

**TGE2015**  
Conference on Transposition and Genome Engineering 2015  
**Program**

**November 17th, Tuesday**

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- 17:30      **Welcome Address**      Junji Takeda  
Chair, TGE2015
- 17:45~18:45   **KL Keynote Lecture**  
Title: TBA  
  
Emmanuelle Charpentier  
Max Planck Institute for Infection Biology,  
Germany
- 18:50~20:20   **Welcome Reception**  
Place: Reception Hall, Nara Kasugano International Forum IRAKA. 2nd floor

**November 18th, Wednesday**

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- 9:00~10:20    Chairs: Zoltan Ivics, Paul-Ehrlich-Institute, Germany**  
**Yoichi Shinkai, RIKEN, Japan**
- 9:00~9:30    **IL1 Invited Lecture 1**  
"Regulating Precision Genetics in the 21st Century"  
  
Perry Hackett  
University of Minnesota, USA
- 9:30~10:00   **IL2 Invited Lecture 2**  
"Epigenetic regulation of transposable element"  
  
Yoichi Shinkai      RIKEN, Japan
- 10:00~10:20   **OP1 Oral Poster Session 1 (P-43)**  
"Genome-wide comparative analyses of retroviral and  
DNA-type transposon vector integration sites"  
  
Junko Yoshida  
Nara Medical University, Japan
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- 10:20~10:40   Coffee Break
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- 10:40~12:00   Chairs: Nancy Jenkins, The Methodist Hospital Research Institute, USA**  
**Stephen C Ekker, Mayo Clinic, USA**

10:40~11:10 **IL3 Invited Lecture 3**  
“Engineering the genome with the Sleeping Beauty transposon system”

Zoltan Ivics  
Paul-Ehrlich-Institute, Germany

11:10~11:30 **OP2 Oral Poster Session 2 (P-34)**  
“Validation of Candidate Osteosarcoma genes using the CRISPR System”

Branden Smeester  
University of Minnesota, USA

11:30~12:00 **IL4 Invited Lecture 4**  
“Delineating cancer evolution at the single cell level using SBCapSeq”

Neal Copeland  
The Methodist Hospital Research Institute, USA

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12:10~13:10 **LS Luncheon Seminar** *Supported by Sigma-Aldrich Co. LLC.*  
“CRISPR Genome Editing: Specific Sequence Changes and Whole genome screens”

Supriya Shivakumar  
Emerging Technologies/Applied Markets  
Sigma-Aldrich Co. LLC.

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**13:20~14:40 Chairs: Neal Copeland, The Methodist Hospital Research Institute, USA  
Perry Hackett, University of Minnesota, USA**

13:20~13:50 **IL21 Invited Lecture 21**  
“Utilizing transposon-delivered transgenes for understanding reprogramming”

Andras Nagy  
Lunenfeld-Tanenbaum Research Institute, Canada

13:50~14:10 **OP4 Oral Poster Session 4 (P-33)**  
“An in vitro Sleeping Beauty transposon-based genetic screen to identify  
novel genes and pathways driving breast cancer metastasis”

Attila Sebe Paul Ehrlich Institute, Germany

14:10~14:40 **IL5 Invited Lecture 5**  
“A Forward Genetic Screen Identifies Genes Driving Invasive Neoplasia in  
Engineered Organotypic Recellularized Human Colon”

Nancy Jenkins  
The Methodist Hospital Research Institute, USA

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14:40~15:00 Coffee Break

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**15:00~16:20** *Chairs: Takashi Yamamoto, Hiroshima University, Japan  
Jin-Soo Kim, Seoul National University, South Korea*

15:00~15:30 **IL6 Invited Lecture 6**  
“Overview of Genome Engineering”

Dana Carroll University of Utah, USA

15:30~15:50 **IL7 Invited Lecture 7**  
“Twice encounter with CRISPR/Cas9 system in my science career.”

Hideo Shinagawa  
BioAcademia, Inc. /  
Osaka University (Professor Emeritus), Japan

15:50~16:20 **IL8 Invited Lecture 8**  
“Structure and function of CRISPR-Cas9”

Osamu Nureki The University of Tokyo, Japan

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16:20~16:40 Coffee Break

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**16:40~18:30** *Chairs: Dana Carroll, University of Utah, USA  
Martin Jinek, University of Zurich, Switzerland*

16:40~17:10 **IL9 Invited Lecture 9**  
“Structural insights into the molecular mechanisms of CRISPR-Cas9”

Martin Jinek University of Zurich, Switzerland

17:10~17:40 **IL10 Invited Lecture 10**  
“Assessing, Reducing, and Exploiting Nuclease Off-target Effects in  
Human Stem Cells, Animals, and Plants”

Jin-Soo Kim  
Seoul National University, South Korea

17:40~18:00 **OP5 Oral Poster Session 5 (P-39)**  
“Computational identification of CRISPR/Cas9 target sites reveals potential off-target risks in human and mouse”

Qingbo Wang The University of Tokyo, Japan

18:00~18:30 **IL11 Invited Lecture 11**  
“Defining, Improving, and Altering the Specificities of CRISPR-Cas9 Nucleases”

Keith Joung  
Massachusetts General Hospital, USA

## **November 19th, Thursday**

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9:00~10:30 **Chairs: Hideyuki Okano, Keio University, Japan**  
**Tomoji Mashimo, Osaka University, Japan**

9:00~9:20 **IL12 Invited Lecture 12**  
“CRISPR/Cas9 with ssODNs enables gene knock-in and replacement of large genomic regions in rats”

Tomoji Mashimo Osaka University, Japan

9:20~9:40 **OP6 Oral Poster Session 6 (P-5)**  
“Fast generation of reporter mice by oocyte injection of two sgRNAs, Cas9 mRNA and a large circular ds targeting construct.”

