

# **Scientific Programs**

# Plenary Lectures

May 11 (Thu) 9:00-11:00 Room A

Chairperson: Akira Nakamura (Kumamoto Univ.)

**PL1-1** 09:00-10:00 RNP Assembly for Intracellular transport in the *Drosophila* oocyte

○Anne Ephrussi (Developmental Biology Unit, European Molecular Biology Laboratory)

mRNA localization to specific subcellular sites within cells is a powerful and conserved phenomenon that allows precise spatial and temporal control of protein synthesis. A paradigm for the study of mRNA transport is *oskar* mRNA, whose localization at the posterior pole of the *Drosophila* oocyte is essential for proper patterning of the embryo. Assembly of transport competent *oskar* mRNPs begins in the nucleus and involves splicing of the first *oskar* intron and the four core proteins of the Exon Junction Complex (EJC). In the cytoplasm, *oskar* mRNPs associate with motor proteins that transport the mRNA to its destination at the posterior cortex of oocyte. The importance of splicing of intron 1 is due to its requirement for deposition of the EJC and assembly of a posterior targeting element, the Spliced *oskar* Localization Element (SOLE), from a bipartite sequence composed of exonic sequences flanking the intron. This element forms a stem-loop structure that is positioned immediately next to the EJC deposition site and is critical for efficient transport of *oskar* mRNA to the posterior pole. New findings will be presented concerning the central role of an RNA-binding atypical Tropomyosin-1 in the recruitment of kinesin-1 motor to *oskar* mRNA for its transport within the oocyte.

Chairperson: Toshihiko Fujimori (NIBB)

**PL1-2** 10:00-11:00 The blueprint of mouse development: Regionalization of cell fates and molecular network activity for tissue patterning and morphogenesis

○Patrick Tam (Embryology Unit, Children's Medical Research Institute and School of Medical Sciences, Sydney Medical School, University of Sydney)

Gastrulation is a critical milestone of embryogenesis at which the primary germ layers are formed and the multipotent embryonic cells are allocated to the progenitors of tissue lineages within the germ layers. The tissue progenitors for major body parts are assembled into a basic body plan. Through the inductive interaction between tissues that modulates the functional output of molecular network, the concerted execution of developmental program empowers tissue morphogenesis, organogenesis and the building of embryonic architecture. Whole genome tran-

scription activity highlights the transition from cellular pluripotency to lineage specification before gastrulation is completed. Analysis of the expression pattern of lineage determinants and fate mapping of the mouse embryo have revealed a distinctive regionalization of cell fates in the germ layers and the correspondence of the spatial delineation of the precursor populations and lineage-related gene activity. Analysis of the spatial transcriptome of the epiblast revealed the developmental correlate of the epiblast cells fates with region/lineage-specific transcriptional profile and signalling activity. Analysis of the lineage propensity of epiblast stem cells showed the differentiation potency of the epiblast is progressively restricted under the influence of signalling activity, culminating in the generation of lineage-restricted progenitors for specific tissue types. In the gastrulating embryo, spatially delimited agonistic and antagonistic signalling activity in the germ layers underpins the patterning of embryonic tissue and the establishment of the body plan. During early organogenesis, functional intersection of the signalling pathways with the gene regulatory network continues to drive the morphogenesis of the embryonic structure such as the head and the craniofacial primordia. Our understanding of the molecular control of lineage allocation, tissue differentiation and morphogenesis, currently at a global level, may be refined by taking the single-cell analytics as well as the systems biology approach to elucidate the attributes of molecular network activity and the choreography of developmental process at cell and tissue resolution.

May 12 (Fri) 15:30-17:30 Room A

Chairperson: Hidehiko Inomata (RIKEN CDB)

**PL2-1** 15:30-16:30 Self-organizing morphogen gradients in *Xenopus*

○Eddy De Robertis, Yuki Moriyama (HHMI/UCLA)

Embryos have the remarkable ability of self-organization after experimental manipulations. The Spemann organizer secretes a cocktail of growth factor antagonists. A gradient of Chordin protein can be detected in a narrow region that separates the ectoderm from endomesoderm called Brachet's cleft in *Xenopus*. Chordin diffuses over long distances of up to 2 mm along this signaling highway, patterning the ectoderm and mesoderm coordinately via a single morphogen gradient as cells undergo morphogenetic movements. Studies on the scaling and regeneration of bisected embryos that test the self-organizing potential will be presented. After sagittal bisection the embryonic twins have a remarkable asymmetry in left-right pigmentation. The more asymmetric, the better the regeneration. This external appearance is caused by apposition of the ventral- and dorsal-most tissues after healing. Using a combination of lineage tracing and in situ hybridization we found that the organizer becomes displaced by about 90 degrees from its initial position in the embryo resulting in identical twins. Extensive RNA-seq studies reveal gene signatures that are coordinately regulated in dorsal or ventral halves. In regenerating sagittal halves the organizer gene network is not upregulated, but a marked increase in many ventral genes was noted. These ventral signals presumably displace the Spemann organizer. I will also present work on the Wnt gradient, which causes stabilization of many proteins (Wnt/STOP) through the sequestration of GSK3 and Lys48-polyubiquitinated proteins inside multivesicular bodies.

Chairperson: Naoto Ueno (NIBB)

**PL2-2** 16:30-17:30 Pattern Formation and Positional Information

○Lewis Wolpert (Cell and Developmental Biology, University College London)

There has been much progress in developmental biology which involves morphogenesis, evolution, gene regulation, in a variety of organisms, but pattern formation still needs to be fully understood. The concept of positional information proposes that cells acquire positional values as in a coordinate system, which they interpret by developing in particular ways to give rise to spatial patterns. Some of the best evidence for positional information comes from regeneration experiments, and the patterning of the leg and antenna in *Drosophila*, and the vertebrate limb. Central problems are how positional information is set up, how it is recorded, and then how it is interpreted by the cells. A number of models have been proposed for the setting

up of positional gradients, and most are based on diffusion of a morphogen and its interactions with extracellular molecules; however, diffusion may not be reliable mechanism. There are also mechanisms based on timing. There is no good evidence for the quantitative aspects of any of the proposed gradients and details how they are set up. The way in which a signaling gradient regulates differential gene expression in a concentration-dependent manner also raises several technical and quite difficult issues. If pattern formation was fully understood it would be possible to design many new animals.

# Symposia

## Symposium 1 : Early patterning

DATE: May 10 (Wed) 17:30 ~ 19:30 Room C

Chairpersons: Masahiko Hibi (Nagoya Univ.)

Toshihiko Fujimori (NIBB)

During development of animals and plants, the most drastic events occur at the beginning of embryogenesis. It is believed that part of body axis formation starts during oogenesis in some species. Various morphogen signals and transcriptional/post-transcriptional modules are involved in formation of embryonic axis, tissue patterning, and organ polarity. Signaling centers (organizers) have been thought to play critical roles in these processes. In this symposium, we invite scientists who challenge old dogmas in this field. The speakers will present new findings and discuss novel mechanisms that control the early developmental processes.

17:30-17:35 Introduction

**S01-1** 17:36-17:57 Eccentric position of the germinal vesicle and cortical flow during oocyte maturation specify the animal-vegetal axis of ascidian embryos

卵母細胞内での卵核胞の偏りと卵成熟時の表層細胞質の流れによってホヤ胚の動植軸が決定される

Masumi Tokuhisa, Miyuki Muto, <sup>○</sup>Hiroki Nishida (Dept. of Biol. Sci., Osaka Univ.)

**S01-2** 17:58-18:19 A Hedgehog signaling network regulates the initiation of segmental oscillations in the early spider embryo

クモ初期胚でヘッジホッグシグナルネットワークは体節形成の遺伝子発現振動の開始を制御する

<sup>○</sup>Yasuko Akiyama-Oda<sup>1,2</sup>, Sawa Iwasaki-Yokozawa<sup>1</sup>, Hiroki Oda<sup>1</sup> (JT Biohistory Res. Hall<sup>1</sup>, Osaka Medical College<sup>2</sup>)

**S01-3** 18:20-18:41 Interplay between transcriptional and post-transcriptional regulatory modules in the pattern formation of *Arabidopsis* embryos

シロイヌナズナの胚パターン形成における転写制御と転写後制御の相互作用

Shunsuke Miyashima<sup>1</sup>, Toshikatsu Uchimura<sup>1</sup>, Minami Honda<sup>1</sup>, Kayo Hashimoto<sup>1,2</sup>, <sup>○</sup>Keiji Nakajima<sup>1</sup> (Grad. Sch. Biol. Sci., NAIST<sup>1</sup>, Grad.

Sch. Humanities and Sci., Nara Women's Univ.<sup>2)</sup>

- S01-4** 18:42-19:03 Embryonic region-dependent development and interactions of grafted Hensen's node with host tissues: reconsideration of the organizer model  
宿主胚領域に依存した、ヘンゼン結節移植片の自己発生と宿主組織との相互作用  
○Hisato Kondoh, Koya Yoshihi (Kyoto SU)
- S01-5** 19:04-19:25 Surface ectoderm specification of uncommitted ectodermal progenitors in the neural plate border is crucial for neural tube closure  
神経板境界における未分化外胚葉の表皮化は、神経管閉鎖に必須である  
Chiharu Kimura-Yoshida, ○Isao Matsuo (Osaka Medical Center and Research Institute for Maternal and Child Health)
- 19:25-19:30 General Discussion

## Symposium 2 : Regeneration & Metamorphosis

DATE: May 10 (Wed) 17:30 ~ 19:30 Room D  
Chairpersons: Toshinori Hayashi (Tottori Univ.)  
Ken-ichi T Suzuki (Hiroshima Univ.)

The aim of this symposium is to elucidate the mechanisms of regeneration, metamorphosis, and reprogramming at the cellular and molecular levels. Regeneration and reprogramming involve massive cell dedifferentiation and proliferation accompanied by genome-wide changes in epigenetic modifications. Metamorphosis is regulated by unique intrinsic mechanisms and extrinsic stimuli. We will here introduce six interesting researches in various organisms. We hope that this symposium will provide an opportunity to consider the future directions of this research area in developmental biology.

Co-organized by : Development, Growth & Differentiation

- S02-1** 17:30-17:50 The neuronal mechanisms that coordinate metamorphic events of ascidian  
ホヤの変態イベントを協調させる制御メカニズム  
○Yasunori Sasakura (Shimoda Marine Res. Center, Univ. Tsukuba)
- S02-2** 17:50-18:10 Molecular basis of organ remodeling during amphibian metamorphosis  
両生類メタモルフォーゼの分子基盤  
○Ken-Ichi Suzuki (Hiroshima University)
- S02-3** 18:10-18:30 Epigenetic control of plant cell reprogramming  
植物の細胞リプログラミングを制御するエピジェネティックな仕組み  
○Keiko Sugimoto (RIKEN CSRS)
- S02-4** 18:30-18:45 Efficient nuclear reprogramming of somatic cells towards totipotency is supported by synergistic effects of small molecules  
体細胞核の全能性獲得に向けた初期化は低分子物質の相乗効果によって促進される  
○Kei Miyamoto<sup>1,2</sup>, Yosuke Tajima<sup>3</sup>, Koki Yoshida<sup>3</sup>, Mami Oikawa<sup>1,2</sup>, Rika Azuma<sup>4</sup>, Miki Mori<sup>1</sup>, Yuma Imasato<sup>1</sup>, George Allen<sup>2</sup>, Tomomi Tsujikawa<sup>3</sup>, Tomomasa Tsukaguchi<sup>1</sup>, Charles Bradshaw<sup>2</sup>, Jerome Julien<sup>2</sup>, Kazuo Yamagata<sup>1</sup>, Kazuya Matsumoto<sup>1</sup>, Masayuki Anzai<sup>4</sup>, Hiro-

shi Imai<sup>3</sup>, John Gurdon<sup>2</sup>, Masayasu Yamada<sup>3</sup> (BOST, Kindai University<sup>1</sup>, Gurdon Institute, University of Cambridge<sup>2</sup>, Graduate School of Agriculture, Kyoto University<sup>3</sup>, Institute of Advanced Technology, Kindai University<sup>4</sup>)

**S02-5** 18:45-19:00 Study of cardiac regeneration using new model newt *Pleurodeles waltl*

新しいモデルイモリによる心臓再生機構の研究

○Toshinori Hayashi, Ayumi Myouga, Eri Tsuchiya, Shouhei Azuma, Yukio Satoh, Takashi Takeuchi (Tottori University)

**S02-6** 19:00-19:30 Resolving Heart Regeneration by Replacement Histone Profiling

○Kenneth Poss<sup>1</sup>, Joseph Goldman<sup>1</sup>, Guray Kuzu<sup>2</sup>, Nutishia Lee<sup>1</sup>, Jaclyn Karasik<sup>1</sup>, Matthew Gemberling<sup>1</sup>, Matthew Foglia<sup>1</sup>, Ravi Karra<sup>1</sup>, Amy Dickson<sup>1</sup>, Fei Sun<sup>1</sup>, Michael Tolstorukov<sup>2</sup> (Duke University Medical Center<sup>1</sup>, Massachusetts General Hospital<sup>2</sup>)

## Symposium 3 : Evo Devo

DATE: May 10 (Wed) 17:30 ~ 19:30 Room E  
Chairpersons: Hirokazu Tsukaya (Univ. of Tokyo)  
Naoki Irie (Univ. of Tokyo)

What are the biggest questions in the field of Evolutionary Developmental Biology? The aim of this symposium is to share and discuss over insights obtained from researches against deeply embedded problems, and newly emerged questions in the field of animal and plant evolution.

Co-organized by : Multidimensional Exploration of Logics of Plant Development (MEXT) Universal Biology Institute, University of Tokyo

- S03-1** 17:30-17:55 What are the potential mechanisms that made vertebrates' body plan conserved?  
脊椎動物のボディプランを保存させた仕組みは何か?  
○Naoki Irie<sup>1</sup>, Haiyang Hu<sup>2</sup>, Song Guo<sup>2</sup>, Masahiro Uesaka<sup>1</sup>, Kotaro Shimai<sup>3</sup>, Tsai-Ming Lu<sup>6</sup>, Fang Li<sup>5</sup>, Satoko Fujimoto<sup>4</sup>, Masato Ishikawa<sup>1</sup>, Shiping Liu<sup>5</sup>, Yohei Sasagawa<sup>4</sup>, Guojie Zhang<sup>5</sup>, Shigeru Kuratani<sup>4</sup>, Jr-Kai Yu<sup>6</sup>, Takehiro Kusakabe<sup>3</sup>, Philipp Khaitovich<sup>2</sup> (Univ. of Tokyo<sup>1</sup>, CAS-MPG Partner Institute, China<sup>2</sup>, Konan Univ.<sup>3</sup>, RIKEN, Japan<sup>4</sup>, BGI, China<sup>5</sup>, Taiwan Academia Sinica, Taiwan<sup>6</sup>)
- S03-2** 17:55-18:20 The broad development potentials of plant meristems  
○Yuval Eshed<sup>1</sup>, Eliezer Lifschitz<sup>2</sup> (Dept. of Plant and Environmental Sciences, Weizmann Institute of Science<sup>1</sup>, Dept. of Biology, Technion, Israel Institute of Technology Haifa<sup>2</sup>)
- S03-3** 18:20-18:45 Mechanosensitivity of junctional beta-catenin : from mesoderm mechanotransductive evolutionary origins to tumorigenic mechanical induction  
○Emmanuel Farge (INSERM & PCC, Institut Curie Paris)
- S03-4** 18:45-19:10 Does the ontogeny recapitulate phylogeny?  
個体発生は系統発生を繰り返すのか?  
○Shigeru Kuratani (RIKEN)
- S03-5** 19:10-19:30 A note on chordate origins and evolution  
脊索動物の起源と進化に関する一考察  
○Noriyuki Satoh (OIST)

## Symposium 4 : Technology (genome editing, big data)

DATE: May 10 (Wed) 17:30 ~ 19:30 Room F  
Chairpersons: Atsuo Kawahara (Yamanashi Univ.)  
Shuichi Onami (RIKEN Qbic)

Recent innovations of new technologies, such as genome editing, big data analysis and bioinformatics, contribute to uncover essentials of biological phenomena in various model organisms. In this symposium, we will provide frontier researches revealed by new technologies in developmental biology.

17:30-17:33 Introduction

- S04-1** 17:33-17:53 Data-driven modeling of embryogenesis enabled by bioim-  
age informatics  
バイオイメージ・インフォマティクスが可能にする胚  
発生のデータ駆動モデリング  
○Shuichi Onami (RIKEN QBiC)
- S04-2** 17:53-18:13 Genome editing in cultured cells and organisms  
培養細胞や個体でのゲノム編集  
○Takashi Yamamoto (Dept. of Math. and Sci., Hiroshima Univ.)
- S04-3** 18:13-18:33 *Marchantia polymorpha* : a next-generation model for com-  
parative developmental biology with a powerful platform of  
genome editing  
ゼニゴケ : ゲノム編集を活用した比較発生生物学の次  
世代モデル  
○Takayuki Kohchi (GSB, Kyoto Univ.)
- S04-4** 18:33-18:48 In vivo targeted single-base editing in zebrafish  
(P185) ゼブラフィッシュ生体内における標的化塩基の編集  
○Shingo Tanaka<sup>1</sup>, Hiroshi Hosokawa<sup>2</sup>, Keiji Nishida<sup>3</sup>, Shingo Mae-  
gawa<sup>2</sup> (Graduate school of Biostudies, Kyoto Univ.<sup>1</sup>, Graduate School  
of Informatics, Kyoto Univ.<sup>2</sup>, Graduate School of Science, Technol-  
ogy and Innovation, Kobe Univ.<sup>3</sup>)
- S04-5** 18:48-19:08 Visualization of transcription dynamics in living *Drosophila*  
embryos  
ショウジョウバエ初期胚における転写ダイナミクスの  
可視化  
○Takashi Fukaya, Bomyi Lim, Michael Levine (LSI, Princeton Univ)

- S04-6** 19:08-19:28 DNA barcode technologies for high-throughput measurements of molecular and cellular dynamics  
分子・細胞動態計測を加速する DNA バーコード技術  
○Nozomu Yachie (RCAST, Univ. Tokyo)
- 19:29-19:30 Closing remarks

## Symposium 5 : Environment, Nutrition

DATE: May 12 (Fri) 9:00-11:00 Room C

Chairperson: Masayuki Miura (Univ. of Tokyo)

Development is a robust biological process, however the organismal response to environment and nutrition status has been much paid attention to development. In this symposium, recent progress of molecular control of organismal responses including metabolic, biosynthetic and epigenetic regulation for development will be presented and discussed.

- S05-1** 09:00-09:24 Dietary nutrients and genes that regulate reactivation of quiescent progenitor cells in *C. elegans*  
*C. elegans* において静止期前駆細胞の活性化を制御する食餌中の栄養分子と遺伝子の解明  
○Masamitsu Fukuyama (Dept. of Physiological Chem, Grad. Sch. of Pharmaceutical Sci., Univ. of Tokyo)
- S05-2** 09:24-09:48 How mutations in ribosome-related genes affect leaf adaxial-abaxial patterning in *Arabidopsis thaliana*  
リボソーム関連変異によるシロイヌナズナの葉の向背軸パターンニング異常  
○Gorou Horiguchi<sup>1,2</sup>, Hirokazu Tsukaya<sup>3,4</sup> (Dept. Life Sci., Coll. Sci., Rikkyo Univ.<sup>1</sup>, Res. Cent. Life Sci., Coll. Sci. Rikkyo Univ.<sup>2</sup>, Grad. Sch. Sci., Univ. Tokyo<sup>3</sup>, OIIB<sup>4</sup>)
- S05-3** 09:48-10:12 The molecular basis of distinct responses to nutrient balances between generalist and specialist species  
栄養バランス変化に適応し成長する分子機構の解明に向けて  
○Yukako Hattori<sup>1</sup>, Kaori Watanabe<sup>1</sup>, Yuuki Takahashi<sup>1</sup>, Yuki Furumizo<sup>1</sup>, Yasutetsu Kanaoka<sup>1</sup>, Hironobu Uchiyama<sup>2</sup>, Shunsuke Yajima<sup>2</sup>, Masayoshi Watada<sup>3</sup>, Tadashi Uemura<sup>1</sup> (Grad. Sch. Biostudies, Kyoto Univ.<sup>1</sup>, NGRC, Tokyo Univ. of Agri.<sup>2</sup>, Grad. Sch. of Sci. and Eng., Ehime Univ.<sup>3</sup>)
- S05-4** 10:12-10:36 Rewiring of Embryonic Energy Metabolism During Mouse Chorioallantoic Branching  
Hidenobu Miyazawa<sup>1</sup>, ○Yoshifumi Yamaguchi<sup>1,2</sup>, Yuki Sugiura<sup>3,4</sup>, Kurara Honda<sup>3</sup>, Koki Kondo<sup>1</sup>, Fumio Matsuda<sup>5</sup>, Takehiro Yamamoto<sup>3</sup>, Makoto Suematsu<sup>2</sup>, Masayuki Miura<sup>1,2</sup> (Dept. Genet. Pharma. The

Univ. of Tokyo<sup>1</sup>, AMED-CREST<sup>2</sup>, PRESTO, JST<sup>3</sup>, Dept. Biochem.,  
Keio Univ.<sup>4</sup>, Dept. Bioinfo. Engin., Osaka Univ.<sup>5</sup>)

**S05-5** 10:36-11:00 Role of ATF2 family of transcription factors in epigenetic  
changes induced by environmental factors

環境要因によるエピジェネティック変化における  
ATF2 ファミリー転写因子の役割

○Shunsuke Ishii (RIKEN Tsukuba Inst.)

## Symposium 6 : Theory & Modeling (imaging)

DATE: May 12 (Fri) 9:00-11:00 Room D  
Chairpersons: Yasuhiro Inoue (Kyoto Univ.)  
Erina Kuranaga (Tohoku Univ.)

Bioimaging science has greatly contributed to the advancement of science fields and has already become one of major parts of biology. Theory and modeling bring new innovation for integrated understanding and control of dynamic biological systems. This symposium aims to bring together researchers in the field of theory, modeling and bioimaging. We believe that such a confluence of these fields will be a large source of progress in developmental biology.

Co-organized by: Grant-in-Aid for Scientific Research on Innovative Areas — Platforms for Advanced Technologies and Research Resources “Advanced Bioimaging Support (ABiS)

- 09:00-09:02 Introduction
- S06-1** 09:02-09:24 Controlling gene network for cell differentiation based on the structural theory  
細胞分化遺伝子ネットワークの構造理論に基づく制御  
○Atsushi Mochizuki<sup>1,4</sup>, Kenji Kobayashi<sup>2,4</sup>, Kazuki Maeda<sup>3,4</sup>, Miki Tokuoka<sup>2,4</sup>, Yutaka Satou<sup>2,4</sup> (Theo. Biol. Lab., RIKEN<sup>1</sup>, Dept. Zool., Grad. Sci., Kyoto Univ.<sup>2</sup>, Math., Sci. Tech., Kwansei Gakuin Univ.<sup>3</sup>, CREST, JST<sup>4</sup>)
- S06-2** 09:24-09:46 Transmission of cytokinesis forces via E-Cadherin dilution and actomyosin flows  
○Edouard Hannezo (University of Cambridge)
- S06-3** 09:46-10:08 Extracellular fluid dynamics and morphogenesis  
細胞外体液の動態と形態形成  
○Hidehiko Inomata, Kaori Niimi (CDB)
- S06-4** 10:08-10:30 Propagating wave of ERK activation orients collective cell migration  
ERK 活性の細胞間伝搬による細胞集団運動の制御  
○Kazuhiro Aoki (OIIB, NINS)
- S06-5** 10:30-10:45 Mechanical occupation of the losers' lost territory by winners drives cell competition

細胞死で空いた領地をめぐる力学的な細胞競合

○Alice Tsuboi<sup>1</sup>, Shizue Ohsawa<sup>2</sup>, Yukari Sando<sup>2</sup>, Tatsushi Igaki<sup>2</sup>, Koichi Fujimoto<sup>1</sup> (Osaka Univ.<sup>1</sup>, Kyoto Univ.<sup>2</sup>)

**S06-6** 10:45-11:00 **Mathematical Analysis for Dynamical Pattern Selection of Cellular Mosaic in Fish Retina**

魚類錐体モザイクにおける動的パターン選択の数理的研究

○Noriaki Ogawa<sup>1</sup>, Tetsuo Hatsuda<sup>1,2,3</sup>, Atsushi Mochizuki<sup>1,2,4</sup>, Masashi Tachikawa<sup>1,4,5</sup> (RIKEN iTHES<sup>1</sup>, RIKEN iTHEMS<sup>2</sup>, QHP Lab., RIKEN Nishina Center<sup>3</sup>, TB Lab., RIKEN<sup>4</sup>, CREST, JST<sup>5</sup>)

## Symposium 7 : Organogenesis

DATE: May 12 (Fri) 9:00-11:00 Room E

Chairpersons: Yosuke Mukoyama (NIH-NHLBI, USA)

Jun Takeuchi (Tokyo Medical and Dental University)

Mitsuru Morimoto (RIKEN CDB)

Recent studies in organogenesis have been at the leading edge of Developmental Biology. The symposium “organogenesis” covers a wide variety of scientific investigations using different model organisms, including chick, fish, plant, and mouse. The speakers will overview current progress with their cutting-edge experimental approaches using advanced imaging, gene manipulations, genetic perturbations, and human iPS technology. These independent but thematically interrelated talks provide unique opportunities to advance our understanding of developmental mechanisms in organogenesis.

