science, Hokkaido University, Japan)

12:00–12:15 [A-6 (PS No. 7)]  
**Piwi-piRNA promotes epigenetic silencing by regulating association of linker histone H1 with target transposon loci** .....90  
Yuka W. IWASAKI  
 (Keio University School of Medicine, Japan)

12:15–14:00 **Lunch**

14:00–17:45 **Session B  
 Development and Reprogramming**

Chairs: Yi ZHANG  
 Hiroyuki SASAKI

14:00–14:30 [B-1]  
**Genomic imprinting, DNA methylation and small RNA in mouse germ cells** .....38  
Hiroyuki SASAKI  
 (Medical Institute of Bioregulation, Kyushu University, Japan)

14:30–15:00 [B-2]  
**Mechanism and reconstitution in vitro of mammalian germ cell development** .....40  
Mitinori SAITOU  
 (Graduate School of Medicine, Kyoto University/JST, ERATO, Japan)

15:00–15:30 [B-3]  
**Identifying and overcoming an epigenetic barrier of somatic cell nuclear transfer (SCNT)-mediated reprogramming** .....42  
Yi ZHANG  
 (Harvard Medical School and Boston Children's Hospital, USA)

15:30–16:00 **Coffee Break**

16:00–16:30 [B-4]  
**Dissecting the cancer epigenome with iPS cell technology** .....44  
Yasuhiro YAMADA  
 (Center for iPS Cell Research and Application (CiRA),  
 Kyoto University, Japan)

16:30–17:00 [B-5]  
**N-alpha-acetyltransferase 10 protein regulates embryonic development and genomic imprinting** .....46  
Li-Jung JUAN  
 (Genomics Research Center, Academia Sinica, Taiwan)

17:00–17:15 [B-6 (PS No. 5)]  
**Histone H3R17me2a Mark Recruits Tet3 to Initiate Active DNA De-  
 methylation in Zygotes** .....88  
Yuki HATANAKA  
 (RIKEN BioResource Center, Japan)

17:15–17:45 **Flash Talk**  
 (Poster Numbers: 1, 3, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37,  
 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59)

17:45–19:30 **Dinner**

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

## THURSDAY, SEPTEMBER 17, 2015

9:00–12:30 **Session C**  
**Environment, Nutrition and Stress**

Chairs: Eric VERDIN  
 Yoichi SHINKAI

9:00–9:30 [C-1]  
**Epigenetics and metabolic regulation** .....48  
Eric VERDIN  
 (Gladstone Institutes, University of California, San Francisco, USA)

9:30–10:00 [C-2]  
**Epigenome changes induced by environmental factors and their in-  
 heritance** .....50  
Shunsuke ISHII  
 (Laboratory of Molecular Genetics, RIKEN, Japan)

10:00–10:30 [C-3]  
**Selection and function of macrophage enhancers** .....52  
Christopher K. GLASS  
 (Department of Cellular & Molecular Medicine, University of California,  
 San Diego, USA)

10:30–11:00 **Coffee Break**

11:00–11:30 [C-4]  
**DNA methylation-dependent hepatic lipid metabolism  
 in early life** .....54  
Yoshihiro OGAWA  
 (Graduate School of Medical and Dental Sciences,  
 Tokyo Medical and Dental University, Japan)

11:30–12:00 [C-5]  
**Kleefstra syndrome model animal, *Ehmt1*/GLP hetero KO mice** ...56  
Yoichi SHINKAI  
 (Cellular Memory Laboratory, RIKEN, Japan)

- 12:00–12:15 [C-6 (PS No. 6)]**  
**JMJD1A Regulates Metabolic Gene Expression by Mediating Long-Range Genomic Interactions in Response to  $\beta$ -Adrenergic Stimulation under Cold Environment** .....89  
Takeshi INAGAKI  
 (Research Center for Advanced Science and Technology, The University of Tokyo, Japan)
- 12:15–12:30 [C-7 (PS No. 28)]**  
**A crucial role for Kdm3a/Jmjd1a/Jhdm2a in hepatocarcinogenesis** .....112  
Takuma NAKATSUKA  
 (Graduate School of Medicine, The University of Tokyo, Japan)
- 12:30–14:00 Lunch**
- 14:00–18:00 Session D Diseases**  
 Chairs: Jean-Pierre ISSA  
 Toshikazu USHIJIMA
- 14:00–14:30 [D-1]**  
**Accumulation of environmentally induced epigenetic alterations produces an epigenetic field for cancerization** .....58  
Toshikazu USHIJIMA  
 (Division of Epigenomics, National Cancer Center Research Institute, Japan)
- 14:30–15:00 [D-2]**  
**Using Epigenetic Profiling and CRISPR Screens to Understand Cancer Progression and Drug Response** .....60  
Xiaole SHIRLEY LIU  
 (Harvard School of Public Health and Dana-Farber Cancer Institute, USA)
- 15:00–15:30 [D-3]**  
**Interaction between Microenvironment and Epigenome in Gliomagenesis** .....62  
Yutaka KONDO  
 (Nagoya City University Graduate School of Medical Sciences, Japan)
- 15:30–16:00 Coffee Break**
- 16:00–16:30 [D-4]**  
**The microRNA, linking MeCP2 with mTOR signaling and its dysregulation causes Rett syndrome phenotypes** .....64  
Kinichi NAKASHIMA  
 (Graduate School of Medical Sciences, Kyushu University, Japan)
- 16:30–17:00 [D-5]**  
**A cluster of non-coding RNAs, Eleanors, activate the ESR1 locus in therapy-resistant breast cancer cells** .....66  
Mitsuyoshi NAKAO  
 (Institute of Molecular Embryology and Genetics, Kumamoto University, Japan)

17:00–17:30 [D-6]  
**Epigenetic drift** .....68  
Jean-Pierre ISSA  
 (Fels Institute for Cancer Research and Molecular Biology,  
 Temple University, USA)

17:30–18:00 **Flash Talk**  
 (Poster Numbers: 2, 4, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 30, 32, 34, 36,  
 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60)

18:00–19:30 **Dinner**

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

## FRIDAY, SEPTEMBER 18, 2015

9:00–12:00 **Session E**

### **Chemical Epigenetics**

Chairs: Cheryl H. ARROWSMITH  
 Minoru YOSHIDA

9:00–9:30 [E-1]  
**A novel functional role of histone deacetylases in protein acylation  
 and metabolisms** .....70  
Minoru YOSHIDA  
 (Chemical Genetics Laboratory, RIKEN, Japan)

9:30–10:00 [E-2]  
**CoREST in Peace: Dual Action Inhibitors of Histone Deacetylase and  
 Demethylase** .....72  
Philip A. COLE  
 (The Johns Hopkins University School of Medicine, USA)

10:00–10:30 [E-3]  
**Chemical Control of Epigenetics~Discovery of lysine demethy-  
 lase inhibitors~** .....74  
Takayoshi SUZUKI  
 (Graduate School of Medical Science,  
 Kyoto Prefectural University of Medicine, Japan)

10:30–11:00 **Coffee Break**

11:00–11:30 [E-4]  
**Organic chemistry for epigenetic studies** .....76  
Akimitsu OKAMOTO  
 (Research Center for Advanced Science and Technology,  
 The University of Tokyo, Japan)

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11:30–12:00 [E-5]

**Open Access Chemical Probes of Chromatin Regulators** .....78

Cheryl H. ARROWSMITH

(Structural Genomics Consortium, University of Toronto, Canada)

**12:00–12:15** **Announcement of Grant Recipients**

**12:15–12:20** **Closing Remarks:** Hiroyuki SASAKI

**12:20–13:20** **Lunch**