



# 52nd Annual Meeting of the Japanese Society of Developmental Biologists

Co-sponsored by Asia-Pacific Developmental Biology Network

May 14-17, 2019 International House OSAKA

**Program Book**



52nd Annual Meeting of the Japanese Society of Developmental Biologists Program Book

May 14-17, 2019 OSAKA

**Plenary Lectures:**

Eric Wieschaus (Princeton Univ.)

Nicolas Plachta (A\*STAR, Singapore)

Online Registration start January 5, 2019

Abstract submission deadline January 18, 2019

Online Registration deadline April 5, 2019

**日本発生生物学会大会 @ 大阪国際交流センター**

Chair: Hiroki Nishida (Osaka Univ.)

<http://www2.jsdb.jp/kaisai/jsdb2019/index.php>

Modified from E. Haeckel (1874) Anthropogenie



# Welcome to the 52nd Annual Meeting of the JSDB in Osaka !



On behalf of the meeting organizing committee, I am pleased to announce that the 52nd annual meeting of the Japanese Society of Developmental Biologists (JSDB), cosponsored by the Asia-Pacific Developmental Biology Network (APDBN), will be held in Osaka.

It's been a long time since last JSDB meeting was held in Osaka in 1999. The meeting venue this time, Osaka International House, is situated in southern part of Osaka downtown and we encourage you to have a look around and enjoy spirits of Osaka there, especially to meet with talkative and friendly people speaking in Kansai dialect.

The organizing committee welcomes you all, and we will provide as many opportunities as possible for participants to give a talk upon selection. We hope you will enjoy stimulating scientific discussions, and find inspiration for your future researches during the meeting.

Enjoy Takoyaki, a kind of soul food, and science entertainments.  
We very much look forward to welcoming you to the heart of Osaka !

A handwritten signature in cursive script, which reads "Hiroki Nishida".

**Hiroki Nishida**

Chair of the 2019 JSDB meeting organizing committee

# Contents

<b>Welcome Messages</b> .....	1
<b>Acknowledgements of Sponsorship</b> .....	4
<b>Organizing Committee</b> .....	5
<b>Access Guide to Osaka International House</b> .....	6
<b>Floor Maps of Osaka International House</b> .....	10
<b>Program at a Glance</b> .....	12
<b>General Information for Attendance</b> .....	16
<b>DGD Editorial Meeting &amp; JSDB Board Meeting</b> .....	17
<b>Reception</b> .....	17
<b>JSDB Dr. Tokindo Okada Foundation (in Japanese)</b> .....	20
<b>Special Event ~ Professor's Poster Street ~</b> .....	22
<b>Luncheon Seminars</b> .....	23
<b>Nursery</b> .....	27
<b>Instruction for Presentations</b> .....	28
<b>Web Abstract Book</b> .....	30
<b>Scientific Programs</b>	
Plenary Lectures .....	37
Symposia .....	39
Oral Presentations .....	51
Poster Sessions .....	71
Satellite Workshops (in Japanese) .....	104
Career Path Workshop (in Japanese) .....	108
<b>Author Index</b> .....	109
<b>Exhibitor Index</b>	
<b>Advertisements</b>	
<b>How to view the online abstract book</b>	

# 目次

ご挨拶	1
スポンサー	4
大会準備委員	5
会場への交通ご案内	6
会場内の見取り図	10
日程表	12
参加者へのご案内	16
DGD 編集委員会・JSDB 運営委員会	17
懇親会	17
日本発生生物学会 岡田節人基金（日本語）	20
<特別企画>教授ポスターストリート（日本語）	22
ランチョン・セミナー	23
託児所	27
発表についてのご注意	28
Web Abstract Book について	30
プログラム	
プレナリー・レクチャー	37
シンポジウム	39
口頭発表	51
ポスター発表	71
サテライトワークショップ（日本語）	104
キャリアパスワークショップ（日本語）	108
発表者氏名索引	109
展示企業一覧	
広告	
WEB 要旨集 閲覧方法	

# Acknowledgements of Sponsorship

The organizing committee of 52nd Annual Meeting of JSDB gratefully acknowledges the generous financial support of the following:

## Sponsors



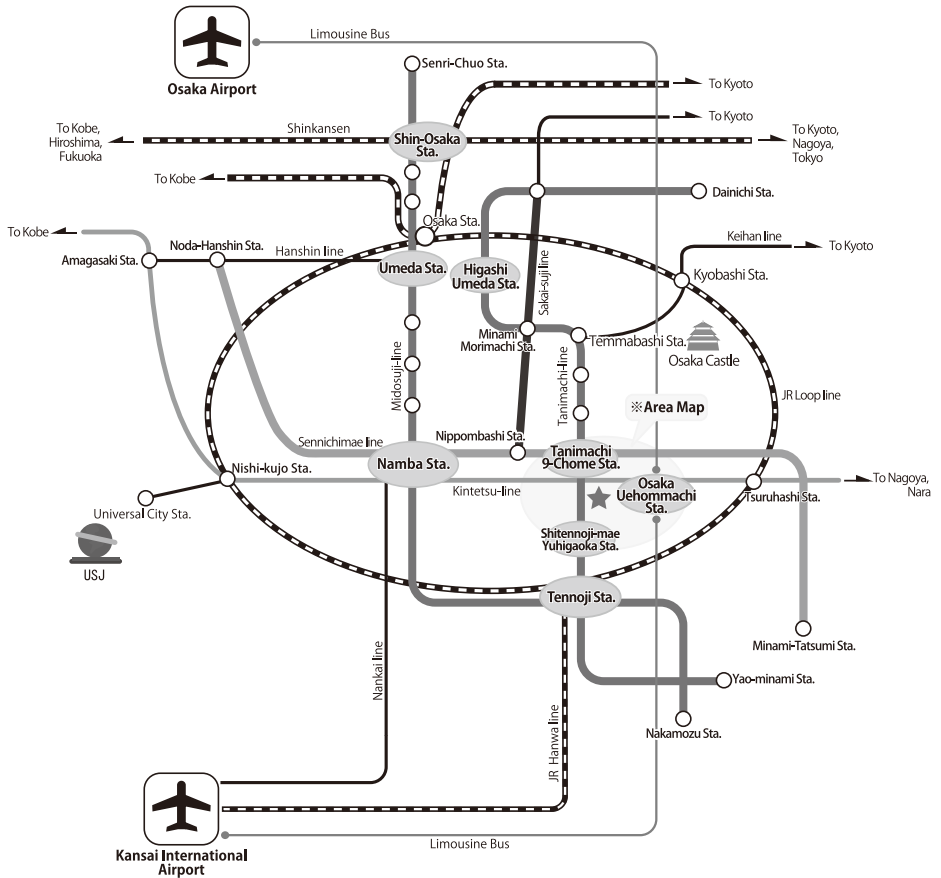
**THE NAITO FOUNDATION**



## Organizing Committee

<b>Chairperson:</b>	
Hiroki Nishida	Osaka University
<b>Members:</b>	
Kenji Matsuno	Osaka University
Hiroshi Sasaki	Osaka University
Shigeru Kondo	Osaka University
Kaoru Imai	Osaka University
Takeshi Onuma	Osaka University
Tomoko Yamakawa	Osaka University
Takeshi Sasamura	Osaka University
Mikiko Inaki	Osaka University
Masanori Uchikawa	Osaka University
Masakazu Hashimoto	Osaka University





- From KANSAI INTERNATIONAL Airport to KINTETSU UEHOMMACHI by limousine bus : Approx. 50 min (Arrives at SHERATON MIYAKO HOTEL OSAKA entrance on 1F)
- From Osaka INTERNATIONAL Airport to KINTETSU UEHOMMACHI by limousine bus : Approx. 30 min (Arrives at KINTETSU Bus Center which is directly connected to 2F of SHERATON MIYAKO HOTEL OSAKA )

交通機関ご利用の方 **Access by train**

29 新大阪から約40分 **From Shin-Osaka (about 40 min.)**



30 大阪(うめだ)から約30分 **From Osaka (Umeda) (about 30 min.)**



31 天王寺から約15分 **From Tennoji (about 15 min.)**



32 神戸(三宮)から約40分 **From Kobe (Sannomiya) (about 40 min.)**



33 奈良から約40分 **From Nara (about 40min.)**



34 大阪空港(伊丹空港)から約40分 **From Osaka Airport (Itami Airport) (about 40 min.)**



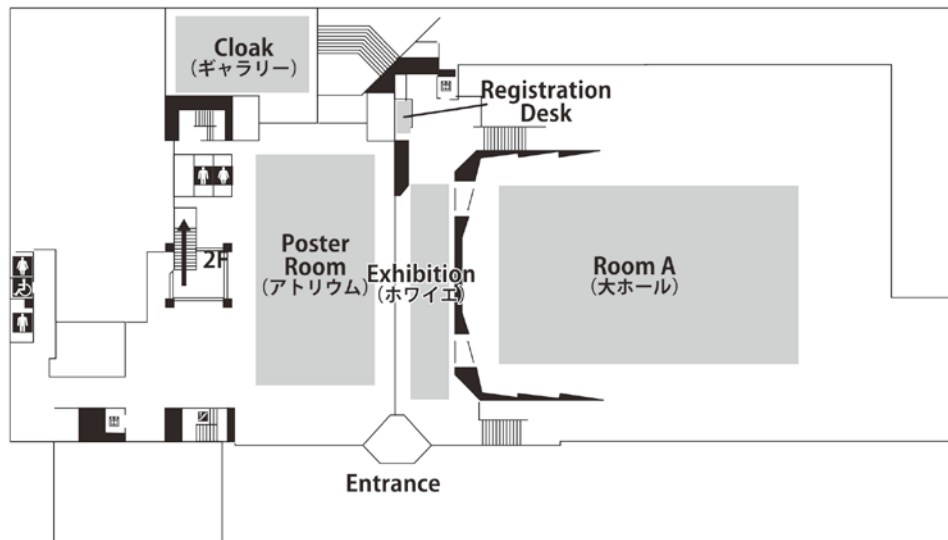
35 関西空港から約60分 **From Kansai Airport (about 60 min.)**



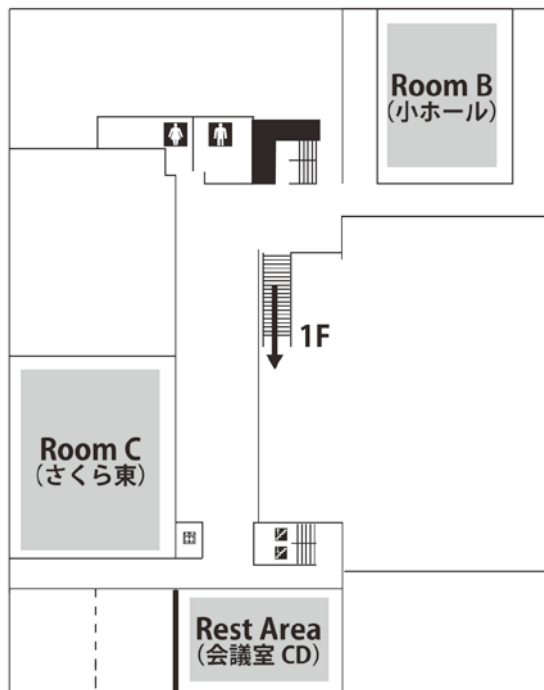


# Floor Map

1F



2F



# Program at a Glance

Room A = 1F Main Hall  
Room B = 2F Sub-Hall  
Room C = 2F Main Conference Room (SAKURA)  
Poster = 1F Exhibition Gallery  
Exhibition = 1F Main Hall Foyer

## Day 0 (May 14 (Tue))

	11:00-15:30	15:30-17:45
Room B		Satellite Workshop 1 (in Japanese)
Room C		Satellite Workshop 2 (in Japanese)
Meeting room	DGD Editorial Meeting & JSDB Board Meeting	

## Day 1 (May 15 (Wed))

	9:00-11:45	12:15-13:15	13:30-15:30	16:00-18:45
Room A	<b>Oral Presentation 1</b> Morphogenesis (1)			<b>Oral Presentation 4</b> Morphogenesis (2)
Room B	<b>Oral Presentation 2</b> Reproduction & Germ Cells & Neural Development (1)	Luncheon Carl Zeiss Co., Ltd.		<b>Oral Presentation 5</b> Neural Development (2)
Room C	<b>Oral Presentation 3</b> Evolution (1)	Luncheon キャリアパス ワークシヨツブ (in Japanese)		<b>Oral Presentation 6</b> Evolution (2) & Early Embryogenesis
Poster	Poster Mounting		<b>Poster Discussion 1</b> Special Event ~ Professor's Poster Street ~	
Exhibition	<b>Equipment &amp; Book</b>			

## Day 2 (May 16 (Thu))

	9:00-11:45	12:00-13:00	13:15-15:15	15:30-17:30	18:00-20:00
Room A	<b>Oral Presentation 7</b> Organogenesis & Metabolism	General Assembly & Travel Fellowship for Dr. Tokindo Okada Awards		<b>Plenary Lecture</b>	
Room B	<b>Oral Presentation 8</b> Stem Cells & Regeneration & Epigenetics				<b>Reception</b>
Room C	<b>Oral Presentation 9</b> Patterning & Cell signaling & Imaging & Theory and Modeling				
Poster			<b>Poster Discussion 2</b>		
Exhibition	<b>Equipment &amp; Book</b>				

## Day 3 (May 17 (Fri))

	9:00-11:30	12:00-13:00	13:30-16:00
Room A	<p><b>Symposium 01</b> Towards understanding multicellular systems in development - Measurement and Modeling</p>		<p><b>Symposium 04</b> Enhancer function explaining morphological diversity</p>
Room B	<p><b>Symposium 02</b> Topics in Plant and Animal Development</p>	<p>Luncheon WILEY (in English)</p>	<p><b>Symposium 05</b> Cell and tissue mechanics of organogenesis</p>
Room C	<p><b>Symposium 03</b> APDBN Symposium</p>	<p>Luncheon 科研費説明会 (in Japanese)</p>	<p><b>Symposium 06</b> Theory of the brain diversity based on evolution of developmental mechanism</p>
Poster	Poster Removal		
Exhibition	<b>Equipment &amp; Book</b>		


# General Information for Attendance

## Venue

### Osaka International House

2-6 Uehommachi 8-chome, Tennoji-ku, Osaka 543-0001 Japan

Phone +81- 6-6773-8182 Fax: +81- 6-6773-8421

URL <a href="http://www.ih-osaka.or.jp/english/international/">http://www.ih-osaka.or.jp/english/international/</a>	Google map <a href="https://goo.gl/maps/Gds3gj8fY9q">https://goo.gl/maps/Gds3gj8fY9q</a>
	

## Official Language

English will be the official conference language, and no simultaneous translation will be provided.

The Satellite Workshops (May 14) will be held in Japanese.

## Registrations

Advanced Registration is no longer available. Please register at the conference venue. (On-site registration is available throughout the conference period.)

## Registration Fee (On-site) (JPY)

General JSDB/ISDB/APDBN members : ¥10,000 (early ¥8,000)

Student JSDB/ISDB/APDBN members : ¥4,000 (early ¥0)

General Non-members : ¥12,000 (early ¥9,000)

Student Non-members : ¥4,000 (early ¥0)

\*Registration includes access to all scientific sessions and exhibits.

\*Students should provide the name and affiliation of their supervisor.

## JSDB General Assembly

May 16 (Thursday), 12:00-13:00, Room A

## Payment

All payment must be made in Japanese yen, by credit card or by bank draft, payable to "The 52nd Annual Meeting of the JSDB". Please send payment with the completed registration form to the secretariat. No checks or money orders will be accepted. All bank charges are to be borne by the remitter.

## **Name Tags**

Name tags will be sent to advance registrants, or will be provided at the time of registration.

Participants are requested to wear their name tags at all times during the conference.

## **Exhibition**

Exhibits by various companies and organizations are provided in Exhibition (1F Main Hall Foyer).

## **Lunch**

May 15 (Wed) & May 17 (Fri): At the luncheon seminar, a limited number of free lunch boxes will be provided by sponsors.

## **Refreshments and Internet Access**

Break corners are associated with Rest Area (2F).

WiFi is available in all floors. Login information will be posted at the registration desk (1F) and on each floor.

## **DGD Editorial Meeting & JSDB Board Meeting**

May 14 (Tue) 11:00-15:30

Meeting room.

## **Reception**

May 16 (Thu) 18:00-20:00

Room B (Osaka International House 2F)

Reception fee (On-site) (JPY)

General JSDB/ISDB/APDBN members : ¥8,000 (early ¥7,000)

Student JSDB/ISDB/APDBN members : ¥4,000 (early ¥3,000)

General Non-members : ¥8,000 (early ¥7,000)

Student Non-members : ¥4,000 (early ¥3,000)

## **Registration Desk (1F)**

Open Hour:

May 14 (Tue)	May 15 (Wed)	May 16 (Thu)	May 17 (Fri)
14:00-18:00	8:00-18:00	8:00-18:00	8:00-16:00

Location: **Osaka International House 1F Main Hall Foyer**

## **Cloakroom (1F)**

Cloakroom is available for your luggages. Please note that valuables and computers cannot be accepted.

We are not responsible for any damage or loss at the cloakroom.

Open Hour:

May 14 (Tue)	May 15 (Wed)	May 16 (Thu)	May 17 (Fri)
14:00-18:30	8:00-19:00	8:00-20:30	8:00-16:30

Location: **Osaka International House 1F Gallery**

**Photography / Recording**

**No photography and recording with camera, video, mobiles or any device is allowed at the lecture, presentation and poster rooms.**



日本発生生物学会 岡田節人基金  
**JSDB Dr. Tokindo Okada Foundation**

日本発生生物学会の設立メンバーの一人だった岡田節人博士は、我が国における発生生物学の立ち上げと同時に、グローバル化にもご尽力してこられました。博士は一線を退かれた後も、我が国の発生生物学の国際レベルでのさらなる躍進を期待され、海外交流助成のための「岡田節人基金」を設立されました。

そこで、日本発生生物学会は、発生生物学の将来を担うグローバルな視野に富む研究者の育成を目的とし、海外で開催される発生生物学に関連する国際会議（学会・シンポジウム等）での発表、または海外で開催される発生生物学に関連するコースへの参加に要する経費の一部を助成する。加えて、若手研究者の国際的な討議・意見交換・講演等のスキルおよび国際的評価の向上を目的とし、発生生物学分野において優れた研究業績を有する海外在住の研究者を、国内で開催される発生生物学に関連する会議（学会・シンポジウム等）に招聘する場合に要する経費の一部を助成する。

## 岡田節人基金 贈呈式

### Travel Fellowship for Dr. Tokindo Okada Awards

日時：2019年5月16日（木）12:00～13:00

場所：Room A（大ホール）

第52回大会の総会で、贈呈式を行う予定です。

#### 【受賞者】

東島沙弥加会員、間瀬俊会員、羽田優花会員、全由悦会員、松野健治会員

	<p><b>2017年 派遣助成</b> 東島沙弥加会員（大阪大学・理学研究科・生物科学専攻） 対象学会：ISDB ミーティング</p>
	<p><b>2018年 派遣助成</b> 羽田優花会員（東京大学大学院医学系研究科・D1） 対象学会：日独合同若手ミーティング（ドイツ）</p>
	<p><b>2018年 派遣助成</b> 全由悦会員（東京大学大学院理学系研究科・M2） 対象学会：日独合同若手ミーティング（ドイツ）</p>
	<p><b>2018年 派遣助成</b> 間瀬俊会員（京都大学大学院生命科学系研究科・D4） 対象学会：日独合同若手ミーティング（ドイツ）</p>
	<p><b>2019年 招へい助成</b> 松野健治会員（大阪大学大学院理学研究科・教授） 対象学会：日本発生生物学会第52回大会 招聘者：Dr. Yan Song（北京大学）</p>

## The 52nd Annual Meeting for the JSDB Special Event

### 第52回大会 学生のための特別企画

# ～教授ポスターストリート～

May 15 (Wed) 13:30 – 15:30, Poster Room

皆さんはポスター発表をどのような位置づけで捉えられているでしょうか？  
口頭発表より簡単で楽な発表であると考えている方も少なくはないのではないのでしょうか。しかしながら、直接対話するポスター発表であるからこそ、いかにして理解しやすく、インパクトを与えることができるのか、実は様々な工夫が必要です。本企画では、発生生物学を代表する10名の教授陣が、学生の皆さんに対して、これぞ本物のポスター発表だと示すような本気のポスター発表を行います。本企画を通して、学生の皆さんがサイエンスに感動する機会を得ると同時に、いかにしてポスター発表を実りあるものに発展させるか、学ぶことのできる機会となることを期待しています。

なお、プログラム集にあるコメント用紙にて、学生の皆さんを中心とした聞き手側からも、教授陣へ自由なコメントを返していただき、相互のコミュニケーションを図りたいと思います。

- |    |     |           |
|----|-----|-----------|
| 阿形 | 清和  | (学習院大学)   |
| 上村 | 匡   | (京都大学大学院) |
| 見学 | 美根子 | (京都大学)    |
| 近藤 | 滋   | (大阪大学大学院) |
| 近藤 | 寿人  | (京都産業大学)  |
| 高橋 | 淑子  | (京都大学大学院) |
| 田村 | 宏治  | (東北大学大学院) |
| 林  | 茂生  | (理研BDR)   |
| 松野 | 健治  | (大阪大学)    |
| 三浦 | 正幸  | (東京大学大学院) |



## Luncheon Seminars Schedule

	Date	Time	Room	Sponsor
1	May 15 (Wed)	12:15 ~ 13:15	Room B	Carl Zeiss Co., Ltd.
2	〃	〃	Room C	キャリアパスワークショップ (in Japanese) (P 108)
3	May 17 (Fri)	12:00 ~ 13:00	Room B	WILEY (in English)
4	〃	〃	Room C	科研費の最近の動向 (in Japanese)



## 発生生物学会・アジア太平洋発生生物学会 国際合同大会

カールツァイス株式会社 ランチョンセミナー

日時： 2019年5月15日（水）12:15～13:15

場所： 大阪国際交流センター 2F Room B

講演タイトル

### ショウジョウバエの脳高次機能の限界はどこにあるのか？

#### — 顕微鏡周りに広がる無限の可能性 —

ショウジョウバエは発生生物学の発展に多大な貢献をしてきたが、近年、課題遂行中の動物の同定可能な神経細胞から活動を記録したり、その機能を操作したりできる技術が開発された為、システム神経科学の研究にも非常に適したモデル動物へと変貌を遂げつつある。本セミナーでは、イメージングをはじめとした様々な技術を用いて、ショウジョウバエが持つ脳高次機能の地平線がどこまで広がっているのかを探し、さらにその神経回路メカニズムに迫るべく行っている我々の取り組みを紹介する。

座長

林 茂生 先生

理化学研究所生命機能科学研究センター

演者

風間 北斗 先生

理化学研究所脳神経科学研究センター

講演タイトル

Multiplex で切り拓く革新技術

— ZEISS 次世代共焦点顕微鏡のご紹介 —

演者

林 理恵

カールツァイス株式会社

WILEY ランチョンセミナー

=Luncheon Seminar (in English) by **WILEY**=

May 17 (Fri) 12:00-13:00, Room B

## Promote your paper

**Gary Schoenwolf**, Special Project Editor, Developmental Dynamics

**Harukazu Nakamura**, Editor-in-Chief, Development, Growth & Differentiation

We, as scientists, all want to publish the best and most impactful papers, and to do this we need to develop our paper-writing skills. Gary Schoenwolf will talk about how to promote your paper to present your study in the best way. Harukazu Nakamura will talk about how the manuscript is processed after your submission and how we should respond to the decision letter.



**WILEY**

科研費説明会 ランチョンセミナー

=Luncheon Seminar (in Japanese) by JSDB=

May 17 (Fri) 12:00-13:00, Room C

## 「科研費の最近の動向」

＝講師＝

塚谷 裕一 東京大学（日本学術振興会学術システム研究センター主任研究員）

藤森 俊彦 基礎生物学研究所（日本学術振興会学術システム研究センター専門研究員）

独創的・先駆的な学術研究を進めるために、科学研究費補助金（科研費）による支援は欠かせない。「科研費審査システム改革 2018」によって、科研費の審査システムが大きく変わった。科研費の申請や審査システムなどに関して最近の動向について学術システム研究センター研究員の視点から解説する。



## 日本発生生物学会第 52 回大会 託児のご案内

開設日時	2019年5月15日(水) 8:30～19:00 2019年5月16日(木) 8:30～18:30 2019年5月17日(金) 8:30～16:30
託児人数	5名程度/各日
対象年齢	生後3ヵ月～小学校6年生まで
場 所	大阪国際交流センター 内 ※セキュリティ確保のため、お申込者のみにご案内します。
委 託 先	株式会社ラヴィ 公益社団法人 全国保育サービス協会 (ACSA) 正会員
料 金	有料 500円(税込)/1時間・お1人あたり・1時間未満は切り上げとします ※オムツなど実費及び上記時間以外の延長料金は除きます。
申込方法	<p>■ WEB 予約</p> <p>※登録にはパスワードが必要です。パスワードは、大会事務局 (jsdb2019@jsdb.jp) までお問い合わせください。</p> <p>以下の項目をお伝え下さい。</p> <ol style="list-style-type: none"> <li>1. 保護者氏名 (よみがな) ・連絡先 (携帯電話番号含む) ・所属 ・会員番号</li> <li>2. 託児希望日時</li> <li>3. お子様の名前 (よみがな) ・年齢 ・性別</li> <li>4. 託児上の注意点 (アレルギーなど)</li> </ol>
申込締切	2019年5月7日(火) ※定員になり次第、締め切らせていただきますのでお早目にお申込みください。
保 険	<p>全国ベビーシッター協会の傷害・賠償保険に加入しており、万が一の場合の傷害保険、賠償保険には万全を期しておりますが、不可抗力による事故等、保険金が支払われない場合がございます。</p> <p>日本発生生物学会といたしましては、託児ルームのご利用に際して発生する事故等について一切責任を負うことはできませんので、あらかじめご了承ください。</p>

# Instruction for Presentations

大会発表についてのご注意

## Oral Presentation

### 1. Computer for oral presentation

**Presentation shall be given with your PC connected to a PC switcher next to the podium.**

- **Make sure to bring any necessary electrical adaptors and connectors for your computer.**
- The meeting venue will provide a Mini D-sub15 pin and HDMI cable for connecting to PC switchers. Macintosh and certain kinds of Windows computers require an appropriate connector to fit a Mini D-sub15 pin or HDMI plug.
- Electric power in Osaka is provided at 100V, 60Hz.
- The screen ratio is 4:3.

### 2. Presentation registration

Please come to your session room at **20 min** prior to the beginning of the talk and connect your PC to a PC switcher.

### 3. Presentation time

Oral Presentation (in English) and Satellite Workshop (in Japanese)

**12 minutes** for presentation and **3 minutes** for discussion.

1BELL	10 minutes	2 minutes to the end of presentation
2BELL	12 minutes	End of presentation- Start of discussion
3BELL	15 minutes	End of discussion

## Poster Presentations

Poster board size: 900 mm (width) x 2100 mm (height)

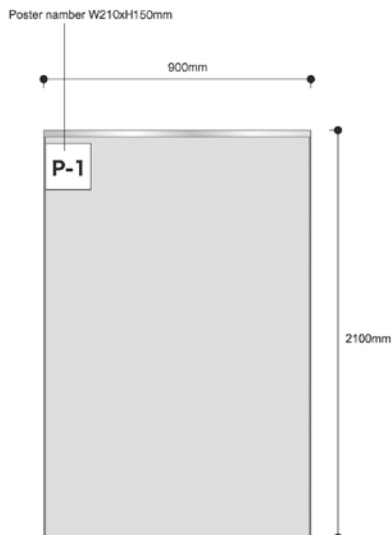
- ◆ Please leave a 210 mm x 150 mm blank space at the top left corner for the organizing committee to indicate your poster number.
- ◆ Please stay (or stand) in the vicinity of your poster for explanation during your assigned discussion time. Be sure that every poster presenter is assigned to explain his/her poster on both Day1 and Day2.

<b>Mounting:</b>	<b>9:00-11:30 on Day1 (May 15 (Wed))</b>
Day1 (May 15 (Wed)) Discussion:	13:30-14:30 for <b>odd number</b> posters 14:30-15:30 for <b>even number</b> posters
	13:30-15:30 for <b>Special Event ~ Professor's Poster Street ~</b>
Day2 (May 16 (Thu)) Discussion:	13:15-14:15 for <b>even number</b> posters 14:15-15:15 for <b>odd number</b> posters
<b>Removal:</b>	<b>9:00-11:30 on Day3 (May 17 (Fri))</b>

## Poster Awards

Eligible participants are students or young research scientists (received Ph.D. within last five years) who wish to be considered for the poster awards. Non-student participants to the meeting will vote.

**The award ceremony will be held during the reception on Day2 (May 16 (Thu)).**



## About Web Abstract Book

### 【How to use:】

#### Web (access from PCs)

Click the link below.

<https://confit.atlas.jp/jsdb2019>



### 【How to log-in】

#### Registered participants

Enter the **Registration ID (en000XXX or kn000XXX)** and **password** you received in the registration confirmation e-mail.

#### Participants registering onsite (includes pre-registered participants who have not completed payment)

Registration ID and password will be provided when registration complete at reception desk.

- Available from  
End of April 2019

## Web Abstract Book について

### 【ご利用方法】

Web (パソコンから)

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<https://confit.atlas.jp/jsdb2019>



### 【ログイン方法】

#### 【事前参加登録済の場合】

登録時、メール配信されている **Registration ID (en000XXX or kn000XXX)** および Password でログインしてください。

#### 【当日参加の場合 (事前登録を行ったが参加費未納の方を含む)】

参加登録時、受付にて ID とパスワードをお渡しいたします。

### ■提供開始時期

2019 年 4 月下旬より ご利用いただけます。

## About Web Abstract Book

### Regarding the Web Abstract Book

Participants will be able to browse abstracts before and during the meeting via the website to plan their schedules.

You can search for talks or poster presentations by filling in the fields for presenter's name, talk title, affiliation, etc.

You will also be able to create a PDF file of the talk information registered in the scheduler.

Please take advantage of the different functions.

**You can also download all abstracts as a PDF file in a lump at “Program”.**

### Access from a computer (Website top page)

The screenshot shows the top page of the website for the 52nd Annual Meeting of the Japanese Society of Developmental Biologists. The header includes the Gconfit logo, navigation links for Japanese, Help, and Participant Log In, and the meeting title and dates: May 14-17, 2019, International House OSAKA, Chair: Hiroki Nishida (Osaka University). The main content area is divided into three columns. The left column features a 'My menu' section with a user profile picture and links to 'My Schedule', 'Presentations You 'Like'', and 'My Profile'. Below this is a 'MENU' section with categories: General Information, Announcements (0), Timetable (listing dates from May 14 to 17, 2019), and Program (with links to Sessions and Download PDF for print). The middle column has a 'Latest Announcement' section stating 'There is currently no announcement.' with a link to 'Show more announcements'. The right column contains a 'Search for presentations' form with input fields for 'Title, Speaker, etc.', a 'Search' button, and a link to 'Advanced Search'. The footer includes copyright information for the Japanese Society of Developmental Biologists, links for 'Web & App' and 'Terms of Service', and the Gconfit logo with the text 'Provided by Atlas'.

## Web Abstract Book について

### 【抄録閲覧 Web サイトのご案内】

来場前から会期中の抄録が閲覧できる Web サイトをご利用いただけます。  
発表者、講演タイトル、所属機関名などを、該当の検索窓に入力することで、講演を検索できます。

また、スケジュールに登録した講演情報を PDF に変換することもできます。  
学術集会のご参加に、抄録集と合わせてご利用ください。

すべての講演要旨は、プログラムの「予稿集 PDF ダウンロード」から一括してダウンロードできます。

### パソコンから (WEB 用 トップ画面)

The screenshot shows the website for the 52nd Annual Meeting of the Japanese Society of Developmental Biologists. The header includes the 'confit' logo, navigation links for 'English', 'ご利用ガイド', and '参加者用ログイン', and the event title '52nd Annual Meeting of the Japanese Society of Developmental Biologists' with dates 'May 14-17, 2019' and location 'International House OSAKA'. A 'TOP' link is visible. The main content area is divided into three columns: 1. 'マイメニュー' (My Menu) with links for 'マイスケジュール', 'いいね!した講演', and 'マイプロフィール', and a '参加者用ログイン' button. 2. 'お知らせ' (Notice) with the text 'お知らせはありません。' and a link '» 全てのお知らせを表示'. 3. '講演検索' (Lecture Search) with a search box containing 'タイトル、発表者等', a '検索' button, and a link '» 詳細検索'. Below this is a 'MENU' section with links for '開催情報', 'お知らせ (0)', 'タイムテーブル' (listing dates from May 14 to 17, 2019), and 'プログラム' (listing 'セッション一覧' and '予稿集PDFダウンロード'). The footer contains copyright information, a 'ご案内' link, a '利用規約' link, and the 'confit' logo with 'Provided by Atlas'.

# **Scientific Programs**

## Plenary Lectures

May 16 (Thu) 15:30-16:30 Room A

Chairperson: Hiroshi Sasaki (Osaka University)

**PL-1** 15:30-16:30 Imaging How Cells Choose their Fate, Shape and Position in the Living Mammalian Embryo

○Nicolas Plachta (IMCB ASTAR)

Preimplantation development has typically been studied using fixed specimens. To reveal the real-time dynamics that form the embryo, we established advanced imaging technologies, to visualize cell behaviors and molecular events in real time within the living mouse embryo. With this approach, we discovered how transcription factors bind to DNA in single cells to regulate the first cell differentiation during development. We also found new forms of actin and microtubule organization that control how the cells of the embryo become polarized during compaction, how they interact with each other to establish the first forms of tissue architecture, and how they specify the pluripotent and trophectoderm lineages. Together, our findings reveal new mechanisms controlling how the mammalian embryo forms and grows.