Co-organized by : Development, Growth & Differentiation

- S07-1** 09:00-09:20 Growth coordination between external body and internal tissues  
○Yoshiko Takahashi (Grad. Sch. of Sci., Kyoto Univ.)
- S07-2** 09:20-09:40 Local Hypoxic Responses Trigger Neuro-Vascular Branching in the Skin  
○Yoh-Suke Mukoyama (National Heart, Lung, and Blood Institute, National Institutes of Health)
- S07-3** 09:40-09:50 Endothelial actin dynamics during blood vessel lumen formation  
○Li-Kun Phng<sup>1</sup>, Veronique Gebala<sup>2</sup>, Holger Gerhardt<sup>2</sup> (RIKEN CDB<sup>1</sup>, MDC for Molecular Medicine<sup>2</sup>)
- S07-4** 09:50-10:00 Direct cardiomyocyte specification and differentiation by the defined factors  
○Jun Takeuchi (Tokyo Medical and Dental University)
- S07-5** 10:00-10:20 Epigenetic timer to coordinate growth and differentiation in plants  
花発生をつかさどるエピジェネティックタイマー機構  
○Toshiro Ito (NAIST)
- S07-6** 10:20-10:40 Regulating the patterning of human mesoderm during the

directed differentiation of pluripotent stem cells

多能性幹細胞分化におけるヒト中胚葉パターンニングの  
制御

○Minoru Takasato (RIKEN CDB)

**S07-7** 10:40-11:00 Alternative cell fate selection and following directed cell  
migration coordinate epithelial pattern of branching airways

○Mitsuru Morimoto (RIKEN CDB)

## Symposium 8 : Neurogenesis

DATE: May 12 (Fri) 9:00-11:00 Room F

Chairpersons: Kenji Shimamura (Kumamoto Univ.)  
Takeshi Imai (RIKEN CDB)

We introduce five speakers investigating new paradigms in neural development. These researches also employed cutting-edge approaches such as quantitative analyses, mathematical modeling, and optogenetic manipulations. Hopefully, these topics will provide new perspectives and insights not only in neural development but also in a broad range of subjects in developmental biology.

09:00-09:05 Introduction

**S08-1** 09:05-09:30 Dynamic transcriptional control of neural stem cells

神経幹細胞のダイナミックな転写制御

○Ryoichiro Kageyama (IFLMS, Kyoto Univ.)

**S08-2** 09:30-09:55 Production logistics in neurogenesis: Windkessel-like, elasticity-mediated nuclear migration in crowded neuroepithelia

Tomoyasu Shinoda, Arata Nagasaka, ○Takaki Miyata (Anat. & Cell Biol., Nagoya Univ. Grad. Sch. of Med.)

**S08-3** 09:55-10:15 Roles of extrinsic factors in the cortical expansion in primates.

霊長類脳の拡大化における外的因子の役割

○Jun Hatakeyama<sup>1</sup>, Haruka Sato<sup>1</sup>, Rika Matsushita<sup>1</sup>, Mitunori Saitou<sup>2</sup>, Hideaki Tsuchiya<sup>3</sup>, Ryoichiro Kageyama<sup>4</sup>, Kenji Shimamura<sup>1</sup> (IMEG, Kumamoto Univ.<sup>1</sup>, Grad. Sch. of Med., Kyoto Univ.<sup>2</sup>, RCALS, Shiga Univ. of Med. Sci.<sup>3</sup>, IFLMS, Kyoto Univ.<sup>4</sup>)

**S08-4** 10:15-10:40 Reaction diffusion, lateral inhibition and noise canceling orchestrate the wave of neural differentiation in the fly brain

ショウジョウバエの脳において反応拡散・側方抑制・ノイズキャンセルの協調作用が神経分化の波を制御する

○Makoto Sato<sup>1</sup>, Tetsuo Yasugi<sup>1</sup>, Yoshitaro Tanaka<sup>2</sup>, Takashi Miura<sup>3</sup>, Masaharu Nagayama<sup>2</sup>, Shinichiro Ei<sup>2</sup> (Kanazawa Univ.<sup>1</sup>, Hokkaido Univ.<sup>2</sup>, Kyushu Univ.<sup>3</sup>)

**S08-5** 10:40-11:00 Spontaneous activity and formation of discrete connectivity in the olfactory bulb

自発神経活動による嗅球の特異的神経回路形成

Satoshi Fujimoto<sup>1,2</sup>, Marcus Leiwe<sup>1,2</sup>, Yuko Muroyama<sup>3</sup>, Tetsuichiro Saito<sup>3</sup>, <sup>○</sup>Takeshi Imai<sup>1,2,4</sup> (RIKEN CDB<sup>1</sup>, Grad Sch Medical Sciences, Kyushu Univ<sup>2</sup>, Grad Sch Medicine, Chiba Univ<sup>3</sup>, Grad Sch Biostudies, Kyoto Univ<sup>4</sup>)

## Symposium 9 : Stem Cell

DATE: May 12 (Fri) 13:00 ~ 15:00 Room C

Chairpersons: Kunimasa Ohta (Kumamoto Univ.)

Shoen Kume (Tokyo Inst. of Tech.)

Although the irreversibility of cell fates in terminally differentiated somatic cells has been believed long time, the transformation of somatic cells into pluripotent stem cells can be achieved by the nuclear transplantation and the forcible expression of defined transcriptional factors. In this Symposium 9, we will show the surprising developmental plasticity in cells by the intrinsic and extrinsic materials/factors and introduce a new avenue how cells acquire stemness and cell fates by cell-cell and environmental communications.

Co-organized by : Development, Growth & Differentiation

- S09-1** 13:00-13:18 A bHLH complex regulates plant vascular stem cell proliferation in root apical meristem  
bHLH 転写因子複合体による維管束幹細胞の分裂制御  
○Kyoko Ohashi-Ito (Dept. Biol. Sci., Grad. Sch. Sci., The Univ. Tokyo)
- S09-2** 13:18-13:36 Ribosome incorporation into somatic cells promotes reprogramming towards multipotent cells  
体細胞がリボソームを取り込むとリプログラミングが誘導され多能性を獲得する  
○Kunimasa Ohta, Shah Adil Ishtiyag Ahmad, Mohammad Badrul Anam, Naofumi Ito (Dept. of Dev. Neurobiol., Kumamoto Univ. Grad. Sch. of Life Scis.)
- S09-3** 13:36-13:54 Genome Maintenance Mechanism in Embryonic Stem Cells  
胚性幹細胞 (ES 細胞) におけるゲノム恒常性維持機構  
Yasunao Kamikawa, Hideo Tsubouchi, ○Tomomi Tsubouchi (NIBB)
- S09-4** 13:54-14:12 Accelerated differentiation of human pluripotent stem cells by ectopic expression of histone demethylase  
ヒストン脱メチル化酵素を用いたヒト多能性幹細胞の分化誘導促進  
○Tomohiko Akiyama (SysMed, Keio Univ. Sch. Med.)
- S09-5** 14:12-14:30 Amino acids regulate pancreatic differentiation of human

pluripotent stem cells

アミノ酸はヒト多能性幹細胞の臓器分化を制御する

○Nobuaki Shiraki (Sch Life Sci Tech, TITEC)

**S09-6** 14:30-15:00 Non-invasive detection of tissue-specific cell death using methylation patterns of circulating DNA

○Yuval Dor (Hebrew Uni. Hadassah Med)

## Symposium 10 : Germ Cell

DATE: May 12 (Fri) 13:00 ~ 15:00 Room D

Chairpersons: Satoru Kobayashi (Univ. of Tsukuba)  
Katsuhiko Hayashi (Kyushu Univ.)

Sustainable production of germ cells is a fundamental event for perpetuating the species. The manner of germ cell production is apparently diverse between plants, invertebrate and vertebrate. The diversity is seemingly consequences of adaptation to the environment and competition within the species. Current studies, however, disclose molecules and/or phenocopies commonly observed across the diverged species, inspiring us to consider a possibility of a conserved mechanism underlying germ cell production. In this symposium, we would like to take a closer look at how to ensure the robustness of germ cell production in the representative species, which would provide a good opportunity to consider the conserved mechanism of germ cell development.

Co-organized by : Grant-in-Aid for Scientific Research on Innovative Areas:  
Mechanisms Regulating Gemete Formation in Animals (KAKENHI #25114001)

13:00-13:05 Introduction

- S10-1** 13:05-13:28 Molecular mechanisms regulating germline formation in *Drosophila*  
ショウジョウバエにおける生殖系列形成機構  
○Satoru Kobayashi (TARA, Univ. of Tsukuba)
- S10-2** 13:28-13:51 *Sex-lethal* homologues in the silkworm *Bombyx mori*: insight into a novel function in a unique sperm dimorphism  
カイコ *Sex-lethal* : ユニークな精子二形性における新奇機能の洞察  
○Teruyuki Niimi (NIBB)
- S10-3** 13:51-14:14 Male germline and gamete development in a basal land plant *Marchantia polymorpha*  
基部陸上植物ゼニゴケにおける雄性生殖系列と雄性配偶子の発生  
○Takashi Araki, Asuka Higo, Kan Kunimoto, Akito Yamamoto (Grad. Sch. Biostudies, Kyoto Univ.)
- S10-4** 14:14-14:37 Stem cell dynamics and its regulation underlying the persis-

tent mouse spermatogenesis

○Shosei Yoshida<sup>1,2</sup> (Div. Germ Cell Biol., Natl. Inst. Basic Biol., Natl. Inst. Natural Sci.<sup>1</sup>, Depa of Basic Biol., Sch. of Life Scie., Graduate University for Advanced Studies (SOKENDAI)<sup>2</sup>)

**S10-5** 14:37-15:00 Molecular mechanisms underlying differentiation from primordial germ cells to oocytes

マウス始原生殖細胞から卵母細胞への分化メカニズムの解明—体内と体外培養から—

○Katsuhiko Hayashi (Division of developmental stem cell biology, DFaculty of Medical Sciences, Kyushu University)

## Symposium 11 : Developmental Signals

DATE: May 12 (Fri) 13:00 ~ 15:00 Room E

Chairpersons: Hitoshi Sawa (NIG)

Tohru Ishitani (Kyushu Univ.)

To carry out certain tissue morphogenesis and homeostasis, cells must communicate each other. Through cell-cell communication, individual cells sense various information, including their fate to choose, their location in tissue, and their environmental fitness, and consequently behave collectively. During the last three decades, genetic studies using model animals have made clear that such cell-cell communication is mediated by a variety of molecular systems, such as Delta-Notch system, cadherin-based cell adhesion, and morphogen signaling. In addition, recent integrative studies using live-imaging, mathematical model, and molecular genetics also revealed new modes of cell-cell communication and their critical roles in animal and plant tissue morphogenesis and homeostasis. This symposium will provide a good opportunity to share the recent exciting studies and to discuss the future directions in this field.

Co-organized by : Cell Competition, Grant-in-Aid for Scientific Research on Innovative Areas, MEXT, Japan

13:00-13:02 Introduction

**S11-1** 13:02-13:21 Ultradian oscillations of Notch signaling in cell-cell interactions regulate dynamic gene expression networks and tissue morphogenesis

隣接細胞間における動的な Notch シグナル伝達によって制御される形態形成

○Hiromi Shimojo<sup>1,2</sup>, Hiroshi Kori<sup>3</sup>, Akihiro Isomura<sup>2</sup>, Toshiyuki Ohtsuka<sup>2</sup>, Hiroshi Miyachi<sup>2</sup>, Ryoichiro Kageyama<sup>1,2</sup> (iCeMS, Kyoto Univ.<sup>1</sup>, Institute for Frontier Life and Medical Sciences, Kyoto University<sup>2</sup>, Department of Information Sciences, Ochanomizu University<sup>3</sup>)

**S11-2** 13:21-13:40 The Difference in the amounts of the atypical cadherin Dachsous between migrating cells coordinates the direction of collective cell migration

移動する細胞間の非典型的カドヘリン Dachsous の量

差が細胞集団の一方向的な移動を導く

○Masaki Arata<sup>1</sup>, Kaoru Sugimura<sup>2</sup>, Tadashi Uemura<sup>1</sup> (Grad. Sch. Bio., Kyoto Univ.<sup>1</sup>, WPI-iCeMS, Kyoto Univ.<sup>2</sup>)

- S11-3** 13:40-13:59 Biased diffusivity shapes ANGUSTIFOLIA3 signaling gradient in growing leaf tissue  
不均一な拡散性が葉原基における ANGUSTIFOLIA3 シグナルの発現勾配を形づくる  
○Kensuke Kawade (OIIB)
- S11-4** 13:59-14:20 Role of cell competition in the regulation of cell fitness and the shaping of growth during early embryonic development  
Sarah Bowling<sup>1</sup>, Aida Di Gregorio<sup>1</sup>, Jesus Gil<sup>2</sup>, ○Tristan Rodriguez<sup>1</sup> (NHLL, Imperial College London<sup>1</sup>, MRC Clinical Sciences Centre<sup>2</sup>)
- S11-5** 14:20-14:39 Epithelial cell turnover ensures correct coordination of growth in *Drosophila*  
細胞ターンオーバーによる組織成長制御の遺伝学的解析  
○Tatsushi Igaki<sup>1</sup>, Nanami Akai<sup>1,2</sup>, Shizue Ohsawa<sup>1</sup> (Grad Sch of Biostudies, Kyoto Univ.<sup>1</sup>, Grad Sch of Med, Kobe Univ.<sup>2</sup>)
- S11-6** 14:39-14:58 Apoptosis-mediated elimination of “Wnt/ $\beta$ -catenin signaling noise” supports precise embryonic patterning.  
アポトーシスを介した Wnt/ $\beta$ -catenin シグナルのノイズ除去は、正確な胚パターン形成を支える  
Yuki Akieda, Hironobu Furuie, Shizuka Ishitani, ○Tohru Ishitani (Div. of Cell Reg. Sys., Med. Ins. of Bioreg., Kyushu Univ.)
- 14:58-15:00 Closing remarks

## Symposium 12 : Fertilization

DATE: May 12 (Fri) 13:00 ~ 15:00 Room F

Chairpersons: Hitoshi Sawada (Nagoya Univ.)

Tetsuya Higashiyama (Nagoya Univ.)

It has long been believed that sexual reproduction mechanisms are highly diverged among species, even within plants or animals. However, we recently found that the self-sterile mechanism in hermaphroditic ascidians is very similar to the self-incompatibility system in flowering plants. In addition, a sperm protein GCS1, which is essential for gamete fusion in flowering plants, is also present in animals. These findings led us to consider that the reproductive systems, in particular, gamete attraction or fusion, in animals and plants may be much more common than we previously thought. In this symposium, we selected recent topics about animal and plant fertilization and would like to discuss about the reproductive strategies shared by animals and plants.

13:00-13:10 Introduction

- S12-1** 13:10-13:30 Mechanism of oviductal sperm storage in birds  
鳥類の輸卵管における精子貯蔵の分子機構  
○Tomohiro Sasanami<sup>1</sup>, Mei Matsuzaki<sup>1</sup>, Shusei Mizushima<sup>2</sup> (Fac Agric, Shizuoka Univ<sup>1</sup>, Fac Sci, Hokkaido Univ<sup>2</sup>)
- S12-2** 13:30-13:50 Key molecules and in vivo dynamics of pollen tube guidance  
花粉管ガイダンスの鍵分子と in vivo ダイナミクス  
○Tetsuya Higashiyama (ITbM, Nagoya Univ)
- S12-3** 13:50-14:10 Reconsideration of mammalian fertilization from microexosomes and sperm factors  
○Woojin Kang<sup>1</sup>, Yuichirou Harada<sup>2</sup>, Natsuko Kawano<sup>3</sup>, Kenji Miyado<sup>1</sup> (Department of Reproductive Biology, National Research Institute for Child Health and Development<sup>1</sup>, Department of Molecular Pathology, Tokyo Medical University<sup>2</sup>, Department of Life Sciences, School of Agriculture, Meiji University<sup>3</sup>)
- S12-4** 14:10-14:30 Novel insights into the molecular mechanism of sperm-egg fusion via IZUMO1  
融合因子 IZUMO1 を介する新規配偶子融合機構  
○Naokazu Inoue (Department of Cell Science, Fukushima Medical

Univ.)

**S12-5** 14:30-14:50 Fertilization in flowering plants; molecular players controlling interactions between male and female gametes during double fertilization

被子植物の受精；重複受精時の雌雄配偶子相互作用を制御する分子プレーヤー

○Tomoko Igawa<sup>1</sup>, Taro Takahashi<sup>1</sup>, Toshiyuki Mori<sup>2</sup> (Grad. Sch. Hort., Chiba Univ.<sup>1</sup>, Dept. Trop. Medicine Parasitol., Juntendo Univ.<sup>2</sup>)

14:50-15:00 Discussion

## Workshop

### Workshop 1 : Central Nervous System in Invertebrates: How Its Structure and Function Appeared and Evolved

DATE: May 10 (Wed) 13:00 ~ 15:00 Room D  
Chairperson: Hiroshi Shimizu (KAUST)

In this workshop, scientists who (1) work on nervous system of invertebrates, (2) have interest in evolution of nervous system, and (3) have strict ideas and thoughts about how the Central Nervous System emerged, developed and evolved make presentations. Finally, general discussion will be made including the audience.

- WS1-1** 13:10-13:30 Origin and evolution of the central nervous system: the nerve ring of cnidarians  
中枢神経系の起源と進化：刺胞動物の神経環  
○Osamu Koizumi, Kayoko Hamaguchi-Hamada, Sumiko Minobe, Mami Kurumata-Shigeto, Shun Hamada (FWU)
- WS1-2** 13:30-13:50 Hydra peduncle nervous system has functional comparable to Central Nervous System (CNS)  
ヒドラの柄部神経系は中枢神経系と比肩しうる機能を有している  
○Hiroshi Shimizu, Yukihiko Noro, Katsuhiko Mineta, Takashi Gojobori (KAUST)
- WS1-3** 13:50-14:10 planarian provides a new insight into evolution of the brain  
nou-darake 遺伝子の頭部特異的発現が集中神経系を進化させた？  
○Kiyokazu Agata (Life Sci. Gakushuin Univ.)
- WS1-4** 14:10-14:30 Neurogenesis in sea urchin development  
ウニ発生における神経形成  
○Shunsuke Yaguchi (SMRC, Univ. Tsukuba)
- WS1-5** 14:30-14:50 Neuroblast-Lineage Dependent Development and Architecture of the Drosophila Central Brain  
神経幹細胞系譜依存的なショウジョウバエ脳の構造と発生  
○Takeshi Awasaki (Kyorin Univ. Sch. Med.)

## Workshop 2 : Gene Regulatory Network in Development and Evolution

DATE: May 11(Thu) 13:00 ~ 15:00 Room D  
Chairpersons: Masanori Taira (Univ. of Tokyo)  
Ken Chow (Univ. of California, Irvine)

Cell functions can be modified, and cells types can be interconverted, once we understand the mechanisms underlying the regulation of gene regulatory networks (GRNs). The major goal of GRN science is to discover causal explanations in biology. Elucidating the structure and functional logic of GRNs will provide a mechanistic system-level understanding of how information encoded in the genome is executed to control cell fate and cell function in development, stem cells, homeostasis and disease. Therefore, a researcher seeking to understand the mechanistic basis of a particular disease should be encouraged to not only catalog the gene expression differences between diseased and healthy cells, but also understand the GRN underlying these different conditions. We will discuss how researchers are trying to advance GRN science to address this essential, but complex biological question.

- WS2-1** 13:00-13:20 ChIP-seq analysis of transcription factors in the *Xenopus* gastrula  
Xenopus 原腸胚における転写因子の ChIP-seq 解析  
○Masanori Taira<sup>1</sup>, Yuuri Yasoka<sup>2</sup> (Dept.of Biol.Scis., Grad.Sch.of Sci., Univ.of Tokyo<sup>1</sup>, Marine Genomics Unit, OIST<sup>2</sup>)
- WS2-2** 13:20-13:40 Evolutionary developmental transcriptomics in plant leaf shape  
植物の葉の形における進化発生トランスクリプトーム解析  
○Yasunori Ichihashi<sup>1,2</sup> (RIKEN CSRS<sup>1</sup>, JST PRESTO Researcher<sup>2</sup>)
- WS2-3** 13:40-14:05 Gene Regulatory Network Science: Integrating different genomic datatypes to build an endodermal GRN  
○Ken Cho<sup>1</sup>, Ira Blitz<sup>1</sup>, Rebekah Charney<sup>1</sup>, Kitt Paraiso<sup>1</sup>, Jin Cho<sup>1</sup>, Yuuri Yasuoka<sup>2</sup>, Masanori Taira<sup>3</sup>, Elmira Forouzmand<sup>1</sup>, Xiaohui Xie<sup>1</sup> (Developmental and cell Biology, UC Irvine<sup>1</sup>, Okinawa Institute of Science and Technology Graduate<sup>2</sup>, Graduate School of Science, Hiroshima University<sup>3</sup>)

- WS2-4** 14:05-14:30 Functional genomics in the human and mammalian genomes  
○Ali Mortazavi (Developmental and Cell UC, Irvine)
- WS2-5** 14:30-14:55 Control of the gene regulatory network of the ascidian embryo by experimental manipulation  
○Yutaka Satou (Dept.of Zool., Grad.Sch.of Sci., Kyoto Univ.)

## Oral Presentations

### Oral presentation 1 : Differentiation and Theoretical biology, Modeling, Imaging

DATE: May 10 (Wed) 9:00 ~ 11:00 Room C

Chairpersons: Atsuko Sehara-Fujisawa (Kyoto Univ.)

