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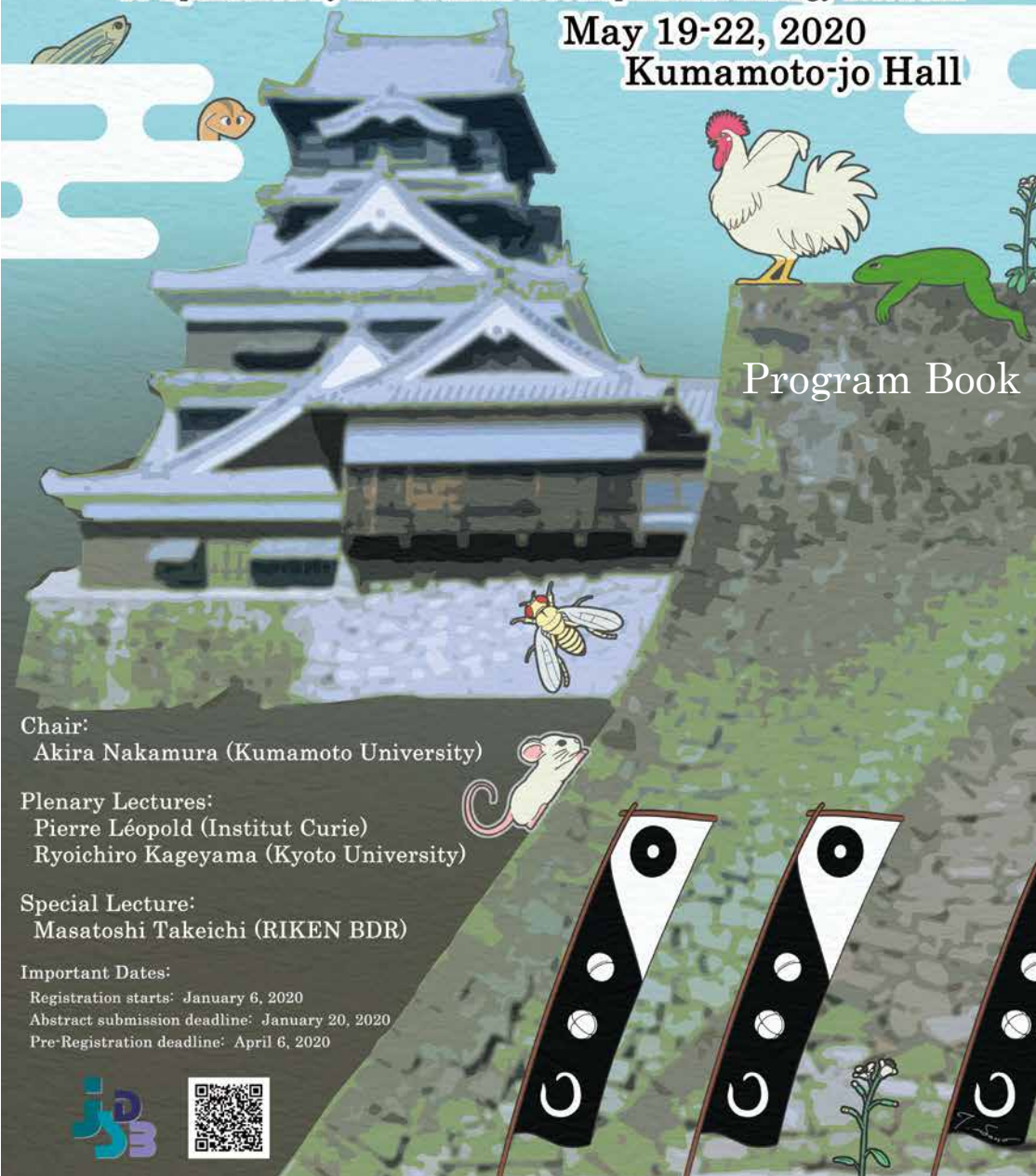
53rd Annual Meeting of the Japanese Society of Developmental Biologists Program Book

May 19-22, 2020 KUMAMOTO

53rd Annual Meeting of the Japanese Society of Developmental Biologists

Co-Sponsored by Asia-Pacific Developmental Biology Network

May 19-22, 2020
Kumamoto-jo Hall



Program Book

Chair:

Akira Nakamura (Kumamoto University)

Plenary Lectures:

Pierre Léopold (Institut Curie)

Ryoichiro Kageyama (Kyoto University)

Special Lecture:

Masatoshi Takeichi (RIKEN BDR)

Important Dates:

Registration starts: January 6, 2020

Abstract submission deadline: January 20, 2020

Pre-Registration deadline: April 6, 2020



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ログイン

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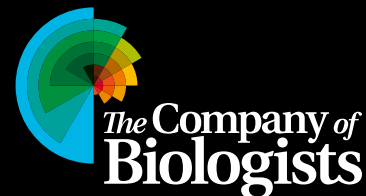
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Development

Journal of
Cell Science

Journal of
Experimental
Biology

Disease Models
& Mechanisms

Biology Open

Welcome to the 53rd Annual Meeting of the JSDB in Kumamoto !

On behalf of the meeting committee, I am happy to announce you that the 53rd JSDB meeting, cosponsored by the Asia Pacific Developmental Biology Network (APDBN) will be held in Kumamoto in 19-22 May 2020.

As you may remember, the 49th meeting was to be held in Kumamoto in May 2016, but we had to cancel it because a series of strong earthquakes hit Kumamoto area only a month before the scheduled dates. Thanks for your endless support and encouragement, our research environment has been recovered from the destruction of the quakes. Also, the city's infrastructure has been mostly restored. Therefore, to organize this 53rd meeting in Kumamoto will be our comeback attempt.

Kumamoto is located in Kyushu, and can be accessed by air (via Kumamoto Airport or Fukuoka Airport) and by Kyushu Shinkansen bullet train (from Shin-Osaka, about 3 hours). The meeting venue, Kumamoto-Jo Hall is a newly constructed, state-of-the-art convention center. All the events (plenary lectures, symposia, oral and poster presentations, and company's exhibition) can be held on the same floor.

Upon attending the meeting, you will enjoy nice foods, beautiful scenes and historical architectures in the Kumamoto area. In addition, you will view the progress on the reconstruction of Kumamoto Castle, including its famous stone walls (mushagaeshi; see our meeting poster).

The meeting committee members aim to maximize opportunities for all participants to exchange scientific information and ideas. For this purpose, we would like to encourage oral presentation speakers to present their posters for further discussion. To make the 2020 meeting very informative, attractive and exciting, I would like to ask all the society members for active participation in the meeting.

I very much look forward to seeing you in Kumamoto!

A handwritten signature in black ink, reading 'Akira Nakamura' in a cursive style.

Akira Nakamura

Chair of the 2020 JADB/APDBN meeting organizing committee

Contents

Welcome Messages	1
Acknowledgement of Sponsorship	4
Organizing Committee	5
Access Guide to Kumamoto-jo Hall	6
Floor Maps of Kumamoto-jo Hall	11
Program at a Glance	12
General Information for Attendance	16
DGD Editorial Meeting & JSDB Board Meeting	18
Reception	18
JSDB Dr. Tokindo Okada Foundation (in Japanese)	19
Luncheon Seminars	20
Nursery	24
Instruction for Speakers	25
Scientific Programs	
Special Lecture	35
Plenary Lectures	36
Symposia	38
Mini-Symposiums	49
Technical seminar	53
Oral Presentations	56
Poster sessions	75
Satellite Workshops (in Japanese)	109
Career Path Workshop (in Japanese)	112
Author Index	113
Exhibitor Index	
Advertisements	
How to view the online abstract book	

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	11
日程表	12
参加者へのご案内	16
DGD 編集委員会・JSDB 理事会	18
懇親会	18
日本発生生物学会 岡田節人基金（日本語）	19
ランチョン・セミナー	20
託児所	24
大会発表についてのご注意	25
プログラム	
スペシャル・レクチャー	35
プレナリー・レクチャー	36
シンポジウム	38
ミニシンポジウム	49
テクニカルセミナー	53
口頭発表	56
ポスター発表	75
サテライトワークショップ（日本語）	109
キャリアパスワークショップ（日本語）	112
発表者氏名索引	113
展示企業一覧	
広告	
WEB 要旨集 閲覧方法	

Acknowledgements of Sponsorship

The organizing committee of 53rd Annual Meeting of JSDB gratefully acknowledges the generous financial support of the following:

Sponsors

The Naito Foundation

The Company of Biologists

Tsutsumi - Chemi Inc.

Institute of Molecular Embryology and Genetics, Kumamoto University

Organizing Committee

Chairperson:	
Akira Nakamura	Kumamoto University
Members:	
Katsuhiko Hayashi	Kyushu University
Keiichiro Ishiguro	Kumamoto University
Erina Kuranaga	Tohoku University
Ryuichi Nishinakamura	Kumamoto University
Hitoshi Niwa	Kumamoto University
Kunimasa Ohta	Kumamoto University
Hiroko Sano	Kurume University
Yuki Sato	Kyushu University
Kenji Shimamura	Kumamoto University
Kaoru Sugimura	Kyoto University

Access guide to Kumamoto-jo Hall

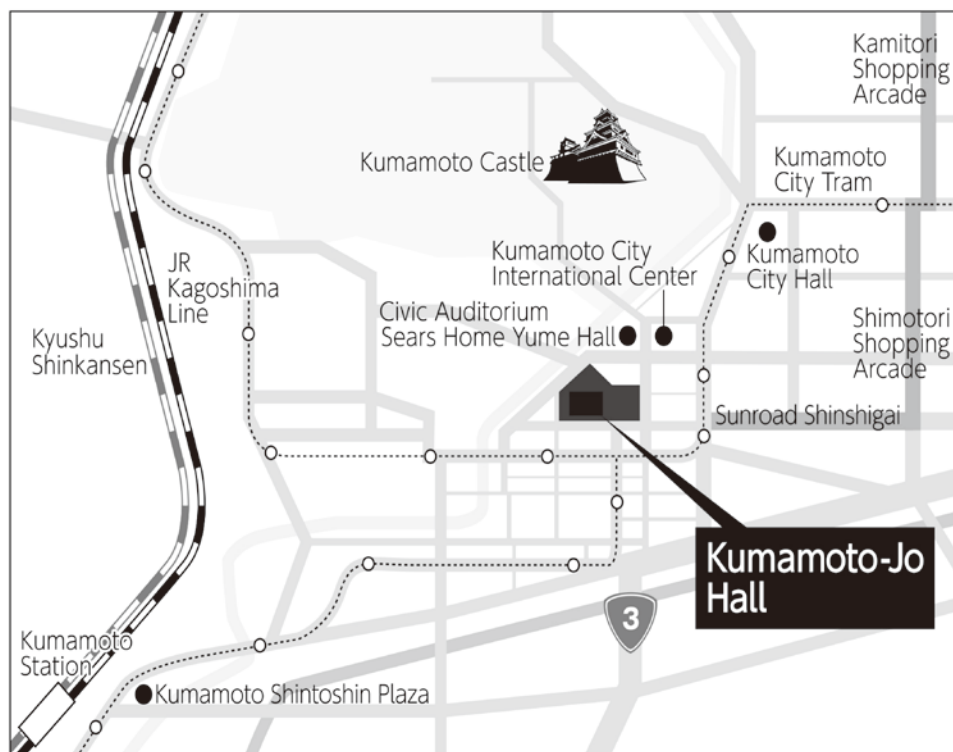
<https://www.kumamoto-jo-hall.jp/> (in Japanese)



<https://www.kumamoto-jo-hall.jp/en/> (in English)



google map <https://goo.gl/maps/5gUZLPbU29tWLUum6>



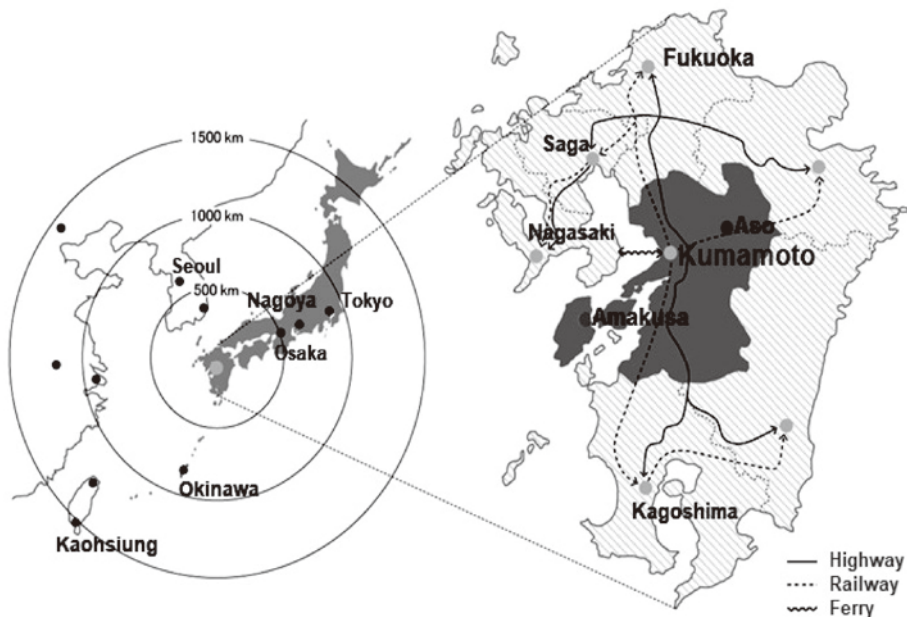
Flight

Tokyo~95 min. Nagoya~75 min.
Osaka~65 min. Okinawa~85 min.
Hong Kong~240 min Kaohsiung~150min.



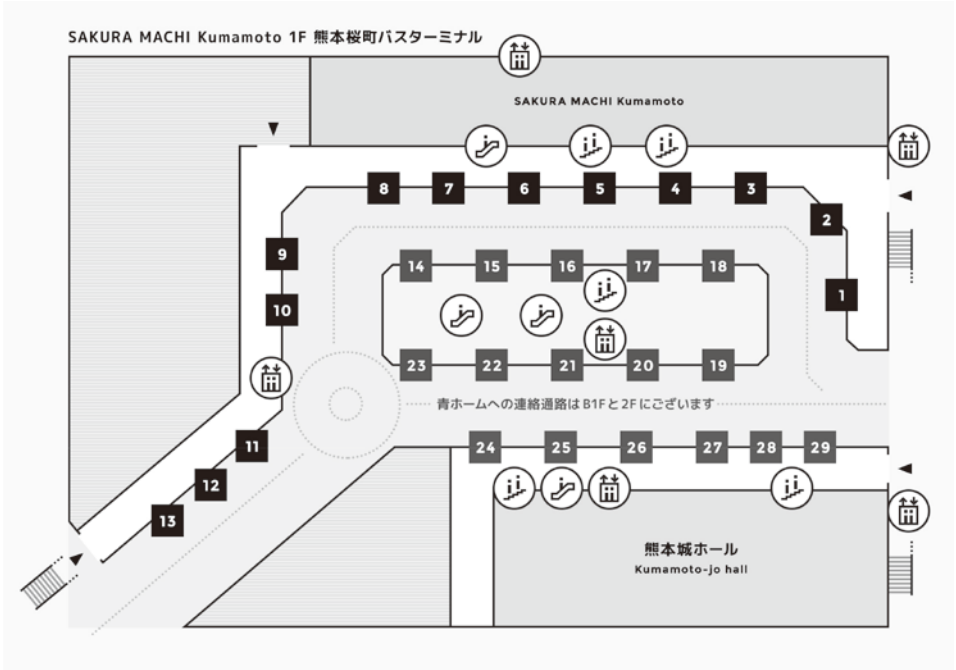
Kyushu Shinkansen

Fukuoka~Kumamoto 33 min.
Kagoshima~Kumamoto 45 min.
Shin Osaka~kumamoto 3 hours



Bus Terminal

Kyushu Sanko Bus https://kyushubusbooking.com/ 	Kumamoto Electric Railway https://www.kumamotodentetsu.co.jp/en/ 
Kumamoto Toshi-Bus (in Japanese) https://www.kumamoto-toshibus.co.jp/ 	Kumamoto Bus (in Japanese) https://www.kuma-bus.co.jp/bustime/ 



About a bus timetable of each NORI BA. Please see each bus company website.



Kyushu
sankou bus



Kumamoto
electric
railroad bus



Miyako
Kumamoto
city bus



Kumamoto
bus

Expressway bus, Kumamoto Airport Kumamoto Station and Minamikumamoto District

1 Route number :M and P

Minami Kumamoto Tamukai Kumamoto of AEON Mall District.

The main destination

Jonan Mifune Kosa Tomochi Hama-cho (Yabe) Nagamizo apartment complex.

3 Route number :S

Kumamoto Station Kumamoto harbor Rendai-ji Namitate District.

The main destination

Shirato Kawaguchinishi part depot Aqua dome Saiseikai hospital.

5 Expressway bus High-speed bus Tour bus.

Each Kyushu prefecture Amakusa Hitoyoshi Kumamoto castle District.

The main destination

Nagasaki Sasebo Hitoyoshi Miyazaki Kagoshima Amakusa and Hondo.
Kumamoto castle (Kumamoto castle tour bus)

7 Expressway bus

Fukuoka District.

The main destination

Hakata and Tenjin Fukuoka Airport

2 Route number :P

University hospital Ryutsudanchi Hachioji (the tour of Minamikumamoto) District.

The main destination

Going out Kibe Nogoshi apartment complex Saiseikai hospital The center hospital

4 Route number :T and S

Kumamoto Station Tazaki market An islet District.

The main destination

Kasuga school Western car shed Nakashima and five pieces Kochi Nishi-ku government office Headquarters business office.

6 A limousine bus Limited Express bus Night bus.

Kumamoto Airport Aso Kurokawa Onsen Takachiho District.

The main destination

Kumamoto Airport and Takamori Nobeoka and Takachiho Aso and Oita Kurokawa and Yufulin Beppu Kobe, Osaka and Kyoto

8 Special

Special bus stop

[illegible]

● Travel time from Fukuoka to Kumamoto

Express Bus ~ 2h

Super Express ~ 20-50m

1 Tokyo/Matsumoto ~ 1h 40min

2 Nagoya/Kanagi ~ 1h 20min

3 Osaka/Kobe/Japan International Airport ~ 1h 10min

4 Osaka International Airport/Matsuyama ~ 1h 10min

5 Oita/Kanagi ~ 1h 10min

6 Amakusa ~ 20min

7 Sendai/Tohoku ~ 1h 30min

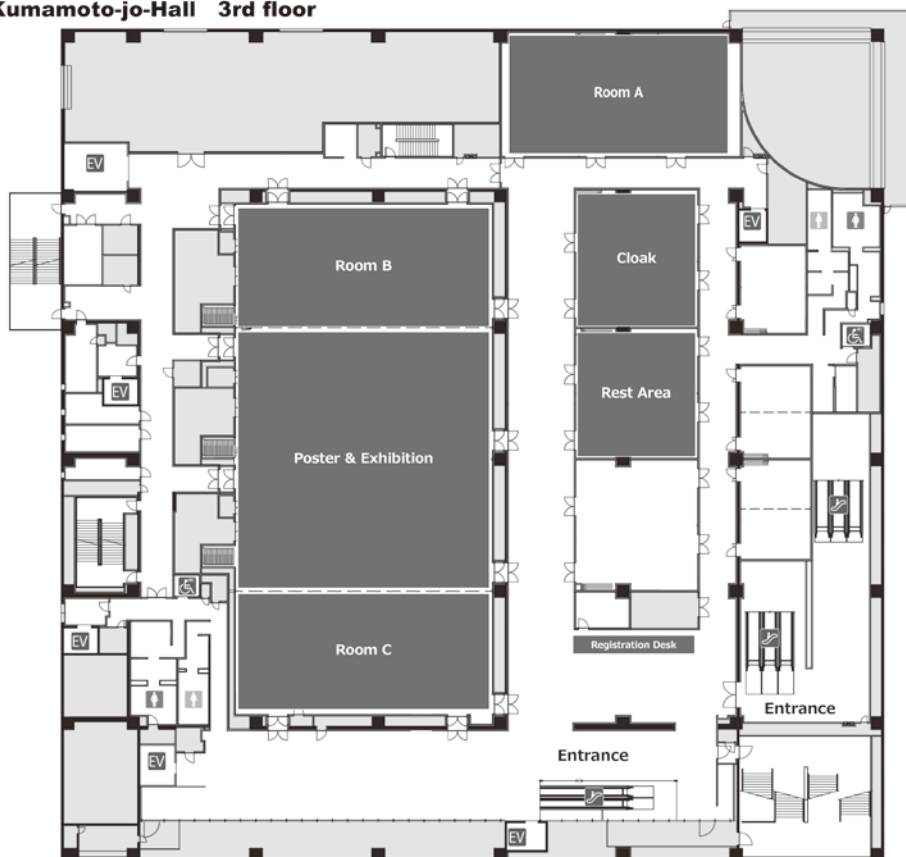
Access to Kumamoto by Air

Access to Kumamoto by Land

[illegible]

Floor Map

Kumamoto-jo-Hall 3rd floor



Program at a Glance

Day 1 (May 19 (Tue))

	11:00–15:30	15:00–16:00	16:30–19:00
Room A		Satellite Workshop 1 (in Japanese) Early embryogenesis + Morphogenesis & Organogenesis	Technical seminar “The chick: an Outgrowing Model Animal beyond Classical Developmental Biology” (in English)
Room B		Satellite Workshop 2 (in Japanese) Patterning + Regeneration	Mini symposium 1 “Developmental Toxicology and toxicogenomics” (in English)
Room C		Satellite Workshop 3 (in Japanese) Stem cells + Neural Development + Technologies & Resources	Mini symposium 2 “The cerebellum through its neuronal circuitry: From Evolution, Development and Human model” (in English)
Meeting room	DGD Editorial Meeting & JSDB Board Meeting		

Day 2 (May 20 (Wed))

	9:00-11:30	11:45-12:45	13:00-16:00	16:00-18:45
Room A	Symposium 1 “Genomic Inference of Gene Regulatory Networks Underlying Development, Regeneration, and Evolution”	Luncheon Miltenyi Biotec		OP 04 Morphogenesis (2)
Room B	Symposium 2 “Towards understanding the developmental logic of human and primate uniqueness”	Luncheon Carl Zeiss Co., Ltd.		OP 05 Neural Development (2)
Room C	Symposium 3 “Developmental mechanisms underlying sexual reproduction”			OP 06 Evolution (2) & Early Embryogenesis
Poster & Exhibition	Poster Mounting		Poster Session A: 13:00~14:00 B: 14:00~15:00 C: 15:00~16:00	
	Equipment			

Day 2 (May 21 (Thu))

	9:00- 10:40	11:00-12:00	12:15-13:00	13:30-14:45	15:00-16:15	16:40-17:40	18:00-
Room A	Plenary Lecture (Broadcast video in Room B and Room C)		General Assembly	OP 07 Morphogenesis and Organogenesis (3)	OP 10 Morphogenesis and Organogenesis (4)	Special Lecture (Broadcast video in Room B and Room C)	Reception
Room B				OP 08 Evolution	OP 11 Regeneration		
Room C				OP 09 Early Embryogenesis	OP 12 Stem cells (1)		
Poster & Exhibition		Poster Discussion Odd Number					
	Equipment						

Reception Venue: **LAZOR GARDEN KUMAMOTO** (SAKURA MACHI Kumamoto 5F)

Day 3 (May 22 (Fri))

	9:00-10:45	11:00-12:00	12:00-13:00	13:30-16:00
Room A	OP 13 Stem cells (2)		Luncheon Shimadzu	Symposium 4 “Fetomaternal interactions in development”
Room B	OP 14 Growth and Metabolism & Disease Models and Mechanisms			Symposium 5 “From collective cell behaviors to tissue morphogenesis”
Room C	OP 15 Patterning		Career Path Workshop (in Japanese)	Symposium 6 “Stem-ness across plant and animal kingdoms ～ their similarities and differences ～”
Poster & Exhibition		Poster Session Even Number	Poster Removal	
	Equipment			

General Information for Attendance

Venue

Kumamoto-jo Hall

2-17, Sakuramachi, Chuo-ku, Kumamoto-city, Kumamoto, 860-0805, Japan

Phone: +81-96-312-3737 Fax: +81-96-312-3738

URL https://www.kumamoto-jo-hall.jp/en/	Google map https://goo.gl/maps/5gUZLPbU29tWLUum6
	

Official Language

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

The Satellite Workshop (May 19) 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: ¥12,000 (early ¥10,000)

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

General Non-members: ¥15,000 (early ¥12,000)

Student Non-members: ¥5,000 (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 21 (Thursday), 12:15-13:00, Room A

Payment

All payment must be made in Japanese yen, by credit card or by bank draft, payable to "The 53rd 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 (Poster Room).

Lunch

May 20 (Wed) & May 22 (Fri): At the luncheon seminar, a limited number of free lunch boxes will be provided by sponsors.

Refreshments and Internet Access

Refreshments and Internet Access

Break corners are associated with Rest Area.

WiFi is available in all floors. Login information will be posted at the **registration desk**.

Registration Desk

Open Hour:

May 19 (Tue)	May 20 (Wed)	May 21 (Thu)	May 22 (Fri)
14:00-18:00	8:15-18:00	8:15-18:00	8:15-15:00

Location: **Kumamoto-jo Hall 3F Foyer**

Cloakroom

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 19 (Tue)	May 20 (Wed)	May 21 (Thu)	May 22 (Fri)
14:00-19:30	8:15-19:30	8:15-20:30	8:15-16:45

Location: **Kumamoto-jo Hall 3F Cloakroom**

Photography / Recording

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



DGD Editorial Meeting & JSDB Board Meeting

May 19 (Tue) 11:00-15:30

Meeting room.

