

Program

**Monday, March 2 (Day 1)**

9:00-9:55            Registration  
9:55-10:00        Welcoming Remarks by Ryoichiro Kageyama

**Session 1            Comparative Biology Across Species and Time**

Chair: Masaya Hagiwara

10:00-10:25        **S1-1**  
**Stress-Dependent Proliferation Determines Divergent Mechanisms of Inner Ear Formation across Vertebrates**  
Satoru Okuda (Nano Life Science Institute, Kanazawa University, Japan)

10:25-10:50        **S1-2**  
**Comparative Anatomy and Genomics Across the Tree of Life**  
Rory T. Cerbus (RIKEN Center for Biosystems Dynamics Research, Japan)

10:50-11:15        **S1-3**  
**Seeing Plant–Animal Interactions Through Time at the Crossroads of Biological and Earth Sciences**  
Yume Imada (Kyoto University, Japan)

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11:15-11:30                    *Coffee Break*

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**Session 2            Novel Models for Embryogenesis and Homeostasis**

Chair: Hajime Fukui

11:30-11:55        **S2-1**  
***Danioella cerebrum* as a genetically tractable model for adult cardiovascular research**  
Koji Ando (National Cerebral and Cardiovascular Center, Japan)

11:55-12:20        **S2-2**  
**Investigation of human embryonic development using stem cells, and interspecies chimaeras**  
Ayaka Yanagida (The University of Tokyo, Japan)

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12:20-12:35      **S2-3\***  
**Programming Human Embryogenesis with CRISPR-based Epigenome Editors**  
Ali Shariati (University of California, Santa Cruz, USA)

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12:35-14:05                      Lunch & Poster Session 1  
13:05-14:05 Presenters of Odd-numbered posters

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**Session 3                      Decoding the Environment: Neural and Cellular Mechanisms Shaping Behavioral Choice**

Chair: Airi Jo-Watanabe

14:05-14:30      **S3-1**  
**Seeing without eyes: how nematodes respond to light**  
Misako Okumura (Hiroshima University, Japan)

14:30-14:55      **S3-2**  
**Visual adaptations underlying the evolution of flower-visiting behavior in *Drosophila elegans***  
Yuki Ishikawa (Nagoya University, Japan)

14:55-15:20      **S3-3**  
**Ultrastructural remodeling of neuronal organelles governing foraging decisions**  
Hina Kosakamoto (Champalimaud Foundation, Portugal)

15:20-15:45      **S3-4**  
**Blood Feeding Regulation and Temporally Regulated Fates of Blood-Derived Amino Acids in Mosquitoes**  
Chisako Sakuma (RIKEN Center for Biosystems Dynamics Research, Japan)

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15:45-16:00                      *Coffee Break*

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**Session 4      Molecular and Endocrine Control of Homeostasis and Aging**

Chair: Fumiaki Obata

- 16:00-16:25      **S4-1**  
**A bicarbonate-sensing GPCR communicates acid-base balance to vascular physiology**  
Airi Jo-Watanabe (Keio University School of Medicine, Japan)
- 16:25-16:50      **S4-2**  
**Maintenance of intracellular Mg<sup>2+</sup> homeostasis and its pathological and physiological importance**  
Yosuke Funato (Kyoto University, Japan)
- 16:50-17:15      **S4-3**  
**Sex-dependent Regulation of Vertebrate Aging by Germ Cells**  
Kota Abe (Research Institute for Microbial Diseases, The University of Osaka, Japan)
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17:15-17:30                      *Coffee Break*

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**Keynote Talk**

Chair: Katsuyuki Shiroguchi

- 17:30-18:15      **KT-1**  
**Controlling neural stem cells in the aged/diseased brain**  
Ryoichiro Kageyama (RIKEN Center for Biosystems Dynamics Research, Japan)
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18:30-20:30                      *Social Gathering at BDR Lounge*

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**Tuesday, March 3 (Day 2)**

