Scientific Programs
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 delimitd 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.
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.

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.
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, 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

○Yasuko Akiyama-Oda1,2, Sawa Iwasaki-Yokozawa1, Hiroki Oda1 (JT Biohistory Res. Hall1, Osaka Medical College2)

**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 Miyashima1, Toshikatsu Uchimura1, Minami Honda1, Kayo Hashimoto1,2, Keiji Nakajima1 (Grad. Sch. Biol. Sci., NAIST1, Grad.
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
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\(^1\), Yosuke Tajima\(^3\), Koki Yoshida\(^3\), Mami Oikawa\(^1\),\(^2\), Rika Azuma\(^4\), Miki Mori\(^1\), Yuma Imasato\(^1\), George Allen\(^2\), Tomomi Tsujikawa\(^3\), Tomomasa Tsukaguchi\(^1\), Charles Bradshaw\(^2\), Jerome Julien\(^2\), Kazuo Yamagata\(^1\), Kazuya Matsumoto\(^1\), Masayuki Anzai\(^3\), Hiro-
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)

Resolving Heart Regeneration by Replacement Histone Profiling
○Kenneth Poss¹, Joseph Goldman¹, Guray Kuzu², Nutishia Lee¹, Jaclyn Karasik¹, Matthew Gemberling¹, Matthew Foglia¹, Ravi Karra¹, Amy Dickson¹, Fei Sun¹, Michael Tolstorukov² (Duke University Medical Center¹, Massachusetts General Hospital²)
What are the biggest questions in the filed 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

**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 potential mechanisms that made vertebrates’ body plan conserved?**  
名片動物のボディプランを保存させた仕組みは何か？  
○Naoki Irie¹, Haiyang Hu², Song Guo³, Masahiro Uesaka¹, Kotaro Shimai¹, Tsai-Ming Lu⁶, Fang Li⁴, Satoko Fujimoto⁴, Masato Ishikawa¹, Shiping Liu⁵, Yohei Sasagawa⁴, Guojie Zhang², Shigeru Kuratani⁴, Jr-Kai Yu⁶, Takehiro Kusakabe³, Philipp Khaitovich¹ (Univ. of Tokyo¹, CAS-MPG Partner Institute, China², Konan Univ.³, RIKEN, Japan⁴, BGI, China⁵, Taiwan Academia Sinica, Taiwan⁶)

**The broad development potentials of plant meristems**  
○Yuval Eshed¹, Eliezer Lifschitz² (Dept. of Plant and Environmental Sciences, Weizmann Institute of Science¹, Dept. of Biology, Technion, Israel Institute of Technology Haifa²)

**Mechanosensitivity of junctional beta-catenin : from mesoderm mechanotransductive evolutionary origins to tumorigenic mechanical induction**  
○Emmanuel Farge (INSERM & PCC, Institut Curie Paris)

**Does the ontogeny recapitulate phylogeny?**  
個体発生は系統発生を繰り返すのか？  
○Shigeru Kuratani (RIKEN)

**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)
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.

**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)

17:30-17:33 Introduction

**S04-1 17:33-17:53** Data-driven modeling of embryogenesis enabled by bioimage 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 comparative 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
ゼブラフィッシュ生体内における標的化塩基の編集
○Shingo Tanaka¹, Hiroshi Hosokawa², Keiji Nishida³, Shingo Maegawa² (Graduate school of Biostudies, Kyoto Univ.¹, Graduate School of Informatics, Kyoto Univ.², Graduate School of Science, Technology and Innovation, Kobe Univ.³)

**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
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飢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ニング異常


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 Hattori1, Kaori Watanabe1, Yuuki Takahashi1, Yuki Furumizo1, Yasutetsu Kanaoka1, Hironobu Uchiyama2, Shunsuke Yajima2, Masayoshi Watada3, Tadashi Uemura1 (Grad. Sch. Biostudies, Kyoto Univ.1, NGRC, Tokyo Univ. of Agri.2, Grad. Sch. of Sci. and Eng., Ehime Univ.3)

S05-4  10:12-10:36  Rewiring of Embryonic Energy Metabolism During Mouse Chorioallantoic Branching

Hidenobu Miyazawa1, ○Yoshifumi Yamaguchi1,2, Yuki Sugiura3,4, Kurara Honda3, Koki Kondo1, Fumio Matsuda4, Takehiro Yamamoto3, Makoto Suematsu2, Masayuki Miura1,2 (Dept. Genet. Pharma. The
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.)
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)"
細胞死で空いた領地をめぐる力学的な細胞競合
○Alice Tsuboi¹, Shizue Ohsawa², Yukari Sando², Tatsushi Igaki², Koichi Fujimoto¹ (Osaka Univ.¹, Kyoto Univ.²)

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 Ogawa¹, Tetsuo Hatsuda¹,²,³, Atsushi Mochizuki¹,²,⁴, Masashi Tachikawa¹,⁴,⁵ (RIKEN iTHES¹, RIKEN iTHEMS², QHP Lab., RIKEN Nishina Center³, TB Lab., RIKEN⁴, CREST, JST⁵)
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 Mukouyama (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 Phng¹, Veronique Gebala², Holger Gerhardt² (RIKEN CDB¹, MDC for Molecular Medicine²)

**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)
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

**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 Hatakeyama¹, Haruka Sato¹, Rika Matsushita¹, Mitinori Saitou², Hideaki Tsuchiya³, Ryoichiro Kageyama⁴, Kenji Shimamura¹ (IMEG, Kumamoto Univ.¹, Grad. Sch. of Med., Kyoto Univ.², RCALS, Shiga Univ.of Med.Sci.³, IFLMS, Kyoto Univ.⁴)

**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 Sato¹, Tetsuo Yasugi¹, Yoshitaro Tanaka², Takashi Miura³, Masaharu Nagayama², Shinichiro Ei² (Kanazawa Univ¹, Hokkaido Univ.², Kyushu Univ.³)

**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 Fujimoto1,2, Marcus Leiwe1,2, Yuko Muroyama3, Tetsuichiro Saito1, Takeshi Imai1,2,4 (RIKEN CDB1, Grad Sch Medical Sciences, Kyushu Univ2, Grad Sch Medicine, Chiba Univ3, Grad Sch Biostudies, Kyoto Univ4)
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 Ishtiyaq 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腎臓分化を制御する
○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)
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 Germline Formation in Animals (KAKENHI #25114001)
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)
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 Shimojo¹, Hiroshi Kori³, Akihiro Isomura², Toshiyuki Ohtsuka², Hiroshi Miyachi², Ryoichiro Kageyama¹² (iCeMS, Kyoto Univ.¹, Institute for Frontier Life and Medical Sciences, Kyoto University², Department of Information Sciences, Ochanomizu University³)

**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
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)

Role of cell competition in the regulation of cell fitness and
the shaping of growth during early embryonic development
Sarah Bowling¹, Aida Di Gregorio¹, Jesus Gil², ○Tristan Rodriguez¹
(NHLI, Imperial College London¹, MRC Clinical Sciences Centre²)

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 Igaki¹, Nanami Akai¹², Shizue Ohsawa¹ (Grad Sch of
Biostudies, Kyoto Univ.¹, Grad Sch of Med, Kobe Univ.²)