Reception

May 21 (Thu) 18:00-20:00

LAZOR GARDEN KUMAMOTO (SAKURA MACHI Kumamoto 5F)

Reception fee (On-site) (JPY)

General JSDB/ISDB/APDBN members: ¥9,000 (early ¥8,000)

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

General Non-members: ¥9,000 (early ¥8,000)

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

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。

なお、岡田節人基金 若手研究者海外交流（派遣）助成は学会指定の会議のみを対象とした制度ではありません。学会員から任意の国際会議等を対象に随時申請が可能です。

連絡先：事務局 (jsdbadmin@jsdb.jp)

Luncheon Seminars Schedule

	Date	Time	Room	Sponsor
1	May 20 (Wed)	11:45～12:45	Room A	Miltenyi Biotec (in Japanese)  (P21)
2	〃	〃	Room B	Carl Zeiss (in Japanese)  (P22)
3	〃	〃	Room C	キャリアパスワークショップ (in Japanese) (P112)
4	May 22 (Fri)	12:15～13:15	Room A	Shimadzu (P23)

Miltenyi Biotec ランチョンセミナー

=Luncheon Seminar (in Japanese) by Miltenyi Biotec.=

May 20 (Wed) 11:45-12:45, Room A

【3次元組織学の原理解明と臓器スケール3次元イメージングへの応用】

洲崎悦生^{1,2}

¹ 東京大学大学院医学系研究科 システムズ薬理学教室

² 理化学研究所生命機能科学研究センター 合成生物学研究チーム

【要旨】

多細胞生物は多様な細胞種から構成され、相互に結合・連絡を行いながらシステムとして機能している。個体レベルの生命機能や疾患のメカニズムはこれらの多細胞システムに実装されており、細胞・細胞ネットワークの網羅的な観察技術が求められていた。このような観点から、我々は組織透明化技術と高速な3次元光学顕微鏡を組み合わせ、臓器・全身を数 μm ～数10 μm の解像度で3次元観察し、細胞や細胞ネットワークの情報を解析するセルオミクスパイプライン「CUBIC」の開発を進めている。

セルオミクスの研究スキームにおいて、3次元組織学は細胞や細胞ネットワークをラベリングし可視化するために有用なツールである。しかし、mmオーダー以上の組織中に染色剤や抗体を浸透させることは容易ではなかった。近年、我々は生体組織をある種のマテリアルとしてみなすことで詳細な物理化学的物性を解明し、この物性に基づいて重要なパラメーターや染色条件を広くスクリーニングすることに成功した。これらの必須条件を組み合わせ、3次元組織染色と3次元イメージングのための新技術「CUBIC-HistoVIsion (CUBIC-HV)」を構築した。CUBIC-HVはマウス全脳、マーマセット半脳等の大型3次元組織を多種類の抗体や核染色剤でラベリングし、多様な細胞・細胞ネットワーク、およびそれらの臓器内構造を可視化させることを可能とした。収集した画像データは続く画像解析に十分使用できる質が担保されており、我々はマウス全脳の様々な細胞位置を検出し定量解析することにも成功した。本技術はマルチチャンネル・マルチモダリティな臓器スケールの3次元細胞解像度観察や細胞回路全体の構造・機能解析を可能とし、多細胞システムを全臓器・全身で解明するための新たな技術基盤となると期待される。

主要な参考文献：

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第53回 発生生物学会・アジア太平洋発生生物学会
国際合同大会

ランチョンセミナーのご案内

直接イオン化質量分析による 微量サンプル測定と分布情報解析 最新分析ソリューションの紹介

日 時 2020年5月22日 12:15 ~ 13:15

会 場 熊本城ホール Room A

講 演 直接イオン化質量分析による微量サンプル測定と分布情報解析
緒方是嗣(株式会社島津製作所)

質量分析法を用いたメタボロミクス解析は、アミノ酸や核酸、有機酸などの代謝物を網羅的に解析することで生命現象を解析する手法であり、近年、様々な生命科学研究分野において活用されています。本セミナーでは、発生生物学分野の研究において特に強みを発揮する二つの質量分析法を紹介します。イメージング質量分析法は、顕微鏡で観察するように、代謝物の分布情報を組織形態をたもったまま、5-20 μm の解像度で可視化することができる解析法です。一方、直接イオン化質量分析法は、サンプルに含まれる代謝物を直接イオン化し測定することにより、微量サンプルからでも、高感度かつリアルタイムな代謝物変化のモニタリングを実現します。

組織の形態情報の重要性が高く、生体内の少数細胞を研究対象とする発生生物学において、代謝物質測定はこれまで困難を伴いました。私たちは、これらの質量分析法が従来の発生生物学研究と組み合わせることで、発生生物学と代謝科学の接点となる世界を見出し、新しいパラダイムシフトを生み出すことができますと信じています。

本セミナーでは、非常に微量のサンプルから簡単に質量分析を行うことができ、リアルタイム解析も可能なDPIIMS-8060/2020と、顕微鏡と質量分析計を組み合わせた顕微質量分析計について紹介します。

お問合せ

(株)島津製作所 分析計測事業部 グローバルマーケティング部
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日本発生生物学会第 53 回大会 託児のご案内

開設日時	2020 年 5 月 20 日（水） 8:30～19:00 2019 年 5 月 21 日（木） 8:30～18:30 2019 年 5 月 22 日（金） 8:30～16:30
託児人数	3 名程度／各日
対象年齢	生後 6 ヶ月～就学前まで
場 所	くまもと城下町保育園 〒 860-0805 熊本県熊本市中央区桜町 3 番 10 号 SAKURA MACHI Kumamoto 5F
委 託 先	有限会社 IQ キッズ 企業主導型保育施設の一時保育枠のご利用となります。
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 ※開設時間以外の延長料金は除きます。 ※支払いは、学会受付にて JSDB 事務局にお支払いください。
申込方法	■ WEB 予約 https://forms.gle/TVjcBnEXPWUaj3rZ9 以下の項目をお伝え下さい。 1. 託児希望日時（例：5 月 20 日 8:30～19:00） 2. 保護者氏名（よみがな） 3. 保護者連絡先（携帯電話番号＋メールアドレス） 4. 保護者所属機関名 5. 保護者会員番号 6. お子様の名前（よみがな）・性別 7. お子様の年齢（○歳○か月） 8. お子様のアレルギーの有無 9. 夕食および夕補食（軽食）の要不要（5/20、5/21 のみ）【詳細は下記を参照ください】 10. その他託児上の注意点 【夕食および夕補食とは】18 時すぎに夕食（440 円）および夕補食（軽食）（110 円）対応を行っております。こちらの分は一預かり保育料には含まれておりませんので別途お支払いが必要です。 ※お子様が 2 名以上の場合でお預けになる時間が同じ場合は、「お子様の名前（よみがな）・性別」を列記いただいても大丈夫です。ただし、お預けになる時間が異なる場合は、お子様毎に入力いただけますと助かります。
申込締切	2020 年 4 月 20 日（月） ※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	損害保険 ジャパン日本興亜株式会社の一対対応型のイベント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。 一般社団法人日本発生生物学会といたしましては、一時保育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。

Instruction for Presentations

大会発表についてのご注意

Oral Presentation

1. Computer for oral presentation

Presentation should be given with your own PC connected to switcher next to the podium.

- **Make sure to bring any necessary electrical adaptors and connectors for your computer.**
- The meeting venue will provide Mini D-sub15 pins and HDMI cables 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.
- The electricity runs on 100 volts and 60 hertz in Kumamoto.
- **The screen ratio is 4:3. DO NOT use the 16:9 layout for your presentation.**

2. Presentation registration

Please come to your session room **at least 20 minutes prior to your 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

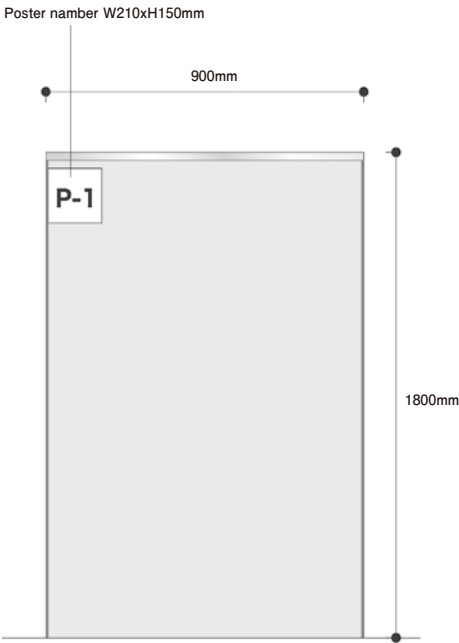
Poster board size: **900** mm (width) x **1800** mm (height)

- ◆ Please leave a 210 mm x 150 mm blank space from the top left corner for the organizing committee to indicate your poster number.
- ◆ Please stay (or stand) in the vicinity of your poster during your assigned discussion time. Be sure that every poster presenter is assigned to give explanations his/her poster on Day2 and on Day3 or Day4.

Mounting:	9:00-13:00 on Day2 (May 20 (Wed))
Day2 (May 20 (Wed)) Discussion:	13:00-14:00 for A number posters 14:00-15:00 for B number posters 15:00-16:00 for C number posters
Day3 (May 21 (Thu)) Discussion:	11:00-12:00 for Odd number posters
Day4 (May 22 (Fri)) Discussion:	11:00-12:00 for Even number posters
Removal:	12:15-13:15 on Day4 (May 22 (Fri))

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.



Scientific Programs

Special Lecture

May 21 (Thu) 16:40-17:40 Room A (Broadcast video in Room B and Room C)

Chairperson: Shinichi Nakagawa (Hokkaido Univ.)

SL 16:40-17:40 Cell-cell adhesion machinery important for self-organization of tissues

○Masatoshi Takeichi (RIKEN BDR)

Animal body is a collective of diverse cell types, each of which organize into tissue-specific structures. Early studies in developmental biology suggested that tissue formation is a self-organizing system. Modern experiments using ES cells further demonstrated that organs can autonomously be built from stem cells even in vitro, confirming the self-organizing ability of animal cells. While numerous mechanisms are supposed to be involved in tissue formation, one fundamental process is to keep cells in contact with others, as, without it, multicellularity cannot be achieved. Extensive efforts have been made to understand how cells assemble, identifying an adhesion machinery constructed by cadherins and cytoskeletal factors. Importantly, the machinery thus identified is important not only for physical connection of cells but also for dynamic regulation of cell behavior, such as cell sorting, rearrangement, migration and so on. In this presentation, I would like to give an overview of how this field has advanced, and then discuss the molecular roles of cell-cell adhesion machinery in various behavior of animal cells, which is crucial for body construction.

Plenary Lectures

May 21 (Thu) 9:00-10:40 Room A (Broadcast video in Room B and Room C)

Chairperson: Jun Hatakeyama (Kumamoto University)

PL-1 09:00-09:50 Dynamic transcriptional control of neural stem cells

神経幹細胞のダイナミックな転写制御

○Ryoichiro Kageyama^{1,2} (IFLMS, Kyoto U¹, iCeMS, Kyoto U²)

Somatic stem/progenitor cells are active in embryonic tissues but mostly quiescent in many adult tissues. The detailed mechanisms that regulate active versus quiescent stem cell states are largely unknown. In active neural stem cells (NSCs), Hes1 expression oscillates by negative feedback, which drives cyclic expression of proneural genes such as Ascl1 and Neurog2. While sustained expression of Ascl1 induces neuronal differentiation, oscillatory expression of Ascl1 activates proliferation of NSCs, suggesting that oscillations are important for active NSCs. Indeed, when Hes1 oscillations are dampened, proliferation of NSCs is impaired, which causes microcephaly. By contrast, in quiescent NSCs in the adult brain, Hes1 levels are higher than those in active neural stem cells, causing Ascl1 expression to be continuously suppressed. Furthermore, induction of sustained Hes1 expression represses Ascl1 and maintains quiescent NSCs, whereas inactivation of Hes1 and its related genes up-regulates Ascl1 expression, increases neurogenesis transiently, and depletes NSCs. Conversely, induction of Ascl1 oscillations activates NSCs and increases neurogenesis in the adult brain. Thus, Ascl1 oscillations, which normally depend on Hes1 oscillations, regulate the active state, while high Hes1 expression and resultant Ascl1 suppression promote quiescence in NSCs. We also found that the oscillatory expression of a proneural gene regulates the timing of neuronal differentiation. I will discuss the significance of gene expression dynamics in neurogenesis.

Ascl1, Hes1, neural stem cell, oscillation, proneural gene

Chairperson: Hiroko Sano (Kurume University)

PL-2 09:50-10:40 Systemic control of organ size in *Drosophila*
L. Boulan, D. Obregon, R. Vijendravarma, [○]Pierre Leopold (Institut Curie)

Body and organ size are intrinsic properties of living organisms and are intimately linked to the developmental program to produce fit individuals with proper proportions. An aspect of growth control and size determination has emerged recently with the re-evaluation of classical studies on transplantation and tissue regeneration, raising outstanding questions about the determination of final tissue size, the cessation of growth and the coupling between tissue growth and the developmental program. Using the *Drosophila* model, we identified a neural circuitry that is required for inducing a developmental delay in conditions of tissue growth impairment, whereby the hormone Dilp8 delays maturation by acting on its receptor Lgr3 in specific brain neurons, preventing the production of the steroid hormone ecdysone. Interestingly, animals lacking Dilp8 show increased developmental noise, characterized by strong intra- and inter-individual variations in organ size. I will present our recent data addressing the mechanisms of action of this novel hormonal circuit controlling both the coupling between organ growth and developmental time, as well as the determination of accurate final organ size.

Symposia

Symposium 1 : Genomic Inference of Gene Regulatory Networks Underlying Development, Regeneration, and Evolution

DATE: May 20 (Wed) 9:00-11:30 Room A
Chairpersons: Yuuri Yasuoka (RIKEN IMS)
Masahiro Uesaka (RIKEN BDR)

Genomics approaches have improved our understanding of developmental and regenerative processes of multicellular organisms, at levels of regulatory networks involving various number of genes. Currently, integrative trans-omics approaches are becoming crucial to discover novel principles of gene regulation and cell differentiation. In this symposium, we invited speakers exploring the overview of gene regulatory networks using various model systems (vertebrates, invertebrates, and plants) for the massive data analysis (e.g. single-cell, time-course, and so on). On the basis of their talks, we would like to discuss about the “predictability” of genotypes, phenotypes, and evolution, as a next direction of the developmental biology.

Co-organized by : (tentative) Grant-in-Aid for Scientific Research on Innovative Areas — “Evolutionary theory for constrained and directional diversities”

09:00-09:03 Introduction

S01-1 09:03-09:23 Genome-wide Measurement for Fluctuation of Gene Regulatory Networks in *Xenopus* embryos

ツメガエル胚初期発生における遺伝子制御ネットワークの揺らぎ測定

○Yuuri Yasuoka (RIKEN IMS)

S01-2 09:23-09:48 Pruning developmental gene regulatory networks using linked self-organizing maps

○Ken Cho (UC Irvine)

S01-3 09:48-10:08 Comparative transcriptomic approaches toward understanding the evolution of a drastic phenotypic plasticity of leaf in amphibious plants

水陸両生水草の葉が示す劇的な表現型可塑性の進化の理解に向けた比較トランスクリプトームアプローチ

○Hiroyuki Koga (Univ. Tokyo)

- S01-4** 10:08-10:33 Regulatory cocktail for dopaminergic neurons in ascidian identified by single cell transcriptomics
 単一細胞トランスクリプトーム解析によるドーパミンニューロンの分化を制御する転写因子カクテルの同定
 ○Takeo Horie (SMRC, Univ of Tsukuba)
- S01-5** 10:33-10:53 Using single-cell transcriptomics to understand acoel stem cell dynamics during post-embryonic development and whole-body regeneration
 ○Yi-jyun Luo, Lorenzo Ricci, Ryan Hulett, Mansi Srivastava (OEB, Harvard Univ.)
- S01-6** 10:53-11:08 The epigenetic basis for positional memory during Axolotl limb regeneration
 脊椎動物の四肢再生における位置記憶のエピゲノム制御
 ○Akane Kawaguchi, Siegfried Schloissnig, Sergej Nowoshilow, Elly Tanaka (IMP)
- S01-7** 11:08-11:28 Testing the recapitulative pattern in vertebrate embryogenesis from the perspective of gene regulation
 遺伝子制御の理解から目指す脊椎動物胚発生における反復的パターンの検証
 ○Masahiro Uesaka¹, Shigeru Kuratani¹, Hiroyuki Takeda², Naoki Irie² (RIKEN BDR¹, Univ. of Tokyo²)
- 11:28-11:30 Closing remarks

Symposium 2 : Towards understanding the developmental logic of human and primate uniqueness

DATE: May 20 (Wed) 9:00-11:30 Room B

Chairpersons: Jun Hatakeyama (Kumamoto University)

Ikuko Suzuki (University of Tokyo)

Primates including human demonstrate unique characteristics incomparable to the other animals, such as a tremendously enlarged brain and highly specialized early embryogenesis, even though the studies using the conventional model animals have been uncovering the evolutionary conserved general rules. In addition, a significant number of human congenital diseases cannot be adequately modeled in the animals, suggesting the requirement of the research directly observing and manipulating human and primate development. Recent researchers' efforts in establishing in vivo primate experimental systems and the in vitro models utilizing the pluripotent stem cells revealed interesting insights of the mechanisms constructing the uniqueness of our species.

In this symposium, we will cover the topics relevant to primate developmental biology, including technological aspects. Researches using primate models would provide enormous novel insights into the development of our own species.

09:00-09:01 opening remarks

S02-1 09:01-09:25 Comprehensive survey of human-specific molecular logic behind the construction of human cerebral cortex

大脳皮質発生を制御するヒト固有プログラムの網羅的探索

○Ikuko Suzuki (Dept. Biological Sciences, Grad. Sch. Science, Univ. of Tokyo)

S02-2 09:25-09:49 Dissecting the spectrum of pluripotency in primates

霊長類特異的多能性状態の解明

○Tomonori Nakamura^{1,2}, Yusuke Imoto², Yasuaki Hiraoka^{2,4,5}, Mitinori Saitou^{1,2,3,4} (Dept. Med. Kyoto-U¹, ASHBI Kyoto-U², CiRA Kyoto-U³, KUAIS⁴, RIKEN AIP⁵)

S02-3 09:49-10:13 Towards in vitro human somitogenesis

in vitro ヒト体節形成に向けて

Yoshihiro Yamanaka¹, Shunsuke Kihara², Takuya Yamamoto^{1,2}, ○Cantas Alev¹ (ASHBI¹, CiRA²)

- S02-4** 10:13-10:37 Studies on the Evolution and Development of the Primate Brain by Various Neuroimaging Techniques
様々なニューロイメージング技術による霊長類の脳進化と脳発達に関する研究
○Tomoko Sakai (QST)
- S02-5** 10:37-11:01 Disease modeling in cynomolgus monkeys using CRISPR/Cas9
CRISPR/Cas9 を用いたカニクイザルにおける疾患モデリング
○Tomoyuki Tsukiyama (RCALS, Shiga Univ. of Medical Science)
- S02-6** 11:01-11:30 Recapitulation of the areal patterning in the human cerebral cortex using human ESCs/iPSCs-derived cortical neurons
Kent Imaizumi, ○Hideyuki Okano (Keio University School of Medicine)

Symposium 3 : Developmental mechanisms underlying sexual reproduction

DATE: May 20 (Wed) 9:00-11:30 Room C

Chairpersons: Katsuhiko Hayashi (Kyushu University)

Kei-ichiro Ishiguro (Kumamoto University)

Mechanisms underlying sexual reproduction are the fundamental subject in developmental biology, since genetic and epigenetic information involved in the development is constructed in the germline in a sex-dependent manner. The mechanisms include sex determination, meiosis and gametogenesis, some of which are conserved across species even between vertebrate and invertebrate. In the symposium, leaders in the research area will summarize their historical and recent researches and discuss a new horizon of the study on sexual reproduction.

Co-organized by: Grant-in Aid for Scientific Research on Innovative Area: Ensuring integrity in gametogenesis

S03-1 09:00-09:25 Asexual and/vs sexual reproduction

ゲノム時代に無性生殖と有性生殖の違いを考える

○Kiyokazu Agata^{1,2}, Aya Shimazaki², Kazuya Kobayashi³ (NIBB, Okazaki¹, Dept of Life Sci. Gakushuin Univ.², Dept of Biol., Hirotsuki Univ.³)

S03-2 09:25-09:50 MEIOSIN directs the switch from mitosis to meiosis in mammalian germ cells

生殖細胞における体細胞分裂から減数分裂への切替え機構

○Kei-ichiro Ishiguro (IMEG, Kumamoto Univ.)

S03-3 09:50-10:15 Regulation of mammalian sex determination by the master switch gene Sry

○Peter Koopman (Institute for Molecular Bioscience, The University of Queensland)

S03-4 10:15-10:40 The Mechanism of Sexual Fate Decision of Germ Cells in the Teleost Fish, Medaka

メダカにおける生殖細胞の性決定機構について

Mariko Kikuchi, Toshiya Nishimura, ○Minoru Tanaka (Reproductive Biology, Biological Science, Nagoya Univ.)

S03-5 10:40-11:05 Understanding of mammalian oogenesis by reconstitution *in*

vitro

○Katsuhiko Hayashi (Division of Developmental Stem Cell Biology,
Faculty of Medical Sciences, Kyushu University)

S03-6 11:05-11:30 Sperm stem cell dynamics underlying continual sperm pro-
duction with minimal mutations
Toshinori Nakagawa, ○Shosei Yoshida (Div. Germ Cell Biol., Natl.
Inst. Basic Biol., Natl. Inst. Natural Sci.)

Symposium 4 : Fetomaternal interactions in development

DATE: May 22 (Fri) 13:45-16:15 Room A

Chairpersons: Toshihiko Fujimori (NIBB)

Guojun Sheng (Kumamoto University)

Interactions between embryo and maternal environment are essential for embryonic development in mammals. In this symposium we will focus on the interactions and functions of extraembryonic tissues supporting the feto-environmental interactions.

Co-organized by: supported by ABiS(Advanced Bioimaging Support)

- S04-1** 13:45-14:05 Establishment of morphological and functional polarity in the mouse oviduct
○Toshihiko Fujimori (NIBB)
- S04-2** 14:05-14:35 Cell fate determination on the fetal-maternal interface and the pregnancy outcome
○Hongmei Wang (State Key Laboratory of Stem Cell and Reproductive Biology, Institute of Zoology, Chinese Academy of Sciences (CAS))
- S04-3** 14:35-15:05 Roles of Peg10 and Peg11/Rtl1 proteins in feto-maternal interaction in placental fetal capillary
胎盤の胎児性毛細血管における母子相互作用における Peg10, Peg11/Rtl1 タンパク質の役割
○Fumitoshi Ishino¹, Hirosuke Shiura², Ayumi Matsuzawa¹, Tomoko Kaneko-Ishino³ (MRI, TMDU¹, Fac of Life and Env Sci Univ of Yamanashi², Sch of Med, Tokai Univ³)
- S04-4** 15:05-15:30 Intrauterine pressures adjusted by Reichert's membrane are crucial for early mouse morphogenesis
ライヘルト膜で調節された子宮内圧がマウス初期胚卵円筒形成に働いている
Yoko Ueda, Chiharu Kimura-Yoshida, ○Isao Matsuo (Osaka Women's and Children's Hospital)
- S04-5** 15:30-15:55 The vitelline membrane and the amniotic collar, a ventral connection between the embryo and extra-embryonic membrane, are required for the amnion formation in the chicken embryo
ニワトリ胚での羊膜形成には卵黄膜および、胚と胚体

外膜を結ぶ羊膜えりが必要である

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

S04-6 15:55-16:15 Epithelial-Mesenchymal Transition in Chorio-allantoic Fusion

○Guojun Sheng, Hiroki Nagai (IRCMS, Kumamoto University)

Symposium 5 : From collective cell behaviors to tissue morphogenesis

DATE: May 22 (Fri) 13:45-16:15 Room B
Chairpersons: Kaoru Sugimura (Kyoto University)
Erina Kuranaga (Tohoku University)

During morphogenesis, tissue shape arises from collective behaviors of individual cells. This symposium aims at bringing together cutting-edge scientists who employ quantitative and computational approaches to deepen our understanding of multi-scale integration in tissue morphogenesis. We believe that such an opportunity will stimulate active discussion on new questions and new approaches in developmental biology.

S05-1 13:45-14:15 Bidirectional signaling across the dorsal midline governs sequential contraction that drives zippering and neural tube closure in a simple chordate

背側正中線をまたぐ双方向性シグナルがホヤの神経管閉鎖ジッパーリングを駆動する連続的な細胞収縮を制御する

○Hidehiko Hashimoto, Munro Edwin (MGCB)

S05-2 14:15-14:45 Visualization of spatially defined mechanotransduction during lymphatic valve formation

リンパ管弁形成における部位特異的なメカノトランスダクションの可視化

Hiroki Katsuta³, Akemi Kanie¹, Ardem Patapoutian⁴, Toshihiko Fujimori^{1,2}, ○Keiko Nonomura^{1,2} (NIBB¹, SOKENDAI², Nagoya Univ. Grad. Med.³, HHMI, TSRI⁴)

S05-3 14:45-15:15 Live-cell imaging from zygote polarization to embryo patterning in plant

植物における受精卵の極性化から胚のパターン形成に至る過程のライブイメージング

○Minako Ueda^{1,2}, Yusuke Kimata¹, Sayuri Tanaka², Takumi Higaki³, Daisuke Kurihara^{1,4}, Tetsuya Higashiyama^{1,2,5} (ITbM, Nagoya Univ.¹, Dept. of Biol, Grad. Sch. of Sci., Nagoya Univ.², IROAST, Kumamoto Univ.³, JST, PRESTO⁴, Dept. of Biol. Sci., Grad. Sch. of Sci., Univ. of Tokyo⁵)

S05-4 15:15-15:45 Contact activation of locomotion – a defining mode of col-

lective cell migration in amoebozoan morphogenesis

○Satoshi Sawai (Graduate School of Arts and Sciences, University of Tokyo)

S05-5 15:45-16:15 Metabolite: A novel player controls embryonic development

代謝物：胚発生を制御する新規因子

○Masayuki Oginuma¹, Yukiko Harima², Kota Abe³, Shohei Ogamino¹, Chihiro Mogi¹, Olivier Pourquie², Tohru Ishitani^{1,3} (IMCR, Gunma Univ.¹, BWH, HMS², RIMD, Osaka Univ.³)

Symposium 6 : Stem-ness across plant and animal kingdoms ～ their similarities and differences ～

DATE: May 22 (Fri) 13:45-16:15 Room C
Chairpersons: Takumi Era (Kumamoto University)
Tomomi Tsubouchi (NIBB)

Despite the enormous effort and enthusiasm towards complete understanding of the underlying mechanism that defines “stem-ness”, we are still far from gaining comprehensive understanding of stem-ness of both plant and animal kingdoms. In this symposium we have gathered scientists from both animal- and plant- stem cell field to discuss and share concepts on stem-ness.