Yuji Yokouchi (FMU)

- OP01-01 (P019)** 09:00-09:12 HIF1 $\alpha$  Initiates Zebrafish Primitive Erythroid Differentiation by Switching On GATA1a Expression  
○Bo-An Lin<sup>1</sup>, Yi-Xuan Lin<sup>1</sup>, Hsin-Yu Chung<sup>1</sup>, Jyuan-Kai Chiu<sup>1</sup>, Kun-Tong Chiu<sup>1</sup>, Shih-Han Wen<sup>1</sup>, Wen-Shyong Tzou<sup>1,2</sup>, Chin-Hwa Hu<sup>1,2</sup> (Dep. Biosci. Biotechnol, Natl. Taiwan Ocean Univ.<sup>1</sup>, Center of Excellence for the Oceans, Natl. Taiwan Ocean Univ.<sup>2</sup>)
- OP01-02 (P027)** 09:12-09:24 Involvement of Adam19 in the fate decision of cardiac neural crest cells  
心臓神経堤の運命決定における Adam19 の役割  
○Hiroyuki Arai<sup>1</sup>, Fuminori Sato<sup>1</sup>, Takuya Yamamoto<sup>2</sup>, Hiroshi Kiyonari<sup>3</sup>, Atsuko Sehara-Fujisawa<sup>1</sup> (IFMS, Kyoto U<sup>1</sup>, CiRA, Kyoto U<sup>2</sup>, LARGE, RIKEN CDB<sup>3</sup>)
- OP01-03 (P015)** 09:24-09:36 Intrinsic lens potential of neural retina inhibited by Notch signaling as the cause of “lens transdifferentiation”  
神経性網膜に内在する水晶体分化能を抑制する Notch シグナル：その破綻が水晶体への「分化転換」をもたらす  
○Hideaki Iida<sup>1</sup>, Yasuo Ishii<sup>2</sup>, Hisato Kondoh<sup>1,2</sup> (DBGSE, Kyoto Sangyo Univ.<sup>1</sup>, FLS, Kyoto Sangyo Univ.<sup>2</sup>)
- OP01-04** 09:36-09:48 Development a protocol to differentiate human iPS cells into Thyroidal C-cells  
ヒト iPS 細胞より甲状腺 C 細胞を分化させるための手法の開発  
○Yuji Yokouchi<sup>1</sup>, Satomi Noguchi<sup>1</sup>, Jun Ogawa<sup>1</sup>, Izumi Nakamura<sup>1</sup>, Shinichi Suzuki<sup>2</sup>, Seiichi Takenoshita<sup>1,3,4</sup>, Takumi Era<sup>1,5</sup> (Dept. Stem Cell Res. FMU<sup>1</sup>, Dept. Thyroid and Endocrinol., FMU<sup>2</sup>, Dept. Adv. Nuc. Med., FMU<sup>3</sup>, Dept. Biofunction. Image., FMU<sup>4</sup>, Dept. Cell Modulation, IMEG, Kumamoto

Univ.<sup>5</sup>)

- OP01-05 (P024)** 09:48-10:00 A novel 3D spheroid culture system for generating functional pancreatic  $\beta$  cells derived from human induced pluripotent stem cells  
ヒト iPS 細胞を用いた膵臓分化誘導 3 次元培養系の構築  
○Zixuan Erinn Sim, Saeko Momma, Nobuaki Shiraki, Shoen Kume (Titech Life Science)
- Chairpersons: Kazuhiro Aoki (NIBB)  
Koichiro Uriu (Kanazawa Univ.)
- OP01-06 (P187)** 10:00-10:12 Effects of sizes of self-organized patterns composed by vascular endothelial cells on vasculogenesis  
脈管形成において血管内皮細胞が自律的に形成するパターンサイズの影響  
○Akiko Nakamasu<sup>1</sup>, Masamune Nakayama<sup>2</sup>, Naoto Shingu<sup>3</sup>, Hirofumi Izuhara<sup>4</sup>, Yuji Nashimoto<sup>2</sup>, Itsuki Kunita<sup>5</sup>, Yuichiro Arima<sup>5</sup>, Yoshimi Yamaguchi<sup>1</sup>, Koichi Nishiyama<sup>5</sup>, Ryuji Yokokawa<sup>2</sup>, Takashi Miura<sup>1</sup> (Grad. Sch. Med. Sci., Kyushu Univ.<sup>1</sup>, Dept. Mic. Engine., Kyoto Univ.<sup>2</sup>, Facul. Med., Kyushu Univ.<sup>3</sup>, Facul. Engine., Miyazaki Univ.<sup>4</sup>, IRCMS, Kumamoto Univ.<sup>5</sup>)
- OP01-07** 10:12-10:24 Modeling autonomous folding of epithelial sheets  
○Fulai Wen<sup>1</sup>, Yuchiun Wang<sup>2</sup>, Tatsuo Shibata<sup>1</sup> (RIKEN QBiC<sup>1</sup>, RIKEN CDB<sup>2</sup>)
- OP01-08** 10:24-10:36 Fine structural analyses of nuclear body paraspeckle using super-resolution microscope  
超解像顕微鏡を用いた核内構造体パラスペックルの微細構造観察  
○Shinichi Nakagawa (Hokkaido Univ.)
- OP01-09 (P137)** 10:36-10:48 Determination of mechanism for vascular remodeling from endothelial cellular behavior by fluid and solid mechanics  
連続体力学を用いて血管リモデリングにおける内皮細胞の振る舞いを理解する  
○Kenichi Nakazato<sup>1</sup>, Yuta Takase<sup>2</sup>, Yoshiko Takahashi<sup>2</sup>, Hiroshi Kokubu<sup>3</sup>, Atsushi Mochizuki<sup>1</sup> (Theoretical Biology Laboratory, RIKEN<sup>1</sup>, dept of zoology, grad school of science, Kyoto-univ<sup>2</sup>,

dept of math, Kyoto-univ<sup>3</sup>)

- OP01-10 (P193)** 10:48-11:00 Imaging of the kinetics of transcription factors in pluripotent stem cells  
幹細胞核内におけるコア転写因子の一分子イメージング  
○Kazuko Okamoto<sup>1</sup>, Kohei Yamamura<sup>2</sup>, Hiroki Ura<sup>3</sup>, Yasushi Okada<sup>2</sup>, Kuniya Abe<sup>3</sup>, Tomonobu Watanabe<sup>1</sup> (RIKEN QBiC Comprehensive Bioimaging Laboratory<sup>1</sup>, RIKEN QBiC, Lab for Cell Polarity Regulation<sup>2</sup>, RIKEN BRC, Mammalian Genome Dynamics Team<sup>3</sup>)

## Oral presentation 2 : Neural Development

DATE: May 10 (Wed) 9:00 ~ 11:00 Room D

Chairpersons: Hideki Enomoto (Kobe Univ.)

Satoko Hakeda-Suzuki (Tokyo Inst. Tech.)

- OP02-01** 09:00-09:12 Temporal control of cortico-thalamic neuron specification by regulation of Neurogenin activity and Polycomb repressive complexes  
皮質視床投射ニューロンの時期特異的な産生は転写因子 Neurogenin と Polycomb 抑制複合体によって制御される  
○Koji Oishi<sup>1,2</sup>, Kazunori Nakajima<sup>1</sup>, Francois Guillemot<sup>2</sup> (Dept. Anat., Keio Univ. Sch. Med.<sup>1</sup>, The Francis Crick Institute<sup>2</sup>)
- OP02-02** 09:12-09:24 Plasticity in Schwann cell precursor-derived neurogenesis  
シュワン細胞前駆細胞由来神経形成の可塑性  
○Hideki Enomoto (Kobe Univ Grad Sch Med)
- OP02-03** 09:24-09:36 Two receptor tyrosine phosphatases dictate the depth of final axonal stabilizing layer in the *Drosophila* visual system  
2種のチロシン脱リン酸化酵素によるショウジョウバエの視神経軸索の最終安定化層の決定機構  
○Satoko Hakeda-Suzuki, Hiroki Takechi, Takashi Suzuki (Tokyo Inst. Tech., Grad. Sch. of Life Sci. & Tech.)
- OP02-04 (P089)** 09:36-09:48 Disruption of Tsukushi leads to hydrocephalus by aberrant neurogenesis

Tsukushi の欠損は神経発生の異常による水頭症を  
発症させる

○Naofumi Ito<sup>1</sup>, Mohammad Riyadh<sup>1</sup>, Ayako Ito<sup>1</sup>, Shah Ishtiyaq<sup>1</sup>, Mohammad Anam<sup>1</sup>, Yohei Shinmyo<sup>2</sup>, Athary Felemban<sup>1</sup>, Jun Hatakeyama<sup>3</sup>, Kenji Shimamura<sup>3</sup>, Kazunobu Sawamoto<sup>4</sup>, Kunimasa Ohta<sup>1</sup> (Kumamoto University, Dev. neurobiol.<sup>1</sup>, Kanazawa Univ.<sup>2</sup>, Kumamoto Univ.<sup>3</sup>, Nagoya City Univ.<sup>4</sup>)

**OP02-05** 09:48-10:00 Shh enhances intracellular calcium fluctuation in the neural progenitor cells during mouse cortical development

○Jun Motoyama<sup>1</sup>, Yoshiaki Nishimura<sup>2</sup> (Grad. School of Brain Science, Doshisha Univ.<sup>1</sup>, Faculty of Medicine, Tohoku Med. & Pharm. Univ.<sup>2</sup>)

**OP02-06** 10:00-10:12 Different functional mode of Brn factors in temporally coordinated production of neocortical cell diversity

Brn 転写因子は 2 つの異なる作用様式を介して大脳新皮質の細胞多様性を形成する。

○Yoshinobu Sugitani<sup>1,2</sup>, Reiko Sugitani-Yoshida<sup>2</sup>, Shigeyasu Nakai<sup>1</sup>, Mishio Fusejima<sup>1</sup>, Osamu Minowa<sup>1</sup>, Masaharu Ogawa<sup>2</sup>, Tetsuo Noda<sup>1</sup> (Dept. of Cell Biol., JFCR-Cancer Inst.<sup>1</sup>, BSI Riken<sup>2</sup>)

**OP02-07** 10:12-10:24 GLYAT regulates APP-induced Alzheimer's disease in drosophila

○Pu Ren (SLST, Tongji Univ)

**OP02-08** 10:24-10:36 Scrambling movement of tangential neuronal migration in superficial layers of the developing chick optic tectum

ニワトリ 胚視蓋浅層での接線方向への神経細胞移動

○Yuji Watanabe, Chie Sakuma, Hiroyuki Yaginuma (Dept. Anatomy, Fac. Medicine, Fukushima Medical Univ.)

**OP02-09** 10:36-10:48 Zebrafish habenula neurogenesis requires ngn1 cell-autonomously

Bo-Tsung Wu<sup>1,2</sup>, Shih-Hsien Wen<sup>1,2</sup>, Yasuhiro Kamei<sup>3</sup>, Atsuko Shimada<sup>4</sup>, Hiroyuki Takeda<sup>4</sup>, Eiji Kimura<sup>5</sup>, ○Yung-Shu Kuan<sup>1,2,6</sup> (IBS-NTU<sup>1</sup>, IBC-AS<sup>2</sup>, NIBB<sup>3</sup>, DeptBioSci-UT<sup>4</sup>, DeptAna-IMU<sup>5</sup>, NPAS-AS<sup>6</sup>)

- OP02-10** 10:48-11:00  $\text{Ca}^{2+}$ -imaging and photo-manipulation of the simple gut of zebrafish larvae *in vivo*  
ゼブラフィッシュ幼生の単純な腸の生体内カルシウムイメージングと光操作  
Shin-Ichi Okamoto, <sup>○</sup>Kohei Hatta (Life Sci, U of Hyogo)

### Oral presentation 3 : Patterning, Organogenesis 1

DATE: May 10 (Wed) 9:00 ~ 11:00 Room E

Chairpersons: Yusuke Watanabe (NCVC)

Rieko Ajima (NIG)

- OP03-01** 09:00-09:12 Numb/NumbL promote cell-cycle withdrawal by translocating ErbB2 to late endosomes  
Numb/NumbL は、ErbB2 の早期エンドソームから後期エンドソームへの移行を促進することにより、発生期心臓の trabeculae を細胞周期の休止期に導く  
<sup>○</sup>Maretoshi Hirai<sup>1</sup>, Sylvia M Evans<sup>2</sup> (KMU, Dept of Pharm<sup>1</sup>, SSPPS, UCSD<sup>2</sup>)
- OP03-02** 09:12-09:24 SELECTIVELY INDUCED URETERIC BUD AND NEPHRON PROGENITORS ASSEMBLE AND RECONSTRUCT SUPERSTRUCTURE OF THE EMBRYONIC KIDNEY  
尿管芽とネフロン前駆細胞の選択的誘導・会合法の確立による胎仔腎臓高次構造の再構築  
<sup>○</sup>Atsuhiko Taguchi, Ryuichi Nishinakamura (IMEG, Kumamoto Univ.)
- OP03-03** 09:24-09:36 (P136) Blood flow and vascular remodeling: analyses of individual endothelial cell behaviors by *in vivo* live-imaging and mathematical approach  
生体内血管リモデリング：ライブイメージングと数理解析からみる血管内皮細胞の挙動と血流の関係  
<sup>○</sup>Yuta Takase<sup>1</sup>, Kenichi Nakazato<sup>2</sup>, Ryo Kudo<sup>1</sup>, Ryosuke Tado-koro<sup>1</sup>, Hiroshi Kokubu<sup>3</sup>, Atsushi Mochizuki<sup>2</sup>, Yoshiko Takahashi<sup>1</sup> (Dept. of Zoology, Grad. Sch. of Sci. Kyoto Univ.<sup>1</sup>, Theoretical Biology Laboratory, RIKEN<sup>2</sup>, Dept. Math, Grad. Sch. of Sci. Kyoto Univ.<sup>3</sup>)

- OP03-04** 09:36-09:48 Lineage segregation of post-implantation mouse embryo revealed by spatial and single cell transcriptome  
 ◯Guangdun Peng<sup>1</sup>, Shengbao Suo<sup>2</sup>, Guizhong Cui<sup>1</sup>, Fang Yu<sup>1</sup>, Guoyu Chen<sup>2</sup>, Zhiwen Liu<sup>1</sup>, Jingdong Han<sup>2</sup>, Patrick Tam<sup>3</sup>, Naihe Jing<sup>1</sup> (SIBCB, CAS<sup>1</sup>, CAS-MPG Partner Institute of Computational Biology<sup>2</sup>, CMRI<sup>3</sup>)
- OP03-05** 09:48-10:00 Modeling the segmentation clock with pluripotent stem cells  
 Mitsuhiro Matsuda<sup>2</sup>, Maya Uemura<sup>1</sup>, Yoshihiro Yamanaka<sup>1</sup>, Mitsujiro Osawa<sup>1</sup>, Megumu Saito<sup>1</sup>, Makoto Ikeya<sup>1</sup>, Hiroyuki Yoshitomi<sup>1</sup>, Junya Toguchida<sup>1</sup>, Takuya Yamamoto<sup>1</sup>, Knut Woltjen<sup>1</sup>, Miki Ebisuya<sup>2</sup>, ◯Cantas Alev<sup>1,2</sup> (CiRA, Kyoto University<sup>1</sup>, RIKEN QBiC<sup>2</sup>)
- OP03-06** 10:00-10:12 Oriented mesenchymal cells drive tracheal tubulogenesis  
 (P122)  
 気管の管腔形成における間充織極性化の重要性  
 ◯Keishi Kishimoto, Mitsuru Morimoto (RIKEN CDB)
- OP03-07** 10:12-10:24 How to encounter endothelial cells in deep tissues—  
 (P112) mechanical interaction between endothelial cells and epithelial tube  
 組織深部で血管内皮細胞が出会うためには～血管内皮と上皮管の力学的相互作用  
 ◯Tsuoyoshi Hirashima (Inst Front Life Med Sci, Kyoto Univ)
- OP03-08** 10:24-10:36 Quantitative analysis of tissue and cellular dynamics during chick forebrain morphogenesis  
 ニワトリ前脳発生過程における組織・細胞動態の定量解析  
 ◯Yoshihiro Morishita, Daisuke Ohtsuka (RIKEN QBiC)
- OP03-09** 10:36-10:48 Wnt signal is required for proper rearrangement and  
 (P129) morphological change of roof plate cells in the formation of median septum of mouse spinal cord  
 Wnt シグナルは脊髄神経管中隔形成に必要である  
 ◯Takuma Shinozuka<sup>1,2</sup>, Ritsuko Takada<sup>2</sup>, Shinji Takada<sup>1,2</sup> (Dept. Basic Biology, SOKENDAI<sup>1</sup>, OIIB<sup>2</sup>)
- OP03-10** 10:48-11:00 Foxa2 and Hif1ab regulate maturation of intestinal goblet cells by modulating agr2 expression in zebrafish embryos

○Sheng-Ping Hwang<sup>1</sup>, Yun-Ren Lai<sup>2</sup>, Yu-Fen Lu<sup>1</sup>, Huang-Wei Lien<sup>3</sup>, Chang-Jen Huang<sup>3</sup> (ICOB, Academia Sinica<sup>1</sup>, Dept Bio-science & Biotech., National Taiwan Ocean Univ.<sup>2</sup>, IBC, Academia Sinica<sup>3</sup>)

## Oral presentation 4 : Developmental Physiology & Mechanobiology and Environment, Nutrition, Metabolism

DATE: May 10 (Wed) 13:00 ~ 15:00 Room C

Chairpersons: Keiko Nonomura (NIBB)

Erina Kuranaga (Tohoku Univ.)

- OP04-01 (P011)** 13:00-13:12 Tension-dependent dynamics of adherens junction components during cell junction oscillation in *Drosophila* epithelium  
上皮組織における細胞間張力のゆらぎと張力依存的な細胞接着分子の応答  
○Yusuke Hara<sup>1,2</sup>, Murat Shagirov<sup>1</sup>, Kok Hwee Lim<sup>1,2</sup>, Yusuke Toyama<sup>1,2,3</sup> (MBI, Singapore<sup>1</sup>, TLL, Singapore<sup>2</sup>, DBS, NUS, Singapore<sup>3</sup>)
- OP04-02 (P001)** 13:12-13:24 Cadherin-2 mediates spatiotemporal control of actomyosin contractility during zippering and neural tube closure in a simple chordate  
ホヤ神経管閉鎖のジッパリングにおけるアクトミオシン収縮はカドヘリンによって時空間的に制御される  
○Hidehiko Hashimoto, Edwin Munro (University of Chicago)
- OP04-03 (P005)** 13:24-13:36 Mechanotransducer channel Piezo2 regulates respiration at birth and in the adult  
機械刺激受容体チャネル Piezo2 は出生時と成体の呼吸を制御する  
○Keiko Nonomura<sup>1,2</sup>, Seung-Hyun Woo<sup>2</sup>, Rui Chang<sup>3</sup>, Astrid Gillich<sup>4</sup>, Zhaozhu Qiu<sup>2</sup>, Allain Francisco<sup>2</sup>, Sanjeev Ranade<sup>2</sup>, Stephen Liberles<sup>3</sup>, Ardem Patapoutian<sup>2</sup> (NIBB<sup>1</sup>, TSRI<sup>2</sup>, Harvard Medical School<sup>3</sup>, Stanford University<sup>4</sup>)
- OP04-04** 13:36-13:48 Cortical forces and CDC-42 control clustering of PAR proteins for *C. elegans* embryonic polarization

Shyi-Chyi Wang<sup>1</sup>, Tricia Low<sup>1</sup>, Yukako Nishimura<sup>2</sup>, Laurent Gole<sup>4</sup>, Weimiao Yu<sup>4</sup>, <sup>○</sup>Fumio Motegi<sup>1,2,3</sup> (TLL<sup>1</sup>, MBI<sup>2</sup>, National Univ. of Singapore<sup>3</sup>, IMCB, A\*STAR<sup>4</sup>)

- OP04-05 (P010)** 13:48-14:00 Involvement of cell shape and tension with neural-epidermal ectoderm patterning in *Xenopus* embryo  
ツメガエル胚における、細胞張力と細胞形状の神経-表皮外胚葉パターンニングへの関与  
<sup>○</sup>Tatsuo Michiue, Satoshi Yamashita, Nanako Ishinabe, Takahiro Ide, Sayuki Hirano (Grad. School of Arts and Sciences, Univ. Tokyo)
- OP04-06 (P013)** 14:00-14:12 Phosphoproteomic analysis of mechanotransduction during *Xenopus* embryogenesis  
アフリカツメガエル胚発生におけるメカノトランスダクションのリン酸化プロテオーム解析  
<sup>○</sup>Noriyuki Kinoshita<sup>1</sup>, Yutaka Hashimoto<sup>1,2</sup>, Naoto Ueno<sup>1</sup> (Div. of Morphogenesis NIBB<sup>1</sup>, Dept. of Mol. Biol. Princeton Univ.<sup>2</sup>)
- OP04-07 (P014)** 14:12-14:24 Collective durotaxis of cranial neural crest cells in *Xenopus*  
アフリカツメガエル頭部神経堤細胞の弾性勾配応答  
<sup>○</sup>Sei Kuriyama (Akita University)
- OP04-08 (P055)** 14:24-14:36 Anaerobic glucose metabolism regulates neural tube formation  
嫌氣的解糖系による神経管閉鎖制御  
<sup>○</sup>Daisuke Sakai (Doshisha University)
- OP04-09 (P108)** 14:36-14:48 The role of methionine metabolism during germline development in *Drosophila melanogaster*.  
ショウジョウバエ生殖系列におけるメチオニン代謝の役割  
<sup>○</sup>Yoshiki Hayashi<sup>1</sup>, Chiyo Noda<sup>2</sup>, Satoru Kobayashi<sup>1</sup> (TARA center, Univ. of Tsukuba<sup>1</sup>, NIBB<sup>2</sup>)
- OP04-10 (P012)** 14:48-15:00 Thyroid hormone coordinates pancreatic islet maturation during the zebrafish larval to juvenile transition to maintain glucose homeostasis  
ゼブラフィッシュ鱒島成熟化とグルコースホメオスタシスにおける甲状腺ホルモンの役割

○Hiroki Matsuda<sup>1,2</sup>, Sri Teja Mullapudi<sup>2</sup>, Yuxi Zhang<sup>3</sup>, Daniel Hesselson<sup>3</sup>, Didier Stainier<sup>2</sup> (Tohoku Univ<sup>1</sup>, MPI-BN<sup>2</sup>, Garvan Institute<sup>3</sup>).

## Oral presentation 5 : Early development and Regeneration, Metamorphosis and Patternng, Organogenesis 2

DATE: May 10 (Wed) 13:00 ~ 15:00 Room E

Chairpersons: Atsushi Suzuki (Hiroshima Univ.)  
Gaku Kumano (Tohoku Univ.)

- OP05-01** 13:00-13:12 Phosphorylation of Otx2 modulates its role in cell proliferation and differentiation in *Xenopus* eye development  
Otx2 のリン酸化修飾は *Xenopus* の発生において細胞増殖と分化における役割を調節する  
○Yumeko Satou<sup>1</sup>, Kohei Minami<sup>1</sup>, Erina Hosono<sup>1</sup>, Hajime Okada<sup>1</sup>, Yuuri Yasuoka<sup>1,2</sup>, Takashi Shibano<sup>1</sup>, Masanori Taira<sup>1</sup> (Dept. of Biol. Sci, Grad. Sch. of Sci., Univ. of Tokyo<sup>1</sup>, OIST<sup>2</sup>)
- OP05-02 (P050)** 13:12-13:24 Membrane invagination-mediated posterior ciliary positioning is involved in the neurula rotation related to establish left-right asymmetry in ascidian embryo  
膜構造を介した後方に偏った繊毛がホヤ左右軸決定に重要な神経胚回転に関わる  
○Takefumi Negishi<sup>1</sup>, Naoto Ueno<sup>1,2</sup> (NIBB<sup>1</sup>, SOKENDAI<sup>2</sup>)
- OP05-03 (P046)** 13:24-13:36 Spatial regulation of Wnt proteins and planar cell polarity in *Xenopus* early embryogenesis.  
アフリカツメガエル初期発生における Wnt 蛋白質の空間的制御と平面細胞極性  
○Yusuke Mii<sup>1,2,3</sup>, Ritsuko Takada<sup>1,2</sup>, Makoto Matsuyama<sup>4</sup>, Shinji Takada<sup>1,2,3</sup> (NIBB<sup>1</sup>, OIIB<sup>2</sup>, SOKENDAI<sup>3</sup>, Shigei Medical Research Institute<sup>4</sup>)
- OP05-04** 13:36-13:48 Asymmetric Distribution of Hypoxia-Inducible Factor  $\alpha$  Regulates Dorsal-Ventral Axial Patterning in the Early Embryo of the Sea Urchin *Strongylocentrotus purpuratus*  
Wei-Lun Chang<sup>1,2</sup>, Yi-Cheng Chang<sup>1</sup>, Kuan-Ting Lin<sup>1</sup>, Han-Ru

Li<sup>1</sup>, Chin-Yu Pai<sup>1</sup>, Jen-Hal Chen<sup>1</sup>, <sup>○</sup>Yi-Hsien Su<sup>1,2</sup> (ICOB, Academia Sinica, Taipei, Taiwan<sup>1</sup>, Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan<sup>2</sup>)

- OP05-05** 13:48-14:00 *Diaphanous* gene determines chirality in snails  
ディアファノス遺伝子は巻貝の巻型を決定する  
<sup>○</sup>Reiko Kuroda<sup>1,2,3</sup>, Masanori Abe<sup>1,3</sup>, Kohei Fujikura<sup>2,3</sup> (RIST, Tokyo Univ. Sci.<sup>1</sup>, Dept. Life Sci., Tokyo Univ.<sup>2</sup>, SORST, JST<sup>3</sup>)
- OP05-06 (P051)** 14:00-14:12 *Mesp1* is a canonical Wnt target gene during early mesoderm formation  
*Mesp1*の発現は初期中胚葉形成において古典的 Wnt シグナルによって制御される  
<sup>○</sup>Rieko Ajima, Yumiko Saga (NIG)  
Chairperson: Hitoshi Yokoyama (Hiroasaki Univ.)
- OP05-07 (P161)** 14:12-14:24 Scaling of critical weight for metamorphosis in the genus *Drosophila*  
ショウジョウバエ属における変態のための臨界重量のスケーリング  
<sup>○</sup>Ken-Ichi Hironaka<sup>1,2</sup>, Koichi Fujimoto<sup>1</sup>, Takashi Nishimura<sup>2</sup> (Dept. of Biol. Sci., Osaka Univ.<sup>1</sup>, RIKEN CDB<sup>2</sup>)
- OP05-08 (P158)** 14:24-14:36 Loss-of-function and rescue analyses of immune T cells involved in *Xenopus* tail degeneration via Ouro antigens  
ツメガエル尾の退縮に Ouro 抗原タンパク質を介して関わる免疫 T 細胞の機能阻害実験と回復実験  
<sup>○</sup>Haruka Kobayashi, Yumi Izutsu (Dept. Biol., Fac. Sci., Niigata Univ.)
- OP05-09** 14:36-14:48 Physical control of whole body shape by Obstructor-E, a component of the exoskeletal ECM, in *Drosophila melanogaster*  
ECM 分子による物理的な体型制御：ショウジョウバエ外骨格分子 Obstructor-E の機能解析  
<sup>○</sup>Reiko Tajiri, Haruhiko Fujiwara, Tetsuya Kojima (Grad. Sch. Frontier Sci., Univ. Tokyo)
- OP05-10 (P109)** 14:48-15:00 Tail reduction process during human embryonic development

ヒト胚発生過程における尾部短縮過程の解明

○Sayaka Tojima<sup>1</sup>, Haruyuki Makishima<sup>2</sup>, Shigehito Yamada<sup>2</sup>  
(Grad. Sch. of Med., Osaka City Univ.<sup>1</sup>, Grad. Sch. of Med.,  
Kyoto Univ.<sup>2</sup>)

## Oral presentation 6 : Patterning, Organogenesis 3

DATE: May 10 (Wed) 13:00 ~ 15:00 Room F  
Chairpersons: Takayuki Suzuki (Nagoya Univ.)  
Atsushi Taguchi (Kumamoto Univ.)