May 16 (Thu) 16:30-17:30 Room A

Chairperson: Kenji Matsuno (Osaka University)

**PL-2** 16:30-17:30 Patterning Transcription in Early *Drosophila* Embryos.

○Eric Wieschaus (Molecular Biology Department, HHMI, Princeton University)

In *Drosophila* embryos, gradients produced by three maternal patterning systems (Bicoid, Nanos and Torsolike) result in region-specific activation of gap and pair-rule gene expression. The maternal gradients are highly reproducible from embryo to embryo, providing sufficient positional information to distinguish neighboring cells. To determine whether the gap and pair-rule gene enhancers make maximum use of this information, we have developed a Bayesian-based system of “look-up” tables that allows measuring the information content and reproducibility of gap gene concentration profiles. In the middle region of the embryos, precision is established by ten minutes into cycle 14 and persists until 40 minutes when pair-rule gene expression is well established. We see little evidence supporting systems-level stepwise models where pattern is gradually established through interactions between the gap genes themselves. Using Bcd ChIP seq from embryos expressing different concentrations of Bcd, we compare the *in vivo* binding affinities of enhancers that activate expression at different points along the AP axis of the

embryo. We find that enhancers expressed in the posterior of the embryo have high affinities and remain bound even at lowest concentration. We propose chromatin models for how the low levels of Bicoid protein in these regions might activate enhancers in a concentration dependent manner.

Mariela D. Petkova, Gašper Tkačik, William Bialek, Eric F. Wieschaus, Thomas Gregor Optimal decoding of information from a genetic network.arXiv:1612.08084v1 [q-bio.MN]

Hannon CE, Blythe SA, Wieschaus EF. (2017) Concentration dependent chromatin states induced by the bicoid morphogen gradient. *Elife*. 6. pii: e28275.

# Symposia

## Symposium 1 : Towards understanding multicellular systems in development? Measurement and Modeling

DATE: May 17 (Fri) 9:00-11:30 Room A

Chairpersons: Tsuyoshi Hirashima (Kyoto University)

Tatsuo Shibata (RIKEN BDR)

Fundamental processes in developmental biology including tissue morphogenesis and pattern formation are organized by an integration of dynamics over multiple scales spanning molecular to supra-cellular levels. Although constituent cellular activities and critical genes underlying the processes have been identified, understanding of regulatory systems in which such factors are dynamically interacted to function is far from complete. In this symposium we invite seven speakers who tackle this issue using mainly quantitative imaging and mathematical modeling, and discuss key concepts with audiences for stimulating the field of developmental biology.

Co-organized by: SPIRITS (Kyoto University)

09:00-09:01 Introduction

**S1-01** 09:01-09:28 Sculpting the vertebrate body axis

○Otger Campas (UCSB)

**S1-02** 09:28-09:47 Oscillations of Notch signaling in cell-cell interactions regulate dynamic gene expression networks and tissue morphogenesis

形態形成における Notch シグナル伝達ダイナミクスの意義

○Hiromi Shimojo<sup>1</sup>, Hiroshi Kori<sup>2</sup>, Ryoichiro Kageyama<sup>1</sup> (IFLMS, Kyoto Univ.<sup>1</sup>, Univ. of Tokyo<sup>2</sup>)

**S1-03** 09:47-10:06 Cell size-dependent polarity dynamics

細胞サイズ依存的な細胞極性動態

○Akihiko Nakajima<sup>1,2</sup> (Grad Sch Arts Sci, Univ. Tokyo<sup>1</sup>, Res Cent Comp Sys Biol<sup>2</sup>)

**S1-04** 10:06-10:25 Tiling mechanism of the compound eye

複眼のタイリングメカニズム

Takashi Hayashi<sup>1</sup>, Masakazu Akiyama<sup>2</sup>, Shin-Ichiro Ei<sup>3</sup>, Takamichi

Sushida<sup>2</sup>, <sup>○</sup>Makoto Sato<sup>1</sup> (InFiniti, Kanazawa Univ<sup>1</sup>, RIES, Hokkaido Univ<sup>2</sup>, Dept. Mathematics, Hokkaido Univ<sup>3</sup>)

- S1-05** 10:25-10:44 Modeling and experimental analysis of epithelial tube elongation in *Drosophila* revealed distinct biomechanical properties of tubes  
<sup>○</sup>Fu-Lai Wen<sup>1,2</sup>, Housei Wada<sup>3</sup>, Katsuhiko Sato<sup>4</sup>, Hisao Honda<sup>3,5</sup>, Tatsuo Shibata<sup>2</sup>, Shigeo Hayashi<sup>3</sup> (IoP, Academia Sinica, Taiwan<sup>1</sup>, Laboratory for Physical Biology, RIKEN BDR, Japan<sup>2</sup>, Laboratory for Morphogenetic Signaling, RIKEN BDR, Japan<sup>3</sup>, Research Institute for Electronic Science, Hokkaido University, Japan<sup>4</sup>, Department of Physiology and Cell Biology, Kobe University Graduate School of Medicine, Japan<sup>5</sup>)
- S1-06** 10:44-11:03 Mechano-chemical feedback regulation via ERK signal for branching morphogenesis of lung epithelial sheet  
肺上皮シートの形態形成における ERK シグナルを介したメカノケミカルフィードバック制御  
<sup>○</sup>Tsuyoshi Hirashima<sup>1</sup>, Takuya Yoshida<sup>2</sup>, Michiyuki Matsuda<sup>1,2</sup> (Grad Sch Med, Kyoto Univ<sup>1</sup>, Grad Sch Biostudies, Kyoto Univ<sup>2</sup>)
- S1-07** 11:03-11:30 Self-organized principles of branching morphogenesis  
<sup>○</sup>Edouard Hannezo (IST Austria)

## Symposium 2 : Topics in Plant and Animal Development

DATE: May 17 (Fri) 9:00-11:30 Room B

Chairpersons: Hirokazu Tsukaya (University of Tokyo)

Hiroki Nishida (Osaka University)

This symposium is aimed at facilitating communication and discussion between plant and animal developmental biologists to share cutting-edge researches in both fields. We invite established and young researchers who are actively studying to understand developmental phenomena from fertilization to organ formation in the two kingdoms. We hope that the symposium provides a nice opportunity to enhance relationship between plant and animal developmental biologists and to create totally novel field of developmental biology.

Key words: polarity and morphology.

Co-organized by: Developmental Dynamics (Wiley), Supported by JSPS

- S2-01** 09:00-09:30 The EGF Receptor Pathway Regulates Axis Establishment in *Drosophila* and Serves as Model for Disease in Humans  
○Trudi Schupbach<sup>1</sup>, Yogesh Goyal<sup>2</sup>, Granton Jindal<sup>2</sup>, Rebecca Burdine<sup>1</sup>, Stas Shvartsman<sup>2</sup> (Dept MolBio, Princeton University<sup>1</sup>, Dept. CBE, Princeton University<sup>2</sup>)
- S2-02** 09:30-10:00 Convergence of cell polarity systems across multicellular kingdoms  
○Dolf Weijers (Wageningen University, the Netherlands)
- S2-03** 10:00-10:30 Analysis of the SP8-dependent regulatory network in the limb ectoderm  
○Marian Ros<sup>1</sup>, Roco Prez-Gmez<sup>1</sup>, Marc Fernandez-Guerrero<sup>1</sup>, Juan Lpez-Gimnez<sup>1</sup>, Ivaro Rada-Iglesias<sup>1,2</sup> (IBBTEC<sup>1</sup>, CMMC<sup>2</sup>)
- S2-04** 10:30-11:00 Topological Data Analysis: What is it? What is it good for? How can it be used to study developmental biology?  
○Daniel Chitwood<sup>1</sup>, Elizabeth Munch<sup>2</sup>, Erik Amézquita<sup>3</sup>, Mitchell Eitahun<sup>3</sup>, Tim Ophelders<sup>3</sup>, Michelle Quigley<sup>4</sup> (Dept. Hort. and Dept. Comp. Math., Sci., & Eng., Michigan State Univ.<sup>1</sup>, Dept. Comp. Math., Sci., & Eng. and Dept. Math., Michigan State Univ.<sup>2</sup>, Dept. Comp. Math., Sci., & Eng., Michigan State Univ.<sup>3</sup>, Dept. Hort., Michigan State Univ.<sup>4</sup>)
- S2-05** 11:00-11:30 Regulation of proximal-distal specification of the lung epi-

thelium by Fibroblast Growth Factor 9 signaling pathways  
Yongjun Yin, <sup>o</sup>David Ornitz (Dev. Biol., Washington Univ. in St.  
Louis)

## Symposium 3 : APDBN Symposium

DATE: May 17 (Fri) 9:00-11:30 Room C  
Chairpersons: Kenji Matsuno (Osaka University)  
Timothy Saunders (MBI, Singapore)

The Asia-Pacific Developmental Biology Network (APDBN) is an organization for the promotion of scientific and educational activities relevant to developmental biology and related fields in the Asia-Pacific region. In the 52nd Annual Meeting of the Japanese Society of Developmental Biology, APDBN is organizing the "APDBN Symposium." We have invited six prominent speakers from across the Asia-Pacific region, who are conducting leading research in developmental biology using various model organisms and different experimental and analytical techniques. In this symposium, you will find out how active developmental biology is in the Asia-Pacific region.

Co-organized by: Development, Growth & Differentiation, JSDB Okada Tokindo Fund

- S3-01** 09:00-09:25 Cell fate determination and tissue morphogenesis in the zebrafish myotome  
○Timothy Saunders<sup>1,2</sup>, Jianmin Yin<sup>1</sup>, Sham Tlili<sup>1</sup>, Jean-Francois Rupprecht<sup>1</sup>, Jacques Prost<sup>3</sup>, Philip Ingham<sup>2,4</sup> (MBI, Singapore<sup>1</sup>, Institute of Molecular and Cell Biology, A\*Star, Singapore<sup>2</sup>, Institute Curie, Paris, France<sup>3</sup>, Nanyang Technological University, Singapore<sup>4</sup>)
- S3-02** 09:25-09:50 Hypoxia and embryonic patterning during sea urchin development  
Wei-Lun Chang, ○Yi-Hsien Su (ICOB, Academia Sinica)
- S3-03** 09:50-10:15 Translational control by RNA G-quadruplex/zinc-finger protein in plant development  
○Ildoo Hwang (Department of Life Sciences, Pohang University of Science and Technology)
- S3-04** 10:15-10:40 Timely and robust cell fate commitment in neural stem cell lineages  
○Yan Song<sup>1,2</sup> (SLS, Peking Univ.<sup>1</sup>, CLS<sup>2</sup>)
- S3-05** 10:40-11:05 Delineating the Immune-Epithelial Crosstalk in Embryonic Skin  
○Srikala Raghavan, Ambika Kurbet, Oindrila Bhattacharjee, Uttkarsh

Ayyangar (inStem)

**S3-06** 11:05-11:30 A novel 3D morphologic change, cell twisting, may drive left-right directional tissue rotation

消化管の左右非対称な捻転を引き起こす上皮細胞の3次元形態変化

○Mikiko Inaki<sup>1</sup>, Taishi Takigawa<sup>1</sup>, Akino Okubo<sup>1</sup>, Takamichi Sushida<sup>2</sup>, Masakazu Akiyama<sup>2</sup>, Yasuhiro Inoue<sup>3</sup>, Kenji Matsuno<sup>1</sup> (Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.,<sup>1</sup>, RIES, Hokkaido Univ.<sup>2</sup>, IFLMS, Kyoto Univ.<sup>3</sup>)

## Symposium 4 : Enhancer function explaining morphological diversity

DATE: May 17 (Fri) 13:30-16:00 Room A  
Chairpersons: Takayuki Suzuki (Nagoya University)  
Shigeyuki Koshikawa (Hokkaido University)

Developmental biology researchers have been focused on conserved developmental mechanisms over species, resulted in a big achievement in this research field during past three decades. On the other, recent next generation sequencing is becoming to uncover species-specific developmental mechanism even in non-model animals. Insights from this new technology highlight that difference or evolution of enhancer sequence rather than evolution of coding sequence brought about species-specific morphology. We would like to discuss how morphological diversity or specie-specific unique morphology were brought about by elucidation of acquired enhancer function based on the method of developmental biology.

- S4-01** 13:30-13:55 Enhancer function and evolution of polka-dots in *Drosophila guttifera*  
ミズタマシヨウジヨウバエにおけるエンハンサー機能と水玉模様の進化  
○Shigeyuki Koshikawa<sup>1</sup>, Yuichi Fukutomi<sup>2</sup> (Environ. Earth Sci, Hokkaido Univ.<sup>1</sup>, Environ. Sci, Hokkaido Univ.<sup>2</sup>)
- S4-02** 13:55-14:20 Live imaging of transcriptional enhancers  
エンハンサーによる転写制御のライブイメージング解析  
○Takashi Fukaya (IQB, Univ Tokyo)
- S4-03** 14:20-14:40 Arid3a regulates nephric tubule regeneration through the evolutionarily conserved regeneration signal-response enhancers  
Nanoka Suzuki<sup>1,2</sup>, Kodai Hirano<sup>1</sup>, Hajime Ogino<sup>2</sup>, ○Haruki Ochi<sup>1</sup> (Yamagata Univ., Fac. of Med.<sup>1</sup>, Yamagata University, Faculty of Medicine<sup>2</sup>, Amphibian Research Center, Hiroshima University<sup>3</sup>)
- S4-04** 14:40-15:05 Regulatory mechanism and evolution of mammalian Dlx gene clusters  
哺乳類 Dlx 遺伝子クラスター発現調節機構と進化  
○Kenta Sumiyama (RIKEN BDR)

- S4-05** 15:05-15:30 Similarities and differences in the regulation of *Hoxd* genes during tetrapod limb development  
○Nayuta Yakushiji-Kaminatsui<sup>1</sup>, Lucille Lopez-Delisle<sup>2</sup>, Christopher Chase Bolt<sup>2</sup>, Guillaume Andrey<sup>3</sup>, Leonardo Beccari<sup>3</sup>, Denis Duboule<sup>2,3</sup> (Tokyo Univ. of Sci.<sup>1</sup>, EPFL<sup>2</sup>, UNIGE<sup>3</sup>)
- S4-06** 15:30-15:55 Identification of Gdf11 enhancer reveals difference of trans-acting factors that determine the unique hindlimb position in tetrapods.  
後肢の位置を決定する Gdf11 のエンハンサーの同定とトランス因子の重要性  
Seiji Saito<sup>3</sup>, Utsugi Kanazawa<sup>2</sup>, Nobuyuki Hibino<sup>2</sup>, Shinya Oki<sup>4</sup>, Tatsuya Takemoto<sup>3</sup>, Yoichi Matsuda<sup>1</sup>, Atsushi Kuroiwa<sup>2</sup>, ○Takayuki Suzuki<sup>1</sup> (Grad Sch. of Biolagr. Sci., Nagoya Univ.<sup>1</sup>, Div. Biol. Sci, Grad. Sch. of Sci, Nagoya Univ.<sup>2</sup>, IAMS, Tokushima Univ.<sup>3</sup>, Dep of BasMed, Fac of MedSci, Kyushu univ<sup>4</sup>)

## Symposium 5 : Cell and tissue mechanics of organogenesis

DATE: May 17 (Fri) 13:30-16:00 Room B

Chairpersons: Naoto Ueno (NIBB)

Isao Matsuo (Osaka Women's and Children's Hospital)

To understand organogenesis, although spatio-temporal regulation of gene expression is considered to be essential, developmental processes of shape change, movement and rearrangement of cells and tissues are also very important. In this symposium, we focus on mechanics at the level from the cell to entire embryonic body for understanding principles underlying organogenesis. Speakers will introduce unique experimental and genetic studies considering mechanical force and also discuss future development and challenges of this field.

This symposium is partly supported by Grant-in-Aid for Scientific Research on Innovative Areas "3D Morphologic" and Platforms for Advanced Technologies and Research Resources "Advanced Bioimaging Support", MEXT.

- S5-01** 13:30-13:55 Mechanisms of force generation by cytoskeletal motors during nuclear migration of developing neurons  
発生中のニューロン核移動を制御する細胞骨格モーターの力発生機構  
You Wu<sup>2</sup>, Chuying Zhou<sup>2</sup>, Hiroki Umeshima<sup>1</sup>, Gianluca Greci<sup>3</sup>, Naotaka Nakazawa<sup>1</sup>, <sup>○</sup>Mineko Kengaku<sup>1,2</sup> (KUIAS-iCeMS, Kyoto Univ.<sup>1</sup>, Grad. Sch. Biostudies, Kyoto Univ.<sup>2</sup>, MBI, Nat. Univ. Singapore<sup>3</sup>)
- S5-02** 13:55-14:15 Endothelial cell response to haemodynamic forces in developing blood vessels  
<sup>○</sup>Li-Kun Phng (RIKEN BDR)
- S5-03** 14:15-14:45 Biophysical approaches to morphogenesis in the organ stage mouse embryo  
Hirotaka Tao<sup>1</sup>, Min Zhu<sup>1,2</sup>, Mohammad Samani<sup>1</sup>, Evan Thomas<sup>1</sup>, Clarissa Pasilia<sup>1,3</sup>, Kelli Fenelon<sup>1,3</sup>, Huaxiong Huang<sup>4</sup>, Yu Sun<sup>2</sup>, <sup>○</sup>Sevan Hopyan<sup>1,3,5</sup> (Program in Dev. Bio. and Stem Cell Bio., RI, Hosp. for Sick Children and U. of T.<sup>1</sup>, Department of Mechanical and Industrial Engineering, University of Toronto<sup>2</sup>, Department of Molecular Genetics, University of Toronto<sup>3</sup>, Department of Mathematics and Statistics, York University and University of Toronto<sup>4</sup>, Division of Orthopaedic Surgery, Hospital for Sick Children and University of Toronto<sup>5</sup>)

- S5-04** 14:45-15:05 Strain-triggered mechanical feedback in self-organizing optic-cup morphogenesis  
眼杯組織形成における機械的ひずみ惹起性力学フィードバック機構  
○Satoru Okuda<sup>1,2</sup> (PRESTO, JST<sup>1</sup>, IFLMS, Kyoto Univ.<sup>2</sup>)
- S5-05** 15:05-15:30 YAP is essential for tissue tension to ensure vertebrate 3D body/organ shape  
○Makoto Furutani-Seiki (Yamaguchi University)
- S5-06** 15:30-15:55 Intrauterine mechanics for mouse egg-cylinder morphogenesis  
マウス胚卵円筒形成に必要な子宮内の力学的環境  
Yoko Ueda, Chiharu Kimura-Yoshida, ○Isao Matsuo (Osaka Women's and Children's Hospital)

## Symposium 6 : Theory of the brain diversity based on evolution of developmental mechanism

DATE: May 17 (Fri) 13:30-16:00 Room C

Chairpersons: Yu Katsuyama (Shiga University of Medical Science)

Yasunori Murakami (Ehime University)

Tadashi Nomura (Kyoto Prefectural University of Medicine)

Over the last two decades, we have unveiled common developmental mechanisms of the central nervous systems in animals. Recent omics data analyses also enabled us to identify precise phylogenetic relationships and generalities of cellular and molecular regulations. On the contrary, we have witnessed the expansion of our knowledge on brain diversities: each species has unique brain in morphological and functional aspects, which cannot be addressed by using common model animals. How can we bridge the gap between conservations and diversifications of genes, development, and evolution of vertebrate brains? In this symposium, selected speakers will introduce the studies of brain evolution from the dawn of vertebrates to humans. Multiple experimental approaches with unique animal models provide insights into the developmental mechanisms underlying brain diversities. Mutual discussion between the speakers and audience is highly encouraged to find a future direction of this research field.

- S6-01** 13:30-13:45 Before the dawn of vertebrate brain  
脊椎動物脳進化の黎明期を発生学研究から考察する  
○Yu Katsuyama (Shiga Univ. Med. Sci.)
- S6-02** 13:45-14:10 The evolutionary origin of the vertebrate brain: special reference to the visual system  
脊椎動物型の脳の進化的起源：視覚系を中心に  
○Daichi Suzuki (ExCELLS, NINS)
- S6-03** 14:10-14:35 The role of signaling molecules in the evolution of the vertebrate brain  
脊椎動物の脳の進化におけるシグナル分子の役割  
○Yasunori Murakami (GSSE, Ehime Univ.)
- 14:35-14:45 Break Time
- S6-04** 14:45-15:10 Changes in Wnt-dependent neuronal migration patterns contributed to the evolution of the mammalian neocortex  
Wnt シグナル依存性の神経細胞移動の変化が哺乳類大

脳皮質の進化に寄与した

○Tadashi Nomura (Dev. Neurobiol. Kyoto Pref. Univ. Med.)

**S6-05** 15:10-15:35 Molecular mechanism controlling generation of outer radial glia during cerebral development

大脳発生における outer radial glia 誕生の制御機構

○Ayano Kawaguchi<sup>1</sup>, Takumi Kawaue<sup>1</sup>, Atsunori Shitamukai<sup>2</sup>, Yuji Tsunekawa<sup>2</sup>, Arata Nagasaka<sup>1,2</sup>, Kanako Saito<sup>1</sup>, Tomoyasu Shinoda<sup>1</sup>, Fumio Matsuzaki<sup>2</sup>, Takaki Miyata<sup>1</sup> (Dept of Anatomy and Cell Biology, Nagoya Univ Grad Sch Med<sup>1</sup>, Lab for Cell Asymmetry, RIKEN BDR<sup>2</sup>)

**S6-06** 15:35-16:00 Human-Specific NOTCH2NL Genes Expand Cortical Neurogenesis through Delta/Notch Regulation

ヒト固有遺伝子 NOTCH2NL は Notch シグナルを調節することにより大脳皮質の神経細胞数を拡大する

○Ikuo Suzuki<sup>1,2,3</sup>, David Gacquer<sup>5</sup>, Roxane Van Heurck<sup>2,3</sup>, Devesh Kumar<sup>2,3</sup>, Marta Wojno<sup>2,3</sup>, Angeline Bilheu<sup>3</sup>, Adele Herpoel<sup>3</sup>, Nelle Lambert<sup>3</sup>, Julian Cheron<sup>3</sup>, Franck Polleux<sup>6</sup>, Vincent Detours<sup>5</sup>, Pierre Vanderhaeghen<sup>2,3,4,7</sup> (Dept. Biological Sciences, Grad. Sch. Science, Univ. Tokyo<sup>1</sup>, CBD, VIB-KUL<sup>2</sup>, IRIBHM & UNI, ULB<sup>3</sup>, Dept. Neurosci, LBI<sup>4</sup>, IRIBHM, ULB<sup>5</sup>, Dept. Neurosci, Columbia Univ.<sup>6</sup>, WEL-BIO<sup>7</sup>)

# Oral Presentations

## Oral presentation 1: Morphogenesis (1)

DATE: May 15 (Wed) 9:00 ~ 11:45 Room A

Chairpersons: Daisuke Saito (Kyushu Univ.)

Yoshiko Takahashi (Kyoto Univ.)

- OP1-01 (P-081)** 09:00-09:15 Three-dimensional tissue stiffness mapping reveals durotaxis during mouse limb bud initiation  
三次元組織剛性率マッピング法によりマウス肢芽初期形成における硬領域指向性細胞移動を明らかにする  
○Hirotaka Tao<sup>1</sup>, Zhu Min<sup>1,2</sup>, Mohammad Samani<sup>1</sup>, Mengxi Luo<sup>2</sup>, Xian Wang<sup>2</sup>, Sevan Hopyan<sup>1,3,4</sup>, Yu Sun<sup>2,5,6</sup> (DSCB, Sick Kids<sup>1</sup>, MIE, U of T<sup>2</sup>, MoGen, U of T<sup>3</sup>, Division of Orthopaedic Surgery, Sick Kids and U of T<sup>4</sup>, IBBME, U of T<sup>5</sup>, ECE, U of T<sup>6</sup>)
- OP1-02 (P-102)** 09:15-09:30 Vascular remodeling: dynamics of avascular pillars regulated by local differences in blood flow  
生体内血管リモデリング：局所的な血流の差異による血管網内の無血管領域“pillar”の変形制御  
○Yuta Takase<sup>1,2</sup>, Kenichi Nakazato<sup>3</sup>, Atsushi Mochizuki<sup>3,4</sup>, Yoshiko Takahashi<sup>1</sup> (Dept. of Zoology, Grad. Sch. of Sci., Kyoto Univ.<sup>1</sup>, MACS, Grad. Sch. of Sci., Kyoto Univ.<sup>2</sup>, Theor. Biol. Lab., RIKEN<sup>3</sup>, IFLMS, Kyoto Univ.<sup>4</sup>)
- OP1-03 (P-104)** 09:30-09:45 Cell Budding During Endothelial to Hematopoietic Transition is Regulated by Aquaporin Water Channels  
水チャンネル Aquaporin は内皮—造血転換時の細胞出芽を制御する  
Mugiho Shigematsu, Chie Tamura, ○Yuki Sato (Grad. Sch. Med. Sci., Kyushu Univ.)
- OP1-04 (P-072)** 09:45-10:00 Epithelial barrier homeostasis by cell competition  
上皮バリアのホメオスタシスにおける細胞競合の役割  
○Tetsuhisa Otani<sup>1,2</sup>, Mikio Furuse<sup>1,2</sup> (Division of Cell Structure, NIPS<sup>1</sup>, Department of Physiological Sciences, SOKENDAI<sup>2</sup>)
- OP1-05 (P-085)** 10:00-10:15 Trynity controls epidermal barrier function and respiratory tube maturation in *Drosophila* by modulating apical

extracellular matrix nano-patterning

ショウジョウバエ Trynity 分子は細胞外基質の微細構造形成を介して表皮バリア機能と気管成熟の制御を行う

○Yuki Itakura<sup>1</sup>, Sachi Inagaki<sup>2</sup>, Housei Wada<sup>1</sup>, Shigeo Hayashi<sup>1,3</sup> (RIKEN BDR<sup>1</sup>, Biosignal Research Center, Kobe University<sup>2</sup>, Department of Biology, Kobe University Graduate School of Science<sup>3</sup>)

- OP1-06 (P-082)** 10:15-10:30 Patterns of proliferation in the developing tendon differ between embryonic and postnatal stages  
○Saundra Schlesinger<sup>1</sup>, Seongkyung Seo<sup>2</sup>, Alice Huang<sup>3</sup>, Brian Pryce<sup>2</sup>, Ronen Schweitzer<sup>1,2</sup> (OHSU<sup>1</sup>, Shriner's Hospital<sup>2</sup>, Mount Sinai<sup>3</sup>)
- OP1-07 (P-003)** 10:30-10:45 Nanopore formation in the cuticle of the insect olfactory sensillum  
匂い分子取り込みにはたらく昆虫嗅覚器官ナノポア構造の構築機構  
○Shigeo Hayashi<sup>1</sup>, Toshiya Ando<sup>1,2</sup>, Sayaka Sekine<sup>1</sup>, Sachi Inagaki<sup>2</sup>, Kazuyo Misaki<sup>1</sup>, Laurent Badel<sup>3</sup>, Hiroyuki Moriya<sup>4</sup>, Mustafa Sami<sup>1</sup>, Takahiro Chihara<sup>5</sup>, Hokuto Kazama<sup>3</sup>, Shigenobu Yonemura<sup>1</sup> (RIKEN BDR<sup>1</sup>, NIBB<sup>2</sup>, RIKEN CBS<sup>3</sup>, U. Tokyo<sup>4</sup>, U. Hiroshima<sup>5</sup>)
- OP1-08 (P-083)** 10:45-11:00 Tissue-scale mechanical coupling reduces morphogenetic noise to ensure precision during epithelial folding  
○Anthony Eritano<sup>1</sup>, Claire Bromley<sup>1</sup>, Lucas Schütz<sup>2</sup>, Fu-Lai Wen<sup>3</sup>, Tatsuo Shibata<sup>3</sup>, Mustafa Sami<sup>1</sup>, Michiko Takeda<sup>1</sup>, Steffen Lemke<sup>2</sup>, Yu-Chiun Wang<sup>1</sup> (Riken BDR<sup>1</sup>, Centre for Organismal Studies Heidelberg, University of Heidelberg, Heidelberg, Germany<sup>2</sup>, Laboratory for Physical Biology, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan<sup>3</sup>)
- OP1-09** 11:00-11:15 Coordinated growth of midline tissues in the zebrafish axis elongation  
ゼブラフィッシュ体軸伸長における正中軸組織の協調した伸長  
○Toru Kawanishi<sup>1,2</sup>, Hiroyuki Takeda<sup>1</sup>, Sean Megason<sup>2</sup> (UT<sup>1</sup>, HMS<sup>2</sup>)
- OP1-10** 11:15-11:30 Mechanism of chirality formation in cardiac looping

初期胚心臓のキラリティー形成の機構

○Hisao Honda<sup>1</sup>, Takaya Abe<sup>2</sup>, Toshihiko Fujimori<sup>2,3</sup> (Kobe Univ. Medicine<sup>1</sup>, RIKEN CBDR<sup>2</sup>, NIBB<sup>3</sup>)

**OP1-11** 11:30-11:45  
**(P-095)**

The G-protein coupled receptor GPR17 is an Essential Component of the Negative Feedback Loop of the Sonic Hedgehog Pathway in the Neural Tube Development

GPR17 による Sonic Hedgehog シグナルへの負のフィードバック制御機構が与える神経管発生への影響

○Atsuki Yatsuzuka<sup>1</sup>, Akiko Hori-Nishi<sup>1</sup>, Minoru Kadoya<sup>1</sup>, Toru Kondo<sup>2</sup>, Noriaki Sasai<sup>1</sup> (NAIST<sup>1</sup>, Insititute for Genetic Medicine, Hokkaido Univercity<sup>2</sup>)

## Oral presentation 2: Reproduction & Germ Cells & Neural Development (1)

DATE: May 15 (Wed) 9:00 ~ 11:45 Room B  
Chairpersons: Takashi Shinohara (Kyoto Univ.)

Toshie Kai (Osaka Univ.)

**OP2-01** 09:00-09:15  
**(P-014)**

Examination the potential of using first polar body mitochondrial DNA content as an indicator of oocyte quality

○Wing Tung Lee, Tin Lap Lee (SBS, CUHK)

**OP2-02** 09:15-09:30

Role of Dhh signaling pathway in the reconstruction of seminiferous tubule-like structures in 3-D re-aggregate culture of dissociated testicular cells

○Ming Min<sup>1</sup>, Tingting Wang<sup>2</sup>, Jidong Zhang<sup>3</sup> (SBMS, Zunyi Med uni<sup>1</sup>, SBMS, Zunyi Med uni<sup>2</sup>, SBMS, Zunyi Med uni<sup>3</sup>)

**OP2-03** 09:30-09:45  
**(P-021)**

DEAD-box RNA helicase Belle post-transcriptionally promotes gene expression in an ATPase activity-dependent manner in *Drosophila* oocytes

○Susan Liao, Ryuya Fukunaga (Dept. Biol. Chem., JHUSOM)

**OP2-04** 09:45-10:00  
**(P-020)**

*Drosophila* Tpp ensures the germ plasm assembly by facilitating the posterior localization of Aubergine in the oocyte

○Hirono Kina<sup>1,2</sup>, Hina Nakashima<sup>1,2</sup>, Tsubasa Tanaka<sup>1,2,3</sup>, Kazuko Hanyu-Nakamura<sup>1</sup>, Akira Nakamura<sup>1,2,3</sup> (Department of Germline Development, Institute of Molecular Embryology and Genetics<sup>1</sup>,

School of Pharmacy<sup>2</sup>, Graduate School of Pharmaceutical Sciences, Kumamoto University<sup>3</sup>)

- OP2-05 (P-018)** 10:00-10:15 H3K27me3 is required to prevent sister somatic gene expression in the ascidian germline  
○Tao Zheng, Ayaki Nakamoto, Gaku Kumano (Asamushi Research Center for Marine Biology)
- OP2-06 (P-023)** 10:15-10:30 Exploring the murine germ cell masculinization mechanism using scRNA-Seq data  
scRNA-Seq を利用したマウス生殖細胞オス化機構の研究  
○Ryuki Shimada, Yumiko Saga (NIG)
- OP2-07** 10:30-10:45 Germline stem cell proliferation is regulated by octopaminergic neurons directly projecting to the ovary in female *Drosophila*  
ショウジョウバエのメス生殖幹細胞の増殖は卵巣に直接投射するオクトパミン作動性神経によって制御される  
Yuto Yoshinari<sup>2</sup>, Tomotsune Ameku<sup>2</sup>, Shu Kondo<sup>3</sup>, Yuko Shimada-Niwa<sup>4</sup>, Hiromu Tanimoto<sup>5</sup>, Takayuki Kuraishi<sup>6</sup>, ○Ryusuke Niwa<sup>1,7</sup> (Faculty Life Environ. Sci., Univ. Tsukuba<sup>1</sup>, Grad. Sch. Life Environ. Sci., Univ. Tsukuba<sup>2</sup>, GSRC, NIG<sup>3</sup>, TARA Center, Univ. Tsukuba<sup>4</sup>, Grad. Sch. Life Sci., Tohoku Univ.<sup>5</sup>, Faculty Pharm., Kanazawa Univ.<sup>6</sup>, AMED-CREST, AMED<sup>7</sup>)
- OP2-08** 10:45-11:00 Unique differentiation processes support the sharp seasonal response of Japanese quail spermatogenesis  
ニホンウズラ精子形成のキレのある季節応答を実現する特徴的な分化プロセス  
Yusuke Atsumi<sup>2</sup>, Kodai Hirano<sup>1,3</sup>, Itaru Murayama<sup>2</sup>, Kana Yoshido<sup>1,6</sup>, Miyuki Togari<sup>2</sup>, Keisuke Ikegami<sup>2</sup>, Yusuke Nakane<sup>2</sup>, Eriko Yorinaga<sup>2</sup>, Yoshiaki Nakamura<sup>7</sup>, Yoichi Matsuda<sup>2</sup>, Takashi Yoshimura<sup>1,2,4,5</sup>, ○Shosei Yoshida<sup>1,3</sup> (Div. Germ Cell Biol., Natl. Inst. Basic Biol.<sup>1</sup>, Grad. Sch. Agric. Sci. Nagoya Univ.<sup>2</sup>, Sch. Life Sci. Sokendai<sup>3</sup>, WPI-ITbM, Nagoya Univ.<sup>4</sup>, Div. Seasonal Biol, Natl. Inst. Basic Biol.<sup>5</sup>, Grad. Sch. Sci. Nagoya Univ.<sup>6</sup>, Grad. Sch. Biosphere Sci., Hiroshima Univ.<sup>7</sup>)

Chairpersons: Makoto Sato (Kanazawa Univ.)

Carina Hanashima (Waseda Univ.)