- S06-1** 13:45-14:15 Derivation and Differentiation in Mesenchymal Stem Cell
○Takumi Era (IMEG, Kumamoto University)
- S06-2** 14:15-14:45 Molecular mechanism of stress-induced cellular reprogramming in plants
植物における傷害誘導性細胞リプログラミングの分子機構
○Keiko Sugimoto (RIKEN CSRS)
- S06-3** 14:45-15:15 Regulation of DNA replication in mammalian pluripotent stem cells
哺乳類多能性幹細胞における DNA 複製制御
Yasunao Kamikawa^{1,2}, Akino Matsumoto³, ○Tomomi Tsubouchi^{1,3}
(NIBB, NINS¹, Dept Stress Protein Processing, Hiroshima Univ.², Dept Basic Biol, Sokendai³)
- S06-4** 15:15-15:45 Mechanisms of formation and division axis determination of stem cells with implications to the body plan evolution and the adaptation to land environment
植物における幹細胞形成と分裂軸決定の分子機構解明を通した、体制進化機構と陸上環境への適応機構解明
○Mitsuyasu Hasebe (NIBB)
- S06-5** 15:45-16:15 Embryonic origin of adult neural stem cells
Yujin Harada, Takaaki Kuniya, Shima Yamaguchi, Hanae Omiya, Daichi Kawaguchi, ○Yukiko Gotoh (Graduate School of Pharmaceutical Sciences, The University of Tokyo)

Mini-Symposiums

Mini-Symposium 1 : Developmental Toxicology and toxicogenomics

May 19 (Tue) 16:30-19:00 Room B

Chairperson: William Ka Fai TSE (Kyushu University)

The drastic advancement in industrialization and technology, and the growth in human population in the past century have resulted in unprecedented environmental changes in the human history. The production of large amounts of synthetic industrial and biomedical compounds as well as pollutants poses a risk to our ecosystem and induces negative effects on the health of wildlife and human beings. With the emergence of the global problem of chemical contamination, the adverse biological effects of chemicals are gaining attention among the scientific communities, industry, governments, nongovernmental organizations, and the public. At the same time, there is an increasing need for the identification and quantification of all these ubiquitous chemical contaminants. Studies in toxicology field have been continuous be performed, however, there is a need to understand the potential developmental hazardous of such chemicals. It is especially important to understand the possible toxic effect on the developing embryo. The symposium will introduce the current developmental toxicology studies using various experimental models, and omics methods; and finish by discussing the future directions of the field.

16:30-16:35 Introduction

Current Trend in Developmental Toxicology and the application of omics

William Ka Fai TSE (Kyushu University)

MS01-1 16:35-17:05 Transgenic and genomic approaches for development of fish biomonitoring tools in surveillance of environmental toxicants

○Zhiyuan Gong (DBS, NUS)

MS01-2 17:05-17:35 Cytotoxicity assessment in mammalian cell systems: cell death and beyond

○Alexandra Kiemer (PharmBio, USAAR)

MS01-3 17:35-17:55 Transgenerational reproductive impairment caused by hypoxia

○Keng Po Lai¹, Rudolf Wu², Richard Kong³, Rony Li⁴ (Guilin Medical University¹, Education University of Hong Kong², City

University of Hong Kong³, Guilin Medical University⁴)

MS01-4 17:55-18:15 Effects of In Utero Exposure to Perfluorinated Compounds on Placental Functions

○Chris Wong, H Wan, F Shi (Hong Kong)

MS01-5 18:15-18:45 Assessemnt of Chemical Toxicity by Behavioral Phenomics in Zebrafish

○Chung-der Hsiao (Department of Bioscience Technology & Center of Nanotechnology, Chung Yuan Christian University)

Mini-Symposium 2 : The Cerebellum: Evolution, Development and Neuronal circuits

DATE: May 19 (Tue) 16:30-19:00 Room C

Chairpersons: Takeru Honda (Tokyo Metropolitan Institute of Medical Science)

Sachiko Tsuda (Saitama University)

The cerebellum plays the central role for information processing in motor coordination, learning, and also cognitive functions, and has been providing critical insights on the structure and function of the brain and neural circuits. In this symposium, we invite established and young researchers who are actively studying the cerebellum from its evolution, development to circuit theory by using various model organisms and techniques. We hope that cross-disciplinary discussions in this symposium will provide an opportunity to obtain a new perspective on the development of the brain through findings by cerebellar studies.

16:30-16:33 Introduction

MS02-1 16:33-16:58 Development and evolution of the vertebrate cerebellum

脊椎動物の小脳の発生と進化

○Yasunori Murakami (GSSE, Ehime Univ.)

MS02-2 16:58-17:23 Transcriptional regulators controlling differentiation of Purkinje cells and inferior olivary nucleus neurons in zebrafish

ゼブラフィッシュにおいてプルキンエ細胞と下オリーブ核ニューロンの分化を制御する転写調節因子

Tsubasa Itoh, Shinnosuke Yura, Akiko Nakanishi, Mari Uehara, Takashi Shimizu, ○Masahiko Hibi (Nagoya University)

MS02-3 17:23-17:43 Cytoskeletal regulation of Purkinje cell dendritic arbor morphology

プルキンエ細胞樹状突起形態形成の細胞骨格制御メカニズム

○Kazuto Fujishima¹, Mineko Kengaku^{1,2} (iCeMS, KUIAS, Kyoto Univ.¹, Grad. Sch. of Biostudies, Kyoto Univ.²)

MS02-4 17:43-18:08 Formation of the striped compartments of heterogeneous Purkinje cells during cerebellar development in the mouse

マウス小脳発達における異種プルキンエ細胞の区画構築の形成

○Izumi Sugihara (Department of Systems Neurophysiology, Tokyo

Medical and Dental University Graduate School of Medical and Dental Sciences)

- MS02-5** 18:08-18:28 Neural population dynamics in the cerebellar circuits: calcium and voltage imaging in zebrafish larvae
ニューロンの集団ダイナミクスから見る小脳：ゼブラフィッシュ稚魚における Ca・膜電位イメージング
○Sachiko Tsuda (Grad Sch of Sci and Eng, Saitama Univ.)
- MS02-6** 18:28-18:48 Cerebellar development from view points of theory and clinical sides
理論研究と臨床研究からみた小脳発達
○Takeru Honda (Movement Disorders PJ, TMiMS)
- 18:48-19:00 Panel discussion

Technical seminar

Technical seminar : The chick: an Outgrowing Model Animal beyond Classical Developmental Biology

DATE: May 19 (Tue) 16:30-19:00 Room A

Chairpersons: Takayuki Suzuki (Nagoya University)

Noriaki Sasai (NAIST)

The chick has been used as an excellent model animal in classical developmental biology. The merits in using chick in developmental biology include its large embryonic size and easy accessibility. In addition, recent development of genetic tools have made chick more useful experimental animal. In this seminar, cutting-edge techniques and latest findings will be presented and discussed. A big avian resource based on the NBRP (National BioResource Project) will be introduced as well.

- TS-01** 16:30-16:44 Reconstituting spinal cord patterning and analyzing the gene regulatory networks by using chick intermediate neural explants
ニワトリ胚神経外植片による脊髄パターン形成の再構築と遺伝子制御ネットワークの解析
○Noriaki Sasai, Yuichi Sakumura (NAIST)
- TS-02** 16:44-16:57 An effective approach to uncover the cardiac neural crest genes
○Saori Tani-Matsuhana (Dept. Biol., Grad. Sch. Sci., Kobe Univ.)
- TS-03** 16:57-17:10 Long-term time-lapse imaging of whole-egg cultured quail embryo reveals process of amniotic membrane formation
全卵培養ウズラ胚のタイムラプス観察による羊膜形成プロセスの解明
○Yuki Sato¹, Tomohiro Kawahara² (Grad. Sch. Med. Sci., Kyushu Univ.¹, Dept. Biol. Func. Eng., Kyushu. Inst. Tech.²)
- TS-04** 17:10-17:23 Chick limb development as a model system for integrating comparative genomics and developmental biology
比較ゲノムと発生学の統合のためのモデルシステムとしての鳥類四肢発生
○Koji Tamura (Grad. Sch. of Life Sci., Tohoku Univ.)
- TS-05** 17:23-17:36 Anomaly in mechanotransduction necessary for driving directional cell rearrangement causes cyclopia in SHH-defi-

cient embryos

SHH 依存的な力学応答能の欠損による細胞再配列不全が単眼症様形態異常を引き起こす

○Daisuke Ohtsuka¹, Yoshihiro Morishita^{1,2} (RIKEN BDR¹, JST PRESTO²)

TS-06 17:36-17:49 Avian primordial germ cell migration: translocation into blood vessels and extravasation.

鳥類始原生殖細胞の血管を使った細胞移動：血管内侵入と血管外遊出

○Daisuke Saito¹, Hidetaka Murai², Ryosuke Tadokoro³, Minami Shibuya², Daisuke Yoshino⁴, Koji Tamura², Yoshiko Takahashi⁵ (Kyushu Univ.¹, Tohoku Univ.², Okayama Univ. of Sci.³, TUAT⁴, Kyoto Univ.⁵)

TS-07 17:49-18:02 Extravasation of primordial germ cells in avian embryos is enabled by dynamic plasticity revealed by high-resolution confocal microscopy

トリ胚における始原生殖細胞の血管外遊出機構：高解像度可視化による細胞ダイナミクスの理解

○Yoshiko Takahashi¹, Daisuke Saito², Yuta Takase¹, Ryosuke Tadokoro³, Kanta Mizumoto¹ (Dept of Zoology, Kyoto Univ.¹, Dept of Biol. Kyushu Univ.², Dept of Eng. Okayama Univ of Sci³)

TS-08 18:02-18:15 Systematic mapping of transcriptional start sites and CRISPR-on/off-mediated transcriptional regulation in the chick

○Guojun Sheng, Hiroki Nagai (Kumamoto University, IRCMS)

TS-09 18:15-18:28 Let's see the mesoderm formation in chicken

ニワトリ胚における中胚葉の形態形成のしくみ

○Yukiko Nakaya, Tatsuo Shibata (RIKEN BDR)

TS-10 18:28-18:41 Live imaging of avian epiblast development using randomly or selectively marked cell populations

細胞群のランダムな標識や選択的な標識による、エピブラストからの発生過程のライブイメージング

○Hisato Kondoh¹, Hideaki Iida¹, Koya Yoshihi¹, Kagayaki Kato² (Kyoto SU¹, EXCELLS²)

TS-11 18:41-19:00 New technical tips using chick embryo; genetics, electroporation, and NBRP

ニワトリ胚を用いた新たな実験法；遺伝学、電気穿孔

法、ナショナルバイオリソースについて

○Takayuki Suzuki (Div. of Bioagr. Sci., Nagoya Univ.)

Oral Presentations

Oral presentation 1: Technology & resources, New experimental systems

DATE: May 20 (Wed) 16:15-17:30 Room A

Chairpersons: Cantas Alev (Kyoto Univ.)

Nayuta Yakushiji-Kaminatsui (RIKEN IMS)

- OP01-1 (P182B)** 16:15-16:30 High resolution spatial transcriptomics method focusing on photo-irradiated region
光照射した領域に限定可能な高解像度 RNA-seq 法
○Mizuki Honda¹, Shinya Oki¹, Akihito Harada², Kazumitsu Mae-hara², Kaori Tanaka², Yasuyuki Ohkawa² (Dept. of Dev Biol., Grad. Sch. of Med. Sci., Univ. of Kyushu¹, Div. of Transcriptomics, Med. Inst. of Bioreg., Univ. of Kyushu²)
- OP01-2** 16:30-16:45 Wide-field 2-photon light-sheet microscopy and its application to whole body imaging analysis of Medaka embryos
広視野 2 光子デジタル走査ライトシート顕微鏡とメダカ胚全身イメージング解析への応用
○Takashi Saitou^{1,2}, Sota Takanezawa¹, Takeshi Imamura^{1,2} (Grad. Sch. Med, Ehime Univ.¹, TRC, Ehime Univ. Hosp.²)
- OP01-3 (P121A)** 16:45-17:00 DNA barcoding analysis of the lineage dynamics of developing germ cells in mice
DNA バーコードによるマウス生殖細胞集団の系譜動態の包括的解析
○Tatsuro Ikeda^{1,2}, Thomas Höfer^{3,4}, Hans-reimer Rodewald⁵, Shosei Yoshida^{1,6} (Div. Germ Cell Biol., NIBB¹, JSPS research fellow², Div. Theo. Sys. Biol., DKFZ³, BioQuant, Heidelberg Univ.⁴, Div. Cell. Immunol., DKFZ⁵, Dep. Bsc. Biol., Grad. Univ. Adv. Std.⁶)

Oral presentation 1: Reproduction & germ cells

Chairpersons: Yoshiki Hayashi (Univ. of Tsukuba)

Yuzuru Kato (NIG)

- OP01-4 (P156C)** 17:00-17:15 Decoding The Gene Regulatory Network of Human Germ Cell Specification
ヒトの生殖細胞分化の遺伝子制御

○Yoji Kojima¹, Mitinori Saitou^{1,2,3} (CiRA¹, ASHBI², Department of Anatomy and Cell Biology, Faculty of Medicine, Kyoto University³)

OP01-5 17:15-17:30
(P157A)

Germ cell-specific zinc finger protein is required for pachytene exit in mouse meiosis

生殖細胞特異的ジンクフィンガータンパク質は減数分裂前期パキテン脱出の転写制御に働く

○Yuki Takada¹, Chisato Koder^{1,2}, Kazumasa Takemoto¹, Ryo Maeda³, Sayoko Fujimura⁴, Akihiko Sakashita⁵, Kumi Matsuura¹, Hitoshi Niwa¹, Satoshi Namekawa⁵, Makoto Tachibana³, Kimi Araki⁶, Kei-ichiro Ishiguro¹ (IMEG, Kumamoto Univ.¹, Department of Obstetrics and Gynecology Faculty of Life Science, Kumamoto Univ.², Graduate School of Frontier Biosciences, Osaka Univ.³, LILA, IMEG, Kumamoto Univ.⁴, CCHMC⁵, CARD, Kumamoto Univ.⁶)

Oral presentation 2: Neural Development (1)

DATE: May 20 (Wed) 16:15-17:30 Room B

Chairpersons: Tatsumi Hirata (NIG)

Masahiko Hibi (Nagoya Univ.)

OP02-1 16:15-16:30
(P113B)

Area-specific laminar organization is regulated by thalamocortical axons through axon-derived secretory protein VGF in developing neocortex

発生期の大脳新皮質における領野特異的な層構造の形成は視床皮質軸索に由来する分泌タンパク質 VGF により制御される

○Haruka Sato¹, Jun Hatakeyama¹, Takuji Iwasato², Nobuhiko Yamamoto³, Kenji Shimamura¹ (Brain Morphogenesis, IMEG, Kumamoto univ.¹, NIG², Osaka univ.³)

OP02-2 16:30-16:45

Cerebrospinal fluid contributes to a difference in neural progenitor proliferation between mice and primates

霊長類の神経幹細胞の増幅における脳脊髄液の役割

○Jun Hatakeyama, Haruka Sato, Sanka Yoshimochi, Rika Matsu-shita, Kenji Shimamura (IMEG, Kumamoto Univ.)

OP02-3 16:45-17:00
(P114C)

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の形成機構

○So Sakamura¹, Fu-yu Hsu², Ann-shyn Chiang², Kenji Matsuno¹
(Dept. Bio., Grad. Sci., Osaka Univ.¹, Biotech, NTHU²)

**OP02-4
(P115A)** 17:00-17:15

Exploring the intra- and extracellular functions of ALS-related ER protein VAP

ALS 関連小胞体タンパク質 VAP の細胞内及び細胞外における生理機能解析

○Kosuke Kamemura¹, Chun-an Chen², Misako Okumura¹, Sayaka Sekine³, Daichi Kamiyama⁴, Masayuki Miura², Takahiro Chihara¹
(Grad Sch of Sci, Hiroshima Univ¹, Grad Sch of Pharm Sci, Univ of Tokyo², CDB, RIKEN³, Dept Cell Biol, Univ of Georgia⁴)

OP02-5 17:15-17:30

Fz2/PCP signaling regulates the morphogenesis and arrangement of the columnar structures in the fly brain

ショウジョウバエ脳のカラム構造の形態形成と配置の制御における Fz2/PCP シグナルの働き

Xujun Han¹, Miaoxing Wang¹, Kousuke Imamura², ○Makoto Sato¹ (InFiniti, Kanazawa Univ.¹, Inst. Sci. Eng., Kanazawa Univ.²)

Oral presentation 3: Morphogenesis and Organogenesis (1)

DATE: May 20 (Wed) 16:15-17:30 Room C

Chairpersons: Keiko Nonomura (NIBB)

Yoshio Wakamatsu (Tohoku Univ.)

**OP03-1
(P080B)** 16:15-16:30

Vascular intraluminal pressure inhibits angiogenic branch elongation via vascular wall stretch

血管内腔圧は血管壁伸展を介して血管新生を抑制する

○Koichi Nishiyama¹, Shinya Yuge², Yuichiro Arima¹, Yasuyuki Hanada¹, Sanshiro Hanada¹, Ryuji Yokokawa³, Takashi Miura⁴, Shigetomo Fukuhara² (IRCMS, Kumamoto Univ.¹, Inst. of Adv. Med. Sci., Nippon Med. School², Dept. Micro Eng., Kyoto Univ.³, Dept. Anatomy and Cell Biol., Kyushu Univ.⁴)

OP03-2 16:30-16:45

Quantification of mechanical forces generated in cell extrusion within living zebrafish embryos

ゼブラフィッシュ胚における細胞排除の間に発生する力の定量

Sohei Yamada², Ryutaro Akiyama¹, Yasumasa Bessho¹, Yoichiroh Hosokawa², [○]Takaaki Matsui¹ (BS, NAIST¹, MS, NAIST²)

- OP03-3 (P081C)** 16:45-17:00 Independent size regulation of bones and appendages in zebrafish
ゼブラフィッシュでは付属肢の大きさと個々の骨の長さは独立して制御されている
[○]Toshihiro Aramaki, Shigeru Kondo (FBS, Osaka Univ.)
- OP03-4** 17:00-17:15 Multicellular dynamics for an epithelial bending in developing murine cochlear duct – A differential growth hypothesis driven by nuclear positioning
マウス蝸牛管の曲げ形成を支える多細胞動態 – 核配置に基づく偏差成長仮説
Mamoru Ishii², Michiyuki Matusda^{1,3}, [○]Tsuyoshi Hirashima¹ (Grad Sch Med, Kyoto U¹, FS, Kyoto U², Grad Sch Biostudies, Kyoto U³)
- OP03-5** 17:15-17:30 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^{1,2}, Yoshiko Takahashi¹ (Dept. of Zoology, Grad. Sch. of Sci., Kyoto Univ.¹, SACRA, Grad. Sch. of Sci., Kyoto Univ.²)

Oral presentation 4: Reproduction and Germ Cells (2)

DATE: May 20 (Wed) 17:45-19:00 Room A
Chairpersons: Yoshiki Hayashi (Univ. of Tsukuba)
Yuzuru Kato (NIG)

- OP04-1 (P158B)** 17:45-18:00 The induction mechanism of mitotic arrest in murine male germ cell differentiation
マウス生殖細胞の雄性分化における細胞周期停止制御機構の解析
[○]Ryuki Shimada, Yumiko Saga (SOKENDAI)
- OP04-2 (P159C)** 18:00-18:15 Receptor-mediated yolk uptake directs *Drosophila* oocyte polarization and germ plasm assembly
ショウジョウバエの卵母細胞の極性形成と生殖質形成には受容体を介した卵黄タンパクの取り込み

が必須である

○Tsubasa Tanaka, Sachiko Otsu, Naoki Tani, Akira Nakamura
(IMEG, Kumamoto Univ.)

OP04-3 18:15-18:30
(P160A)

The *Drosophila* PGC-1 homolog, Spargel, is required for proper germ granule assembly during oogenesis.

ショウジョウバエの PGC-1 ホモログ Spargel は、卵形成過程での生殖顆粒形成を制御する

○Kazuko Hanyu-Nakamura¹, Keisuke Aimi^{1,2}, Akira Nakamura^{1,2,3}
(Dept. Germline Dev., IMEG, Kumamoto Univ.¹, Sch. Pharmacy, Kumamoto Univ.², Grad. Sch. Pharm. Sci., Kumamoto Univ.³)

OP04-4 18:30-18:45

The role of nutrients and the gut hormone in mating-induced germline stem cell proliferation in the fruit fly *Drosophila melanogaster*

キイロショウジョウバエの交尾依存的生殖幹細胞増殖における栄養と腸ホルモンの役割

Ryo Hoshino², Yuto Yoshinari², Shu Kondo³, Hiromu Tanimoto⁴,
○Ryusuke Niwa¹ (TARA Center, Univ. Tsukuba¹, Grad Sch Life Environ Sci, Univ Tsukuba, Japan², NIG, Japan³, Grad Sch Life Sci, Tohoku Univ, Japan⁴)

OP04-5 18:45-19:00

Cell competition effector Sas-Ptp10D facilitates apoptosis for the proper shaping of germ-line stem cell niche in *Drosophila*

細胞競合制御因子 Sas-Ptp10D によるアポトーシス制御は生殖幹細胞ニッチの適正化に寄与する

○Kiichiro Taniguchi, Tatsushi Igaki (Lab. of Genet., Grad. Sch. of Biostudies, Kyoto Univ.)

Oral presentation 5: Neural Development (2)

DATE: May 20 (Wed) 17:45-19:00 Room B

Chairpersons: Kenji Shimamura (Kumamoto Univ.)

Takahiro Chihara (Hiroshima Univ.)

OP05-1 17:45-18:00

Dysfunction of the proteoglycan Tsukushi causes hydrocephalus through altered neurogenesis in the subventricular zone

プロテオグリカン Tsukushi の機能を阻害すると神経発生が乱れ水頭症を発症する

○Kunimasa Ohta, Naofumi Ito, Shah Adil Ishtiyag Ahmad,

Mohammad Anam (Dept. of Dev. Neurobiol., Kumamoto Univ. Grad. Sch. of Life Scis.)

- OP05-2 (P008B)** 18:00-18:15 Dynamamin-related GTPase, Drp1, is required for BNip1-mediated photoreceptor apoptosis in zebrafish
ゼブラフィッシュ視細胞の BNip1 依存性細胞死におけるダイナミン関連タンパク質 Drp1 の役割
○Yuko Nishiwaki, Mamoru Fujiwara, Ichiro Masai (Masai Unit, OIST)
- OP05-3 (P082A)** 18:15-18:30 Quest for claudin-independent occluding junctions in vivo
クローディン非依存的な閉塞結合の検討
○Tetsuhisa Otani^{1,2}, Mikio Furuse^{1,2} (Div. of Cell Structure, NIPS¹, Dept. of Physiological Sciences, SOKENDAI²)
- OP05-4** 18:30-18:45 The functional role of G-quadruplex structures in developmental neurobiology
神経発達におけるグアニン四重鎖構造の機能的役割
○Norifumi Shioda (IMEG, Kumamoto Univ.)
- OP05-5** 18:45-19:00 A molecular mechanism for basal transport of *Cyclin D2* mRNA within highly polarized cells and its evolutionary significance
○Noriko Osumi¹, Yoshio Wakamatsu¹, Yukiko Inoue U², Sharmin Naher¹, Yuji Tsunekawa³, Fumio Matsuzaki³, Kunihiro Suzuki⁴, Takayoshi Inoue², Takako Kikkawa¹ (Dept. of Dev. Neurosci., Tohoku Univ. Grad. Sch. of Med.¹, Dept. of Biochem. and Cellular Biol., NCNP.², Lab. for Cell Asymmetry, RIKEN BDR.³, Dept. of Biol., Nihon Univ., Sch. of Dent. at Matsudo⁴)

Oral presentation 6: Morphogenesis and Organogenesis (2)

DATE: May 20 (Wed) 17:45-19:00 Room C
Chairpersons: Takefumi Kondo (Kyoto Univ.)
Yukiko Nakaya (RIKEN BDR)

- OP06-1 (P083B)** 17:45-18:00 Mechanosensor channel Piezo1 mediates calcium upregulation during lymphatic valve morphogenesis
リンパ管弁形成におけるメカノセンサーチャネル Piezo1 を介したカルシウム制御

○Hiroki Katsuta^{1,2}, Keiko Nonomura², Akemi Kanie², Takaki Miyata¹, Toshihiko Fujimori² (Dept. Dev. Cell Biol. Grad. Sch. Med. Nagoya Univ.¹, Division of Embryology, NIBB²)

- OP06-2 (P084C)** 18:00-18:15 Common tissue deformation dynamics during limb development across species
四肢発生過程における種間で保存された組織変形ダイナミクス
○Yoshihiro Morishita^{1,2}, Sang-woo Lee¹, Takayuki Suzuki³, Hitoshi Yokoyama⁴, Yasuhiro Kamei⁵, Koji Tamura⁶, Aiko Kawasumi-Kita¹ (RIKEN BDR¹, PRESTO, JST², Nagoya Univ³, Hiro-saki Univ⁴, NIBB⁵, Tohoku Univ⁶)
- OP06-3 (P085A)** 18:15-18:30 Imaging data-driven extraction of the governing principle in multicellular dynamics
多細胞ダイナミックスを司る法則のイメージングデータ駆動的解読
○Naoki Honda¹, Yoshifumi Asakura¹, Yohei Kondo^{2,3}, Kazuhiro Aoki^{2,3} (Kyoto University¹, NIBB², ExCELLS³)
- OP06-4 (P086B)** 18:30-18:45 Identification and characterization of Wnt5a downstream targets during early development in mouse
マウス初期発生における Wnt5a 下流因子の同定と機能解析
○Rieko Ajima, Yumiko Saga (NIG)
- OP06-5 (P087C)** 18:45-19:00 Mechanical stress regulates epithelial tissue integrity and stiffness through the FGF receptor/Erk2 signaling pathway during embryogenesis
メカニカルストレスによる FGFR-Erk2 シグナルを介した初期胚上皮組織の統合性制御
○Noriyuki Kinoshita¹, Yutaka Hashimoto^{1,2}, Naoko Yasue¹, Ileana Cristea², Naoto Ueno¹ (Div. of Morphogenesis, NIBB¹, Dept. of Mol. Biol., Princeton Univ.²)

Oral presentation 7: Morphogenesis and Organogenesis (3)

DATE: May 21 (Thu) 13:30-14:45 Room A

Chairpersons: Akio Kobayashi (Kumamoto Univ.)

Kimiko Fukuda (Tokyo Metropol. Univ.)