Apoptosis-mediated elimination of “Wnt/β-catenin signaling
noise” supports precise embryonic patterning.
アポトーシスを介したWnt/β-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.)
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 Sasanami1, Mei Matsuzaki1, Shusei Mizushima2 (Fac Agric, Shizuoka Univ1, Fac Sci, Hokkaido Univ2)

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 Kang1, Yuichirou Harada2, Natsuko Kawano3, Kenji Miyado1
(Department of Reproductive Biology, National Research Institute for Child Health and Development1, Department of Molecular Pathology, Tokyo Medical University2, Department of Life Sciences, School of Agriculture, Meiji University3)

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
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 Igawa¹, Taro Takahashi¹, Toshiyuki Mori² (Grad. Sch. Hort., Chiba Univ.¹, Dept. Trop. Medicine Prasitol., Juntendo Univ.²)

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か？
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.)
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 Taira¹, Yuuri Yasuoka² (Dept. of Biol. Sci., Grad. Sch. of Sci., Univ. of Tokyo¹, Marine Genomics Unit, OIST²)

**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 Ichihashi¹,² (RIKEN CSRS¹, JST PRESTO Researcher²)

**WS2-3** 13:40-14:05 Gene Regulatory Network Science: Integrating different genomic datatypes to build an endodermal GRN

○Ken Cho¹, Ira Blitz¹, Rebekah Charney¹, Kitt Paraiso¹, Jin Cho¹, Yuuri Yasuoka², Masanori Taira¹, Elmira Forouzmand¹, Xiaohui Xie¹ (Developmental and cell Biology, UC Irvine¹, Okinawa Institute of Science and Technology Graduate², Graduate School of Science, Hiroshima University³)
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
HIF1α Initiates Zebrafish Primitive Erythroid Differentiation by Switching On GATA1a Expression
○Bo-An Lin¹, Yi-Xuan Lin¹, Hsin-Yu Chung¹, Jyuan-Kai Chiu¹, Kun-Tong Chiu¹, Shih-Han Wen¹, Wen-Shyong Tzou¹², Chin-Hwa Hu¹² (Dep. Biosci. Biotechnol, Natl. Taiwan Ocean Univ.¹, Center of Excellence for the Oceans, Natl. Taiwan Ocean Univ.²)

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 Arai¹, Fuminori Sato¹, Takuya Yamamoto², Hiroshi Kiyonari³, Atsuko Sehara-Fujisawa¹ (IFMS, Kyoto U¹, CiRA, Kyoto U², LARGE, RIKEN CDB³)

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 Iida¹, Yasuo Ishii², Hisato Kondoh¹² (DBGSE, Kyoto Sangyo Univ.¹, FLS, Kyoto Sangyo Univ.²)

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 Yokouchi¹, Satomi Noguchi¹, Jun Ogawa¹, Izumi Nakamura¹, Shinichi Suzuki², Seiichi Takenoshita¹³⁴, Takumi Era¹³⁵ (Dept. Stem Cell Res. FMU¹, Dept.Thyroid and Endocrinol., FMU², Dept. Adv. Nuc. Med., FMU³, Dept. Biofunction. Image., FMU⁴, Dept. Cell Modulation, IMEG, Kumamoto
A novel 3D spheroid culture system for generating functional pancreatic β 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)

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 Nakamasu1, Masamune Nakayama2, Naoto Shingu3, Hirofumi Izuhara4, Yuji Nashimoto2, Itsuki Kunita5, Yuichiro Arima5, Yoshimi Yamaguchi1, Koichi Nishiyama5, Ryuji Yokokawa1, Takashi Miura1 (Grad. Sch. Med. Sci., Kyushu Univ.1, Dept. Mic. Engine., Kyoto Univ., Facul. Med., Kyushu Univ.3, Facul. Engine., Miyazaki Univ.4, IRCMS, Kumamoto Univ.5)

Modeling autonomous folding of epithelial sheets

Fulai Wen1, Yuchiun Wang2, Tatsuo Shibata1 (RIKEN QBiC1, RIKEN CDB2)

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.)

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 Nakazato1, Yuta Takase2, Yoshiko Takahashi2, Hiroshi Kokubu1, Atsushi Mochizuki1 (Theoretical Biology Laboratory, RIKEN, dept of zoology, grad school of science, Kyoto-univ2,
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 Okamoto¹, Kohei Yamamura², Hiroki Ura³, Yasushi Okada², Kuniya Abe³, Tomonobu Watanabe¹ (RIKEN QBiC
Comprehensive Bioimaging Laboratory¹, RIKEN QBiC, Lab
for Cell Polarity Regulation², RIKEN BRC, Mammalian
Genome Dynamics Team³)

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 Oishi¹,², Kazunori Nakajima¹, Francois Guillemot² (Dept.
Anat., Keio Univ. Sch. Med.¹, The Francis Crick Institute²)

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 Ito¹, Mohammad Riyadh¹, Ayako Ito¹, Shah Ishtiaq¹, Mohammad Anam¹, Yohei Shinmyo³, Athary Felemban¹, Jun Hatakeyama³, Kenji Shimamura³, Kazunobu Sawamoto⁴, Kunimasa Ohta¹ (Kumamoto University, Dev. neurobiol.¹, Kanazawa Univ.², Kumamoto Univ.³, Nagoya City Univ.⁴)

**OP02-05 09:48-10:00**

Shh enhances intracellular calcium fluctuation in the neural progenitor cells during mouse cortical development

○Jun Motoyama¹, Yoshiaki Nishimura² (Grad. School of Brain Science, Doshisha Univ.¹, Faculty of Medicine, Tohoku Med. & Pharm. Univ.²)

**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 Sugitani¹², Reiko Sugitani-Yoshida², Shigeyasu Nakai¹, Mishio Fusejima¹, Osamu Minowa¹, Masaharu Ogawa², Tetsuo Noda¹ (Dept. of Cell Biol., JFCR-Cancer Inst.¹, BSI Riken²)

**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 Wu¹², Shih-Hsien Wen¹², Yasuhiro Kamei², Atsuko Shimada⁴, Hiroyuki Takeda⁴, Eiji Kimura⁵, Yung-Shu Kuan¹²,⁶ (IBS-NTU¹, IBC-AS², NIBB³, DeptBioSci-UT⁴, DeptAnaIMU⁵, NPAS-AS⁶)
OP02-10 10:48-11:00  Ca\textsuperscript{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, ○Kohei Hatta (Life Sci, U of Hyogo)

Oral presentation 3 : Patternning, 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 transitioning 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  
○Maretoshi Hirai\textsuperscript{1}, Sylvia M Evans\textsuperscript{2} (KMU, Dept of Pharm\textsuperscript{1}, SSPPS, UCSD\textsuperscript{2})

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  
○Atsuhiro Taguchi, Ryuichi Nishinakamura (IMEG, Kumamoto Univ.)