- OP2-09 (P-135)** 11:00-11:15 Possible Sox2 autoregulation involving POU partner factors in the establishment of embryonic neural primordia  
胚の神経系原基を成立させる過程での、POU 因子をパートナーとした Sox2 の自己制御  
○Hideaki Iida<sup>1</sup>, Masanori Uchikawa<sup>2</sup>, Hisato Kondoh<sup>1</sup> (DBGSE, Kyoto Sangyo Univ.<sup>1</sup>, GSFB, Osaka Univ.<sup>2</sup>)
- OP2-10 (P-144)** 11:15-11:30 Induction of ganglioside synthesis in Drosophila brain  
ショウジョウバエの脳神経で発現させたガングリオシドの機能解析  
○Leo Tsuda, Yasutoyo Yamasaki, Young-Mi Lim (NCGG)
- OP2-11** 11:30-11:45 Investigating the role of the class IV POU/brn-3 gene in cnidarian neural development  
刺胞動物イソギンチャクの神経発生における POU-IV/Brn-3 遺伝子の機能解析の試み  
○Nagayasu Nakanishi (Univ. of Arkansas)

### Oral presentation 3: Evolution (1)

DATE: May 15 (Wed) 9:00 ~ 11:45 Room C

Chairpersons: Yoshiaki Morino (Univ. of Tsukuba)

Yuuri Yasuoka (RIKEN IMS)

Koji Tamura (Tohoku Univ.)

- OP3-01** 09:00-09:15 In light of Nitric Oxide during chordate ontogeny  
Filomena Caccavale<sup>1</sup>, Giovanni Annona<sup>1</sup>, Juan Pascual-Anaya<sup>2</sup>, Shigeru Kuratani<sup>2</sup>, ○Salvatore D'Aniello<sup>1</sup> (SZN<sup>1</sup>, RIKEN<sup>2</sup>)
- OP3-02** 09:15-09:30 Evolution of nitric oxide regulation of gut function in deuterostomes  
一酸化窒素による腸管制御の進化  
Junko Yaguchi, ○Shunsuke Yaguchi (SMRC, Univ. Tsukuba)
- OP3-03** 09:30-09:45 Germ layer specification in the cephalochordate amphioxus and the evolution of the segmental mesoderm in chordates  
頭索類ナメクジウオの胚葉特異化と脊索動物の分

節状中胚葉の進化

○Takayuki Onai (UFSMS)

- OP3-04** 09:45-10:00 Why was the *notail* gene lost in many vertebrate lineages?  
何故 *notail* 遺伝子は繰り返し失われたのか?  
○Yuuri Yasuoka<sup>1,2</sup>, Noriyuki Satoh<sup>2</sup> (RIKEN IMS<sup>1</sup>, OIST<sup>2</sup>)
- OP3-05** 10:00-10:15 Hagfish genome provides insights into cyclostome and ancestral vertebrate evolution  
○Juan Pascual-Anaya<sup>1</sup>, Daqi Yu<sup>2</sup>, Yandong Ren<sup>3,4</sup>, Yongxin Li<sup>4</sup>, Fumiaki Sugahara<sup>5</sup>, Yong Zhang<sup>2</sup>, Wen Wang<sup>3,4</sup>, Shigeru Kuratani<sup>6</sup> (RIKEN CPR<sup>1</sup>, Key Laboratory of Zoological Systematics and Evolution & State Key Laboratory of Integrated Management of Pest Insects and Rodents, Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, China<sup>2</sup>, State Key Laboratory of Genetic Resources and Evolution, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming 650223, China<sup>3</sup>, Center for Ecological and Environmental Sciences, Northwestern Polytechnical University, Xi'an 710072, China<sup>4</sup>, Division of Biology, Hyogo College of Medicine, Nishinomiya, Japan.<sup>5</sup>, Laboratory for Evolutionary Morphology, RIKEN Center for Biosystems Dynamics Research (BDR)<sup>6</sup>)
- OP3-06** 10:15-10:30 Evolution and development of muscle tissues at the head/trunk interface  
頭部-体幹部境界領域における筋組織の発生進化  
○Rie Kusakabe<sup>1</sup>, Shigeru Kuratani<sup>1,2</sup> (RIKEN BDR<sup>1</sup>, RIKEN CPR<sup>2</sup>)
- OP3-07** 10:30-10:45 Molecular mechanisms underlying morphological diversity of goldfish  
キンギョ品種の形態形成を制御するメカニズムの解析  
○Yoshihiro Omori<sup>1,2</sup>, Tetsuo Kon<sup>1</sup>, Kentaro Fukuta<sup>3</sup>, Hironori Wada<sup>4</sup>, Masakatsu Watanabe<sup>5</sup>, Zelin Chen<sup>6</sup>, Koichi Kawakami<sup>7</sup>, Takahisa Furukawa<sup>1</sup>, Hideki Noguchi<sup>3</sup>, Shawn Burgess<sup>6</sup>, Atsushi Toyoda<sup>8</sup> (IPR, Osaka Univ.<sup>1</sup>, Nagahama Inst of Bio-science and Technology<sup>2</sup>, Joint Support-Center for Data Sci Res<sup>3</sup>, College of Liberal Arts and Sciences, Kitasato Univ<sup>4</sup>, Graduate School of Frontier Biosciences, Osaka Univ<sup>5</sup>, Translational and Functional Genomics Branch, NIH<sup>6</sup>, Division of Molecular and Develop-

mental Biology, NIG<sup>7</sup>, Center for Information Biology, NIG<sup>8</sup>)

- OP3-08** 10:45-11:00 Ornamental goldfish as a model for experimental evolutionary developmental biology  
実験進化発生学のモデルとしての金魚  
Gembu Abe<sup>2</sup>, Shu-Hua Lee<sup>1</sup>, Ing-Jia Li<sup>1</sup>, <sup>○</sup>Kinya Ota<sup>1</sup> (Lab of Aquatic Zoology, Yilan MRS, ICOB, Academia Sinica<sup>1</sup>, Lab. of Organ Morphogenesis, Dep. of Ecological Developmental Adaptability Life Sciences, Graduate School of Life Sciences, Tohoku Univ.<sup>2</sup>)
- OP3-09** 11:00-11:15 The reconstruction of the evolutionary history of femoral morphogenesis in archosaur.  
主竜類における大腿骨の形態形成の進化史の復元  
<sup>○</sup>Shiro Egawa<sup>1</sup>, Joao Botelho<sup>1,2</sup>, Bhart-Anjan Bhullar<sup>1</sup> (Dept. G&G, Yale univ.<sup>1</sup>, Fac. of Biol. Sci.<sup>2</sup>)
- OP3-10** 11:15-11:30 Developmental system drift of blastomere fate specification mechanism in spiralian development  
らせん卵割型発生における割球特異化機構の発生システム浮動  
<sup>○</sup>Yoshiaki Morino, Hiroshi Wada (Univ. of Tsukuba)
- OP3-11** 11:30-11:45 Color pattern diversification through a 100 kb-scale pannier intron in ladybird beetles  
100kb スケールの pannier イントロンを介したテントウムシの斑紋パターンの多様化  
<sup>○</sup>Toshiya Ando<sup>1,2</sup>, Teruyuki Niimi<sup>1,2</sup> (NIBB<sup>1</sup>, SOKENDAI, Dpt. Basic Biol.<sup>2</sup>)

## Oral presentation 4: Morphogenesis (2)

DATE: May 15 (Wed) 16:00 ~ 18:45 Room A

Chairpersons: Erina Kuranaga (Tohoku Univ.)

Yoshiko Takahashi (Kyoto Univ.)

- OP4-01** 16:00-16:15 Decoy receptor, Fgfr11, spatially regulates lens fiber differentiation through fine-tuning of FGF signaling  
囿受容体 Fgfr11 は FGF 経路の微調整を介して水晶体線維細胞分化を空間的に制御する  
<sup>○</sup>Yuki Takeuchi, Ichiro Masai (OIST)
- OP4-02** 16:15-16:30 A molecular mechanism of the core group-independent

## PCP pathway

コアグループ非依存的 PCP 経路の分子機構

○Tomonori Ayukawa<sup>1</sup>, Masakazu Akiyama<sup>2</sup>, Yasukazu Hozumi<sup>1</sup>, Masakazu Yamazaki<sup>1</sup> (Dept. Cell Biol. and Morphol., Akita Univ.<sup>1</sup>, RIES, Hokkaido Univ.<sup>2</sup>)

- OP4-03** 16:30-16:45 Local and mutual regulations between Wnt and planar cell polarity components propagate global coordination of the planar cell polarity.  
Wnt とコア PCP 因子のローカルな相互作用により、広い範囲の平面細胞極性が揃えられる。  
○Yusuke Mii<sup>1</sup>, Ritsuko Takada<sup>1</sup>, Makoto Matsuyama<sup>2</sup>, Shinji Takada<sup>1</sup> (NIBB<sup>1</sup>, SMRI<sup>2</sup>)
- OP4-04 (P-087)** 16:45-17:00 Identification of Wnt5a downstream targets during early development in mouse  
マウス初期発生における Wnt5a 下流因子の探索  
○Rieko Ajima<sup>1,2</sup>, Yumiko Saga<sup>1,2</sup> (NIG<sup>1</sup>, SOKENDAI<sup>2</sup>)
- OP4-05** 17:00-17:15 Canonical and non-canonical Wnt signaling are linked by zic1/zic4 in dorsal somite patterning  
○Ann Kathrin Heilig<sup>1,2</sup>, Astuko Shimada<sup>1</sup>, Ryohei Nakamura<sup>1</sup>, Jochen Wittbrodt<sup>2</sup>, Hiroyuki Takeda<sup>1</sup> (Dept. Biol. Scis., Grad. Sch. Sci., Univ. Tokyo<sup>1</sup>, COS, Heidelberg Univ.<sup>2</sup>)
- OP4-06 (P-080)** 17:15-17:30 Bioelectrical signal regulates organ size  
膜電位を介した器官サイズスケーリング機構  
○Toshihiro Aramaki, Shigeru Kondo (FBS, Osaka Univ.)
- OP4-07 (P-084)** 17:30-17:45 Gap junctions are required for neolamination in *Drosophila*  
○Guangxia Miao, Denise Montell (UCSB)
- OP4-08** 17:45-18:00 Quantification of tissue deformation dynamics of *Xenopus* limb development and comparative analysis with chick embryo  
アフリカツメガエル四肢発生過程における組織変形動態の定量解析とニワトリ胚との比較解析  
○Yoshihiro Morishita<sup>1</sup>, Takayuki Suzuki<sup>2</sup>, Hitoshi Yokoyama<sup>3</sup>, Yasuhiro Kamei<sup>4</sup>, Koji Tamura<sup>5</sup>, Aiko Kawasumi-Kita<sup>1</sup> (RIKEN BDR<sup>1</sup>, Nagoya Univ.<sup>2</sup>, Hiroasaki Univ.<sup>3</sup>, NIBB<sup>4</sup>, Tohoku Univ.<sup>5</sup>)
- OP4-09 (P-093)** 18:00-18:15 The mechanism about the growth of collagen crystal

involved with fin skeletal development.

魚類ヒレ骨の形態形成に必須なコラーゲン結晶の成長メカニズム

○Junpei Kuroda<sup>1</sup>, Takeshi Itabashi<sup>2</sup>, Atsuko H Iwane<sup>2</sup>, Toshihiro Aramaki<sup>1</sup>, Hibiki Nakagawa<sup>1</sup>, Shigeru Kondo<sup>1</sup> (FBS, Osaka Univ<sup>1</sup>, Biosystems Dynamics Center, Riken<sup>2</sup>)

**OP4-10 (P-078)** 18:15-18:30 Systematic comparison of gene regulation in fin and limb development

鰭と四肢の発生における遺伝子制御のシステムティックな比較

○Koh Onimaru, Kaori Tatsumi, Chiharu Tanegashima, Mitsutaka Kadota, Osamu Nishimura, Shigehiro Kuraku (BDR)

**OP4-11 (P-076)** 18:30-18:45 Transcriptome analysis of the cardiac neural crest reveals a critical role for *MafB*

トランスクリプトーム解析により明らかとなった心臓神経堤細胞における *MafB* の重要な機能

○Saori Tani-Matsuhana<sup>1,2</sup>, Kunio Inoue<sup>1</sup>, Marianne Bronner<sup>2</sup> (Dept. Biol., Grad. Sch. Sci., Kobe Univ.<sup>1</sup>, Caltech<sup>2</sup>)

## Oral presentation 5: Neural Development (2)

DATE: May 15 (Wed) 16:00 ~ 18:45 Room B

Chairpersons: Makoto Sato (Kanazawa Univ.)

Carina Hanashima (Waseda Univ.)

**OP5-01 (P-129)** 16:00-16:15 Dscam regulates lineage dependent repulsion during columnar unit formation in the fly brain

○Chuyan Liu, Olena Trush, Makoto Sato (Kanazawa Univ)

**OP5-02** 16:15-16:30 Experience-driven development of motor circuits in *Drosophila*

シヨウジョウウバエにおける経験依存的な運動回路の発生

Xiangsunze Zeng<sup>1</sup>, Tappei Kawasaki<sup>1</sup>, Kengo Inada<sup>3</sup>, Hokto Kazama<sup>3</sup>, ○Akinao Nose<sup>1,2</sup> (Dept.of Complexity Science and Engineering, Grad. Sch. of Frontier Sciences, Univ. of Tokyo<sup>1</sup>, Dept. of Physics, Grad. Sch. of Science, The Univ. of Tokyo<sup>2</sup>, RIKEN Center for Brain Science<sup>3</sup>)

**OP5-03** 16:30-16:45 Disruption of Tsukushi function leads to the neurodegen-

erative diseases by aberrant neurogenesis in the brain

Tsukushi の欠損は、脳内の神経発生を乱し、神経変性疾患を発症させる

○Kunimasa Ohta, Shah Ahmad, Mohammad Anam, Naofumi Ito (Dept. of Dev. Neurobiol., Kumamoto Univ. Grad. Sch. of Life Scis.)

**OP5-04 (P-143)** 16:45-17:00 Chemotactic implementation of topographic axonal wiring

走化性によるトポグラフィック神経回路の配線

○Naoki Honda (Kyoto University)

**OP5-05 (P-138)** 17:00-17:15 Preselection of long- and short-range projection neurons through reciprocal Foxg1 and COUP-TFI actions establish the sensory cortical circuit

○Peishan Hou, Carina Hanashima (Dept of Biol, Faculty of Education, Waseda Univ.)

**OP5-06 (P-141)** 17:15-17:30 Mechanisms Underlying Left-Right Asymmetry formation of the *Drosophila* brain

シヨウジョウバエの脳における左右非対称性形成機構

○So Sakamura<sup>1</sup>, Fuyu Hsu<sup>2</sup>, Ann-shyn Chiang<sup>2</sup>, Kenji Matsuno<sup>1</sup> (FBS<sup>1</sup>, NTHU<sup>2</sup>)

**OP5-07 (P-130)** 17:30-17:45 The role of the Strawberry Notch Homolog 1 in the neurite growth of the cortical neurons

ストロベリーノッチ1遺伝子は皮質ニューロンの神経突起伸長に働く

○Munkhsoyol Erkhembaatar<sup>1</sup>, Keito Minemori<sup>1</sup>, Iroha Yamamoto<sup>1</sup>, Fuduki Inoguchi<sup>1</sup>, Takashi Imaz<sup>1</sup>, Shinsuke Ikeno<sup>1</sup>, Carine Hanashima<sup>2</sup>, Satoru Yamagishi<sup>3</sup>, Hayato Naka-Kaneda<sup>1</sup>, Kosuke Taki<sup>1</sup>, Yu Katsuyama<sup>1</sup> (SUMS<sup>1</sup>, ASE, Waseda Univ<sup>2</sup>, Hamamatsu Univ Scho Med<sup>3</sup>)

**OP5-08** 17:45-18:00 Molecular mechanisms for differentiation of the inferior olivary nucleus neurons in zebrafish

ゼブラフィッシュにおける下オリーブ核ニューロン分化の分子機構

○Tsubasa Itoh<sup>1</sup>, Miki Takeuchi<sup>1,2</sup>, Marina Sakagami<sup>1</sup>, Takashi Shimizu<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (Grad. School of Science, Nagoya Univ.<sup>1</sup>, BBC, Nagoya Univ.<sup>2</sup>)

- OP5-09 (P-140)** 18:00-18:15 Unraveling 3D structure of functional compartments in the developing cerebellum: Spatiotemporal analysis in zebrafish  
小脳発達における小脳機能コンパートメントの3次元的理解:ゼブラフィッシュを用いた時空間的解析  
○Kanae Hiyoshi<sup>1</sup>, Narumi Fukuda<sup>1</sup>, Kyo Yamasu<sup>1</sup>, Sachiko Tsuda<sup>1,2</sup> (Grad Sch of Sci and Eng, Saitama Univ.<sup>1</sup>, Research and Development Bureau, Saitama Univ.<sup>2</sup>)
- OP5-10 (P-142)** 18:15-18:30 Mutation in *strip1* gene leads to impaired retinal neural circuit formation in zebrafish  
ゼブラフィッシュにおける *Strip1* 遺伝子変異は網膜神経回路形成を阻害する  
○Mai Ahmed, Yutaka Kojima, Ichiro Masai (OIST)
- OP5-11 (P-137)** 18:30-18:45 Tsukushi affects hippocampal neurogenesis in mouse brain  
○Shah Adil Ishtiyag Ahmad, Mhammad Badrul Anam, Naofumi Ito, Kunimasa Ohta (Dev Neur, Kumamoto Univ.)

## Oral presentation 6: Evolution (2) & Early Embryogenesis

DATE: May 15 (Wed) 16:00 ~ 18:45 Room C

Chairpersons: Gaku Kumano (Tohoku Univ.)

Shunsuke Yaguchi (Univ. of Tsukuba)

- OP6-01 (P-169)** 16:00-16:15 Acquiring a zip-code sequence for basal transport of *Ccnd2* mRNA contributes to the cerebral basal progenitor proliferation in placental mammals.  
*Ccnd2* mRNA の basal endofoot 輸送配列の獲得が有胎盤類における大脳 basal progenitor の増殖に貢献した。  
Takako Kikkawa<sup>1</sup>, ○Yoshio Wakamatsu<sup>1</sup>, Yukiko Inoue<sup>2</sup>, Kunihiro Suzuki<sup>3</sup>, Takayoshi Inoue<sup>2</sup>, Noriko Osumi<sup>1</sup> (Dept. Dev. Neurosci., Tohoku Univ. Grad. Sch. Med.<sup>1</sup>, Dept. Biochem. Cell. Biol., Nat. Inst. Neurosci., Nat. Cent. Neurol. Psy.<sup>2</sup>, Nihon Univ., Scho. Dent. Matsudo<sup>3</sup>)
- OP6-02 (P-029)** 16:15-16:30 Retinoic acid deficiency results in midfacial cleft and upper incisor defects with increased cell death of cranial

neural crest cells

○Yanran Wu<sup>1</sup>, Hiroshi Kurosaka<sup>1</sup>, Qi Wang<sup>1</sup>, Lisa L Sandell<sup>2</sup>, Paul Trainor<sup>3</sup>, Takashi Yamashiro<sup>1</sup> (Orthodontics of Osaka University<sup>1</sup>, UL<sup>2</sup>, Stowers Institute<sup>3</sup>)

- OP6-03 (P-036)** 16:30-16:45 Fam46a regulates pre-placodal ectoderm differentiation via BMP signaling  
Fam46a は BMP シグナルを介して予定プラコード分化を制御する  
○Tomoko Watanabe<sup>1,2</sup>, Takayoshi Yamamoto<sup>2</sup>, Kohei Tsukano<sup>2</sup>, Sayuki Hirano<sup>2</sup>, Ayumi Horikawa<sup>2</sup>, Tatsuo Michiue<sup>2</sup> (AIST<sup>1</sup>, Dept. of Life Sci., Grad. Sch. of Arts & Sci., Univ. of Tokyo<sup>2</sup>)
- OP6-04 (P-028)** 16:45-17:00 Functional analysis of intraciliary Calcium signal in mouse Left-Right symmetry breaking  
左右決定における繊毛内カルシウムシグナルの機能解析  
○Katsutoshi Mizuno, Kei Shiozawa, Hiroshi Hamada (RIKEN, BDR)
- OP6-05 (P-046)** 17:00-17:15 The roles of DDX6 in early mouse embryogenesis and progenitor cells  
○Jessica Kim<sup>1</sup>, Yumiko Saga<sup>1,2</sup> (The University of Tokyo<sup>1</sup>, NIG<sup>2</sup>)
- OP6-06 (P-032)** 17:15-17:30 Axial stem cells generate intermediate mesoderm during mouse body axis formation.  
マウス体軸形成において体軸幹細胞は中間中胚葉を産み出す。  
○Shinichi Hayashi, Tatsuya Takemoto (Embryology, Tokushima University)
- OP6-07 (P-034)** 17:30-17:45 Importin13 is essential for the peri-implantation mouse embryo development  
Importin13 は、マウス初期胚の原始外胚葉の発生に必須である  
Yasuka Yamaguchi<sup>1</sup>, Patrick Tam<sup>2</sup>, ○Satomi Tanaka<sup>1</sup> (Kumamoto Health Sci. Univ.<sup>1</sup>, CMRI, Australia<sup>2</sup>)
- OP6-08** 17:45-18:00 Molecular architecture of lineage specification and tissue organization in post-implantation mouse embryo  
○Naihe Jing (SIBCB, CAS)
- OP6-09 (P-025)** 18:00-18:15 The autism-related gene *cdc-like kinase 2 (clk2)* pro-

motes early neural development via modulation of morphogen signals in *Xenopus* embryos

○Regina Putri Virgiri<sup>1</sup>, Nusrat Jahan<sup>1</sup>, Maya Okada<sup>1</sup>, Kimiko Takebayashi-Suzuki<sup>1</sup>, Hitoshi Yoshida<sup>1</sup>, Makoto Nakamura<sup>1</sup>, Hajime Akao<sup>1</sup>, Fatchiyah Fatchiyah<sup>2</sup>, Naoto Ueno<sup>3</sup>, Atsushi Suzuki<sup>1</sup> (Amphibian Research Center, Grad Sch of Sci, Hiroshima Univ<sup>1</sup>, Dept of Biol, Fac of Math and Nat Sci, Brawijaya Univ<sup>2</sup>, Div of Morphogenesis, NIBB<sup>3</sup>)

**OP6-10** 18:15-18:30  
**(P-030)**

Segmentation dynamics and diversity controlled by Hedgehog signaling

ヘッジホッグシグナルにより制御された体節形成のダイナミクスと多様性

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

**OP6-11** 18:30-18:45  
**(P-047)**

Identification of a novel Gata gene involved in the first-axis formation of the spider embryo using RNA sequencing of regional cells

局所細胞の RNA-Seq による、クモ初期胚の第一軸形成に関わる新規 Gata 遺伝子の同定

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

## Oral presentation 7: Organogenesis & Metabolism

DATE: May 16 (Thu) 9:00 ~ 11:45 Room A

Chairpersons: Keiko Nonomura (NIBB)

Kimiko Fukuda (Tokyo Metropol. Univ.)

**OP7-01** 09:00-09:15  
**(P-117)**

Ecdysone-inducible polished rice temporally regulates fate decision of tracheal tip cells in *Drosophila* embryonic tracheal morphogenesis.

エクジソン誘導性 *polished rice* 遺伝子は、ショウジョウバエ胚発生において気管先端細胞の分化を時期特異的に制御する。

○Yuki Taira<sup>1</sup>, Housei Wada<sup>2</sup>, Shigeo Hayashi<sup>2</sup>, Yuji Kageyama<sup>1,3</sup> (Dept. Biol., Grad. Sch. Sci., Kobe Univ.<sup>1</sup>, RIKEN, BDR<sup>2</sup>, Biosig. Res. Ctr., Kobe Univ.<sup>3</sup>)

- OP7-02 (P-113)** 09:15-09:30 Foxg is required for the palp formation in ascidian embryos  
 ◯Boqi Liu, Yutaka Satou (GSS, Kyoto Univ.)
- OP7-03 (P-115)** 09:30-09:45 Endodermal SOX2 expression determines the esophagus character of the anterior foregut in both epithelial and mesenchymal components  
 内胚葉で発現する SOX2 が消化管前部の上皮と間充織の双方を食道に発生させる  
 ◯Machiko Teramoto<sup>1</sup>, Ryo Sugawara<sup>1</sup>, Atsushi Kuroiwa<sup>2</sup>, Yasuo Ishii<sup>3</sup>, Hisato Kondoh<sup>1</sup> (Fac. of Life Sci., Kyoto Sangyo Univ.<sup>1</sup>, Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.<sup>2</sup>, Dept. of Biol. Sch. of Med, TWM Univ.<sup>3</sup>)
- OP7-04 (P-125)** 09:45-10:00 A novel chromatin remodeling factor, Arip4 controls the cardiac chamber development via regulation of Notch signaling  
 新規クロマチンリモデリング因子 Arip4 は Notch シグナルを介して心室形成を制御する  
 ◯Nodoka Yanagi<sup>1</sup>, Hidesato Ogawa<sup>1,2</sup>, Yuika Morita<sup>1,3</sup>, Megumi Tsuchiya<sup>2</sup>, Tetsuya Asano<sup>1</sup>, Manabu Shirai<sup>4</sup>, Robert Schwart<sup>5</sup>, Ken-ichirou Morohashi<sup>6</sup>, Tetsushi Furukawa<sup>1</sup>, Kazuko Koshiba-Takeuchi<sup>7</sup>, Jun Takeuchi<sup>1</sup> (Dept. BIP., MRI., TMDU<sup>1</sup>, Nuclear Dynamics Group, Graduate School of Frontier Biosciences, Osaka University<sup>2</sup>, Department of Cardiology, Keio University School of Medicine<sup>3</sup>, Department of Bioscience and Genetics, National Cerebral and Cardiovascular Center Research Institute<sup>4</sup>, Department of Biology and Biochemistry, University of Houston<sup>5</sup>, Department of Molecular Biology, Graduate School of Medical Sciences, Kyushu University<sup>6</sup>, Faculty of Life Sciences, Department of Applied Biosciences, Toyo University<sup>7</sup>)
- OP7-05** 10:00-10:15 Genetics of Individuality  
 Ewan Birney<sup>1</sup>, Felix Loosli<sup>2</sup>, Kiyoshi Naruse<sup>3</sup>, ◯Joachim Wittbrodt<sup>4</sup> (EMBL-EBI, Hinxton, Sanger Campus, UK<sup>1</sup>, Karlsruhe Institute of Technology, ITG, Karlsruhe, Germany<sup>2</sup>, National Institute for Basic Biology, Okasaki, Japan<sup>3</sup>, Heidelberg University, Centre for Organismal Studies (COS), Heidelberg, Germany<sup>4</sup>)
- OP7-06** 10:15-10:30 Embryonic Neural Crest derived Cardiomyocytes (NC-Cms) in trabeculation, adult heart failure and cardiac

regeneration

○H Joseph Yost (U2M2)

- OP7-07** 10:30-10:45 Neurocristopathies: Neural crest cell derived birth defects of the peripheral nervous system and craniofacial skeleton and the potential for prevention.  
○Paul Trainor (SIMR)
- OP7-08 (P-124)** 10:45-11:00 Chirality in the dynamic behavior of blood cell cytoplasm in *Drosophila*  
○Takeshi Sasamura<sup>1</sup>, Daisuke Kurisu<sup>1</sup>, Masakazu Akiyama<sup>2</sup>, Kohei Otomo<sup>2</sup>, Tomomi Nemoto<sup>2</sup>, Hiroaki Mizuno<sup>3</sup>, Naoki Watanabe<sup>3</sup>, Hiromi Miyoshi<sup>4</sup>, Arata Kaneko<sup>4</sup>, Kenji Matsuno<sup>1</sup> (Grad. Sch. Sci., Osaka Univ.<sup>1</sup>, RIES, Hokkaido Univ.<sup>2</sup>, Grad. Sch. Med., Kyoto Univ.<sup>3</sup>, Grad. Sch. Sys. Des. Tokyo Met. Univ.<sup>4</sup>)
- OP7-09** 11:00-11:15 MESENCHYMAL ACTOMYOSIN CONTRACTILITY IS REQUIRED FOR ANDROGEN-DRIVEN URETHRAL MASCULINIZATION  
○Alvin Acebedo<sup>1</sup>, Kentaro Suzuki<sup>1</sup>, Shinjiro Hino<sup>2</sup>, Mellissa Alcantara<sup>1</sup>, Yuki Sato<sup>3</sup>, Hisashi Haga<sup>4</sup>, Ken-ichi Matsumoto<sup>5</sup>, Mitsuyoshi Nakao<sup>2</sup>, Kenji Shimamura<sup>6</sup>, Toru Takeo<sup>7</sup>, Naomi Nakagata<sup>7</sup>, Shinichi Miyagawa<sup>1</sup>, Ryuichi Nishinakamura<sup>8</sup>, Robert Adelstein<sup>9</sup>, Gen Yamada<sup>1</sup> (Department of Developmental Genetics, Wakayama Medical University<sup>1</sup>, Department of Medical Cell Biology, Institute of Molecular Embryology and Genetics, Kumamoto University<sup>2</sup>, Department of Anatomy and Cell Biology, Graduate School of Medical Sciences, Kyushu University<sup>3</sup>, Transdisciplinary Life Science Course, Faculty of Advanced Life Science, Hokkaido University<sup>4</sup>, Department of Biosignaling and Radioisotope Experiment, Interdisciplinary Center for Science Research, Organization for Research, Shimane University<sup>5</sup>, Department of Brain Morphogenesis, Institute of Molecular Embryology and Genetics, Kumamoto University<sup>6</sup>, Division of Reproductive Engineering, Center for Animal Resources and Development (CARD), Kumamoto University<sup>7</sup>, Department of Kidney Development, Institute of Molecular Embryology and Genetics (IMEG), Kumamoto University<sup>8</sup>, Laboratory of Molecular Cardiology, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda<sup>9</sup>)
- OP7-10** 11:15-11:30 Efficient single-copy HDR by 5' modified long dsDNA

donors

○Thomas Thumberger<sup>1</sup>, Jose Arturo Gutierrez-Triana<sup>2</sup>, Tinatini Tavheliidse<sup>1</sup>, Isabelle Thomas<sup>1</sup>, Beate Wittbrodt<sup>1</sup>, Tanja Kellner<sup>1</sup>, Kerim Anlas<sup>1</sup>, Erika Tsingos<sup>1</sup>, Joachim Wittbrodt<sup>1</sup> (Centre for Organismal Studies, Heidelberg University, Heidelberg, Germany<sup>1</sup>, Escuela de Microbiología, Facultad de Salud, Universidad Industrial, Santander, Colombia<sup>2</sup>)

**OP7-11** 11:30-11:45  
**(P-178)**

The role of the polyol pathway in sugar-sensing and the Mondo/ChREBP-mediated metabolic switch

糖感知および Mondo/ChREBP を介した代謝調節におけるポリオール経路の役割

○Hiroko Sano<sup>1</sup>, Akira Nakamura<sup>2</sup>, Mariko Yamane<sup>2</sup>, Hitoshi Niwa<sup>2</sup>, Kimi Araki<sup>3</sup>, Kazumasa Takemoto<sup>3</sup>, Kei-ichiro Ishiguro<sup>2</sup>, Yuki Takada<sup>2</sup>, Takashi Nishimura<sup>4</sup>, Masayasu Kojima<sup>1</sup> (Inst. of Life Science, Kurume Univ.<sup>1</sup>, Inst. of Molecular Embryology and Genetics, Kumamoto Univ.<sup>2</sup>, Inst. of Resource Development and Analysis, Kumamoto Univ.<sup>3</sup>, RIKEN BDR<sup>4</sup>)

## Oral presentation 8: Stem Cells & Regeneration & Epigenetics

DATE: May 16 (Thu) 9:00 ~ 11:45 Room B  
Chairpersons: Takashi Takeuchi (Tottori Univ.)  
Hitoshi Yokoyama (Hirosaki Univ.)  
Atsushi Kawakami (Tokyo Ins. of Tech.)

**OP8-01** 09:00-09:15  
**(P-148)**

Mammalian cells acquire cellular lineage plasticity by incorporating ribosomes

リボソームによる細胞分化可塑性の誘導

○Naofumi Ito, Adil Ishtiyag Ahmad Shah, Badrul Anam Mohammad, Kunimasa Ohta (Dev. neurobiol., Kumamoto University)

**OP8-02** 09:15-09:30  
**(P-150)**

IL-1 and TNF $\alpha$  in the inflammatory niche enhance the proliferation of alveolar type 2 epithelial cell and contribute to alveolar regeneration

炎症性ニッチにおける IL-1 と TNF $\alpha$  は 2 型肺胞上皮細胞の増殖を促進し、肺胞の再生に寄与する

○Hiroaki Katsura, Yoshihiko Kobayashi, Purushothama Tata, Brigid Hogan (Duke University)

**OP8-03** 09:30-09:45  
**(P-168)**

Planarian Promoter Architecture

○Reza Bagherzadeh<sup>1,2,3,5</sup>, Ruslan Deviatiiarov<sup>7</sup>, Elena Minkina<sup>7</sup>,

Seyed Ahmad Mousavi<sup>1</sup>, Ali Sharifi-Zarchi<sup>1,4</sup>, Oleg Gusev<sup>6,7</sup>, Hossein Bahrvand<sup>1,5</sup>, Kiyokazu Agata<sup>2,3</sup> (Royan Institute for Stem Cell Biology and Technology<sup>1</sup>, Kyoto University<sup>2</sup>, Gakushuin University<sup>3</sup>, Sharif University of Technology<sup>4</sup>, University of Science and Culture<sup>5</sup>, RIKEN Center for Life Science Technologies (CLST)<sup>6</sup>, Institute of Fundamental Medicine and Biology<sup>7</sup>)

**OP8-04 (P-161)** 09:45-10:00 Genetic analysis of the roles of Hox genes in newt limb regeneration

イモリ四肢再生における Hox 遺伝子機能についての遺伝学的解析

○Takashi Takeuchi, Fumina Minamitani, Toshinori Hayashi (Sch. of Life Sci., Fac. of Med., Tottori Univ.)

