

### Ⅲ 国際シンポジウム

The 33<sup>rd</sup> Hot Spring Harbor International Symposium 2024

# Cutting-Edge Research and Technology in Stem Cells and Reprogramming

October 29 10:00 - 17:50 [Tue] / 30 9:30 - 16:15 [Wed]

2F Collaborative Research Station-I, Hospital Campus, Kyushu University

九州大学 病院キャンパス コラボステーション I 2階 視聴覚ホール

## Invited Speakers

**Cantas Alev**

Kyoto University  
Japan

**Lijian Hui**

Center for Excellence in  
Molecular Cell Science, CAS  
China

**Kim B. Jensen**

University of Copenhagen  
Denmark

**Samantha A. Morris**

Harvard Medical School  
USA

**Yasuyuki Ohkawa**

Kyushu University  
Japan

**Atsushi Suzuki**

Kyushu University  
Japan

**Hongkui Deng**

Peking University  
China

**Meritxell Huch**

Max Planck Institute  
Germany

**Shin Kaneko**

Kyoto University  
Japan

**Kinichi Nakashima**

Kyushu University  
Japan

**Aiko Sada**

Kyushu University  
Japan

**Satoshi Yamazaki**

University of Tokyo  
Japan

**Mototsugu Eiraku**

Kyoto University  
Japan

**Masaru Ishii**

Osaka University  
Japan

**Mitsuru Morimoto**

RIKEN BDR  
Japan

**Ryuichi Nishinakamura**

Kumamoto University  
Japan

**Toshiro Sato**

Keio University  
Japan

**Short-Talks from MIB (14 speakers)**

**Program**



**Registration**



**Access**



**Contact** 国際シンポジウム事務局 Tel:092-642-6449 E-mail : hss2024@bioreg.kyushu-u.ac.jp  
(器官発生再生学分野)

**主催**：九州大学 生体防御医学研究所

**共催**：文部科学省 共同利用・共同研究システム形成事業「学際領域展開ハブ形成プログラム（4Dシステム発生・再生学イニシアティブ）」、高深度オミクス医学研究拠点整備事業、多階層生体防御システム研究拠点

**協賛**：アゼンタ株式会社 カールツァイス株式会社 株式会社CyberomiX 株式会社アビオス 株式会社キーエンス  
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**The 33rd Hot Spring Harbor International Symposium**  
**– Cutting-Edge Research and Technology in Stem Cells and Reprogramming –**

October 29 -30, 2024

2F Collaborative Research Station-I, Hospital Campus, Kyushu University, Fukuoka, Japan

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**Tuesday, October 29, 2024**

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10:00-10:05 Opening Remarks: **Yasuyuki Ohkawa** (Director of Medical Institute of Bioregulation)

**Session 1: Stem cell regulation and medicine** Chair: **Yoshihiro Baba**

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10:05-10:40 **Cantas Alev** (Kyoto University, Japan)

Reconstituting human axial development *in vitro*

10:40-11:05 **Satoshi Yamazaki** (The University of Tokyo, Japan)

Expansion and Prediction of hematopoietic stem cells

11:05-11:30 **Shin Kaneko** (Kyoto University, Japan)

The Generation of T cells from iPS cells for Immunotherapy

11:30-12:45 Lunch (meeting invited speakers only)

**Session 2: Tissue regeneration and reprogramming** Chair: **Takahiro Masuda**

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12:45-13:20 **Lijian Hui** (Center for Excellence in Molecular Cell Science, CAS, China)

Cell Identity Conversion: Liver Regeneration and Cell Therapy

13:20-13:45 **Kinichi Nakashima** (Kyushu University, Japan)

Artificial induction of neurogenesis to restore the function of the central nervous system

13:45-14:10 **Atsushi Suzuki** (Kyushu University, Japan)

Direct reprogramming technology and its medical prospects

14:10-14:20 Group Photos

14:20-14:45 Coffee break

**Session 3: Short Talks from MIB (1)** Chair: **Hiroki Shibata & Yoshihiro Izumi**

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14:45-15:55 Short talks of 10 minutes each by 7 speakers (see the next page for details)

15:55-16:25 Coffee break

**Session 4: Biotechnology and imaging** Chair: **Hiroshi Ochiai**

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16:25-17:00 **Samantha A. Morris** (Harvard Medical School, USA)

New genomic technologies to deconstruct and control cell identity

17:00-17:25 **Yasuyuki Ohkawa** (Kyushu University, Japan)

Single-cell epigenome lineage tracing via RNA Pol II-defined cell states

17:25-17:50 **Masaru Ishii** (Osaka University, Japan)