- OP06-01** 13:00-13:12 Multipotency and cell survival governed by Hox genes during branching morphogenesis of the Drosophila airways  
○Ryo Matsuda<sup>1</sup>, Chie Hosono<sup>1</sup>, Kaoru Saigo<sup>2</sup>, Christos Samakovlis<sup>1</sup> (MBW, Stockholm Univ.<sup>1</sup>, Univ. Tokyo<sup>2</sup>)
- OP06-02 (P148)** 13:12-13:24 The mechanism about the cell autonomous generation of collagen crystal involved with fin skeletal development  
魚類ヒレ骨形成において機能するコラーゲン結晶の自律的合成メカニズム  
○Junpei Kuroda, Shigeru Kondo (FBS, Osaka Univ.)
- OP06-03 (P116)** 13:24-13:36 Temporal Control of Tissue Maturation with Proliferation Reduction in developing trachea  
気管発生時にみられる、増殖低下を伴う組織成熟の経時的变化とその制御機構の解明  
○Hirofumi Kiyokawa, Keishi Kishimoto, Mitsuru Morimoto (CDB)
- OP06-04 (P128)** 13:36-13:48 The role of diphthamide biosynthesis enzyme DPH1 in mouse cardiac development  
○Chun-Ming Chen<sup>1</sup>, Yi-Ru Yu<sup>1</sup>, Li-Ru You<sup>2</sup> (DLSIGS, National Yang-Ming University<sup>1</sup>, IBMB, National Yang-Ming University<sup>2</sup>)
- OP06-05** 13:48-14:00 Physical modeling of oscillator resynchronization after perturbation of Delta-Notch signaling in zebrafish presomitic mesoderm  
Delta-Notch シグナル阻害後のゼブラフィッシュ分節時計再同期過程の数理モデリング

○Koichiro Uriu (Graduate School of Natural Science and Technology, Kanazawa University)

- OP06-06** 14:00-14:12 Cardiac looping is caused by asymmetric cell proliferation and chiral cell behavior  
初期胚心臓ループは細胞増殖の非対称分布と細胞のキララル行動によって形成される  
○Hisao Honda<sup>1,2</sup>, Takaya Abe<sup>3</sup>, Toshihiko Fujimori<sup>3,4</sup> (Kobe Univ. Graduate School of Medicine<sup>1</sup>, RIKEN CDB<sup>2</sup>, RIKEN Center for Life Science Tech.<sup>3</sup>, NIBB<sup>4</sup>)
- OP06-07 (P120)** 14:12-14:24 Cellular and molecular mechanisms for the establishment of the dorsal and ventral compartments in the teleost somite  
真骨魚類体節の背腹コンパートメント形成における細胞・分子メカニズム  
○Kota Abe<sup>1</sup>, Sayaka Tayama<sup>1</sup>, Sachiko Tsuda<sup>2</sup>, Atsuko Shimada<sup>1</sup>, Hiroyuki Takeda<sup>1</sup> (Laboratory of Embryology, University of Tokyo<sup>1</sup>, Laboratory of Developmental Biology, Saitama University<sup>2</sup>)
- OP06-08 (P124)** 14:24-14:36 Establishment of polarity of cilia orientation and cell elongation during the mouse oviduct development  
マウス卵管の発生における繊毛と細胞伸長の極性形成  
○Fumiko Usami<sup>1,2</sup>, Dongbo Shi<sup>2,3</sup>, Kagayaki Kato<sup>4</sup>, Toshihiko Fujimori<sup>1,2</sup> (Dept. of Basic Biol., School of Life Sci., SOKENDAI<sup>1</sup>, Div. of Embryology, NIBB<sup>2</sup>, COS, Heidelberg Univ<sup>3</sup>, Imaging Science, CNSI<sup>4</sup>)
- OP06-09 (P139)** 14:36-14:48 Molecular mechanism to convert the segmentation clock into the segmental pattern of somites in the zebrafish  
分節時計によるゼブラフィッシュ体節分節境界形成の制御機構  
○Taijiro Yabe, Shinji Takada (NIBB)
- OP06-10 (P111)** 14:48-15:00 Non-muscle Myosin II Deletion in the Developing Kidney Causes Ureter-bladder Misconnection and Apical Extrusion of the Nephric Duct Lineage Epithelia  
○Fahim Haque, Yusuke Kaku, Ryuichi Nishinakamura (Dept.

## Oral presentation 7 : Technology (genome editing, bioinformatics, big data) and Fertilization, gametogenesis, reproduction

DATE: May 11 (Wed) 13:00 ~ 15:00 Room C

Chairperson: Yasunori Sasakura (Univ. of Tsukuba)

- OP07-01 (P184)** 13:00-13:12 Regulatory sequence evolution during the fin-to-limb transformation  
鰭から四肢への形態変化における遺伝子制御配列の進化  
○Koh Onimaru<sup>1</sup>, Fumio Motone<sup>1,2</sup>, Itsuki Kiyatake<sup>3</sup>, Kiyonori Nishida<sup>3</sup>, Shigehiro Kuraku<sup>1</sup> (CLST<sup>1</sup>, Graduate School of Science and Technology, Kwansei Gakuin University<sup>2</sup>, Osaka Aquarium Kaiyukan<sup>3</sup>)
- OP07-02** 13:12-13:24 CRISPR/Cas9-mediated eGFP reporter integration into zebrafish genome for functional visualization and disruption of target genes  
ゼブラフィッシュにおける CRISPR/Cas9 法を用いた eGFP レポーターの挿入による標的遺伝子の発現可視化と機能破壊  
○Kiyohito Taimatsu<sup>1</sup>, Satoshi Ota<sup>2</sup>, Shin-Ichi Higashijima<sup>3</sup>, Atsuo Kawahara<sup>1</sup> (Univ. of Yamanashi<sup>1</sup>, Bioengineering Lab<sup>2</sup>, NIBB<sup>3</sup>)
- OP07-03 (P183)** 13:24-13:36 Integrative analysis of transcription factor occupancy at tissue-specific enhancers and disease risk loci in non-coding genomic regions  
Non-coding ゲノム領域における組織特異的エンハンサーおよび疾患関連 SNP に結合する転写因子の統合的解析  
○Shinya Oki<sup>1</sup>, Tazro Ohta<sup>2</sup>, Go Shioi<sup>3</sup>, Hideki Hatanaka<sup>4</sup>, Osamu Ogasawara<sup>5</sup>, Yoshihiro Okuda<sup>5</sup>, Hideya Kawaji<sup>6</sup>, Ryo Nakaki<sup>7</sup>, Jun Sese<sup>8</sup>, Chikara Meno<sup>1</sup> (Grad. Sch Med. Sci., Kyushu Univ.<sup>1</sup>, DBCLS, ROIS<sup>2</sup>, RIKEN CLST<sup>3</sup>, NBDC, JST<sup>4</sup>, DDBJ center, NIG<sup>5</sup>, RIKEN ACCC<sup>6</sup>, RCAST, the Univ of Tokyo<sup>7</sup>, AIRC, AIST<sup>8</sup>)

Chairpersons: Shosei Yoshida (NIBB)  
Yoshiyuki Seki (Kwansei-Gakuin Univ.)

- OP07-04 (P086)** 13:36-13:48 Homing efficiency and behavior of mouse spermatogenic stem cells following transplantation  
マウス精子幹細胞のホーミング効率と振舞い  
○Yoshiaki Nakamura<sup>1,2</sup>, Yayoi Kon<sup>1</sup>, Shosei Yoshida<sup>1</sup> (Div. Germ Cell Biology, NIBB<sup>1</sup>, JSPS research fellow<sup>2</sup>)
- OP07-05 (P087)** 13:48-14:00 Requirement of DDX6-mediated P-body formation in male germ cell development  
雄性生殖細胞発生における DDX6 を介した P-body の必要性  
○Ryuki Shimada<sup>1</sup>, Yumiko Saga<sup>1,2</sup> (SOKENDAI<sup>1</sup>, Division of Mammalian Development, National Institute of Genetics<sup>2</sup>)
- OP07-06 (P079)** 14:00-14:12 Significance of Cav3.2 and TRPV4 in the adaptation of intracellular signaling for motility regulation to various reproductive environments in amphibian sperm  
両生類精子運動調節の細胞内信号伝達の生殖環境に対する適応における Cav3.2 と TRPV4 の重要性  
Tae Sato<sup>1</sup>, Maako Kawamura<sup>1</sup>, Eriko Takayama-Watanabe<sup>2</sup>,  
○Akihiko Watanabe<sup>1</sup> (Fac. of Sci., Yamagata Univ.<sup>1</sup>, Inst. of Arts & Sic., Yamagata Univ.<sup>2</sup>)
- OP07-07 (P077)** 14:12-14:24 Testing the possible impact of maternal cells on development, case of the neonatal liver disorder biliary atresia  
○Flore Castellan, Naoki Irie (Dept. of Biol. Sciences, University of Tokyo)
- OP07-08 (P080)** 14:24-14:36 Dullard deficiency causes hemorrhage in the adult ovarian follicles  
Dullard 欠損は、成体の卵巣濾胞において、出血性嚢胞を引き起こす  
○Tadayoshi Hayata<sup>1,2</sup>, Masahiko Chiga<sup>3,4</sup>, Yoichi Ezura<sup>2</sup>, Makoto Asashima<sup>5</sup>, Hidetaka Katabuchi<sup>4</sup>, Ryuichi Nishinakamura<sup>3</sup>, Masaki Noda<sup>2,6</sup> (Dept. of Biol. Sig. Reg., Faculty of Med. Univ. of Tsukuba<sup>1</sup>, Dept. of Mol. Pharmacol., Med. Res. Inst., TMDU<sup>2</sup>, Dept. of Kidney Dev., IMEG, Kumamoto Univ.<sup>3</sup>, Dept. of OB-GYN, Faculty of Life Sci., Kumamoto Univ.<sup>4</sup>, Tokyo Univ. of Sci.<sup>5</sup>, Yokohama City Minato Red Cross Hospi-

tal<sup>6)</sup>

- OP07-09 (P085)** 14:36-14:48 Morphological diversity of seminal receptacles of species among genus *Drosophila*  
ショウジョウバエ属に見られる管状受精嚢の形態的多様性  
○Tatsuhiko Noguchi (NDMC, Biology)
- OP07-10 (P081)** 14:48-15:00 Induction of spermatogenesis in explanted fetal mouse testis tissues by organ culture method  
胎仔マウス精巣を用いた器官培養法による精子形成の誘導  
○Kazuaki Kojima<sup>1</sup>, Takuya Sato<sup>1</sup>, Yuta Naruse<sup>1</sup>, Takehiko Ogawa<sup>1,2</sup> (Graduate school of medical life science, Yokohama city university<sup>1</sup>, Institute of Molecular Medicine and Life Science, YCU<sup>2</sup>, Department of Urology, YCU<sup>3</sup>)

## Oral presentation 8 : Stem cell, Germ cell

DATE: May 11 (Wed) 13:00 ~ 15:00 Room E  
Chairpersons: Kunimasa Ohta (Kumamoto Univ.)  
Shoen Kume (Tokyo Inst. Tech.)

- OP08-01 (P172)** 13:00-13:12 *Six1* and *Six4* regulate germ and gonadal somatic progenitor cell formation in mice  
転写因子 *Six1* と *Six4* によるマウス生殖細胞と生殖腺体細胞の前駆細胞形成の制御機構について  
○Satomi Tanaka<sup>1</sup>, Yasuka Yamauchi<sup>2</sup>, Kiyoshi Kawakami<sup>3</sup>, Ryuichi Nishinakamura<sup>4</sup> (Kumamoto Health Sci. Univ.<sup>1</sup>, Kumamoto Univ.<sup>2</sup>, Jichi Med. Univ.<sup>3</sup>, IMEG, Kumamoto Univ.<sup>4</sup>)
- OP08-02 (P179)** 13:12-13:24 *Hdac3* recruitment on somatic developmental genes by *Blimp1* and their repression is essential for mouse primordial germ cell fate determination  
*Blimp1* による *Hdac3* の体細胞発生遺伝子群へのリクルートメントとそれらの発現抑制は、マウス始原生殖細胞の運命決定に必須である  
○Kentaro Mochizuki<sup>1,4</sup>, Hisato Kobayashi<sup>2,4</sup>, Yumi Matsuoka<sup>1</sup>, Tomohiro Kono<sup>3,4</sup>, Yasuhisa Matsui<sup>1,4</sup> (IDAC, Tohoku Univ.<sup>1</sup>, NGRC, NODAF<sup>2</sup>, Dept. of BioSci, NODAF<sup>3</sup>, AMED-CREST<sup>4</sup>)

- OP08-03** 13:24-13:36 The transcription factor BONOBO controls sexual organ development in the basal land plant *Marchantia polymorpha*  
基部陸上植物ゼニゴケにおいて転写因子 BONOBO は生殖器官形成を統御する  
○Shohei Yamaoka<sup>1</sup>, Keisuke Inoue<sup>1</sup>, Ryuichi Nishihama<sup>1</sup>, Katsushi Yamaguchi<sup>2</sup>, Shuji Shigenobu<sup>2</sup>, Kimitsune Ishizaki<sup>3</sup>, Katsuyuki T. Yamato<sup>4</sup>, Takayuki Kohchi<sup>1</sup> (Grad. Sch. Biostudies, Kyoto Univ.<sup>1</sup>, Funct. Genomics Fac., NIBB<sup>2</sup>, Grad. Sch. Sci., Kobe Univ.<sup>3</sup>, BOST, Kindai Univ.<sup>4</sup>)
- OP08-04 (P167)** 13:36-13:48 Post-transcriptional suppression of *Dazl* in follicular oocytes plays a crucial role in pre-implantation embryonic development  
卵胞における *Dazl* 転写後抑制は着床前胚の発生において重要な役割を持つ  
○Kurumi Fukuda<sup>1</sup>, Takuma Naka<sup>2</sup>, Atsushi Suzuki<sup>2</sup>, Yumiko Saga<sup>1,3</sup>, Yuzuru Kato<sup>1,3</sup> (Lab. of mammdev, Dept. of genet, Div. Sci. of life sci, SOKENDAI<sup>1</sup>, Div. of Mat. Sci. and Chem. Eng, Fac. of Eng, Yokohama univ.<sup>2</sup>, Div. of mammdev, NIG<sup>3</sup>)
- OP08-05** 13:48-14:00 Inhibition of apoptosis overcomes stage-related compatibility barriers to chimera formation  
細胞死阻害を利用した異なる発生段階の細胞によるキメラ形成  
○Hideki Masaki<sup>1</sup>, Tomoyuki Yamaguchi<sup>1</sup>, Hiromitsu Nakachi<sup>1,2</sup> (IMSUT, Tokyo Univ.<sup>1</sup>, ISCBRM, Stanford Univ.<sup>2</sup>)
- OP08-06 (P178)** 14:00-14:12 Regulatory mechanism of retinal cell differentiation from ocular tissue stem cells  
トリ虹彩のユニークな組織幹細胞と網膜分化の調節機構  
○Masasuke Araki<sup>1</sup>, Tamami Ishikawa<sup>2</sup>, Jörg Steinfeld<sup>3</sup> (Dept of Biol., Nara Med. Univ.<sup>1</sup>, Nara Women's University, Nara 630-8506, Japan<sup>2</sup>, Darmstadt University of Technology, D-64287 Germany<sup>3</sup>)
- OP08-07 (P181)** 14:12-14:24 New categorization of planarian stem cell population based on possible stem cell niche  
予想される幹細胞ニッチをもとにしたプラナリア幹細胞集団の新しい区分

○Yuki Sato<sup>1,2</sup>, Norito Shibata<sup>2,3</sup>, Kiyokazu Agata<sup>1,2</sup> (Grad. School of Science, Gakushuin Univ.<sup>1</sup>, Dep. of Biophys, Grad school of Science, Kyoto Univ.<sup>2</sup>, National Institute of Tech., Tsuyama College<sup>3</sup>)

**OP08-08** 14:24-14:36 **(P170)** Density homeostasis of spermatogenic stem cells through competition for FGFs

精子幹細胞の密度は精細管の周囲の体細胞から発現する一定量の FGFs を精子幹細胞が奪い合うことで決められている

○Yu Kitadate<sup>1,2</sup>, Shosei Yoshida<sup>1,2</sup> (NIBB<sup>1</sup>, Sokendai<sup>2</sup>)

**OP08-09** 14:36-14:48 **(P175)** Identification of genes regulating PGC reprogramming into pluripotent stem cells

多能性獲得に関与する始原生殖細胞リプログラミングの分子機構解明

○Kei Otsuka<sup>1</sup>, Asuka Takehara<sup>1</sup>, Yasuhisa Matsui<sup>1,2,3</sup> (IDAC, Tohoku Univ<sup>1</sup>, Graduate School of life sciences, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577, Japan<sup>2</sup>, AMED-CREST<sup>3</sup>)

**OP08-10** 14:48-15:00 **(P176)** The endocytic regulation of the yolk protein receptor Yolkless is required for the polarity establishment and germ plasm assembly in the *Drosophila* oocyte

シヨウジョウバエにおいて卵黄タンパク受容体 Yolkless のエンドサイトーシス制御は卵母細胞の極性形成と生殖質形成に必要である

○Tsubasa Tanaka<sup>1,2</sup>, Sachiko Otsu<sup>1</sup>, Naoki Tani<sup>3</sup>, Akira Nakamura<sup>1,2</sup> (IMEG, Kumamoto Univ.<sup>1</sup>, Grad Sch Pharm Sci, Kumamoto Univ<sup>2</sup>, LILA, IMEG, Kumamoto Univ<sup>3</sup>)

## Oral presentation 9 : Epigenetics, Genomics (comparative genomics) and Evolution (EcoEvoDevo, EvoDevo)

DATE: May 11 (Wed) 13:00 ~ 15:00 Room F

Chairperson: Yuuri Yasuoka (OIST)

**OP09-01** 13:00-13:12 A novel CRE positively and negatively influences the expression of *Shh* and its bystander genes

新規シス因子がもたらす *Shh* 遺伝子座への正と負

の影響

○Takanori Amano, Toshihiko Shiroishi (NIG)

- OP09-02** 13:12-13:24 A new *cis*-regulatory element acquired by inter-chromosomal translocation changes mouse limb morphology  
染色体転座によるシス調整配列の獲得はマウスの四肢形態変化を引き起こす  
○Kousuke Mouri, Tomoko Sagai, Takanori Amano, Toshihiko Shiroishi (NIG)

Chairpersons: Juan Pascual Anaya (RIKEN CDB)  
Mikiko Tanaka (Tokyo Inst. Tech.)

- OP09-03 (P060)** 13:24-13:36 Independent subfunctionalization of brachyury paralogs in vertebrate lineages  
脊椎動物各系統における brachyury パラログの独立した機能分化  
○Yuuri Yasuoka, Noriyuki Satoh (OIST)

- OP09-04** 13:36-13:48 Asymmetric  $\beta$ -catenin nuclearization determines mesoderm formation during early development of amphioxus  
Cheng-Yi Chen, Hui-Ju Wu, ○Jr-Kai Yu (ICOB, Academia Sinica, Taiwan)

- OP09-05** 13:48-14:00 Hox genes and clusters from the hagfish: insights into the vertebrate ancestor  
○Juan Pascual-Anaya<sup>1</sup>, Iori Sato<sup>1</sup>, Fumiaki Sugahara<sup>2</sup>, Wataru Takagi<sup>1</sup>, Shinnosuke Higuchi<sup>1</sup>, Shigeru Kuratani<sup>1</sup> (RIKEN<sup>1</sup>, Division of Biology, Hyogo College of Medicine, Nishinomiya, Hyogo, Japan.<sup>2</sup>)

- OP09-06** 14:00-14:12 Analysis of the Hox gene cluster of the ascidian, *Holocynthia roretzi*, suggests multiple steps of the cluster disintegration during the course of ascidian evolution  
マボヤの Hox 遺伝子の解析から示唆されるホヤの進化における Hox 遺伝子クラスター崩壊過程  
Yuka Sekigami<sup>1</sup>, Takuya Kobayashi<sup>1</sup>, Ai Omi<sup>1</sup>, Kouki Nishitsuji<sup>2</sup>, Noriyuki Satoh<sup>2</sup>, Asao Fujiyama<sup>3</sup>, ○Hidetoshi Saiga<sup>1</sup> (Dept. of Biol. Scis., Grad. Sch. of Sci., Tokyo Metropolitan Univ.<sup>1</sup>, MGU, OIST<sup>2</sup>, NIG<sup>3</sup>)

- OP09-07** 14:12-14:24 Metamerism in cephalochordates and the problem of the vertebrate head  
頭索類分節性と脊椎動物頭部問題  
○Takayuki Onai, Shigeru Kuratani (Evolutionary Morphology Lab, RIKEN)
- OP09-08** 14:24-14:36 Mechanisms that produce the phenotypic developmental plasticity of sponges  
棲息環境に合わせたカイメンの形態可変性を可能にするメカニズム  
○Noriko Funayama (Dept. of Biophys., Graduate School of Science, Kyoto Univ.)
- OP09-09 (P065)** 14:36-14:48 The evolution of acetabular morphogenesis on the line to extant birds.  
鳥類の系統における寛骨臼の形態形成の進化  
○Shiro Egawa<sup>1</sup>, Gembu Abe<sup>1</sup>, Daisuke Saito<sup>1,2</sup>, Koji Tamura<sup>1</sup> (Grad. Sch. of Life Sci, Tohoku Univ.<sup>1</sup>, FRIS, Tohoku Univ.<sup>2</sup>)
- OP09-10 (P068)** 14:48-15:00 Integration of distinct developmental systems in the vertebrate pharyngeal arch segmentation and evolution  
脊椎動物咽頭弓の分節形成と進化における異なる発生システムの統合  
○Kazunori Okada<sup>1,2</sup>, Shinji Takada<sup>1,2</sup> (NIBB<sup>1</sup>, OIIB<sup>2</sup>)

## Poster Sessions

**PXXX** is Poster Award candidate.

May 10 (Wed) 11:00-May 12 (Fri) 12:30

Discussion 1: May 10 (Wed) 15:15-16:15 for odd number posters  
16:15-17:15 for even number posters

Discussion 2: May 11 (Thu) 15:15-16:15 for odd number posters  
16:15-17:15 for even number posters

**P001**  
**(OP04-02)**

Cadherin-2 mediates spatiotemporal control of actomyosin contractility during zippering and neural tube closure in a simple chordate

ホヤ神経管閉鎖のジッパーリングにおけるアクトミオシン収縮はカドヘリンによって時空間的に制御される

○Hidehiko Hashimoto, Edwin Munro (University of Chicago)

**P002**

Theoretical inference of cell mechanics which explains 3-dimensional morphological diversity

細胞の力学の理論的な推定とそれに基づいた3次元的な形態の多様性の理解

○Hiroshi Koyama, Toshihiko Fujimori (Div. Embryology, NIBB)

**P003**

The movement without nerves or muscles : The twisting movement of plant leaves toward light

神経や筋によらない運動：光の方向に向く葉のねじれ運動

○Yuta Otsuka<sup>1</sup>, Hirokazu Tsukaya<sup>1,2</sup> (Grad. Sch. Sci., Univ. Tokyo<sup>1</sup>, OIIB, NINS<sup>2</sup>)

**P004**

Modeling vascular scaling law formation in retina vasculature

網膜血管網におけるスケーリング則の形成メカニズム

Shotaro Kawamura<sup>2</sup>, Atsushi Tero<sup>3</sup>, Hiroshi Kori<sup>4</sup>, Akiyoshi Uemura<sup>5</sup>,

○Takashi Miura<sup>1</sup> (Dept.of Anat.& Cell Biol., Kyushu Univ. Grad. Sch.of Med.<sup>1</sup>, Kyushu Univ Sch Med<sup>2</sup>, IMI, Kyushu Univ.<sup>3</sup>, Nagoya City Univ Grad Sch Med Sci<sup>4</sup>, Ochanomizu Univ<sup>5</sup>)

**P005**  
**(OP04-03)**

Mechanotransducer channel Piezo2 regulates respiration at birth and in the adult

機械刺激受容体チャネル Piezo2 は出生時と成体の呼吸を制御

する

○Keiko Nonomura<sup>1,2</sup>, Seung-Hyun Woo<sup>2</sup>, Rui Chang<sup>3</sup>, Astrid Gillich<sup>4</sup>, Zhaozhu Qiu<sup>2</sup>, Allain Francisco<sup>2</sup>, Sanjeev Ranade<sup>2</sup>, Stephen Liberles<sup>3</sup>, Ardem Patapoutian<sup>2</sup> (NIBB<sup>1</sup>, TSRI<sup>2</sup>, Harvard Medical School<sup>3</sup>, Stanford University<sup>4</sup>)

**P006**

Iberian ribbed newt's external gill; finely controlled distribution of the ciliated cells in the respiratory epithelium makes constant fluid flow pattern that realizes countercurrent blood flow

イベリアトゲイモリ幼生の外鰓の呼吸上皮の繊毛細胞の分布は前方から後方への一定の水流パターンを生成し、血流の対向流を実現している

○Reico Ichikawa, Ryuji Toyoizumi (Dept. of Biol. Sci., Fac. of Sci., Kanagawa Univ.)