**OP8-05 (P-160)** 10:00-10:15 Local induction of shh expression alters limb development and regeneration in *Xenopus laevis*

局所的な shh 発現の誘導はアフリカツメガエルの四肢発生と再生を変化させる

Riho Hasugata<sup>1</sup>, Takuya Kobayashi<sup>2</sup>, Haruki Ochi<sup>3</sup>, Koji Tamura<sup>2</sup>, ○Hitoshi Yokoyama<sup>1</sup> (Dept. of Biochem. & Mol. Biol., Facul. of Agri. & Life Sci., Hirosaki Univ.<sup>1</sup>, Dept. of Dev. Adap., Grad. Schol. Life Sci., Tohoku Univ.<sup>2</sup>, Facul. of Med., Yamagata Univ.<sup>3</sup>)

**OP8-06 (P-159)** 10:15-10:30 PI3K signal is required for regenerative cell survival by recruiting the macrophage to amputation site

○Siyu Zhou, Atsushi Kawakami (Tokyo Inst. Technology)

**OP8-07** 10:30-10:45 A signal mediated by retinoic acid functions as a novel regulative step for allowing zebrafish fin regeneration

レチノイン酸を介したシグナルは、組織再生の可否を決める調節ステップとして働く

○Atsushi Kawakami, Eri Tanishita, Tomoya Nakashima (Tokyo Tech.)

**OP8-08 (P-154)** 10:45-11:00 Analysis on cellular and molecular mechanisms for regeneration of the enteric nervous system of zebrafish

ゼブラフィッシュを用いた腸神経細胞除去後の再生機構の解明

Maria Ohno<sup>1</sup>, Natsumi Horiuchi<sup>2</sup>, Koichi Kawakami<sup>3</sup>, ○Masataka Nikaido<sup>1</sup>, Kohei Hatta<sup>1</sup> (Grad. Sch. of Life Sci., Univ. of Hyogo,<sup>1</sup> Sch. of Sci., Univ. of Hyogo<sup>2</sup>, Div. of Mol. & Dev. Biol., NIG & Dep. of Genet. SOKENDAI<sup>3</sup>)

- OP8-09** 11:00-11:15 A transcriptome analysis for identifying downstream molecules of nerve factors, and Tva system in urodele amphibians.  
有尾両生類四肢再生における神経因子下流で働く因子の探索と TVA システムの構築  
○Akira Satoh<sup>1</sup>, Aki Makanae<sup>1</sup>, Kiyokazu Agata<sup>2</sup>, Takeshi Inoue<sup>2</sup>  
(RCIS, Okayama Univ.<sup>1</sup>, Dept. of Life Sci., Gakushuin Univ.<sup>2</sup>)
- OP8-10 (P-157)** 11:15-11:30 Tsukushi inhibits myofibroblast differentiation by competing with TGF- $\beta$ 1  
分泌因子 Tsukushi は TGF- $\beta$ 1 と競合することによって筋線維芽細胞の分化を抑制する  
○Rie Kawano<sup>1,2</sup>, Naofumi Ito<sup>2</sup>, Kunimasa Ohta<sup>2</sup> (Dep. Med. Oncology and Hematology, Oita Univ.<sup>1</sup>, Div. Develop. Neuro, Kumamoto Univ.<sup>2</sup>)
- OP8-11 (P-155)** 11:30-11:45 Dilp8 is involved in *winged eye* -mediated transdetermination of *Drosophila* imaginal disc  
シヨウジョウバエ成虫原基の決定転換における Dilp8 の役割  
○Kazuya Nemoto, Keita Masuko, Naoyuki Fuse, Shoichiro Kurata (Graduate School of Pharmaceutical Sciences, Tohoku University)

## Oral presentation 9: Patterning & Cell signaling & Imaging & Theory and Modeling

DATE: May 16 (Thu) 9:00 ~ 11:45 Room C

Chairpersons: Tsuyoshi Hirashima (Kyoto Univ.)

Yuki Sato (Kyushu Univ.)

- OP9-01 (P-065)** 09:00-09:15 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 シグナル伝達と Wnt シグナル伝達における細胞型特異的な機能の解析  
○Tomoko Yamakawa, Kenji Matsuno (Dept. of Biol. Sci., Grad. school of Sci., Osaka Univ.)
- OP9-02** 09:15-09:30 Role of the RhoA/ROCK pathway in regulating the migration of mouse enteric neural crest cells

○Cheuk Ling Leung<sup>1</sup>, Wing Ching Yip<sup>1</sup>, Jessica Aijia Liu<sup>2</sup>, Martin Cheung<sup>2</sup>, Wood Yee Chan<sup>1</sup> (Sch Biomed Sci, Chinese Univ HK<sup>1</sup>, Sch Biomed, HK Univ<sup>2</sup>)

**OP9-03 (P-064)** 09:30-09:45 Loss of Akhirin leads to abnormal phenotype and impaired neurogenesis at neurogenic niches of mouse brain  
○Mhammad Badrul Anam, Shah Adil Ishtiyah Ahmad, Mikiko Kudo, Naofumi Ito, Kunimasa Ohta (Dev. Neuro, Kumamoto Univ.)

**OP9-04 (P-002)** 09:45-10:00 A new fate map and anterior mesendoderm-dependent regulation of brain precursor development determined via live imaging of avian embryos  
鳥類胚のライブイメージングが明らかにした、各脳領域の新しい前駆体マップと、脳形成を開始させる前部中内胚葉の作用  
○Hisato Kondoh<sup>1</sup>, Koya Yoshihi<sup>1</sup>, Hideaki Iida<sup>1</sup>, Machiko Teramoto<sup>1</sup>, Kagayaki Kato<sup>2</sup> (Kyoto SU<sup>1</sup>, NINS, ExCELLS<sup>2</sup>)

**OP9-05 (P-059)** 10:00-10:15 Instructive role of melanocytes in the pigment patterning of avian skin  
鳥類の皮膚模様形成におけるメラノサイトの主導的な役割  
○Masafumi Inaba<sup>1</sup>, Ting-Xin Jiang<sup>1</sup>, Ya-Chen Liang<sup>1,2</sup>, Stephanie Tsai<sup>1,3,4</sup>, Yung-Chih Lai<sup>2</sup>, Randall Widelitz<sup>1</sup>, Cheng-Ming Chung<sup>1,2,5</sup> (Keck School of Medicine, Dept. of Pathology USC<sup>1</sup>, Integrative Stem Cell Center, China Medical University Hospital<sup>2</sup>, Ostrow School of Dentistry, University of Southern California<sup>3</sup>, Graduate School of Clinical Dentistry, National Taiwan University<sup>4</sup>, Center for the Integrative and Evolutionary Galliformes Genomics, National Chung Hsing University<sup>5</sup>)

**OP9-06** 10:15-10:30 Cell blebbing bridges time and space in zebrafish gastrulation  
ブレブ形成細胞によるゼブラフィッシュ原調胚の時空間制御機構  
○Yuuta Moriyama<sup>1</sup>, Carl-Philipp Heisenberg<sup>2</sup> (Dept. Phys & Math, Aoyama Gakuin University<sup>1</sup>, IST Austria<sup>2</sup>)

**OP9-07 (P-052)** 10:30-10:45 Aurora-A breaks symmetry in contractile actomyosin networks independently of its role in centrosome matu-

ration

線虫受精卵における対称性の破れは Aurora-A キナーゼにより誘導される

Peng Zhao<sup>1</sup>, Xiang Teng<sup>2</sup>, Sarala Tantirimudalige<sup>3</sup>, Masatoshi Nishikawa<sup>4</sup>, Thorsten Wohland<sup>3</sup>, Yusuke Toyama<sup>2,3</sup>, <sup>○</sup>Fumio Motegi<sup>1</sup> (TLL, MBI, DBS, NUS<sup>1</sup>, MBI, NUS<sup>2</sup>, DBS, NUS<sup>3</sup>, Hosei Univ<sup>4</sup>)

- OP9-08 (P-181)** 10:45-11:00 Tissue force-mediated wound healing in zebrafish epithelia.  
ゼブラフィッシュ胚上皮組織にかかる力を利用した創傷治癒の解析  
<sup>○</sup>Sohei Yamada<sup>1</sup>, Yasumasa Bessho<sup>2</sup>, Yoichiroh Hosokawa<sup>1</sup>, Takaaki Matsui<sup>2</sup> (Bio-Process Engineering, NAIST<sup>1</sup>, Gene Regulation Research, NAIST<sup>2</sup>)
- OP9-09 (P-186)** 11:00-11:15 Morphological diversity explained by physical properties of cell-cell interaction in living organisms  
細胞間相互作用の物理的性質に基づいた形態の多様性の実現  
<sup>○</sup>Hiroshi Koyama<sup>1,2</sup>, Toshihiko Fujimori<sup>1,2</sup> (Div. Embryology, NIBB<sup>1</sup>, SOKENDAI<sup>2</sup>)
- OP9-10 (P-188)** 11:15-11:30 Single molecule dynamics of MyosinI dictating chiral behaviors of *Drosophila* cells  
ショウジョウバエ細胞のキラルな振る舞いを制御する I 型ミオシンの一分子動態  
<sup>○</sup>Sosuke Utsunomiya<sup>1</sup>, Takeshi Sasamura<sup>1</sup>, Yukihiro Miyanaga<sup>2</sup>, Masahiro Ueda<sup>2</sup>, Kenji Matsuno<sup>1</sup> (Dept.Bio.Sci, Osaka Univ.<sup>1</sup>, Grad. Sch. of Frontier Bio., Osaka Univ.<sup>2</sup>)
- OP9-11 (P-183)** 11:30-11:45 SSBD: an open public database of microscopy images and quantitative data of biological dynamics  
SSBD: 細胞・発生画像情報と生命動態情報の統合データベース  
<sup>○</sup>Kenneth Ho<sup>1</sup>, Yukako Tohsato<sup>1,2</sup>, Koji Kyoda<sup>1</sup>, Hiroya Itoga<sup>1</sup>, Shuichi Onami<sup>1</sup> (RIKEN BDR<sup>1</sup>, Osaka Electro-Communication University<sup>2</sup>)

## Poster Sessions

P-001~P-010 is “Special Event~Professor's Poster Street~”

The white number is Poster Award candidate.

DATE: May 15 (Wed)-May 16 (Thu)

<b>Mounting:</b>	<b>9:00-11:30 on Day1 (May 15 (Wed))</b>
Day1 (May 15 (Wed)) Discussion:	13:30-14:30 for <b>odd number</b> posters 14:30-15:30 for <b>even number</b> posters
	13:30-15:30 for <b>Special Event ~ Professor's Poster Street ~</b>
Day2 (May 16 (Thu)) Discussion:	13:15-14:15 for <b>even number</b> posters 14:15-15:15 for <b>odd number</b> posters
<b>Removal:</b>	<b>9:00-11:30 on Day3 (May 17 (Fri))</b>

**P-001** Developmental behaviors of adult fat body cells during metamorphosis in *Drosophila melanogaster*  
ショウジョウバエの変態期における成虫型脂肪組織の発生  
Taiichi Tsuyama, Hanae Komai, Kohei Shimono, <sup>○</sup>Tadashi Uemura (Grad. Sch. of Biostudies, Kyoto Univ.)

**P-002 (OP9-04)** A new fate map and anterior mesendoderm-dependent regulation of brain precursor development determined via live imaging of avian embryos  
鳥類胚のライブイメージングが明らかにした、各脳領域の新しい前駆体マップと、脳形成を開始させる前部中内胚葉の作用  
<sup>○</sup>Hisato Kondoh<sup>1</sup>, Koya Yoshihi<sup>1</sup>, Hideaki Iida<sup>1</sup>, Machiko Teramoto<sup>1</sup>, Kagayaki Kato<sup>2</sup> (Kyoto SU<sup>1</sup>, NINS, ExCELLS<sup>2</sup>)

**P-003 (OP1-07)** Nanopore formation in the cuticle of the insect olfactory sensillum  
匂い分子取り込みにはたらく昆虫嗅覚器官ナノポア構造の構築機構  
<sup>○</sup>Shigeo Hayashi<sup>1</sup>, Toshiya Ando<sup>1,2</sup>, Sayaka Sekine<sup>1</sup>, Sachi Inagaki<sup>2</sup>, Kazuyo Misaki<sup>1</sup>, Laurent Badel<sup>3</sup>, Hiroyuki Moriya<sup>4</sup>, Mustafa Sami<sup>1</sup>, Takahiro Chihara<sup>5</sup>, Hokuto Kazama<sup>3</sup>, Shigenobu Yonemura<sup>1</sup> (RIKEN BDR<sup>1</sup>, NIBB<sup>2</sup>, RIKEN CBS<sup>3</sup>, U. Tokyo<sup>4</sup>, U. Hiroshima<sup>5</sup>)

- P-004** Evolutionary Cell Biology (Evo-Cello) for transition into walking limbs.  
 鰭から四肢への進化に対する進化細胞生物学的考察  
 ○Koji Tamura, Yoshitaka Tanaka, Tetsuya Umeda, Hidehiro Kudoh, Sayuri Yonei-Tamura, Gembu Abe (Grad. Sch. of Life Sci., Tohoku Univ.)
- P-005** The hourglass model of limb regeneration  
 四肢再生の砂時計モデル  
 ○Kiyokazu Agata, Rikuya Sakamoto, Ryou Matsumoto, Sousuke Kimura, Ei Kakuta, Takeshi Inoue (Life Sci. Gakushuin Univ.)
- P-006** From "Nan-ja korya?!" to big success  
 「なんじゃこりゃ?!」が切り拓く発生生物学  
 ○Yoshiko Takahashi (Grad. Sch. of Sci., Kyoto Univ.)
- P-007** Cell chirality is the link between molecular and body chirality  
 細胞キラリティは分子キラリティとからだの左右非対称性をはしわたす  
 ○Kenji Matsuno (Dept. Biol. Sci., Osaka Univ.)
- P-008** How is the shape of the beetle horn determined?  
 ○Shigeru Kondo (Osaka University, Graduate School of Frontier Biosciences)
- P-009** How animal development utilizes the mechanisms of programmed cell death?  
 発生はプログラム細胞死の仕組みをどう利用するか  
 ○Masayuki Miura (Dept. of Genetics, Grad. Sch. of Pharm. Scis., Univ. of Tokyo)
- P-010** Dynamics and mechanics of axon-dendrite wiring geometries in the developing brain  
 脳発生におけるニューロン突起パターンと回路のジオメトリーを決定する分子細胞機構  
 Kazuto Fujishima<sup>1</sup>, Midori Yamada<sup>2</sup>, Junko Kurisu<sup>1</sup>, ○Mineko Kengaku<sup>1,2</sup>  
 (KUIAS-iCeMS, Kyoto Univ.<sup>1</sup>, Grad. Sch. Biostudies, Kyoto Univ.<sup>2</sup>)
- P-011** Maternal microchimeric cells in shaping the developing immune system  
 ○Flore Castellan<sup>1</sup>, Hidetoshi Kassai<sup>2</sup>, Naoki Irie<sup>1</sup> (Grad. Sch. Sci., UTokyo<sup>1</sup>,

Grad. Sch. Med, UTokyo<sup>2</sup>)

**P-012**

Phenotypic analysis of the gonads of conditional SF-1 knockout mice  
コンディショナル SF-1 ノックアウトマウス生殖腺の表現型の解析

○Mamiko Maekawa, Ayako Tagami, Akiko Nagai, Yayoi Ikeda (Dept. Anat., Sch. Dent., Aichi Gakuin Univ.)

**P-013**

**(SW1-01)**

Primordial germ cells in avian embryos display a variety of morphology when they exit blood vessels

トリ胚始原生殖細胞の血管外遊走における形態多様性

○Kanta Mizumoto<sup>1</sup>, Daisuke Saito<sup>2</sup>, Yuta Takase<sup>1,3</sup>, Ryosuke Tadokoro<sup>1</sup>, Yoshiko Takahashi<sup>1</sup> (Dept of Zool. Kyoto Univ<sup>1</sup>, Grad School of Systems Life Sci. Kyushu Univ<sup>2</sup>, MACS. Kyoto Univ<sup>3</sup>)

**P-014**

**(OP2-01)**

Examination the potential of using first polar body mitochondrial DNA content as an indicator of oocyte quality

○Wing Tung Lee, Tin Lap Lee (SBS, CUHK)

**P-015**

Crucial role of sugar metabolism in the female meiosis in fruit fly *Drosophila*

ショウジョウバエの減数分裂進行における血糖代謝の役割

○Yuka Yoshii<sup>1,2</sup>, Takashi Nishimura<sup>1,2</sup> (NAIST<sup>1</sup>, RIKEN BDR<sup>2</sup>)

**P-016**

Pax6 deficiency leads to an altered YX ratio in round spermatids during spermatogenesis

○Jasper Germeraad, Ryuichi Kimura, Misako Tatehana, Noriko Osumi (Dept. of Dev. Neurosci.)

**P-017**

Microbes enhance the germline development in *Drosophila*

腸内微生物による卵形成亢進機構の解明

○Ritsuko Suyama<sup>1</sup>, Nicolas Cetraro<sup>2</sup>, Joanne Yew<sup>1,2</sup>, Toshie Kai<sup>1</sup> (FBS, Osaka Univ.<sup>1</sup>, PBRC, Hawaii Univ.<sup>2</sup>)

**P-018**

**(OP2-05)**

H3K27me3 is required to prevent sister somatic gene expression in the ascidian germline

○Tao Zheng, Ayaki Nakamoto, Gaku Kumano (Asamushi Research Center for Marine Biology)

**P-019**

Functional redundancy of NANOS proteins supports mouse germ cell survival

○Danelle Wright<sup>1</sup>, Yumiko Saga<sup>2</sup> (NIG, SOKENDAI<sup>1</sup>, NIG<sup>2</sup>)

**P-020**  
**(OP2-04)**

*Drosophila* Tpp ensures the germ plasm assembly by facilitating the posterior localization of Aubergine in the oocyte

○Hirono Kina<sup>1,2</sup>, Hina Nakashima<sup>1,2</sup>, Tsubasa Tanaka<sup>1,2,3</sup>, Kazuko Hanyu-Nakamura<sup>1</sup>, Akira Nakamura<sup>1,2,3</sup> (Department of Germline Development, Institute of Molecular Embryology and Genetics<sup>1</sup>, School of Pharmacy<sup>2</sup>, Graduate School of Pharmaceutical Sciences, Kumamoto University<sup>3</sup>)

**P-021**  
**(OP2-03)**

DEAD-box RNA helicase Belle post-transcriptionally promotes gene expression in an ATPase activity-dependent manner in *Drosophila* oocytes

○Susan Liao, Ryuya Fukunaga (Dept. Biol. Chem., JHUSOM)

**P-022**  
**(SW2-04)**

Super low cell density culture for understanding cell-cell interaction during human cardiomyogenesis

心筋分化における相互作用を理解するための超低細胞密度培養

○Kiyoshi Ohnuma (Bioeng, Nagaoka Univ Tech)

**P-023**  
**(OP2-06)**

Exploring the murine germ cell masculinization mechanism using scRNA-Seq data

scRNA-Seq を利用したマウス生殖細胞オス化機構の研究

○Ryuki Shimada, Yumiko Saga (NIG)

**P-024**

NANOS3 is required for proper expansion of spermatogonial progenitors in mice.

マウス NANOS3 は精原細胞の適切な増殖に必要である。

○Hiroki Inoue<sup>1</sup>, Takayuki Sakurai<sup>1,2</sup>, Danelle Wright<sup>1,2</sup>, Yumiko Saga<sup>1,2,3</sup> (National Institute of Genetics<sup>1</sup>, SOKENDAI<sup>2</sup>, The University of Tokyo<sup>3</sup>)

**P-025**  
**(OP6-09)**

The autism-related gene *cdc-like kinase 2 (clk2)* promotes early neural development via modulation of morphogen signals in *Xenopus* embryos

○Regina Putri Virgiri<sup>1</sup>, Nusrat Jahan<sup>1</sup>, Maya Okada<sup>1</sup>, Kimiko Takebayashi-Suzuki<sup>1</sup>, Hitoshi Yoshida<sup>1</sup>, Makoto Nakamura<sup>1</sup>, Hajime Akao<sup>1</sup>, Fatchiyah Fatchiyah<sup>2</sup>, Naoto Ueno<sup>3</sup>, Atsushi Suzuki<sup>1</sup> (Amphibian Research Center, Grad Sch of Sci, Hiroshima Univ<sup>1</sup>, Dept of Biol, Fac of Math and Nat Sci, Brawijaya Univ<sup>2</sup>, Div of Morphogenesis, NIBB<sup>3</sup>)

**P-026**

Axis elongation during *Xenopus* tail-bud stage is regulated by GABA expressed in anterior-to-mid neural tube

ツメガエルの尾芽胚期における軸伸長は神経管の前方から中央にかけて発現する GABA によって制御される

○Mizuki Sakurai<sup>1</sup>, Tomoyo Furukawa<sup>2</sup>, Yusuke Hara<sup>3,4</sup>, Hiroki Kuroda<sup>3,4,5,6</sup>  
(Keio Univ., Faculty of Policy Management<sup>1</sup>, Shizuoka Univ., Graduate School of Science and Technology<sup>2</sup>, AOI lab., Keio Research Institute at SFC<sup>3</sup>, Graduate School of Media and Governance, Keio Univ.<sup>4</sup>, Keio Univ., Faculty of Environment and Information Studies<sup>5</sup>, Institute for Advanced Biosciences, Keio Univ.<sup>6</sup>)

**P-027**

Mesodermal cell migration does NOT depend on mesoderm-inducible transcriptional factor cTbx6L

中胚葉細胞の移動は中胚葉誘導因子である cTbx6L に依存しない

○Eisuke Shimokita<sup>1</sup>, Hitomi Suzuki<sup>2</sup>, Yoshihiro Tsuruo<sup>3</sup>, Tatsuya Takemoto<sup>4</sup>  
(Dept. of Anat & Cell Biol., Tokushima Univ. Grad. Sch. of Med.<sup>1</sup>, IAMS, Tokushima Univ.<sup>2</sup>, Dept. of Anat & Cell Biol., Tokushima Univ. Grad. Sch. of Med.<sup>3</sup>, IAMS, Tokushima Univ.<sup>4</sup>)

**P-028  
(OP6-04)**

Functional analysis of intraciliary Calcium signal in mouse Left-Right symmetry breaking

左右決定における繊毛内カルシウムシグナルの機能解析

○Katsutoshi Mizuno, Kei Shiozawa, Hiroshi Hamada (RIKEN, BDR)

**P-029  
(OP6-02)**

Retinoic acid deficiency results in midfacial cleft and upper incisor defects with increased cell death of cranial neural crest cells

○Yanran Wu<sup>1</sup>, Hiroshi Kurosaka<sup>1</sup>, Qi Wang<sup>1</sup>, Lisa L Sandell<sup>2</sup>, Paul Trainor<sup>3</sup>, Takashi Yamashiro<sup>1</sup> (Orthodontics of Osaka University<sup>1</sup>, UL<sup>2</sup>, Stowers Institute<sup>3</sup>)

**P-030  
(OP6-10)**

Segmentation dynamics and diversity controlled by Hedgehog signaling

ヘッジホッグシグナルにより制御された体節形成のダイナミクスと多様性

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

**P-031**

Analyze the molecular mechanism involved in basal body translocation posteriorly in mouse node cells

○Xiao Rei Sai, Katura Minegishi, Hiroshi Hamada (RIKEN BDR)

- P-032  
(OP6-06)** Axial stem cells generate intermediate mesoderm during mouse body axis formation.  
 マウス体軸形成において体軸幹細胞は中間中胚葉を産み出す。  
 ○Shinichi Hayashi, Tatsuya Takemoto (Embryology, Tokushima University)
- P-033** Coordinated regulation of the dorsal–ventral and anterior–posterior axes in *Xenopus* embryo by Biz/Zbtb14 and its associated protein Bap  
 Kimiko Takebayashi-Suzuki<sup>1</sup>, Misa Uchida<sup>1</sup>, Hitoshi Yoshida<sup>1,2</sup>, Makoto Nakamura<sup>1</sup>, ○Atsushi Suzuki<sup>1</sup> (Amphibian Res. Center, Hiroshima Univ. Grad. Sch. of Sci.<sup>1</sup>, Marine Biol. Lab., Woods Hole, USA<sup>2</sup>)
- P-034  
(OP6-07)** Importin13 is essential for the peri-implantation mouse embryo development  
 Importin13 は、マウス初期胚の原始外胚葉の発生に必須である  
 Yasuka Yamaguchi<sup>1</sup>, Patrick Tam<sup>2</sup>, ○Satomi Tanaka<sup>1</sup> (Kumamoto Health Sci. Univ.<sup>1</sup>, CMRI, Australia<sup>2</sup>)
- P-035** Left-right axis determination in reptiles  
 爬虫類における左右軸形成  
 ○Eriko Kajikawa<sup>1</sup>, Uzuki Horo<sup>2</sup>, Yayoi Ikawa<sup>1</sup>, Hiromi Nishimura<sup>1</sup>, Takahiro Ide<sup>1</sup>, Hiroshi Hamada<sup>1</sup> (RIKEN BDR<sup>1</sup>, SEEDS, Osaka Univ.<sup>2</sup>)
- P-036  
(OP6-03)** Fam46a regulates pre-placodal ectoderm differentiation via BMP signaling  
 Fam46a は BMP シグナルを介して予定プラコード分化を制御する  
 ○Tomoko Watanabe<sup>1,2</sup>, Takayoshi Yamamoto<sup>2</sup>, Kohei Tsukano<sup>2</sup>, Sayuki Hirano<sup>2</sup>, Ayumi Horikawa<sup>2</sup>, Tatsuo Michiue<sup>2</sup> (AIST<sup>1</sup>, Dept. of Life Sci., Grad. Sch. of Arts & Sci., Univ. of Tokyo<sup>2</sup>)
- P-037** Understanding endothelial cell heterogeneity during vascular development  
 ○Wen Hui Jeronica Chong (RIKEN BDR)
- P-038** Redundant expression of type II classic cadherins supports cytoarchitectonic robustness during mouse cranial compartmentalization and neurulation  
 ○Kou Hiraga<sup>1</sup>, Yukiko Inoue<sup>1</sup>, Junko Asami<sup>1</sup>, Mayuko Hotta<sup>1,2</sup>, Yuki Morimoto<sup>1</sup>, Shoji Tatsumoto<sup>3</sup>, Mikio Hoshino<sup>1</sup>, Yasuhiro Go<sup>3</sup>, Takayoshi Inoue<sup>1</sup>

(NCNP<sup>1</sup>, TAT<sup>2</sup>, NIPS<sup>3</sup>)

**P-039**  
**(SW1-02)**

Quantitative analysis of spatial relationship between the mitotic spindle and the centrosome attracting body in early ascidian embryogenesis

ホヤ初期発生における紡錘体と centrosome attracting body の位置の定量的解析

○Hiromu Terui, Naohito Takatori (TMU)

**P-040**

Quantitative analysis of cell shape features in *C. elegans* embryos

線虫 *C. elegans* 胚の細胞形状特徴の定量解析

○Yusuke Azuma, Shuichi Onami (RIKEN BDR)

**P-041**

Ripply-mediated Nodal inhibition is required for proper head development

Inchul Yeo, ○Jin-Kwan Han (POSTECH)

**P-042**

Precise in-frame integration of a GFP gene using microhomology-mediated knock-in technology in *Gryllus bimaculatus*

フタホシコオロギにおけるマイクロホモロジーに依存したノックイン技術の確立

○Kohei Kawamoto<sup>1</sup>, Mayuko Matsuda<sup>1</sup>, Takahisa Yamashita<sup>1</sup>, Takahito Watanabe<sup>1</sup>, Sayuri Tomonari<sup>1</sup>, Yoshiyasu Isimaru<sup>1</sup>, Sumihare Noji<sup>2</sup>, Taro Mito<sup>1</sup> (Grad. Sch. of Adv. Tech. and Sci., Tokushima Univ.<sup>1</sup>, Grad. Sch. of Tech, Ind. and Soc. Sci., Tokushima Univ.<sup>2</sup>)

**P-043**

Origin of anterior-posterior axis formation in mouse embryos.

マウス胚における前後軸の起源

○Katsuyoshi Takaoka (MPIbpc)

**P-044**

Roles of N-cadherin mediated cell-cell contact in collective cell migration during chick mesoderm formation

N-cadherin を介した細胞間接着が細胞集団運動を制御するしくみ —ニワトリ胚中胚葉細胞の遊走をモデルとした解析—

○Yukiko Nakaya, Sohei Tasaki, Ayako Isomura, Tatsuo Shibata (RIKEN BDR)

**P-045**

Role of *Greb1* in the regulation of axial stem cell

体軸幹細胞の制御における *Greb1* の役割

○Naoya Takami, Shinichi Hayashi, Tatsuya Takemoto (IAMS, Tokushima

Univ)

**P-046**  
**(OP6-05)**

The roles of DDX6 in early mouse embryogenesis and progenitor cells

○Jessica Kim<sup>1</sup>, Yumiko Saga<sup>1,2</sup> (The University of Tokyo<sup>1</sup>, NIG<sup>2</sup>)

**P-047**  
**(OP6-11)**

Identification of a novel Gata gene involved in the first-axis formation of the spider embryo using RNA sequencing of regional cells

局所細胞の RNA-Seq による、クモ初期胚の第一軸形成に関わる新規 Gata 遺伝子の同定

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

**P-048**

Epiblast formation by Tead-Yap-dependent expression of pluripotency factors and competitive elimination of unspecified cells

○Masakazu Hashimoto, Hiroshi Sasaki (Laboratory for Embryogenesis, Graduate School of Frontier Biosciences, Osaka University)

**P-049**

Quantitative analysis of chondrogenic pattern formation in cell culture system of developing limb mesenchyme

肢芽間充織細胞培養系における細胞凝集パターンの定量解析

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

**P-050**  
**(SW1-03)**

Left-right asymmetry of vascular patterns is regulated by blood flow

左右非対称に形成される卵黄静脈の血流依存性

○Junki Yoshida<sup>1</sup>, Yuta Takase<sup>1,2</sup>, Yoshiko Takahashi<sup>1</sup> (Dep of Zool., Grad Sch of Sci., Kyoto Univ.<sup>1</sup>, MACS., Grad Sch of Sci., Kyoto Univ.<sup>2</sup>)

**P-051**

Quantitative and comparative analysis of limb morphogenesis between chick and *Xenopus* embryos

アフリカツメガエルとニワトリ胚における四肢形態形成動態の定量比較解析

○Aiko Kawasumi<sup>1</sup>, Takayuki Suzuki<sup>2</sup>, Hitoshi Yokoyama<sup>3</sup>, Yasuhiro Kamei<sup>4</sup>, Koji Tamura<sup>5</sup>, Yoshihiro Morishita<sup>1</sup> (RIKEN BDR<sup>1</sup>, Nagoya Univ.<sup>2</sup>, Hirosaki Univ.<sup>3</sup>, NIBB<sup>4</sup>, Tohoku Univ.<sup>5</sup>)

**P-052**  
**(OP9-07)**

Aurora-A breaks symmetry in contractile actomyosin networks independently of its role in centrosome maturation

線虫受精卵における対称性の破れは Aurora-A キナーゼにより誘導される

Peng Zhao<sup>1</sup>, Xiang Teng<sup>2</sup>, Sarala Tantirimudalige<sup>3</sup>, Masatoshi Nishikawa<sup>4</sup>, Thorsten Wohland<sup>3</sup>, Yusuke Toyama<sup>2,3</sup>, <sup>○</sup>Fumio Motegi<sup>1</sup> (TLL, MBI, DBS, NUS<sup>1</sup>, MBI, NUS<sup>2</sup>, DBS, NUS<sup>3</sup>, Hosei Univ<sup>4</sup>)

**P-053**

Identification and functional analysis of Gdf11 enhancer that determines the hindlimb position.

後肢の位置を決定する Gdf11 のエンハンサーの同定と機能的解析

<sup>○</sup>Seiji Saito<sup>1</sup>, Utsugi Kanazawa<sup>1</sup>, Nobuyuki Hibino<sup>1</sup>, Tatsuya Takemoto<sup>2</sup>, Yoichi Matsuda<sup>3</sup>, Atsushi Kuroiwa<sup>1</sup>, Takayuki Suzuki<sup>2</sup> (Grad. School of Sci., Nagoya Univ.<sup>1</sup>, IAMS, Tokushima Univ.<sup>2</sup>, Grad. School of Bioag Sci., Nagoya Univ.<sup>3</sup>)

**P-054**

Expression pattern of Hox11 paralogous genes in the somites is determined by GDF11 with dose-dependent manner.

GDF11 による仙椎の形成に必須な Hox11 パラログスグループの発現領域決定メカニズムの解明

<sup>○</sup>Haruka Fujita<sup>1</sup>, Marina Matsumiya<sup>2</sup>, Ryoichiro Kageyama<sup>2</sup>, Yoichi Matsuda<sup>3</sup>, Takayuki Suzuki<sup>3</sup> (Grad. Sch. Sci., Nagoya Univ.<sup>1</sup>, Institute for Frontier Life and Medical Sciences, Kyoto University<sup>2</sup>, Graduate School of Bioagricultural Sciences, Nagoya University<sup>3</sup>)

**P-055**

Distribution of Sox10-positive chromatophore progenitors and neurons in metamorphosing flounder larvae

変態過程のヒラメ仔魚における Sox10 陽性の色素前駆細胞と神経細胞の分布

<sup>○</sup>Tohru Suzuki, Minato Miyake, Kota Sato, Hayato Yokoi (Grad. Sch. of Agric. Sci., Tohoku Univ.)