OP03-03 09:24-09:36  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\textsuperscript{1}, Kenichi Nakazato\textsuperscript{2}, Ryo Kudo\textsuperscript{1}, Ryosuke Tadokoro\textsuperscript{1}, Hiroshi Kokubu\textsuperscript{3}, Atsushi Mochizuki\textsuperscript{2}, Yoshiko Takahashi\textsuperscript{1} (Dept. of Zoology, Grad. Sch. of Sci. Kyoto Univ.\textsuperscript{1}, Theoretical Biology Laboratory, RIKEN\textsuperscript{2}, Dept. Math, Grad. Sch. of Sci. Kyoto Univ.\textsuperscript{3})
OP03-04 09:36-09:48 Lineage segregation of post-implantation mouse embryo revealed by spatial and single cell transcriptome
○ Guangdun Peng¹, Shengbao Suo², Guizhong Cui¹, Fang Yu¹, Guoyu Chen², Zhiwen Liu¹, Jingdong Han², Patrick Tam³, Naihe Jing¹ (SIBCB, CAS¹, CAS-MPG Partner Institute of Computational Biology², CMRI³)

OP03-05 09:48-10:00 Modeling the segmentation clock with pluripotent stem cells
Mitsuhiro Matsuda², Maya Uemura¹, Yoshihiro Yamanaka¹, Mitsuiro Osawa¹, Megumu Saito¹, Makoto Ikeya¹, Hiroyuki Yoshitomi¹, Junya Toguchida¹, Takuya Yamamoto¹, Knut Woltjen¹, Miki Ebisuya², ^Cantas Alev¹² (CiRA, Kyoto University¹, RIKEN QBiC²)

OP03-06 10:00-10:12 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)

OP03-07 10:12-10:24 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
○ Tsuyoshi 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 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 Shinozuka¹², Ritsuko Takada², Shinji Takada¹² (Dept. Basic Biology, SOKENDAI¹, OIIB²)

OP03-10 10:48-11:00 Foxa2 and Hif1ab regulate maturation of intestinal goblet cells by modulating agr2 expression in zebrafish embryos
(P129)
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 Hara¹,², Murat Shagirov¹, Kok Hwee Lim¹,², Yusuke Toyama¹,²,³ (MBI, Singapore¹, TLL, Singapore², DBS, NUS, Singapore³)

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 Nonomura¹,², Seung-Hyun Woo², Rui Chang³, Astrid Gillich⁴, Zhaozhu Qiu², Allain Francisco², Sanjeev Ranade², Stephen Liberles³, Ardem Patapoutian³ (NIBB¹, TSRI², Harvard Medical School³, Stanford University⁴)

OP04-04 13:36-13:48 Cortical forces and CDC-42 control clustering of PAR proteins for C. elegans embryonic polarization
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
○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
○Noriyuki Kinoshita, Yutaka Hashimoto, Naoto Ueno (Div. of Morphogenesis NIBB, Dept. of Mol. Biol. Princeton Univ.)

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
○Sei Kuriyama (Akita University)

OP04-08 (P055) 14:24-14:36 Anaerobic glucose metabolism regulates neural tube formation
嫌気的解糖系による神経管閉鎖制御
○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
○Yoshiki Hayashi, Chiyo Noda, Satoru Kobayashi (TARA center, Univ. of Tsukuba, NIBB)

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
Oral presentation 5: Early development and Regeneration, Metamorphosis and Patternning, 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

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

OP05-03 (P046) 13:24-13:36 Spatial regulation of Wnt proteins and planar cell polarity in Xenopus early embryogenesis.

OP05-04 13:36-13:48 Asymmetric Distribution of Hypoxia-Inducible Factor α Regulates Dorsal-Ventral Axial Patterning in the Early Embryo of the Sea Urchin Strongylocentrotus purpuratus
OP05-05  13:48-14:00  Diaphanous gene determines chirality in snails

Diaphanous遺伝子は巻貝の巻型を決定する

Reiko Kuroda1,2,3, Masanori Abe1,3, Kohei Fujikura2,3 (RIST, Tokyo Univ. Sci.1, Dept. Life Sci., Tokyo Univ.2, SORST, JST3)

Chairperson: Hitoshi Yokoyama (Hirosaki Univ.)

OP05-07  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

Ken-Ichi Hironaka1,2, Koichi Fujimoto1, Takashi Nishimura2 (Dept. of Biol. Sci., Osaka Univ.1, RIKEN CDB2)

OP05-08  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

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

Reiko Tajiri, Haruhiko Fujiwara, Tetsuya Kojima (Grad. Sch. Frontier Sci., Univ. Tokyo)

OP05-10  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 Tojima¹, Haruyuki Makishima², Shigehito Yamada²
(Grad. Sch. of Med., Osaka City Univ.¹, Grad. Sch. of Med.,
Kyoto Univ.²)

Oral presentation 6: Patternning, Organogenesis 3

DATE: May 10 (Wed) 13:00 〜 15:00 Room F
Chairpersons: Takayuki Suzuki (Nagoya Univ.)
Atsuhiro 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 Matsuda¹, Chie Hosono¹, Kaoru Saigo², Christos Samakovlis¹ (MBW, Stockholm Univ.¹, Univ. Tokyo²)

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変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 Chen¹, Yi-Ru Yu¹, Li-Ru You² (DLSIGS, National Yang-Ming University¹, IBMB, National Yang-Ming University²)

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
Cardiac looping is caused by asymmetric cell proliferation and chiral cell behavior.

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

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

Molecular mechanism to convert the segmentation clock into the segmental pattern of somites in the zebrafish.

Non-muscle Myosin II Deletion in the Developing Kidney Causes Ureter-bladder Misconnection and Apical Extrusion of the Nephric Duct Lineage Epithelia.
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 13:00-13:12
(P184)
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 Onimaru¹, Fumio Motone¹², Itsuki Kiyatake³, Kiyonori Nishida¹, Shigehiro Kuraku¹ (CLST¹, Graduate School of Science and Technology, Kwansei Gakuin University², Osaka Aquarium Kaiyukan³)

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 Taimatsu¹, Satoshi Ota², Shin-Ichi Higashijima³, Atsuo Kawahara¹ (Univ. of Yamanashi¹, Bioengineering Lab², NIBB³)

OP07-03 13:24-13:36
(P183)
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 Oki¹, Tazro Ohta², Go Shioi³, Hideki Hatanaka⁴, Osamu Ogasawara⁵, Yoshihiro Okuda⁵, Hideya Kawaji⁵, Ryo Nakaki⁷, Jun Sese⁸, Chikara Meno¹ (Grad. Sch Med. Sci., Kyushu Univ.¹, DBCLS, ROIS², RIKEN CLST³, NBDC, JST⁴, DDBJ center, NIG⁵, RIKEN ACCC⁶, RCAST, the Univ of Tokyo⁷, AIRC, AIST⁸)
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 Nakamura¹,², Yayoi Kon¹, Shosei Yoshida¹ (Div. Germ Cell Biology, NIBB¹, JSPS research fellow²)

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 Shimada¹, Yumiko Saga¹,² (SOKENDAI¹, Division of Mammalian Development, National Institute of Genetics²)

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 Sato¹, Maako Kawamura¹, Eriko Takayama-Watanabe², ○Akihiko Watanabe¹ (Fac. of Sci., Yamagata Univ.¹, Inst. of Arts & Sic., Yamagata Univ.²)

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、出血性囊胞を引き起こす
○Tadayoshi Hayata¹,², Masahiko Chiga³, Masahiko Chiga⁴, Yoichi Ezura², Makoto Asashima³, Hidetaka Katabuchi⁴, Ryuichi Nishinakamura³, Masaki Noda²,⁵ (Dept. of Biol. Slg. Reg., Faculty of Med. Univ. of Tsukuba¹, Dept. of Mol. Pharmacol., Med. Res. Inst., TMDU², Dept. of Kidney Dev., IMEG, Kumamoto Univ.³, Dept. of OB-GYN, Faculty of Life Sci., Kumamoto Univ.⁴, Tokyo Univ. of Sci.⁵, Yokohama City Minato Red Cross Hospi-
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囊の形状的多様性

Tatsuhiko Noguchi (NDMC, Biology)

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 Kojima¹, Takuya Sato¹, Yuta Naruse¹, Takehiko Ogawa¹ ² (Graduate school of medical life science, Yokohama city university¹, Institute of Molecular Medicine and Life Science, YCU², Department of Urology, YCU³)

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.)