**P007**

Epithelial barrier homeostasis by cell competition

上皮バリアの恒常性の維持における細胞競合の役割

○Tetsuhisa Otani<sup>1,2</sup>, Mikio Furuse<sup>1,2</sup> (NIPS, Division of Cell Structure<sup>1</sup>, SOKENDAI<sup>2</sup>)

**P008**

Essential patterning of metachronal ciliary movement and resultant fluid flow is conserved in both urodelan and anuran amphibians

有尾両生類と無尾両生類の間で、同調的繊毛運動によって生成される脳脊髄液流と嗅窩の液流パターンは保存されている

Kazue Mogi, Kotomi Imura, Kento Suzuki, ○Ryuji Toyoizumi (Dept. of Biol. Sci., Fac. of Sci., Kanagawa Univ.)

**P009**

3D analysis of functional development of cerebellar circuitry in zebrafish

ゼブラフィッシュを用いた小脳の機能的神経回路形成の3次元解析

○Kanae Hiyoshi<sup>1</sup>, Hiroaki Miyazawa<sup>2</sup>, Kazuhiro Maruyama<sup>1</sup>, Kyo Yamasu<sup>2</sup>, Sachiko Tsuda<sup>2,3</sup> (Faculty of Sci., Saitama Univ.<sup>1</sup>, Grad. Sch. of Sci. and Eng., Saitama Univ.<sup>2</sup>, R&D Bureau, Saitama Univ.<sup>3</sup>)

**P010  
(OP04-05)**

Involvement of cell shape and tension with neural-epidermal ectoderm patterning in *Xenopus* embryo

ツメガエル胚における、細胞張力と細胞形状の神経-表皮外胚葉パターンニングへの関与

○Tatsuo Michiue, Satoshi Yamashita, Nanako Ishinabe, Takahiro Ide, Sayuki Hirano (Grad. School of Arts and Sciences, Univ. Tokyo)

**P011**  
**(OP04-01)**

Tension-dependent dynamics of adherens junction components during cell junction oscillation in *Drosophila* epithelium

上皮組織における細胞間張力のゆらぎと張力依存的な細胞接着分子の応答

○Yusuke Hara<sup>1,2</sup>, Murat Shagirov<sup>1</sup>, Kok Hwee Lim<sup>1,2</sup>, Yusuke Toyama<sup>1,2,3</sup> (MBI, Singapore<sup>1</sup>, TLL, Singapore<sup>2</sup>, DBS, NUS, Singapore<sup>3</sup>)

**P012**  
**(OP04-10)**

Thyroid hormone coordinates pancreatic islet maturation during the zebrafish larval to juvenile transition to maintain glucose homeostasis

ゼブラフィッシュ膵島成熟化とグルコースホメオスタシスにおける甲状腺ホルモンの役割

○Hiroki Matsuda<sup>1,2</sup>, Sri Teja Mullapudi<sup>2</sup>, Yuxi Zhang<sup>3</sup>, Daniel Hesselson<sup>3</sup>, Didier Stainier<sup>2</sup> (Tohoku Univ<sup>1</sup>, MPI-BN<sup>2</sup>, Garvan Institute<sup>3</sup>)

**P013**  
**(OP04-06)**

Phosphoproteomic analysis of mechanotransduction during *Xenopus* embryogenesis

アフリカツメガエル胚発生におけるメカノトランスダクションのリン酸化プロテオーム解析

○Noriyuki Kinoshita<sup>1</sup>, Yutaka Hashimoto<sup>1,2</sup>, Naoto Ueno<sup>1</sup> (Div. of Morphogenesis NIBB<sup>1</sup>, Dept. of Mol. Biol. Princeton Univ.<sup>2</sup>)

**P014**  
**(OP04-07)**

Collective durotaxis of cranial neural crest cells in *Xenopus*

アフリカツメガエル頭部神経堤細胞の弾性勾配応答

○Sei Kuriyama (Akita University)

**P015**  
**(OP01-03)**

Intrinsic lens potential of neural retina inhibited by Notch signaling as the cause of “lens transdifferentiation”

神経性網膜に内在する水晶体分化能を抑制する Notch シグナル：その破綻が水晶体への「分化転換」をもたらす

○Hideaki Iida<sup>1</sup>, Yasuo Ishii<sup>2</sup>, Hisato Kondoh<sup>1,2</sup> (DBGSE, Kyoto Sangyo Univ.<sup>1</sup>, FLS, Kyoto Sangyo Univ.<sup>2</sup>)

**P016**

Establishment and use of a new epiblast stem cell line marking Foxa2 expression with GFP

Foxa2 とともに nEGFP を発現するエピブラスト幹細胞を用い

た、初期発生過程の研究

○Sachiko Inamori, Yasuo Ishii, Hisato Kondoh (FLS, Kyoto Sangyo Univ.)

**P017**

Cytoplasmic PIWI is indispensable for transposon silencing conducted by nuclear PIWI in planarian pluripotent stem cell system  
細胞質局在型 PIWI はプラナリア全能性幹細胞システムにおける核局在型 PIWI による転移因子の抑制に不可欠である

○Makoto Kashima<sup>1,2</sup>, Kiyokazu Agata<sup>2,3</sup>, Norito Shibata<sup>2,4</sup> (RIFA, Ryukoku Uni.<sup>1</sup>, DB, GSS, Kyoto Univ.<sup>2</sup>, DLS, FS, Gakushuin Univ.<sup>3</sup>, DIST, Tsuyama Coll.<sup>4</sup>)

**P018**

Degradation Mechanism of Tbx6 during Mouse Somitogenesis

○Wei Zhao<sup>1</sup>, Masayuki Oginuma<sup>5</sup>, Rieko Ajima<sup>2,3</sup>, Makoto Kiso<sup>2</sup>, Yumiko Saga<sup>2,3,4</sup> (CDB<sup>1</sup>, NIG<sup>2</sup>, SOKENDAI<sup>3</sup>, uTokyo<sup>4</sup>, BWH<sup>5</sup>)

**P019  
(OP01-01)**

HIF1 $\alpha$  Initiates Zebrafish Primitive Erythroid Differentiation by Switching On GATA1a Expression

○Bo-An Lin<sup>1</sup>, Yi-Xuan Lin<sup>1</sup>, Hsin-Yu Chung<sup>1</sup>, Jyuan-Kai Chiu<sup>1</sup>, Kun-Tong Chiu<sup>1</sup>, Shih-Han Wen<sup>1</sup>, Wen-Shyong Tzou<sup>1,2</sup>, Chin-Hwa Hu<sup>1,2</sup> (Dep. Biosci. Biotechnol, Natl. Taiwan Ocean Univ.<sup>1</sup>, Center of Excellence for the Oceans, Natl. Taiwan Ocean Univ.<sup>2</sup>)

**P020**

Sox5 modulates Sox10 function in pigment cell fate specification in medaka and zebrafish

メダカおよびゼブラフィッシュの色素細胞の運命決定において Sox5 は Sox10 の機能を修飾する

Yusuke Nagao<sup>1,2</sup>, Hiroyuki Takada<sup>3</sup>, Motohiro Miyadai<sup>3</sup>, Ryoko Seki<sup>1</sup>, Yasuhiro Kamei<sup>4</sup>, Ikuyo Hara<sup>5</sup>, Yoshihito Taniguchi<sup>6</sup>, Kiyoshi Naruse<sup>5</sup>, Masahiko Hibi<sup>1</sup>, Robert Kelsh<sup>2</sup>, ○Hisashi Hashimoto<sup>1</sup> (Biosci. Biotechnol. Ctr., Nagoya Univ.<sup>1</sup>, Dept. Biol. Biochem., Univ. Bath.<sup>2</sup>, Grad. Sch. Sci., Nagoya Univ.<sup>3</sup>, Spectrography Bioimaging Facility, NIBB<sup>4</sup>, Lab. Biores., NIBB<sup>5</sup>, Dept. Preventive Med. Pub. Health, Sch. Med., Kyorin Univ.<sup>6</sup>)

**P021**

Analysis of lncRNA *dutA* repressing terminal differentiation via *Dicystostelium* organizer

細胞性粘菌のオーガナイザーを介した最終分化抑制に関わる lncRNA *dutA* の解析

○Yukika Saga<sup>1</sup>, Kohei Kitsutaka<sup>1</sup>, Saki Tamukai<sup>1</sup>, Naoya Kurihara<sup>1</sup>, Naoki Morikawa<sup>1</sup>, Nao Shimada<sup>1,2</sup>, Tetsuya Muramoto<sup>1</sup>, Takefumi Kawata<sup>1</sup> (Toho

Univ.<sup>1</sup>, Univ. of Tokyo<sup>2</sup>)

**P022**

Analysis of the mouse embryos in diapause

マウスの発生休止胚の解析

○Chizuru Kamemizu<sup>1,2</sup>, Toshihiko Fujimori<sup>1,2</sup> (Dept. of Basic Biol., School of Life Sci., SOKENDAI<sup>1</sup>, Div. of Embryology, NIBB<sup>2</sup>)

**P023**

Pax3 and Pax7 differentially regulate fate choice of pigment cells in zebrafish

Pax3 と Pax7 はゼブラフィッシュの色素細胞の運命選択において異なる機能を持つ

○Motohiro Miyadai<sup>1</sup>, Hiroyuki Takada<sup>1</sup>, Robert Kelsh<sup>3</sup>, Masahiko Hibi<sup>1,3</sup>, Hisashi Hashimoto<sup>1,3</sup> (Grad. Sch. Sci., Nagoya Univ.<sup>1</sup>, Biosci. Biotech. Ctr., Nagoya Univ.<sup>2</sup>, Dept. Biol. Biochem., Univ. Bath.<sup>3</sup>)

**P024**  
**(OP01-05)**

A novel 3D spheroid culture system for generating functional pancreatic  $\beta$  cells derived from human induced pluripotent stem cells

ヒト iPS 細胞を用いた膵臓分化誘導 3次元培養系の構築

○Zixuan Erinn Sim, Saeko Momma, Nobuaki Shiraki, Shoen Kume (Titech Life Science)

**P025**

Caspase signaling's new function about cell fate determination in mechanoreceptor formation of drosophila

○Yajie Zhu<sup>1</sup>, Shiping Zhang<sup>1</sup>, Lei Xue<sup>1,2,3</sup> (SLST, Tongji Univ.<sup>1</sup>, Institute of Intervention Vessel, Shanghai 10th People's Hospital<sup>2</sup>, Shanghai Key Laboratory of Signaling and Disease Research<sup>3</sup>)

**P026**

Generation and Characterization of an INSULIN promotor driven mCherry Reporter Human iPS Cell Lines Using CRISPR/Cas9 system

CRISPR/Cas9 を用いたインスリンレポーター ヒト iPS 細胞の作製と解析

○Hiraku Tokuma, Zixuan Erinn Sim, Fumiya Uefune, Daisuke Sakano, Nobuaki Shiraki, Shoen Kume (School of Life Science and Technology, Tokyo Tech)

**P027**  
**(OP01-02)**

Involvement of Adam19 in the fate decision of cardiac neural crest cells

心臓神経堤の運命決定における Adam19 の役割

○Hiroyuki Arai<sup>1</sup>, Fuminori Sato<sup>1</sup>, Takuya Yamamoto<sup>2</sup>, Hiroshi Kiyonari<sup>3</sup>, Atsuko Sehara-Fujisawa<sup>1</sup> (IFMS, Kyoto U<sup>1</sup>, CiRA, Kyoto U<sup>2</sup>, LARGE, RIKEN CDB<sup>3</sup>)

**P028**

Sox2-dependent regulation of stem cell-like precursors during secondary neurulation

尾側神経管形成 Secondary neurulation における Sox2 依存的な幹細胞様前駆細胞の制御

○Teruaki Kawachi<sup>1</sup>, Eisuke Shimokita<sup>2</sup>, Yoshiko Takahashi<sup>1</sup> (Kyoto univ.<sup>1</sup>, NAIST<sup>2</sup>)

**P029**

Cooperative activation of Sall4 and Sox8 transcription factors in the regulation of the chicken Sox3 gene during inner ear development

内耳発生におけるニワトリ Sox3遺伝子の Sall4 と Sox8 による協調的な活性化機構

Yu Okamoto<sup>1</sup>, Naoko Nishimura<sup>1</sup>, Kazunari Matsuda<sup>1</sup>, Deshani Ranawakage<sup>2</sup>, Yusuke Kamachi<sup>2</sup>, Hisato Kondoh<sup>1,3</sup>, ○Masanori Uchikawa<sup>1</sup> (Grad. Sch. of Frontier Bioscis., Osaka Univ.<sup>1</sup>, Sch. of Environ. Sci and Eng., Kochi Univ. of Technol.<sup>2</sup>, Fac. of Life Sci., Kyoto Sangyo Univ.<sup>3</sup>)

**P030**

new function of caspase

○Hongui Wu<sup>1</sup>, Lei Xue<sup>1</sup>, Shiping Zhang<sup>1</sup> (SKLSDR<sup>1</sup>, Institute of Intervention Vessel, Shanghai 10th People's Hospital<sup>2</sup>, School of Life Science and Technology, Tongji University<sup>3</sup>)

**P031**

Histone demethylase LSD1/Kdm1a plays a crucial role in zebrafish definitive hematopoiesis

ヒストン脱メチル化酵素 LSD1/Kdm1a はゼブラフィッシュ二次造血において重要な働きを持つ

○Junya Tamaoki<sup>1</sup>, Miki Takeuchi<sup>1</sup>, You Cai<sup>1</sup>, Isao Kobayashi<sup>2</sup>, Makoto Kobayashi<sup>1</sup> (Department of Molecular and Developmental Biology, Faculty of Medicine, University of Tsukuba<sup>1</sup>, a Faculty of Natural System, Institute of Science and Engineering, Kanazawa University<sup>2</sup>)

**P032**

Roles of a transcription factor 19A in the ossification of sternum

胸骨の骨化における転写因子 19A の機能

○Mao Kuriki, Atsuko Sehara-Fujisawa, Fuminori Sato (IFMLS, Kyoto University)

**P033**

Role of monoamines in insulin secretion

インスリン分泌におけるモノアミンの役割

○Fumiya Uefune<sup>1</sup>, Yuki Sonoda<sup>1</sup>, Daisuke Sakano<sup>1</sup>, Toru Aonishi<sup>2</sup>, Shoen Kume<sup>1</sup> (Life Science and Technology, Tokyo Tech<sup>1</sup>, Computing, Tokyo Tech<sup>2</sup>)

**P034**  
(SW-1)

The mechanism of Nodal1's signaling range regulation by *Derrière*, a *Xenopus* ortholog of mouse GDF1

アフリカツメガエルにおけるマウス GDF1 オルソログ *Derrière* による Nodal1 のシグナル活性化範囲制御機構

○Takafumi Ikeda, Takayoshi Yamamoto, Masanori Taira (Lab. of Mol. Biol., Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo)

**P035**

*Xenopus* JunB regulates tail elongation and formation of tailbud stem-zone via integration of multiple morphogen signals

JunB は複数のモルフォゲンシグナルを統合することによりツメガエルの尾部伸長と尾芽幹細胞領域を制御する

○Hitoshi Yoshida<sup>1</sup>, Makoto Nakamura<sup>1</sup>, Kimiko Takebayashi-Suzuki<sup>1</sup>, Naoto Ueno<sup>2</sup>, Atsushi Suzuki<sup>1</sup> (Amphibian Research Center, Grad. Sch. Sci., Hiroshima Univ.<sup>1</sup>, Div. Morphogenesis, Natl. Inst. Basic Biol.<sup>2</sup>)

**P036**

Zranb1b and Mib regulate the Ryk-mediated non-canonical Wnt signaling pathway during zebrafish convergent extension

○Li-Chuan Tseng, Chun-Mei Cheng, Ying-Chiu Tsai, May-Su You, Yun-Jin Jiang (IMGM, NHRI, TW)

**P037**

Live Imaging Analysis of Cell Behavior and Morphological Change in a Mouse Embryo during the A-P Axis Formation

マウス胚の前後軸形成期における細胞挙動・形態のライブイメージング解析

○Go Shioi<sup>1</sup>, Hideharu Hoshino<sup>2</sup>, Takaya Abe<sup>1</sup>, Hiroshi Kiyonari<sup>1,3</sup>, Kazuki Nakao<sup>4</sup>, Yasuhide Furuta<sup>1,3</sup>, Toshihiko Fujimori<sup>5</sup>, Shinichi Aizawa<sup>2</sup> (Genetic Engineering Team, RIKEN CLST<sup>1</sup>, Lab. for Vertebrate Body Plan, RIKEN CDB<sup>2</sup>, Animal Resource Development Unit, RIKEN CLST<sup>3</sup>, Lab. of Animal Resources, CDBIM, Univ. of Tokyo<sup>4</sup>, Div. of Embryology, NIBB<sup>5</sup>)

- P038** Modulation of BMP4 distribution and signaling with heparosan, heparan sulfate, and cerberus  
ヘパロサン・ヘパラン硫酸・Cerberus による BMP4 の分布・活性制御  
○Takayoshi Yamamoto, Masanori Taira (Lab. of Mol. Biol., Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo)
- P039** GSK3 $\beta$  regulates cleavage pattern in early development of *Lymnaea stagnalis*  
淡水産巻貝 *Lymnaea stagnalis* の初期発生において GSK3 $\beta$  は卵割パターンに関与する  
○Hiromi Takahashi<sup>1</sup>, Masanori Abe<sup>2</sup>, Reiko Kuroda<sup>1,2</sup> (Dept. of Appl. Biol. Sci., Grad. Sch. of Sci. & Tech., Tokyo Univ. of Science<sup>1</sup>, RIST, Tokyo Univ. of Science<sup>2</sup>)
- P040** Ubiquitin C-terminal hydrolase 37 regulates Wnt/ $\beta$ -catenin pathway during *Xenopus* gastrulation  
○Wonhee Han, Hyeyoon Lee, Jin-Kwan Han (Department of Life Sciences, POSTECH, South Korea)
- P041** Self-organization of twinning in *Xenopus* half-embryos  
Self-organization によるアフリカツメガエル半胚 Twin 形成メカニズム  
○Yuki Moriyama, Edward De Robertis (UCLA/hhmi)
- P042** Searching for molecules expressed in the trophectoderm of the mouse peri-implantation embryo  
マウス着床前後の栄養外胚葉における発現分子の探索  
○Tomoaki Ito<sup>1,2</sup>, Yasufumi Sato<sup>1,3</sup>, Toshihiko Fujimori<sup>1,2</sup> (NIBB<sup>1</sup>, SOKENDAI<sup>2</sup>, KMU<sup>3</sup>)
- P043** Whole-mount in situ hybridization and immunohistochemistry procedures without removal of the vitelline membrane of embryos in the appendicularian, *Oikopleura dioica*  
ワカレオタマボヤ *Oikopleura dioica* の胚におけるホールマウント in situ hybridization および免疫染色を卵膜除去せずに行う方法  
○Takeshi Onuma, Masaki Matsuo, Hiroki Nishida (Dep. Biol. Sci., Osaka Univ.)

- P044** Role of the GARP complex during early mouse development  
マウス初期発生過程における GARP complex の役割  
○Michihiko Sugimoto, Mayumi Muta, Kumiko Murakami, Yoko Mine, Kimi Araki (IRDA, Kumamoto Univ.)
- P045** The cell-type specific functions of an ER modulating factor, Pecanex in Notch and Wnt signaling pathways  
小胞体調節因子 Pecanex の Notch と Wnt シグナル伝達における細胞型特異的な機能  
○Tomoko Yamakawa, Kenji Matsuno (Dept. of Biol. Sci., Grad. school of Sci., Osaka Univ.)
- P046 (OP05-03)** Spatial regulation of Wnt proteins and planar cell polarity in *Xenopus* early embryogenesis  
アフリカツメガエル初期発生における Wnt 蛋白質の空間的制御と平面細胞極性  
○Yusuke Mii<sup>1,2,3</sup>, Ritsuko Takada<sup>1,2</sup>, Makoto Matsuyama<sup>4</sup>, Shinji Takada<sup>1,2,3</sup> (NIBB<sup>1</sup>, OIIB<sup>2</sup>, SOKENDAI<sup>3</sup>, Shigei Medical Research Institute<sup>4</sup>)
- P047** Functional screening of maternal factors and analysis of metaphase arrest of meiosis in the appendicularian, *Oikopleura dioica*  
ワカレオタマボヤを用いた母性因子の機能的スクリーニングおよび減数分裂停止機構の解析  
○Masaki Matsuo, Tatsuya Omotezako, Takeshi Onuma, Hiroki Nishida (Lab of Developmental Biology, Osaka Univ.)
- P048** What is the factors which function during early dorsal determination in zebrafish?  
ゼブラフィッシュ初期背腹軸形成に機能する因子は何か?  
○Hiromu Hino<sup>1,2</sup>, Tsubasa Aoki<sup>1,2</sup>, Akiko Nakanishi<sup>2</sup>, Ryoko Seki<sup>2</sup>, Atsuo Kawahara<sup>3</sup>, Takashi Shimizu<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (Grad. Sch. Sci., Nagoya Univ.<sup>1</sup>, BBC<sup>2</sup>, Grad. Sch. Med. Yamanashi Univ.<sup>3</sup>)
- P049** Expression and Function of Murine *Sox17* and *Sox7* Genes in Extra-embryonic Endoderm from Early to Late Organogenetic Stages.  
早期から後期の器官形成期におけるマウス *Sox17* および *Sox7* の胚体外内胚葉での発現と機能  
○Hitomi Igarashi<sup>1</sup>, Yoshikazu Hirate<sup>2</sup>, Mami Uemura<sup>2</sup>, Hiroki Higashiyama<sup>1</sup>, Ryuto Hiramatsu<sup>1</sup>, Saki Segami<sup>1</sup>, Masamichi Kurohmaru<sup>1</sup>, Masami

Kanai-Azuma<sup>2</sup>, Yoshiakira Kanai<sup>1</sup> (Dept Vet Anat, Univ Tokyo<sup>1</sup>, Cent for Exp Anim, TMDU<sup>2</sup>)

**P050**  
**(OP05-02)**

Membrane invagination-mediated posterior ciliary positioning is involved in the neurula rotation related to establish left-right asymmetry in ascidian embryo

膜構造を介した後方に偏った繊毛がホヤ左右軸決定に重要な神経胚回転に関わる

○Takefumi Negishi<sup>1</sup>, Naoto Ueno<sup>1,2</sup> (NIBB<sup>1</sup>, SOKENDAI<sup>2</sup>)

**P051**  
**(OP05-06)**

*Mesp1* is a canonical Wnt target gene during early mesoderm formation

*Mesp1*の発現は初期中胚葉形成において古典的 Wnt シグナルによって制御される

○Rieko Ajima, Yumiko Saga (NIG)

**P052**

Involvement of *Tmem150b* during *Xenopus* convergent extension

○Byeong-Rak Keum, Inchul Yeo, Lee Hyeyoon, Jin-Kwan Han (POSTECH)

**P053**

Ripply2-mediated *Xbra* inhibition is required for proper head development

○Inchul Yeo, Jin-Kwan Han (POSTECH)

**P054**

Study of the molecular pathology of the human peroxisomal biogenesis disorder using zebrafish

ゼブラフィッシュを用いたペルオキシソーム形成異常症発症機構の解明

○Shoko Takemoto<sup>1</sup>, Kayoko Toyoshi<sup>1</sup>, Haruka Fujita<sup>2</sup>, Akiko Ohba<sup>1</sup>, Kentaro Oh-Hashi<sup>2</sup>, Yoko Hirata<sup>2</sup>, Nobuyuki Shimozawa<sup>1</sup>, Shigeo Takashima<sup>1</sup> (Div Gen Res, Life Sci Res Ctr, Gifu Univ<sup>1</sup>, Dept Chem Biomol Sci, F Eng, Gifu Univ<sup>2</sup>)

**P055**  
**(OP04-08)**

Anaerobic glucose metabolism regulates neural tube formation

嫌氣的解糖系による神経管閉鎖制御

○Daisuke Sakai (Doshisha University)

**P056**

Vitamin A absorption and metabolism in lamprey

ヤツメウナギにおけるビタミン A の吸収と代謝

○Yoshihiro Mezaki, Takahiro Masaki, Tomokazu Matsuura (Dep. Lab.)

Med., Jikei Univ.)