- OP07-1 (P088A)** 13:30-13:45 Bidirectional Wnt signaling between endoderm and

mesoderm confers tracheal identity in mouse and human
マウスおよびヒトにおける内一中胚葉間の双方向
Wnt シグナルが気管間充織を確立する
Keishi Kishimoto, [○]Mitsuru Morimoto (RIKEN BDR)

OP07-2 13:45-14:00
(P089B)

Spatial-temporal regulation of EMC anchoring for
reproducible 3D packing design under spatial constraints
限られた空間で正確な組織収納を可能にする ECM
の時空間制御の解明

[○]Alice Tsuboi¹, Koichi Fujimoto², Takefumi Kondo^{3,4} (Grad. Sch.
of Biostudies., Kyoto Univ.¹, Grad. Sch. of Science., Osaka
Univ.², Grad. Sch. of Biostudies., Kyoto Univ.³, K-CONNEX⁴)

OP07-3 14:00-14:15
(P090C)

A temporal ecdysone signal mediated by *polished rice*
modulates cell fate decision in *Drosophila* tracheal
development

polished rice 遺伝子を介した時期特異的なエクジソン
シグナルはショウジョウバエの気管形成において
細胞の運命決定を調節する

[○]Yuki Taira¹, Housei Wada², Shigeo Hayashi², Yuji Kageyama^{1,3}
(Dept. Biol., Grad. Sch. Sci. Sci., Kobe Univ.¹, RIKEN, BDR²,
Biosig. Res. Ctr., Kobe Univ.³)

OP07-4 14:15-14:30

Reduction of endocytic activity accelerates cell elimina-
tion during epithelial tissue remodeling in *Drosophila*

ショウジョウバエ上皮リモデリング時の細胞除去
はエンドサイトーシス活性の低下によって引き起
こされる

[○]Daiki Umetsu, Shinichiro Hoshika, Xiaofei Sun, Erina
Kuranaga (Tohoku University)

OP07-5 14:30-14:45
(P091A)

Three-dimensional simulation of epithelial tube revealed
a chiral cellular behavior, cell twisting that may account
for the directional gut rotation in *Drosophila*

3次元シミュレーションにより明らかとなった細胞
のキラルなねじれによるショウジョウバエの消化
管捻転の機構

[○]Mikiko Inaki¹, Miki Yukumatsu¹, Taishi Takigawa¹, Takamichi
Sushida², Masakazu Akiyama³, Yasuhiro Inoue⁴, Kenji Matsuno¹
(Dept. Biol., Grad. Sch. Sci., Osaka Univ.¹, Salesian Polytech.²,
MIMS, Meiji Univ.³, Sch. Eng., Kyoto Univ.⁴)

Oral presentation 8: Evolution

DATE: May 21 (Thu) 13:30-14:45 Room B

Chairpersons: Rie Kusakabe (RIKEN BDR)

Naoki Irie (Univ. of Tokyo)

- OP08-1** 13:30-13:45 Lineage tracing of premandibular mesoderm: studies on zebra finch and shark
顎前中胚葉の細胞系譜解析：キンカチョウとサメ胚の比較
○Shunya Kuroda^{1,2}, Notitaka Adachi³, Rie Kusakabe¹, Shigeru Kuratani¹ (Laboratory for Evolutionary Morphology, RIKEN BDR¹, Department of Biology, Graduate school of Science, Kobe University², Aix-Marseille Universite, CNRS, IBDM UMR³)
- OP08-2** 13:45-14:00 The evolutionary origin of the vertebrate head: insights from gene profiling of head mesoderm in early zebrafish development
脊椎動物頭部の進化起源：ゼブラフィッシュ胚の頭部中胚葉における遺伝子発現パターンからの考察
Huijia Wang, ○Tokiharu Takahashi (FBMH, Univ. Manchester)
- OP08-3 (P045C)** 14:00-14:15 The effect on metamorphosis by gene knockout of retinoic acid receptor in starfish and the evolution of RA-dependent metamorphosis
ヒトデにおけるレチノイン酸受容体 RAR ノックアウトの変態への影響および RA に依存的な変態の進化
○Shumpei Yamakawa¹, Yoshiaki Morino¹, Hisanori Kohtsuka², Yasunori Sasakura³, Hiroshi Wada¹ (Grad. Sch. Life Env. Sci., Univ. Tsukuba¹, MMBS, Univ. Tokyo², SMRC, Univ. Tsukuba³)
- OP08-4** 14:15-14:30 Cancelled
- OP08-5** 14:30-14:45 Exploring segmental elements in the head mesoderm of lampreys by ultra structural analysis
超微細構造解析によるヤツメウナギ頭部中胚葉における分節要素の探索
○Takayuki Onai¹, Fumiaki Sugahara², Noritaka Adachi³ (UFSM¹, HCM², AMU³)

Oral presentation 9: Early Embryogenesis

DATE: May 21 (Thu) 13:30-14:45 Room C

Chairpersons: Fumio Motegi (Temasek Lifesciences Laboratory, Singapore)

Hitoshi Sawa (NIG)

- OP09-1 (P029B)** 13:30-13:45 The regulatory mechanism of Nodal signal by the pro-domain cleavage revealed from a nanobody-based approach
ナノボディにより明らかになったプロドメイン切断による Nodal シグナルの制御機構
○Takafumi Ikeda¹, Masanori Taira², Hiroyuki Takeda¹ (Lab. of Embryology., Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo¹, Dept. of Biol. Scis., Faculty of Sci. and Eng., Chuo Univ.²)
- OP09-2 (P030C)** 13:45-14:00 Mesenchymal-epithelial transition regulates initiation of pluripotency exit before gastrulation
○Sofiane Hamidi¹, Yukiko Nakaya², Hiroki Nagai^{1,2}, Cantas Alev^{2,3}, Takeya Kasukawa⁴, Sapna Chhabra⁵, Ruda Lee⁶, Hitoshi Niwa⁷, Aryeh Warmflash⁸, Tatsuo Shibata², Guojun Sheng^{1,2} (KU (IRCMS)¹, BDR RIKEN², CiRA Kyoto U³, IMS RIKEN⁴, SSPB Rice U⁵, IROAST KU⁶, IMEG KU⁷, IBB Rice U⁸)
- OP09-3 (P031A)** 14:00-14:15 Differential cellular stiffness as a mechanism for tissue elongation on growing embryo
細胞間の硬さの相違が成長する胚における組織伸長に寄与する
○Hiroshi Koyama^{1,2}, Makoto Suzuki^{2,3,4}, Naoko Yasue³, Hiroshi Sasaki⁵, Naoto Ueno^{2,3}, Toshihiko Fujimori^{1,2} (Div. Embryology, NIBB¹, SOKENDAI², Div. Morphogenesis, NIBB³, ARC, Hiroshima Univ.⁴, FBS, Osaka Univ.⁵)
- OP09-4 (P032B)** 14:15-14:30 Neural-fated self-renewing cells regulated by Sox2 during secondary neurulation in chicken tail bud
ニワトリ胚尾側神経管形成 secondary neurulation における Sox2 による神経系自己増殖性細胞の制御
○Teruaki Kawachi¹, Eisuke Shimokita², Ryosuke Tadokoro³, Yoshiko Takahashi¹ (Kyoto Univ.¹, Tokushima Univ.², OUS³)
- OP09-5 (P033C)** 14:30-14:45 The formation of multiple pituitary pouches from the oral ectoderm in hedgehog signaling-defective avian

embryos causing ectopic lens development

ヘッジホッグシグナルを欠損した鳥類胚では複数の下垂体前駆体嚢が発生し、それから異所水晶体が発生する

Yuki Taira^{1,4}, Yuya Ikuta¹, Machiko Teramoto¹, Mitsuo Nunome², Mikiharu Nakano², Takayuki Suzuki², Yoichi Matsuda², Masaoki Tsudzuki³, Hideaki Iida¹, [○]Hisato Kondoh¹ (Kyoto SU¹, Nagoya U², Hiroshima U³, NAIST⁴)

Oral presentation 10: Morphogenesis and Organogenesis (4)

DATE: May 21 (Thu) 15:00-16:15 Room A

Chairpersons: Hiroshi Sasaki (Osaka Univ.)

Yuki Sato (Kyushu Univ.)

- OP10-1 (P092B)** 15:00-15:15 A neomorphic inhibitor secreted from *pecanex* mutant phagocytes remotely suppresses Notch signaling
pecanex 突然変異の貪食細胞から分泌されるネオモルフイックな因子が Notch シグナルを遠隔的に抑制する
[○]Tomoko Yamakawa, Yuka Matsuda, Kiwako Maeda, Kenji Matsuno (Dept. of Biol. Sci., Grad. School of Sci., Osaka Univ.)
- OP10-2 (P093C)** 15:15-15:30 Mechanical property of zebrafish embryonic epithelium
ゼブラフィッシュ胚上皮シートの力学特性解析
[○]Sohei Yamada¹, Yasumasa Bessho², Yoichiro Hosokawa¹, Takaaki Matsui² (Division of Material Sciences, NAIST¹, Division of Biological Science, NAIST²)
- OP10-3 (P094A)** 15:30-15:45 Actin cytoskeleton generates cell chirality in *Drosophila* phagocytes
ショウジョウバエ貪食細胞のキラリティはアクチン細胞骨格によって形成される
[○]Takeshi Sasamura¹, Daisuke Kurisu¹, Hiroki Taniguchi¹, Masakazu Akiyama², Kohei Otomo³, Tomomi Nemoto³, Miroaki Mizuno⁴, Naoki Watanabe⁴, Hiromi Miyoshi⁵, Arata Kaneko⁵, Kenji Matsuno¹ (Grad. Sch. Sci., Osaka Univ.¹, MIMS, Meiji Univ.², RIES, Hokkaido Univ.³, Grad. Sch. of Med., Kyoto Univ.⁴, Grad. Sch. of Sys. Des., Tokyo Met. Univ.⁵)
- OP10-4** 15:45-16:00 Development of the adipose tissue: behaviors of adult fat body precursor cells of *Drosophila* and underlying

genetic basis

脂肪組織の発生：ショウジョウバエ成虫脂肪組織の前駆細胞の振る舞いとその遺伝子制御

Taiichi Tsuyama¹, Hanae Komai¹, Kohei Shimono¹, [○]Tadashi Uemura^{1,2,3} (Graduate School of Biostudies, Kyoto Univ.¹, Research Center for Dynamic Living Systems, Kyoto Univ.², AMED-CREST³)

OP10-5 16:00-16:15

Distinct from the morphogenesis based on the reconfiguration of a mass of cells: Morphogenesis in which cells manipulate rigid materials

細胞が固い物体を運搬 / 配置・繋げる形態形成機構の解析：芽球骨片運搬とコラーゲン中での放射状配置による芽球コート形成

Kanji Nakagawa¹, Masumi Okawa¹, Junichiro Nakazawa¹, Kiyoka Kinjo¹, Takefumi Kondo², [○]Noriko Funayama¹ (Dept. of Biophys., Graduate School of Science, Kyoto Univ.¹, Kyoto University, Grad. Sch. Biostudies, Kyoto university and K-CON-NEX²)

Oral presentation 11: Regeneration

DATE: May 21 (Thu) 15:00-16:15 Room B

Chairpersons: Yoshihiko Umesono (Univ. of Hyogo)

Akira Satoh (Okayama Univ.)

OP11-1 15:00-15:15
(P141C)

Accumulation of regeneration-specific transitional cells in pulmonary fibrosis

肺線維症に認められる組織再生特異的細胞の蓄積

[○]Yoshihiko Kobayashi, Aleksandra Tata, Arvind Konkimalla, Hiroaki Katsura, Rebecca Lee, Jianhong Ou, Purushothama Rao Tata (Duke Cell Bio)

OP11-2 15:15-15:30
(P142A)

The AP-1 transcription factor JunB induced by TGF- β signaling plays an essential role in the initiation of cell proliferation during *Xenopus* tadpole tail regeneration

TGF- β シグナルによって誘導される JunB 転写因子は、ツメガエル幼生尾の再生における細胞分裂開始に必須である

[○]Makoto Nakamura¹, Hitoshi Yoshida², Eri Takahashi¹, Yuka Moriyama¹, Marcin Wlizia², Kimiko Takebayashi-Suzuki¹, Marko

Horb², Atsushi Suzuki¹ (ARC, Grad. Sch. of Inte. Sci. Life., Hiroshima Univ.¹, MBL, Woods Hole, USA²)

**OP11-3
(P143B)** 15:30-15:45

Dilp8 and Derailed signaling is necessary for 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インスリン様ペプチド Dilp8 及び Derailed の役割

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

**OP11-4
(P144C)** 15:45-16:00

Mechanism of gene induction in response to regeneration in zebrafish fin

ゼブラフィッシュのヒレ再生における、再生にตอบสนองした遺伝子誘導のメカニズム

○Teruhisa Tamaki, Atsushi Kawakami (Tokyo Tech)

**OP11-5
(P095B)** 16:00-16:15

Mechanical impact of apoptosis in compensatory cell division

○Takumi Kawaue¹, Ying Ming Ivan Yow¹, Yusuke Toyama^{1,2} (MBI, NUS¹, DBS, NUS²)

Oral presentation 12: Stem cells (1)

DATE: May 21 (Thu) 15:00-16:15 Room C

Chairpersons: Aiko Sada (Kumamoto Univ.)

Shosei Yoshida (NIBB)

**OP12-1
(P034A)** 15:00-15:15

Differences in mitochondrial activity trigger cell competition during early mouse development

○Ana Lima^{1,2}, Gabriele Lubatti^{3,4,5}, Jrg Burgstaller⁶, Di Hu⁷, Alistair Green⁸, Aida Di Gregorio¹, Tamzin Zawadzki¹, Barbara Pernaute⁹, Elmir Mahammadov^{3,4,5}, Marian Dore², Juan Miguel Sanchez¹, Sarah Bowling¹, Margarida Sancho¹, Mohammad Karimi², David Carling², Nick Jones⁸, Shankar Srinivas⁷, Antonio Scialdone^{3,4,5}, Tristan Rodriguez¹ (NHLI, Imperial College London, UK¹, MRC LMS, Institute of Clinical Sciences, Imperial College London, UK², IES, Helmholtz Zentrum Mnchen, Munich, Germany³, IFE, Helmholtz Zentrum Mnchen, Neuherberg, Germany⁴, ICB, Helmholtz Zentrum Mnchen, Neuherberg, Germany⁵, Institute of Animal Breeding and Genetics, Vetmeduni, Vienna, Austria⁶, Department of Physiology, Anatomy and

Genetics, University of Oxford, UK⁷, Department of Mathematics, Imperial College London, UK⁸, CRG, The Barcelona Institute of Science and Technology, Barcelona, Spain⁹)

- OP12-2 (P035B)** 15:15-15:30 DDX6-mediated mRNA regulation is required for the mesoderm specification during early embryogenesis in mice
○Jessica Kim¹, Yumiko Saga^{1,2} (Univ. of Tokyo¹, NIG²)
- OP12-3 (P036C)** 15:30-15:45 Role of Dppa2/4-PRC1.6 axis for regulation of partially DNA methylated genes in naive pluripotent stem cells
ナীব型の多能性幹細胞において部分的 DNA メチル化を受ける遺伝子群の Dppa2/4-PRC1.6 軸による制御
○Mitsuhiro Endoh, Hitoshi Niwa (IMEG, Kumamoto University)
- OP12-4 (P170B)** 15:45-16:00 PKD1-dependent renal cystogenesis from human iPSC-derived ureteric bud organoids
ヒト iPS 細胞由来尿管芽オルガノイドにおける PKD1 に依存した腎嚢胞形成
○Shohei Kuraoka¹, Shunsuke Tanigawa¹, Akitsu Hotta², Atsuhiko Taguchi¹, Akio Kobayashi¹, Ryuichi Nishinakamura¹ (IMEG, Kumamoto Univ.¹, Department of Clinical Application, Center for iPS Research and Application, Kyoto University²)
- OP12-5 (P171C)** 16:00-16:15 Establishment of culture system for the induction of hematopoietic stem cells from mouse embryonic precursors
マウス胎仔由来前駆細胞から造血幹細胞への分化誘導法の確立
○Saori Morino-Koga, Shogo Oshiro, Mai Kiyono, Mariko Tsurada, Ai Araki, Minetaro Ogawa (Dept. of Cell Diff., IMEG, Kumamoto Univ.)

Oral presentation 13: Stem cells (2)

DATE: May 22 (Fri) 9:00-10:45 Room A

Chairpersons: Shoen Kume (Tokyo Institute of Technology)

Kunimasa Ohta (Kumamoto Univ.)

- OP13-1** 09:00-09:15 In vivo tracing of hematopoietic stem and progenitor cell formation in the mouse embryo
細胞系譜追跡法によるマウス造血幹細胞および前

駆細胞の発生機序の解析

○Tomomasa Yokomizo¹, Takako Ideue¹, Kimi Araki², Mineo Kurokawa³, Norio Komatsu⁴, Motomi Osato⁵, Toshio Suda^{1,5}
(IRCMS, Kumamoto Univ¹, Division of Developmental Genetics, Institute of Resource Development and Analysis, Kumamoto University², Department of Hematology and Oncology, Graduate School of Medicine, The University of Tokyo³, Department of Hematology, Juntendo University Graduate School of Medicine⁴, Cancer Science Institute of Singapore, National University of Singapore⁵)

OP13-2 09:15-09:30 (P172A)

Defining heterogeneous stem cell populations in oral and eye surface epithelia

上皮幹細胞のダイナミクス解析：眼と口腔をモデルにして

Ryutaro Ishii^{2,3}, Yen Ngo^{2,4}, Kenji Izumi⁶, Hiromi Yanagisawa^{2,5},
○Aiko Sada^{1,2} (IRCMS, Kumamoto Univ¹, TARA center, Univ of Tsukuba², Comprehensive Human Sciences, Univ of Tsukuba³, HBP, Univ of Tsukuba⁴, Faculty of Medicine, Univ of Tsukuba⁵, Medical and Dental Sciences, Niigata Univ⁶)

OP13-3 09:30-09:45 (P173B)

Characterization of cambium stem cell during radial plant growth

植物の二次成長過程における形成層幹細胞の特徴づけ

○Dongbo Shi, Virginie Jouannet, Verena Kaul, Thomas Greb (COS Heidelberg)

OP13-4 09:45-10:00

Pax3b and Pax7a have sequential function to regulate fate choice of pigment cells in medaka

メダカ Pax3b と Pax7a は色素細胞の運命決定を連続して制御する

○Hisashi Hashimoto¹, Ikuko Watakabe², Motohiro Miyadai¹, Hiroyuki Takada¹, Tetsuaki Kimura³, Kiyoshi Naruse³, Shinichi Higashijima², Masahiko Hibi¹ (Grad. Sch. Sci., Nagoya Univ.¹, Div. Behav. Neurobiol., NIBB², Lab. Biores., NIBB³)

OP13-5 10:00-10:15

Molecular mechanisms of dental epithelial stem cells under condition of low oxygen level

低酸素環境によるエナメル上皮幹細胞の維持機構

○Hidemitsu Harada, Shojiro Ikezaki, Keishi Otsu (Div. of DBRM, Iwate Med Univ.)

- OP13-6** 10:15-10:30 Direct reprogramming non-limb fibroblasts into limb bud progenitor-like cells
ダイレクトリプログラミングにより肢芽前駆細胞を繊維芽細胞から誘導する
○Yuji Atsuta, Changhee Lee, Alan Rodrigues, Charlotte Colle, Reiko Tomizawa, Clifford Tabin (HMS)
- OP13-7 (P174C)** 10:30-10:45 Type 3 muscarinic receptors contribute to stem cell proliferation and differentiation in the murine small intestinal crypts through the ephrinB/EphB receptor signaling
タイプ3 ムスカリン性アセチルコリン受容体は ephrinB/EphB receptor を介して腸幹細胞分化・増殖を制御する
○Toshio Takahashi (Suntory Fdn. Life Sci.)

Oral presentation 14: Growth and Metabolism & Disease Models and Mechanisms

DATE: May 22 (Fri) 9:00-10:45 Room B

Chairpersons: Ryusuke Niwa (Univ. of Tsukuba)
Shizue Ohsawa (Nagoya Univ.)

- OP14-1 (P050B)** 09:00-09:15 The polyol pathway is crucial for glucose sensing and sugar-responsive metabolic gene expression
ポリオール経路はグルコース感知およびグルコース摂取に応じた代謝酵素遺伝子群の発現調節に重要な役割を果たす
○Hiroko Sano¹, Akira Nakamura², Mariko Yamane^{2,3}, Hitoshi Niwa², Takashi Nishimura³, Masayasu Kojima¹ (Inst. of Life Science, Kurume Univ.¹, Inst. of Molecular Embryology and Genetics, Kumamoto Univ.², RIKEN BDR³)
- OP14-2 (P051C)** 09:15-09:30 The long noncoding RNA Neat1 regulates the expression of genes involved in thermogenesis upon cold stimulation
ノンコーディング RNA Neat1 は寒冷刺激時に熱産生に関わる遺伝子を制御する
○Hikaru Toya¹, Yuko Okamatsu², Yoshifumi Yamaguchi³, Tetsuro Hirose⁴, Shinichi Nakagawa¹ (Fac. Pharm, Hokkaido Univ.¹, Fac. Vet. Med, Hokkaido Univ.², ILTS, Hokkaido Univ.³, IGM, Hokkaido Univ.⁴)

- OP14-3 (P009C)** 09:30-09:45 Expansion of human iPSCs-derived nephron progenitors and modeling nephrotic disease
iPS 細胞由来ヒト腎臓ネフロン前駆細胞の増幅培養法確立と病態再現
○Shunsuke Tanigawa¹, Hidekazu Naganuma¹, Mazharul Islam¹, Yusuke Kaku¹, Atsuhiro Taguchi^{1,2}, Ryuichi Nishinakamura¹ (Dept. Kidney Dev. IMEG. Kumamoto Univ.¹, Dept. Genome Regulation, MPIMG²)
- OP14-4** 09:45-10:00 VMAT2 safeguards beta-cells against dopamine cytotoxicity under high fat diet-induced stress
VMAT2 による高脂肪食に起因するドーパミン毒性からの膵β-細胞保護に関する研究
○Daisuke Sakano¹, Fumiya Uefune¹, Hiraku Tokuma¹, Yuki Sonoda¹, Kumi Matsuura², Naoki Takeda³, Naomi Nakagata⁴, Kazuhiko Kume⁵, Nobuaki Shiraki¹, Shoen Kume¹ (TITECH¹, IMEG Kumamoto Univ.², IRDA Kumamoto Univ.³, CARD Kumamoto Univ.⁴, Dept. Neuropharmacology, Nagoya City Univ.⁵)
- OP14-5 (P010A)** 10:00-10:15 A novel mouse model of syndactyly: The role of CtBP1/2 in limb organogenesis
CtBP に着目した合指症発症機構の解明
○Nayuta Yakushiji-Kaminatsui¹, Hiroki Sugishita¹, Manabu Nakayama², Haruhiko Koseki¹ (RIKEN IMS¹, Kazusa DNA Res. Inst.²)
- OP14-6 (P011B)** 10:15-10:30 A β-catenin-IRX3/5 gene regulatory network controls osteogenesis versus adipogenesis in the chondrocyte-osteoblast lineage continuum with downstream metabolic consequences
Mingpeng Kong¹, Zhijia Tan¹, Kwok Yeung Tsang¹, Songjia Wen¹, Danny Chan¹, Chi-chung Hui², ○Kathryn S.E. Cheah¹ (SBMS, HKU¹, Department of Molecular Genetics, University of Toronto, Toronto, ON M5S 1A8, Canada²)
- OP14-7 (P012C)** 10:30-10:45 Nuclear matrix associated protein, BANP, is required for proper cell-cycle progression and neuronal survival in zebrafish retinas
○Swathy Babu, Ichiro Masai (OIST)

Oral presentation 15: Patterning

DATE: May 22 (Fri) 9:00-10:45 Room C

Chairpersons: Tatsuya Takemoto (Tokushima Univ.)

Hiroki Oda (JT BRH)

- OP15-1** 09:00-09:15 Reciprocal control of Wnt and Frizzled asymmetry during cell polarization
細胞極性化における Wnt と Frizzled の相互依存的非対称局在
○Hitoshi Sawa¹, Misato Matsuo¹, Mayumi Onami¹, Goldstein Bob², Pani Ariel^{2,3} (NIG¹, UNC Chapel Hill², U. Virginia³)
- OP15-2** 09:15-09:30 Binary decision between asymmetric and symmetric cell division is defined by the balance of PAR proteins
対称分裂と非対称分裂の二者択一は細胞極性因子 PAR タンパク質のバランスによって決定される
Yen Wei Lim^{1,2}, Fu-lai Wen⁴, Prabhat Shanker⁴, Tatsuo Shibata⁴,
○Fumio Motegi^{1,2,3} (TLL¹, NUS², MBF³, RIKEN BDR⁴)
- OP15-3 (P130A)** 09:30-09:45 The larvacean *Oikopleura dioica* lacks Nodal and utilizes calcium oscillation and Bmp expression for left-right patterning
Nodal をもたない脊索動物 *Oikopleura dioica* における左右非対称形成には Ca オシレーションと Bmp の右側発現がかかわる
○Takeshi Onuma¹, Momoko Hayashi¹, Fuki Gyoja², Kanae Kishi¹, Kai Wang¹, Hiroki Nishida¹ (Dep. Biol. Sci., Osaka Univ.¹, Mar Genomics Unit, OIST²)
- OP15-4 (P131B)** 09:45-10:00 Left-right asymmetric balance of blood flow determines left-right asymmetry of vascular patterns
左右非対称な血流バランスがトリ胚後方卵黄静脈の左右非対称形成を誘導している
○Junki Yoshida¹, Yuta Takase^{1,2}, Yoshiko Takahashi¹ (Dept of Zool, Grad Sch of Sci, Kyoto Univ¹, SACRA, Grad Sch of Sci, Kyoto Univ²)
- OP15-5** 10:00-10:15 Variant PCGF1-PRC1 contributes to activation of Polycomb target genes via auto-ubiquitination – proteasome axis

異性型 PRC1 (PCGF1-PRC1) は自己ユビキチン化ータンパク質分解機構を介してポリコム標的遺伝子群の発現活性化に関与している

○Takashi Kondo, Shinsuke Ito, Kaori Kondo, Hiroki Sugishita, Marika Shibata, Haruhiko Koseki (RIKEN-IMS)

OP15-6 10:15-10:30
(P132C)

Hexagonal versus Tetragonal tiling of the *Drosophila* eye

ショウジョウバエ複眼における六角形・四角形タイリング

○Takashi Hayashi¹, Masakazu Akiyama², Shin-ichiro Ei³, Takamichi Sushida⁴, Makoto Sato¹ (InFiniti, Kanazawa U.¹, MIMS, Meiji U.², Dept. of Math., Faculty of Sci., Hokkaido U.³, Tokyo Salesian College of Technology⁴)

OP15-7 10:30-10:45
(P133A)

Characterizing the spatiotemporal dynamics of “spermatogenic wave” in murine testes

マウス精巣における精細管上皮周期波の動態解析

○Toshiyuki Sato^{1,2}, Mitsuru Komeya³, Hiroyuki Yamanaka³, Hiroko Nakamura⁴, Masahide Takahashi², Hiroshi Kimura⁴, Takehiko Ogawa³, Shosei Yoshida^{1,5} (Div. Germ Cell Biol., Natl. Inst. Basic Biol., Natl. Inst. Nat. Sci.¹, Dept. Pathol., Nagoya Univ. Grad. Sch. Med², Lab. Biopharm. Regen. Sci., Inst. Mol. Med. Life Sci., Assoc. Med. Sci., Yokohama City Univ.³, Dept. Mech. Eng., Tokai Univ.⁴, Dept. Basic Biol., Sch. Life Sci., Grad. Univ. Adv. Stud.⁵)

Poster Sessions

The white number is Poster Award candidate.