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皮細胞の前駆細胞形成の制御機構について

Satomi Tanaka¹, Yasuka Yamauchi², Kiyoshi Kawakami³, Ryuichi Nishinakamura⁴ (Kumamoto Health Sci. Univ.¹, Kumamoto Univ.², Jichi Med. Univ.³, IMEG, Kumamoto Univ.⁴)

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 Mochizuki¹ ⁴, Hisato Kobayashi² ⁴, Yumi Matsuoka¹, Tomohiro Kono¹ ⁴, Yasuhisa Matsui¹ ⁴ (IDAC, Tohoku Univ.¹, NGRC, NODAF², Dept. of BioSci, NODAF³, AMED-CREST⁴)
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 Yamaoka¹, Keisuke Inoue¹, Ryuichi Nishihama¹, Katsushi Yamaguchi², Shuji Shigenobu³, Kimitsune Ishizaki¹, Katsuyuki T. Yamato⁴, Takayuki Kohchi¹ (Grad. Sch. Biostudies, Kyoto Univ.,¹, Funct. Genomics Fac., NIBB², Grad. Sch. Sci., Kobe Univ.³, BOST, Kindai Univ.⁴)

OP08-04 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 Fukuda¹, Takuma Naka², Atsushi Suzuki², Yumiko Saga¹,³, Yuzuru Kato¹,³ (Lab. of mammdev, Dept. of genet, Div. Sci. of life sci, SOKENDAI¹, Div. of Mat. Sci. and Chem. Eng, Fac. of Eng, Yokohama univ², Div. of mammdev, NIG³)

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 Masaki¹, Tomoyuki Yamaguchi¹, Hiromitsu Nakamura¹ (IMSUT, Tokyo Univ.),¹, ISCBRM, Stanford Univ.²)

OP08-06 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 Araki¹, Tamami Ishikawa², Jörg Steinfeld³ (Dept of Biol., Nara Med. Univ.,¹, Nara Women’s University, Nara 630-8506, Japan², Darmstadt University of Technology, D-64287 Germany³)

OP08-07 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
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

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

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

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)

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 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 β-catenin nuclearization determines mesendoderm 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-Anaya¹, Iori Sato¹, Fumiaki Sugahara², Wataru Takagi¹, Shinnosuke Higuchi¹, Shigeru Kuratani¹ (RIKEN¹, Divition of Biology, Hyogo College of Medicine, Nishinomiya, Hyogo, Japan.²)

OP09-06 14:00-14:12 Analysis of the Hox gene cluster of the ascidian, Halocynthia 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 Sekigami¹, Takuya Kobayashi¹, Ai Omi¹, Kouki Nishitsuji², Noriyuki Satoh², Asao Fujiyama³, ○Hidetoshi Saiga¹ (Dept. of Biol. Scis., Grad. Sch. of Sci., Tokyo Metropolitan Univ.¹, MGU, OIST², NIG³)
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)

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.)

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 Egawa¹, Gembu Abe¹, Daisuke Saito¹,², Koji Tamura¹
(Grad. Sch. of Life Sci, Tohoku Univ.¹, FRIS, Tohoku Univ.²)

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 Okada¹,², Shinji Takada¹,² (NIBB¹, OIIB²)
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 Otsuka¹, Hirokazu Tsukaya¹,² (Grad. Sch. Sci., Univ. Tokyo¹, OIIB, NINS²)

**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 Kawamura², Atsushi Tero³, Hiroshi Kori⁴, Akiyoshi Uemura³, Takashi Miura¹ (Dept. of Anat.& Cell Biol., Kyushu Univ. Grad. Sch.of Med.¹, Kyushu Univ Sch Med.², IMI, Kyushu Univ.³, Nagoya City Univ Grad Sch Med Sci⁴, Ochanomizu Univ⁵)

**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
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

Epithelial barrier homeostasis by cell competition

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

3D analysis of functional development of cerebellar circuitry in zebrafish

Involvement of cell shape and tension with neural-epidermal ectoderm patterning in Xenopus embryo
Tension-dependent dynamics of adherens junction components during cell junction oscillation in Drosophila epithelium

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

Phosphoproteomic analysis of mechanotransduction during Xenopus embryogenesis

Collective durotaxis of cranial neural crest cells in Xenopus

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

Establishment and use of a new epiblast stem cell line marking Foxa2 expression with GFP
Cytoplasmic PIWI is indispensable for transposon silencing conducted by nuclear PIWI in planarian pluripotent stem cell system.

Degradation Mechanism of Tbx6 during Mouse Somitogenesis

HIF1α Initiates Zebrafish Primitive Erythroid Differentiation by Switching On GATA1a Expression

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

Analysis of lncRNA dutA repressing terminal differentiation via Dic-tyostelium organizer

た、初期発生過程の研究
Sachiko Inamori, Yasuo Ishii, Hisato Kondoh (FLS, Kyoto Sangyo Univ.)

Makoto Kashima1,2, Kiyokazu Agata2,3, Norito Shibata2,4 (RIFA, Ryukoku Uni.1, DB, GSS, Kyoto Univ.2, DLS, FS, Gakushuin Univ.3, DIST, Tsuyama Coll.4)

Wei Zhao1, Masayuki Oginuma5, Rieko Ajima2,3, Makoto Kiso2, Yumiko Saga2,3,4 (CDB1, NIG2, SOKENDAI3, uTokyo4, BWH5)

Bo-An Lin1, Yi-Xuan Lin1, Hsin-Yu Chung1, Jyuan-Kai Chiu1, Kun-Tong Chiu1, Shih-Han Wen1, Wen-Shyong Tzou1,2, Chin-Hwa Hu1,2 (Dep. Biosci. Biotechnol, Natl. Taiwan Ocean Univ.1, Center of Excellence for the Oceans, Natl. Taiwan Ocean Univ.2)


Yukika Saga1, Kohei Kitsutaka1, Saki Tamukai1, Naoya Kurihara1, Naoki Morikawa1, Nao Shimada1,2, Tetsuya Muramoto1, Takefumi Kawata1 (Toho
P022  Analysis of the mouse embryos in diapause
マウスの発生休止胚の解析
○Chizuru Kamemizu\textsuperscript{1,2}, Toshihiko Fujimori\textsuperscript{1,2} (Dept. of Basic Biol., School of Life Sci., SOKENDAI\textsuperscript{1}, Div. of Embryology, NIBB\textsuperscript{2})

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\textsuperscript{1}, Hiroyuki Takada\textsuperscript{1}, Robert Kelsh\textsuperscript{3}, Masahiko Hibi\textsuperscript{1,3}, Hisashi Hashimoto\textsuperscript{1,3} (Grad. Sch. Sci., Nagoya Univ.\textsuperscript{1}, Biosci. Biotech. Ctr., Nagoya Univ.\textsuperscript{2}, Dept. Biol. Biochem., Univ. Bath.\textsuperscript{3})