Cor Breukel  
Human Genetics, LUMC, The Netherlands

9:40~10:00 **OP7 Oral Poster Session 7 (P-2)**  
“Genome editing in mice by cloning-free CRISPR/Cas system”

Tomomi Aida  
Tokyo Medical and Dental University, Japan

10:00~10:30 **IL13 Invited Lecture 13**  
“Transgenic and Genome Editing Technologies in Non-Human Primates”

Hideyuki Okano Keio University, Japan

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10:30~10:50 Coffee Break

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**10:50~12:10** *Chairs: Keith Joung, Massachusetts General Hospital, USA  
Andras Nagy, Lunenfeld-Tanenbaum Research Institute, Canada*

10:50~11:20 **IL14 Invited Lecture 14**  
“Optical control of the genome”

Moritoshi Sato The University of Tokyo, Japan

11:20~11:40 **OP8 Oral Poster Session 8 (P-10)**  
“A synthetic CRISPR-based gene drive system for population suppression in the  
human malaria mosquito”

Andrew Marc Hammond  
Imperial College London, UK

11:40~12:10 **IL15 Invited Lecture 15**  
“Reconstitution of cell-cell communication mechanisms  
using genome-engineering technologies”

Miki Ebisuya RIKEN, Japan

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12:10~12:35 Group Photo  
12:35~13:40 Lunch

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**13:40~16:20** *Chairs: Bill Skarnes, Wellcome Trust Sanger Center, UK  
Bruce Conklin, Gladstone Institute, USA*

13:40~14:10 **IL16 Invited Lecture 16**  
“A CRISPR dropout screen identifies genetic vulnerability  
in acute myeloid leukaemia”

Kosuke Yusa  
Wellcome Trust Sanger Center, UK

14:10~14:30 **OP9 Oral Poster Session 9 (P-31)**  
“A CRISPR mutagenesis screen identifies thymine DNA glycosylase  
as a determinant of PARP inhibitor toxicity.”

Stephen Pettitt  
Institute of Cancer Research, UK

14:30~14:50 **OP10 Oral Poster Session 10 (P-14)**  
“A short-homology-mediated tagging method for generation of  
human conditional mutants by use of the auxin-inducible degron (AID) technology”

Masato Kanemaki  
National Institute of Genetics, Japan

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14:50~15:10 Coffee Break

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15:10~15:30 **OP11 Oral Poster Session 11 (P-8)**

“Locus-specific biochemical analysis of genome functions using enChIP:  
an application of CRISPR/Cas and TAL to purification of specific genomic regions”

Hodaka Fujii  
Osaka University, Japan

15:30~15:50 **OP12 Oral Poster Session 12 (P-26)**

“PPR motif as a new DNA/RNA binding module for genome/transcriptome editing”

Takahiro Nakamura  
Kyushu University, Japan

15:50~16:20 **IL17 Invited Lecture 17**

“Cpf1 is a single-RNA-guided endonuclease of a Class 2 CRISPR-Cas system”

Bernd Zetsche  
Broad Institute of MIT and Harvard, USA

16:20~17:50 **Poster Session (P-1~P-45)**

Place: Reception Hall, Nara Kasugano International Forum IRAKA 2nd floor

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17:50~18:10 Removal of Posters

18:10~18:30 Walk to the Banquet site

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18:30~20:30 **Conference Banquet**

Place: Restaurant “Half Time,” Nara National Museum

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## **November 20th, Friday**

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**9:00~12:00** *Chairs: Knut Woltjen, Kyoto University, Japan  
Akitsu Hotta, Kyoto University, Japan*

9:00~9:30 **IL18 Invited Lecture 18**

“At the Conflux of Genome Engineering and Pluripotent Stem Cell Biology”

Knut Woltjen Kyoto University, Japan

- 9:30~10:00 **IL19 Invited Lecture 19**  
“Gene editing and gene silencing in iPS cells with CRISPR-based systems”  
Bruce Conklin Gladstone Institute, USA
- 10:00~10:20 **OP13 Oral Poster Session 13(P-4)**  
“Systematic Cellular Disease Models Reveal Synergistic Interaction of Trisomy 21  
and GATA1 Mutations in Hematopoietic Abnormalities”  
Kimihiro Banno Osaka University, Japan
- 10:20~10:50 **IL20 Invited Lecture 20**  
“Biallelic genome editing of human iPSCs at scale”  
Bill Skarnes  
Wellcome Trust Sanger Center, UK
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- 10:50~11:10 Coffee Break
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- 11:10~11:40 **OP3 Oral Poster Session 3 (P-7)**  
“Cure Mapping for Individualized Medicine”  
Stephen C Ekker Mayo Clinic, USA
- 11:40~12:00 **OP14 Oral Poster Session 14 (P-32)**  
“Improved PITCh systems for high-throughput MMEJ-dependent gene knock-in  
in human cells”  
Tetsushi Sakuma Hiroshima University, Japan
- 12:00~12:20 **Closing Remarks & other items of business**
- 12:20 **End of Conference**