

November 28th (Thursday)

10:00- **Opening remark:** Minoru Takata (RBC, Kyoto University)

Keynote address:

Chair: Minoru Takata

10:05-10:50 Penny Jeggo (Genome Stability Center, University of Sussex, UK)

DNA double strand break repair: pathway choices and their manipulation

--Coffee break--

Session 1 : DNA damage and signaling

Chair: Rick Wood and Michelle Debatisse

11:05-11:35 Daniel Durocher (University of Toronto, Toronto, Canada)

Understanding the regulation of 53BP1 during the cell cycle

11:35-12:05 Weidong Wang (National Institute of Aging, MD, USA)

Fanconi anemia and Bloom syndrome proteins constitute a multifunctional complex to repair DNA damage

12:05-12:30 Masamichi Ishiai (RBC, Kyoto University)

Roles of the Fanconi anemia protein FANCD2 in DNA crosslink repair

--Lunch--

Session 2 : Genome instability and cancer

Chair: Daniel Durocher and Reuben Harris

14:00-14:30 Michelle Debatisse (Institute Curie, Paris, France)

Common fragile sites, large genes and chromosome instability in cancers

14:30-15:00 Rick Wood (MD Anderson Cancer Center, University of Texas, TX, USA)

DNA polymerases and helicases controlling genome stability in mammalian cells

15:00-15:30 Naoko Shima (University of Minnesota, MN, USA)

*A loss of dormant origins severely impairs the viability of *Fancc*^{-/-} mice by exacerbating replication fork failure*

--Coffee break--

Poster presentation

Chair: Hidehiko Kawai and Masanori Tomita

15:45-16:45 **Selected short talks**

1. Poster #16: SMARCAL1 promotes polymerization of Rad51 at DNA damage sites in Homologous Recombination (Yuko Maede *et al.*, Kyoto University)
2. Poster #18: The role of SUMO E3 ligases, PIAS1 and PIAS4, in postreplicational repair in chicken DT40 cells (Mohiuddin *et al.*, Kyoto University)
3. Poster #20: Deubiquitination enzyme OTUB2 supports DNA repair pathway Choice by suppressing RNF8-mediated ubiquitination (Kazuhiro Nakajima *et al.*, Osaka University)
4. Poster #22: A role of the Mcm8-9 complex in homologous recombination during DNA inter-strand crosslink repair (Toyoaki Natsume *et al.*, National Institute of Genetics)
5. Poster #23: Collaboration between the CtIP and Dna2 nucleases is required to create 3' single-stranded ends at double-strand breaks in homologous recombination (Hiroyuki Sasanuma *et al.*, Kyoto University)
6. Poster #26: A conserved phosphatase, PPH-4.1, ensures faithful chromosome pairing and DNA double strand break formation during meiotic prophase in *C. elegans* (Aya Sato-Carlton *et al.*, Institute for Integrated Cell-Material Sciences, Kyoto University)
7. Poster #27: Biochemical analysis of ICL repair proteins, FANCI-FANCD2 complex (Koichi Sato *et al.*, Waseda University)
8. Poster #28: Initiation of homologous recombination repair following ionizing radiation

(Atsushi Shibata *et al.*, Genome Damage and Stability Centre, University of Sussex, UK)

9. Poster #29: Pluripotent stem cell model of Seckel syndrome revealed that ATR regulates neural progenitors for orderly brain development (Naoya M. Suzuki *et al.*, CiRA, Kyoto University)
10. Poster #30: Human DNA helicase HELQ participates in DNA interstrand crosslink tolerance with ATR and RAD51 paralogs (Kei-ichi Takata *et al.*, MD Anderson Cancer Center, USA)
11. Poster #32: REV7 function within the DNA polymerase zeta complex (Junya Tomida *et al.*, MD Anderson Cancer Center, USA)
12. Poster #34: JMJD1C demethylates MDC1 to regulate RNF8-RAP80/BRCA1 branch of the chromatin response to DNA double strand breaks (Sugiko Watanabe *et al.*, Innovation Center for Medical Redox Navigation, Kyushu University)

16:45- **Poster viewing and discussion**

19:00- **Reception**

November 29th (Friday)

Session 3: Special lecture

Chair: Paul-Henri Roméo

9: 00-9:30 Ryo Kobayashi (Hiroshima University, Japan)
Learning from the behavioral intelligence of the true slime mold

Session 4 : Origins of DNA damage

Chair: Karine Dubrana and Weidong Wang

9:30-10:00 Reuben Harris (University of Minnesota, MN, USA)
DNA cytosine deamination and mutagenesis by APOBEC3B in breast and other human cancers

10:00-10:30 Marco Di Antonio (University of Cambridge, UK)
Small-Molecule mediated G-quadruplex Stabilization Induces a Replication Dependent DNA Damage Response and Enables Synthetic Lethality Strategies

10:30-11:00 Pablo Radicella (Institute of Cellular and Molecular Radiation Biology (IRCM), CEA, France)
The prion protein : an unexpected link between base excision repair and neurodegeneration

--Coffee break--

Session 5: Mechanisms of genomic instability

Chair: Naoko Shima and Pablo Radicella

11:15-11:40 Kunihiro Ohta (University of Tokyo, Japan)
Massive genome restructuring induced by conditional multiple DNA breaks

11:40-12:10 Katsunori Sugimoto (Rutgers, NJ School of Medicine, NJ, USA)

Activation of Mec1 (ATR) by Ddc2 (ATRIP) through a Ddc1- or Dpb11-independent mechanism

12:10-12:35 Miki Shinohara (Osaka University, Japan)

A coordination mechanism between chromosome segregation and regulations of DSB repair pathways during mitosis

--Lunch--

Session 6: "Next generation" Radiation biology and beyond

Chair: Penny Jeggo and Yoshiya Shimada

14:00-14:25 Hirohiko Yajima (NIRS, Chiba, Japan)

Responses of CtIP to complex DNA double strand breaks

14:25-14:55 Karine Dubrana (IRCM, CEA, France)

Nuclear organization and chromatin status impact on homologous recombination

14:55-15:20 Yoshiya Shimada (NIRS, Chiba, Japan)

Critical age windows of radiation exposure for neoplasm induction in experimental animals

15:20-15:50 Paul-Henri Roméo (IRCM, CEA, France)

Revisiting low and high doses effects of irradiation on adult hematopoiesis

15:50- **Closing Remark:** Paul-Henri Roméo (IRCM, CEA, France)