DATE: May 20 (Wed)-May 22 (Thu)

Mounting:	9:00-12:45 on Day1 (May20 (Wed))
Day1 (May20 (Wed)) Discussion:	13:00-14:00 for A posters 14:00-15:00 for B posters 15:00-16:00 for C posters
Day2 (May21 (Thu)) Discussion:	11:00-12:00 for Odd Number posters
Day3 (May22 (Fri)) Discussion:	11:00-12:00 for Even Number posters
Removal:	12:15-13:15 on Day3 (May22 (Fri))

P001A Insulin2 Q104del (Kuma) mutant mice develop diabetes with dominant inheritance
Insulin2 タンパクへの Q104del 変異導入による自然発症 1 型糖尿病モデルマウスの作製
○Airi Inoue¹, Daisuke Sakano¹, Takayuki Enomoto¹, Mai Imasaka², Seiji Okada³, Masato Koike⁴, Kimi Araki², Shoen Kume¹ (Life Science and Technology, Tokyo Tech¹, IRDA, Kumamoto Univ.², Joint Research Center for Human Retrovirus Infection, Kumamoto Univ.³, Department of Cell Biology and Neuroscience, Juntendo Univ.⁴)

P002B Roles of Notch signaling in regulating muscle plasticity
Notch シグナルによる骨格筋可塑性の制御
○Shin Fujimaki¹, Tomohiro Matsumoto¹, Ryuichi Nishinakamura², Yusuke Ono¹ (Dept. Muscle Dev. & Regeneration, IMEG, Kumamoto Univ.¹, Dept. Kidney Dev., IMEG, Kumamoto Univ.²)

P003C Artocarpus blancoi (Elmer) merr. LEAF EXTRACTS SHOWS ANTI-PROLIFERATIVE ACTIVITY AND P53 FUNCTION RESTORATION AGAINST MCF-7 BREAST CANCER CELL LINE
○Rod Vincent Borromeo¹, Mylah Tabelin^{1,2}, Ahmad Mazahery³ (MSU-IIT¹, MSU-IIT², UP-Diliman³)

P004A Role of Polycomb-group complex-1 in the initial phase of cellular senescence

クロマチン作用因子ポリコーム群複合体 PRC1 による細胞老化抵抗性

Momo Koyama¹, Jafar Sharif², Haruhiko Koseki², [○]Kyoichi Isono¹ (WMU¹, RIKEN IMS²)

P005B

Memory Dynamics of Helper T cells and Regulatory T cells in Adaptive Immunity

適応免疫におけるヘルパー T 細胞および制御性 T 細胞の記憶ダイナミクス

[○]Kana Yoshido, Naoki Honda (Grad. Sch. Biostudies, Univ. Kyoto)

P006C

Chemical-induced cleft palate is regulated by Wnt signaling pathway in zebrafish model

ゼブラフィッシュを用いた口蓋裂モデル—化学物質に起因する口蓋裂は Wnt シグナルによる制御を受ける—

[○]Rika Narumi, Junichi Tasaki, Liu Shujie, Takashi Ieki, Naohiro Ikeda, Osamu Morita (Safety Science Research, Kao Corporation)

P007A

Peripheral blood mononuclear cells activated by Lactobacillus plantarum supernatant induces selective anti-cancer activity in vitro

[○]Ranelle Janine Asi¹, Ana Joy Padua², Sonia Jacinto¹, Marilen Balolong³, Ahmad Reza Mazahery¹ (IB-UPD¹, CPH-UPM², DB-UPM³)

**P008B
(OP05-2)**

Dynamin-related GTPase, Drp1, is required for BNip1-mediated photoreceptor apoptosis in zebrafish

ゼブラフィッシュ視細胞の BNip1 依存性細胞死におけるダイナミン関連タンパク質 Drp1 の役割

[○]Yuko Nishiwaki, Mamoru Fujiwara, Ichiro Masai (Masai Unit, OIST)

**P009C
(OP14-3)**

Expansion of human iPSCs-derived nephron progenitors and modeling nephrotic disease

iPS 細胞由来ヒト腎臓ネフロン前駆細胞の増幅培養法確立と病態再現

[○]Shunsuke Tanigawa¹, Hidekazu Naganuma¹, Mazharul Islam¹, Yusuke Kaku¹, Atsuhiko Taguchi^{1,2}, Ryuichi Nishinakamura¹ (Dept. Kidney Dev. IMEG, Kumamoto Univ.¹, Dept. Genome Regulation, MPIMG²)

**P010A
(OP14-5)**

A novel mouse model of syndactyly: The role of CtBP1/2 in limb organogenesis

CtBP に着目した合指症発症機構の解明

○Nayuta Yakushiji-Kaminatsui¹, Hiroki Sugishita¹, Manabu Nakayama², Haruhiko Koseki¹ (RIKEN IMS¹, Kazusa DNA Res. Inst.²)

P011B
(OP14-6)

A β -catenin-IRX3/5 gene regulatory network controls osteogenesis versus adipogenesis in the chondrocyte-osteoblast lineage continuum with downstream metabolic consequences

Mingpeng Kong¹, Zhijia Tan¹, Kwok Yeung Tsang¹, Songjia Wen¹, Danny Chan¹, Chi-chung Hui², ○Kathryn S.E. Cheah¹ (SBMS, HKU¹, Department of Molecular Genetics, University of Toronto, Toronto, ON M5S 1A8, Canada²)

P012C
(OP14-7)

Nuclear matrix associated protein, BANP, is required for proper cell-cycle progression and neuronal survival in zebrafish retinas

○Swathy Babu, Ichiro Masai (OIST)

P013A

YAP signaling regulations in CVP morphogenesis

Tae-young Kim¹, Ji-youn Kim², ○Prasad Yam¹, Seon Lee¹, Pokharel Elina¹, Hyeon-an Chang¹, Hitoshi Yamamoto³, Joo-sohn Wern⁴, Jae-kwang Jung¹, Jae-young Kim¹ (IHBR, KNU¹, Department of Dental Hygiene, Gachon University, Incheon, Korea², Department of Histology and Developmental Biology, Tokyo Dental College, Tokyo, Japan³, Pre-Major of Cosmetics and Pharmaceuticals, Daegu Hanny University, Gyeongsan, Korea⁴)

P014B

Blastocoel expansion triggers nuclear translocation of YAP in inner cell mass of pre-implantation mouse embryos

胞胚腔の拡大は着床前マウス胚の ICM における YAP の核移行を引き起こす

○Hinako Maeda, Masakazu Hashimoto, Hiroshi Sasaki (FBS, Osaka Univ.)

P015C

Importin13 is required for the mouse embryonic development

Importin13 は、マウスの胚発生に必要である

○Yasuko Yamaguchi¹, Hiroshi Kiyonari², Patrick Tam³, Satomi Tanaka¹ (Kumamoto Health Sci Univ¹, LARGE, RIKEN BDR², CMRI, Australia³)

P016A

Investigation of hiPS differentiation potential into early blood/vascular progenitors using chicken-embryo based in vivo assay

○Galym Ismagulov, Sofiane Hamidi, Guojun Sheng (IRCMS)

P017B

Foxd, which is important for patterning along the animal-vegetal axis in early ascidian embryos, acts as an activator or a repressor by differences in cis-regulatory sequences of its targets

ホヤの初期胚で動物極—植物軸極に沿ったパターンニングにはたらく Foxd は、標的遺伝子のシス調節領域の違いによって activator または repressor として機能する

○Shinichi Tokuihiro, Yutaka Satou (Graduate School of Science, Kyoto University)

P018C Toward understanding of the molecular mechanism by which Wnt directs planar cell polarity

Wnt による平面細胞極性の方向づけの分子メカニズム

○Yusuke Mii^{1,2,3}, Ritsuko Takada^{1,2}, Makoto Matsuyama⁴, Shinji Takada^{1,2} (NIBB¹, ExCELLS², JST PRESTO³, SMRI⁴)

P019A Initial analysis for understanding molecular mechanisms of regulative development

調節発生の分子メカニズム解明に向けて

○Haruka Suzuki¹, Shunsuke Yaguchi^{1,2} (Tsukuba Univ, Shimoda Marine Research Center¹, PRESTO, JST²)

P020B A novel role of *Numb* prevents embryo from twisting through the inhibition of Notch signaling-dependent activation of *Cdc25*

○Elzava Yuslimatin Mujizah¹, Satoshi Kuwana¹, Takuma Gushiken¹, Kenjiroo Matsumoto¹, Martin Baron², Kenji Matsuno¹ (Faculty of Science¹, Faculty of Life Sciences, University of Manchester²)

P021C *fuchi nashi*, a rapidly evolving Gata gene, is required for the germ disc formation and early endoderm specification in the *Theridiidae* spider *Parasteatoda tepidariorum*

ヒメグモ科オオヒメグモにおいて急速に進化している Gata 遺伝子 *fuchi nashi* は胚盤形成と初期の内胚葉の特異化に必要である

○Sawa Iwasaki-Yokozawa¹, Yasuko Akiyama-Oda^{1,2}, Hiroki Oda¹ (BRH¹, Osaka Medical College²)

P022A Autocrine and paracrine functions of Wnt ligand in the neuromesoderm progenitor cells of mouse embryo

マウス胚の神経中胚葉前駆細胞における Wnt のオートクリン及びパラクリン機能の解析

○Yudai Hatakeyama^{1,2,3}, Yusuke Mii^{1,2,3}, Shinji Takada^{1,2,3} (SOKENDAI¹, NIBB², ExCELLS³)

P023B

Regulatory mechanism of morphogen signals by the autism-related gene *cdc2-like kinase 2 (clk2)* in *Xenopus* neural development

○Regina Virgiri¹, Kimiko Takebayashi-Suzuki¹, Makoto Nakamura¹, Fatchiyah Fatchiyah², Atsushi Suzuki¹ (Amphibian Research Center, Grad. Sch. of Sci., Hiroshima Univ.¹, Dept. of Biol., Fac. of Math. and Nat. Sci., Brawijaya Univ.²)

P024C

GABA expressed in the neural tube area in the tail-bud stage is involved in elongation function independent of convergent extension
尾芽胚期の神経管領域に発現する GABA は convergent extension とは独立した体軸伸長機能に関わる

○Masaki Hachiman¹, Mizuki Sakurai², Hiroki Kuroda³ (Graduate School of Media and Governance, Keio University¹, Faculty of Policy Management, Keio University², Faculty of Environment and Information Studies, Keio University³)

P025A

Collectivity of nuclear migration in the visceral muscles of the embryonic midgut may be required for the left-right asymmetry formation of this organ in *Drosophila*

○Dongsun Shin¹, Yoshitaka Morishita¹, Masakazu Akiyama², Mototsugu Eiraku³, Mikiko Inaki¹, Kenji Matsuno¹ (Department of Biological Science, Graduate School of Science, Osaka University¹, Meiji Institute for Advanced Study of Mathematical Sciences², Institute for Frontier Life and Medical Sciences, Kyoto University³)

P026B

The roles of xArg1 in *Xenopus* early embryogenesis

アフリカツメガエルの初期発生における xArg1 の役割

○Yuki Moriyama¹, Maria Yanagisawa¹, Yuka Moriyama¹, Momoko Hasebe¹, Sakurako Nanba², Mei Yamazaki¹, Taiga Nakazato¹ (Lab. Tissue Morph, Biol. Sci., Fac. Sci. Engng., Chuo Univ.¹, Graduate School of Medical Life Science, Yokohama City University²)

P027C

Mesoderm cells collectively migrate through a dynamic meshwork during chick gastrulation

ニワトリ胚原腸陥入時における中胚葉細胞の集団運動メカニズム

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

P028A
(SW1-1)

Gating mechanism of blastopore to regulate extracellular fluid dynamics

初期胚の体液動態を制御する原口の開閉機構

○Soichiro Kato^{1,2}, Hidehiko Inomata^{1,2} (Osaka Univ.¹, RIKEN BDR²)

P029B
(OP09-1)

The regulatory mechanism of Nodal signal by the pro-domain cleavage revealed from a nanobody-based approach

ナノボディにより明らかになったプロドメイン切断による Nodal シグナルの制御機構

○Takafumi Ikeda¹, Masanori Taira², Hiroyuki Takeda¹ (Lab. of Embryology, Dept. of Biol. Scis., Grad. Sch. of Sci., Univ. of Tokyo¹, Dept. of Biol. Scis., Faculty of Sci. and Eng., Chuo Univ.²)

P030C
(OP09-2)

Mesenchymal-epithelial transition regulates initiation of pluripotency exit before gastrulation

○Sofiane Hamidi¹, Yukiko Nakaya², Hiroki Nagai^{1,2}, Cantas Alev^{2,3}, Takeya Kasukawa⁴, Sapna Chhabra⁵, Ruda Lee⁶, Hitoshi Niwa⁷, Aryeh Warmflash⁸, Tatsuo Shibata², Guojun Sheng^{1,2} (KU (IRCMS)¹, BDR RIKEN², CiRA Kyoto U³, IMS RIKEN⁴, SSPB Rice U⁵, IROAST KU⁶, IMEG KU⁷, IBB Rice U⁸)

P031A
(OP09-3)

Differential cellular stiffness as a mechanism for tissue elongation on growing embryo

細胞間の硬さの相違が成長する胚における組織伸長に寄与する

○Hiroshi Koyama^{1,2}, Makoto Suzuki^{2,3,4}, Naoko Yasue³, Hiroshi Sasaki⁵, Naoto Ueno^{2,3}, Toshihiko Fujimori^{1,2} (Div. Embryology, NIBB¹, SOKEN-DAI², Div. Morphogenesis, NIBB³, ARC, Hiroshima Univ.⁴, FBS, Osaka Univ.⁵)

P032B
(OP09-4)

Neural-fated self-renewing cells regulated by Sox2 during secondary neurulation in chicken tail bud

ニワトリ胚尾側神経管形成 secondary neurulation における Sox2 による神経系自己増殖性細胞の制御

○Teruaki Kawachi¹, Eisuke Shimokita², Ryosuke Tadokoro³, Yoshiko Takahashi¹ (Kyoto Univ.¹, Tokushima Univ.², OUS³)

P033C
(OP09-5)

The formation of multiple pituitary pouches from the oral ectoderm in hedgehog signaling-defective avian embryos causing ectopic lens development

ヘッジホッグシグナルを欠損した鳥類胚では複数の下垂体前駆体嚢が発生し、それから異所水晶体が発生する

Yuki Taira^{1,4}, Yuya Ikuta¹, Machiko Teramoto¹, Mitsuo Nunome², Mikiharu Nakano², Takayuki Suzuki², Yoichi Matsuda², Masaoki Tsudzuki³, Hideaki Iida¹, [○]Hisato Kondoh¹ (Kyoto SU¹, Nagoya U², Hiroshima U³, NAIST⁴)

P034A
(OP12-1)

Differences in mitochondrial activity trigger cell competition during early mouse development

[○]Ana Lima^{1,2}, Gabriele Lubatti^{3,4,5}, Jrg Burgstaller⁶, Di Hu⁷, Alistair Green⁸, Aida Di Gregorio¹, Tamzin Zawadzki¹, Barbara Pernaute⁹, Elmir Maham-madov^{3,4,5}, Marian Dore², Juan Miguel Sanchez¹, Sarah Bowling¹, Margarida Sancho¹, Mohammad Karimi², David Carling², Nick Jones⁸, Shankar Srinivas⁷, Antonio Scialdone^{3,4,5}, Tristan Rodriguez¹ (NHLI, Imperial College London, UK¹, MRC LMS, Institute of Clinical Sciences, Imperial College London, UK², IES, Helmholtz Zentrum Mnchen, Munich, Germany³, IFE, Helmholtz Zentrum Mnchen, Neuherberg, Germany⁴, ICB, Helmholtz Zentrum Mnchen, Neuherberg, Germany⁵, Institute of Animal Breeding and Genetics, Vetmeduni, Vienna, Austria⁶, Department of Physiology, Anatomy and Genetics, University of Oxford, UK⁷, Department of Mathematics, Imperial College London, UK⁸, CRG, The Barcelona Institute of Science and Technology, Barcelona, Spain⁹)

P035B
(OP12-2)

DDX6-mediated mRNA regulation is required for the mesoderm specification during early embryogenesis in mice

[○]Jessica Kim¹, Yumiko Saga^{1,2} (Univ. of Tokyo¹, NIG²)

P036C
(OP12-3)

Role of Dppa2/4-PRC1.6 axis for regulation of partially DNA methylated genes in naive pluripotent stem cells

ナイーブ型の多能性幹細胞において部分的 DNA メチル化を受ける遺伝子群の Dppa2/4-PRC1.6 軸による制御

[○]Mitsuhiro Endoh, Hitoshi Niwa (IMEG, Kumamoto University)

P037A

Regulation of lactic acid mediated development competence of early stage embryos

Woo-ri Ko¹, Hyun-shik Lee², Han Kyu Lim³, [○]Yong-pil Cheon¹ (CDPR, DDBP, Dept Biotech, Sungshin Univ.¹, KNU-Center for Nonlinear Dynamics, CMRI, School of Life Sciences, BK21 Plus KNU Creative BioResearch Group College of Natural Sciences, Kyungpook National University, Daegu, Korea², Marine & Fishies Resource, Mokpo National University³)

- P038B** Primary analysis of the characteristics of TCR β chain CDR3 repertoires in the peripheral blood of twins
 °Danhua Su¹, Xiaoheng Dong², Long Ma², Xinsheng Yao² (Zunyi Medical University¹, Zunyi Medical University²)
- P039C** Diversity and Development of Bacteriomes; Evo-devo approaches to symbiosis using beetles and their symbiotic bacteria
 甲虫における菌細胞塊の多様性および発生機構の解明
 °Bin Hirota¹, Minoru Moriyama², Takema Fukatsu^{1,2} (The University of Tokyo¹, AIST²)
- P040A** Convergent evolution of duplicated genes in different evolutionary lineages
 異なる進化系譜における倍加遺伝子の収斂進化
 °Mikio Tanouchi, Takeshi Igawa, Makoto Suzuki, Nanoka Suzuki, Hajime Ogino (Department of Biological Science, Graduate School of Science, Hiroshima Univ.)
- P041B** Spatio-temporal regulation of homeobox genes in the vertebrate jaw primordium
 脊椎動物の顎原基におけるホメオボックス遺伝子の時期・領域特異的な発現の制御
 °Yoshio Wakamatsu¹, Hikaru Kon¹, Kunihiro Suzuki² (Dept. Dev. Neurosci., Tohoku Univ. Grad. Sch. Med.¹, Dept Biol. Nihon Univ. Sch. Dent. Matsudo²)
- P042C** CRISPR/Cas9-mediated functional analyses of Hox/paraHox genes in the water flea, *Daphnia magna*
 オオミジンコ Hox/paraHox 遺伝子群の CRISPR/Cas9 法を用いたゲノム編集による機能解析
 Kouki Kusaba, Nagisa Miyazaki, Ikuma Osawa, °Yasuhiro Shiga (Tokyo Univ. Pharm. & Life Sci., Sch. of Life Scis.)
- P043A** Telencephalic expression analysis of the 5-hydroxytryptamin receptor (5-HTR) genes in the chicken
 ニワトリ終脳におけるセロトニン受容体遺伝子の発現解析
 °Toshiyuki Fujita, Naoya Aoki, Eiko Fujita, Koichi Homma, Shinji Yamaguchi (Teikyo Univ.)
- P044B** PROTEOMIC APPROACH TO DISSECT THE ANCESTRAL

β -CATENIN TRANSCRIPTION MACHINERY

○Ivan Mbogo¹, Yuuri Yasuoka², Hiroshi Watanabe¹ (Evolutionary Neurobiology Unit¹, RIKEN Center for Integrative Medical Sciences (IMS), Yokohama, Japan²)

P045C **(OP08-3)**

The effect on metamorphosis by gene knockout of retinoic acid receptor in starfish and the evolution of RA-dependent metamorphosis

ヒトデにおけるレチノイン酸受容体 RAR ノックアウトの変態への影響および RA に依存的な変態の進化

○Shumpei Yamakawa¹, Yoshiaki Morino¹, Hisanori Kohtsuka², Yasunori Sasakura³, Hiroshi Wada¹ (Grad. Sch. Life Env. Sci., Univ. Tsukuba¹, MMBS, Univ. Tokyo², SMRC, Univ. Tsukuba³)

P046A

Expression of a possible horizontally-transferred gene containing a glycosyl hydrolase family 6-domain in *Ciona* embryos

○Kun-lung Li¹, Jun Inoue², Keisuke Nakashima¹, Noriyuki Satoh¹ (MGU, OIST, Japan¹, National Institute of Genetics, Japan²)

P047B

Regulation of interstitial cell behaviors during branching morphogenesis of medusa tentacles in the jellyfish, *Cladonema pacificum*

○Shiting Hou, Ayaki Nakamoto, Gaku Kumamno (RCMB, Tohoku Univ.)

P048C

Effect of nutritional condition for a biological timer to determine prepupal period in *Drosophila melanogaster*

栄養状態がショウジョウバエ前蛹期間を決める生物タイマーに与える影響

Mayu Nakanishi, Haruka Nishida, ○Hitoshi Ueda (Okayama Univ.)

P049A

A homeobox transcription factor negatively regulates larval development via regulating molting hormone biosynthesis in *Drosophila melanogaster*

脱皮ホルモン生合成調節を介してキイロショウジョウバエ幼虫の発生を負に調節する HOX 型転写因子の機能解析

○Takumi Kamiyama¹, Ryusuke Niwa², Wei Sun^{2,3} (Grad. School of Life and Env. Sci., Univ. of Tsukuba¹, TARA center, Univ. of Tsukuba², School of Life Sci., Chongqing Univ., China³)

P050B **(OP14-1)**

The polyol pathway is crucial for glucose sensing and sugar-responsive metabolic gene expression

ポリオール経路はグルコース感知およびグルコース摂取に応じ

た代謝酵素遺伝子群の発現調節に重要な役割を果たす

○Hiroko Sano¹, Akira Nakamura², Mariko Yamane^{2,3}, Hitoshi Niwa², Takashi Nishimura³, Masayasu Kojima¹ (Inst. of Life Science, Kurume Univ.¹, Inst. of Molecular Embryology and Genetics, Kumamoto Univ.², RIKEN BDR³)

**P051C
(OP14-2)**

The long noncoding RNA Neat1 regulates the expression of genes involved in themogenesis upon cold stimulation

ノンコーディング RNA Neat1 は寒冷刺激時に熱産生に関わる遺伝子を制御する

○Hikaru Toya¹, Yuko Okamatsu², Yoshifumi Yamaguchi³, Tetsuro Hirose⁴, Shinichi Nakagawa¹ (Fac. Pharm, Hokkaido Univ.¹, Fac. Vet. Med, Hokkaido Univ.², ILTS, Hokkaido Univ³, IGM, Hokkaido Univ⁴)

P052A

Dopamine storage and production in pancreatic β -cells regulate insulin secretion in rodent

マウス膵 β 細胞内のドーパミン貯蔵・合成がインスリン分泌を制御する

○Fumiya Uefune¹, Daisuke Sakano¹, Toru Aonishi², Harumi Takahashi³, Shoen Kume¹ (Sch. Life Sci & Tech, Tokyo Tech¹, Sch. Computing, Tokyo Tech², Grad. Sch Med, Kobe Univ³)

P053B

Investigating the Regulatory Mechanism of MET within Kidney Organoids

腎臓オルガノイドの MET イベントを用いた周辺環境の特異性の解明

○Rio Noto^{1,2}, Minoru Takasato¹ (RIKEN Center for Biosystems Dynamics Research¹, Department of Nephrology, Graduate School of Medicine, Kyoto University²)

P054C

An approach to eGFP-label interstitial cells of Cajal (ICCs) by CRISPR/Cas9-based knock-in for the c-Kit gene in chicken embryos

ニワトリ胚における c-Kit 遺伝子へ CRISPR/Cas9 を基盤とした eGFP ノックインによる ICC の可視化の試み

○Tomoatsu Takano¹, Arata Honda², Yuta Takase^{1,3}, Yoshiko Takahashi¹ (Dept of Zool. Kyoto Univ¹, ILA. kyoto Univ², MACS. Kyoto Univ³)

P055A

Regulatory mechanism of morphological change of roof-plate cells in the mouse spinal cord

マウス神経管における roof plate 細胞の形態変化の制御機構

○Takuma Shinozuka^{1,2}, Shinji Takada^{1,2} (NIBB¹, ExCELLS²)

P056B GFP-knock-in medaka revealed the involvement of *dhfr-like* and *hdd* in the xanthophore lineage pigment cell differentiation

メダカ黄色素胞分化に關与する *dhfr-like* および *hdd* の解析

Shunya Nakamura¹, Satoshi Ansai^{2,3}, Kiyoshi Naruse², Tohru Suzuki¹,
○Hayato Yokoi¹ (Grad Schl Agricul Sci, Tohoku Univ¹, NIBB², Grad Schl Life Sci, Tohoku Univ³)

P057C Coordinated growth of midline tissues in the zebrafish body 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 Kawanishi¹, Hiroyuki Takeda¹, Sean Megason² (Univ. Tokyo¹, HMS²)

P058A Interaction of cell migration and surrounding tissues during early cardiogenesis in zebrafish