P024  A novel 3D spheroid culture system for generating functional pancreatic β 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\textsuperscript{1}, Shiping Zhang\textsuperscript{1}, Lei Xue\textsuperscript{1,2,3} (SLST, Tongji Univ.\textsuperscript{1}, Institute of Intervention Vessel, Shanghai 10th People’s Hospital\textsuperscript{2}, Shanghai Key Laboratory of Signaling and Disease Research\textsuperscript{3})

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)
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 Arai1, Fuminori Sato1, Takuya Yamamoto2, Hiroshi Kiyonari3, Atsuko Sehara-Fujisawa1 (IFMS, Kyoto U1, CiRA, Kyoto U2, LARGE, RIKEN CDB3)

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 Kawachi1, Eisuke Shimokita2, Yoshiko Takahashi1 (Kyoto univ.1, NAIST2)

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 Okamoto1, Naoko Nishimura1, Kazunari Matsuda1, Deshani Ranawakage2, Yusuke Kamachi2, Hisato Kondoh1,3, Masanori Uchikawa1 (Grad. Sch. of Frontier Biosci., Osaka Univ.1, Sch. of Environ. Sci and Eng., Kochi Univ. of Technol.2, Fac. of Life Sci., Kyoto Sangyo Univ.3)

new function of caspase
◇Hongui Wu1, Lei Xue1, Shiping Zhang1 (SKLSDR1, Institute of Intervention Vessel, Shanghai 10th People’s Hospital2, School of Life Science and Technology, Tongji University3)

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 Tamaoki1, Miki Takeuchi1, Yiou Cai1, Isao Kobayashi2, Makoto Kobayashi1 (Department of Molecular and Developmental Biology, Faculty of Medicine, University of Tsukuba1, a Faculty of Natural System, Institute of Science and Engineering, Kanazawa University2)

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

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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 Uefune¹, Yuki Sonoda¹, Daisuke Sakano¹, Toru Aonishi², Shoen Kume¹ (Life Science and Technology, Tokyo Tech¹, Computing, Tokyo Tech²)

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)

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 Yoshida¹, Makoto Nakamura¹, Kimiko Takebayashi-Suzuki¹, Naoto Ueno², Atsushi Suzuki¹ (Amphibian Research Center, Grad. Sch. Sci., Hiroshima Univ.¹, Div. Morphogenesis, Natl. Inst. Basic Biol.²)

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)

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 Shioi¹, Hideharu Hoshino², Takaya Abe¹, Hiroshi Kiyonari¹, Kazuki Nakao⁴, Yasuhide Furuta¹, Toshihiko Fujimori³, Shinichi Aizawa² (Genetic EngineeringTeam, RIKEN CLST¹, Lab. for Vertebrate Body Plan, RIKEN CDB², Animal Resource Development Unit, RIKEN CLST³, Lab. of Animal Resources, CDBIM, Univ. of Tokyo⁴, Div. of Embryology, NIBB³)
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)

GSK3β 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 GSK3β は卵割パターンに関与する
○Hiromi Takahashi¹, Masanori Abe², Reiko Kuroda¹² (Dept. of Appl. Biol. Sci., Grad. Sch. of Sci. & Tech., Tokyo Univ. of Science¹, RIST, Tokyo Univ. of Science²)

Ubiquitin C-terminal hydrolase 37 regulates Wnt/β-catenin pathway during Xenopus gastrulation
○Wonhee Han, Hyeyoon Lee, Jin-Kwan Han (Department of Life Sciences, POSTECH, South Korea)

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)

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 Ito¹², Yasufumi Sato¹³, Toshihiko Fujimori¹² (NIBB¹, SOKENDAI², KMU³)

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
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  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 Mii1,2,3, Ritsuko Takada1,2, Makoto Matsuyama4, Shinji Takada1,2,3 (NIBB1, OIIB2, SOKENDAI3, Shigei Medical Research Institute4)

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 Hino1,2, Tsubasa Aoki1,2, Akiko Nakanishi2, Ryoko Seki2, Atsuo Kawahara2, Takashi Shimizu1,2, Masahiko Hibi1,2 (Grad. Sch. Sci., Nagoya Univ.1, BBC2, Grad. Sch. Med. Yamanashi Univ.2)

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 Igarashi1, Yoshikazu Hirate2, Mami Uemura2, Hiroki Higashiyama1, Ryuto Hiramatsu1, Saki Segami1, Masamichi Kurohmaru1, Masami
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\textsuperscript{1}, Naoto Ueno\textsuperscript{1,2} (NIBB\textsuperscript{1}, SOKENDAI\textsuperscript{2})

*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)

Involvement of Tmem150b during Xenopus convergent extension
○Byeong-Rak Keum, Inchul Yeo, Lee Hyeyoon, Jin-Kwan Han (POSTECH)

Ripply2-mediated Xbra inhibition is required for proper head development
○Inchul Yeo, Jin-Kwan Han (POSTECH)

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発症機構の解明
○Shoko Takemoto\textsuperscript{1}, Kayoko Toyoshi\textsuperscript{1}, Haruka Fujita\textsuperscript{2}, Akiko Ohba\textsuperscript{1}, Kentaro Oh-Hashi\textsuperscript{2}, Yoko Hirata\textsuperscript{2}, Nobuyuki Shimozawa\textsuperscript{1}, Shigeo Takashima\textsuperscript{1} (Div Gen Res, Life Sci Res Ctr, Gifu Univ\textsuperscript{1}, Dept Chem Biomol Sci, F Eng, Gifu Univ\textsuperscript{2})

Anaerobic glucose metabolism regulates neural tube formation
嫌気的解糖系による神経管閉鎖制御
○Daisuke Sakai (Doshisha University)

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.
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 Ikeda¹², Yutaka Satou¹ (Dept. Zool., Grad. Sch. Sci., Kyoto Univ.¹, Present affiliation: NIBB²)

P058 DNA methylation in Aeolosoma viride regeneration
○Hung-Wen Kuo¹², Fei-Man Hsu², Chung-Yen Lin³, Liuh-Yow Chen⁴, Jiun-Hong Chen¹, Pao-Yang Chen² (Department of Life Science, NTU¹, IPMB, AS², IIS, AS³, IMB, AS⁴)

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 Yamaguchi¹, Reira Suzuki¹, Javier Cabrera², Tomomi Sagara¹, Satoru Nakagami¹, Chika Ejima¹, Ryousuke Sano³, Yuichi Aoki⁴, Tetsuya Kurata⁵, Takeshi Obayashi⁴, Taku Demura³, Carolina Escobar², Takashi Ishida¹, Shinichiro Sawa¹ (FAST, Kumamoto Univ.¹, Facultad de Ciencias del Medio Ambiène, Univ. de Castilla-La Mancha, Spain², Graduate school of biological science, NAIST³, Graduate School of Information Sciences, Tohoku Univ.⁴, Plant Global Education Project, NAIST⁵)

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
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

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

P065

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

P066

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
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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ラムが関与する

○Masaki Takechi1, Toshiko Furutera1, Taro Kitazawa2, Junko Takei1, Takahiko Yamada1, Filippo Rijli3, Hiroki Kurihara2, Shigeru Kuratani4, Sachiko Iseki1 (Grad Sch Med Dent Sci, TMDU1, Grad Sch Med, Univ of Tokyo2, FMI, Switzerland3, Evol Morph Lab, RIKEN4)

**P068**

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 Okada1,2, Shinji Takada1,2 (NIBB1, OIIB2)