**P-056**

Experimental Duplication of Bilaterian Body Axes in Spider Embryos: Holm's organizer and self-regulation of embryonic fields

クモ胚における左右相称性を規定する体軸の実験的重複化：ホルムのオルガナイザーと胚領域にある自己調節性

<sup>○</sup>Hiroki Oda<sup>1,2</sup>, Sawa Iwasaki-Yokozawa<sup>1</sup>, Toshiya Usui<sup>3</sup>, Yasuko Akiyama-Oda<sup>1,4</sup> (JT BRH<sup>1</sup>, Osaka Univ.<sup>2</sup>, Nagoya M. High<sup>3</sup>, Osaka Med. Coll.<sup>4</sup>)

**P-057**

Generation of an enhancer-trap strain of the scalloped gene in the

cricket *Gryllus bimaculatus*

フタホシコオロギにおける scalloped 遺伝子のエンハンサー  
トランプ系統の作製

○Takahisa Yamashita, Taro Mito, Yoshiyasu Ishimaru, Takahito Watanabe,  
Sayuri Tomonari, Kouhei Kawamoto, Mayuko Matuda (Tokushima Univ)

**P-058**

SOX2 dosage dependent control of otic cell identity revealed by single-cell transcriptome analyses

○Kok Ting Tam<sup>1</sup>, Peikai Chen<sup>1</sup>, Wai Hang Kwong<sup>1</sup>, Kai Hung Leung<sup>1</sup>, Anna Pelling<sup>1</sup>, Bernd Fritzsche<sup>2</sup>, Robin Lovell-badge<sup>3</sup>, Kathryn Cheah<sup>1</sup> (SBMS, HKU<sup>1</sup>, Department of Biology, CLAS, University of Iowa<sup>2</sup>, Stem Cell Biology and Developmental Genetics Laboratory, The Francis Crick Institute<sup>3</sup>)

**P-059  
(OP9-05)**

Instructive role of melanocytes in the pigment patterning of avian skin  
鳥類の皮膚模様形成におけるメラノサイトの主導的な役割

○Masafumi Inaba<sup>1</sup>, Ting-Xin Jiang<sup>1</sup>, Ya-Chen Liang<sup>1,2</sup>, Stephanie Tsai<sup>1,3,4</sup>, Yung-Chih Lai<sup>2</sup>, Randall Widelitz<sup>1</sup>, Cheng-Ming Chuong<sup>1,2,5</sup> (Keck School of Medicine, Dept. of Pathology USC<sup>1</sup>, Integrative Stem Cell Center, China Medical University Hospital<sup>2</sup>, Ostrow School of Dentistry, University of Southern California<sup>3</sup>, Graduate School of Clinical Dentistry, National Taiwan University<sup>4</sup>, Center for the Integrative and Evolutionary Galliformes Genomics, National Chung Hsing University<sup>5</sup>)

**P-060  
(SW2-09)**

ptr-18/PTCHD suppresses the activity of grl-7/Hedgehog through endocytosis.

ptr-18/PTCHD はエンドサイトーシスを介して grl-7/Hedgehog の活性を抑制する

○Hirohisa Chiyoda<sup>1</sup>, Masahiko Kume<sup>1,2</sup>, Toshiaki Katada<sup>1,3</sup>, Masamitsu Fukuyama<sup>1</sup> (Dept of Physiol Chemistry, Grad Sch of Pharmaceutical Sci, Univ of Tokyo<sup>1</sup>, Laboratory of Molecular Medicine, Graduate School of Frontier Science, University of Tokyo<sup>2</sup>, Molecular Cell Biology Laboratory, Research Institute of Pharmaceutical Sciences, Faculty of Pharmacy, Musashino University<sup>3</sup>)

**P-061**

Snail promotes JNK-mediated cell migration and tumor invasion

○Xiang Ding<sup>1,2</sup>, Chenxi Wu<sup>1,2,3</sup>, Zhuojie Li<sup>1,2</sup>, Ying Sun<sup>1,2</sup>, Lei Xue<sup>1,2</sup> (SLST, Tongji Univ<sup>1</sup>, IIV, Shanghai Tenth Hosp<sup>2</sup>, CCM, North China Univ<sup>3</sup>)

**P-062**

Snail modulates JNK-dependent FoxO-mediated cell death in Dro-

sophila

○Zhuojie Li<sup>1,2</sup>, Chenxi Wu<sup>1,2,3</sup>, Xiang Ding<sup>1,2</sup>, Lei Xue<sup>1,2</sup> (SLST, Tongji Univ<sup>1</sup>, IIV, Shanghai Tenth Hosp<sup>2</sup>, CCM, North China Univ<sup>3</sup>)

**P-063**

Interactome analysis of steroidogenic transcription factors regulating molting hormone biosynthesis in *Drosophila*

ショウジョウバエにおける脱皮ホルモン生合成を制御する転写因子のインタラクトーム解析

○Takumi Kamiyama<sup>1</sup>, Outa Uryu<sup>1</sup>, Naoki Tani<sup>2</sup>, Akira Nakamura<sup>2</sup>, Ryusuke Niwa<sup>3</sup> (Grad. Sch. of Life Environ. Sci., Univ. of Tsukuba<sup>1</sup>, Inst. of Mol. Embryol. Genet., Kumamoto Univ.<sup>2</sup>, Faculty of Life Environ. Sci., Univ. of Tsukuba<sup>3</sup>)

**P-064**  
**(OP9-03)**

Loss of Akhirin leads to abnormal phenotype and impaired neurogenesis at neurogenic niches of mouse brain

○Mhammad Badrul Anam, Shah Adil Ishtiyah Ahmad, Mikiko Kudo, Naofumi Ito, Kunimasa Ohta (Dev. Neuro, Kumamoto Univ.)

**P-065**  
**(OP9-01)**

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 シグナル伝達と Wnt シグナル伝達における細胞型特異的な機能の解析

○Tomoko Yamakawa, Kenji Matsuno (Dept. of Biol. Sci., Grad. school of Sci., Osaka Univ.)

**P-066**

An inter-embryonic hemocyte transplantation: a novel method to analyze developmental defects caused by abnormality of hemocytes

ショウジョウバエ胚における血球細胞の移植に関する新規技術開発：血球細胞を原因とする発生異常の解析

○Takaya Kondo, Izumi Morita, Tomoko Yamakawa, Kenji Matsuno (Department of Biological Sciences, Graduate School of Science and Faculty of Science, Osaka University)

**P-067**

Automated FRET quantification reveals distinct subcellular ERK activation kinetics in response to graded EGFR signaling in *Drosophila*

○Mustafa Sami, Yosuke Ogura, Housei Wada, Shigeo Hayashi (RIKEN BDR)

**P-068**

SUFU and GLI regulate the dynamic progression of mammalian cochlear hair cell differentiation

○Tianli Qin<sup>1</sup>, Chin Chung Ho<sup>1</sup>, Boshi Wang<sup>1</sup>, Chi Chung Hui<sup>2,3</sup>, Mai Har Sham<sup>1</sup> (SBMS, HKU<sup>1</sup>, Developmental and Stem Cell Biology Program, The Hospital for Sick Children, Toronto, Canada<sup>2</sup>, Department of Molecular Genetics, The University of Toronto, Toronto, Canada<sup>3</sup>)

**P-069** Analysis of retinoic acid response element in the cis-regulatory region of Foxp1

Foxp1 シス制御領域におけるレチノイン酸応答配列の解析

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

**P-070** In vivo calcium signaling induced by mechanosensitive channel Piezo1 during lymphatic valve morphogenesis

リンパ管弁形成過程における機械受容チャネル Piezo1 由来の in vivo カルシウムシグナルの役割

○Hiroyuki Katsuta<sup>1,2</sup>, Keiko Nonomura<sup>2</sup>, Akemi Kanie<sup>2</sup>, Takaki Miyata<sup>1</sup>, Toshihiko Fujimori<sup>2</sup> (Nagoya Univ. Grad. Sch. Med. Dept. Dev. Cell Biol.<sup>1</sup>, Div. Embryology, NIBB<sup>2</sup>)

**P-071** The Role of the Cell Cortex in Regulating Endothelial Cell Shape Plasticity During Angiogenesis.

○Wei Ting Joyce Goh<sup>1,2</sup>, Li-Kun Phng<sup>2</sup> (Osaka University FBS<sup>1</sup>, RIKEN BDR<sup>2</sup>)

**P-072** Epithelial barrier homeostasis by cell competition

**(OP1-04)**

上皮バリアのホメオスタシスにおける細胞競合の役割

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

**P-073** Resynchronization of the segmentation clock in Delta-Notch mutants

**(SW2-01)**

Delta-Notch 変異体における分節時計の再同期

○Koichiro Uriu<sup>1</sup>, Bo-Kai Liao<sup>2</sup>, Luis Morelli<sup>3</sup>, Andrew Oates<sup>4</sup> (Kanazawa University<sup>1</sup>, National Taiwan Ocean University<sup>2</sup>, IBioBA-MPSP<sup>3</sup>, EPFL<sup>4</sup>)

**P-074** The roles of *pou5f3* and Wnt/FGF signaling in the extension of the posterior structure in zebrafish development

ゼブラフィッシュ胚の後方伸長での *pou5f3* と Wnt/FGF シグナルの役割

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

**P-075**

Morphological change of Wnt-producing roof plate cells promotes proliferation of neural progenitor cells in the mouse spinal cord

マウス脊髄神経管における Wnt 産生細胞の伸長は神経前駆細胞の増殖を促進する

○Takuma Shinozuka<sup>1,2,3</sup>, Ritsuko Takada<sup>1,2</sup>, Shosei Yoshida<sup>2,3</sup>, Shigenobu Yonemura<sup>4,5</sup>, Shinji Takada<sup>1,2,3</sup> (ExCELLS<sup>1</sup>, NIBB<sup>2</sup>, SOKNEDAI<sup>3</sup>, RIKEN CLST<sup>4</sup>, Tokushima Univ.<sup>5</sup>)

**P-076  
(OP4-11)**

Transcriptome analysis of the cardiac neural crest reveals a critical role for *MafB*

トランスクリプトーム解析により明らかとなった心臓神経堤細胞における *MafB* の重要な機能

○Saori Tani-Matsuhana<sup>1,2</sup>, Kunio Inoue<sup>1</sup>, Marianne Bronner<sup>2</sup> (Dept. Biol., Grad. Sch. Sci., Kobe Univ.<sup>1</sup>, Caltech<sup>2</sup>)

**P-077**

Cytoplasmic localization of GRHL3 upon epidermal differentiation triggers cell shape change for epithelial morphogenesis

GRHL3 タンパクの細胞質における局在が上皮細胞の分化過程から形態形成過程へと進行させる

○Chiharu Kimura-Yoshida<sup>1</sup>, Kyoko Mochida<sup>1</sup>, Masa-Aki Nakaya<sup>2</sup>, Takeomi Mizutani<sup>3</sup>, Isao Matsuo<sup>1</sup> (OWCH<sup>1</sup>, YCU<sup>2</sup>, HGU<sup>3</sup>)

**P-078  
(OP4-10)**

Systematic comparison of gene regulation in fin and limb development

鰭と四肢の発生における遺伝子制御のシステムティックな比較

○Koh Onimaru, Kaori Tatsumi, Chiharu Tanegashima, Mitsutaka Kadota, Osamu Nishimura, Shigehiro Kuraku (BDR)

**P-079**

Mechanically activated channel PIEZO1 is required for lymphatic valve formation

メカノセンサーチャネル PIEZO1 はリンパ管の弁の形成に必要である

○Keiko Nonomura<sup>1,2,3</sup>, Hiroki Katsuta<sup>1,4</sup>, Viktor Lukacs<sup>3</sup>, Akemi Kanie<sup>1</sup>, Tess Whitwam<sup>3</sup>, Sanjeev Ranade<sup>3</sup>, Ardem Patapoutian<sup>3</sup>, Toshihiko Fujimori<sup>1,2</sup> (NIBB<sup>1</sup>, SOKENDAI<sup>2</sup>, HHMI, TSRI<sup>3</sup>, Nagoya Univ. Grad. Med.<sup>4</sup>)

**P-080  
(OP4-06)**

Bioelectrical signal regulates organ size

膜電位を介した器官サイズスケーリング機構

○Toshihiro Aramaki, Shigeru Kondo (FBS, Osaka Univ.)

- P-081  
(OP1-01)** Three-dimensional tissue stiffness mapping reveals durotaxis during mouse limb bud initiation  
 三次元組織剛性率マッピング法によりマウス肢芽初期形成における硬領域指向性細胞移動を明らかにする  
 ○Hiroataka Tao<sup>1</sup>, Zhu Min<sup>1,2</sup>, Mohammad Samani<sup>1</sup>, Mengxi Luo<sup>2</sup>, Xian Wang<sup>2</sup>, Sevan Hopyan<sup>1,3,4</sup>, Yu Sun<sup>2,5,6</sup> (DSCB, Sick Kids<sup>1</sup>, MIE, U of T<sup>2</sup>, MoGen, U of T<sup>3</sup>, Division of Orthopaedic Surgery, Sick Kids and U of T<sup>4</sup>, IBBME, U of T<sup>5</sup>, ECE, U of T<sup>6</sup>)
- P-082  
(OP1-06)** Patterns of proliferation in the developing tendon differ between embryonic and postnatal stages  
 ○Saundra Schlesinger<sup>1</sup>, Seongkyung Seo<sup>2</sup>, Alice Huang<sup>3</sup>, Brian Pryce<sup>2</sup>, Ronen Schweitzer<sup>1,2</sup> (OHSU<sup>1</sup>, Shriner's Hospital<sup>2</sup>, Mount Sinai<sup>3</sup>)
- P-083  
(OP1-08)** Tissue-scale mechanical coupling reduces morphogenetic noise to ensure precision during epithelial folding  
 ○Anthony Eritano<sup>1</sup>, Claire Bromley<sup>1</sup>, Lucas Schütz<sup>2</sup>, Fu-Lai Wen<sup>3</sup>, Tatsuo Shibata<sup>3</sup>, Mustafa Sami<sup>1</sup>, Michiko Takeda<sup>1</sup>, Steffen Lemke<sup>2</sup>, Yu-Chiun Wang<sup>1</sup> (Riken BDR<sup>1</sup>, Centre for Organismal Studies Heidelberg, University of Heidelberg, Heidelberg, Germany<sup>2</sup>, Laboratory for Physical Biology, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan<sup>3</sup>)
- P-084  
(OP4-07)** Gap junctions are required for neolamination in *Drosophila*  
 ○Guangxia Miao, Denise Montell (UCSB)
- P-085  
(OP1-05)** Trynity controls epidermal barrier function and respiratory tube maturation in *Drosophila* by modulating apical extracellular matrix nanopatterning  
 ショウジョウバエ Trynity 分子は細胞外基質の微細構造形成を介して表皮バリア機能と気管成熟の制御を行う  
 ○Yuki Itakura<sup>1</sup>, Sachi Inagaki<sup>2</sup>, Housei Wada<sup>1</sup>, Shigeo Hayashi<sup>1,3</sup> (RIKEN BDR<sup>1</sup>, Biosignal Research Center, Kobe University<sup>2</sup>, Department of Biology, Kobe University Graduate School of Science<sup>3</sup>)
- P-086** Assessing the Roles of Bioelectric Signaling in Embryonic Patterning Using vertebrate limb buds  
 膜電位が駆動する四肢形成メカニズム  
 ○Yuji Atsuta<sup>1,2</sup>, Reiko Tomizawa<sup>1,2</sup>, Michael Levin<sup>2</sup>, Clifford Tabin<sup>1,2</sup> (Genetics, Harvard<sup>1</sup>, Allen Center at Tufts<sup>2</sup>)

- P-087  
(OP4-04)** Identification of Wnt5a downstream targets during early development in mouse  
 マウス初期発生における Wnt5a 下流因子の探索  
 ○Rieko Ajima<sup>1,2</sup>, Yumiko Saga<sup>1,2</sup> (NIG<sup>1</sup>, SOKENDAI<sup>2</sup>)
- P-088** *dhfr* and *hdd*, genes involved in pigment cell differentiation isolated by transcriptome analysis of flounder metamorphosis  
*dhfr* と *hdd* : ヒラメのトランスクリプトーム解析で単離された色素胞分化に関与する遺伝子  
 ○Hayato Yokoi<sup>1</sup>, Shunya Nakamura<sup>1</sup>, Satoshi Ansai<sup>2</sup>, Kiyoshi Naruse<sup>2</sup>, Tohru Suzuki<sup>1</sup> (Grad Schl Agricultural Sci, Tohoku Univ<sup>1</sup>, NIBB<sup>2</sup>)
- P-089** Expression and Functional Analysis of Axial Protocadherin/Protocadherin-1 in mouse embryo  
 マウス胚における Axial Protocadherin/Protocadherin-1 の発現及び機能解析  
 ○Kanakano Fukunaga<sup>1,2,3</sup>, Hiroki Kuroda<sup>1,2</sup>, Masafumi Inui<sup>3,4</sup> (IAB, Keio Univ.<sup>1</sup>, Faculty of Env. and Info., Keio Univ.<sup>2</sup>, Dpt. Life Sci., Sch. of Agri., Meiji Univ.<sup>3</sup>, NCCHD<sup>4</sup>)
- P-090** Left-right asymmetric nuclear migration in the visceral muscles breaks lateral symmetry of the embryonic gut in *Drosophila*  
 ○Dongsun Shin<sup>1</sup>, Yoshitaka Morishita<sup>2</sup>, Mototsugu Eiraku<sup>1</sup>, Takeshi Sasamura<sup>1</sup>, Mikiko Inaki<sup>1</sup>, Kenji Matsuno<sup>1</sup> (Department of Biological Science, Graduate School of Science, Osaka University<sup>1</sup>, Institute for Frontier Life and Medical Sciences, Kyoto University<sup>2</sup>)
- P-091** Elucidation of spatiotemporal control of tentacle formation in cnidarians; Evo-Devo study focusing on Moon Jelly  
 刺胞動物触手形成の時空間制御の解明 ; ミズクラゲを中心とした進化発生学的研究  
 ○Safiye Esra Sarper<sup>1</sup>, Tamami Hirai<sup>2</sup>, Shigeru Kuratani<sup>2</sup>, Koichi Fujimoto<sup>1</sup> (Osaka Univ.<sup>1</sup>, Riken BDR<sup>2</sup>)
- P-092** Force-dependent tendinous ECM remodeling during flight muscle Development  
 ○Wei-Chen Chu, Xiaorei Sai, Shigeo Hayashi (RIKEN BDR)
- P-093  
(OP4-09)** The mechanism about the growth of collagen crystal involved with fin skeletal development.

魚類ヒレ骨の形態形成に必須なコラーゲン結晶の成長メカニズム

○Junpei Kuroda<sup>1</sup>, Takeshi Itabashi<sup>2</sup>, Atsuko H Iwane<sup>2</sup>, Toshihiro Aramaki<sup>1</sup>, Hibiki Nakagawa<sup>1</sup>, Shigeru Kondo<sup>1</sup> (FBS, Osaka Univ<sup>1</sup>, Biosystems Dynamics Center, Riken<sup>2</sup>)

**P-094**  
**(SW1-04)**

Transcriptome analysis for elucidating genes expressed in the color pattern of *Drosophila guttifera*

ミズタマシヨウジョウバエの模様で発現する遺伝子の解明のためのトランスクリプトーム解析

○Yuichi Fukutomi<sup>1</sup>, Shuji Shigenobu<sup>2</sup>, Shigeyuki Koshikawa<sup>1</sup> (Hokkaido-U<sup>1</sup>, NIBB<sup>2</sup>)

**P-095**  
**(OP1-11)**

The G-protein coupled receptor GPR17 is an Essential Component of the Negative Feedback Loop of the Sonic Hedgehog Pathway in the Neural Tube Development

GPR17によるSonic Hedgehogシグナルへの負のフィードバック制御機構が与える神経管発生への影響

○Atsuki Yatsuzuka<sup>1</sup>, Akiko Hori-Nishi<sup>1</sup>, Minori Kadoya<sup>1</sup>, Toru Kondo<sup>2</sup>, Noriaki Sasai<sup>1</sup> (NAIST<sup>1</sup>, Institute for Genetic Medicine, Hokkaido University<sup>2</sup>)

**P-096**

Study on Paired Normal and Tumor Organoid Development from Adult Murine Pancreas and Female Reproductive Tract

Zong-Wei Chen<sup>1</sup>, Yu-Chan Chih<sup>1</sup>, Wei-Ling Tu<sup>1</sup>, Li-Ru You<sup>2</sup>, ○Chun-Ming Chen<sup>1</sup> (DLSIGS, Natl. Yang-Ming Univ.<sup>1</sup>, IBMB, Natl. Yang-Ming Univ.<sup>2</sup>)

**P-097**  
**(SW2-02)**

Left-right asymmetric cellular behavior drives directional heart twisting.

一定方向への心臓捻転を駆動する左右非対称な細胞の振る舞い

○Hinako Kidokoro<sup>1,2,3</sup>, Gary C. Schoenwolf<sup>2</sup>, Yukio Saijoh<sup>2</sup> (NCVC<sup>1</sup>, Univ. of Utah<sup>2</sup>, Doshisha Univ.<sup>3</sup>)

**P-098**

The molecular mechanisms regulating spatial arrangement of organ formation during regeneration in planarians

プラナリア再生時における空間的な器官配置を制御する分子機構

○Kazutaka Hosoda<sup>1,2,3</sup>, Kiyokazu Agata<sup>3,4</sup>, Yoshihiko Umesono<sup>2</sup> (RIKEN BDR<sup>1</sup>, Grad. Sch. of Life Sci., Univ. of Hyogo<sup>2</sup>, Dept. of Biophys., Grad.

Sch. of Sci., Kyoto Univ.<sup>3</sup>, Dept. of Life Sci., Fac. of Sci., Grad. Course in Life Sci., Grad. Sch. of Sci., Gakushuin Univ.<sup>4</sup>)

- P-099** Characterization of narigoma, a key regulator of anterior gut left-right asymmetry in *Drosophila melanogaster*  
○Yi-Ting Lai<sup>1</sup>, Tomoki Ishibashi<sup>1</sup>, Mitsutoshi Nakamura<sup>1</sup>, Katsushi Yamaguchi<sup>2</sup>, Shuji Shigenobu<sup>2</sup>, Kenji Matsuno<sup>1</sup> (Department of Biological Sciences, Osaka Univ.<sup>1</sup>, NIBB Core Research Facilities, NIBB<sup>2</sup>)
- P-100** The effect of retinoic acid signaling on the expression of Ripply3 gene in pharyngeal arch development  
咽頭弓形成を制御する Ripply3 の発現調節とレチノイン酸シグナルの影響  
○Tadashi Okubo<sup>1</sup>, Keiko Hara<sup>1</sup>, Sadahiro Azuma<sup>1</sup>, Shinji Takada<sup>2</sup> (Lab. Animal Sci., Kitasato Univ. School of Medicine<sup>1</sup>, Okazaki Institute for Integrative Bioscience, NINS<sup>2</sup>)
- P-101** Single-cell analysis of embryo size regulation with production of dwarf ascidian tailbud embryo  
ホヤの卵体積変化に伴う尾芽胚サイズ制御の1細胞レベル解析  
○Kaoru Matsumura<sup>1</sup>, Mitsuru Nakamura<sup>2</sup>, Wataru Koizumi<sup>1</sup>, Kohji Hotta<sup>1</sup>, Kotaro Oka<sup>1</sup> (Keio Univ.<sup>1</sup>, Tokyo Univ.<sup>2</sup>)
- P-102 (OP1-02)** Vascular remodeling: dynamics of avascular pillars regulated by local differences in blood flow  
生体内血管リモデリング：局所的な血流の差異による血管網内の無血管領域 "pillar" の変形制御  
○Yuta Takase<sup>1,2</sup>, Kenichi Nakazato<sup>3</sup>, Atsushi Mochizuki<sup>3,4</sup>, Yoshiko Takahashi<sup>1</sup> (Dept. of Zoology, Grad. Sch. of Sci., Kyoto Univ.<sup>1</sup>, MACS, Grad. Sch. of Sci., Kyoto Univ.<sup>2</sup>, Theor. Biol. Lab., RIKEN<sup>3</sup>, IFLMS, Kyoto Univ.<sup>4</sup>)
- P-103** a novel role of Fgf signaling for the roof plate formation in chick hindbrain.  
ニワトリ後脳の発生における Fgf シグナルの新たな役割  
○Jun Hatakeyama, Kenji Shimamura (IMEG, Kumamoto Univ.)
- P-104 (OP1-03)** Cell Budding During Endothelial to Hematopoietic Transition is Regulated by Aquaporin Water Channels  
水チャネル Aquaporin は内皮—造血転換時の細胞出芽を制御す

る

Mugiho Shigematsu, Chie Tamura ◯Yuki Sato (Grad. Sch. Med. Sci., Kyushu Univ.)

**P-105**

Dorsal-to-ventral neocortical expansion is physically primed by ventral streaming of early embryonic prelate neurons

大脳新皮質の腹側方向への拡張的形成には胎生初期プレプレートニューロンの腹側移動が物理的に貢献する

◯Kanakano Saito, Mayumi Okamoto, Yuto Watanabe, Arata Nagasaka, Takaki Miyata (Dept Anat and Cell Biol, Grad Sch of Med, Nagoya Univ.)

**P-106**

Quantitative analysis of chiral cell-twisting that drives left-right asymmetric rotation of the hindgut in *Drosophila*

ショウジョウバエ後腸捻転を誘発する後腸上皮細胞のねじれの定量的解析

◯Taishi Takigawa<sup>1</sup>, Akino Okubo<sup>1</sup>, Takamichi Sushida<sup>2</sup>, Masakazu Akiyama<sup>2</sup>, Yasuhiro Inoue<sup>3</sup>, Mikiko Inaki<sup>1</sup>, Kenji Matsuno<sup>1</sup> (Dept. Biol.Sci., Grad. Sch. Sci., Osaka Univ.<sup>1</sup>, RIES, Hokkaido Univ.<sup>2</sup>, IFLMS, Kyoto Univ.<sup>3</sup>)

**P-107**

Mechanical force regulates epithelial tissue formation through FGFR/Erk2 signaling pathway in *Xenopus* embryos

アフリカツメガエル胚において力学刺激はFGFR/Erk2を介して上皮組織形成を制御する

◯Noriyuki Kinoshita<sup>1</sup>, Yutaka Hashimoto<sup>1,2</sup>, Ileana Cristea<sup>2</sup>, Naoto Ueno<sup>1</sup> (NIBB<sup>1</sup>, Dept of Mol Biol, Princeton Univ<sup>2</sup>)

**P-108**

Resolving the correlation between phenotype and genotype in a segmentation gene *even-skipped* in the cricket *Gryllus bimaculatus*

フタホシコオロギ *Gryllus bimaculatus* における、体節形成遺伝子 *even-skipped* の表現型と遺伝子型間の相関関係の解明

◯Yuki Nakamura<sup>1</sup>, Sayuri Tomonari<sup>2</sup>, Kohei Kawamoto<sup>1</sup>, Takahito Watanabe<sup>3</sup>, Yoshiyasu Ishimaru<sup>3</sup>, Sumihare Noji<sup>4</sup>, Taro Mito<sup>3</sup> (Grad. Sch. of Adv. Tech. and Sci., Tokushima Univ.<sup>1</sup>, Center for Technical Support, Tokushima University<sup>2</sup>, Graduate School of Bioscience and Bioindustry, Tokushima University<sup>3</sup>, Tokushima University<sup>4</sup>)

**P-109**

(SW1-05)

Arrangement of collagen fibers is required for the fin bone formation in zebrafish

ヒレ骨の形態形成には槍状コラーゲン結晶体が関与する

○Hibiki Nakagawa, Toshihiro Aramaki, Junpei Kuroda, Shigeru Kondo (FBS, Osaka Univ)

**P-110**

Physical characteristics of the epithelium during limb morphogenesis  
肢芽の形態形成期における上皮組織の物理的な性質について

○Kazuki Kawamura<sup>1</sup>, Makoto Ono<sup>1</sup>, Atsushi Kuroiwa<sup>1</sup>, Yoshihiro Morishita<sup>2</sup>, Takayuki Suzuki<sup>3,4</sup> (Grad School of Sci, Nagoya Univ<sup>1</sup>, BDR, RIKEN<sup>2</sup>, Grad School of Bioag Sci, Nagoya Univ<sup>3</sup>, ABRC, Nagoya Univ<sup>4</sup>)

**P-111**

Spontaneous and periodic contraction of embryonic gut cells: in vitro culture system to visualize peristaltic movements

腸管細胞の自発的かつ周期的な細胞収縮：腸蠕動運動の理解にむけた培養系の確立

○Rei Yagasaki<sup>1</sup>, Ryo Nakamura<sup>2</sup>, Yuuki Shikaya<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Yoshiko Takahashi<sup>1</sup> (Dept of Zool. Kyoto Univ.<sup>1</sup>, OIST<sup>2</sup>)

**P-112**

(SW1-06)

Origins of peristaltic waves are confined to specific sites in the developing gut of chick embryos

発生過程における腸蠕動運動の定量化と起点位置の解析

○Yuuki Shikaya<sup>1</sup>, Tadayoshi Watanabe<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Ryo Nakamura<sup>3</sup>, Yuta Takase<sup>1,2</sup>, Yoshiko Takahashi<sup>1</sup> (Department of Zoology, Graduate School of Science, Kyoto Univ.<sup>1</sup>, MACS, Graduate School of Science, Kyoto Univ.<sup>2</sup>, Evolutionary Neurobiology Unit, OIST<sup>3</sup>)

**P-113**

(OP7-02)

Foxg is required for the palp formation in ascidian embryos

○Boqi Liu, Yutaka Satou (GSS, Kyoto Univ.)

**P-114**

Single-cell transcriptome approach to investigate the mechanism of specifying mesoderm lineages using human iPSCs

○Wei Zhao, Minoru Takasato (BDR)

**P-115**

(OP7-03)

Endodermal SOX2 expression determines the esophagus character of the anterior foregut in both epithelial and mesenchymal components

内胚葉で発現する SOX2 が消化管前部の上皮と間充織の双方を食道に発生させる

○Machiko Teramoto<sup>1</sup>, Ryo Sugawara<sup>1</sup>, Atsushi Kuroiwa<sup>2</sup>, Yasuo Ishii<sup>3</sup>, Hisato Kondoh<sup>1</sup> (Fac. of Life Sci., Kyoto Sangyo Univ.<sup>1</sup>, Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.<sup>2</sup>, Dept. of Biol. Sch. of Med, TWM Univ.<sup>3</sup>)

- P-116** Identification of collaborating transcriptional factor of androgen receptor (AR) for the sexually dimorphic organ formation.  
性差器官形成過程におけるアンドロゲンレセプター (AR) の転写共役因子の同定  
○Daiki Kajioka, Kentaro Suzuki, Shoko Matsushita, Gen Yamada (Dep. Dev. Genet., WMU)
- P-117 (OP7-01)** Ecdysone-inducible polished rice temporally regulates fate decision of tracheal tip cells in *Drosophila* embryonic tracheal morphogenesis.  
エクジソン誘導性 *polished rice* 遺伝子は、ショウジョウバエ胚発生において気管先端細胞の分化を時期特異的に制御する。  
○Yuki Taira<sup>1</sup>, Housei Wada<sup>2</sup>, Shigeo Hayashi<sup>2</sup>, Yuji Kageyama<sup>1,3</sup> (Dept. Biol., Grad. Sch. Sci., Kobe Univ.<sup>1</sup>, RIKEN, BDR<sup>2</sup>, Biosig. Res. Ctr., Kobe Univ.<sup>3</sup>)
- P-118** Pax3 and Pax7 sequentially regulate fate choice of pigment cells in medaka and zebrafish  
Pax3 と Pax7 はメダカおよびゼブラフィッシュにおける色素細胞の運命決定を制御する  
Motohiro Miyadai<sup>1,2</sup>, Hiroyuki Takada<sup>1,2</sup>, Tetsuaki Kimura<sup>3</sup>, Yuuri Tsunogai<sup>1,2</sup>, Robert Kelsh<sup>4</sup>, Kiyoshi Naruse<sup>3</sup>, Masahiko Hibi<sup>1</sup>, ○Hisashi Hashimoto<sup>1</sup> (Biosci. & Biotech. Ctr., Nagoya Univ.<sup>1</sup>, Grad. Sch. Sci., Nagoya Univ.<sup>2</sup>, NIBB<sup>3</sup>, Univ. Bath<sup>4</sup>)
- P-119** On-chip construction of perfusable vascular network with human iPS cell-derived kidney organoid  
ヒト iPS 細胞由来腎臓オルガノイドのオンチップ血管網構築  
○Ryu Okada<sup>1</sup>, Yoshikazu Kameda<sup>1</sup>, Toshikazu Araoka<sup>2</sup>, Minoru Takasato<sup>3</sup>, Ryuji Yokokawa<sup>1</sup> (Kyoto Univ.<sup>1</sup>, CiRA, Kyoto Univ.<sup>2</sup>, RIKEN BDR<sup>3</sup>)
- P-120 (SW2-03)** Identification of the earliest progenitor for the cardiac conduction system  
マウス胚における刺激伝導系初期前駆細胞の解析  
○Akane Sakaguchi<sup>1,2</sup>, Hiroki Kokubo<sup>3</sup>, Rieko Ajima<sup>2</sup>, Yumiko Saga<sup>2,4</sup> (BDR<sup>1</sup>, NIG<sup>2</sup>, Hiroshima University<sup>3</sup>, The University of Tokyo<sup>4</sup>)
- P-121** A Challenge of Generating Distal Tips in Developing Lung by Optogenetic Control of ERK Activity  
マウス胎仔肺における ERK 活性の光遺伝学的制御と上皮管の

先端化誘導の試み

○Takuya Yoshida<sup>1</sup>, Michiyuki Matsuda<sup>1,2</sup>, Tsuyoshi Hirashima<sup>2</sup> (Lab. of Bioimaging and Cell Signaling, Grad. Sch. of Biostudies, Kyoto Univ.<sup>1</sup>, Dept. of Pathol. and Biol. of Diseases, Grad. Sch. of Med., Kyoto Univ.<sup>2</sup>)

**P-122**

The amniotic collar is formed by different speed of posterior extension between the endoderm and the ectoderm at the anterior intestinal portal

羊膜えりは前腸門内胚葉と外胚葉の後方への伸長の差によって生じる

Nao Yamaguchi, ○Kimiko Fukuda (Dept., Biol., Tokyo Metropol. Univ.)