**Session 5      Decoding Time in Biology**

Chair: Yusuke Mii

- 9:00-9:25      **S5-1**  
**Chrono-Developmental Biology: Decoding Embryonic Time through Diapause**  
Masayuki Oginuma (RIKEN Center for Biosystems Dynamics Research, Japan)
- 9:25-9:50      **S5-2**  
**Circadian rhythms persist independent of core clock genes**  
Daisuke Ono (Research Institute of Environmental Medicine, Nagoya University, Japan)
- 9:50-10:05      **S5-3\***  
**Elucidating mechanisms underlying species-specific rates of developmental tempo**  
Hilary Knowles (The Francis Crick Institute, UK)
- 10:05-10:20      **S5-4\***  
**Reprogramming Müller glia to induce oscillatory *Ascl1* expression and neurogenesis in the adult mammalian retina**  
Taimu Masaki (RIKEN Center for Biosystems Dynamics Research, Japan)

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10:20-10:35      *Coffee Break*

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**Session 6      Decoding Biological Systems with New Technologies**

Chair: Satoru Okuda

- 10:35-11:00      **S6-1**  
**Building Blocks for Neural Tube Architecture: A Modular Platform to Orchestrate Spatial Microenvironments**  
Masaya Hagiwara (RIKEN Center for Biosystems Dynamics Research, Japan)

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- 11:00-11:25      **S6-2**  
**A Novel Single-cell Isolation Method Enables Cell-based 3D Spatial Transcriptomics**  
Nozomi Hojo (RIKEN Center for Biosystems Dynamics Research, Japan)
- 11:25-11:50      **S6-3**  
**Stem Cell Therapy for Diabetes**  
Eiji Yoshihara (The Lundquist Institute at Harbor-UCLA Medical Center, USA & David Geffen School of Medicine at University of California, Los Angeles, United States)
- 11:50-12:05      **S6-4\***  
**Optogenetic control of p53 signaling pathway**  
Tatsuki Tsuruoka (Weill Cornell Medical College of Cornell University, USA)
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- 12:05-13:35      Group Photo  
Lunch & Poster Session 2  
12:35-13:35 Presenters of Even-numbered posters
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**Session 7      Mechano-Chemical Control of Morphogenesis and Patterning**

Chair: Takefumi Kondo

- 13:35-14:00      **S7-1**  
**Making planar cell polarity (PCP) *in vitro* and beyond**  
Yusuke Mii (Institute for Life and Medical Sciences, Kyoto University, Japan)
- 14:00-14:25      **S7-2**  
**Mechano-chemical crosstalk drives unfit cell sensing and morphogen gradient correction**  
Kana Aoki (Research Institute for Microbial Diseases, The University of Osaka, Japan)
- 14:25-14:50      **S7-3**  
**Blood flow-dependent force parameters instruct endocardial cell identity for heart morphogenesis**  
Hajime Fukui (Institute of Advanced Medical Sciences, Tokushima University, Japan)

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14:50-15:05      **S7-4\***  
**Extracellular stiffness regulates cell fate determination and drives the emergence of evolutionary novelty in teleost heart**  
Yuuta Moriyama (Aoyama Gakuin University, Japan)

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15:05-15:20                      *Coffee Break*

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**Session 8            Adaptive Strategies for Survival Across Extreme Conditions**  
Chair: Masayuki Oginuma

15:20-15:35      **S8-1\***  
**Spatially organising coral-algae symbiosis in a challenging environment**  
Susie McLaren (University of Cambridge, UK)

15:35-16:00      **S8-2**  
**Life Without Water: Insights into Tardigrade Anhydrobiosis through Omics and Imaging**  
Sae Tanaka (Institute for Advanced Biosciences, Keio University, Japan)

16:00-16:25      **S8-3**  
**Mechanisms of embryonic diapause in mouse preimplantation embryos**  
Katsuyoshi Takaoka (Institute of Advanced Medical Sciences, Tokushima University, Japan)

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16:25-16:30      Poster Award MC by Chisako Sakuma

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16:30-16:35      Closing Remarks by Masaya Hagiwara