**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 Tominaga1, Noriyuki Satoh2, Naoto Ueno2, Hiroki Takahashi4 (SOKENDAI1, OIST2, NIBB, SOKENDAI3, NIBB, SOKENDAI4)

**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 Ogita1, Akihiro Itoigawa1, Yasutetsu Kanaoka1, Takeo Matsumoto2, Noriko Funayama1 (Dep. Biophysics, Grad. School of Science, Kyoto Univ.1, Dept of Mech Sci & Eng, Grad Sch of Eng, Nagoya Univ2)

**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 Matsuda1, Yuji Matsuoka2, Yoshiyasu Ishimaru1, Sayuri Tomonari1, Takahito Watanabe1, Sumihare Noji3, Taro Mito1 (Inst. Tech.
and Sci., Tokushima Univ.¹, Dept. Biol. Sci., National University of Singapore², Tokushima Univ.³)

**P072**

*even-skipped* is required for segmentation and elongation of embryos in the cricket *Gryllus bimaculatus*as 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 Nakamura¹, Kohei Kawamoto¹, Sayuri Tomonari¹, Mayuko Matsuda¹, Takahito Watanabe¹, Yoshiyasu Ishimaru¹, Natsuki Uemura¹, Sumihare Noji², Taro Mito¹ (Inst. Tech. and Sci.,Tokushima Univ.¹, Tokushima Univ.²)

**P073**

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

○Che-Yi Lin¹, Mei-Yeh Lu², Jia-Xing Yue³, Kun-Lung Li¹, Yann Le Petillon¹, Luok Wen Yong¹, Fu-Yu Tsai¹, Yu-Fen Lu¹, Sheng-Ping Hwang¹, Y-Hsien Su¹, Jr-Kai Yu¹ (ICOB, Academia Sinica, Taiwan¹, BRC, Academia Sinica, Taiwan², IRCAN, France³, LS, National Taiwan University, Taiwan⁴)

**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リニー解析

○Fumihiro 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 Matsuda¹², Yoshimasa Sakakibara², Yuichiro Hara³, Shigehiro Kuraku³, Takashi Shimizu¹², Masahiko Hibi¹² (BBC., Nagoya Univ.¹, Grad. Sch. Sci., Nagoya Univ.², RIKEN CLST³)

**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 Wang¹, Preethi Krishnaraj¹, Anna Radhakrishnan¹², Guan-Yu Chen³, ○Ming-Der Lin¹³ (MBHG, Tzu-Chi Univ. Taiwan¹, GE, SRM Univ. India², LS, Tzu-Chi Univ. Taiwan³)

P079
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 Sato¹, Maako Kawamura¹, Eriko Takayama-Watanabe², ○Akihiko Watanabe¹ (Fac. of Sci., Yamagata Univ.¹, Inst. of Arts & Sci., Yamagata Univ.²)

P080
Dullard deficiency causes hemorrhage in the adult ovarian follicles
Dullard欠損は、成体の卵巣濾胞において、出血性囊胞を引き起こす
○Tadayoshi Hayata¹², Masahiko Chiga³⁴, Yoichi Ezura², Makoto Asashima⁵, Hidetaka Katabuchi⁴, Ryuichi Nishinakamura⁶, Masaki Noda²⁶ (Dept. of Biol. S Ig. Reg., Faculty of Med. Univ. of Tsukuba¹, Dept. of Mol. Pharmacol., Med. Res. Inst., TMDU², Dept. of Kidney Dev., IMEG, Kumamoto Univ.³, Dept. of OB-GYN, Faculty of Life Sci., Kumamoto Univ.⁴, Tokyo Univ. of Sci.⁵, Yokohama City Minato Red Cross Hospital⁶)

P081
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 Kojima¹, Takuya Sato¹, Yuta Naruse¹, Takehiko Ogawa¹² (Graduate school of medical life science, Yokohama city university¹, Institute of Molecular Medicine and Life Science, YCU², Department of Urology, YCU³)

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 Hirano¹², Yuta Nonami¹², Takuya Sato³⁴, Takehiko Ogawa³⁴, Shosei Yoshida¹² (Department of Basic Biology, SOKENDAI¹, Division of Germ Cell Biology, NIBB², Laboratory of Proteomics, Institute of Molecular Medicine and Life Science, Yokohama City University Association of Medical Science³, Department of Urology, Yokohama City University Graduate School of Medicine⁴)

**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**

(MOP07-09)

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**

(MOP07-04)

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 Nakamura¹², Yayoi Kon¹, Shosei Yoshida¹ (Div. Germ Cell Biology, NIBB¹, JSPS research fellow²)

**P087**

(MOP07-05)

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 Shimada¹, Yumiko Saga¹² (SOKENDAI¹, Division of Mammalian Development, National Institute of Genetics³)

**P088**

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

Jeff Ch Ho², Ernest Ml Kwong², William Kf Tse¹ (Agr, Kyushu Univ¹, Dept. Biol, HKBU²)
Disruption of Tsukushi leads to hydrocephalus by aberrant neurogenesis

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

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

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

Lineage analysis of Ripply3 expressing cells in the mouse development
Roles of Ptf1a and Gsx2 in development of inferior olive nucleus neurons in zebrafish

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

Tsubasa Ito, Miki Takeuchi, Marina Sakagami, Kazuhide Asakawa, Koichi Kawakami, Takashi Shimizu, Masahiko Hibi (Grad. School of Science, Nagoya Univ., Bioscience and Biotechnology Center, Nagoya Univ., National Institute of Institute of Genetics)

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

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

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

Coordinated regulation between survivin and epo expression promotes neuronal differentiation

Coordinated regulation between survivin and epo expression promotes neuronal differentiation

Hsin-Yu Chung, Chin-Hwa Hu (Dep, Biosci. Biotech., Natl Taiwan Ocean Univ., CEO, Natl Taiwan Ocean Univ.)

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

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

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

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

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Tadayoshi Watanabe, Takahiro Kiyomoto, Ryosuke Tadokoro, Yuta Takase, Etsuo A. Susaki, Hiroki R. Ueda, Yoshiko Takahashi (Department of Zoology, Graduate School of Science, Kyoto University, Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo, Laboratory for Synthetic Biology, RIKEN Quantitative Biology Center (QBIC), PRESTO, Japan Science and Technology Agency)
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\textsuperscript{1,2}, Koji Matsuda\textsuperscript{1,2}, Koichi Kawakami\textsuperscript{3}, Masayuki Yoshida\textsuperscript{4}, Masahiko Hibi\textsuperscript{1,2} (BBC, Nagoya Univ.\textsuperscript{1}, Grad. Sch. Sci., Nagoya Univ.\textsuperscript{2}, NIG\textsuperscript{3}, Hiroshima Univ.\textsuperscript{4})

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

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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 Inagaki¹, Natsuki Nakamura², Masanao Sato³, Satoru Kobayashi⁴, Mitsutaka Kadota⁵, Sean Keeley⁶, Shigehiro Kuraku⁶, Yuji Kageyama¹² (Biosignal Res. Ctr., Kobe University¹, Dept. Biology, Kobe University², Hokkaido University³, TARA⁴, CDB⁵)

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 Tabuchi¹², Aosa Kamezaki², Fuminori Sato², Kazuhiro Aoki³, Kazuhide Asakawa⁴, Koichi Kawakami⁴, Atsuko Sehara-Fujisawa² (GSB, Kyoto Univ.¹, IFMS, Kyoto Univ.², NIBB³, NIG⁴, MPIHLR, Germany⁵)