Spatiotemporal heterogeneity of *in vivo* immune systems

19:00- Dinner party (by invitation only)

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**Wednesday, October 30, 2024**

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**Session 5: Stem cell growth and differentiation** Chair: **Akiyoshi Uezumi**

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- 09:30-10:05 **Hongkui Deng** (Peking University, China)  
From Bench to Bedside: Chemical reprogramming and the future of regenerative medicine
- 10:05-10:40 **Kim B. Jensen** (University of Copenhagen, Denmark)  
Guiding intestinal stem cell fate
- 10:40-11:05 **Mitsuru Morimoto** (RIKEN, Japan)  
Identifying lung stem cell subpopulation by combining single-stem cell morphometrics, organoid culture and transcriptome
- 11:05-11:30 **Aiko Sada** (Kyushu University, Japan)  
Unraveling stem cell dynamics in skin regeneration and aging
- 11:30-12:45 Lunch (meeting invited speakers only)

**Session 6: Short Talks from MIB (2)** Chair: **Takehito Uruno & Satoshi Watanabe**

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- 12:45-13:55 Short talks of 10 minutes each by 7 speakers (see the next page for details)
- 13:55-14:20 Coffee break

**Session 7: Organoid technology and disease** Chair: **Shinichiro Sawa**

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- 14:20-14:55 **Meritxell Huch** (Max Planck Institute, Germany)  
Building Architecture and Complexity in Tissue-Derived Liver Organoids
- 14:55-15:20 **Ryuichi Nishinakamura** (Kumamoto University, Japan)  
Building a kidney from pluripotent stem cells
- 15:20-15:45 **Mototsugu Eiraku** (Kyoto University, Japan)  
Organogenesis in stem cell culture
- 15:45-16:10 **Toshiro Sato** (Keio University, Japan)  
Understanding of Human Organ Function and Disease Using Organoid Technology
- 16:10-16:15 Closing Remarks: **Atsushi Suzuki** (Kyushu University, Japan)
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**Session3: Short Talks from MIB (1)**Chair: **Hiroki Shibata & Yoshihiro Izumi**14:45-15:55, Tuesday, October, 29 2024

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**S-01: Chihiro Nakayama** (Division of Cancer Genome Regulation)

Transcription termination and its function in cancer

**S-02: Yutaro Yada** (Division of Immunology and Genome Biology)

STIM-mediated store-operated calcium entry regulates positive selection and affinity maturation of germinal center B cells

**S-03: Shinichiro Sawa** (Division of Mucosal Immunology)

Early primary ossification center is a reservoir for cells that promote fetal bone marrow development

**S-04: Ayame Nagafuchi** (Division of Allergy and Immunology)

Identification of autoantibodies promoting remyelination in aging

**S-05: Shota Yamamoto** (Division of Molecular Neuroimmunology)

Macrophage/microglia-producing transient increase of platelet-activating factor is required for neuropathic pain

**S-06: Akiyoshi Uezumi** (Division of Cell Heterogeneity)

Retinoic acid signaling regulates fate of mesenchymal stromal cells in skeletal muscle

**S-07: Satoshi Watanabe** (Division of Trans-Scale Structural Life Science)Flexible motion and zinc-mediated regulation of a cargo receptor ERGIC-53 revealed by cryo-EM

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**Session6: Short Talks from MIB (2)**Chair: **Takehito Uruno & Satoshi Watanabe**12:45-13:55, Wednesday, October, 30 2024

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**S-08: Yuki Ito** (Division of Molecular Systems for Brain Function)

Decoding neuronal circuit-specific synapse proteomes using proximity labeling

**S-09: Hiroshi Ochiai** (Division of Gene Expression Dynamics)

Changes in higher-order genomic structures coupled with transcriptional states in mouse embryonic stem cells

**S-10: Keisuke Matsubara** (Division of Immunogenetics)

Novel functions of DOCK2 in RNA metabolism

**S-11: Taichi Matsubara** (Division of Biomedical Information Analysis)

Locating transcription factor binding sites with Quantum Convolutional Neural Networks

**S-12: Zhuo Qu** (Division of Bioinformatics)

Genome-wide identification of exon extension/shrinkage events induced by splice-site-creating mutations

**S-13: Kohta Nakatani** (Division of Metabolomics)

Wide-scope targeted analysis of bioactive lipids based on chromatography mass spectrometry

**S-14: So Morishita** (Division of Integrated Omics)The different responses of the Akt downstream molecules against obesity-induced attenuation of insulin signal transmission in mice liver

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