**P057**

RNA Polymerase II stalls at transcription start sites before zygotic genome activation in the ascidian embryo

ホヤ胚において胚性のゲノム活性化以前では RNA ポリメラーゼ II が転写開始点付近で停止している

○Tatsuro Ikeda<sup>1,2</sup>, Yutaka Satou<sup>1</sup> (Dept. Zool., Grad. Sch. Sci., Kyoto Univ.<sup>1</sup>, Present affiliation: NIBB<sup>2</sup>)

**P058**

DNA methylation in *Aeolosoma viride* regeneration

○Hung-Wen Kuo<sup>1,2</sup>, Fei-Man Hsu<sup>2</sup>, Chung-Yen Lin<sup>3</sup>, Liuh-Yow Chen<sup>4</sup>, Jiun-Hong Chen<sup>1</sup>, Pao-Yang Chen<sup>2</sup> (Department of Life Science, NTU<sup>1</sup>, IPMB, AS<sup>2</sup>, IIS, AS<sup>3</sup>, IMB, AS<sup>4</sup>)

**P059**

Plant-parasitic nematodes activate the procambium genes in the feeding site on infection

植物寄生性線虫は寄生領域で前形成層遺伝子を活性化する

○Yasuka Yamaguchi<sup>1</sup>, Reira Suzuki<sup>1</sup>, Javier Cabrera<sup>2</sup>, Tomomi Sagara<sup>1</sup>, Satoru Nakagami<sup>1</sup>, Chika Ejima<sup>1</sup>, Ryouyusuke Sano<sup>3</sup>, Yuichi Aoki<sup>4</sup>, Tetsuya Kurata<sup>5</sup>, Takeshi Obayashi<sup>4</sup>, Taku Demura<sup>3</sup>, Carolina Escobar<sup>2</sup>, Takashi Ishida<sup>1</sup>, Shinichiro Sawa<sup>1</sup> (FAST, Kumamoto Univ.<sup>1</sup>, Facultad de Ciencias del Medio Ambiente, Univ. de Castilla-La Mancha, Spain<sup>2</sup>, Graduate school of biological science, NAIST<sup>3</sup>, Graduate School of Information Sciences, Tohoku Univ.<sup>4</sup>, Plant Global Education Project, NAIST<sup>5</sup>)

**P060**  
**(OP09-03)**

Independent subfunctionalization of brachyury paralogs in vertebrate lineages

脊椎動物各系統における brachyury パラログの独立した機能分化

○Yuuri Yasuoka, Noriyuki Satoh (OIST)

**P061**

Expression patterns of netrins and netrin receptors in early embryonic development of the leech

○Jun-Ru Lee, Dian-Han Kuo (Department of Life Sci. College of Life Sci. NTU)

**P062**

Evolution and function of sterol sensing domain protein patched-related (PTR)

ステロールセンシングドメイン蛋白 patched-related (PTR) の進化と機能

○Yoshiro Nakano<sup>1</sup>, Naoto Juni<sup>2</sup>, Masato Umeda<sup>2</sup> (Dept. of Genet., Hyogo Coll. of Med.<sup>1</sup>, Dept. Synth. Chem. and Biol. Chem., Grad. Sch. of Eng., Kyoto Univ.<sup>2</sup>)

**P063**

Homeobox code in the jaw primordia of marsupial opossum (*Monodelphis domestica*) may represent the prototypical state for the heterodont dentition of mammals

有袋類ハイイロジネズミオポッサムの顎原基におけるホメオボックスコードの発現は哺乳類の異形歯性の原型を示す

○Yoshio Wakamatsu<sup>1</sup>, Shiro Egawa<sup>2</sup>, Yukari Terashita<sup>3</sup>, Noriko Osumi<sup>1</sup>, Hiroshi Kawasaki<sup>3</sup>, Koji Tamura<sup>2</sup>, Kunihiro Suzuki<sup>4</sup> (Dept. Dev. Neurosci., Tohoku Univ., Grad. Sch. Med.<sup>1</sup>, Dept. Dev. Biol. Neurosci., Tohoku Univ., Grad. Sch. Life Sci.<sup>2</sup>, Dept. Med. Neurosci., Kanazawa Univ., Grad. Sch. Med.<sup>3</sup>, Dept. Biol., Nihon Univ., Sch. Dent. Matsudo<sup>4</sup>)

**P064**

Toward understanding the mechanisms underlying phenotypic plasticity of sponges-1: Approach by single-spicule mechanical wobbling in *E.fluviatilis*

カイメンの表現型可塑性はどのような機構で成り立っているか？

1:*E.fluviatilis*を用いた1本の骨片を機械的に揺らす実験系によるアプローチ

○Sota Takagi<sup>1</sup>, Masashi Tanimoto<sup>2</sup>, Noriko Funayama<sup>1</sup> (Dep. Biophysics, Grad. School of Science, Kyoto Univ.<sup>1</sup>, Div. Biological Science, Grad. School of Science, Nagoya Univ.<sup>2</sup>)

**P065**  
**(OP09-09)**

The evolution of acetabular morphogenesis on the line to extant birds  
鳥類の系統における寛骨臼の形態形成の進化

○Shiro Egawa<sup>1</sup>, Gembu Abe<sup>1</sup>, Daisuke Saito<sup>1,2</sup>, Koji Tamura<sup>1</sup> (Grad. Sch. of Life Sci, Tohoku Univ.<sup>1</sup>, FRIS, Tohoku Univ.<sup>2</sup>)

**P066**  
**(SW-7)**

Importance of frogs as an experimental model for evo-devo study of interdigital cell death and webbing formation

指間細胞死と水かき形成の進化発生学的研究のためのモデル実験系としてのカエル類の重要性

○Akio Nishikawa<sup>1</sup>, Sairi Miyata<sup>1</sup>, Tomoe Kawakami<sup>1</sup>, Yuuto Hikiji<sup>1</sup>, Ichiro Tazawa<sup>2</sup>, Shigenobu Tone<sup>3</sup> (Dept. of Biol. Sci., Fac. of Life & Environ. Sci., Shimane Univ.<sup>1</sup>, Amphibian Res. Center, Hiroshima Univ.<sup>2</sup>, Lab. Mol. Dev. Biol., Grad. Sch. of Sci. and Eng. Tokyo Denki Univ.<sup>3</sup>)

- P067** Differing contributions of the first and second pharyngeal arches to tympanic membrane formation in the mouse and chick  
 マウスとニワトリの鼓膜形成では異なる咽頭弓の発生プログラムが関与する  
 ◯Masaki Takechi<sup>1</sup>, Toshiko Furutera<sup>1</sup>, Taro Kitazawa<sup>2,3</sup>, Junko Takei<sup>1</sup>, Takahiko Yamada<sup>1</sup>, Filippo Rijli<sup>3</sup>, Hiroki Kurihara<sup>2</sup>, Shigeru Kuratani<sup>4</sup>, Sachiko Iseki<sup>1</sup> (Grad Sch Med Dent Sci, TMDU<sup>1</sup>, Grad Sch Med, Univ of Tokyo<sup>2</sup>, FMI, Switzerland<sup>3</sup>, Evol Morph Lab, RIKEN<sup>4</sup>)
- P068**  
**(OP09-10)** Integration of distinct developmental systems in the vertebrate pharyngeal arch segmentation and evolution  
 脊椎動物咽頭弓の分節形成と進化における異なる発生システムの統合  
 ◯Kazunori Okada<sup>1,2</sup>, Shinji Takada<sup>1,2</sup> (NIBB<sup>1</sup>, OIIB<sup>2</sup>)
- P069** Enhancer activities of *Amphioxus* two *Brachyury* genes  
 ナメクジウオの二つの *Brachyury* 遺伝子のエンハンサー機能解析  
 ◯Hitoshi Tominaga<sup>1</sup>, Noriyuki Satoh<sup>2</sup>, Naoto Ueno<sup>3</sup>, Hiroki Takahashi<sup>4</sup> (SOKENDAI<sup>1</sup>, OIST<sup>2</sup>, NIBB, SOKENDAI<sup>3</sup>, NIBB, SOKENDAI<sup>4</sup>)
- P070** Toward understanding the mechanisms underlying phenotypic plasticity of sponges-2: Approach using original system to observe skeleton construction under constant water flow  
 カイメンの表現型可塑性はどのような機構で成り立っているか？  
 2: 一定水流下におけるカイメン骨片骨格形成過程のライブイメージングによるアプローチ  
 ◯Goshi Ogita<sup>1</sup>, Akihiro Itoigawa<sup>1</sup>, Yasutetsu Kanaoka<sup>1</sup>, Takeo Matsumoto<sup>2</sup>, Noriko Funayama<sup>1</sup> (Dep. Biophysics, Grad. School of Science, Kyoto Univ.<sup>1</sup>, Dept of Mech Sci & Eng, Grad Sch of Eng, Nagoya Univ<sup>2</sup>)
- P071** Functional analysis of a Hox gene, *abdominal-A*, in the cricket *Gryllus bimaculatus* using a CRISPR/Cas9-mediated gene knock-in system  
 CRISPR-Cas9 ノックインシステムを用いたフタホシコオロギにおける Hox 遺伝子 *abdominal-A* の機能解析  
 ◯Mayuko Matsuda<sup>1</sup>, Yuji Matsuoka<sup>2</sup>, Yoshiyasu Ishimaru<sup>1</sup>, Sayuri Tomonari<sup>1</sup>, Takahito Watanabe<sup>1</sup>, Sumihare Noji<sup>3</sup>, Taro Mito<sup>1</sup> (Inst. Tech.

and Sci., Tokushima Univ.<sup>1</sup>, Dept. Biol. Sci., National University of Singapore<sup>2</sup>, Tokushima Univ.<sup>3</sup>)

**P072** *even-skipped* is required for segmentation and elongation of embryos in the cricket *Gryllus bimaculatus* revealed by CRISPR/Cas9-based gene knock-out

フタホシコオロギにおいて *even-skipped* は胚の体節構造の形成と伸長に必要である

○Yu-Ki Nakamura<sup>1</sup>, Kohei Kawamoto<sup>1</sup>, Sayuri Tomonari<sup>1</sup>, Mayuko Matsuda<sup>1</sup>, Takahito Watanabe<sup>1</sup>, Yoshiyasu Ishimaru<sup>1</sup>, Natsuki Uemura<sup>1</sup>, Sumihare Noji<sup>2</sup>, Taro Mito<sup>1</sup> (Inst. Tech. and Sci., Tokushima Univ.<sup>1</sup>, Tokushima Univ.<sup>2</sup>)

**P073** Identify germ granule-enriched transcripts in amphioxus by single cell transcriptome profiling

○Che-Yi Lin<sup>1</sup>, Mei-Yeh Lu<sup>2</sup>, Jia-Xing Yue<sup>3</sup>, Kun-Lung Li<sup>1</sup>, Yann Le Petillon<sup>1</sup>, Luok Wen Yong<sup>1</sup>, Fu-Yu Tsai<sup>4</sup>, Yu-Fen Lu<sup>1</sup>, Sheng-Ping Hwang<sup>1</sup>, Yi-Hsien Su<sup>1</sup>, Jr-Kai Yu<sup>1</sup> (ICOB, Academia Sinica, Taiwan<sup>1</sup>, BRC, Academia Sinica, Taiwan<sup>2</sup>, IRCAN, France<sup>3</sup>, LS, National Taiwan University, Taiwan<sup>4</sup>)

**P074** Analysis of developmental sequence heterochronies in teleost fishes  
真骨魚類における発生シークエンスのヘテロクローニー解析

○Fumihito Ito (SOKENDAI)

**P075** How did the weakly electric mormyrid fish *Gnathonemus petersii* evolve a large and foliated cerebellum?

弱電気魚モルミルス *Gnathonemus petersii* はどのようにして、巨大で葉状構造を持つ小脳へと進化させてきたのか?

○Koji Matsuda<sup>1,2</sup>, Yoshimasa Sakakibara<sup>2</sup>, Yuichiro Hara<sup>3</sup>, Shigehiro Kuraku<sup>3</sup>, Takashi Shimizu<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (BBC., Nagoya Univ.<sup>1</sup>, Grad. Sch. Sci., Nagoya Univ.<sup>2</sup>, RIKEN CLST<sup>3</sup>)

**P076** Identification of the counterpart of *Xenopus* dicalcin in the mouse reproductive tract

マウス卵丘細胞膜に存在する受精調節因子の同定

○Naofumi Miwa, Mayu Hanaue, Ken Takamatsu (Toho Univ., Dept. Physiol.)

**P077**  
**(OP07-07)** Testing the possible impact of maternal cells on development, case of

the neonatal liver disorder biliary atresia

○Flore Castellan, Naoki Irie (Dept. of Biol. Sciences, University of Tokyo)

**P078**

Ovarian structure and germ plasm components of *Forcipomyia taiwana* (Shiraki) (Diptera: Ceratopogonidae)

Szu-Chieh Wang<sup>1</sup>, Preethi Krishnaraj<sup>1</sup>, Anna Radhakrishnan<sup>1,2</sup>, Guan-Yu Chen<sup>3</sup>, ○Ming-Der Lin<sup>1,3</sup> (MBHG, Tzu-Chi Univ. Taiwan<sup>1</sup>, GE, SRM Univ. India<sup>2</sup>, LS, Tzu-Chi Univ. Taiwan<sup>3</sup>)

**P079**  
**(OP07-06)**

Significance of Cav3.2 and TRPV4 in the adaptation of intracellular signaling for motility regulation to various reproductive environments in amphibian sperm

両生類精子運動調節の細胞内信号伝達の生殖環境に対する適応における Cav3.2 と TRPV4 の重要性

Tae Sato<sup>1</sup>, Maako Kawamura<sup>1</sup>, Eriko Takayama-Watanabe<sup>2</sup>, ○Akihiko Watanabe<sup>1</sup> (Fac. of Sci., Yamagata Univ.<sup>1</sup>, Inst. of Arts & Sic., Yamagata Univ.<sup>2</sup>)

**P080**  
**(OP07-08)**

Dullard deficiency causes hemorrhage in the adult ovarian follicles

Dullard 欠損は、成体の卵巣濾胞において、出血性嚢胞を引き起こす

○Tadayoshi Hayata<sup>1,2</sup>, Masahiko Chiga<sup>3,4</sup>, Yoichi Ezura<sup>2</sup>, Makoto Asashima<sup>5</sup>, Hidetaka Katabuchi<sup>4</sup>, Ryuichi Nishinakamura<sup>3</sup>, Masaki Noda<sup>2,6</sup> (Dept. of Biol. Sig. Reg., Faculty of Med. Univ. of Tsukuba<sup>1</sup>, Dept. of Mol. Pharmacol., Med. Res. Inst., TMDU<sup>2</sup>, Dept. of Kidney Dev., IMEG, Kumamoto Univ.<sup>3</sup>, Dept. of OB-GYN, Faculty of Life Sci., Kumamoto Univ.<sup>4</sup>, Tokyo Univ. of Sci.<sup>5</sup>, Yokohama City Minato Red Cross Hospital<sup>6</sup>)

**P081**  
**(OP07-10)**

Induction of spermatogenesis in explanted fetal mouse testis tissues by organ culture method

胎仔マウス精巣を用いた器官培養法による精子形成の誘導

○Kazuaki Kojima<sup>1</sup>, Takuya Sato<sup>1</sup>, Yuta Naruse<sup>1</sup>, Takehiko Ogawa<sup>1,2</sup> (Graduate school of medical life science, Yokohama city university<sup>1</sup>, Institute of Molecular Medicine and Life Science, YCU<sup>2</sup>, Department of Urology, YCU<sup>3</sup>)

**P082**

The establishment of quail primordial germ cell culture system

トランスジェニックウズラ作製に向けた始原生殖細胞培養法の開発

○Daisuke Saito (FRIS, Tohoku univ.)

**P083**

Testicular organ culture reveals multiple temperature thresholds in mouse spermatogenesis

器官培養が明らかにしたマウス精子形成の分化過程に存在する多段階温度閾値

○Kodai Hirano<sup>1,2</sup>, Yuta Nonami<sup>1,2</sup>, Takuya Sato<sup>3,4</sup>, Takehiko Ogawa<sup>3,4</sup>, Shosei Yoshida<sup>1,2</sup> (Department of Basic Biology, SOKENDAI<sup>1</sup>, Division of Germ Cell Biology, NIBB<sup>2</sup>, Laboratory of Proteomics, Institute of Molecular Medicine and Life Science, Yokohama City University Association of Medical Science<sup>3</sup>, Department of Urology, Yokohama City University Graduate School of Medicine<sup>4</sup>)

**P084**

Screening for extracellular matrix factors that may concern in mouse male fertility

マウス雄妊孕性に関わる細胞外マトリックス関連因子の探索

○Daiji Kiyozumi, Tomohiro Tobita, Ryo Yamaguchi, Masaru Okabe, Masahito Ikawa (RIMD, Osaka Univ.)

**P085**  
**(OP07-09)**

Morphological diversity of seminal receptacles of species among genus *Drosophila*

ショウジョウバエ属に見られる管状受精嚢の形態的多様性

○Tatsuhiko Noguchi (NDMC, Biology)

**P086**  
**(OP07-04)**

Homing efficiency and behavior of mouse spermatogenic stem cells following transplantation

マウス精子幹細胞のホーミング効率と振舞い

○Yoshiaki Nakamura<sup>1,2</sup>, Yayoi Kon<sup>1</sup>, Shosei Yoshida<sup>1</sup> (Div. Germ Cell Biology, NIBB<sup>1</sup>, JSPS research fellow<sup>2</sup>)

**P087**  
**(OP07-05)**

Requirement of DDX6-mediated P-body formation in male germ cell development

雄性生殖細胞発生における DDX6 を介した P-body の必要性

○Ryuki Shimada<sup>1</sup>, Yumiko Saga<sup>1,2</sup> (SOKENDAI<sup>1</sup>, Division of Mammalian Development, National Institute of Genetics<sup>2</sup>)

**P088**

Zebrafish model revealed the functional time window of POLR1C on facial development

Jeff Ch Ho<sup>2</sup>, Ernest Ml Kwong<sup>2</sup>, ○William Kf Tse<sup>1</sup> (Agr, Kyushu Univ<sup>1</sup>, Dept. Biol, HKBU<sup>2</sup>)

**P089**  
**(OP02-04)**

Disruption of Tsukushi leads to hydrocephalus by aberrant neurogenesis

Tsukushi の欠損は神経発生の異常による水頭症を発症させる

○Naofumi Ito<sup>1</sup>, Mohammad Riyadh<sup>1</sup>, Ayako Ito<sup>1</sup>, Shah Ishtiyaq<sup>1</sup>, Mohammad Anam<sup>1</sup>, Yohei Shinmyo<sup>2</sup>, Athary Felemban<sup>1</sup>, Jun Hatakeyama<sup>3</sup>, Kenji Shimamura<sup>3</sup>, Kazunobu Sawamoto<sup>4</sup>, Kunimasa Ohta<sup>1</sup> (Kumamoto University, Dev. neurobiol.<sup>1</sup>, Kanazawa Univ.<sup>2</sup>, Kumamoto Univ.<sup>3</sup>, Nagoya City Univ.<sup>4</sup>)

**P090**

Reelin signaling is involved in layer and neural circuit formation in the cerebellum and the optic tectum in zebrafish

Reelin シグナルはゼブラフィッシュ小脳および視蓋の層形成に関与する

○Takayuki Nimura<sup>1</sup>, Vincenzo Di Donato<sup>2</sup>, Takuto Hayashi<sup>1</sup>, Miki Takeuchi<sup>3</sup>, Takashi Shimizu<sup>1,3</sup>, Filippo Del Bene<sup>2</sup>, Masahiko Hibi<sup>1,3</sup> (Graduate School of Science, Nagoya Univ.<sup>1</sup>, Université Pierre et Marie Curie<sup>2</sup>, Bioscience and Biotechnology Center, Nagoya Univ.<sup>3</sup>)

**P091**

Neural specific kinase promotes early neural development in *Xenopus* embryos

○Nusrat Jahan<sup>1</sup>, Regina Putri Virgiri<sup>1</sup>, Kimiko Takebayashi-Suzuki<sup>1</sup>, Maya Okada<sup>1</sup>, Hitoshi Yoshida<sup>1</sup>, Hajime Akao<sup>1</sup>, Fatchiyah Fatchiyah<sup>2</sup>, Naoto Ueno<sup>3</sup>, Atsushi Suzuki<sup>1</sup> (Amphibian Research Center, Grad. Sch. Sci., Hiroshima Univ.<sup>1</sup>, Faculty Sci., Brawijaya Univ.<sup>2</sup>, Div. Morphogenesis, Natl. Inst. Basic Biol.<sup>3</sup>)

**P092**

Gene expression profiling of zebrafish cerebellar neurons reveals possible mechanisms controlling neural circuit formation

ゼブラフィッシュ小脳ニューロンの遺伝子プロファイリングから明らかになる神経回路形成の分子メカニズム

○Miki Takeuchi<sup>1</sup>, Shingo Yamaguchi<sup>2</sup>, Yoshimasa Sakakibara<sup>2</sup>, Takuto Hayashi<sup>2</sup>, Koji Matsuda<sup>2</sup>, Yuichiro Hara<sup>3</sup>, Tetsutaro Hayashi<sup>3</sup>, Shigehiro Kuraku<sup>3</sup>, Takashi Shimizu<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (BBC, Nagoya Univ.<sup>1</sup>, Grad. Sch. Sci., Nagoya Univ.<sup>2</sup>, RIKEN CLST<sup>3</sup>)

**P093**

Lineage analysis of Ripply3 expressing cells in the mouse development

マウス胚発生における Ripply3 発現細胞の系譜解析

○Tadashi Okubo<sup>1</sup>, Keiko Hara<sup>1</sup>, Masaya Kano<sup>1</sup>, Shinji Takada<sup>2</sup> (Lab. Ani-

mal Sci. Kitasato Univ. School of Medicine<sup>1</sup>, Okazaki Inst. Integ. Biosci, NINS<sup>2</sup>)

**P094**

Roles of Ptf1a and Gsx2 in development of inferior olive nucleus neurons in zebrafish

ゼブラフィッシュの下オリーブ核ニューロンの発生を制御する Ptf1a および Gsx2 の機能解析

○Tsubasa Ito<sup>1</sup>, Miki Takeuchi<sup>1,2</sup>, Marina Sakagami<sup>1</sup>, Kazuhide Asakawa<sup>3</sup>, Koichi Kawakami<sup>3</sup>, Takashi Shimizu<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (Grad. School of Science, Nagoya Univ.<sup>1</sup>, Bioscience and Biotechnology Center, Nagoya Univ.<sup>2</sup>, National Institute of Genetics<sup>3</sup>)

**P095**

Foxp1-expressing motor neurons undergo apoptosis dependently on the Hox expression pattern in the cervical spinal cord of chick embryo

ニワトリ胚頸髄において Foxp1 陽性細胞は Hox の発現パターンに依存してアポトーシスを起こす

○Katsuki Mukaigasa, Chie Sakuma, Hiroyuki Yaginuma (Fukushima Med. Univ.)

**P096**

Coordinated regulation between survivin and epo expression promotes neuronal differentiation

○Hsin-Yu Chung<sup>1</sup>, Chin-Hwa Hu<sup>1,2</sup> (Dep, Biosci. Biotech., Natl Taiwan Ocean Univ.<sup>1</sup>, CEO, Natl Taiwan Ocean Univ.<sup>2</sup>)

**P097**

Visualization of the parasympathetic nervous system in the lung of chicken embryos

肺における副交感神経ネットワーク形成過程の可視化

○Tadayoshi Watanabe<sup>1</sup>, Takahiro Kiyomoto<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Yuta Takase<sup>1</sup>, Etsuo A. Susaki<sup>2,3,4</sup>, Hiroki R. Ueda<sup>2,3</sup>, Yoshiko Takahashi<sup>1</sup> (Department of Zoology, Graduate School of Science, Kyoto University<sup>1</sup>, Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo<sup>2</sup>, Laboratory for Synthetic Biology, RIKEN Quantitative Biology Center (QBiC)<sup>3</sup>, PRESTO, Japan Science and Technology Agency<sup>4</sup>)

**P098**

Antero-posterior positional information is maintained in sacral-level neural crest cells when they form parasympathetic Remak's ganglia in chicken embryos

副交感 Remak 神経節形成時における細胞の前後軸に沿った位

## 置情報の維持

○Yuuki Shikaya<sup>1</sup>, Tadayoshi Watanabe<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Yuta Takase<sup>1</sup>, Etsuo A Susaki<sup>2,3,4</sup>, Hiroki R Ueda<sup>2,3</sup>, Yoshiko Takahashi<sup>1</sup> (Department of Zoology, Graduate School of Science, Kyoto University<sup>1</sup>, Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo<sup>2</sup>, Laboratory for Synthetic Biology, RIKEN Quantitative Biology Center (QBiC)<sup>3</sup>, PRESTO, Japan Science and Technology Agency<sup>4</sup>)

## **P099** The cerebellar granule cells control recovery from classical conditioned fear responses in zebrafish

ゼブラフィッシュ恐怖条件付け学習における小脳の役割

○Takashi Shimizu<sup>1,2</sup>, Koji Matsuda<sup>1,2</sup>, Koichi Kawakami<sup>3</sup>, Masayuki Yoshida<sup>4</sup>, Masahiko Hibi<sup>1,2</sup> (BBC, Nagoya Univ.<sup>1</sup>, Grad. Sch. Sci., Nagoya Univ.<sup>2</sup>, NIG<sup>3</sup>, Hiroshima Univ.<sup>4</sup>)

## **P100**

Establishment of the apico-basal polarity of neural tube-forming cells during mesenchymal-to-epithelial transition (MET) in secondary neurulation.