ゼブラフィッシュ初期心臓形成における細胞移動と周辺組織の關係性の解析

○Hitoshi Morita (University of Yamanashi)

P059B Functional analyses of Itga3b in zebrafish embryonic heart

○Xiang-ling Yu^{1,2}, Sheng-ping L. Hwang^{1,2} (DBB, National Taiwan Ocean University¹, ICOB, Academia Sinica²)

P060C Quantitative analysis of epidermal cells dynamics during head development in zebrafish embryo

ゼブラフィッシュ胚の顔発生時における表皮細胞動態の定量解析

○Kazutaka Hosoda¹, Naofumi Kawahira^{1,2}, Sang-woo Lee¹, Daisuke Ohtsuka¹, Yoshihiro Morishita^{1,3} (RIKEN BDR¹, Grad. Sch. of Med., Kyoto Univ.², PRESTO JST³)

P061A Chromatin dynamics in Hox-mediated animal body development

Hox 依存的動物個体発生におけるクロマチン動態

○Yoshifumi Asakura, Naoki Honda (Grad. Sch. Biostudies, Univ. Kyoto)

P062B Expression pattern and developmental function of Piezo1 in craniofacial development

○Eui-seon Lee¹, Yam Aryal¹, Tae-young Kim¹, Elina Pokharel¹, Shijin

Sung¹, Ji-youn Kim², Wern-joo Sohn³, Sung-jin Cho⁴, Jae-kwang Jung¹, Jae-young Kim¹ (IHBR, Kyungpook National University¹, Department of Dental Hygiene, Gachon University, Incheon, Korea², Pre-Major of Cosmetics and Pharmaceuticals, Daegu Haany University, Gyeongsan, Korea³, School of Biological Sciences, College of Natural Sciences, Chungbuk National University, Cheongju, Korea⁴)

P063C

Organ size and shape control during differential development of *Drosophila* Wing and Haltere

○Dilsha C, Ls Shashidhara (IISER Pune, India)

P064A

Amplitude and phase dynamics of the segmentation clock during pattern recovery

分節時計再同期過程における振幅位相ダイナミクス

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

P065B

Cuticle nano-patterning by self-assembly of an apical ECM molecule and its trafficking

自己集合能を有する分子ファミリーによる細胞外基質のナノパターンニング

○Yuki Itakura¹, Sachi Inagaki¹, Zhengkuan Sun^{1,2}, Housei Wada¹, Shigeo Hayashi^{1,2} (RIKEN BDR¹, Department of Biology, Graduate School of Science, Kobe University²)

P066C

Mesothelial EMT during chorio-allantoic membrane fusion on chick embryo development

ニワトリ胚の漿尿膜融合を駆動制御する中皮 EMT

○Hiroki Nagai, Guojun Sheng (IRCMS)

P067A

In vitro reconstitution of the Wolffian duct using human pluripotent stem cells

ヒト iPS 細胞を用いたウォルフ管の試験管内再構成

○Junichi Taniguchi¹, Thomas Kluiver¹, Hiroki Matsunaga^{1,2}, Minoru Takasato^{1,2} (RIKEN BDR¹, Grad. Sch. of Biostudies, Kyoto Univ.²)

P068B

Theoretical model for leaf-shape variation in heterophyllous lake cress
異形葉性のロリッパアクアティカが示す多様な葉形を説明する理論モデル

○Akiko Nakamasu¹, Nobuhiko Suematsu^{2,4}, Seisuke Kimura³ (IROAST,

Kumamoto Univ.¹, Math. Sci., Meiji Univ.², Dept. Biores. & Env. Boil.
Kyo-San Univ.³, MIMS⁴)

P069C

Spatiotemporal distribution of macrophages and relationship with neural crest cells in cardiac development

心臓発生におけるマクロファージの時空間的分布と神経堤細胞との関係

○Mayuko Kida¹, Akiyasu Iwase¹, Sachiko Miyagawa-Tomita^{1,2}, Hiroki Kurihara¹ (Dept of phys. Chim and Metab., Grad. Sch. of Med, Univ. of Tokyo¹, Dept of Anim. Nurs. Sci., Yamazaki Univ. Animal Health Tech²)

P070A

Cancelled

P071B

Development Pattern of Kidney-Ureter and Renal Abnormalities in Ahnak KO

○Sang-bin Oh¹, Jong-min Lee¹, Yun-soo Bae², Han-sung Jung¹ (Division in Anatomy and Developmental Biology, Department of Oral Biology, Oral Science Research Center, BK21 PLUS Project, Yonsei University College of Dentistry, Seoul, Korea¹, Department of Life Sciences, Ewha Woman's University, Seoul, Korea²)

P072C

Single cell mechanics in 3D tissue formation: combined approach of organoid culture and mathematical modeling

3D 組織形成の 1 細胞力学解析：オルガノイド培養と数理モデリングの融合アプローチ

○Satoru Okuda (Nano Life Science Institute)

P073A

Comparison of tail morphogenetic processes among three rodent species with different tail lengths

尾長の異なる 3 種の齧歯類における尾部形態形成過程の比較

○Sayaka Tojima¹, Akio Shinohara², Chihiro Koshimoto² (Osaka City Univ.¹, Univ. of Miyazaki²)

P074B

Mathematical model of the plant root hair morphogenesis depending on the cell wall hardening

植物の根毛はなぜまっすぐに伸びるか数理モデルから考える

○Hisako Takigawa-Imamura¹, Tomoko Hirano², Masa H. Sato² (Dept. Anat. Cell Biol., Grad. Sch. Med., Kyushu Univ.¹, Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.²)

- P075C** Understanding cell fate and developmental signals during mammalian bladder development.
 ○Filip Wymeersch¹, Rio Noto^{1,2}, Minoru Takasato¹ (RIKEN BDR¹, Graduate School of Medicine Kyoto University, Kyoto, Japan²)
- P076A** Does the collective durotaxis actually happen in animal?
 集団的弾性応答は生体内で観察されるか？
 ○Sei Kuriyama (Akita University)
- P077B** Expression pattern and putative function of ER-stress molecules in tooth formation
 ○Yam Aryal¹, Tae Kim¹, Eui Lee¹, Elina Pokharel¹, Shijin Sung¹, Jae Jung¹, Hitoshi Yamamoto², Chang An¹, Wern Sohn³, Jae Kim¹ (KNU¹, TDC², DHU³)
- P078C (SW1-2)** Roles of Sox9b in medaka pigment cell development
 メダカ色素細胞発生における Sox9b の役割
 ○Yuri Tsunogai, Masahiko Hibi, Hisashi Hashimoto (Grad, Sch, Sci, Nagoya Univ.)
- P079A (SW1-3)** Dynamics of interstitial cells of Cajal for elucidating the mechanism of the gut peristalsis
 腸蠕動運動のメカニズム解明に向けたカハール介在細胞の動態解析
 ○Rei Yagasaki¹, Ryo Nakamura², Yuuki Shikaya¹, Ryosuke Tadokoro³, Yoshiko Takahashi¹ (Dept of Zool., Grad. Sch. of Sci., Kyoto Univ.¹, OIST, ENBU², Okayama Univ. of Sci.³)
- P080B (OP03-1)** Vascular intraluminal pressure inhibits angiogenic branch elongation via vascular wall stretch
 血管内腔圧は血管壁伸展を介して血管新生を抑制する
 ○Koichi Nishiyama¹, Shinya Yuge², Yuichiro Arima¹, Yasuyuki Hanada¹, Sanshiro Hanada¹, Ryuji Yokokawa³, Takashi Miura⁴, Shigetomo Fukuhara² (IRCMS, Kumamoto Univ.¹, Inst. of Adv. Med. Sci., Nippon Med. School², Dept. Micro Eng., Kyoto Univ.³, Dept. Anatomy and Cell Biol., Kyushu Univ.⁴)
- P081C (OP03-3)** Independent size regulation of bones and appendages in zebrafish
 ゼブラフィッシュでは付属肢の大きさと個々の骨の長さは独立して制御されている

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

**P082A
(OP05-3)**

Quest for claudin-independent occluding junctions in vivo

クローディン非依存的な閉塞結合の検討

○Tetsuhisa Otani^{1,2}, Mikio Furuse^{1,2} (Div. of Cell Structure, NIPS¹, Dept. of Physiological Sciences, SOKENDAI²)

**P083B
(OP06-1)**

Mechanosensor channel Piezo1 mediates calcium upregulation during lymphatic valve morphogenesis

リンパ管弁形成におけるメカノセンサーチャネル Piezo1 を介したカルシウム制御

○Hiroki Katsuta^{1,2}, Keiko Nonomura², Akemi Kanie², Takaki Miyata¹, Toshihiko Fujimori² (Dept. Dev. Cell Biol. Grad. Sch. Med. Nagoya Univ.¹, Division of Embryology, NIBB²)

**P084C
(OP06-2)**

Common tissue deformation dynamics during limb development across species

四肢発生過程における種間で保存された組織変形ダイナミクス

○Yoshihiro Morishita^{1,2}, Sang-woo Lee¹, Takayuki Suzuki³, Hitoshi Yokoyama⁴, Yasuhiro Kamei⁵, Koji Tamura⁶, Aiko Kawasumi-Kita¹ (RIKEN BDR¹, PRESTO, JST², Nagoya Univ³, Hirosaki Univ⁴, NIBB⁵, Tohoku Univ⁶)

**P085A
(OP06-3)**

Imaging data-driven extraction of the governing principle in multicellular dynamics

多細胞ダイナミクスを司る法則のイメージングデータ駆動的解読

○Naoki Honda¹, Yoshifumi Asakura¹, Yohei Kondo^{2,3}, Kazuhiro Aoki^{2,3} (Kyoto University¹, NIBB², ExCELLS³)

**P086B
(OP06-4)**

Identification and characterization of Wnt5a downstream targets during early development in mouse

マウス初期発生における Wnt5a 下流因子の同定と機能解析

○Rieko Ajima, Yumiko Saga (NIG)

**P087C
(OP06-5)**

Mechanical stress regulates epithelial tissue integrity and stiffness through the FGF receptor/Erk2 signaling pathway during embryogenesis

メカニカルストレスによる FGFR-Erk2 シグナルを介した初期胚上皮組織の統合性制御

○Noriyuki Kinoshita¹, Yutaka Hashimoto^{1,2}, Naoko Yasue¹, Ileana Cristea², Naoto Ueno¹ (Div. of Morphogenesis, NIBB¹, Dept. of Mol. Biol., Princeton Univ.²)

P088A
(OP07-1)

Bidirectional Wnt signaling between endoderm and mesoderm confers tracheal identity in mouse and human

マウスおよびヒトにおける内—中胚葉間の双方向 Wnt シグナルが気管間充織を確立する

Keishi Kishimoto, ○Mitsuru Morimoto (RIKEN BDR)

P089B
(OP07-2)

Spatial-temporal regulation of EMC anchoring for reproducible 3D packing design under spatial constraints

限られた空間で正確な組織収納を可能にする ECM の時空間制御の解明

○Alice Tsuboi¹, Koichi Fujimoto², Takefumi Kondo^{3,4} (Grad. Sch. of Biostudies., Kyoto Univ.¹, Grad. Sch. of Science., Osaka Univ.², Grad. Sch. of Biostudies., Kyoto Univ.³, K-CONNEX⁴)

P090C
(OP07-3)

A temporal ecdysone signal mediated by *polished rice* modulates cell fate decision in *Drosophila* tracheal development

polished rice 遺伝子を介した時期特異的なエクジソンシグナルはショウジョウバエの気管形成において細胞の運命決定を調節する

○Yuki Taira¹, Housei Wada², Shigeo Hayashi², Yuji Kageyama^{1,3} (Dept. Biol., Grad. Sch. Sci. Sci., Kobe Univ.¹, RIKEN, BDR², Biosig. Res. Ctr., Kobe Univ.³)

P091A
(OP07-5)

Three-dimensional simulation of epithelial tube revealed a chiral cellular behavior, cell twisting that may account for the directional gut rotation in *Drosophila*

3次元シミュレーションにより明らかとなった細胞のキラルなねじれによるショウジョウバエの消化管捻転の機構

○Mikiko Inaki¹, Miki Yukumatsu¹, Taishi Takigawa¹, Takamichi Sushida², Masakazu Akiyama³, Yasuhiro Inoue⁴, Kenji Matsuno¹ (Dept. Biol., Grad. Sch. Sci., Osaka Univ.¹, Salesian Polytech.², MIMS, Meiji Univ.³, Sch. Eng., Kyoto Univ.⁴)

P092B
(OP10-1)

A neomorphic inhibitor secreted from *pecanex* mutant phagocytes remotely suppresses Notch signaling

pecanex 突然変異の貪食細胞から分泌されるネオモルフィックな因子が Notch シグナルを遠隔的に抑制する

○Tomoko Yamakawa, Yuka Matsuda, Kiwako Maeda, Kenji Matsuno (Dept. of Biol. Sci., Grad. School of Sci., Osaka Univ.)

P093C
(OP10-2)

Mechanical property of zebrafish embryonic epithelium

ゼブラフィッシュ胚上皮シートの力学特性解析

○Sohei Yamada¹, Yasumasa Bessho², Yoichiro Hosokawa¹, Takaaki Matsui² (Division of Material Sciences, NAIST¹, Division of Biological Science, NAIST²)

P094A
(OP10-3)

Actin cytoskeleton generates cell chirality in *Drosophila* phagocytes

ショウジョウバエ貪食細胞のキラリティはアクチン細胞骨格によって形成される

○Takeshi Sasamura¹, Daisuke Kurisu¹, Hiroki Taniguchi¹, Masakazu Akiyama², Kohei Otomo³, Tomomi Nemoto³, Miroaki Mizuno⁴, Naoki Watanabe⁴, Hiromi Miyoshi⁵, Arata Kaneko⁵, Kenji Matsuno¹ (Grad. Sch. Sci., Osaka Univ.¹, MIMS, Meiji Univ.², RIES, Hokkaido Univ.³, Grad. Sch. of Med., Kyoto Univ.⁴, Grad. Sch. of Sys. Des., Tokyo Met. Univ.⁵)

P095B
(OP11-5)

Mechanical impact of apoptosis in compensatory cell division

○Takumi Kawaue¹, Ying Ming Ivan Yow¹, Yusuke Toyama^{1,2} (MBI, NUS¹, DBS, NUS²)

P096C

Fgfr11b ectodomain is shed and suppresses FGF signaling to ensure equator-specific onset of lens fiber differentiation in zebrafish

ゼブラフィッシュ Fgfr11 は 細胞外ドメインの切断を介して FGF シグナリングを抑制し赤道特異的水晶体線維細胞分化を制御する

○Yuki Takeuchi, Yutaka Kojima, Ichiro Masai (OIST)

P097A

Repression of interstitial identity in nephron progenitor cells by Pax2 establishes the nephron-interstitium boundary throughout kidney development

腎発生における Pax2 を介したネフロン前駆細胞での間質表現系の抑制によるネフロン・間質間の細胞系譜境界の決定

○Akio Kobayashi^{1,2,3}, Natalie Naiman², Kaoru Fujioka², Mari Fujino³, Steven Potter⁴ (Brigham and Women's Hospital, Harvard Medical School¹, Department of Medicine, Brigham and Women's Hospital, Harvard Medi-

cal School², Department of Medicine, University of Washington³, Division of Developmental Biology, Cincinnati Children's Hospital⁴)

P098B Tissue-scale tension gradient drives cell shape change and rearrangement during spherical eye lens formation
組織内張力勾配が細胞形態変化と配置換えを制御し球状の水晶体を形成する
○Yuki Sugiyama, Ichiro Masai (Okinawa Inst. Sci. Tech., OIST)

P099C Regulation of *Six1* expression during hair cell development in the inner ear
内耳有毛細胞形成における *Six1* の発現制御
○Shigeru Sato, Kiyoshi Kawakami (Div. of Biol., Jichi Med. Univ.)

P100A Spatiotemporal regulation of Map7D1 expression and dynamics is involved in cell polarity formation during mammalian tissue morphogenesis.
組織形成における微小管結合タンパク質：Map7D1 の時空間的な制御による細胞極性の調節メカニズム
○Koji Kikuchi¹, Mami Nakagawa², Toshihiko Fujimori², Jun Hatakeyama³, Haruka Sato³, Kenji Shimamura³, Kunimasa Ohta⁴, Akira Nakamura⁵, Makoto Suzuki⁶, Hiroyuki Nakanishi¹ (Dept. Mol. Pharm., Grad. Sch. of Med. Sci., Kumamoto Univ.¹, Div. of Embryology, NIBB², Dept. Brain Morph., IMEG, Kumamoto Univ.³, Dept. Dev. Neurobiol., Grad. Sch. of Med. Sci., Kumamoto Univ.⁴, Dept. Germline Dev., IMEG, Kumamoto Univ.⁵, Dept. Pharmacol., Jichi Med. Univ.⁶)

P101B Thyroid hormone-upregulated expression of Wnt genes during intestinal remodeling in *Xenopus laevis*
アフリカツメガエルの小腸再構築において甲状腺ホルモンにより発現誘導される Wnt 遺伝子の解析
○Kenta Fujimoto, Takashi Hasebe, Atsuko Ishizuya-Oka (Dept. of Biol., Nippon Med. Sch.)

P102C
(SW1-4) ECM remodeling regulates the deformation of the folded *Drosophila* imaginal discs during development
ECM のリモデリングはショウジョウバエ成虫原基折り畳みの変形を制御する
○Katsuya Nozaki¹, Emi Maekawa¹, Megumi Nakayama², Raiki Yoshimura¹,

Tatsushi Igaki², Shizue Ohsawa¹ (Genetics, Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.¹, Genetics, Grad. Sch. of Biostudies, Kyoto Univ.²)

P103A ASSESSMENT OF THE EFFECTS OF MACARANGA TANARIUS CRUDE LEAF EXTRACT ON MUS MUSCULUS EMBRYONIC DEVELOPMENT, ORGANOGENESIS AND ANGIOGENESIS
Mikojie Reyes, Anna Rodriguez, [○]Lerrie Ann Ipulan-Colet (IB-UP Dili-man)

P104B Androgen receptor (AR) transcriptional activities are regulated by Sp1 during sexual differentiation of external genitalia.

Sp1 はアンドロゲンレセプター (AR) の転写活性に不可欠な性差制御因子である。

[○]Daiki Kajioka¹, Kentaro Suzuki¹, Shoko Matsushita¹, Shinjiro Hino², Tet-suya Sato³, Shuji Takada⁴, Shinichi Miyagawa⁵, Toru Takeo⁶, Naomi Nakagata⁶, Mikita Suyama³, Kyoichi Isono⁷, Mitsuyoshi Nakao², Gen Yamada¹ (Dep. Dev. Genet., WMU¹, Department of Medical Cell Biology, Institute of Molecular Embryology and Genetics, Kumamoto University², Division of Bioinformatics, Medical Institute of Bioregulation, Kyushu University³, Department of Systems Biomedicine, National Research Institute for Child Health and Development⁴, Department of Biological Science and Technology, Faculty of Industrial Science and Technology, Tokyo University of Science⁵, Division of Reproductive Engineering, Center for Animal Resources and Development, Kumamoto University⁶, Laboratory Animal Center, Wakayama Medical University⁷)

P105C Origins of peristaltic waves are confined to specific sites in the developing gut of chicken embryos

発生過程における腸蠕動運動の定量化と起点の位置決定機構の解析

[○]Yuuki Shikaya¹, Tadayoshi Watanabe¹, Ryosuke Tadokoro³, Ryo Nakamura⁴, Yuta Takase^{1,2}, Yoshiko Takahashi¹ (Department of Zoology, Grad. Sch. of Sci., Kyoto Univ.¹, SACRA, Grad. Sch. of Sci., Kyoto Univ.², Okayama Univ. of Sci.³, OIST, ENBU⁴)

P106A The function of paxillin in spinal motor axon guidance
Ming-yuan Chang², [○]Tzu-jen Kao¹ (TMU¹, Min-Sheng Hospital²)

P107B Corticofugal Pathways from the Prefrontal Cortex Regulate Ultrasonic Vocalization of Neonatal Mice

Hsiao-ying Kuo, Hao-yu Pang, [○]Fu-chin Liu (INS, NYMU)

P108C Identification of new G-quadruplex RNAs and their binding proteins involved in neural function

新規グアニン四重鎖 RNA 及びその結合タンパク質の同定と神経機能への関与

[○]Moe Kawasaki, Sefan Asamitsu, Norifumi Shioda (Dept. Genomic Neurology, IMEG, Kumamoto Univ.)

P109A Cerebellar Purkinje cells establish their identity to form cerebellar longitudinal compartments at their neuronal birthdate.

小脳プルキンエ細胞は、その神経細胞の誕生日に、小脳内縦縞状領域形成のアイデンティティを確立する。

[○]Mitsuhiro Hashimoto, Hiroyuki Yaginuma (Dep. of Neuroanat. Fukushima Med. Univ.)

P110B Searching for novel genes regulating differentiation of multiple neuronal subtypes of the enteric neurons during early development of zebrafish gut

ゼブラフィッシュ消化管の初期発生過程において、腸神経細胞の分化や多様性の創出に関わる新規遺伝子の探索

[○]Masataka Nikaido¹, Ayaka Shirai², Yumiko Mizumaki², Koichi Kawakami³, Naoto Ueno⁴, Shuji Shigenobu⁵, Kohei Hatta¹ (Univ. of Hyogo, Graduate School of Life Science¹, Sch. of Sci., Univ. of Hyogo², Div. of Mol. & Dev. Biol., NIG / Dep. of Genetics, SOKENDAI³, Div. of Morphogenesis, NIBB⁴, Ctr. Develop. New Model Organism, NIBB⁵)

P111C Purkinje cell populations form functional compartments in the cerebellum contributing to the sensorimotor integration in zebrafish larvae
発達期のゼブラフィッシュ小脳において、プルキンエ細胞集団は機能コンパートメントをなして感覚運動統合に関与する

[○]Kanae Hiyoshi, Eri Okuda, Narumi Fukuda, Kyo Yamasu, Sachiko Tsuda (Grad Sch of Sci and Eng, Saitama Univ.)

P112A Molecular mechanisms that control the development of Purkinje cells and inferior olivary nucleus neurons in zebrafish

ゼブラフィッシュにおけるプルキンエ細胞および下オリーブ核ニューロンの分化の分子機構

[○]Tsubasa Itoh, Miki Takeuchi, Shinnosuke Yura, Akiko Nakanishi, Marina

Sakagami, Mari Uehara, Takashi Shimizu, Masahiko Hibi (Division of Biological Science, Grad. School of Science, Nagoya Univ.)

P113B
(OP02-1)

Area-specific laminar organization is regulated by thalamocortical axons through axon-derived secretory protein VGF in developing neo-cortex

発生期の脳新皮質における領野特異的な層構造の形成は視床皮質軸索に由来する分泌タンパク質 VGF により制御される

○Haruka Sato¹, Jun Hatakeyama¹, Takuji Iwasato², Nobuhiko Yamamoto³, Kenji Shimamura¹ (Brain Morphogenesis, IMEG, Kumamoto univ.¹, NIG², Osaka univ.³)

P114C
(OP02-3)

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の形成機構

○So Sakamura¹, Fu-yu Hsu², Ann-shyn Chiang², Kenji Matsuno¹ (Dept. Bio., Grad. Sci., Osaka Univ.¹, Biotech, NTHU²)

P115A
(OP02-4)

Exploring the intra- and extracellular functions of ALS-related ER protein VAP

ALS 関連小胞体タンパク質 VAP の細胞内及び細胞外における生理機能解析

○Kosuke Kamemura¹, Chun-an Chen², Misako Okumura¹, Sayaka Sekine³, Daichi Kamiyama⁴, Masayuki Miura², Takahiro Chihara¹ (Grad Sch of Sci, Hiroshima Univ.¹, Grad Sch of Pharm Sci, Univ of Tokyo², CDB, RIKEN³, Dept Cell Biol, Univ of Georgia⁴)

P116B
(SW3-3)

Negative Regulation of mTOR Signaling Restricts Cell Proliferation in the Floor Plate

mTOR シグナルの不活性化による底板細胞数の制御

○Minori Kadoya, Noriaki Sasai (NAIST)

P117C

Transient activation of Wnt signaling confers epigenetic memory of cell identity to neural stem cells in developing cerebral cortex

一過性 Wnt シグナルが制御する脳神経幹細胞における細胞記憶形成メカニズム

○Daijiro Konno (MIB, Kyushu Univ.)

P118A

Post-transcriptional modifications of Charlatan, a *Drosophila* NREF/REST, are required for courtship memory formation

NRSF/REST 様転写因子の翻訳後修飾は求愛行動の記憶に必要である

○Leo Tsuda, Youngmi Lim (NCGG)

P119B

Exploration of the molecular basis underlying organismal aging program using turquoise killifish (*Nothobranchius furzeri*), a model vertebrate with an extremely short lifespan.