**P-123**

**(SW1-07)**

Secondary neurulation precursors in the tail bud undergo self-renewal and neural differentiation regulated by differential levels of Sox2 expression in chicken embryos

トリ胚尾芽の secondary neurulation 前駆細胞の Sox2 発現レベル依存的な自己複製と神経分化の制御

○Teruaki Kawachi<sup>1</sup>, Eisuke Shimokita<sup>2</sup>, Ryosuke Tadokoro<sup>1</sup>, Yoshiko Takahashi<sup>1</sup> (Kyoto Univ.<sup>1</sup>, Tokushima Univ.<sup>2</sup>)

**P-124**

**(OP7-08)**

Chirality in the dynamic behavior of blood cell cytoplasm in *Drosophila*

○Takeshi Sasamura<sup>1</sup>, Daisuke Kurisu<sup>1</sup>, Masakazu Akiyama<sup>2</sup>, Kohei Otomo<sup>2</sup>, Tomomi Nemoto<sup>2</sup>, Hiroaki Mizuno<sup>3</sup>, Naoki Watanabe<sup>3</sup>, Hiromi Miyoshi<sup>4</sup>, Arata Kaneko<sup>4</sup>, Kenji Matsuno<sup>1</sup> (Grad. Sch. Sci., Osaka Univ.<sup>1</sup>, RIES, Hokkaido Univ.<sup>2</sup>, Grad. Sch. Med., Kyoto Univ.<sup>3</sup>, Grad. Sch. Sys. Des. Tokyo Met. Univ.<sup>4</sup>)

**P-125**

**(OP7-04)**

A novel chromatin remodeling factor, Arip4 controls the cardiac chamber development via regulation of Notch signaling

新規クロマチンリモデリング因子 Arip4 は Notch シグナルを介して心室形成を制御する

○Nodoka Yanagi<sup>1</sup>, Hidesato Ogawa<sup>1,2</sup>, Yuika Morita<sup>1,3</sup>, Megumi Tsuchiya<sup>2</sup>, Tetsuya Asano<sup>1</sup>, Manabu Shirai<sup>4</sup>, Robert Schwart<sup>5</sup>, Ken-ichirou Morohashi<sup>6</sup>, Tetsushi Furukawa<sup>1</sup>, Kazuko Koshiba-Takeuchi<sup>7</sup>, Jun Takeuchi<sup>1</sup> (Dept. BIP., MRI., TMDU<sup>1</sup>, Nuclear Dynamics Group, Graduate School of Frontier Biosciences, Osaka University<sup>2</sup>, Department of Cardiology, Keio University School of Medicine<sup>3</sup>, Department of Bioscience and Genetics, National Cerebral and Cardiovascular Center Research Institute<sup>4</sup>, Department of

Biology and Biochemistry, University of Houston<sup>5</sup>, Department of Molecular Biology, Graduate School of Medical Sciences, Kyushu University<sup>6</sup>, Faculty of Life Sciences, Department of Applied Biosciences, Toyo University<sup>7</sup>)

**P-126** Cell-non-autonomous interaction between the endoderm and mesoderm is essential for morphogenetic movements of both tissues during gastrulation of the *Drosophila* embryo

シヨウジョウバエ原腸形成時の内胚葉と内臓中胚葉の形態形成運動は両組織間の細胞非自律的な相互作用を必要とする

○Ryutarō Murakami, Satomi Kawamura, Mai Hanada, Yuichi Yoshimura, Saki Kamioka, Yumiko Harada (Grad. Sch. Sci. Tech. for Innov., Yamaguchi Univ.)

**P-127**  
(SW2-05) Isolation of single nuclei from injured spinal cord of adult and neonatal mice.

成体および幼弱マウスで損傷した脊髄の核の単離

○Iyo Yorifuji<sup>1,2</sup>, Hiroshi Tsujioka<sup>1</sup>, Yasushi Sakata<sup>2</sup>, Toshihide Yamashita<sup>1,3,4,5</sup> (Department of Molecular Neuroscience, Osaka University<sup>1</sup>, Department of Cardiovascular Medicine, Osaka University<sup>2</sup>, Department of Neuro-Medical Science, Osaka University<sup>3</sup>, Frontier Biosciences, Osaka University<sup>4</sup>, WPI Immunology Frontier Research Center<sup>5</sup>)

**P-128** Molecular mechanism for the layer and column-specific targeting in the *Drosophila* visual system.

シヨウジョウバエ視神経系における層・カラム特異的軸索投射の分子機構

○Hiroki Takechi, Satoko Hakeda-Suzuki, Takashi Suzuki (Tokyo Institute of Technology Suzuki Lab)

**P-129**  
(OP5-01) Dscam regulates lineage dependent repulsion during columnar unit formation in the fly brain

○Chuyan Liu, Olena Trush, Makoto Sato (Kanazawa Univ)

**P-130**  
(OP5-07) The role of the Strawberry Notch Homolog 1 in the neurite growth of the cortical neurons

ストロベリーノッチ 1 遺伝子は皮質ニューロンの神経突起伸長に働く

○Munkhsoyol Erkhembaatar<sup>1</sup>, Keito Minemori<sup>1</sup>, Iroha Yamamoto<sup>1</sup>, Fuduki Inoguchi<sup>1</sup>, Takashi Imaz<sup>1</sup>, Shinsuke Ikeno<sup>1</sup>, Carine Hanashima<sup>2</sup>, Satoru

Yamagishi<sup>3</sup>, Hayato Naka-Kaneda<sup>1</sup>, Kosuke Taki<sup>1</sup>, Yu Katsuyama<sup>1</sup> (SUMS<sup>1</sup>, ASE, Waseda Univ<sup>2</sup>, Hamamatsu Univ Scho Med<sup>3</sup>)

**P-131**

The expression pattern of neuronal intermediate filament  $\alpha$ -internexin in the developing pineal gland of *Hoplobatrachus rugulosus*

○Tzu-Chuen Lin, Meng-Lin Liao, Chung-Liang Chien (Dept. of Anat. & Cell Biol., NTU, Taipei, Taiwan)

**P-132**

Cfdp1 regulates cell cycle and differentiation of granule cells in the zebrafish cerebellum

Cfdp1 は、ゼブラフィッシュ小脳顆粒細胞の細胞周期と分化を制御する

○Takashi Shimizu<sup>1,2</sup>, Shinsuke Inoue<sup>1,2</sup>, Xiaoding Sun<sup>1,2</sup>, Masahiko Hibi<sup>1,2</sup> (BBC, Nagoya Univ.<sup>1</sup>, Grad. Sch. of Sci., Nagoya Univ.<sup>2</sup>)

**P-133**

Analysis of nutrient-dependent responses of somatosensory neurons in *Drosophila* larvae: their underlying mechanisms and adaptive roles

ショウジョウバエ幼虫の感覚神経細胞における栄養応答メカニズムとその役割の解析

○Yasutetsu Kanaoka<sup>1</sup>, Henrik Skibbe<sup>2</sup>, Yusaku Hayashi<sup>1</sup>, Koun Onodera<sup>1</sup>, Ayumi Mure<sup>1</sup>, Yuuki Takahashi<sup>1</sup>, Tadao Usui<sup>1</sup>, Yukako Hattori<sup>1</sup>, Tadashi Uemura<sup>1</sup> (Grad. Sch. of Biostudies., Kyoto Univ.<sup>1</sup>, Grad. Sch. of Informatics., Kyoto Univ.<sup>2</sup>)

**P-134**

Roles of transcriptional regulators Foxp1b/Foxp4 and Skor1b/Skor2 in differentiation of Purkinje cells in the zebrafish cerebellum

ゼブラフィッシュ小脳プルキンエ細胞分化における転写制御因子 Foxp1b/Foxp4 および Skor1b/Skor2 の役割

Shinnosuke Yura, Tsubasa Itoh, Takashi Shimizu, ○Masahiko Hibi (Grad. Sch. Sci., Nagoya Univ.)

**P-135**  
**(OP2-09)**

Possible Sox2 autoregulation involving POU partner factors in the establishment of embryonic neural primordia

胚の神経系原基を成立させる過程での、POU 因子をパートナーとした Sox2 の自己制御

○Hideaki Iida<sup>1</sup>, Masanori Uchikawa<sup>2</sup>, Hisato Kondoh<sup>1</sup> (DBGSE, Kyoto Sangyo Univ.<sup>1</sup>, GSF, Osaka Univ.<sup>2</sup>)

**P-136**

Differential and overlapping pattern of Foxp1 and Foxp2 expression in the striatum of adult mouse brain

Weng Lam Fong, Hsiao-Ying Kuo, Hsiao-Lin Wu, Shih-Yun Chen, ○Fu-Chin Liu (INS, National Yang-Ming University)

**P-137**  
**(OP5-11)**

Tsukushi affects hippocampal neurogenesis in mouse brain

○Shah Adil Ishtiyag Ahmad, Mhammad Badrul Anam, Naofumi Ito, Kuni-masa Ohta (Dev Neur, Kumamoto Univ.)

**P-138**  
**(OP5-05)**

Preselection of long- and short-range projection neurons through reciprocal Foxg1 and COUP-TFI actions establish the sensory cortical circuit

○Peishan Hou, Carina Hanashima (Dept of Biol, Faculty of Education, Waseda Univ.)

**P-139**

Decreases in Numbers of Mitotic Cells and Pattern of Spontaneous Intracellular Calcium Oscillations During Mouse Cortex Development

○Rhaditya Putu Adi Andhika, Jun Motoyama (Developmental Neurobiology, Doshisha Univ)

**P-140**  
**(OP5-09)**

Unraveling 3D structure of functional compartments in the developing cerebellum: Spatiotemporal analysis in zebrafish

小脳発達における小脳機能コンパートメントの3次元的理解：ゼブラフィッシュを用いた時空間的解析

○Kanae Hiyoshi<sup>1</sup>, Narumi Fukuda<sup>1</sup>, Kyo Yamasu<sup>1</sup>, Sachiko Tsuda<sup>1,2</sup> (Grad Sch of Sci and Eng, Saitama Univ.<sup>1</sup>, Research and Development Bureau, Saitama Univ.<sup>2</sup>)

**P-141**  
**(OP5-06)**

Mechanisms Underlying Left-Right Asymmetry formation of the *Drosophila* brain

ショウジョウバエの脳における左右非対称性形成機構

○So Sakamura<sup>1</sup>, Fuyu Hsu<sup>2</sup>, Ann-shyn Chiang<sup>2</sup>, Kenji Matsuno<sup>1</sup> (FBS<sup>1</sup>, NTHU<sup>2</sup>)

**P-142**  
**(OP5-10)**

Mutation in strip1 gene leads to impaired retinal neural circuit formation in zebrafish

ゼブラフィッシュにおける Strip1 遺伝子変異は網膜神経回路形成を阻害する

○Mai Ahmed, Yutaka Kojima, Ichiro Masai (OIST)

**P-143**  
**(OP5-04)**

Chemotactic implementation of topographic axonal wiring

走化性によるトポグラフィック神経回路の配線

○Naoki Honda (Kyoto University)

**P-144**  
**(OP2-10)**

Induction of ganglioside synthesis in *Drosophila* brain

シヨウジヨウバエの脳神経で発現させたガングリオシドの機能解析

○Leo Tsuda, Yasutoyo Yamasaki, Young-Mi Lim (NCGG)

**P-145**

Synchronized cell differentiation via exosomes for proper development

エクソソームを介した細胞間分化同調機構

○Tomohiro Minakawa, Kae Nakamura, Akira Watanabe, Jun K Yamashita (CiRA, Kyoto University)

**P-146**

Transdifferentiation of human cancer cells by ribosome

リボソームによるヒトがん細胞の分化転換

○Mikiko Kudo, Mohammad Anam, Shah Ahmad, Naofumi Ito, Kunimasa Ohta (Dep. Dev. Neuro, Grad. Sch. Life Sci., Kumamoto Univ.)

**P-147**  
**(SW2-06)**

Dramatic effect of oct3/4 on somatic reprogramming in 3T3 cells and mouse embryonic fibroblasts (MEF)

3T3 及び MEF のリプログラミング時における Oct3/4 の機能追跡

○Shuji Matsuguchi, Yohei Hirai (DBC, Kwansei Gakuin Univ)

**P-148**  
**(OP8-01)**

Mammalian cells acquire cellular lineage plasticity by incorporating ribosomes

リボソームによる細胞分化可塑性の誘導

○Naofumi Ito, Adil Ishtiyag Ahmad Shah, Badrul Anam Mohammad, Kunimasa Ohta (Dev. neurobiol., Kumamoto University)

**P-149**

A culture system for maintenance of multipotent neural crest stem cells (NCSCs) derived from human iPS cells.

ヒト iPS 細胞由来神経堤細胞の維持拡大培養系の構築

○Yayoi Toyooka<sup>1,3</sup>, Nami Kawaraichi<sup>2,3</sup>, Makoto Ikeya<sup>1,3</sup> (CiRA<sup>1</sup>, Takeda Pharmaceutical Company Ltd.<sup>2</sup>, T-CiRA<sup>3</sup>)

**P-150**  
**(OP8-02)**

IL-1 and TNF $\alpha$  in the inflammatory niche enhance the proliferation of alveolar type 2 epithelial cell and contribute to alveolar regeneration

炎症性ニッチにおける IL-1 と TNF $\alpha$  は 2 型肺胞上皮細胞の増殖を促進し、肺胞の再生に寄与する

○Hiroaki Katsura, Yoshihiko Kobayashi, Purushothama Tata, Brigid Hogan (Duke University)

**P-151** Cell clusters formation by ribosome is reproducible with various kinds of cell lines

様々な細胞株におけるリボソームによる細胞塊形成の再現

○Yuichi Goto<sup>1</sup>, Hiroki Nakagawa<sup>1</sup>, Ryusei Yoneda<sup>1</sup>, Nao Nishiyama<sup>1</sup>, Maiko Goto<sup>1</sup>, Kunimasa Ohta<sup>2</sup> (Uto Senior High School<sup>1</sup>, Kumamoto University<sup>2</sup>)

**P-152** Heterogeneity of RNP granules specific to planarian adult pluripotent stem cells and its functions

分化全能性幹細胞特異的 RNP 顆粒の不均一性の発見とその機能

○Nobuyoshi Kumagai<sup>1</sup>, Makoto Kashima<sup>2</sup>, Norito Shibata<sup>3</sup>, Kiyokazu Agata<sup>1</sup> (Department of Life Science, Gakushuin University<sup>1</sup>, Department of Biophysics, Kyoto University<sup>2</sup>, Department of Integrated Science and Technology, Tsuyama College<sup>3</sup>)

**P-153** Trial for reconstruction of a planarian body from pluripotent stem cells

プラナリア多能性幹細胞から個体再構築への試み

○Miyuki Ishida<sup>1</sup>, Reza Bagherzadeh<sup>1</sup>, Hiroyuki Kayo<sup>2</sup>, Kiyokazu Agata<sup>1</sup> (Gakushuin Univ.<sup>1</sup>, BD<sup>2</sup>)

**P-154 (OP8-08)** Analysis on cellular and molecular mechanisms for regeneration of the enteric nervous system of zebrafish

ゼブラフィッシュを用いた腸神経細胞除去後の再生機構の解明  
Maria Ohno<sup>1</sup>, Natsumi Horiuchi<sup>2</sup>, Koichi Kawakami<sup>3</sup>, ○Masataka Nikaido<sup>1</sup>, Kohei Hatta<sup>1</sup> (Grad. Sch. of Life Sci., Univ. of Hyogo,<sup>1</sup> Sch. of Sci., Univ. of Hyogo<sup>2</sup>, Div. of Mol. & Dev. Biol., NIG & Dep. of Genet. SOKENDAI<sup>3</sup>)

**P-155 (OP8-11)** Dilp8 is involved in *winged eye* -mediated transdetermination of *Drosophila* imaginal disc

ショウジョウバエ成虫原基の決定転換における Dilp8 の役割

○Kazuya Nemoto, Keita Masuko, Naoyuki Fuse, Shoichiro Kurata (Graduate School of Pharmaceutical Sciences, Tohoku University)

**P-156** The roles of aging- related LIN28 during anterior regeneration in aquatic annelid *A. viride*

○Yao-Hsiang Chang, Jiun-Hong Chen (NTULS)

**P-157**  
**(OP8-10)**

Tsukushi inhibits myofibroblast differentiation by competing with TGF- $\beta$ 1

分泌因子 Tsukushi は TGF- $\beta$ 1 と競合することによって筋線維芽細胞の分化を抑制する

○Rie Kawano<sup>1,2</sup>, Naofumi Ito<sup>2</sup>, Kunimasa Ohta<sup>2</sup> (Dep. Med. Oncology and Hematology, Oita Univ.<sup>1</sup>, Div. Develop. Neuro, Kumamoto Univ.<sup>2</sup>)

**P-158**

The unique mmp1 expression for the stump of the joint regeneration in *Xenopus laevis*

アフリカツメガエル関節再生時のスタンプ領域における特異的な mmp1 発現

○Haruka Matsubara, Takeshi Inoue, Ei Kakuta, Kiyokazu Agata (Department of Life Science, Gakushuin University)

**P-159**  
**(OP8-06)**

PI3K signal is required for regenerative cell survival by recruiting the macrophage to amputation site

○Siyu Zhou, Atsushi Kawakami (Tokyo Inst. Technology)

**P-160**  
**(OP8-05)**

Local induction of shh expression alters limb development and regeneration in *Xenopus laevis*

局所的な shh 発現の誘導はアフリカツメガエルの四肢発生と再生を変化させる

Riho Hasugata<sup>1</sup>, Takuya Kobayashi<sup>2</sup>, Haruki Ochi<sup>3</sup>, Koji Tamura<sup>2</sup>, ○Hitoshi Yokoyama<sup>1</sup> (Dept. of Biochem. & Mol. Biol., Facul. of Agri. & Life Sci., Hirosaki Univ.<sup>1</sup>, Dept. of Dev. Adap., Grad. Schol. Life Sci., Tohoku Univ.<sup>2</sup>, Facul. of Med., Yamagata Univ.<sup>3</sup>)

**P-161**  
**(OP8-04)**

Genetic analysis of the roles of Hox genes in new limb regeneration

イモリ四肢再生における Hox 遺伝子機能についての遺伝学的解析

○Takashi Takeuchi, Fumina Minamitani, Toshinori Hayashi (Sch. of Life Sci., Fac. of Med., Tottori Univ.)

**P-162**

Identification of the cells expected to participate in mouse joint regeneration

マウス関節再生に参画が期待される細胞の同定

○Masakazu Hotta<sup>1</sup>, Haruka Matsubara<sup>1</sup>, Tetsuya Endo<sup>2</sup>, Kiyokazu Agata<sup>1</sup> (Graduate School of Science, Gakushuin University<sup>1</sup>, Division of Liberal

Arts and Sciences, Aichi Gakuin University<sup>2</sup>)

**P-163**  
**(SW1-08)**

Knockdown of *ouro* genes represses metamorphic disappearance of brachial sac skin of *Xenopus* tadpoles

ouro 遺伝子のノックダウンによるツメガエル幼生上腕囊皮膚の消失の阻害

○Izumi Ishimori, Yumi Izutsu (Grad. Sch. of Sci. and Tech., Niigata Univ.)

**P-164**  
**(SW1-09)**

Enhancer elements for tissue regeneration in zebrafish

ゼブラフィッシュの組織再生に関するエンハンサー配列の同定

○Teruhisa Tamaki, Eri Shibata, Atsushi Kawakami (Tokyo Tech)

**P-165**

Involvement of macrophages in leg regeneration of the cricket *Gryllus bimaculatus*

フタホシコオロギでの脚再生におけるマクロファージの関与

○Takuya Watari<sup>1</sup>, Yoshiyasu Ishimaru<sup>2</sup>, Sumihare Noji<sup>2</sup>, Taro Mito<sup>2</sup> (Grad. Sch. of Adv. and Sci., Tokushima Univ.<sup>1</sup>, Division of Bioscience and Bioindustry, Graduate School of Technology, Industrial and Social Sciences, Tokushima University<sup>2</sup>)

**P-166**

Transcriptomic analyses of sexually dimorphic expressed genes in chicken feathers

○Yen-Ching Wang<sup>1</sup>, Chia-Hsuan Lin<sup>1</sup>, Chih-Kuan Chen<sup>2</sup>, Hsu-Chen Cheng<sup>1</sup> (Dept. Life Sci. NCHU<sup>1</sup>, Dept. Pathology, Keck School of Medicine of USC<sup>2</sup>)

**P-167**

Zebrafish primitive erythropoiesis does not require demethylation activity of LSD1

ゼブラフィッシュの一次赤血球造血には LSD1 の脱メチル化能は必要ではない

○Junya Tamaoki, Miki Takeuchi, Makoto Kobayashi (University of Tsukuba Department of Molecular and Developmental Biology)

**P-168**  
**(OP8-03)**

Planarian Promoter Architecture

○Reza Bagherzadeh<sup>1,2,3,5</sup>, Ruslan Deviatiiarov<sup>7</sup>, Elena Minkina<sup>7</sup>, Seyed Ahmad Mousavi<sup>1</sup>, Ali Sharifi-Zarchi<sup>1,4</sup>, Oleg Gusev<sup>6,7</sup>, Hossein Bahrvand<sup>1,5</sup>, Kiyokazu Agata<sup>2,3</sup> (Royan Institute for Stem Cell Biology and Technology<sup>1</sup>, Kyoto University<sup>2</sup>, Gakushuin University<sup>3</sup>, Sharif University of Technology<sup>4</sup>, University of Science and Culture<sup>5</sup>, RIKEN Center for Life Science Technologies (CLST)<sup>6</sup>, Institute of Fundamental Medicine and Biology<sup>7</sup>)

- P-169 (OP6-01)** Acquiring a zip-code sequence for basal transport of *Ccnd2* mRNA contributes to the cerebral basal progenitor proliferation in placental mammals.  
*Ccnd2* mRNA の basal endofoot 輸送配列の獲得が有胎盤類における大脳 basal progenitor の増殖に貢献した。  
 Takako Kikkawa<sup>1</sup>, <sup>○</sup>Yoshio Wakamatsu<sup>1</sup>, Yukiko Inoue<sup>2</sup>, Kunihiko Suzuki<sup>3</sup>, Takayoshi Inoue<sup>2</sup>, Noriko Osumi<sup>1</sup> (Dept. Dev. Neurosci., Tohoku Univ. Grad. Sch. Med.<sup>1</sup>, Dept. Biochem. Cell. Biol., Nat. Inst. Neurosci., Nat. Cent. Neurol. Psy.<sup>2</sup>, Nihon Univ., Scho. Dent. Matsudo<sup>3</sup>)
- P-170** Development of antero-posterior pattern in fin ray-distal radial connection of zebrafish pectoral fin  
 ゼブラフィッシュ胸鰭における前後軸に沿った鰭条パターンの発生  
 Yoshitaka Tanaka<sup>1</sup>, Hiroki Hamada<sup>1</sup>, Toshiaki Uemoto<sup>1</sup>, Yuki Honda<sup>1</sup>, Tetsuya Umeda<sup>1</sup>, Keiichi Kitajima<sup>1</sup>, Minoru Shinya<sup>2</sup>, Atsushi Kawakami<sup>3</sup>, Koichi Kawakami<sup>4</sup>, Koji Tamura<sup>1</sup>, <sup>○</sup>Gembu Abe<sup>1</sup> (Grad. Sch. Life Sci. Tohoku Univ.<sup>1</sup>, Dept. Biol., Keio Univ.<sup>2</sup>, Sch. Life Sci. Tech., Tokyo Inst. Tech.<sup>3</sup>, Mol. Dev. Biol., NIG<sup>4</sup>)
- P-171 (SW2-07)** Tandemly arrayed 4.5SH noncoding RNA genes are essential for early mouse development  
 4.5SH ノンコーディング RNA のタンデム遺伝子クラスターはマウスの初期発生に必須である  
 Ikue Yamamoto<sup>1</sup>, Michihiko Sugimoto<sup>2</sup>, Kimi Araki<sup>2</sup>, <sup>○</sup>Shinichi Nakagawa<sup>1</sup> (Facult. Pharm., Hokkaido Univ.<sup>1</sup>, Div. Dev. Genet., IRDA, Kumamoto Univ.<sup>2</sup>)
- P-172 (SW2-08)** Examination of the dorsal-ventral and left-right patterning related genes in the development of a feather star *Anneissia japonica*  
 ニッポンウミシダ発生過程における背腹および左右パターンニング関連遺伝子の解析  
<sup>○</sup>Akihito Omori<sup>1,2</sup>, Yongxin Li<sup>3</sup>, Wen Wang<sup>3</sup>, Naoki Irie<sup>4</sup>, Mariko Kondo<sup>2</sup> (SMBS, Niigata Univ.<sup>1</sup>, MMBS, Univ. Tokyo<sup>2</sup>, KIZ, CAS<sup>3</sup>, Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo<sup>4</sup>)
- P-173** Functional analyses of Hox and related genes by CRISPR/Cas9-mediated genome editing in the water flea, *Daphnia magna*  
 CRISPR/Cas9 によるゲノム編集を利用したオオミジンコ Hox 遺

伝子群の機能解析

Kouki Kusaba, Daichi Naruse, Nagisa Miyazaki, <sup>○</sup>Yasuhiro Shiga (Tokyo Univ. Pharm. & Life Sci., Sch. of Life Scis.)

**P-174**

Do echinoderm embryos have more derived developmental programs than chordates? –A search for “derivedness index” from transcriptomic data

<sup>○</sup>Jason Cheok Kuan Leong<sup>1</sup>, Yongxin Li<sup>2</sup>, Yandong Ren<sup>3</sup>, Akihito Omori<sup>3</sup>, Cynthia Bradham<sup>4</sup>, Brian Livingston<sup>5</sup>, Masahiro Uesaka<sup>6</sup>, Robert Cameron<sup>7</sup>, Gary Wessel<sup>8</sup>, Mariko Kondo<sup>1</sup>, Luonan Chen<sup>1,9</sup>, Wen Wang<sup>2,9</sup>, Naoki Irie<sup>1</sup> (Dept. Biol. Sci., Univ. of Tokyo<sup>1</sup>, State Key Laboratory of Genetic Resources and Evolution, Kunming Institute of Zoology, Chinese Academy of Sciences<sup>2</sup>, Sado Marine Biological Station, Faculty of Sci, Niigata Univ<sup>3</sup>, Dept of Biol, Boston Univ<sup>4</sup>, Dept of Biol Sci, California State Univ<sup>5</sup>, RIKEN<sup>6</sup>, Div of Biol and Biol Eng, Caltech<sup>7</sup>, Dept of Mol and Cell Biol and Biochem, Brown Univ<sup>8</sup>, Chinese Academy of Sciences<sup>9</sup>)

**P-175**

The functional domain-localized mutations hidden in the allotetraploid genome of *Xenopus laevis*

アフリカツメガエルの偽4倍体ゲノムに潜在する機能ドメイン集中型変異

<sup>○</sup>Mikio Tanouchi<sup>1</sup>, Yui Iwata<sup>1</sup>, Takeshi Igawa<sup>1</sup>, Kiyoko Sakagami<sup>2</sup>, Nanoka Suzuki<sup>1</sup>, Hajime Ogino<sup>1</sup> (Amph. Res. Center, Hiroshima Univ.<sup>1</sup>, Dept. of Animal Bio., Nagahama Inst. of Bio-sci. Tech.<sup>2</sup>)

**P-176**

Isolation of novel classes of *C. elegans* mutants defective in coupling initiation of larval growth to the availability of food

個体成長の食餌環境適応機構に異常を呈する新規線虫変異体群

<sup>○</sup>Masamitsu Fukuyama<sup>1,2</sup>, Fumiaki Obata<sup>3</sup>, Masayuki Miura<sup>3</sup>, Kenji Kontani<sup>4</sup>, Toshiaki Katada<sup>5</sup> (Dept. of Physiological Chem, Grad. Sch. of Pharmaceutical Sci., Univ. of Tokyo<sup>1</sup>, AMED-PRIME, AMED<sup>2</sup>, Dept. of Genetics, Grad. Sch. of Pharmaceutical Sci., Univ. of Tokyo<sup>3</sup>, Dept. of Biochemistry, Meiji Pharmaceutical University<sup>4</sup>, Molecular Cell Biology Laboratory, Research Institute of Pharmaceutical Sciences, Faculty of Pharmacy, Musashino University<sup>5</sup>)

**P-177**

Glycogen is essential for hypoxia tolerance in *Drosophila*

シヨウジョウバエの低酸素耐性にグリコーゲンは、必須である。

<sup>○</sup>Takayuki Yamada, Okiko Habara, Takashi Nishimura (BDR)

- P-178**  
**(OP7-11)** The role of the polyol pathway in sugar-sensing and the Mondo/ChREBP-mediated metabolic switch  
糖感知および Mondo/ChREBP を介した代謝調節におけるポリオール経路の役割  
○Hiroko Sano<sup>1</sup>, Akira Nakamura<sup>2</sup>, Mariko Yamane<sup>2</sup>, Hitoshi Niwa<sup>2</sup>, Kimi Araki<sup>3</sup>, Kazumasa Takemoto<sup>3</sup>, Kei-ichiro Ishiguro<sup>2</sup>, Yuki Takada<sup>2</sup>, Takashi Nishimura<sup>4</sup>, Masayasu Kojima<sup>1</sup> (Inst. of Life Science, Kurume Univ.<sup>1</sup>, Inst. of Molecular Embryology and Genetics, Kumamoto Univ.<sup>2</sup>, Inst. of Resource Development and Analysis, Kumamoto Univ.<sup>3</sup>, RIKEN BDR<sup>4</sup>)
- P-179** Dataset of tags of low molecular weight compounds that shared for each of taxonomic groups  
動物分類群毎に共通の低分子化合物タグの作成  
○Takeshi Kawashima, Nozomu Sakurai (NIG)
- P-180** Live imaging of immune cells in zebrafish  
ゼブラフィッシュを用いた免疫細胞のライブイメージング  
○Takashi Akanuma, Akihiko Yoshimura (Keio University)
- P-181**  
**(OP9-08)** Tissue force-mediated wound healing in zebrafish epithelia.  
ゼブラフィッシュ胚上皮組織にかかる力を利用した創傷治癒の解析  
○Sohei Yamada<sup>1</sup>, Yasumasa Bessho<sup>2</sup>, Yoichiro Hosokawa<sup>1</sup>, Takaaki Matsui<sup>2</sup> (Bio-Process Engineering, NAIST<sup>1</sup>, Gene Regulation Research, NAIST<sup>2</sup>)
- P-182** The possibility of CD163 as a tool of macrophage origin analysis in mouse; CD163 is expressed on resident macrophages, but not on bone marrow-derived macrophages  
CD163 はマウスにおける卵黄嚢-組織在住マクロファージのマーカーとなる可能性がある  
○Yoichi Saito<sup>1,2</sup>, Yukio Fujiwara<sup>2</sup>, Yoshihiro Komohara<sup>2</sup> (Lab. of Biomaterials, Inst. for Frontier Life and Med. Sci., Kyoto Univ.<sup>1</sup>, Dept. of Cell Pathol., Grad. Sch. of Med. Sci., Fac. of Life Sci., Kumamoto Univ.<sup>2</sup>)
- P-183**  
**(OP9-11)** SSBD: an open public database of microscopy images and quantitative data of biological dynamics  
SSBD: 細胞・発生画像情報と生命動態情報の統合データベース  
○Kenneth Ho<sup>1</sup>, Yukako Tohsato<sup>1,2</sup>, Koji Kyoda<sup>1</sup>, Hiroya Itoga<sup>1</sup>, Shuichi

Onami<sup>1</sup> (RIKEN BDR<sup>1</sup>, Osaka Electro-Communication University<sup>2</sup>)

**P-184**

Pericyte morphogenesis: endothelial cell wrapping and preference for vascular branching.

ペリサイトの形態形成：内皮細胞の被覆と血管分岐部への選好性

○Kei Sugihara<sup>1</sup>, Saori Sasaki<sup>2</sup>, Akiyoshi Uemura<sup>3</sup>, Satoru Kidoaki<sup>2</sup>, Takashi Miura<sup>1,4</sup> (Kyushu Univ Grad Sch of Med Sci<sup>1</sup>, Kyushu Univ Inst of Mat Chem and Eng<sup>2</sup>, Nagoya City Univ Grad Sch of Med Sci<sup>3</sup>, JST CREST<sup>4</sup>)

**P-185**

Roles and mechanisms of the twin peaks of Notch activity at the proneural wave front in the developing fly brain

○Miaoxing Wang<sup>1</sup>, Makoto Sato<sup>1,2</sup> (Inst. Front. Sci. Inuit, Kanazawa Univ.<sup>1</sup>, Grad. Sch. of Med. Sci., Kanazawa Univ.<sup>2</sup>)

**P-186  
(OP9-09)**

Morphological diversity explained by physical properties of cell-cell interaction in living organisms

細胞間相互作用の物理的性質に基づいた形態の多様性の実現

○Hiroshi Koyama<sup>1,2</sup>, Toshihiko Fujimori<sup>1,2</sup> (Div. Embryology, NIBB<sup>1</sup>, SOK-ENDAI<sup>2</sup>)

**P-187**

Mathematical and morphological analysis of “monospirostichy”, a special kind of spiral phyllotaxis unique to Costaceae plants

コスツス科植物に見られる特異な螺旋葉序「一列斜生」の数理的および形態学的解析

○Takaaki Yonekura, Munetaka Sugiyama (Botanical Gardens, Grad. Sch. Sci., Univ. Tokyo)

**P-188  
(OP9-10)**

Single molecule dynamics of MyosinI dictating chiral behaviors of *Drosophila* cells

ショウジョウバエ細胞のキラルな振る舞いを制御するI型ミオシンの一分子動態

○Sosuke Utsunomiya<sup>1</sup>, Takeshi Sasamura<sup>1</sup>, Yukihiko Miyanaga<sup>2</sup>, Masahiro Ueda<sup>2</sup>, Kenji Matsuno<sup>1</sup> (Dept. Bio. Sci, Osaka Univ.<sup>1</sup>, Grad. Sch. of Frontier Bio., Osaka Univ.<sup>2</sup>)

**P-189**

System identification of mechano-chemical epithelial sheet dynamics  
上皮メカノケミカル動態の同定

○Yoshifumi Asakura<sup>1</sup>, Yohei Kondo<sup>2</sup>, Kazuhiro Aoki<sup>2</sup>, Naoki Honda<sup>1</sup> (Kyoto Univ.<sup>1</sup>, ExCELLs, NIBB<sup>2</sup>)

- P-190** High-throughput and cost-effective RNA-extraction and RNA-Seq method for large scale transcriptome analysis  
大規模トランスクリプトーム解析を可能とする低コスト RNA 抽出法及び RNA-Seq ライブラリー調製法  
○Makoto Kashima<sup>1</sup>, Mari Kamitani<sup>1</sup>, Suguru Tanaka<sup>2</sup>, Ayumi Tezuka<sup>1</sup>, Atsushi Nagano<sup>3</sup> (RIFA, Ryukoku Univ.<sup>1</sup>, RDL, Clockmics Inc.<sup>2</sup>, FA, Ryukoku Univ.<sup>3</sup>)
- P-191** The developmental toxicity of metal nanoparticle in zebrafish  
Kazumi Tsukazawa, ○Ka Fai William Tse (Agr, Kyushu Univ.)
- P-192** Function of Polished rice small peptide for the determination of prepupal period in *Drosophila melanogaster*  
キイロショウジョウバエの短いペプチド Polished rice の前蛹期間決定における役割  
Koich Miyagawa<sup>1</sup>, Hamdy Aly<sup>1</sup>, Yuji Kageyama<sup>2,3</sup>, ○Hitoshi Ueda<sup>1,4</sup> (Grad. Sch. of Natl. Sci. Tech., Okayama Univ.<sup>1</sup>, Biosignal Research Center, Kobe University, Japan<sup>2</sup>, Dept. Biol., Grad. Sch. of Sci. Kobe University, Japan<sup>3</sup>, Fac. of Sci., Dept. of Biol., Okayama Univ.<sup>4</sup>)
- P-193** Shadow stimulus-triggered upward swimming of *Xenopus* larvae is mediated by photoreception of the eyes and the pineal complex  
影刺激が引き起こすツメガエル幼生の反射的な上昇遊泳は、眼と松果体複合体による光受容が介在する  
○Yumiko Harada<sup>1</sup>, Yumi Kondo<sup>2</sup>, Hikari Ishii<sup>3</sup>, Ryutaro Murakami<sup>1</sup> (Grad. Sch.Sci.Tech. for Innov., Yamaguchi Univ.<sup>1</sup>, Dept.Biol Sci. Chem., Fac. Sci., Yamaguchi Univ.<sup>2</sup>, Grad.Sch.Med., Yamaguchi Univ.<sup>3</sup>)

## Satellite Workshop 1

DATE: May 14 (Tue) 15:30 ~ 17:45 Room B  
Chairpersons: Masanori Uchikawa (Osaka Univ.)  
Mikiko Inaki (Osaka Univ.)