Secondary neurulation の間充織—上皮転換 (MET) における頂端—基底極性の確立

○Ryo Kudo, Teruaki Kawachi, Ryosuke Tadokoro, Yoshiko Takahashi (Kyoto university)

## **P101** Molecular mechanism of the layer-, column-specific targeting in the *Drosophila* visual system

ショウジョウバエ視神経系における層・カラム特異的投射の分子機構

○Hiroki Takechi, Satoko Hakeda-Suzuki, Takashi Suzuki (Suzuki Lab, Titech)

## **P102** Adult glial architectures are established by a plastic and robust developmental strategy in *Drosophila*

ショウジョウバエ成虫グリア網は可塑的な発生プログラムによって形成される

○Kentaro Kato, Masami Tomura, Takeshi Awasaki (Kyorin Univ Schl of Med)

## **P103** Critical role of En1-positive neurons for silencing slow-component neurons during fast swimming in zebrafish

En1 ニューロンは、速い運動の際に、遅い運動に関与するニューロンの活動を止めるのに必須の役割を果たす  
○Shin-Ichi Higashijima, Yukiko Kimura (OIBB, NIBB, NINS)

**P104** Lobe-less, a long noncoding RNA that regulates *Drosophila* mushroom body morphogenesis  
長鎖 noncoding RNA Lobe-less はショウジョウバエ中枢神経系において、キノコ体の軸索投射に寄与している  
○Sachi Inagaki<sup>1</sup>, Natsuki Nakamura<sup>2</sup>, Masanao Sato<sup>3</sup>, Satoru Kobayashi<sup>4</sup>, Mitsutaka Kadota<sup>5</sup>, Sean Keeley<sup>5</sup>, Shigehiro Kuraku<sup>5</sup>, Yuji Kageyama<sup>1,2</sup> (Biosignal Res. Ctr., Kobe University<sup>1</sup>, Dept. Biology, Kobe University<sup>2</sup>, Hokkaido University<sup>3</sup>, TARA<sup>4</sup>, CDB<sup>5</sup>)

**P105** Near-infrared upconversion nanoparticles for optogenetics  
近赤外光をアップコンバージョンするナノ粒子の光遺伝学への利用  
Keiko Umeda, ○Wataru Shoji (FRIS, Tohoku Univ.)

**P106** Characterization of RNA-binding protein NonO during retinal development in zebrafish  
ゼブラフィッシュ網膜形成における RNA 結合タンパク質 NonO の機能解析  
○Chisa Usami, Hiroshi Sakamoto, Kunio Inoue (Dept. Biol., Grad. Sch. Sci., Kobe Univ.)

**P107** Visualization of Neuregulin 1 ectodomain shedding in motor neurons in zebrafish  
ゼブラフィッシュを用いた運動神経におけるニューレグリン1の切断の可視化  
○Mai Tabuchi<sup>1,2</sup>, Aosa Kamezaki<sup>2</sup>, Fuminori Sato<sup>2</sup>, Kazuhiro Aoki<sup>3</sup>, Kazuhide Asakawa<sup>4</sup>, Koichi Kawakami<sup>4</sup>, Atsuko Schara-Fujisawa<sup>2</sup> (GSB, Kyoto Univ.<sup>1</sup>, IFMS, Kyoto Univ.<sup>2</sup>, NIBB<sup>3</sup>, NIG<sup>4</sup>, MPIHLR, Germany<sup>5</sup>)

**P108 (OP04-09)** The role of methionine metabolism during germline development in *Drosophila melanogaster*  
ショウジョウバエ生殖系列におけるメチオニン代謝の役割  
○Yoshiki Hayashi<sup>1</sup>, Chiyo Noda<sup>2</sup>, Satoru Kobayashi<sup>1</sup> (TARA center, Univ. of Tsukuba<sup>1</sup>, NIBB<sup>2</sup>)

- P109**  
**(OP05-10)** Tail reduction process during human embryonic development  
ヒト胚発生過程における尾部短縮過程の解明  
○Sayaka Tojima<sup>1</sup>, Haruyuki Makishima<sup>2</sup>, Shigehito Yamada<sup>2</sup> (Grad. Sch. of Med., Osaka City Univ.<sup>1</sup>, Grad. Sch. of Med., Kyoto Univ.<sup>2</sup>)
- P110** Valproic acid induces aberrant pattern of corticostriatal pathway in an animal model of autism spectrum disorder  
Kuo Hsiao-Ying, ○Liu Fu-Chin (INS, NYMU)
- P111**  
**(OP06-10)** Non-muscle Myosin II Deletion in the Developing Kidney Causes Ureter-bladder Misconnection and Apical Extrusion of the Nephric Duct Lineage Epithelia  
○Fahim Haque, Yusuke Kaku, Ryuichi Nishinakamura (Dept. of Kidney Development, IMEG, Kumamoto Univ.)
- P112**  
**(OP03-07)** How to encounter endothelial cells in deep tissues—mechanical interaction between endothelial cells and epithelial tube  
組織深部で血管内皮細胞が出会うためには～血管内皮と上皮管の力学的相互作用  
○Tsuayoshi Hirashima (Inst Front Life Med Sci, Kyoto Univ)
- P113** Regulation of neuro-sensory and non-sensory fate determination by Sox2 during otic development  
○Alexis Kok Ting Tam, Michael Wai Hung Kwong, Keith Kai Hung Leung, Kathryn Song Eng Cheah (SBMS, HKU)
- P114** SOX2-dependent determination of tissue identity in the foregut  
SOX2 による消化管前部における領域性の決定機構  
○Machiko Teramoto<sup>1</sup>, Ryo Sugawara<sup>1</sup>, Yasuo Ishii<sup>2</sup>, Atsushi Kuroiwa<sup>3</sup>, Hisato Kondoh<sup>1</sup> (KSU<sup>1</sup>, TWMU<sup>2</sup>, Nagoya Univ.<sup>3</sup>)
- P115** Embryonic region-dependent development and interactions of grafted Hensen's node with host tissues  
宿主胚領域に依存した、ヘンゼン結節移植片の自己発生と宿主組織との相互作用  
○Koya Yoshihi, Yasuo Ishii, Hisato Kondoh (Kyoto Sangyo Univ)
- P116**  
**(OP06-03)** Temporal Control of Tissue Maturation with Proliferation Reduction in developing trachea  
気管発生時にみられる、増殖低下を伴う組織成熟の経時的変

化とその制御機構の解明

○Hirofumi Kiyokawa, Keishi Kishimoto, Mitsuru Morimoto (CDB)

**P117**  
**(SW-4)**

Feather bud formation on limited domain of reassembled artificial skin

再構成した皮膚の限定された領域における羽毛原基形成

○Kentaro Ishida, Toshiyuki Mitsui (Dept. of Phys. & Math., Coll. of Sci. & Eng., Aoyama Gakuin Univ.)

**P118**

Zebrafish VCAP1X2 is essential for the proliferation and contractility of ventricular cardiomyocytes and proper epicardium development

○Fang-Chi Hsieh<sup>1,4</sup>, Yu-Fen Lu<sup>4</sup>, Chao-Min Cheng<sup>2</sup>, Chung-Der Hsiao<sup>3</sup>, Sheng-Ping L. Hwang<sup>4</sup> (GILS, National Defense Medical Center<sup>1</sup>, INM, National Tsing Hua Univ.<sup>2</sup>, DBT, Chung Yuan Christian Univ.<sup>3</sup>, ICOB, Academia Sinica<sup>4</sup>)

**P119**

VEGF-A misexpression in the epicardium of the avian heart results in connective tissue hyperplasia and ectopic vascular development

鳥類胚心臓心外膜での VEGF-A 強制発現は結合組織の過形成および異所性血管形成を引き起こす

○Yasuo Ishii<sup>1</sup>, Hirosato Konishi<sup>2</sup> (Dept. Biol., School Med., Tokyo Women's Med. Univ.<sup>1</sup>, Fac. Life Sci., Kyoto Sangyo Univ.<sup>2</sup>)

**P120**  
**(OP06-07)**

Cellular and molecular mechanisms for the establishment of the dorsal and ventral compartments in the teleost somite

真骨魚類体節の背腹コンパートメント形成における細胞・分子メカニズム

○Kota Abe<sup>1</sup>, Sayaka Tayama<sup>1</sup>, Sachiko Tsuda<sup>2</sup>, Atsuko Shimada<sup>1</sup>, Hiroyuki Takeda<sup>1</sup> (Laboratory of Embryology, University of Tokyo<sup>1</sup>, Laboratory of Developmental Biology, Saitama University<sup>2</sup>)

**P121**

Quantitative analysis of chondrogenic pattern in cultured limb mesenchymal cells

肢芽間充織培養系を用いた軟骨パターンの定量解析

○Keiichi Kitajima<sup>1</sup>, Naofumi Kawahira<sup>2</sup>, Gembu Abe<sup>1</sup>, Yoshihiro Morishita<sup>3</sup>, Koji Tamura<sup>1</sup> (Grad. Sch. of Life Sci., Tohoku Univ.<sup>1</sup>, Kyoto Univ.<sup>2</sup>, RIKEN QBiC<sup>3</sup>)

**P122**  
**(OP03-06)**

Oriented mesenchymal cells drive tracheal tubulogenesis

気管の管腔形成における間充織極性化の重要性

○Keishi Kishimoto, Mitsuru Morimoto (RIKEN CDB)

**P123**

The development of a novel tool to analyze cranial placode development

感覚器プラコードの発生を解析するための新たなツールの開発

○Shigeru Sato<sup>1</sup>, Yauhide Fruta<sup>2</sup>, Kiyoshi Kawakami<sup>1</sup> (Div. of Biol., Jichi Med. Univ.<sup>1</sup>, CLST RIKEN<sup>2</sup>)

**P124**  
**(OP06-08)**

Establishment of polarity of cilia orientation and cell elongation during the mouse oviduct development

マウス卵管の発生における繊毛と細胞伸長の極性形成

○Fumiko Usami<sup>1,2</sup>, Dongbo Shi<sup>2,3</sup>, Kagayaki Kato<sup>4</sup>, Toshihiko Fujimori<sup>1,2</sup> (Dept. of Basic Biol., School of Life Sci., SOKENDAI<sup>1</sup>, Div. of Embryology, NIBB<sup>2</sup>, COS, Heidelberg Univ<sup>3</sup>, Imaging Science, CNSI<sup>4</sup>)

**P125**

Genetic interactions between Ripply and Tbx6 in the somite segmentation and myogenesis in zebrafish embryos

Hirofumi Kinoshita<sup>1</sup>, Yuuri Fujino<sup>1</sup>, Nanae Ohgane<sup>1</sup>, Taijiro Yabe<sup>2</sup>, Daisuke Yokota<sup>1</sup>, Hioroki Ovara<sup>1</sup>, Ayaka Izuka<sup>1</sup>, Hiroyuki Ban<sup>1</sup>, Daichi Kage<sup>1</sup>, Kyo Yamsu<sup>1</sup>, Shinji Takada<sup>2</sup>, ○Akinori Kawamura<sup>1</sup> (Grad. Sch. Eng., Saitama Univ.<sup>1</sup>, NIBB<sup>2</sup>)

**P126**

Towards understanding the mechanisms that orchestrate directional migration and the following subsequent invasive migration between epithelial cells in sponge

芽球骨片運搬を担う細胞の「方向性を持った遊走」と「上皮細胞間への入り込み」が、形成中の芽球の殻への芽球骨片の順序だった埋め込みを実現する

○Kanji Nakagawa, Kiyoka Kinjyo, Noriko Funayama (Dept. Biophys. Grad. Sch. Sci., Kyoto Univ.)

**P127**

Expression analysis of Lhx1-downstream genes in the chick embryonic eye

Lhx1 下流遺伝子のニワトリ胚眼における発現解析

○Toshiki Kinuhata, Tetsuya Bando, Keita Sato, Yusuke Daido, Yoshimasa Hamada, Junji Inoue, Hideyo Ohuchi (Dept. Cyto. & Histo., Okayama Univ. Grad. Sch. Med. Dent. & Pharm.)

**P128**  
**(OP06-04)**

The role of diphthamide biosynthesis enzyme DPH1 in mouse car-

diac development

○Chun-Ming Chen<sup>1</sup>, Yi-Ru Yu<sup>1</sup>, Li-Ru You<sup>2</sup> (DLSIGS, National Yang-Ming University<sup>1</sup>, IBMB, National Yang-Ming University<sup>2</sup>)

**P129**  
**(OP03-09)**

Wnt signal is required for proper rearrangement and morphological change of roof plate cells in the formation of median septum of mouse spinal cord

Wnt シグナルは脊髄神経管中隔形成に必要である

○Takuma Shinozuka<sup>1,2</sup>, Ritsuko Takada<sup>2</sup>, Shinji Takada<sup>1,2</sup> (Dept. Basic Biology, SOKENDAI<sup>1</sup>, OIIB<sup>2</sup>)

**P130**

Comparison of cell proliferation control between leaves and flower organs in *Arabidopsis*

シロイヌナズナにおける葉と花器官の分裂制御の比較

○Ayaka Kinoshita<sup>1</sup>, Hirokazu Tsukaya<sup>1,2</sup> (Grad. Sch. Sci., Univ. Tokyo<sup>1</sup>, OIIB, NINS<sup>2</sup>)

**P131**

*Six1* regulates growth of dental papilla and lingual-labial asymmetry in the developing mandibular incisor

*Six1*は下顎切歯の発生において歯乳頭の成長と舌唇側上皮の非対称性形成を制御する

○Masanori Takahashi, Kiyoshi Kawakami (Div. of Biol. Cent. for Mol. Med. Jichi Med. Univ.)

**P132**

Reconstruction of tissue deformation dynamics for *Xenopus laevis* limb development from positional data of cells labeled by IR-LEGO system

アフリカツメガエルの四肢発生過程における組織変形動態の定量解析

○Aiko Kawasumi<sup>1</sup>, Koji Tamura<sup>2</sup>, Yasuhiro Kamei<sup>3</sup>, Yoshihiro Morishita<sup>1</sup> (RIKEN QBiC<sup>1</sup>, Grad. Sch. Life Sci., Tohoku Univ.<sup>2</sup>, NIBB<sup>3</sup>)

**P133**

*Ddx3x*, an X-linked member of DEAD box RNA helicase family, is required for craniofacial development

○Li-Ru You<sup>1</sup>, Ting-Chun Chan<sup>1</sup>, Chieh-Hsiang Chan<sup>1</sup>, Chun-Ming Chen<sup>2</sup> (IBMB, National Yang-Ming University<sup>1</sup>, DLS & IGS, National Yang-Ming University<sup>2</sup>)

**P134**

Patterning of the Cylindrical Unifacial Leaf Plant *Juncus torreyi* (Juncaceae)

○Xiaofeng Yin<sup>1</sup>, Hirokazu Tsukaya<sup>1,2</sup> (Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo<sup>1</sup>, OIIB, NINS<sup>2</sup>)

**P135** A small part of the endoblast contributes to the gut endoderm in the chicken embryo.

ニワトリ胚ではエンドブラストの一部が消化管内胚葉に寄与する

Marina Ikeno<sup>1</sup>, Federica Bertocchini<sup>2</sup>, ○Kimiko Fukuda<sup>1</sup> (Dept., Biol., Tokyo Metropol. Univ.<sup>1</sup>, IBBTEC<sup>2</sup>)

**P136 (OP03-03)** Blood flow and vascular remodeling: analyses of individual endothelial cell behaviors by in vivo live-imaging and mathematical approach

生体内血管リモデリング：ライブイメージングと数理解析からみる血管内皮細胞の挙動と血流の関係

○Yuta Takase<sup>1</sup>, Kenichi Nakazato<sup>2</sup>, Ryo Kudo<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Hiroshi Kokubu<sup>3</sup>, Atsushi Mochizuki<sup>2</sup>, Yoshiko Takahashi<sup>1</sup> (Dept. of Zoology, Grad. Sch. of Sci. Kyoto Univ.<sup>1</sup>, Theoretical Biology Laboratory, RIKEN<sup>2</sup>, Dept. Math, Grad. Sch. of Sci. Kyoto Univ.<sup>3</sup>)

**P137 (OP01-09)** Determination of mechanism for vascular remodeling from endothelial cellular behavior by fluid and solid mechanics

連続体力学を用いて血管リモデリングにおける内皮細胞の振る舞いを理解する

○Kenichi Nakazato<sup>1</sup>, Yuta Takase<sup>2</sup>, Yoshiko Takahashi<sup>2</sup>, Hiroshi Kokubu<sup>3</sup>, Atsushi Mochizuki<sup>1</sup> (Theoretical Biology Laboratory, RIKEN<sup>1</sup>, dept of zoology, grad school of science, Kyoto-univ<sup>2</sup>, dept of math, Kyoto-univ<sup>3</sup>)

**P138** Functional analyses of a novel vesicular membrane protein, TMEM141 affecting the survival rate during the growth stage in medaka (*Oryzias latipes*) larvae

メダカ稚魚の成長過程に関わる新規小胞膜分子 TMEM141 の機能解析

○Yasuhiro Tonoyama<sup>1</sup>, Tamami Adachi<sup>1</sup>, Atsushi Shimizu<sup>2</sup>, Atsushi Takayanagi<sup>3</sup> (Adv. Res. Ctr. GSP., Keio Univ.<sup>1</sup>, Div. Biomed. Info. Anal., Iwate Tohoku Med. Megabank. Org., Iwate Med. Univ.<sup>2</sup>, Lab. Gene Med., Keio Univ. Sch. Med.<sup>3</sup>)

**P139 (OP06-09)** Molecular mechanism to convert the segmentation clock into the seg-

mental pattern of somites in the zebrafish

分節時計によるゼブラフィッシュ体節分節境界形成の制御機構

○Taijiro Yabe, Shinji Takada (NIBB)

**P140**  
(SW-3)

*polished rice* is essential for tip cell specification and tubular fusion of dorsal branches in *Drosophila* tracheal system

ショウジョウバエ *polished rice* 遺伝子は背側気管支の先端細胞の分化および融合に必須である

○Yuki Taira<sup>1</sup>, Housei Wada<sup>3</sup>, Shigeo Hayashi<sup>3</sup>, Yuji Kageyama<sup>1,2</sup> (Kobe University<sup>1</sup>, Kobe University<sup>2</sup>, RIKEN, CDB<sup>3</sup>)

**P141**

Identification of Hox target genes involved in regulating the autopod-specific patterning and growth of cartilage

自脚骨形成に関与する Hox 標的遺伝子の同定

○Shiori Yamamoto<sup>1</sup>, Nayuta Yakushiji-Kaminatsui<sup>2</sup>, Yo-Ichi Shiraishi<sup>1</sup>, Atsushi Kuroiwa<sup>1</sup> (Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.<sup>1</sup>, Sch. of Life Sci., EPFL<sup>2</sup>)

**P142**

Anatomical integration of the sacral-hindlimb unit coordinated by GDF11 enables the evolutionary diversification of hindlimb positioning in tetrapods

GDF11 による仙椎一後肢ユニットの位置の解剖学的統合が四肢動物における後肢の位置の多様性を生み出す

Yoshiyuki Matsubara<sup>1</sup>, Tatsuya Hirasawa<sup>2</sup>, Shiro Egawa<sup>3</sup>, Ayumi Hattori<sup>4</sup>, Takaya Suganuma<sup>1</sup>, Yuhei Kohara<sup>1</sup>, Tatsuya Nagai<sup>1</sup>, Koji Tamura<sup>3</sup>, Shigeru Kuratani<sup>2</sup>, Atsushi Kuroiwa<sup>1</sup>, ○Takayuki Suzuki<sup>1</sup> (Div. of Biol. Sci., Nagoya Univ.<sup>1</sup>, RIKEN<sup>2</sup>, Grad. Sch. of Life Sci., Tohoku University<sup>3</sup>, IDAC, Tohoku University<sup>4</sup>)

**P143**

3-dimensional visualization of morphogenesis reveals novel contribution of visceral muscles to the left-right asymmetric development in *Drosophila*

○Dongsun Shin<sup>1</sup>, Yoshitaka Morishita<sup>1</sup>, Mototsugu Eiraku<sup>2</sup>, Kenji Matsuno<sup>1</sup> (Department of Biological Science, Graduate School of Science, Osaka University<sup>1</sup>, RIKEN Center for Developmental Biology<sup>2</sup>)

**P144**

Functional verification of each Msx homology domain of Msx1 gene for tooth morphogenesis using CRISPR/Cas system

CRISPR/Cas システムを用いた Msx1 遺伝子各ドメインの歯の発生における機能検証

○Akihiro Yasue<sup>1</sup>, Daishi Arai<sup>1</sup>, Silvia Mitsui<sup>1</sup>, Seiichi Oyadomari<sup>2</sup>, Eiji Tanaka<sup>1</sup> (Dept. of Orthod., Inst. of Health Biosci., Tokushima Univ<sup>1</sup>, Div. of Mol. Biol., Institute of Adv. Enzyme Res., Tokushima Univ.<sup>2</sup>)

**P145**  
**(SW-2)**

Functional analysis of the limb mesenchyme specific enhancer of *Fgf10*

*Fgf10* 肢芽間充織特異的エンハンサーの機能の解明

○Tomohiro Takenaka<sup>1</sup>, Tatsuya Takemoto<sup>2</sup>, Yo-Ichi Shiraishi<sup>1</sup>, Chisa Andoh<sup>1</sup>, Shiori Yamamoto<sup>1</sup>, Atsushi Kuroiwa<sup>1</sup> (Div. of Biol. Sci., Sch. of Sci., Nagoya Univ<sup>1</sup>, IAMS, Tokushima Univ<sup>2</sup>)

**P146**

Identification of early progenitors for the cardiac conduction system in murine heart development

マウス胚心臓原基上における刺激伝導系前駆細胞の同定

○Akane Sakaguchi<sup>1</sup>, Hiroki Kokubo<sup>2</sup>, Yumiko Saga<sup>1,3</sup> (SOKENDAI<sup>1</sup>, Department of Cardiovascular Physiology and Medicine, Hiroshima University<sup>2</sup>, Division of Mammalian Development, National Institute of Genetics<sup>3</sup>)

**P147**

The planarian *Dugesia japonica* as a new model animal to understand molecular mechanisms underlying stable body proportioning

プラナリア (ナミウズムシ) を用いた体のプロポーションを保つ分子機構の解析

○Kazutaka Hosoda<sup>1</sup>, Takuya Kunimoto<sup>2</sup>, Osamu Nishimura<sup>2</sup>, Byulnim Hwang<sup>2</sup>, Minako Motoishi<sup>1</sup>, Shigenobu Yazawa<sup>2</sup>, Makoto Mochii<sup>1</sup>, Kiyokazu Agata<sup>2,3</sup>, Yoshihiko Umesono<sup>1</sup> (Grad. Sch. of Life Sci., Univ. of Hyogo<sup>1</sup>, Dept. of Biophys., Grad. Sch. of Sci., Kyoto Univ.<sup>2</sup>, Dept. of Life Sci., Fac. of Sci., Grad. Crse. in Life Sci., Grad. Sch. of Sci., Gakushuin Univ.<sup>3</sup>)

**P148**  
**(OP06-02)**

The mechanism about the cell autonomous generation of collagen crystal involved with fin skeletal development

魚類ヒレ骨形成において機能するコラーゲン結晶の自律的合成メカニズム

○Junpei Kuroda, Shigeru Kondo (FBS, Osaka univ)

**P149**

Epidermal reprogramming during limb regeneration of *Xenopus* froglet

アフリカツメガエル四肢再生における上皮細胞の脱分化  
○Akira Satoh (research Core for interdisciplinary Sciences (RCIS) )

**P150** Erythropoietin Produced by Genetic-modified NIH/3T3 Fibroblasts Facilitate Neurogenesis in a Rat Stroke Model  
○Pin-Chun Chou<sup>1</sup>, Li-Kai Tsai<sup>2</sup>, Chung-Liang Chien<sup>1</sup> (Graduate Institute of Anatomy and Cell Biology, College of Medicine, National Taiwan University, Taipei, Taiwan<sup>1</sup>, Department of Neurology and Stroke Center, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan<sup>2</sup>)

**P151** Visualization of cell-based positional information in connective tissue  
結合組織における細胞ベースの位置情報の可視化  
○Takayoshi Otsuka, David Gardiner (UC Irvine)

**P152** Positional memory during zebrafish fin regeneration  
ゼブラフィッシュひれ再生中の位置情報の解析  
○Eri Shibata, Atsushi Kawakami (LST, Titech)

**P153** Caudal fin morphology regenerates by recognizing amputated fin-ray length in zebrafish  
ゼブラフィッシュの尾鰭は切除された長さを認識することで元通りの形態を再生する  
○Toshiaki Uemoto, Gembu Abe, Koji Tamura (Grad Sch of Life Sci, Tohoku Univ)

**P154** Avi-caspase X Expression in Anterior Regeneration of *Aeolosoma viride* Is Regulated by the Wnt/ $\beta$ -Catenin Signaling Pathway  
○Sheridan Fok, Wei-Ting Yuch, Yi-Hua Chiang, Jiun-Hong Chen (Department of Life Science, NTU)

**P155** Cloning, Identification and Characterization of Two MyD88s during Anterior Regeneration in *Aeolosoma viride*  
○Chiao-Ping Chen, Jiun Hong Chen (LS, NTU)

**P156** Implicated role of hyaluronan signaling in adult epithelial development during intestinal remodeling in *Xenopus laevis*  
アフリカツメガエルの小腸再構築におけるヒアルロン酸シグナルの役割

○Kenta Fujimoto<sup>1</sup>, Takashi Hasebe<sup>1</sup>, Mitsuko Kajita<sup>2</sup>, Atsuko Ishizuya-Oka<sup>1</sup> (Dept. of Biol., Nippon Med. Sch.<sup>1</sup>, Dept. of Mol. Biol., Inst. for Adv. Med. Sci., Nippon Med. Sch.<sup>2</sup>)

**P157**  
(SW-5)

Leg regeneration is regulated by epigenetics depending on photoperiodism in the cricket *Modicogryllus siamensis*

光周期性依存的なエピジェネティクスはタンボコオロギの脚再生を制御する

○Yoshimasa Hamada<sup>1</sup>, Tetsuya Bando<sup>1</sup>, Kenji Tomioka<sup>2</sup>, Hideyo Ohuchi<sup>1</sup> (OKAYAMA UNIV., Grad. Sch. of Med. Dent. and Phar. Sci.<sup>1</sup>, OKAYAMA UNIV., Grad. Sch. of Nat. Sci. and Tech.<sup>2</sup>)

**P158**  
(OP05-08)

Loss-of-function and rescue analyses of immune T cells involved in *Xenopus* tail degeneration via Ouro antigens

ツメガエル尾の退縮に Ouro 抗原タンパク質を介して関わる免疫 T 細胞の機能阻害実験と回復実験

○Haruka Kobayashi, Yumi Izutsu (Dept. Biol., Fac. Sci., Niigata Univ.)