超短命魚ターコイズキリフィッシュを用いた個体老化プログラムを制御する分子機構の探索・解析

○Kota Abe¹, Chihiro Mogi², Tohru Ishitani^{1,2} (Department of Homeostatic regulation, RIMD, Osaka University¹, Lab of Integrated Signaling Systems, IMCR, Gunma Univ.²)

P120C

Metabolomic analysis reveals metabolic alterations of human peripheral blood lymphocytes by perfluorooctanoic acid

Lu Yang¹, Xiao Liang¹, Min Su^{1,2}, ○Rong Li^{1,2}, Keng Po Lai^{1,2}, Jian Chen^{1,2} (LTIMR, Guilin Medical Univ.¹, DP, Guilin Medical Univ.²)

P121A
(OP01-3)

DNA barcoding analysis of the lineage dynamics of developing germ cells in mice

DNA バーコードによるマウス生殖細胞集団の系譜動態の包括的解析

○Tatsuro Ikeda^{1,2}, Thomas Höfer^{3,4}, Hans-reimer Rodewald⁵, Shosei Yoshida^{1,6} (Div. Germ Cell Biol., NIBB¹, JSPS research fellow², Div. Theo. Sys. Biol., DKFZ³, BioQuant, Heidelberg Univ.⁴, Div. Cell. Immunol., DKFZ⁵, Dep. Bsc. Biol., Grad. Univ. Adv. Std.⁶)

P122B

Left-right asymmetry in the structure of basal bodies in mouse node cilia

マウス胚ノード繊毛の基底小体の左右性

○Hiroshi Yoke^{1,2}, Atsushi Taniguchi^{1,2}, Shigenori Nonaka^{1,2} (NIBB¹, ExCELLS²)

P123C

Role of Ca²⁺ transients at the node of the mouse embryo in breaking of left-right symmetry

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

P124A

The role of Gse1, a component of the CoREST complex, in epigenetic regulation during development

○Natsumi Shimizu, Eriko Kajikawa, Hiroshi Hamada (RIKEN BDR)

P125B

Asymmetric distribution of cadherin-catenin complex drives cell intercalations in nectin-dependent mosaic cellular pattern formation

異なるネクチンの細胞間相互作用は、カドヘリン・カテニン複合体の偏在を作り出すことで2種類の細胞のモザイクパターンを形成する

○Shuhei Kuno¹, Sayaka Katsunuma^{1,2,3}, Akira Suzuki¹, Hideru Togashi^{1,4} (Div. Mol. Cell. Biol., Kobe Univ. Grad. Sch. Med.¹, Div. Otolaryngology-Head & Neck Surg., Kobe Univ. Grad. Sch. Med.², Dept. Otolaryngology, Hyogo Pref. Kobe Children's Hosp.³, JST, PRESTO⁴)

P126C

Analysis of limb and lung phenotypes in Fgf10 crispant mouse embryos

Fgf10 モザイク変異マウスの四肢と肺の表現型解析

Munenori Habuta¹, Akihiro Yasue², Ken-ichi Suzuki^{3,4}, Ayuko Takayama^{3,4}, Hirofumi Fujita¹, Tetsuya Bando¹, Keita Sato¹, Seiichi Oyadomari⁵, Eiji Tanaka², ○Hideyo Ohuchi¹ (Okayama Univ.¹, Department of Orthodontics Dentofacial Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan², Department of Mathematical and Life Sciences, Hiroshima University, Hiroshima, Japan³, Center for the Development of New Model Organisms, National Institute for Basic Biology, Aichi, Japan⁴, Division of Molecular Biology, Institute for Genome Research, Tokushima University, Tokushima, Japan⁵)

P127A

The quantitative analysis of enhancer activity and the analysis of Gdf11 enhancer

エンハンサーの定量的解析方法の確立と Gdf11 のエンハンサーの解析

○Seiji Saito¹, Utsugi Kanazawa¹, Nobuyuki Hibino¹, Kazuki Kawamura³, Tatsuya Takemoto², Yoichi Matsuda³, Atsushi Kuroiwa¹, Takayuki Suzuki³ (Grad. School of Sci., Nagoya Univ.¹, IAMS, Tokushima Univ², Grad. School of Bioag Sci., Nagoya Univ.³)

P128B

AI for morphogenesis

○Mustafa Sami, Takuya Maeda, Shigeo Hayashi (RIKEN BDR)

**P129C
(SW2-1)**

Regeneration mechanism of size and shape in the zebrafish fin

ゼブラフィッシュヒレの再生における位置情報を介した形態と

サイズの再生機構

○Misato Yokozawa, Keina Matumura, Atushi Kawakami (Tokyo Institute of Technology)

P130A (OP15-3)

The larvacean *Oikopleura dioica* lacks Nodal and utilizes calcium oscillation and Bmp expression for left-right patterning

Nodal をもたない脊索動物 *Oikopleura dioica* における左右非対称形成には Ca オシレーションと Bmp の右側発現がかかわる

○Takeshi Onuma¹, Momoko Hayashi¹, Fuki Gyoja², Kanae Kishi¹, Kai Wang¹, Hiroki Nishida¹ (Dep. Biol. Sci., Osaka Univ.¹, Mar Genomics Unit, OIST²)

P131B (OP15-4)

Left-right asymmetric balance of blood flow determines left-right asymmetry of vascular patterns

左右非対称な血流バランスがトリ胚後方卵黄静脈の左右非対称形成を誘導している

○Junki Yoshida¹, Yuta Takase^{1,2}, Yoshiko Takahashi¹ (Dept of Zool, Grad Sch of Sci, Kyoto Univ¹, SACRA, Grad Sch of Sci, Kyoto Univ²)

P132C (OP15-6)

Hexagonal versus Tetragonal tiling of the Drosophila eye

ショウジョウバエ複眼における六角形・四角形タイリング

○Takashi Hayashi¹, Masakazu Akiyama², Shin-ichiro Ei³, Takamichi Sushida⁴, Makoto Sato¹ (InFiniti, Kanazawa U.¹, MIMS, Meiji U.², Dept. of Math., Faculty of Sci., Hokkaido U.³, Tokyo Salesian College of Technology⁴)

P133A (OP15-7)

Characterizing the spatiotemporal dynamics of “spermatogenic wave” in murine testes

マウス精巣における精細管上皮周期波の動態解析

○Toshiyuki Sato^{1,2}, Mitsuru Komeya³, Hiroyuki Yamanaka³, Hiroko Nakamura⁴, Masahide Takahashi², Hiroshi Kimura⁴, Takehiko Ogawa³, Shosei Yoshida^{1,5} (Div. Germ Cell Biol., Natl. Inst. Basic Biol., Natl. Inst. Nat. Sci.¹, Dept. Pathol., Nagoya Univ. Grad. Sch. Med², Lab. Biopharm. Regen. Sci., Inst. Mol. Med. Life Sci., Assoc. Med. Sci., Yokohama City Univ.³, Dept. Mech. Eng., Tokai Univ.⁴, Dept. Basic Biol., Sch. Life Sci., Grad. Univ. Adv. Stud.⁵)

P134B (SW2-4)

Machine learning-assisted reconstruction of spatial transcriptome from scRNA-seq data

機械学習による遺伝子の空間的発現パターンの scRNAseq データをもちいた新規再構成手法

○Yasushi Okochi^{1,2}, Shunta Sakaguchi³, Ken Nakae⁴, Takefumi Kondo^{3,6}, Naoki Honda^{2,5} (Faculty of Medicine, Kyoto University¹, Laboratory for Theoretical Biology, Graduate School of Biostudies, Kyoto University², Laboratory for Cell Recognition and Pattern Formation, Graduate School of Biostudies, Kyoto University³, Graduate School of Informatics, Kyoto University⁴, Research Center for Dynamic Living Systems, Kyoto University⁵, K-CONNEX⁶)

P135C Regulation of dynamic gene expression at wavefront in zebrafish somitogenesis

ゼブラフィッシュ体節形成時の wavefront における遺伝子発現動態の制御機構

○Taijiro Yabe, Shinji Takada (NIBB)

P136A Neural regulation in tooth regeneration of *Ambystoma mexicanum*
メキシコサラマンダー歯再生における神経関与と神経因子の効果について

Aki Makanae, ○Akira Satoh (RCIS)

P137B Hoxa11 Regulation by Itself Can Explain Phenotype Variation Between Amphibian Limb Regeneration Models

○Joao Pedro Vieira Mariz, Koichi Fujimoto (OU)

P138C Identification of *fgf*-retarded gene in planarian *Dugesia japonica*

ナミウズムシにおける *fgf* 遺伝子の同定

○Mohammad Abdul Auwal, Yoshihiko Umesono (Grad. Sch. of Life Sci. Univ. of Hyogo)

P139A
(SW2-2) Upregulation of TCR alpha/beta in the Ouro-expressing tail of *Xenopus* during tissue degeneration

ツメガエルの組織崩壊時における Ouro 発現尾の TCR alpha/beta の発現上昇

○Tenmei Maruyama, Izumi Ishimori, Haruka Kobayashi, Yumi Izutsu (Grad. Sch. Sci. Technol. Niigata Univ)

P140B
(SW2-3) Regulation in hepatocytes' proliferation in axolotl liver regeneration

メキシコサラマンダー肝再生における細胞分裂制御

○Ayaka Ooashi¹, Nanami Saito¹, Akira Satoh² (Dept. Biol. Sci, Okayama

Univ.¹, RCIS, Okayama Univ.²)

P141C
(OP11-1)

Accumulation of regeneration-specific transitional cells in pulmonary fibrosis

肺線維症に認められる組織再生特異的細胞の蓄積

○Yoshihiko Kobayashi, Aleksandra Tata, Arvind Konkimalla, Hiroaki Katsura, Rebecca Lee, Jianhong Ou, Purushothama Rao Tata (Duke Cell Bio)

P142A
(OP11-2)

The AP-1 transcription factor JunB induced by TGF- β signaling plays an essential role in the initiation of cell proliferation during *Xenopus* tadpole tail regeneration

TGF- β シグナルによって誘導される JunB 転写因子は、ツメガエル幼生尾の再生における細胞分裂開始に必須である

○Makoto Nakamura¹, Hitoshi Yoshida², Eri Takahashi¹, Yuka Moriyama¹, Marcin Wlizia², Kimiko Takebayashi-Suzuki¹, Marko Horb², Atsushi Suzuki¹ (ARC, Grad. Sch. of Inte. Sci. Life., Hiroshima Univ.¹, MBL, Woods Hole, USA²)

P143B
(OP11-3)

Dilp8 and Derailed signaling is necessary for 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インスリン様ペプチド Dilp8 及び Derailed の役割

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

P144C
(OP11-4)

Mechanism of gene induction in response to regeneration in zebrafish fin

ゼブラフィッシュのヒレ再生における、再生に応答した遺伝子誘導のメカニズム

○Teruhisa Tamaki, Atsushi Kawakami (Tokyo Tech)

P145A

Dorsal-ventral pattern formation and dorsal-specific *lmx1b* expression are simultaneously lost in limb regeneration of a metamorphosing *Xenopus laevis*

背腹パターン形成と背側特異的な *lmx1b* の発現は変態中のアフリカツメガエルの四肢再生において同時期に失われる

Yuri Shimada¹, Haruki Ochi², ○Hitoshi Yokoyama¹ (Dept. of Biochem. & Mol. Biol., Facul. of Agri. & Life Sci., Hirosaki Univ.¹, Facul. of Med., Hirosaki Univ.²)

- P146B** The role of a transcription regulator Larp7 in mouse spermatogenesis
精子形成過程における転写調節因子 Larp7 の機能解析
○Yukiko Tando¹, Atsuto Nonomura², Daiji Okamura³, Yasuhisa Matsui¹
(CRCBR, IDAC, Tohoku University¹, Tohoku University School of Medicine², Kindai University³)
- P147C** Phosphorylation of the Anaphase Promoting Complex activator Cdh1 regulates transition from Meiosis I to Meiosis II in mouse male germ cell
マウス雄性生殖細胞において APC 活性化サブユニット Cdh1 のリン酸化は減数第一分裂、第二分裂移行を制御する
○Nobuhiro Tanno^{1,2}, Shinji Kuninaka², Sayoko Fujimura¹, Kaho Okamura¹, Kimi Araki^{3,4}, Masatake Araki⁵, Hideyuki Saya², Kei-ichiro Ishiguro¹
(IMEG, Kumamoto University¹, Institute for Advanced Medical Research, Keio University School of Medicine², CARD, Kumamoto University³, CMHA, Kumamoto University⁴, IRDA, Kumamoto University⁵)
- P148A** The germ cell-specific nuclear factor KCTD19 is required for completion of meiosis in male mice
生殖細胞特異的因子 KCTD19 は雄マウスにおける減数分裂の完了に必須である
○Chisato Kodera¹, Yuki Takada¹, Sayoko Fujimura³, Kimi Araki⁴, Kei-ichiro Ishiguro¹ (IMEG, Kumamoto Univ.¹, Department of Obstetrics and Gynecology Faculty of Life Science, Kumamoto Univ.², LILA, IMEG, Kumamoto Univ.³, CARD, Kumamoto Univ.⁴)
- P149B** Annual analysis of gonad structure and hormonal variation in development of male mule ducks
○Cheng-chun Fan, Hsu-chen Cheng (Dept. Life Sci. NCHU)
- P150C** The developmental progression of ovarian structure and reproductive hormones in female mule ducks
○Shih-yi Liao, Hsu-chen Cheng (Dept. Life Sci. NCHU)
- P151A** P-body dynamics underlying the recruitment of germ cell-specific target mRNA by NANOS2
○Danelle Wright¹, Takamasa Hirano², Yumiko Saga^{1,2} (SOKENDAI¹, NIG²)
- P152B** Analysis of NANOS3 function in mouse germline stem cells.
マウス germline stem cells を用いた NANOS3 の機能解析

○Hiroki Inoue¹, Yumiko Saga^{1,2,3} (NIG¹, SOKENDAI², The University of Tokyo³)

P153C

MAST4 regulates spermatogonial stem cell self-renewal through ERM transcription factor

○Seung-doo Lee¹, Keishi Otsu², Dong-joon Lee¹, Min-jung Lee¹, Pyung-gang Kim³, Jinah Park³, Seong-jin Kim³, Han-sung Jung¹ (Division in Anatomy and Developmental Biology, Department of Oral Biology, Oral Science Research Center, BK21 PLUS Project, Yonsei University College of Dentistry, Seoul, Korea¹, Division of Developmental Biology & Regenerative Medicine, Department of Anatomy, Iwate Medical University², Precision Medicine Research Center, Advanced Institutes of Convergence Technology, Suwon, Korea³)

P154A

Seasonal activity changes in geese testes

○Po-liang Cheng, Hsu-chen Cheng (Department of life science, NCHU)

P155B

A new germ-cell specific factor MRM is required for meiotic recombination in male mouse.

新規生殖細胞特異的因子 MRM は雄マウスの減数分裂組換えに必要である

○Kazumasa Takemoto^{1,2}, Yuki Takada¹, Naoki Tani³, Sayoko Fujimura³, Nobuhiro Tanno¹, Kaho Okamura¹, Michihiko Sugimoto², Kimi Araki^{2,4}, Kei-ichiro Ishiguro¹ (Kumamoto Univ., IMEG¹, CARD, Kumamoto Univ.², LILA, IMEG, Kumamoto Univ.³, CMHA, Kumamoto, Univ.⁴)

**P156C
(OP01-4)**

Decoding The Gene Regulatory Network of Human Germ Cell Specification

ヒトの生殖細胞分化の遺伝子制御

○Yoji Kojima¹, Mitunori Saitou^{1,2,3} (CiRA¹, ASHBI², Department of Anatomy and Cell Biology, Faculty of Medicine, Kyoto University³)

**P157A
(OP01-5)**

Germ cell-specific zinc finger protein is required for pachytene exit in mouse meiosis

生殖細胞特異的ジンクフィンガータンパク質は減数分裂前期パキテン脱出の転写制御に働く

○Yuki Takada¹, Chisato Kodera^{1,2}, Kazumasa Takemoto¹, Ryo Maeda³, Sayoko Fujimura⁴, Akihiko Sakashita⁵, Kumi Matsuura¹, Hitoshi Niwa¹, Satoshi Namekawa⁵, Makoto Tachibana³, Kimi Araki⁶, Kei-ichiro Ishiguro¹ (IMEG, Kumamoto Univ.¹, Department of Obstetrics and Gynecology Fac-

ulty of Life Science, Kumamoto Univ.², Graduate School of Frontier Biosciences, Osaka Univ.³, LILA, IMEG, Kumamoto Univ.⁴, CCHMC⁵, CARD, Kumamoto Univ.⁶)

**P158B
(OP04-1)**

The induction mechanism of mitotic arrest in murine male germ cell differentiation

マウス生殖細胞の雄性分化における細胞周期停止制御機構の解析

○Ryuki Shimada, Yumiko Saga (SOKENDAI)

**P159C
(OP04-2)**

Receptor-mediated yolk uptake directs *Drosophila* oocyte polarization and germ plasm assembly

ショウジョウバエの卵母細胞の極性形成と生殖質形成には受容体を介した卵黄タンパクの取り込みが必須である

○Tsubasa Tanaka, Sachiko Otsu, Naoki Tani, Akira Nakamura (IMEG, Kumamoto Univ.)

**P160A
(OP04-3)**

The *Drosophila* PGC-1 homolog, Spargel, is required for proper germ granule assembly during oogenesis.

ショウジョウバエの PGC-1 ホモログ Spargel は、卵形成過程での生殖顆粒形成を制御する

○Kazuko Hanyu-Nakamura¹, Keisuke Aimi^{1,2}, Akira Nakamura^{1,2,3} (Dept. Germline Dev., IMEG, Kumamoto Univ.¹, Sch. Pharmacy, Kumamoto Univ.², Grad. Sch. Pharm. Sci., Kumamoto Univ.³)

P161B

Functional analysis of the zebrafish *ddx5* gene on gonad development

ゼブラフィッシュ *ddx5* 遺伝子の生殖腺発生における機能解析

Ryouta Sone¹, Kiyohito Taimatsu¹, Minoru Tanaka², ○Atsuo Kawahara¹ (University of Yamanashi¹, Nagoya University²)

P162C

Decoding the aging of human IVM oocytes

○Wing Tung Lee, Jinyue Liao, Alfred Luk, Hoi Ching Suen, Kin Wing Ng, Man Yee Cheung, Ting Hei Chan, Tin Lap Lee (SBS, CUHK)

P163A

Hedgehog signaling pathway in seminiferous tubule-like structural reconstruction

○Sun Mengdi, Ming Min, Tingting Wang, Jidong Zhang (SBMS, Zunyi Med Uni)

P164B

Investigation of molecular mechanisms of stem cell maintenance

which enables indeterminate leaf growth

葉の無限成長を可能にする幹細胞維持機構の探索

○Yasutake Moriyama, Hiroyuki Koga, Hirokazu Tsukaya (Grad. School Sci., Univ. Tokyo)

P165C

Embryoid body-like cell clusters formation by ribosome is reproducible with various kinds of cell lines

リボソームによって胚様体のような細胞塊の形成が様々な細胞株で再現可能である

Ryota Odahara¹, Mei Miyajima¹, Gen Urakawa¹, Momoka Shimoda¹, Kuni-masa Ohta², ○Yuichi Goto¹ (Uto Senior High School¹, Kumamoto University²)

P166A

A single-cell transcriptome approach to investigate the mechanism of mesoderm lineage-specification using human iPSCs

○Wei Zhao, Minoru Takasato (BDR)

P167B

Estrogen Receptor β regulates muscle mass and regeneration in female mice

雌性マウスにおいてエストロゲン受容体 β は骨格筋量と筋再生を調節する

○Kodai Nakamura¹, Daiki Seko^{1,2}, Ryo Fujita³, Yuriko Kitajima², Yuuki Imai⁴, Yusuke Ono¹ (IMEG, Kumamoto Univ¹, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan², Department of Human Genetics, McGill University, Montreal, Quebec, Canada³, Division of Integrative Pathophysiology, Proteo-Science Center, Graduate School of Medicine, Ehime University, Ehime, Japan⁴)

P168C

The single molecular dynamics of transcription factors, Nanog and Oct4, change along cellular states

転写因子 Nanog・Oct4 の 1 分子動態と分化状態との関係性

○Kazuko Okamoto¹, Yasushi Okada^{2,3}, Kuniya Abe⁴, Tomonobu Watanabe¹ (RIKEN BDR Comprehensive Bioimaging Laboratory¹, Grad.Sch. of Sci., Univ of Tokyo², RIKEN BDR, Lab for Cell Polarity Regulation³, RIKEN BRC, Technology and Development Team for Mammalian Genome Dynamics⁴)

P169A
(SW3-1)

Effect of ribosome on human cancer cells

ヒト癌細胞対するリボソームの影響

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

P170B
(OP12-4)

PKD1-dependent renal cystogenesis from human iPSC-derived ureteric bud organoids

ヒト iPS 細胞由来尿管芽オルガノイドにおける PKD1 に依存した腎嚢胞形成

○Shohei Kuraoka¹, Shunsuke Tanigawa¹, Akitsu Hotta², Atsuhiko Taguchi¹, Akio Kobayashi¹, Ryuichi Nishinakamura¹ (IMEG, Kumamoto Univ.¹, Department of Clinical Application, Center for iPS Research and Application, Kyoto University²)

P171C
(OP12-5)

Establishment of culture system for the induction of hematopoietic stem cells from mouse embryonic precursors

マウス胎仔由来前駆細胞から造血幹細胞への分化誘導法の確立

○Saori Morino-Koga, Shogo Oshiro, Mai Kiyono, Mariko Tsuruda, Ai Araki, Minetaro Ogawa (Dept. of Cell Diff., IMEG, Kumamoto Univ.)

P172A
(OP13-2)

Defining heterogeneous stem cell populations in oral and eye surface epithelia

上皮幹細胞のダイナミクス解析：眼と口腔をモデルにして

Ryutaro Ishii^{2,3}, Yen Ngo^{2,4}, Kenji Izumi⁶, Hiromi Yanagisawa^{2,5}, ○Aiko Sada^{1,2} (IRCMS, Kumamoto Univ¹, TARA center, Univ of Tsukuba², Comprehensive Human Sciences, Univ of Tsukuba³, HBP, Univ of Tsukuba⁴, Faculty of Medicine, Univ of Tsukuba⁵, Medical and Dental Sciences, Niigata Univ⁶)

P173B
(OP13-3)

Characterization of cambium stem cell during radial plant growth

植物の二次成長過程における形成層幹細胞の特徴づけ

○Dongbo Shi, Virginie Jouannet, Verena Kaul, Thomas Greb (COS Heidelberg)

P174C
(OP13-7)

Type 3 muscarinic receptors contribute to stem cell proliferation and differentiation in the murine small intestinal crypts through the ephrinB/EphB receptor signaling

タイプ3 ムスカリン性アセチルコリン受容体は ephrinB/EphB receptor を介して腸幹細胞分化・増殖を制御する

○Toshio Takahashi (Suntory Fdn. Life Sci.)

- P175A** Incorporation of Bacterial Ribosome in Diverse Mammalian Cells
 ○Arif Istiaq¹, Kazumi Urata¹, Kiminori Nakamura², Mohammad Badrul Anam¹, Shah Adil Ishtiyag Ahmad¹, Mikiko Kudo¹, Naofumi Ito¹, Kuni-masa Ohta¹ (Dev Neur, Kumamoto Univ.¹, Cell Biological Science, Hokkaido Univ.²)
- P176B (SW3-4)** VE-cadherin⁺ cells in the mouse embryo proper differentiate into mast cells *in vitro* and *in vivo*
 マウス胎仔の VE-cadherin⁺ 細胞は *in vitro* および *in vivo* においてマスト細胞に分化する
 ○Mariko Tsuruda, Saori Morino-Koga, Minetaro Ogawa (Dept. of Cell Diff., IMEG, Kumamoto Univ.)
- P177C** Large-scale time-course RNA-Seq to understand functions of piwi genes in planarian adult pluripotent stem cell system.
 プラナリア成体多能性幹細胞システムにおける piwi 遺伝子の機能解析のための大規模時系列 RNA-Seq 解析
 ○Makoto Kashima¹, Nobuyoshi Kumagai², Hiromi Hirata¹ (Aoyama Gakuin Univ.¹, Gakushuin Univ.²)
- P178A** Roles of Importin13 in the mouse epiblast development
 Importin13 の原始外胚葉分化における役割について
 ○Satomi Tanaka¹, Yasuka Yamaguchi¹, Patrick Tam² (Kumamoto Health Sci. Univ.¹, CMRI, Australia²)
- P179B** 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 Azuma¹, Hiroaki Natsukawa², Shungo Ishino², Shuichi Onami¹ (RIKEN BDR¹, ACCMS, Kyoto Univ.²)
- P180C** Retrovirus-mediated gene editing system in chick embryos
 レトロウィルスベクターを用いたニワトリ胚のゲノム編集
 ○Yuji Watanabe, Chie Sakuma, Hiroyuki Yaginuma (Dept. Neuroanat. Embryol., Fac. Med., Fukushima Med. Univ.)
- P181A (SW3-2)** Development of a single-cell full-length total RNA sequencing for non-model organisms
 非モデル生物のための 1 細胞完全長トータル RNA シーケンス法の開発
 ○Tetsutaro Hayashi¹, Haruka Ozaki², Mana Umeda¹, Mariko Kuse¹, Itoshi

Nikaido¹ (RIKEN BDR¹, Tsukuba Univ.²)

P182B
(OP01-1)

High resolution spatial transcriptomics method focusing on photo-irradiated region

光照射した領域に限定可能な高解像度 RNA-seq 法

○Mizuki Honda¹, Shinya Oki¹, Akihito Harada², Kazumitsu Maehara², Kaori Tanaka², Yasuyuki Ohkawa² (Dept. of Dev Biol., Grad. Sch. of Med. Sci., Univ. of Kyushu¹, Div. of Transcriptomics, Med. Inst. of Bioreg., Univ. of Kyushu²)

P183C

SSBD: a public database of quantitative data of biosystems dynamics and microscopy images – 2020 update

生命動態情報とバイオイメージの統合データベース SSBD : 最新情報と新機能の紹介

Kenneth Ho¹, Hiroya Itoga¹, Fangfang Wang¹, Yasue Nakano¹, Yukako Tohsato^{1,2}, Koji Kyoda¹, ○Shuichi Onami¹ (RIKEN BDR¹, CISE, Ritsumeikan Univ.²)

P184A

Influence of heavy metal contamination in the Life History Trait of free-living nematodes

○Mylah Villacorte¹, Florifern Paglinawan¹, Carlito Tabelin², Marthias Silwamba³, Joey Geneviev Martinez¹, Einstine Opiso⁴ (MSU-IIT¹, School of Minerals and Energy Resources Engineering, The University of New South Wales, Sydney, NSW 2052, Australia², Division of Sustainable Resources Engineering, Graduate School of Engineering, Hokkaido University, Sapporo 060-8628, Japan³, GeoEnvironmental Engineering Group, Central Mindanao University, Maramag 8710, Bukidnon, Philippines⁴)

P185B

Telencephalic expression of the chick orthologues of mammalian neocortical layer 5- or 6-specific genes

ニワトリ終脳において、哺乳類の脳新皮質深層選択的遺伝子オルソログの発現は、様々な領域に見られた

○Shinji Yamaguchi, Naoya Aoki, Koichi Homma, Toshiyuki Fujita (Teikyo Univ.)

P186C

Dynamic change of ultraviolet (UV) light-responsive behaviors in developing larvae of *Xenopus*

ツメガエル幼生の発生過程における紫外光に反応する行動のダイナミックな変化

○Yumiko Harada¹, Miki Inoue², Mizuki Hirose², Maho Nishikawa², Yuki

Shimizu², Ryutaro Murakami¹ (Grad.Sch.Sci.Tech. for Innov., Yamaguchi Univ.¹, Dept.Biol Sci. Chem., Fac. Sci., Yamaguchi Univ.²)

Satellite Workshops

Satellite Workshop 1

DATE: May 19 (Tue) 15:00-16:00 Room A
Chairperson: Shigeo Hayashi (RIKEN BDR)

SW1-1 15:00-15:15 (P028A) Gating mechanism of blastopore to regulate extracellular fluid dynamics

初期胚の体液動態を制御する原口の開閉機構

○Soichiro Kato^{1,2}, Hidehiko Inomata^{1,2} (Osaka Univ.¹, RIKEN BDR²)

SW1-2 15:15-15:30 (P078C) Roles of Sox9b in medaka pigment cell development

メダカ色素細胞発生における Sox9b の役割

○Yuri Tsunogai, Masahiko Hibi, Hisashi Hashimoto (Grad, Sch, Sci, Nagoya Univ.)