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 Hayashi¹, Chiyo Noda², Satoru Kobayashi¹ (TARA center, Univ. of Tsukuba¹, NIBB²)
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<td>Tail reduction process during human embryonic development</td>
<td>Sayaka Tojima¹, Haruyuki Makishima², Shigehito Yamada² (Grad. Sch. of Med., Osaka City Univ.¹, Grad. Sch. of Med., Kyoto Univ.²)</td>
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<td>Valproic acid induces aberrant pattern of corticostriatal pathway in an animal model of autism spectrum disorder</td>
<td>Kuo Hsiao-Ying, Liu Fu-Chin (INS, NYMU)</td>
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<td>SOX2-dependent determination of tissue identity in the foregut</td>
<td>Machiko Teramoto¹, Ryo Sugawara¹, Yasuo Ishii², Atsushi Kuroiwa³, Hisato Kondoh¹ (KSU¹, TWMU², Nagoya Univ.³)</td>
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<td>Koya Yoshihi, Yasuo Ishii, Hisato Kondoh (Kyoto Sangyo Univ)</td>
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<td>P116</td>
<td>Temporal Control of Tissue Maturation with Proliferation Reduction in developing trachea</td>
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 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

Zebrafish VCAP1X2 is essential for the proliferation and contractility of ventricular cardiomyocytes and proper epicardium development
鰭鰭VCAp1X2は心室の心筋細胞増殖及び筋収縮に不可欠で、正常な心外膜の発生に必要な

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

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

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

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
The development of a novel tool to analyze cranial placode development

Shigeru Sato, Yauhide Fruta, Kiyoshi Kawakami (Div. of Biol., Jichi Med. Univ., CLST RIKEN)

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

Fumiko Usami, Dongbo Shi, Kagayaki Kato, Toshihiko Fujimori (Dept. of Basic Biol., School of Life Sci., SOKENDAI, Div. of Embryology, NIBB, COS, Heidelberg Univ., Imaging Science, CNSI)

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

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

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

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


The role of diphthamide biosynthesis enzyme DPH1 in mouse car-
Wnt signal is required for proper rearrangement and morphological change of roof plate cells in the formation of median septum of mouse spinal cord

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

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

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

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

Patternning of the Cylindrical Unifacial Leaf Plant *Juncus torreyi* (Juncaceae)
A small part of the endoblast contributes to the gut endoderm in the chicken embryo.

血流と血管リモデリング: 生体内血管リモデリングからみる血管内皮細胞の挙動と血流の関係

Determination of mechanism for vascular remodeling from endothelial cellular behavior by fluid and solid mechanics.

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

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 Taira¹, Housei Wada², Shigeo Hayashi¹, Yuji Kageyama¹,² (Kobe University¹, Kobe University², RIKEN, CDB³)

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 Yamamoto¹, Nayuta Yakushiji-Kaminatsui², Yo-Ichi Shiraishi¹, Atsushi Kuroiwa¹ (Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.¹, Sch. of Life Sci., EPFL²)

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─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 Matsubara¹, Tatsuya Hirasawa², Shiro Egawa³, Ayumi Hattori⁴, Takaya Suganuma¹, Yuhei Kohara¹, Tatsuya Nagai¹, Koji Tamura¹, Shigeru Kuratani², Atsushi Kuroiwa¹, Takayuki Suzuki¹ (Div. of Biol. Sci., Nagoya Univ.¹, RIKEN², Grad. Sch. of Life Sci., Tohoku University³, IDAC, Tohoku University⁴)

P143

3-dimensional visualization of morphogenesis reveals novel contribution of visceral muscles to the left-right asymmetric development in Drosophila
Dongsun Shin¹, Yoshitaka Morishita¹, Mototsugu Eiraku², Kenji Matsuno¹ (Department of Biological Science, Graduate School of Science, Osaka University¹, RIKEN Center for Developmental Biology²)

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 Yasue1, Daishi Arai1, Silvia Mitsui1, Seiichi Oyadomari2, Eiji Tanaka1 (Dept. of Orthod., Inst. of Health Biosci., Tokushima Univ1, Div. of Mol. Biol., Institute of Adv. Enzyme Res., Tokushima Univ.2)

P145
(1W-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 Takenaka1, Tatsuya Takemoto2, Yo-Ichi Shiraishi1, Chisa Andoh1, Shiori Yamamoto1, Atsushi Kuroiwa1 (Div. of Biol. Sci., Sch. of Sci., Nagoya Univ1, IAMS, Tokushima Univ.2)

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 Sakaguchi1, Hiroki Kokubo2, Yumiko Saga1,3 (SOKENDAI1, Department of Cardiovascular Physiology and Medicine, Hiroshima University2, Division of Mammalian Development, National Institute of Genetics3)

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 Hosoda1, Takuya Kunimoto2, Osamu Nishimura2, Byulnim Hwang2, Minako Motoishi1, Shigenobu Yazawa2, Makoto Mochii1, Kiyo-kazu Agata2,3, Yoshihiko Umesono1 (Grad. Sch. of Life Sci., Univ. of Hyogo1, Dept. of Biophys., Grad. Sch. of Sci., Kyoto Univ.2, Dept. of Life Sci., Fac. of Sci., Grad. Crse. in Life Sci., Grad. Sch. of Sci., Gakushuin Univ.3)

P148
(0P06-02)

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
Erythropoietin Produced by Genetic-modified NIH/3T3 Fibroblasts Facilitate Neurogenesis in a Rat Stroke Model
○Pin-Chun Chou¹, Li-Kai Tsai², Chung-Liang Chien¹ (Graduate Institute of Anatomy and Cell Biology, College of Medicine, National Taiwan University, Taipei, Taiwan¹, Department of Neurology and Stroke Center, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan²)

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)

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)

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)

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

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

Implicated role of hyaluronan signaling in adult epithelial development during intestinal remodeling in Xenopus leavis
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
Leg regeneration is regulated by epigenetics depending on photoperiodism in the cricket *Modicogryllus siamensis*.

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

Hyper innervation stimulate improvement of *Xenopus laevis* limb regeneration.

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

Scaling of critical weight for metamorphosis in the genus *Drosophila*.

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 Kunimasa¹, Hayato Yokoi¹, Yoshifumi Sakai¹, Tadahisa Seikai², Tohru Susuki¹ (Grad Schl Agricul Sci, Tohoku Univ¹, Fukui Pref Univ²)

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
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
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
Taiki Nakajima¹, Mitsuaki Shibata¹, Cantas Alev¹, Makoto Fukuta¹, Hidetoshi Sakurai¹, Junya Toguchida¹,²,³, Makoto Ikeya¹ (CiRA, Kyoto Univ.¹, Department of Tissue Regeneration, Institute for Frontier Medical Sciences, Kyoto Univ.², Department of Orthopedic Surgery, Graduate School of Medicine, Kyoto Univ.³)

P166
Establishment of neural progenitor cell lines with defined regional specificites from EpiSCs.
エピプ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
Kae Nakamura, Claire Boitet, Sayaka Satake, Koya Yoshihi, Hideaki Iida, Yasuo Ishii, Hisato Kondoh (GSLS, Kyoto Sangyo Univ.)