**P159**

Hyper innervation stimulate improvement of *Xenopus laevis* limb regeneration

神経の供給によるアフリカツメガエル四肢再生能力の向上

○Kazumasa Mitogawa, Aki Makanae, Akira Satoh (RCIS, Okayama Univ.)

**P160**

Small-scale culture system of bamboo sole (*Heteromycteris japonica*), a small-sized species of the Pleuroneciformes, and its metamorphic external asymmetry and pectoral fin loss

小型異体類ササウシノシタ、*Heteromycteris japonica*, 仔魚の小型飼育システムの構築と変態に伴う左右非対称性形成と胸鰭の消失

○Tohru Suzuki<sup>1</sup>, Quiran Chen<sup>1</sup>, Susumu Uji<sup>2</sup>, Hayato Yokoi<sup>1</sup> (Grad. Sch. of Agric. Sci., Tohoku Univ.<sup>1</sup>, Natl. Res. Inst. Aquaculture<sup>2</sup>)

**P161**  
(OP05-07)

Scaling of critical weight for metamorphosis in the genus *Drosophila*  
ショウジョウバエ属における変態のための臨界重量のスケーリング

○Ken-Ichi Hironaka<sup>1,2</sup>, Koichi Fujimoto<sup>1</sup>, Takashi Nishimura<sup>2</sup> (Dept. of Biol. Sci., Osaka Univ.<sup>1</sup>, RIKEN CDB<sup>2</sup>)

**P162**

Expression profiling of Japanese flounder abnormal pigmentation

caused by feeding conditions

給餌条件により生じるヒラメ体色異常についての遺伝子発現  
プロファイル解析

Minori Kunimasa<sup>1</sup>, <sup>○</sup>Hayato Yokoi<sup>1</sup>, Yoshifumi Sakai<sup>1</sup>, Tadahisa Seikai<sup>2</sup>,  
Tohru Susuki<sup>1</sup> (Grad Schl Agricul Sci, Tohoku Univ<sup>1</sup>, Fukui Pref Univ<sup>2</sup>)

**P163**

The formation of the presumptive pylorus region before gut metamorphosis in *Xenopus*

アフリカツメガエル消化管の変態前における予定幽門領域の形成

<sup>○</sup>Kei Nagura, Yumeko Satou, Masanori Taira (Lab. of Mol. Biol., Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo)

**P164**

MOLECULAR APPROACH TO UNDERSTANDING ECHINODERM REGENERATION

<sup>○</sup>Akari Okada, Paco Majic, Kensuke Takatani, Akihito Omori, Mariko Kondo (Misaki Marine Biological Station, Graduate School of Science, The University of Tokyo)

**P165**

Modeling of human somite patterning using hiPSC

ヒト iPS 細胞を用いた体節発生の再現

<sup>○</sup>Taiki Nakajima<sup>1</sup>, Mitsuaki Shibata<sup>1</sup>, Cantas Alev<sup>1</sup>, Makoto Fukuta<sup>1</sup>, Hidetoshi Sakurai<sup>1</sup>, Junya Toguchida<sup>1,2,3</sup>, Makoto Ikeya<sup>1</sup> (CiRA, Kyoto Univ.<sup>1</sup>, Department of Tissue Regeneration, Institute for Frontier Medical Sciences, Kyoto Univ.<sup>2</sup>, Department of Orthopedic Surgery, Graduate School of Medicine, Kyoto Univ.<sup>3</sup>)

**P166**

Establishment of neural progenitor cell lines with defined regional specificities from EpiSCs.

エピブラスト幹細胞株から領域特性をもった神経幹細胞株を樹立する

<sup>○</sup>Kae Nakamura, Claire Boitet, Sayaka Satake, Koya Yoshihi, Hideaki Iida, Yasuo Ishii, Hisato Kondoh (GSLs, Kyoto Sangyo Univ.)

**P167**  
**(OP08-04)**

Post-transcriptional suppression of *Dazl* in follicular oocytes plays a crucial role in pre-implantation embryonic development

卵胞における *Dazl* 転写後抑制は着床前胚の発生において重要な役割を持つ

<sup>○</sup>Kurumi Fukuda<sup>1</sup>, Takuma Naka<sup>2</sup>, Atsushi Suzuki<sup>2</sup>, Yumiko Saga<sup>1,3</sup>,

Yuzuru Kato<sup>1,3</sup> (Lab. of mammdev, Dept. of genet, Div. Sci. of life sci, SOKENDAI<sup>1</sup>, Div. of Mat. Sci. and Chem. Eng, Fac. of Eng, Yokohama univ<sup>2</sup>, Div. of mammdev, NIG<sup>3</sup>)

**P168**

Osteoblast precursor cells are the committed stem cells involved in bone maintenance and regeneration of zebrafish

骨芽前駆細胞は幹細胞としてゼブラフィッシュの骨の維持と再生に関わる

○Kazunori Ando<sup>1</sup>, Eri Shibata<sup>1</sup>, Stefan Hans<sup>2</sup>, Micheal Brand<sup>2</sup>, Atsushi Kawakami<sup>1</sup> (LST, Tokyo Tech<sup>1</sup>, CRTD<sup>2</sup>)

**P169**

Zebrafish *pou2*, a *Oct4*-type class-V POU gene, is involved in neurogenesis in the tail bud.

*Oct4*型 POU 遺伝子 *pou2*はゼブラフィッシュ胚の尾芽において神経発生を制御する

○Tatsuya Yuikawa, Masaaki Ikeda, Sachiko Tsuda, Kyo Yamasu (Div. Life Sci., Grad. Sch. Sci. Eng., Saitama Univ.)

**P170**  
**(OP08-08)**

Density homeostasis of spermatogenic stem cells through competition for FGFs

精子幹細胞の密度は精細管の周囲の体細胞から発現する一定量の FGFs を精子幹細胞が奪い合うことで決められている

○Yu Kitadate<sup>1,2</sup>, Shosei Yoshida<sup>1,2</sup> (NIBB<sup>1</sup>, Sokendai<sup>2</sup>)

**P171**

Expression analysis of Notch3 and Hes family genes in mouse spermatogonia

マウス精原細胞における Notch3 および Hes family 遺伝子の発現解析

○Ryu Okada, Eri Koya, Megumi Fujimagari, Akiko Kumano, Tomohisa Watanabe, Yukio Nishina (Yokohama City Univ.)

**P172**  
**(OP08-01)**

Six1 and Six4 regulate germ and gonadal somatic progenitor cell formation in mice

転写因子 Six1 と Six4 によるマウス生殖細胞と生殖腺体細胞の前駆細胞形成の制御機構について

○Satomi Tanaka<sup>1</sup>, Yasuka Yamauchi<sup>2</sup>, Kiyoshi Kawakami<sup>3</sup>, Ryuichi Nishinakamura<sup>4</sup> (Kumamoto Health Sci. Univ.<sup>1</sup>, Kumamoto Univ.<sup>2</sup>, Jichi Med. Univ.<sup>3</sup>, IMEG, Kumamoto Univ.<sup>4</sup>)

**P173**

Studying the establishment of the spermatogenic stem cell compart-

ment in neonatal mice by gene expression analysis and lineage tracing

新生仔マウスにおける精子幹細胞の形成過程の解析

○Miho Ishizaka<sup>1,2</sup>, Shosei Yoshida<sup>1,2</sup> (Division of Germ Cell Biology, NIBB, NINS<sup>1</sup>, Dept. Basic Biology, Sch. Life Science, SOKENDAI<sup>2</sup>)

**P174**

Chromodomain protein MRG-1 is required for global repression of Pol II-dependent transcription in the primordial germ cells in *C. elegans*

線虫 *C. elegans* において、クロモドメイン蛋白質 MRG-1 が始原生殖細胞における転写抑制制御に必要である

○Takashi Miwa, Teruaki Takasaki, Kunio Inoue, Hiroshi Sakamoto (Dept. Biol., Grad. sch. Sci., Kobe Univ.)

**P175**  
**(OP08-09)**

Identification of genes regulating PGC reprogramming into pluripotent stem cells

多能性獲得に関与する始原生殖細胞リプログラミングの分子機構解明

○Kei Otsuka<sup>1</sup>, Asuka Takehara<sup>1</sup>, Yasuhisa Matsui<sup>1,2,3</sup> (IDAC, Tohoku Univ<sup>1</sup>, Graduate School of life sciences, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577, Japan<sup>2</sup>, AMED-CREST<sup>3</sup>)

**P176**  
**(OP08-10)**

The endocytic regulation of the yolk protein receptor *Yolkless* is required for the polarity establishment and germ plasm assembly in the *Drosophila* oocyte

ショウジョウバエにおいて卵黄タンパク受容体 *Yolkless* のエンドサイトーシス制御は卵母細胞の極性形成と生殖質形成に必要である

○Tsubasa Tanaka<sup>1,2</sup>, Sachiko Otsu<sup>1</sup>, Naoki Tani<sup>3</sup>, Akira Nakamura<sup>1,2</sup> (IMEG, Kumamoto Univ.<sup>1</sup>, Grad Sch Pharm Sci, Kumamoto Univ<sup>2</sup>, LILA, IMEG, Kumamoto Univ<sup>3</sup>)

**P177**

Forward genetic screen with haploid embryonic stem cells identifies a regulator for extraembryonic development

一倍体 ES 細胞を用いた順遺伝学的スクリーニングにより胚体外系譜への分化に関わる遺伝子を同定する

○Takashi Ishiuchi, Hiroyuki Sasaki (Div. of Epigenetics and Development, MIB, Kyushu Univ.)

**P178**  
**(OP08-06)** Regulatory mechanism of retinal cell differentiation from ocular tissue stem cells

トリ虹彩のユニークな組織幹細胞と網膜分化の調節機構

○Masasuke Araki<sup>1</sup>, Tamami Ishikawa<sup>2</sup>, JöRg Steinfeld<sup>3</sup> (Dept of Biol., Nara Med. Univ.<sup>1</sup>, Nara Women's University, Nara 630-8506, Japan<sup>2</sup>, Darmstadt University of Technology, D-64287 Germany<sup>3</sup>)

**P179**  
**(OP08-02)** Hdac3 recruitment on somatic developmental genes by Blimp1 and their repression is essential for mouse primordial germ cell fate determination.

Blimp1 による Hdac3 の体細胞発生遺伝子群へのリクルートメントとそれらの発現抑制は、マウス始原生殖細胞の運命決定に必須である。

○Kentaro Mochizuki<sup>1,4</sup>, Hisato Kobayashi<sup>2,4</sup>, Yumi Matsuoka<sup>1</sup>, Tomohiro Kono<sup>3,4</sup>, Yasuhisa Matsui<sup>1,4</sup> (IDAC, Tohoku Univ.<sup>1</sup>, NGRC, NODAP, Dept. of BioSci, NODAP<sup>3</sup>, AMED-CREST<sup>4</sup>)

**P180**  
Cell cluster formation by ribosome is reproducible with medaka cells  
リボソームによるメダカ細胞での細胞塊形成の再現

○Yuichi Goto<sup>1</sup>, Yuimi Koyama<sup>1</sup>, Yumi Iwai<sup>1</sup>, Yui Donoue<sup>1</sup>, Kunimasa Ohta<sup>2</sup> (Uto Senior High School<sup>1</sup>, Department of Developmental Neurobiology, Kumamoto University Graduate School of Life Sciences<sup>2</sup>)

**P181**  
**(OP08-07)** New categorization of planarian stem cell population based on possible stem cell niche

予想される幹細胞ニッチをもとにしたプラナリア幹細胞集団の新しい区分

○Yuki Sato<sup>1,2</sup>, Norito Shibata<sup>2,3</sup>, Kiyokazu Agata<sup>1,2</sup> (Grad. School of Science, Gakushuin Univ.<sup>1</sup>, Dep. of Biophys, Grad school of Science, Kyoto Univ.<sup>2</sup>, National Institute of Tech., Tsuyama College<sup>3</sup>)

**P182**  
**(SW-6)** Harnessing the CRISPR/Cas9 system in mouse genetic engineering @ LARGE, RIKEN-Kobe

神戸 RIKEN LARGE での CRISPR/Cas9 システムを用いた遺伝子改変マウス作製の試み

○Takaya Abe<sup>1</sup>, Ken-Ichi Inoue<sup>2</sup>, Hiroshi Kiyonari<sup>1,2</sup>, Yasuhide Furuta<sup>1,2</sup> (GET, RIKEN CLST<sup>1</sup>, ARDU, RIKEN CLST<sup>2</sup>)

**P183**  
**(OP07-03)** Integrative analysis of transcription factor occupancy at tissue-spe-

cific enhancers and disease risk loci in non-coding genomic regions  
Non-coding ゲノム領域における組織特異的エンハンサーおよび疾患関連 SNP に結合する転写因子の統合的解析  
○Shinya Oki<sup>1</sup>, Tazro Ohta<sup>2</sup>, Go Shioi<sup>3</sup>, Hideki Hatanaka<sup>4</sup>, Osamu Ogasawara<sup>5</sup>, Yoshihiro Okuda<sup>5</sup>, Hideya Kawaji<sup>6</sup>, Ryo Nakaki<sup>7</sup>, Jun Sese<sup>8</sup>, Chikara Meno<sup>1</sup> (Grad. Sch Med. Sci., Kyushu Univ.<sup>1</sup>, DBCLS, ROIS<sup>2</sup>, RIKEN CLST<sup>3</sup>, NBDC, JST<sup>4</sup>, DDBJ center, NIG<sup>5</sup>, RIKEN ACCC<sup>6</sup>, RCAST, the Univ of Tokyo<sup>7</sup>, AIRC, AIST<sup>8</sup>)

**P184**  
**(OP07-01)**

Regulatory sequence evolution during the fin-to-limb transformation  
鰭から四肢への形態変化における遺伝子制御配列の進化  
○Koh Onimaru<sup>1</sup>, Fumio Motone<sup>1,2</sup>, Itsuki Kiyatake<sup>3</sup>, Kiyonori Nishida<sup>3</sup>, Shigehiro Kuraku<sup>1</sup> (CLST<sup>1</sup>, Graduate School of Science and Technology, Kwansai Gakuin University<sup>2</sup>, Osaka Aquarium Kaiyukan<sup>3</sup>)

**P185**  
**(S04-4)**

In vivo targeted single-base editing in zebrafish  
ゼブラフィッシュ生体内における標的化塩基の編集  
○Shingo Tanaka<sup>1</sup>, Hiroshi Hosokawa<sup>2</sup>, Keiji Nishida<sup>3</sup>, Shingo Maegawa<sup>2</sup> (Graduate school of Biostudies, Kyoto Univ.<sup>1</sup>, Graduate School of Informatics, Kyoto Univ.<sup>2</sup>, Graduate School of Science, Technology and Innovation, Kobe Univ.<sup>3</sup>)

**P186**

The tissue-clearing method, CUBIC, is useful for chicken embryos  
CUBIC 試薬を用いたニワトリ胚の透明化  
○Yuta Takase<sup>1</sup>, Etsuo A Susaki<sup>2,3,4</sup>, Hiroki R Ueda<sup>2,3</sup>, Yoshiko Takahashi<sup>1</sup> (Department of Zoology, Graduate School of Science, Kyoto University<sup>1</sup>, Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo<sup>2</sup>, Laboratory for Synthetic Biology, RIKEN Quantitative Biology Center (QBiC)<sup>3</sup>, PRESTO, Japan Science and Technology Agency<sup>4</sup>)

**P187**  
**(OP01-06)**

Effects of sizes of self-organized patterns composed by vascular endothelial cells on vasculogenesis  
脈管形成において血管内皮細胞が自律的に形成するパターンサイズの影響  
○Akiko Nakamasu<sup>1</sup>, Masamune Nakayama<sup>2</sup>, Naoto Shingu<sup>3</sup>, Hirofumi Izuhara<sup>4</sup>, Yuji Nashimoto<sup>2</sup>, Itsuki Kunita<sup>5</sup>, Yuichiro Arima<sup>5</sup>, Yoshimi Yamaguchi<sup>1</sup>, Koichi Nishiyama<sup>5</sup>, Ryuji Yokokawa<sup>2</sup>, Takashi Miura<sup>1</sup> (Grad. Sch. Med. Sci., Kyushu Univ.<sup>1</sup>, Dept. Mic. Engine., Kyoto Univ.<sup>2</sup>, Facul.

Med., Kyushu Univ.<sup>3</sup>, Facul. Engine., Miyazaki Univ.<sup>4</sup>, IRCMS, Kumamoto Univ.<sup>5</sup>)

**P188**

Inference of Gene Regulatory Networks from Expression Data

○Prabhat Shankar<sup>1</sup>, Hitoshi Niwa<sup>2</sup>, Tatsuo Shibata<sup>1</sup> (RIKEN QBiC<sup>1</sup>, Kumamoto Univ.<sup>2</sup>)

**P189**

Mathematical Modeling for Meshwork Formation of Endothelial Cells in Fibrin Gels

フィブリンゲル内における血管内皮細胞メッシュワーク形成の数理モデル

○Daiki Sasaki<sup>1</sup>, Hitomi Nakajima<sup>2</sup>, Yoshimi Yamaguchi<sup>1</sup>, Ryuji Yokokawa<sup>3</sup>, Takashi Miura<sup>1</sup> (Kyushu Univeristy<sup>1</sup>, Kyushu University<sup>2</sup>, Kyoto University<sup>3</sup>)

**P190**

Automated cell shape extraction in *C. elegans* embryonic development

線虫 *C. elegans* の胚発生における細胞形状の自動検出

○Yusuke Azuma, Shuichi Onami (RIKEN QBiC)

**P191**

Mathematical model of epithelial buckling for single- and multi-step processes of the intestinal villus formation

上皮座屈の数理モデル：マウスとトリの小腸絨毛形成過程

Yuto Miyazaki<sup>2</sup>, Takashi Miura<sup>1,3</sup>, ○Hisako Takigawa-Imamura<sup>1</sup> (Dept. Anat. Cell Biol., Grad. Sch. Med., Kyushu Univ.<sup>1</sup>, Sch. Med., Kyushu Univ.<sup>2</sup>, CREST, JST<sup>3</sup>)

**P192**

3D analysis of zebrafish somite morphogenesis

ゼブラフィッシュ体節形態形成の3次元解析

○Yue Tong, Kyouhei Kunifuji, Haruka Iritani, Harunobu Kametani, Atsuko Shimada, Hiroyuki Takeda (Dept. of Biol. Sci., Univ. Tokyo)

**P193**

**(OP01-10)**

Imaging of the kinetics of transcription factors in pluripotent stem cells

幹細胞核内におけるコア転写因子の一分子イメージング

○Kazuko Okamoto<sup>1</sup>, Kohei Yamamura<sup>2</sup>, Hiroki Ura<sup>3</sup>, Yasushi Okada<sup>2</sup>, Kuniya Abe<sup>3</sup>, Tomonobu Watanabe<sup>1</sup> (RIKEN QBiC Comprehensive Bioimaging Laboratory<sup>1</sup>, RIKEN QBiC, Lab for Cell Polarity Regulation<sup>2</sup>, RIKEN BRC, Mammalian Genome Dynamics Team<sup>3</sup>)

## SW : Satellite Workshop (in Japanese)

DATE: May 10 (Wed) 9:00 ~ 10:24 Room F

Chairpersons: Yoshifumi Yamaguchi (Univ. of Tokyo)

Asako Shindo (Nagoya Univ.)

- SW-1 (P034)** 09:00-09:12 The mechanism of Nodal1's signaling range regulation by *Derrière*, a *Xenopus* ortholog of mouse GDF1  
アフリカツメガエルにおけるマウス GDF1 オルソログ *Derrière* による Nodal1 のシグナル活性化範囲制御機構  
○Takafumi Ikeda, Takayoshi Yamamoto, Masanori Taira(Lab. of Mol. Biol., Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo)
- SW-2 (P145)** 09:12-09:24 Functional analysis of the limb mesenchyme specific enhancer of *Fgf10*  
*Fgf10* 肢芽間充織特異的エンハンサーの機能の解明  
○Tomohiro Takenaka<sup>1</sup>, Tatsuya Takemoto<sup>2</sup>, Yo-Ichi Shiraish<sup>1</sup>, Chisa Andoh<sup>1</sup>, Shiori Yamamoto<sup>1</sup>, Atsushi Kuroiwa<sup>1</sup>(Div. of Biol. Sci., Sch. of Sci., Nagoya Univ<sup>1</sup>, IAMS, Tokushima Univ<sup>2</sup>)
- SW-3 (P140)** 09:24-09:36 *polished rice* is essential for tip cell specification and tubular fusion of dorsal branches in *Drosophila* tracheal system.  
ショウジョウバエ *polished rice* 遺伝子は背側気管支の先端細胞の分化および融合に必須である。  
○Yuki Taira<sup>1</sup>, Housei Wada<sup>3</sup>, Shigeo Hayashi<sup>3</sup>, Yuji Kageyama<sup>1,2</sup>(Kobe University<sup>1</sup>, Kobe University<sup>2</sup>, RIKEN, CDB<sup>3</sup>)
- SW-4 (P117)** 09:36-09:48 Feather bud formation on limited domain of reassembled artificial skin  
再構成した皮膚の限定された領域における羽毛原基形成  
○Kentaro Ishida, Toshiyuki Mitsui(Dept. of Phys. & Math., Coll. of Sci. & Eng., Aoyama Gakuin Univ.)
- SW-5 (P157)** 09:48-10:00 Leg regeneration is regulated by epigenetics depending on photoperiodism in the cricket *Modicogryllus siamensis*  
光周性依存的なエピジェネティクスはタンボコオロギの脚再生を制御する  
○Yoshimasa Hamada<sup>1</sup>, Tetsuya Bando<sup>1</sup>, Kenji Tomioka<sup>2</sup>, Hideyo Ohuchi<sup>1</sup>(OKAYAMA UNIV., Grad. Sch. of Med. Dent. and Phar. Sci.<sup>1</sup>, OKAYAMA UNIV., Grad. Sch. of Nat. Sci. and Tech.<sup>2</sup>)

- SW-6 (P182)** 10:00-10:12 Harnessing the CRISPR/Cas9 system in mouse genetic engineering @ LARGE, RIKEN-Kobe  
神戸 RIKEN LARGE での CRISPR/Cas9 システムを用いた遺伝子改変マウス作製の試み  
○Takaya Abe<sup>1</sup>, Ken-Ichi Inoue<sup>2</sup>, Hiroshi Kiyonari<sup>1,2</sup>, Yasuhide Furuta<sup>1,2</sup>(GET, RIKEN CLST<sup>1</sup>, ARDU, RIKEN CLST<sup>2</sup>)
- SW-7 (P066)** 10:12-10:24 Importance of frogs as an experimental model for evo-devo study of interdigital cell death and webbing formation  
指間細胞死と水かき形成の進化発生学的研究のためのモデル実験系としてのカエル類の重要性  
○Akio Nishikawa<sup>1</sup>, Sairi Miyata<sup>1</sup>, Tomoe Kawakami<sup>1</sup>, Yuuto Hikiji<sup>1</sup>, Ichiro Tazawa<sup>2</sup>, Shigenobu Tone<sup>3</sup>(Dept.of Biol.Sci., Fac.of Life & Environ.Sci., Shimane Univ.<sup>1</sup>, Amphibian Res. Center, Hiroshima Univ.<sup>2</sup>, Lab. Mol. Dev. Biol., Grad. Sch. of Sci. and Eng, Tokyo Denki Univ.<sup>3</sup>)