- SW1-01 (P-013)** 15:30-15:45 Primordial germ cells in avian embryos display a variety of morphology when they exit blood vessels  
トリ胚始原生殖細胞の血管外遊走における形態多様性  
○Kanta Mizumoto<sup>1</sup>, Daisuke Saito<sup>2</sup>, Yuta Takase<sup>1,3</sup>, Ryosuke Tado-koro<sup>1</sup>, Yoshiko Takahashi<sup>1</sup> (Dept of Zool. Kyoto Univ<sup>1</sup>, Grad School of Systems Life Sci. Kyushu Univ<sup>2</sup>, MACS. Kyoto Univ<sup>3</sup>)
- SW1-02 (P-039)** 15:45-16:00 Quantitative analysis of spatial relationship between the mitotic spindle and the centrosome attracting body in early ascidian embryogenesis  
ホヤ初期発生における紡錘体と centrosome attracting body の位置の定量的解析  
○Hiromu Terui, Naohito Takatori (TMU)
- SW1-03 (P-050)** 16:00-16:15 Left-right asymmetry of vascular patterns is regulated by blood flow  
左右非対称に形成される卵黄静脈の血流依存性  
○Junki Yoshida<sup>1</sup>, Yuta Takase<sup>1,2</sup>, Yoshiko Takahashi<sup>1</sup> (Dep of Zool., Grad Sch of Sci., Kyoto Univ.<sup>1</sup>, MACS., Grad Sch of Sci., Kyoto Univ.<sup>2</sup>)
- SW1-04 (P-094)** 16:15-16:30 Transcriptome analysis for elucidating genes expressed in the color pattern of *Drosophila guttifera*  
ミズタマシヨウジヨウバエの模様で発現する遺伝子の解明のためのトランスクリプトーム解析  
○Yuichi Fukutomi<sup>1</sup>, Shuji Shigenobu<sup>2</sup>, Shigeyuki Koshikawa<sup>1</sup> (Hokkaido-U<sup>1</sup>, NIBB<sup>2</sup>)
- SW1-05 (P-109)** 16:30-16:45 Arrangement of collagen fibers is required for the fin bone formation in zebrafish  
ヒレ骨の形態形成には槍状コラーゲン結晶体が関与する  
○Hibiki Nakagawa, Toshihiro Aramaki, Junpei Kuroda, Shigeru Kondo (FBS, Osaka Univ)

**SW1-06** 16:45-17:00 **(P-112)** Origins of peristaltic waves are confined to specific sites in the developing gut of chick embryos

発生過程における腸蠕動運動の定量化と起点位置の解析

○Yuuki Shikaya<sup>1</sup>, Tadayoshi Watanabe<sup>1</sup>, Ryosuke Tadokoro<sup>1</sup>, Ryo Nakamura<sup>3</sup>, Yuta Takase<sup>1,2</sup>, Yoshiko Takahashi<sup>1</sup> (Department of Zoology, Graduate School of Science, Kyoto Univ.<sup>1</sup>, MACS, Graduate School of Science, Kyoto Univ.<sup>2</sup>, Evolutionary Neurobiology Unit, OIST<sup>3</sup>)

**SW1-07** 17:00-17:15 **(P-123)** Secondary neurulation precursors in the tail bud undergo self-renewal and neural differentiation regulated by differential levels of Sox2 expression in chicken embryos

トリ胚尾芽の secondary neurulation 前駆細胞の Sox2 発現レベル依存的な自己複製と神経分化の制御

○Teruaki Kawachi<sup>1</sup>, Eisuke Shimokita<sup>2</sup>, Ryosuke Tadokoro<sup>1</sup>, Yoshiko Takahashi<sup>1</sup> (Kyoto Univ.<sup>1</sup>, Tokushima Univ.<sup>2</sup>)

**SW1-08** 17:15-17:30 **(P-163)** Knockdown of *ouro* genes represses metamorphic disappearance of brachial sac skin of *Xenopus* tadpoles

*ouro* 遺伝子のノックダウンによるツメガエル幼生上腕囊皮膚の消失の阻害

○Izumi Ishimori, Yumi Izutsu (Grad. Sch. of Sci. and Tech., Niigata Univ.)

**SW1-09** 17:30-17:45 **(P-164)** Enhancer elements for tissue regeneration in zebrafish

ゼブラフィッシュの組織再生に関するエンハンサー配列の同定

○Teruhisa Tamaki, Eri Shibata, Atsushi Kawakami (Tokyo Tech)

## Satellite Workshop 2

DATE: May 14 (Tue) 15:30 ~ 17:45 Room C

Chairpersons: Kaoru Imai (Osaka Univ.)

Takeshi Onuma (Osaka Univ.)

**SW2-01** 15:30-15:45 **(P-073)** Resynchronization of the segmentation clock in Delta-Notch mutants

Delta-Notch 変異体における分節時計の再同期

○Koichiro Uriu<sup>1</sup>, Bo-Kai Liao<sup>2</sup>, Luis Morelli<sup>3</sup>, Andrew Oates<sup>4</sup> (Kanazawa University<sup>1</sup>, National Taiwan Ocean University<sup>2</sup>, IBioBA-MPSP<sup>3</sup>, EPFL<sup>4</sup>)

- SW2-02 (P-097)** 15:45-16:00 Left-right asymmetric cellular behavior drives directional heart twisting.  
一定方向への心臓捻転を駆動する左右非対称な細胞の振る舞い  
○Hinako Kidokoro<sup>1,2,3</sup>, Gary C. Schoenwolf<sup>2</sup>, Yukio Saijoh<sup>2</sup> (NCVC<sup>1</sup>, Univ. of Utah<sup>2</sup>, Doshisha Univ.<sup>3</sup>)
- SW2-03 (P-120)** 16:00-16:15 Identification of the earliest progenitor for the cardiac conduction system  
マウス胚における刺激伝導系初期前駆細胞の解析  
○Akane Sakaguchi<sup>1,2</sup>, Hiroki Kokubo<sup>3</sup>, Rieko Ajima<sup>2</sup>, Yumiko Saga<sup>2,4</sup> (BDR<sup>1</sup>, NIG<sup>2</sup>, Hiroshima University<sup>3</sup>, The University of Tokyo<sup>4</sup>)
- SW2-04 (P-022)** 16:15-16:30 Super low cell density culture for understanding cell-cell interaction during human cardiomyogenesis  
心筋分化における相互作用を理解するための超低細胞密度培養  
○Kiyoshi Ohnuma (Bioeng, Nagaoka Univ Tech)
- SW2-05 (P-127)** 16:30-16:45 Isolation of single nuclei from injured spinal cord of adult and neonatal mice.  
成体および幼弱マウスで損傷した脊髄の核の単離  
○Iyo Yorifuji<sup>1,2</sup>, Hiroshi Tsujioka<sup>1</sup>, Yasushi Sakata<sup>2</sup>, Toshihide Yamashita<sup>1,3,4,5</sup> (Department of Molecular Neuroscience, Osaka University<sup>1</sup>, Department of Cardiovascular Medicine, Osaka University<sup>2</sup>, Department of Neuro-Medical Science, Osaka University<sup>3</sup>, Frontier Biosciences, Osaka University<sup>4</sup>, WPI Immunology Frontier Research Center<sup>5</sup>)
- SW2-06 (P-147)** 16:45-17:00 Dramatic effect of oct3/4 on somatic reprogramming in 3T3 cells and mouse embryonic fibroblasts (MEF)  
3T3 及び MEF のリプログラミング時における Oct3/4 の機能追跡  
○Shuji Matsuguchi, Yohei Hirai (DBC, Kwansei Gakuin Univ)
- SW2-07 (P-171)** 17:00-17:15 Tandemly arrayed 4.5SH noncoding RNA genes are essential for early mouse development  
4.5SH ノンコーディング RNA のタンデム遺伝子クラスターはマウスの初期発生に必須である  
Ikue Yamamoto<sup>1</sup>, Michihiko Sugimoto<sup>2</sup>, Kimi Araki<sup>2</sup>, ○Shinichi Nakagawa<sup>1</sup> (Facult. Pharm., Hokkaido Univ.<sup>1</sup>, Div. Dev. Genet., IRDA, Kumamoto Univ.<sup>2</sup>)

**SW2-08 (P-172)** 17:15-17:30 Examination of the dorsal-ventral and left-right patterning related genes in the development of a feather star *Anneissia japonica*

ニッポンウミシダ発生過程における背腹および左右パターンニング関連遺伝子の解析

○Akihito Omori<sup>1,2</sup>, Yongxin Li<sup>3</sup>, Wen Wang<sup>3</sup>, Naoki Irie<sup>4</sup>, Mariko Kondo<sup>2</sup> (SMBS, Niigata Univ.<sup>1</sup>, MMBS, Univ. Tokyo<sup>2</sup>, KIZ, CAS<sup>3</sup>, Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo<sup>4</sup>)

**SW2-09 (P-060)** 17:30-17:45 ptr-18/PTCHD suppresses the activity of grl-7/Hedgehog through endocytosis.

ptr-18/PTCHD はエンドサイトーシスを介して grl-7/Hedgehog の活性を抑制する

○Hirohisa Chiyoda<sup>1</sup>, Masahiko Kume<sup>1,2</sup>, Toshiaki Katada<sup>1,3</sup>, Masamitsu Fukuyama<sup>1</sup> (Dept of Physiol Chemistry, Grad Sch of Pharmaceutical Sci, Univ of Tokyo<sup>1</sup>, Laboratory of Molecular Medicine, Graduate School of Frontier Science, University of Tokyo<sup>2</sup>, Molecular Cell Biology Laboratory, Research Institute of Pharmaceutical Sciences, Faculty of Pharmacy, Musashino University<sup>3</sup>)

# 翔け博士人材！

- 博士人材のさまざまなキャリアパスを考える -

日時：2019年5月15日（水）

12:15～13:15

会場：Room C

## 講演者：

**大場 浩美**（筑波大学・国際産学連携本部：技術移転マネージャー）

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近年のアカデミアポストの減少は、博士取得者のキャリア形成に暗い影を落としています。一方、アカデミア以外における博士人材の要望は拡大しつつあり、ひと昔前に喧伝されていた“足の裏の米つぶ”のような状況を脱しつつあるように思います。

果たして“アカデミア”への進路は博士取得者にとって“唯一無二”の道でしょうか？深く自身を省みて、個々の特性や生き方にフィットする道を選べないものでしょうか？その障壁となっているのは、アカデミア以外の職業におけるニーズや実情の情報が不足している点にあると考えます。

ワークショップでは、アカデミアを経験しつつ、さまざまな分野で活躍されている先達たちをお招きし、人生の岐路でどのように考え、何を選択したのか、現在の仕事をどう感じているか等について講演いただきます。

またグループディスカッションを通じて、その経験を共有・可視化できたらと思います。お互いの“顔が見える関係”の構築と、双方の分野の垣根を取り払った人材の行き来に少しでも道をひらけたらと思っています。奮ってご参加ください。

キャリア支援担当：林 良樹（筑波大学）

## Author Index (Speaker indicated in Bold.)

<p style="text-align: center;">A</p> <p>Abe, Gembu OP3-08  " P-004  " P-049  " <b>P-170</b></p> <p>Abe, Takaya OP1-10</p> <p>Acebedo, Alvin  <b>OP7-09</b></p> <p>Adelstein, Robert  S2-04  OP7-09</p> <p>Agata, Kiyokazu  OP8-03 (P-168)  " OP8-09  " <b>P-005</b>  " P-098  " P-152  " P-153  " P-158  " P-162</p> <p>Ahmad, Shah  OP5-03  " P-146</p> <p>Ahmad, Shah Adil Ishtiyaq  <b>OP5-11 (P-137)</b>  " OP9-03 (P-064)</p> <p>Ahmed, Mai  <b>OP5-10 (P-142)</b></p> <p>Ajima, Ricko  <b>OP4-04 (P-087)</b>  " SW2-03 (P-120)</p> <p>Akanuma, Takashi  <b>P-180</b></p> <p>Akao, Hajime  OP6-09 (P-025)</p> <p>Akiyama, Masakazu  S1-04  " S3-06  " OP4-02  " OP7-08 (P-124)  " P-106</p>	<p>Akiyama-Oda, Yasuko  <b>OP6-10 (P-030)</b>  " OP6-11 (P-047)  " P-056</p> <p>Alcantara, Mellissa  OP7-09</p> <p>Aly, Hamdy P-192</p> <p>Amézquita, Erik  S2-04</p> <p>Ameku, Tomotsune  OP2-07</p> <p>Anam, Mhammad Badrul  OP5-11 (P-137)  " <b>OP9-03 (P-064)</b></p> <p>Anam, Mohammad  OP5-03  " P-146</p> <p>Ando, Toshiya  OP1-07 (P-003)  " <b>OP3-11</b></p> <p>Andrey, Guillaume  S4-05</p> <p>Anlas, Kerim  OP7-10</p> <p>Annona, Giovanni  OP3-01</p> <p>Ansai, Satoshi  P-088</p> <p>Aoki, Kazuhiro  P-189</p> <p>Araki, Kimi  OP7-11 (P-178)  " SW2-07 (P-171)</p> <p>Aramaki, Toshihiro  <b>OP4-06 (P-080)</b>  " OP4-09 (P-093)  " P-119  " SW1-05 (P-109)</p> <p>Asakura, Yoshifumi  <b>P-189</b></p>	<p>Asami, Junko P-038</p> <p>Asano, Tetsuya  OP7-04 (P-125)</p> <p>Atsumi, Yusuke  OP2-08</p> <p>Atsuta, Yuji <b>P-086</b></p> <p>Ayukawa, Tomonori  <b>OP4-02</b></p> <p>Ayyangar, Uttkarsh  S3-05</p> <p>Azuma, Sadahiro  P-100</p> <p>Azuma, Yusuke  <b>P-040</b></p> <p style="text-align: center;">B</p> <p>Badel, Laurent  OP1-07 (P-003)</p> <p>Bagherzadeh, Reza  <b>OP8-03 (P-168)</b>  " P-153</p> <p>Bahrvand, Hossein  OP8-03 (P-168)</p> <p>Beccari, Leonardo  S4-05</p> <p>Bessho, Yasumasa  OP9-08 (P-181)</p> <p>Bhattacharjee, Oindrila  S3-05</p> <p>Bhullar, Bhart-Anjan  OP3-09</p> <p>Bilheu, Angeline  S6-06</p> <p>Birney, Ewan  OP7-05</p> <p>Bolt, Christopher Chase  S4-05</p> <p>Botelho, Joao  OP3-09</p> <p>Bradham, Cynthia  P-174</p>	<p>Bromley, Claire  OP1-08 (P-083)</p> <p>Bronner, Marianne  OP4-11 (P-076)</p> <p>Burdine, Rebecca  S2-01</p> <p>Burgess, Shawn  OP3-07</p> <p style="text-align: center;">C</p> <p>Caccavale, Filomena  OP3-01</p> <p>Cameron, Robert  P-174</p> <p>Campas, Otger <b>S1-01</b></p> <p>Castellan, Flore  <b>P-011</b></p> <p>Cetraro, Nicolas  P-017</p> <p>Chan, Wood Yee  OP9-02</p> <p>Chang, Wei-Lun  S3-02</p> <p>Chang, Yao-Hsiang  <b>P-156</b></p> <p>Cheah, Kathryn  P-058</p> <p>Chen, Chih-Kuan  P-166</p> <p>Chen, Chun-Ming  <b>P-096</b></p> <p>Chen, Jiun-Hong  P-156</p> <p>Chen, Luonan P-174</p> <p>Chen, Peikai P-058</p> <p>Chen, Shih-Yun  P-136</p> <p>Chen, Zelin OP3-07</p> <p>Chen, Zong-Wei  P-096</p>
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Cheng, Hsu-Chen P-166	Eritano, Anthony <b>OP1-08 (P-083)</b>	// SW2-09 (P-060)	Han, Jin-Kwan <b>P-041</b>
Cheron, Julian S6-06	Erkhembaatar, Munkhsoyol <b>OP5-07 (P-130)</b>	Furukawa, Takahisa OP3-07	Hanada, Mai P-126
Cheung, Martin OP9-02	F <b>OP5-07 (P-130)</b>	Furukawa, Tetsushi OP7-04 (P-125)	Hanashima, Carina OP5-05 (P-138)
Chiang, Ann-shyn OP5-06 (P-141)	Fatchiyah, Fatchiyah OP6-09 (P-025)	Furukawa, Tomoyo P-026	// OP5-07 (P-130)
Chien, Chung-Liang P-131	Fenelon, Kelli S5-03	Furuse, Mikio OP1-04 (P-072)	Hannezo, Edouard <b>S1-07</b>
Chih, Yu-Chan P-096	Fernndez-Guerrero, Marc S2-03	Furutani-Seiki, Makoto <b>S5-05</b>	Hanyu-Nakamura, Kazuko OP2-04 (P-020)
Chihara, Takahiro OP1-07 (P-003)	Fong, Weng Lam P-136	Fuse, Naoyuki OP8-11 (P-155)	Hara, Keiko P-100
Chitwood, Daniel <b>S2-04</b>	Fritzschn, Bernd P-058	G S6-06	Hara, Yusuke P-026
Chiyoda, Hirohisa <b>P-060 (SW2-09)</b>	Fujimori, Toshihiko OP1-10	Gacquer, David S6-06	Harada, Yumiko P-126
Chong, Wen Hui Jeronica <b>P-037</b>	// OP9-09 (P-186)	Germeraad, Jasper <b>P-016</b>	// <b>P-193</b>
Chu, Wei-Chen <b>P-092</b>	// P-070	Go, Yasuhiro P-038	Hashimoto, Hisashi <b>P-118</b>
Chuong, Cheng-Ming OP9-05 (P-059)	Fujimoto, Koichi P-091	Goh, Wei Ting Joyce <b>P-071</b>	Hashimoto, Masakazu <b>P-048</b>
Cristea, Ileana P-107 D	Fujishima, Kazuto P-010	Goto, Maiko P-151	Hashimoto, Yutaka P-107
D'Aniello, Salvatore <b>OP3-01</b>	Fujita, Haruka <b>P-054</b>	Goto, Yuichi <b>P-151</b>	Hasugata, Riho OP8-05 (P-160)
Detours, Vincent S6-06	Fujiwara, Yukio P-182	Goyal, Yogesh S2-01	Hatakeyama, Jun <b>P-103</b>
Deviatiiarov, Ruslan OP8-03 (P-168)	Fukaya, Takashi <b>S4-02</b>	Grenci, Gianluca S5-01	Hatta, Kohei OP8-08 (P-154)
Ding, Xiang <b>P-061</b>	Fukuda, Kimiko <b>P-122</b>	Gusev, Oleg OP8-03 (P-168)	Hattori, Yukako P-133
// P-062	Fukuda, Narumi OP5-09 (P-140)	Gutierrez-Triana, Jose Arturo OP7-10	Hayashi, Shigeo S1-05
Duboule, Denis S4-05	Fukunaga, Kanako <b>P-089</b>	H P-177	// OP1-05 (P-085)
E	Fukunaga, Ryuya OP2-03 (P-021)	Habara, Okiko P-177	// <b>OP1-07 (P-003)</b>
Egawa, Shiro <b>OP3-09</b>	Fukuta, Kentaro OP3-07	Haga, Hisashi OP7-09	// OP7-01 (P-117)
Ei, Shin-Ichiro S1-04	Fukutomi, Yuichi S4-01	Hakeda-Suzuki, Satoko P-128	// P-067
Eiraku, Mototsugu P-090	// <b>SW1-04 (P-094)</b>	Hamada, Hiroki P-170	// P-092
Eithun, Mitchell S2-04	Fukuyama, Masamitsu <b>P-176</b>	Hamada, Hiroshi OP6-04 (P-028)	Hayashi, Shinichi <b>OP6-06 (P-032)</b>
Endo, Tetsuya P-162		// P-031	// P-045
		// P-035	Hayashi, Takashi S1-04
			Hayashi, Toshinori OP8-04 (P-161)

Hayashi, Yusaku P-133	Honda, Yuki P-170	Ikegami, Keisuke OP2-08	Ishibashi, Tomoki P-099
Heilig, Ann Kathrin <b>OP4-05</b>	Hopyan, Sevan <b>S5-03</b> " OP1-01 (P-081)	Ikeno, Shinsuke OP5-07 (P-130)	Ishida, Miyuki <b>P-153</b>
Heisenberg, Carl-Philipp OP9-06	Horikawa, Ayumi OP6-03 (P-036)	Ikeya, Makoto P-149	Ishiguro, Kei-ichiro OP7-11 (P-178)
Herpoel, Adele S6-06	Hori-Nishi, Akiko OP1-11 (P-095)	Imaz, Takashi OP5-07 (P-130)	Ishii, Hikari P-193
Heurck, Roxane Van S6-06	Horiuchi, Natsumi OP8-08 (P-154)	Inaba, Masafumi <b>OP9-05 (P-059)</b>	Ishii, Yasuo OP7-03 (P-115)
Hibi, Masahiko OP5-08	Horo, Uzuki P-035	Inada, Kengo OP5-02	Ishimaru, Yoshiyasu P-057
" P-118	Hoshino, Mikio P-038	Inagaki, Sachi OP1-05 (P-085)	" P-108
" P-132	Hosoda, Kazutaka <b>P-098</b>	" OP1-07 (P-003)	" P-165
" <b>P-134</b>	Hosokawa, Yoichiroh OP9-08 (P-181)	Inaki, Mikiko <b>S3-06</b> " P-090	Ishimori, Izumi <b>SW1-08 (P-163)</b>
Hibino, Nobuyuki S4-06	Hotta, Kohji P-101	" P-106	Isimaru, Yoshiyasu P-042
" P-053	Hotta, Masakazu <b>P-162</b>	Ingham, Philip S3-01	Isomura, Ayako P-044
Hino, Shinjiro OP7-09	Hotta, Mayuko P-038	Inoguchi, Fuduki OP5-07 (P-130)	Itabashi, Takeshi OP4-09 (P-093)
Hiraga, Kou <b>P-038</b>	Hou, Peishan <b>OP5-05 (P-138)</b>	Inoue, Hiroki <b>P-024</b> OP4-11 (P-076)	Itakura, Yuki <b>OP1-05 (P-085)</b>
Hirai, Tamami P-091	Hozumi, Yasukazu OP4-02	Inoue, Kunio OP4-11 (P-076)	Ito, Naofumi OP5-03
Hirai, Yohei SW2-06 (P-147)	Hsu, Fuyu OP5-06 (P-141)	Inoue, Shinsuke P-132	" OP5-11 (P-137)
Hirano, Kodai S4-03	Huang, Alice OP1-06 (P-082)	Inoue, Takayoshi OP6-01 (P-169)	" <b>OP8-01 (P-148)</b>
" OP2-08	Huang, Huaxiong S5-03	" P-038	" OP8-10 (P-157)
Hirano, Sayuki OP6-03 (P-036)	Hui, Chi Chung P-068	Inoue, Takeshi OP8-09	" OP9-03 (P-064)
Hirashima, Tsuyoshi <b>S1-06</b>	Hwang, Ildoo <b>S3-03</b> I	" P-005	" P-146
" P-121	Ide, Takahiro P-035	" P-158	Itoga, Hiroya OP9-11 (P-183)
Hiyoshi, Kanae <b>OP5-09 (P-140)</b>	Igawa, Takeshi P-175	Inoue, Yasuhiro <b>OP5-08</b>	Itoh, Tsubasa P-134
Ho, Chin Chung P-068	Iida, Hideaki <b>OP2-09 (P-135)</b>	" S3-06	Iwane, Atsuko H OP4-09 (P-093)
Ho, Kenneth <b>OP9-11 (P-183)</b>	" OP9-04 (P-002)	" P-106	Iwasaki-Yokozawa, Sawa <b>OP6-11 (P-047)</b>
Hogan, Brigid OP8-02 (P-150)	Ikawa, Yayoi P-035	Inoue, Yukiko OP6-01 (P-169)	" P-056
Honda, Hisao S1-05	Ikeda, Masaaki P-074	" P-038	Iwata, Yui P-175
" <b>OP1-10</b>	Ikeda, Yayoi P-012	Inui, Masafumi P-089	Izutsu, Yumi SW1-08 (P-163)
Honda, Naoki <b>OP5-04 (P-143)</b>		Irie, Naoki P-011	
" P-189		" P-174	
		" SW2-08 (P-172)	

J	"	P-079	Kawano, Ric	Kina, Hirono
Jahan, Nusrat	Kashima, Makoto		<b>OP8-10 (P-157)</b>	<b>OP2-04 (P-020)</b>
OP6-09 (P-025)		P-152	Kawaraichi, Nami	Kinoshita, Noriyuki
Jiang, Ting-Xin	"	<b>P-190</b>		<b>P-107</b>
OP9-05 (P-059)	Kassai, Hidetoshi		P-149	Kitajima, Keiichi
Jindal, Granton		P-011	Kawasaki, Tappei	<b>P-049</b>
S2-01	Katada, Toshiaki		OP5-02	"
Jing, Naihe <b>OP6-08</b>		P-176	Kawashima, Takeshi	P-170
K	"	SW2-09 (P-060)	<b>P-179</b>	Kobayashi, Makoto
Kadota, Mitsutaka	Kato, Kagayaki		Kawasumi, Aiko	P-167
OP4-10 (P-078)		OP9-04 (P-002)	<b>P-051</b>	Kobayashi, Takuya
Kadoya, Minori	Katsura, Hiroaki		Kawasumi-Kita, Aiko	OP8-05 (P-160)
OP1-11 (P-095)	<b>OP8-02 (P-150)</b>		OP4-08	Kobayashi, Yoshihiko
Kageyama, Ryoichiro	"	<b>P-070</b>	Kawaue, Takumi	OP8-02 (P-150)
S1-02	"	P-079	S6-05	Koizumi, Wataru
"	Katsuyama, Yu <b>S6-01</b>		Kayo, Hiroyuki	P-101
Kageyama, Yuji	"	OP5-07 (P-130)		Kojima, Masayasu
OP7-01 (P-117)	Kawachi, Teruaki		Kazama, Hokto	OP7-11 (P-178)
"	<b>SW1-07 (P-123)</b>		OP5-02	Kojima, Yutaka
Kai, Toshie P-017	Kawaguchi, Ayano		Kazama, Hokuto	OP5-10 (P-142)
Kajikawa, Eriko		<b>S6-05</b>	OP1-07 (P-003)	Kokubo, Hiroki
<b>P-035</b>	Kawahira, Naofumi		Kellner, Tanja	SW2-03 (P-120)
Kajioka, Daiki <b>P-116</b>		P-049		Komai, Hanae P-001
Kakuta, Ei P-005	Kawakami, Atsushi		Kelsh, Robert P-118	Komohara, Yoshihiro
"	OP8-06 (P-159)		Kengaku, Mineko	P-182
Kameda, Yoshikazu	"	<b>OP8-07</b>	"	<b>S5-01</b>
P-119	"	P-170	<b>P-010</b>	Kon, Tetsuo OP3-07
Kamei, Yasuhiro	"	SW1-09 (P-164)	Kidoaki, Satoru	Kondo, Mariko
OP4-08	Kawakami, Koichi		P-184	P-174
"		OP3-07	Kidokoro, Hinako	"
Kamioka, Saki P-126	"	OP8-08 (P-154)	<b>SW2-02 (P-097)</b>	SW2-08 (P-172)
Kamitani, Mari	"	<b>P-042</b>	Kikkawa, Takako	Kondo, Shigeru
P-190	"	P-170	OP6-01 (P-169)	OP4-06 (P-080)
Kamiyama, Takumi	Kawamoto, Kohei		Kim, Jessica	"
<b>P-063</b>		P-108	<b>OP6-05 (P-046)</b>	<b>P-008</b>
Kanaoka, Yasutetsu	Kawamoto, Kouhei		Kimura, Ryuichi	"
<b>P-133</b>		P-057		SW1-05 (P-109)
Kanazawa, Utsugi	Kawamura, Kazuki		Kimura, Sousuke	Kondo, Shu OP2-07
S4-06		<b>P-110</b>	P-016	Kondo, Takaya <b>P-066</b>
"	Kawamura, Satomi		Kimura, Tetsuaki	Kondo, Toru
P-053		P-126	P-118	OP1-11 (P-095)
Kaneko, Arata	Kawanishi, Toru		Kimura-Yoshida, Chiharu	Kondo, Yohei P-189
OP7-08 (P-124)		<b>OP1-09</b>	S5-06	Kondo, Yumi P-193
Kanie, Akemi P-070			"	Kondoh, Hisato
			<b>P-077</b>	OP2-09 (P-135)
				"
				OP7-03 (P-115)
				<b>OP9-04 (P-002)</b>

Kontani, Kenji P-176	// SW1-05 (P-109)	Liao, Bo-Kai	Matsuda, Mayuko
Kori, Hiroshi S1-02	Kuroiwa, Atsushi	SW2-01 (P-073)	P-042
Koshiba-Takeuchi, Kazuko	S4-06	Liao, Meng-Lin	Matsuda, Michiyuki
OP7-04 (P-125)	// OP7-03 (P-115)	P-131	S1-06
Koshikawa, Shigeyuki	// P-053	Liao, Susan	// P-121
<b>S4-01</b>	// P-110	<b>OP2-03 (P-021)</b>	Matsuda, Yoichi
// SW1-04 (P-094)	Kurosaka, Hiroshi	Lim, Young-Mi	S4-06
Koyama, Hiroshi	OP6-02 (P-029)	OP2-10 (P-144)	// OP2-08
<b>OP9-09 (P-186)</b>	Kusaba, Kouki P-173	Lin, Chia-Hsuan	// P-053
Kudo, Mikiko <b>P-146</b>	Kusakabe, Rie	P-166	// P-054
// OP9-03 (P-064)	<b>OP3-06</b>	Lin, Tzu-Chuen	Matsuguchi, Shuji
Kudoh, Hidehiro	Kwong, Wai Hang	<b>P-131</b>	<b>SW2-06 (P-147)</b>
P-004	P-058	Liu, Boqi	Matsui, Takaaki
Kumagai, Nobuyoshi	Kyoda, Koji	<b>OP7-02 (P-113)</b>	OP9-08 (P-181)
<b>P-152</b>	OP9-11 (P-183)	Liu, Chuyan	Matsumiya, Marina
Kumano, Gaku	L	<b>OP5-01 (P-129)</b>	P-054
OP2-05 (P-018)	Lai, Yi-Ting <b>P-099</b>	Liu, Fu-Chin <b>P-136</b>	Matsumoto, Ken-ichi
Kumar, Devesh	Lai, Yung-Chih	Liu, Jessica Aijia	OP7-09
S6-06	OP9-05 (P-059)	OP9-02	Matsumoto, Ryou
Kume, Masahiko	Lambert, Nelle S6-06	Livingston, Brian	P-005
SW2-09 (P-060)	Lee, Shu-Hua	P-174	Matsumura, Kaoru
Kuo, Hsiao-Ying	OP3-08	Loosli, Felix OP7-05	<b>P-101</b>
P-136	Lee, Tin Lap	Lopez-Delisle, Lucille	Matsuno, Kenji
Kuraishi, Takayuki	OP2-01 (P-014)	S4-05	S3-06
OP2-07	Lee, Wing Tung	Lovell-badge, Robin	// OP5-06 (P-141)
Kuraku, Shigehiro	<b>OP2-01 (P-014)</b>	P-058	// OP7-08 (P-124)
OP4-10 (P-078)	Lemke, Steffen	Lpez-Gimnez, Juan	// OP9-01 (P-065)
Kurata, Shoichiro	OP1-08 (P-083)	S2-03	// OP9-10 (P-188)
OP8-11 (P-155)	Leong, Jason Cheok Kuan	Lukacs, Viktor P-079	// <b>P-007</b>
Kuratani, Shigeru	<b>P-174</b>	Luo, Mengxi	// P-066
OP3-01	Leung, Cheuk Ling	OP1-01 (P-081)	// P-090
// OP3-05	<b>OP9-02</b>	M	// P-099
// OP3-06	Leung, Kai Hung	Maekawa, Mamiko	// P-106
// P-091	P-058	<b>P-012</b>	Matsuo, Isao <b>S5-06</b>
Kurbet, Ambika	Levin, Michael P-086	Makanac, Aki	// P-077
S3-05	Li, Ing-Jia OP3-08	OP8-09	Matsushita, Shoko
Kurusu, Daisuke	Li, Yongxin OP3-05	Masai, Ichiro OP4-01	P-116
OP7-08 (P-124)	// P-174	// OP5-10 (P-142)	Matsuyama, Makoto
Kurusu, Junko P-010	// SW2-08 (P-172)	Masuko, Keita	OP4-03
Kuroda, Hiroki P-026	Li, Zhuojie P-061	OP8-11 (P-155)	Matsuzaki, Fumio
// P-089	// <b>P-062</b>	Matsubara, Haruka	S6-05
Kuroda, Junpei	Liang, Ya-Chen	<b>P-158</b>	Matuda, Mayuko
<b>OP4-09 (P-093)</b>	OP9-05 (P-059)	// P-162	P-057