P167
(Post08-04)
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
Kurumi Fukuda¹, Takuma Naka², Atsushi Suzuki², Yumiko Saga¹,³
Osteoblast precursor cells are the committed stem cells involved in bone maintenance and regeneration of zebrafish.

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。

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

Density homeostasis of spermatogenic stem cells through competition for FGFs

Expression analysis of Notch3 and Hes family genes in mouse spermatogonia

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

Studying the establishment of the spermatogenic stem cell compart-
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.)

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 Otsuka¹, Asuka Takehara¹, Yasuhisa Matsui¹²³ (IDAC, Tohoku Univ¹, Graduate School of life sciences, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577, Japan², AMED-CREST³)

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 Tanaka¹², Sachiko Otsu¹, Naoki Tani³, Akira Nakamura¹² (IMEG, Kumamoto Univ¹, Grad Sch Pharm Sci, Kumamoto Univ², LILA, IMEG, Kumamoto Univ³)

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 Developent, 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 Araki¹, Tamami Ishikawa², JöRg Steinfeld³ (Dept of Biol., Nara Med. Univ.¹, Nara Women’s University, Nara 630-8506, Japan², Darmstadt University of Technology, D-64287 Germany³)

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 Mochizuki¹, Hisato Kobayashi², Yumi Matsuoka¹, Tomohiro Kono³, Yasuhisa Matsu³¹,4 (IDAC, Tohoku Univ.¹, NGRC, NODAI³, Dept. of BioSci, NODAI³, AMED-CREST⁴)

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 Goto¹, Yuimi Koyama¹, Yumi Iwai¹, Yui Donoue¹, Kunimasa Ohta² (Uto Senior High School¹, Department of Developmental Neurobiology, Kumamoto University Graduate School of Life Sciences²)

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 Sato¹,², Norito Shibata², Kiyokazu Agata¹² (Grad. School of Science, Gakushuin Univ.¹, Dep. of Biophys, Grad school of Science, Kyoto Univ.², National Institute of Tech., Tsuyama College³)

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 Abe¹, Ken-Ichi Inoue², Hiroshi Kiyonari¹,², Yasuhide Furuta¹,² (GET, RIKEN CLST¹, ARDU, RIKEN CLST²)

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 Oki¹, Tazro Ohta², Go Shioi³, Hideki Hatanaka⁴, Osamu Ogasawara⁵, Yoshihiro Okuda⁶, Hideya Kawaji⁶, Ryō Nakaki⁷, Jun Sese⁸, Chikara Meno¹ (Grad. Sch Med. Sci., Kyushu Univ.¹, DBCLS, ROIS², RIKEN CLST³, NBDC, JST⁴, DDBJ center, NIG⁵, RIKEN ACCC⁶, RCAST, the Univ of Tokyo⁷, AIRC, AIST⁸)

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 Onimaru¹, Fumio Motone¹,², Itsuki Kiyatake³, Kiyonori Nishida³, Shigehiro Kuraku¹ (CLST¹, Graduate School of Science and Technology, Kwansei Gakuin University², Osaka Aquarium Kaiyukan³)

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 Tanaka¹, Hiroshi Hosokawa², Keiji Nishida³, Shingo Maegawa² (Graduate school of Biostudies, Kyoto Univ.¹, Graduate School of Informatics, Kyoto Univ.², Graduate School of Science, Technology and Innovation, Kobe Univ.³)

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 Takase¹, Etsuo A Susaki²,³,⁴, Hiroki R Ueda²,³, Yoshiko Takahashi¹ (Department of Zoology, Graduate School of Science, Kyoto University¹, Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo², Laboratory for Synthetic Biology, RIKEN Quantitative Biology Center (QBiC)³, PRESTO, Japan Science and Technology Agency⁴)

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 Nakamasu¹, Masamune Nakayama², Naoto Shingu³, Hirofumi Izuhara⁴, Yuji Nashimoto², Itsuki Kunita³, Yuichiro Arima⁵, Yoshimi Yamaguchi¹, Koichi Nishiyama⁵, Ryuji Yokokawa², Takashi Miura¹ (Grad. Sch. Med. Sci., Kyushu Univ.¹, Dept. Mic. Engine., Kyoto Univ.², Facul.
P188 Inference of Gene Regulatory Networks from Expression Data
○Prabhat Shankar¹, Hitoshi Niwa², Tatsuo Shibata¹ (RIKEN QBiC¹, Kumamoto Univ.²)

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 Sasaki¹, Hitomi Nakajima², Yoshimi Yamaguchi¹, Ryuji Yokokawa³, Takashi Miura¹ (Kyushu University¹, Kyushu University², Kyoto University³)

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 Miyazaki², Takashi Miura¹³, ○Hisako Takigawa-Imamura¹ (Dept. Anat. Cell Biol., Grad. Sch. Med., Kyushu Univ.¹, Sch. Med., Kyushu Univ.², CREST, JST³)

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 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 Okamto¹, Kohei Yamamura², Hiroki Ura³, Yasushi Okada², Kuniya Abe³, Tomonobu Watanabe¹ (RIKEN QBiC Comprehensive Bio-imaging Laboratory¹, RIKEN QBiC, Lab for Cell Polarity Regulation², RIKEN BRC, Mammalian Genome Dynamics Team³)
DATE: May 10 (Wed) 9:00 ~ 10:24 Room F
Chairpersons: Yoshifumi Yamaguchi (Univ. of Tokyo)
Asako Shindo (Nagoya Univ.)

SW-1  09:00-09:12
(P034)  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  09:12-09:24
(P145)  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 Takenaka¹, Tatsuya Takemoto², Yo-Ichi Shiraishi¹, Chisa Andoh¹, Shiori Yamamoto¹, Atsushi Kuroiwa¹(Div. of Biol. Sci., Sch. of Sci., Nagoya Univ¹, IAMS, Tokushima Univ²)

SW-3  09:24-09:36
(P140)  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 Taira¹, Housei Wada³, Shigeo Hayashi¹, Yuji Kageyama¹²(Kobe University¹, Kobe University², RIKEN, CDB³)

SW-4  09:36-09:48
(P117)  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  09:48-10:00
(P157)  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 Hamada¹, Tetsuya Bando¹, Kenji Tomioka², Hideyo Ohuchi¹(OKAYAMA UNIV., Grad. Sch. of Med. Dent. and Phar. Sci.¹, OKAYAMA UNIV., Grad. Sch. of Nat. Sci. and Tech.²)
**SW-6  10:00-10:12  (P182)**
Harnessing the CRISPR/Cas9 system in mouse genetic engineering @ LARGE, RIKEN-Kobe
神戸 RIKEN LARGE での CIRSPR/Cas9 システムを用いた遺伝子改変マウス作製の試み
○Takaya Abe¹, Ken-Ichi Inoue², Hiroshi Kiyonari¹², Yasuhide Furuta¹²(GET, RIKEN CLST¹, ARDU, RIKEN CLST²)

**SW-7  10:12-10:24  (P066)**
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 Nishikawa¹, Sairi Miyata¹, Tomoe Kawakami¹, Yuuto Hikiji¹, Ichiro Tazawa², Shigenobu Tone³(Dept.of Biol.Sci., Fac.of Life & Environ.Sci., Shimane Univ.¹, Amphibian Res. Center, Hiroshima Univ.², Lab. Mol. Dev. Biol., Grad. Sch. of Sci. and Eng, Tokyo Denki Univ.³)