Megason, Sean OP1-09	Miyazaki, Nagisa P-173	Motegi, Fumio <b>OP9-07 (P-052)</b>	Nakamura, Kae P-145
Miao, Guangxia <b>OP4-07 (P-084)</b>	Miyoshi, Hiromi OP7-08 (P-124)	Motoyama, Jun P-139	Nakamura, Makoto OP6-09 (P-025)
Michiue, Tatsuo OP6-03 (P-036)	Mizumoto, Kanta <b>SW1-01 (P-013)</b>	Mousavi, Seyed Ahmad OP8-03 (P-168)	" P-033
Mii, Yusuke <b>OP4-03</b>	Mizuno, Hiroaki OP7-08 (P-124)	Mukaigasa, Katsuki <b>P-069</b>	Nakamura, Mitsuru P-101
Min, Ming <b>OP2-02</b>	Mizuno, Katsutoshi <b>OP6-04 (P-028)</b>	Munch, Elizabeth S2-04	Nakamura, Mitsutoshi P-099
Min, Zhu OP1-01 (P-081)	Mizutani, Takeomi P-077	" <b>P-126</b>	Nakamura, Ryo P-111
Minakawa, Tomohiro <b>P-145</b>	Mochida, Kyoko P-077	" P-193	" SW1-06 (P-112)
Minamitani, Fumina OP8-04 (P-161)	Mochizuki, Atsushi OP1-02 (P-102)	Murakami, Yasunori <b>S6-03</b>	Nakamura, Ryohei OP4-05
Minegishi, Katura P-031	Mohammad, Badrul Anam OP8-01 (P-148)	Murayama, Itaru OP2-08	Nakamura, Shunya P-088
Minemori, Keito OP5-07 (P-130)	Montell, Denise OP4-07 (P-084)	Mure, Ayumi P-133 N	Nakamura, Yoshiaki OP2-08
Minkina, Elena OP8-03 (P-168)	Morelli, Luis SW2-01 (P-073)	Nagai, Akiko P-012	Nakamura, Yuki <b>P-108</b>
Misaki, Kazuyo OP1-07 (P-003)	Morimoto, Yuki P-038	Nagano, Atsushi P-190	Nakane, Yusuke OP2-08
Mito, Taro P-042	Morino, Yoshiaki <b>OP3-10</b>	Nagasaka, Arata S6-05	Nakanishi, Nagayasu <b>OP2-11</b>
" P-057	Morishita, Yoshihiro <b>OP4-08</b>	" P-105	Nakao, Mitsuyoshi OP7-09
" P-108	" P-049	Nakagata, Naomi OP7-09	Nakashima, Hina OP2-04 (P-020)
" P-165	" P-051	Nakagawa, Hibiki OP4-09 (P-093)	Nakashima, Tomoya OP8-07
Miura, Masayuki <b>P-009</b>	" P-090	" SW1-05 (P-109)	Nakaya, Masa-Aki P-077
" P-176	" P-110	Nakagawa, Hiroki P-151	Nakaya, Yukiko <b>P-044</b>
Miura, Takashi P-184	Morita, Izumi OP7-04 (P-125)	Nakagawa, Shinichi <b>SW2-07 (P-171)</b>	Nakazato, Kenichi OP1-02 (P-102)
Miyadai, Motohiro P-118	" P-066	Nakajima, Akihiko <b>S1-03</b>	Nakazawa, Naotaka S5-01
Miyagawa, Koich P-192	Morita, Yuika OP7-04 (P-125)	Naka-Kaneda, Hayato OP5-07 (P-130)	Naruse, Daichi P-173
Miyagawa, Shinichi OP7-09	Moriya, Hiroyuki OP1-07 (P-003)	Nakamoto, Ayaki OP2-04 (P-020)	Naruse, Kiyoshi OP7-05
Miyake, Minato P-055	Moriyama, Yuuta <b>OP9-06</b>	" OP2-05 (P-018)	" P-088
Miyanaga, Yukihiko OP9-10 (P-188)	Morohashi, Ken-ichirou OP7-04 (P-125)	" OP7-11 (P-178)	" P-118
Miyata, Takaki S6-05		" P-063	
" P-070			
" P-105			

Nemoto, Kazuya <b>OP8-11 (P-155)</b>	Obata, Fumiaki P-176	Onai, Takayuki <b>OP3-03</b>	Quigley, Michelle S2-04
Nemoto, Tomomi OP7-08 (P-124)	Ochi, Haruki <b>S4-03</b> " OP8-05 (P-160)	Onami, Shuichi OP9-11 (P-183)	R Rada-Iglesias, Ivoro
Niimi, Teruyuki OP3-11	Oda, Hiroki OP6-10 (P-030)	" P-040	S2-03
Nikaido, Masataka <b>OP8-08 (P-154)</b>	" OP6-11 (P-047) " <b>P-056</b>	Onimaru, Koh <b>OP4-10 (P-078)</b>	Raghavan, Srikala <b>S3-05</b>
Nishikawa, Masatoshi OP9-07 (P-052)	Ogawa, Hidesato OP7-04 (P-125)	Ono, Makoto P-110	Ranade, Sanjeev P-079
Nishimura, Hiromi P-035	Ogino, Hajime S4-03 " P-175	Onodera, Koun P-133	Ren, Yandong OP3-05
Nishimura, Osamu OP4-10 (P-078)	Ogura, Yosuke P-067	Ophelders, Tim S2-04	" P-174
Nishimura, Takashi OP7-11 (P-178)	Ohno, Maria OP8-08 (P-154)	Ornitz, David <b>S2-05</b>	Rhaditya, Putu Adi Andhika <b>P-139</b>
" P-015	Ohnuma, Kiyoshi <b>SW2-04 (P-022)</b>	Osumi, Noriko OP6-01 (P-169)	Ros, Marian <b>S2-03</b>
" P-177	Ohta, Kunimasa <b>OP5-03</b>	" P-016	Rupprecht, Jean-Francois S3-01
Nishinakamura, Ryuichi OP7-09	" OP5-11 (P-137)	Ota, Kinya <b>OP3-08</b>	S
Nishiyama, Nao P-151	" OP8-01 (P-148)	Otani, Tetsuhisa <b>OP1-04 (P-072)</b>	Saga, Yumiko OP2-06 (P-023)
Niwa, Hitoshi OP7-11 (P-178)	" OP8-10 (P-157)	Otomoto, Kohei OP7-08 (P-124)	" OP4-04 (P-087)
Niwa, Ryusuke <b>OP2-07</b>	" OP9-03 (P-064)	P Pascual-Anaya, Juan	" OP6-05 (P-046)
" P-063	" P-146	" OP3-01	" P-019
Noguchi, Hideki OP3-07	" P-151	" <b>OP3-05</b>	" P-024
Noji, Sumihare P-042	Ohtsuka, Daisuke P-049	Pasiliao, Clarissa S5-03	" SW2-03 (P-120)
" P-108	Oka, Kotaro P-101	Patapoutian, Ardem P-079	Sai, Xiao Rei <b>P-031</b>
" P-165	Okada, Maya OP6-09 (P-025)	Pelling, Anna P-058	Sai, Xiaorei P-092
Nomura, Tadashi <b>S6-04</b>	Okada, Ryu <b>P-119</b>	Phng, Li-Kun <b>S5-02</b>	Saijoh, Yukio SW2-02 (P-097)
Nonomura, Keiko P-070	Okamoto, Mayumi P-105	" P-071	Saito, Daisuke SW1-01 (P-013)
" <b>P-079</b>	Oki, Shinya S4-06	Plachta, Nicolas <b>PL-1</b>	Saito, Kanako S6-05
Nose, Akinao <b>OP5-02</b>	Okubo, Akino S3-06 " P-106	Polleux, Franck S6-06	" <b>P-105</b>
O <b>OP5-02</b>	Okubo, Tadashi <b>P-100</b>	Prez-Gmez, Roco S2-03	Saito, Seiji S4-06
Oates, Andrew SW2-01 (P-073)	Okuda, Satoru <b>S5-04</b>	Prost, Jacques S3-01	" <b>P-053</b>
	Omori, Akihito P-174 " <b>SW2-08 (P-172)</b>	Pryce, Brian OP1-06 (P-082)	Saito, Yoichi <b>P-182</b>
	Omori, Yoshihiro <b>OP3-07</b>	Q Qin, Tianli <b>P-068</b>	Sakagami, Kiyo P-175

Sakamoto, Rikuya P-005	" OP7-09	Shimada, Astsuko OP4-05	Sugimoto, Michihiko SW2-07 (P-171)
Sakamura, So <b>OP5-06 (P-141)</b>	Satoh, Akira <b>OP8-09</b>	Shimada, Ryuki <b>OP2-06 (P-023)</b>	Sugiyama, Munetaka P-187
Sakata, Yasushi SW2-05 (P-127)	Satoh, Noriyuki OP3-04	Shimada-Niwa, Yuko OP2-07	Sumiyama, Kenta <b>S4-04</b>
Sakuma, Chie P-069	Satou, Yutaka OP7-02 (P-113)	Shimamura, Kenji OP7-09	Sun, Xiaoding P-132
Sakurai, Mizuki <b>P-026</b>	Saunders, Timothy <b>S3-01</b>	" P-103	Sun, Ying P-061
Sakurai, Nozomu P-179	Schütz, Lucas OP1-08 (P-083)	Shimizu, Takashi OP5-08	Sun, Yu S5-03
Sakurai, Takayuki P-024	Schlesinger, Saundra <b>OP1-06 (P-082)</b>	" <b>P-132</b>	" OP1-01 (P-081)
Samani, Mohammad S5-03	Schoenwolf, Gary C. SW2-02 (P-097)	" P-134	Sushida, Takamichi S1-04
" OP1-01 (P-081)	Schubach, Trudi <b>S2-01</b>	Shimojo, Hiromi <b>S1-02</b>	" S3-06
Sami, Mustafa OP1-07 (P-003)	Schwartz, Robert OP1-06 (P-082)	Shimokita, Eisuke <b>P-027</b>	" P-106
" OP1-08 (P-083)	" OP7-04 (P-125)	" SW1-07 (P-123)	Suyama, Ritsuko <b>P-017</b>
" <b>P-067</b>	Sekine, Sayaka OP1-07 (P-003)	Shimono, Kohei P-001	Suzuki, Atsushi OP6-09 (P-025)
Sandell, Lisa L OP6-02 (P-029)	Seo, Seongkyung OP1-06 (P-082)	Shin, Dongsun <b>P-090</b>	" <b>P-033</b>
Sano, Hiroko <b>OP7-11 (P-178)</b>	Shah, Adil Ishtiyag Ahmad OP8-01 (P-148)	Shinoda, Tomoyasu S6-05	Suzuki, Daichi <b>S6-02</b>
Sarper, Safiye Esra <b>P-091</b>	Sham, Mai Har P-068	Shinozuka, Takuma <b>P-075</b>	Suzuki, Hitomi P-027
Sasai, Noriaki OP1-11 (P-095)	Sharifi-Zarchi, Ali OP8-03 (P-168)	Shinya, Minoru P-170	Suzuki, Ikuo <b>S6-06</b>
Sasaki, Hiroshi P-048	Shibata, Eri SW1-09 (P-164)	Shiozawa, Kei OP6-04 (P-028)	Suzuki, Kentaro OP7-09
Sasaki, Saori P-184	Shibata, Norito P-152	Shirai, Manabu OP7-04 (P-125)	" P-116
Sasamura, Takeshi <b>OP7-08 (P-124)</b>	Shibata, Tatsuo S1-05 " OP1-08 (P-083)	Shitamukai, Atsunori S6-05	Suzuki, Kunihiro OP6-01 (P-169)
" OP9-10 (P-188)	" P-044	Shvartsman, Stas S2-01	Suzuki, Nanoka S4-03
" P-090	Shiga, Yasuhiro <b>P-173</b>	Skibbe, Henrik P-133	" P-175
Sato, Katsuhiko S1-05	Shigematsu, Mugiho OP1-03 (P-104)	Song, Yan <b>S3-04</b>	Suzuki, Takashi P-128
Sato, Kota P-055	Shigenobu, Shuji P-099	Su, Yi-Hsien <b>S3-02</b>	Suzuki, Takayuki <b>S4-06</b>
Sato, Makoto <b>S1-04</b> " OP5-01 (P-129)	" SW1-04 (P-094)	Sugahara, Fumiaki OP3-05	" OP4-08
" P-185	Shikaya, Yuuki P-111	Sugawara, Ryo OP7-03 (P-115)	" P-051
Sato, Takehisa P-074	" <b>SW1-06 (P-112)</b>	Sugihara, Kei <b>P-184</b>	" P-053
Sato, Yuki <b>OP1-03 (P-104)</b>			" P-054
			" P-110
			Suzuki, Tohru <b>P-055</b>
			" P-088
			T
			Tabin, Clifford P-086

Tadokoro, Ryosuke P-111 " SW1-01 (P-013) " SW1-06 (P-112) " SW1-07 (P-123)	Takebayashi-Suzuki, Kimiko OP6-09 (P-025) " P-033 Takechi, Hiroki OP1-09 " OP4-05 " <b>P-128</b> Takeda, Michiko OP1-08 (P-083) Takemoto, Kazumasa OP7-11 (P-178) Takemoto, Tatsuya S4-06 " OP6-06 (P-032) " P-027 " P-045 " P-053 Takeo, Toru OP7-09 Takeuchi, Jun OP7-04 (P-125) Takeuchi, Miki OP5-08 " P-167 Takeuchi, Takashi <b>OP8-04 (P-161)</b> Takeuchi, Yuki <b>OP4-01</b> Taki, Kosuke OP5-07 (P-130) Takigawa, Taishi S3-06 " <b>P-106</b> Tam, Kok Ting <b>P-058</b> Tam, Patrick OP6-07 (P-034) Tamaki, Teruhisa <b>SW1-09 (P-164)</b> Tamaoki, Junya <b>P-167</b> Tamura, Chie OP1-03 (P-104) Tamura, Koji OP4-08 " OP8-05 (P-160)	" <b>P-004</b> " P-049 " P-051 " P-170 Tanaka, Satomi <b>OP6-07 (P-034)</b> Tanaka, Suguru P-190 Tanaka, Tsubasa OP2-04 (P-020) Tanaka, Yoshitaka P-004 " P-170 Tanegashima, Chiharu OP4-10 (P-078) Tani, Naoki P-063 Tani-Matsuhana, Saori <b>OP4-11 (P-076)</b> Tanimoto, Hiromu OP2-07 Tanishita, Eri OP8-07 Tanouchi, Mikio <b>P-175</b> Tantirimudalige, Sarala OP9-07 (P-052) Tao, Hirotake S5-03 " <b>OP1-01 (P-081)</b> Tasaki, Sohei P-044 Tata, Purushothama OP8-02 (P-150) Tatchana, Misako P-016 Tatsumi, Kaori OP4-10 (P-078) Tatsumoto, Shoji P-038 Tavheliidse, Tinatini OP7-10 Teng, Xiang OP9-07 (P-052) Teramoto, Machiko <b>OP7-03 (P-115)</b> " OP9-04 (P-002)	Terui, Hiromu <b>SW1-02 (P-039)</b> Tezuka, Ayumi P-190 Thomas, Evan S5-03 Thomas, Isabelle OP7-10 Thumberger, Thomas <b>OP7-10</b> Tlili, Sham S3-01 Togari, Miyuki OP2-08 Tohsato, Yukako OP9-11 (P-183) Tomizawa, Reiko P-086 Tomonari, Sayuri P-042 " P-057 " P-108 Toyama, Yusuke OP9-07 (P-052) Toyoda, Atsushi OP3-07 Toyooka, Yayoi <b>P-149</b> Trainor, Paul OP6-02 (P-029) " <b>OP7-07</b> Trush, Olena OP5-01 (P-129) Tsai, Stephanie OP9-05 (P-059) Tse, Ka Fai William <b>P-191</b> Tsingos, Erika OP7-10 Tsuchiya, Megumi OP7-04 (P-125) Tsuda, Leo <b>OP2-10 (P-144)</b> Tsuda, Sachiko OP5-09 (P-140) " P-074
--	--	--	--

Tsujioka, Hiroshi SW2-05 (P-127)	Uriu, Koichiro <b>SW2-01 (P-073)</b>	Watanabe, Tadayoshi SW1-06 (P-112)	Y Yagasaki, Rei <b>P-111</b>
Tsukano, Kohei OP6-03 (P-036)	Uryu, Outa P-063	Watanabe, Takahito P-042	Yaginuma, Hiroyuki P-069
Tsukazawa, Kazumi P-191	Usui, Tadao P-133	" P-057	Yaguchi, Junko OP3-02
Tsunekawa, Yuji S6-05	Usui, Toshiya P-056	" P-108	Yaguchi, Shunsuke <b>OP3-02</b>
Tsunogai, Yuuri P-118	Utsunomiya, Sosuke <b>OP9-10 (P-188)</b>	Watanabe, Tomoko <b>OP6-03 (P-036)</b>	Yakushiji-Kaminatsui, Nayuta <b>S4-05</b>
Tsuruo, Yoshihiro P-027	Vanderhaeghen, Pierre S6-06	Watanabe, Yuto P-105	Yamada, Gen OP7-09
Tsuyama, Taiichi P-001	<b>OP6-09 (P-025)</b>	Watari, Takuya <b>P-165</b>	" P-116
Tu, Wei-Ling P-096	W Wada, Hironori OP3-07	Weijers, Dolf <b>S2-02</b>	Yamada, Midori P-010
U Uchida, Misa P-033	Wada, Hiroshi OP3-10	Wen, Fu-Lai <b>S1-05</b>	Yamada, Sohei <b>OP9-08 (P-181)</b>
Uchikawa, Masanori OP2-09 (P-135)	Wada, Housei S1-05	" OP1-08 (P-083)	Yamada, Takayuki <b>P-177</b>
Ueda, Hitoshi <b>P-192</b>	" OP1-05 (P-085)	Wessel, Gary P-174	Yamagishi, Satoru OP5-07 (P-130)
Ueda, Masahiro OP9-10 (P-188)	" OP7-01 (P-117)	Whitwam, Tess P-079	Yamaguchi, Katsushi P-099
Ueda, Yoko S5-06	" P-067	Widelitz, Randall OP9-05 (P-059)	Yamaguchi, Nao P-122
Uemoto, Toshiaki P-170	Wakamatsu, Yoshio <b>OP6-01 (P-169)</b>	Wieschhaus, Eric <b>PL-2</b>	Yamaguchi, Yasuka OP6-07 (P-034)
Uemura, Akiyoshi P-184	Wang, Boshi P-068	Wittbrodt, Beate OP7-10	Yamakawa, Tomoko <b>OP9-01 (P-065)</b>
Uemura, Tadashi <b>P-001</b>	Wang, Miaoxing <b>P-185</b>	Wittbrodt, Joachim OP7-10	" P-066
" P-133	Wang, Qi OP6-02 (P-029)	" OP7-10	Yamamoto, Ikue SW2-07 (P-171)
Ueno, Naoto OP6-09 (P-025)	Wang, Tingting OP2-02	Wittbrodt, Jochen OP4-05	Yamamoto, Iroha OP5-07 (P-130)
" P-107	Wang, Wen OP3-05	Wohland, Thorsten OP9-07 (P-052)	Yamamoto, Takayoshi OP6-03 (P-036)
Uesaka, Masahiro P-174	" P-174	Wojno, Marta S6-06	Yamane, Mariko OP7-11 (P-178)
Umeda, Tetsuya P-004	" SW2-08 (P-172)	Wright, Danelle <b>P-019</b>	Yamasaki, Yasutoyo OP2-10 (P-144)
" P-170	Wang, Xian OP1-01 (P-081)	" P-024	Yamashiro, Takashi OP6-02 (P-029)
Umeshima, Hiroki S5-01	Wang, Yen-Ching OP1-08 (P-083)	Wu, Chenxi P-061	
Umesonon, Yoshihiko P-098	" <b>P-166</b>	" P-062	
	Watanabe, Akira P-145	Wu, Hsiao-Lin P-136	
	Watanabe, Masakatsu OP3-07	Wu, Yanran <b>OP6-02 (P-029)</b>	
	Watanabe, Naoki OP7-08 (P-124)	Wu, You S5-01	
		X Xue, Lei P-061	
		" P-062	

Yamashita, Jun K P-145	Yorinaga, Eriko OP2-08	Zheng, Tao <b>OP2-05 (P-018)</b>
Yamashita, Takahisa P-042	Yoshida, Hitoshi OP6-09 (P-025)	Zhou, Chuying S5-01
// <b>P-057</b>	// P-033	Zhou, Siyu <b>OP8-06 (P-159)</b>
Yamashita, Toshihide SW2-05 (P-127)	Yoshida, Junki <b>SW1-03 (P-050)</b>	Zhu, Min S5-03
Yamasu, Kyo OP5-09 (P-140)	Yoshida, Shosei <b>OP2-08</b>	
// P-074	// P-075	
Yamazaki, Masakazu OP4-02	Yoshida, Takuya S1-06	
Yanagi, Nodoka <b>OP7-04 (P-125)</b>	// <b>P-121</b>	
Yasuoka, Yuuri <b>OP3-04</b>	Yoshido, Kana OP2-08	
Yatsuzuka, Atsuki <b>OP1-11 (P-095)</b>	Yoshihi, Koya OP9-04 (P-002)	
Yeo, Inchul P-041	Yoshii, Yuka <b>P-015</b>	
Yew, Joanne P-017	Yoshimura, Akihiko P-180	
Yin, Jianmin S3-01	Yoshimura, Takashi OP2-08	
Yin, Yongjun S2-05	Yoshimura, Yuichi P-126	
Yip, Wing Ching OP9-02	Yoshinari, Yuto OP2-07	
Yokoi, Hayato P-055	Yost, H Joseph <b>OP7-06</b>	
// <b>P-088</b>	You, Li-Ru P-096	
Yokokawa, Ryuji P-119	Yu, Daqi OP3-05	
Yokoyama, Hitoshi OP4-08	Yuikawa, Tatsuya <b>P-074</b>	
// <b>OP8-05 (P-160)</b>	Yura, Shinnosuke P-134	
// P-051	Z	
Yoneda, Ryusei P-151	Zeng, Xiangsunze OP5-02	
Yonei-Tamura, Sayuri P-004	Zhang, Jidong OP2-02	
Yonekura, Takaaki <b>P-187</b>	Zhang, Yong OP3-05	
Yonemura, Shigenobu OP1-07 (P-003)	Zhao, Peng OP9-07 (P-052)	
// P-075	Zhao, Wei <b>P-114</b>	
Yorifuji, Iyo <b>SW2-05 (P-127)</b>		

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人工海水「マリンアート」は医薬品GMP (Good Manufacturing Practice) に準じた管理の下、富田製薬独自の粉体製造技術を活かし製造された理想的な人工海水です。



### 試験研究機関専用 (論文発表用として処方指示)

国立大学  
の実績多数

処方を示した試験・研究に最適な人工海水です。  
生物学的研究に、素材の毒性試験に、様々な分野で活用されています。

### MARINE ART SP-1

■海洋生物の孵化、藻類の培養及び培養用基剤  
■EDTA、塩素中和剤は処方しておりません。

※25L用×20袋(1ケース)

※単体売りについてはご相談下さい。



### 活魚の飼育に最適

高級科学  
の実績多数

### MARINE ART Hi

■各種海水魚の飼育、イソギンチャクなど無脊椎動物の飼育  
■カルシウム、ストロンチウム、ヨウ素を強化  
■pHの維持とすぐれた溶解性

※25L用×20袋(1ケース) / 100L用×5袋(1ケース)  
500L用×5袋(1ケース)



### クラゲ・無脊椎動物専用

水産部  
の実績多数

### MARINE ART BR

■試験研究機関向け(一般にも販売)  
■クラゲ・小さな無脊椎動物などの飼育、海洋生物の孵化  
■必須ミネラル、ビタミン類添加  
■無脊椎動物にとって有害な金属イオンをほぼ完全に除去  
※25L用×20袋(1ケース)

まずはお気軽にお問い合わせを

## TEL 072-726-1151

<https://www.yakken.co.jp/shopping/marine.html>



経年と関係の未来を拓く

大阪薬研株式会社  
<http://www.yakken.co.jp>

【本社】 〒562-0015 大阪府美面市稲5丁目13番10号 TEL:072-726-1151 FAX:072-726-1154  
【東京営業所】 〒273-0034 千葉県船橋市二子町565 TEL:047-302-3271 FAX:047-302-3270  
【滋賀営業所】 〒520-3047 滋賀県東海市手原4丁目7-13-101 TEL:077-553-8641 FAX:077-553-8646

事業内容

■ 医薬・医薬・理化学機器の販売 ■ 研究設備の製造販売 ■ 産業廃棄物・特別管理産業廃棄物収集運搬 ■ 不要ポンペの回収

あなたの研究をお手伝いします!

# 「研究機器オンライン」 (研究機器カタログ) 「受託オンライン」

製品情報の充実  
随時、追加・更新を  
行っております。

HPトップから  
一目でラクラク  
検索がワン!

気になる  
ワードで検索!

HPトップバナーから

研究機器オンライン トップへ!  
受託オンライン  
トップへ!

ワケンくん



## 研究機器オンラインの特徴

- 研究用途に合わせた検索もラクラク!
- 予算申請の金額に合わせた検索もラクラク!
- 予算申請に便利  
…指定範囲の金額で検索が可能に!
- あのメーカーの製品を  
…フリーワード検索やメーカーの絞り込み検索も可能!

## 受託オンラインの特徴

- 遺伝子発現解析や抗体作製から  
病理標本作製まで幅広い受託サービスを掲載。
- 研究用途から受託サービス検索  
…遺伝子工学、シーケンス解析、タンパク質工学などの  
カテゴリ検索!
- キャンペーン情報の確認も可能
- あのメーカーの受託サービスを  
…フリーワード検索やメーカーの絞り込み検索も可能!

和研薬の研究機器オンライン・受託オンラインは、  
PC、スマートフォンやタブレット端末からアクセス!

WEBサイト  
随時更新中

<https://www.wakenyaku.co.jp>

和研薬 検索



和研薬ホームページ

Immunohistochemistry

### 免疫組織染色

組織切片の作製から抗原の賦活化、ブロッキング、検出、封入までのプロトコルを掲載。

Cell Cultivation

### 細胞培養

培養からコンタミネーションの予防、細胞数の測定、凍結保存までのプロトコルを掲載。

Electrophoresis

### 電気泳動

核酸およびタンパク質の電気泳動について、ゲルの作製から染色、保存までのプロトコルを掲載。

Western Blotting

### ウェスタンブロッティング

転写からブロッキング、検出、ストリッピングまで、実験の流れに沿ってプロトコルを掲載。

# よく解る

nacalai tesque

The quality for certainty.



# 実験プロトコール

## 「解らない」が「解る」喜び。

ナカライテスクでは、実験方法・製品の使い分け・使用例・注意点・トラブルシューティングなどを合わせて掲載した4種類の「よく解る実験プロトコール」を用意しています。

● 無料でご請求いただけます。弊社 Web サイトからお申込みください。: <https://www.nacalai.co.jp/ss/Contact/JknProt.cfm>

ナカライテスク株式会社

〒604-0835 京都市中京区二条通烏丸西入東玉屋町 498

お問い合わせ

価格・納期のご照会

0120-489-552

製品に関するご照会

Web site : <https://www.nacalai.co.jp/ss/Contact/>  
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Webサイト

ナカライテスク

検索

または <https://www.nacalai.co.jp/>

# in-situハイブリダイゼーションシステム



InsituPro



InsituProVS

1998年の発売以来  
in-situ hybridizationの標準機と  
して定評のあるInsituProは現在  
第3世代 (InsituProVSi) です。

ホールマウントでは再水和からDIG抗体処理後の洗いまで、スライドではProK処理からDIG抗体処理後の洗いまでを完全自動化します。(60サンプル; 処理温度8-65°C) 免疫染色にも対応します。



InsituProVSi

<http://www.technosaurus.co.jp>



## エムエス機器株式会社

■東京 〒162-0805 東京都新宿区矢来町113 TEL:03-3235-0661  
■大阪 〒532-0005 大阪市淀川区三国本町2-12-4 TEL:06-6396-0501



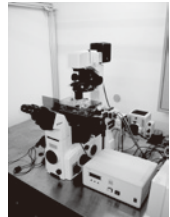
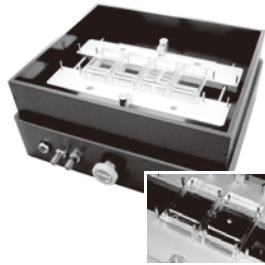
STREX, Inc.

# 物理的刺激による生体の感知・伝達・応答機構を解明 メカノバイオロジー研究に !!

なんでも  
ご相談  
下さい

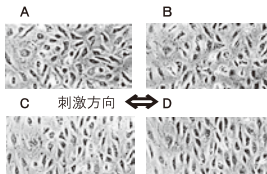
## メカニカルストレス負荷刺激装置 培養細胞伸展システム

細胞に伸展・圧縮刺激を与えながら培養することで生体内に近い環境を再現するため、静的培養とは異なる細胞の変化・応答が観察できます。



### 血管内皮細胞のストレッチ依存性形態変化

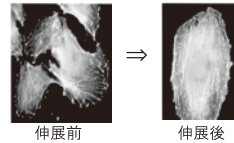
ストレッチチャンバー上（フィブロネクチンコート）で培養された細胞は、ストレッチ方向に対して垂直方向に細胞が配列する現象が経時的に観察されました。(C, D)。



Naruse et al. Am J Physiol, 1998, vol. 274, H1522

### 血管内皮細胞の2重蛍光染色像

伸展刺激後細胞骨格が再編成



点状構造はvinculin, 線状構造はF-actin



### 血圧/眼圧等、低圧力刺激での実験に !!

#### ガス圧力刺激装置 AGPシリーズ新発売 !

- 0~350mmHgの圧力範囲で、2種類の圧力設定が可能
- 連続加圧モード、加圧・減圧繰り返しモード
- CO2インキュベータ内に設置して長期間の加圧培養が可能
- 連続加圧モード時に自動ガス交換が動作

ストレックス株式会社

大阪市北区大淀中1-8-34 TEL 06-6131-9602

E-Mail : [info@strex.co.jp](mailto:info@strex.co.jp) <http://www.strex.co.jp>

※全ての装置でデモンストレーション・貸出可能です。その他ご希望システムの提案・設計も承ります。

ファスマック ゲノム編集サービス

# GenomeCraftシリーズ

高純度RNAをお届け。面倒な発現ベクター構築やRNA調製作業、アニリング操作も不要です。高活性変異型やMS2アプタマー付加等の改変ガイドRNAも承ります。



ガイドRNA



1

高濃度・高活性な製品をお手頃価格でご提供いたします。ガイドRNAと混ぜればすぐに使えます。遺伝子改変生物の作製やin vitroでのDNA切断に。



Cas9タンパク質



2



3

knock-in  
ドナーDNA

ssODNやプラスミドドナーベクター、今注目の長鎖一本鎖DNAまで幅広く承ります。ノックイン効率を高めるヌクレアーゼ耐性付加も可能です。



4

Genotyping



プライマー作製、DNA抽出、PCR、変異検出を行います。解析方法は電気泳動やサンガー解析、NGS解析等、ご要望に応じて提案します。

## DNA CRAFT

CRISPR/Casゲノム編集実験を  
トータルサポート。簡単便利で  
高品質なサービス  
をご提供いたします。

# FASMAC

より詳しい内容をお知りになりたい方はWebをチェック

ファスマック ゲノム編集



## 株式会社ファスマック ゲノム編集サービス

Mail:dnacraft@fasmac.co.jp TEL:046-281-9901



# The Company of Biologists

The Company of Biologists is a not-for-profit publishing organisation dedicated to supporting and inspiring the biological community. We are run by distinguished practicing scientists. We exist to profit science, not shareholders. We inspire new thinking and support the worldwide community of biologists.

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Development

Journal of  
Cell Science

Journal of  
Experimental  
Biology

Disease Models  
& Mechanisms

Biology Open

# HOW TO VIEW THE ONLINE ABSTRACT BOOK

52<sup>nd</sup> annual meeting organizing committee

The online abstract book is only available for viewing for meeting participants and JSDB members.

Access the Meeting website

<http://www2.jsdb.jp/kaisai/jsdb2019/>



HOME

- Information
- Schedule and Program
- Instruction for Presentations
- Registration
- Abstract submission
- Sponsors and Exhibition
- About Osaka & Hotel Accommodation
- About Nursery
- JSDB Travel Fellowship and VISA

THORLABS

**Dates** May 14-17, 2019

**Venue** [Osaka International House](http://www.ih-osaka.or.jp/english/access/)  
Access : <http://www.ih-osaka.or.jp/english/access/>  
Google Map : <https://goo.gl/maps/Gds3gJ8F9g>

**President** Hiroki Nishida (Osaka Univ.)

**Language** May 14 (in Japanese and English)  
May 15-17 (in English)



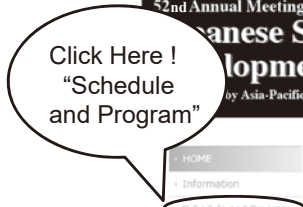
## Important Dates

Registration and submission of abstracts start: January 5, 2019  
Abstract submission deadline: ~~January 18, 2019~~ January 28 (Mon), 2019 (Japan Time 18:00)  
Pre-Registration deadline: April 5, 2019

## What's New

2018/01/28 Abstract submission has been closed.  
2018/01/18 Extended deadline for Abstract submission. (Final deadline : January 28 (Mon) 18:00JST)

Click on “Schedule and Program” from the menu bar on the left side of the page.



52nd Annual Meeting of the  
**Japanese Society of Developmental Biologists**  
by Asia-Pacific Developmental Biology Network

HOME  
Information  
**Schedule and Program**  
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THORLABS

Dates: May 14-17, 2019  
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Access : <http://www.ih-osaka.or.jp/english/access/>  
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Scroll through the program page and click on a program title of interest.

Plenary Lectures

May 20 (Fri) 9:00-11:30 Room A

**Plenary Lectures**  
Chairpersons: Tesuya Tabata (Univ. of Tokyo), Shigeru Nakagawa (RIKEN)

**PL-01: Hedgehog Signaling in Development and Disease**  
09:00-10:15  
Matthew Scott (Stanford University School of Medicine)

**PL-02: The development of the eye and zebrafish retinas**  
10:15-11:30  
William Harris (University of Cambridge)

Go to top

Symposia

DATE: May 19 (Thu) 9:00-11:30 Room A



**MEMO**

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Edited by Organizing Committee of the 52nd Annual Meeting of JSCB (2019)

URL: <http://www.jsdb.jp/kaisai/jsdb2019>

E-mail: [jsdb2019@jsdb.jp](mailto:jsdb2019@jsdb.jp)

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