SW1-3 15:30-15:45 (P079A) Dynamics of interstitial cells of Cajal for elucidating the mechanism of the gut peristalsis

腸蠕動運動のメカニズム解明に向けたカハール介在細胞の動態解析

○Rei Yagasaki¹, Ryo Nakamura², Yuuki Shikaya¹, Ryosuke Tadokoro³, Yoshiko Takahashi¹ (Dept of Zool., Grad. Sch. of Sci., Kyoto Univ.¹, OIST, ENBU², Okayama Univ. of Sci.³)

SW1-4 15:45-16:00 (P102C) ECM remodeling regulates the deformation of the folded *Drosophila* imaginal discs during development

ECM のリモデリングはショウジョウバエ成虫原基折り畳みの変形を制御する

○Katsuya Nozaki¹, Emi Maekawa¹, Megumi Nakayama², Raiki Yoshimura¹, Tatsushi Igaki², Shizue Ohsawa¹ (Genetics, Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.¹, Genetics, Grad. Sch. of Biostudies, Kyoto Univ.²)

Satellite Workshop 2

DATE: May 19 (Tue) 15:00-16:00 Room B
Chairperson: Harukazu Nakamura (Tohoku University)

SW2-1 15:00-15:15 (P129C) Regeneration mechanism of size and shape in the zebrafish fin

ゼブラフィッシュヒレの再生における位置情報を介し

た形態とサイズの再生機構

○Misato Yokozawa, Keina Matumura, Atushi Kawakami (Tokyo Institute of Technology)

SW2-2 (P139A) 15:15-15:30 Upregulation of TCR alpha/beta in the Ouro-expressing tail of *Xenopus* during tissue degeneration

ツメガエルの組織崩壊時における Ouro 発現尾の TCR alpha/beta の発現上昇

○Tenmei Maruyama, Izumi Ishimori, Haruka Kobayashi, Yumi Izutsu (Grad. Sch. Sci. Technol. Niigata Univ)

SW2-3 (P140B) 15:30-15:45 Regulation in hepatocytes' proliferation in axolotl liver regeneration

メキシコサラマンダー肝再生における細胞分裂制御

○Ayaka Ooashi¹, Nanami Saito¹, Akira Satoh² (Dept. Biol. Sci, Okayama Univ.¹, RCIS, Okayama Univ.²)

SW2-4 (P134B) 15:45-16:00 Machine learning-assisted reconstruction of spatial transcriptome from scRNA-seq data

機械学習による遺伝子の空間的発現パターンの scRNAseq データをもちいた新規再構成手法

○Yasushi Okochi^{1,2}, Shunta Sakaguchi³, Ken Nakae⁴, Takefumi Kondo^{3,6}, Naoki Honda^{2,5} (Faculty of Medicine, Kyoto University¹, Laboratory for Theoretical Biology, Graduate School of Biostudies, Kyoto University², Laboratory for Cell Recognition and Pattern Formation, Graduate School of Biostudies, Kyoto University³, Graduate School of Informatics, Kyoto University⁴, Research Center for Dynamic Living Systems, Kyoto University⁵, K-CONNEX⁶)

Satellite Workshop 3

DATE: May 19 (Tue) 15:00-16:00 Room C

Chairperson: Hisato Kondoh (Kyoto Sangyo University)

SW3-1 (P169A) 15:00-15:15 Effect of ribosome on human cancer cells

ヒト癌細胞対するリボソームの影響

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

SW3-2 (P181A) 15:15-15:30 Development of a single-cell full-length total RNA sequencing for non-model organisms

非モデル生物のための 1 細胞完全長トータル RNA
シーケンス法の開発

○Tetsutaro Hayashi¹, Haruka Ozaki², Mana Umeda¹, Mariko Kuse¹,
Itoshi Nikaido¹ (RIKEN BDR¹, Tsukuba Univ.²)

SW3-3 15:30-15:45 (P116B) Negative Regulation of mTOR Signaling Restricts Cell Pro-
liferation in the Floor Plate

mTOR シグナルの不活性化による底板細胞数の制御

○Minori Kadoya, Noriaki Sasai (NAIST)

SW3-4 15:45-16:00 (P176B) VE-cadherin⁺ cells in the mouse embryo proper differentiate
into mast cells *in vitro* and *in vivo*

マウス胎仔の VE-cadherin⁺ 細胞は *in vitro* および *in vivo*
においてマスト細胞に分化する

○Mariko Tsuruda, Saori Morino-Koga, Minetaro Ogawa (Dept. of
Cell Diff., IMEG, Kumamoto Univ.)

博士とは何か？

社会に出る前にあらためて考えることで未来が開けます

日時：2020年5月22日（金）12:15-13:15

会場：Room C

講演者：

村磯 鼎（合同会社 CPP：代表社員、株式会社オリゴジェン：取締役）

私は海外の日本人研究者の帰国支援という仕事をしていると思われています。故に博士取得者がアカデミア以外でどう活躍できるのか紹介して欲しい、さらには民間企業に就職するにはどうしたらよいのか教えて欲しい、この2点のリクエストが非常に多いのです。もちろんそれを手取あしとりお教えすることも可能ですが、それでは博士のプライドを毀損しかねません。詳細は講演で明らかにしますが、アカデミアの外でキャリアを見つけれられない、あるいは実際の民間企業の就活法がわからないとしたら、それは皆さんが自分が博士であるということをすっかり忘れていることが根本的原因と思っています。

博士というのは何かをするためのフリーパスではありません。何故か博士であるから社会的に優遇されるべきだと考える人は多いのですが、それは博士として考え方を間違えているでしょう。修士ならある程度そのような社会的甘えは許されますが、博士にそのような甘えを許してしまつては社会が成り立ちません。博士とは何か自問し、博士だから何ができるのか理解し、社会の居場所を自分で探すのが本来の博士と思っています。少々厳しい言い方かもしれませんが、本来それだけの力があるのが博士です。講演では博士に自信と希望を与え、社会に出ることこそが博士の使命であることを理解してもらおうと思っています。

キャリア支援担当：林 良樹（筑波大学）

Author Index (Speaker indicated in Bold.)

A	Aonishi, Toru P052A	// OP10-2 (P093C)	Colle, Charlotte
Abdul Auwal, Mohammad	Araki, Ai	Bob, Goldstein	OP13-6
P138C	OP12-5 (P171C)	OP15-1	Cristea, Ileana
Abe, Kota S05-5	Araki, Kimi	Boulan, L. PL-2	OP06-5 (P087C)
// P119B	OP01-5 (P157A)	Bowling, Sarah	D
Abe, Kuniya P168C	// OP13-1	OP12-1 (P034A)	Di Gregorio, Aida
Adachi, Noritaka	// P001A	Burgstaller, Jrg	OP12-1 (P034A)
OP08-1	// P147C	OP12-1 (P034A)	Dong, Xiaoheng
// OP08-5	// P148A	C	P038B
Adil Ishtiyag Ahmad, Shah	// P155B	C, Dilsha P063C	Dore, Marian
OP05-1	Araki, Masatake	Carling, David	OP12-1 (P034A)
// P175A	P147C	OP12-1 (P034A)	E
Agata, Kiyokazu	Aramaki, Toshihiro	Chan, Danny	Edwin, Munro S05-1
S03-1	OP03-3 (P081C)	OP14-6 (P011B)	Ei, Shin-ichiro
Aimi, Keisuke	Ariel, Pani OP15-1	Chang, Hyeon-an	OP15-6 (P132C)
OP04-3 (P160A)	Arima, Yuichiro	P013A	Eiraku, Mototsugu
Ajima, Rieko	OP03-1 (P080B)	Chang, Ming-yuan	P025A
OP06-4 (P086B)	Aryal, Yam P062B	P106A	Elina, Pokharel
Akiyama, Masakazu	// P077B	Chen, Chun-an	P013A
OP07-5 (P091A)	Asakura, Yoshifumi	OP02-4 (P115A)	Endoh, Mitsuhiro
// OP10-3 (P094A)	OP06-3 (P085A)	Chen, Jian P120C	OP12-3 (P036C)
// OP15-6 (P132C)	// P061A	Cheng, Hsu-chen	Enomoto, Takayuki
// P025A	Asamitsu, Sefan	P149B	P001A
Akiyama, Ryutaro	P108C	// P150C	Era, Takumi S06-1
OP03-2	Atsuta, Yuji OP13-6	// P154A	F
Akiyama-Oda, Yasuko	Azuma, Yusuke	Cheng, Po-liang	Fan, Cheng-chun
P021C	P179B	P154A	P149B
Alev, Cantas S02-3	B	Cheon, Yong-pil	Fatchiyah, Fatchiyah
// OP09-2 (P030C)	Babu, Swathy	P037A	P023B
An, Chang P077B	OP14-7 (P012C)	Chhabra, Sapna	Fujimaki, Shin P002B
Anam, Mohammad	Badrul Anam, Mohammad	OP09-2 (P030C)	Fujimori, Toshihiko
OP05-1	P175A	Chiang, Ann-shyn	S04-1
// SW3-1 (P169A)	Bae, Yun-soo P071B	OP02-3 (P114C)	// S05-2
Ann Ipulan-Colet, Lerric	Balolong, Marilen	Chihara, Takahiro	// OP06-1 (P083B)
P103A	P007A	OP02-4 (P115A)	// OP09-3 (P031A)
Ansai, Satoshi P056B	Bando, Tetsuya	Ching Suen, Hoi	// P100A
Aoki, Kazuhiro	P126C	P162C	Fujimoto, Kenta
OP06-3 (P085A)	Baron, Martin P020B	Cho, Ken S01-2	P101B
Aoki, Naoya P043A	Bessho, Yasumasa	Cho, Sung-jin P062B	Fujimoto, Koichi
// P185B	OP03-2		OP07-2 (P089B)

"	P137B	Green, Alistair	Hashimoto, Hidehiko	Higashiyama, Tetsuya
Fujimura, Sayoko		OP12-1 (P034A)	S05-1	S05-3
OP01-5 (P157A)		Gushiken, Takuma	Hashimoto, Hisashi	Hino, Shinjiro P104B
"	P147C	P020B	OP13-4	Hirano, Takamasa
"	P148A	Gyoja, Fuki	" SW1-2 (P078C)	P151A
"	P155B	OP15-3 (P130A)	Hashimoto, Masakazu	Hirano, Tomoko
Fujino, Mari P097A		H	P014B	P074B
Fujioka, Kaoru		H, Thomas	Hashimoto, Mitsuhiro	Hiraoka, Yasuaki
P097A		OP01-3 (P121A)	P109A	S02-2
Fujishima, Kazuto		H. Sato, Masa P074B	Hashimoto, Yutaka	Hirashima, Tsuyoshi
MS02-3		Habuta, Munenori	OP06-5 (P087C)	OP03-4
Fujita, Eiko P043A		P126C	Hatakeyama, Jun	Hirata, Hiromi
Fujita, Hirofumi		Hachiman, Masaki	OP02-1 (P113B)	P177C
P126C		P024C	" OP02-2	Hirose, Mizuki
Fujita, Ryo P167B		Hamada, Hiroshi	" P100A	P186C
Fujita, Toshiyuki		P123C	Hatakeyama, Yudai	Hirose, Tetsuro
P043A		" P124A	P022A	OP14-2 (P051C)
"	P185B	Hamidi, Sofiane	Hatta, Kohei P110B	Hirota, Bin P039C
Fujiwara, Mamoru		OP09-2 (P030C)	Hayashi, Katsuhiko	Hiyoshi, Kanac
OP05-2 (P008B)		" P016A	S03-5	P111C
Fukatsu, Takema		Han, Xujun OP02-5	Hayashi, Momoko	Ho, Kenneth P183C
P039C		Hanada, Sanshiro	OP15-3 (P130A)	Homma, Koichi
Fukuda, Kimiko		OP03-1 (P080B)	Hayashi, Shigeo	P043A
S04-5		Hanada, Yasuyuki	OP07-3 (P090C)	" P185B
Fukuda, Narumi		OP03-1 (P080B)	" P065B	Honda, Arata P054C
P111C		Hanyu-Nakamura, Kazuko	" P128B	Honda, Mizuki
Fukuhara, Shigetomo		OP04-3 (P160A)	Hayashi, Takashi	OP01-1 (P182B)
OP03-1 (P080B)		Harada, Akihito	OP15-6 (P132C)	Honda, Naoki
Funayama, Noriko		OP01-1 (P182B)	Hayashi, Tetsutaro	OP06-3 (P085A)
OP10-5		Harada, Hidemitsu	SW3-2 (P181A)	" P005B
Furuse, Mikio		OP13-5	Hei Chan, Ting	" P061A
OP05-3 (P082A)		Harada, Yujin S06-5	P162C	" SW2-4 (P134B)
Fuse, Naoyuki		Harada, Yumiko	Hibi, Masahiko	Honda, Takeru
OP11-3 (P143B)		P186C	MS02-2	MS02-6
G		Harima, Yukiko	" OP13-4	Horb, Marko
Geneviev Martinez, Joey		S05-5	" P112A	OP11-2 (P142A)
P184A		Hasebe, Mitsuyasu	" SW1-2 (P078C)	Horie, Takeo S01-4
Gong, Zhiyuan		S06-4	Hibino, Nobuyuki	Hoshika, Shinichiro
MS01-1		Hasebe, Momoko	P127A	OP07-4
Goto, Yuichi P165C		P026B	Higaki, Takumi	Hoshino, Ryo
Gotoh, Yukiko S06-5		Hasebe, Takashi	S05-3	OP04-4
Greb, Thomas		P101B	Higashijima, Shinichi	Hosoda, Kazutaka
OP13-3 (P173B)			OP13-4	P060C

Hosokawa, Yoichiroh OP03-2 " OP10-2 (P093C)	Imasaka, Mai P001A Imoto, Yusuke S02-2 Inagaki, Sachi P065B Inaki, Mikiko OP07-5 (P091A) " P025A Inomata, Hidehiko SW1-1(P028A) Inoue, Airi P001A Inoue, Hiroki P152B Inoue, Jun P046A Inoue, Miki P186C Inoue, Takayoshi OP05-5 Inoue, Yasuhiro OP07-5 (P091A) Inoue U, Yukiko OP05-5 Irie, Naoki S01-7 Ishiguro, Kei-ichiro S03-2 " OP01-5 (P157A) " P147C " P148A " P155B Ishii, Mamoru OP03-4 Ishii, Ryutaro OP13-2 (P172A) Ishimori, Izumi SW2-2(P139A) Ishino, Fumitoshi S04-3 Ishino, Shungo P179B Ishitani, Tohru S05-5 " P119B Ishizuya-Oka, Atsuko P101B Islam, Mazharul OP14-3 (P009C) Ismagulov, Galym P016A	Isono, Kyoichi P004A " P104B Istiaq, Arif P175A " SW3-1(P169A) Itakura, Yuki P065B Ito, Naofumi OP05-1 " P175A " SW3-1(P169A) Ito, Shinsuke OP15-5 Itoga, Hiroya P183C Itoh, Tsubasa MS02-2 " P112A Iwasaki-Yokozawa, Sawa P021C Iwasato, Takuji OP02-1 (P113B) Iwase, Akiyasu P069C Izumi, Kenji OP13-2 (P172A) Izutsu, Yumi SW2-2(P139A) J Jacinto, Sonia P007A Janine Asi, Ranelle P007A Jones, Nick OP12-1 (P034A) Jouannet, Virginie OP13-3 (P173B) Joy Padua, Ana P007A Jung, Han-sung P071B " P153C Jung, Jae P077B Jung, Jae-kwang P013A " P062B	K Kadoya, Minoru SW3-3(P116B) Kageyama, Ryoichiro PL-1 Kageyama, Yuji OP07-3 (P090C) Kajikawa, Eriko P124A Kajioka, Daiki P104B Kaku, Yusuke OP14-3 (P009C) Kamei, Yasuhiro OP06-2 (P084C) Kamemura, Kosuke OP02-4 (P115A) Kamikawa, Yasunao S06-3 Kamiyama, Daichi OP02-4 (P115A) Kamiyama, Takumi P049A Kanazawa, Utsugi P127A Kanecko, Arata OP10-3 (P094A) Kanecko-Ishino, Tomoko S04-3 Kanie, Akemi S05-2 " OP06-1 (P083B) Kao, Tzu-jen P106A Karimi, Mohammad OP12-1 (P034A) Kashima, Makoto P177C Kasukawa, Takeya OP09-2 (P030C) Kato, Kagayaki TS-10 Kato, Soichiro SW1-1 (P028A) Katoh, Takanobu P123C
---	--	---	--

Katsunuma, Sayaka P125B	Kiemer, Alexandra MS01-2	Kiyonari, Hiroshi P015C	Kondo, Takashi OP15-5
Katsura, Hiroaki OP11-1 (P141C)	Kihara, Shunsuke S02-3	Kiyono, Mai OP12-5 (P171C)	Kondo, Takefumi OP07-2 (P089B)
Katsuta, Hiroki S05-2 " OP06-1 (P083B)	Kikkawa, Takako OP05-5	Kluiver, Thomas P067A	" OP10-5 " SW2-4 (P134B)
Kaul, Verena OP13-3 (P173B)	Kikuchi, Koji P100A	Ko, Woo-ri P037A	Kondo, Yohei OP06-3 (P085A)
Kawachi, Teruaki OP09-4 (P032B)	Kikuchi, Mariko S03-4	Kobayashi, Akio OP12-4 (P170B)	Kondoh, Hisato TS-10
Kawaguchi, Akane S01-6	Kim, Jae P077B	" P097A	" OP09-5 (P033C)
Kawaguchi, Daichi S06-5	Kim, Jae-young P013A	Kobayashi, Haruka SW2-2(P139A)	Kong, Mingpeng OP14-6 (P011B)
Kawahara, Atsuo P161B	" P062B	Kobayashi, Kazuya S03-1	Kong, Richard MS01-3
Kawahara, Tomohiro TS-03	Kim, Jessica OP12-2 (P035B)	Kobayashi, Yoshihiko OP11-1 (P141C)	Konkimalla, Arvind OP11-1 (P141C)
Kawahira, Naofumi P060C	Kim, JI-youn P013A	Kodera, Chisato OP01-5 (P157A)	Konno, Daijro P117C
Kawakami, Atsushi OP11-4 (P144C)	" P062B	" P148A	Koopman, Peter S03-3
Kawakami, Atushi SW2-1(P129C)	Kim, Pyunggang P153C	Koga, Hiroyuki S01-3	Koseki, Haruhiko OP14-5 (P010A)
Kawakami, Kiyoshi P099C	Kim, Seong-jin P153C	" P164B	" P004A
Kawakami, Koichi P110B	Kim, Tae P077B	Kohtsuka, Hisanori OP08-3 (P045C)	Koseki, Haruhiko OP15-5
kawamura, kazuki P127A	Kim, Tae-young P013A	Koike, Masato P001A	Koshimoto, Chihiro P073A
Kawanishi, Toru P057C	" P062B	Kojima, Masayasu OP14-1 (P050B)	Koyama, Hiroshi OP09-3 (P031A)
Kawasaki, Moe P108C	Kimata, Yusuke S05-3	Kojima, Yoji OP01-4 (P156C)	Koyama, Momo P004A
Kawasumi-Kita, Aiko OP06-2 (P084C)	Kimura, Hiroshi OP15-7 (P133A)	Kojima, Yutaka P096C	Kudo, Mikiko P175A
Kawaue, Takumi OP11-5 (P095B)	Kimura, Seisuke P068B	Komai, Hanae OP10-4	" SW3-1 (P169A)
Kengaku, Mineko MS02-3	Kimura, Tetsuaki OP13-4	Komatsu, Norio OP13-1	Kumagai, Nobuyoshi P177C
Kida, Mayuko P069C	Kinjyo, Kiyoka OP10-5	Komeya, Mitsuru OP15-7 (P133A)	Kumamno, Gaku P047B
	Kinoshita, Noriyuki OP06-5 (P087C)	Kon, Hikaru P041B	Kume, Kazuhiko OP14-4
	Kishi, Kanae OP15-3 (P130A)	Kondo, Kaori OP15-5	Kume, Shoen OP14-4
	Kishimoto, Keishi OP07-1 (P088A)	Kondo, Shigeru OP03-3 (P081C)	" P001A
	Kitajima, Yuriko P167B	Kondo, Shu OP04-4	

//	P052A	L	Ma, Long	P038B	Matsuno, Kenji
Kuninaka, Shinji		L. Hwang, Sheng-ping	Maeda, Hinako		OP02-3 (P114C)
P147C		P059B	P014B		// OP07-5 (P091A)
Kuniya, Takaaki		Lap Lee, Tin P162C	Maeda, Kiwako		// OP10-3 (P094A)
S06-5		Lee, Changhee OP13-6	OP10-1 (P092B)		// P020B
Kuno, Shuhei P125B		Lee, Dong-joon	Maeda, Ryo		// P025A
Kuo, Hsiao-ying		P153C	OP01-5 (P157A)		Matsuo, Isao S04-4
P107B		Lee, Eui P077B	Maeda, Takuya P128B		Matsuo, Misato
Kuranaga, Erina		Lee, Eui-seon P062B	Maehara, Kazumitsu		OP15-1
OP07-4		Lee, Hyun-shik	OP01-1 (P182B)		Matsushita, Rika
Kuraoka, Shohei		P037A	Maekawa, Emi		OP02-2
OP12-4 (P170B)		Lee, Jong-min	SW1-4(P102C)		Matsushita, Shoko
Kurata, Shoichiro		P071B	Mahammadov, Elmir		P104B
OP11-3 (P143B)		Lee, Min-jung	OP12-1 (P034A)		Matsuura, Kumi
Kuratani, Shigeru		P153C	Makanae, Aki P136A		OP01-5 (P157A)
S01-7		Lee, Rebecca	Maruyama, Tenmei		// OP14-4
//	OP08-1	OP11-1 (P141C)	SW2-2(P139A)		Matsuyama, Makoto
Kurihara, Daisuke		Lee, Ruda	Masai, Ichiro		P018C
S05-3		OP09-2 (P030C)	OP05-2 (P008B)		Matsuzaki, Fumio
Kurihara, Hiroki		Lee, Sang-woo	// OP14-7 (P012C)		OP05-5
P069C		OP06-2 (P084C)	// P096C		Matsuzawa, Ayumi
Kurisu, Daisuke		// P060C	// P098B		S04-3
OP10-3 (P094A)		Lee, Seon P013A	Masuko, Keita		Matumura, Keina
Kuriyama, Sei		Lee, Seung-doo	OP11-3 (P143B)		SW2-1 (P129C)
P076A		P153C	Matoba, Ayako P027C		Matusda, Michiyuki
Kuroda, Hiroki		Leopold, Pierre PL-2	Matsuda, Yoichi		OP03-4
P024C		Li, Kun-lung P046A	OP09-5 (P033C)		Mazahery, Ahmad
Kuroda, Shunya		Li, Rong P120C	// P127A		P003C
OP08-1		Li, Rony MS01-3	Matsuda, Yuka		Mbogo, Ivan P044B
Kuroiwa, Atsushi		Liang, Xiao P120C	OP10-1 (P092B)		Megason, Sean
P127A		Liao, Jinyue P162C	Matsui, Takaaki		P057C
Kurokawa, Mineo		Liao, Shih-yi P150C	OP03-2		Mengdi, Sun P163A
OP13-1		Lim, Youngmi P118A	// OP10-2 (P093C)		Miguel Sanchez, Juan
Kusaba, Kouki		Lima, Ana	Matsui, Yasuhisa		OP12-1 (P034A)
P042C		OP12-1 (P034A)	P146B		Mii, Yusuke P018C
Kusakabe, Rie OP08-1		Liu, Fu-chin P107B	Matsumoto, Akino		// P022A
Kuse, Mariko		Lubatti, Gabriele	S06-3		Min, Ming P163A
SW3-2 (P181A)		OP12-1 (P034A)	Matsumoto, Kenjiroo		Ming Ivan Yow, Ying
Kuwana, Satoshi		Luk, Alfred P162C	P020B		OP11-5 (P095B)
P020B		Luo, Yi-jiyun S01-5	Matsumoto, Tomohiro		Miura, Masayuki
Kyoda, Koji P183C		M	P002B		OP02-4 (P115A)
Kyu Lim, Han		Ma, Kenji	Matsunaga, Hiroki		
P037A		OP10-1 (P092B)	P067A		

Miura, Takashi OP03-1 (P080B)	Moriyama, Minoru P039C	Nakamoto, Ayaki P047B	Nakayama, Megumi SW1-4(P102C)
Miyadai, Motohiro OP13-4	Moriyama, Yasutake P164B	Nakamura, Akira OP04-2 (P159C)	Nakazato, Taiga P026B
Miyagawa, Shinichi P104B	Moriyama, Yuka OP11-2 (P142A)	// OP04-3 (P160A)	Nakazawa, Junichiro OP10-5
Miyagawa-Tomita, Sachiko P069C	// P026B	// P100A	Namekawa, Satoshi OP01-5 (P157A)
Miyajima, Mei P165C	Moriyama, Yuki P026B	Nakamura, Hiroko OP15-7 (P133A)	Nanba, Sakurako P026B
Miyata, Takaki OP06-1 (P083B)	Motegi, Fumio OP15-2	Nakamura, Kiminori P175A	Narumi, Rika P006C
Miyazaki, Nagisa P042C	Murai, Hidetaka TS-06	Nakamura, Kodai P167B	Naruse, Kiyoshi OP13-4
Miyoshi, Hiromi OP10-3 (P094A)	Murakami, Ryutaro P186C	Nakamura, Makoto OP11-2 (P142A)	// P056B
Mizumaki, Yumiko P110B	Murakami, Yasunori MS02-1	// P023B	Natsukawa, Hiroaki P179B
Mizumoto, Kanta TS-07	N S04-6	Nakamura, Ryo P105C	Nemoto, Kazuya OP11-3 (P143B)
Mizuno, Katsutoshi P123C	// TS-08	// SW1-3 (P079A)	Nemoto, Tomomi OP10-3 (P094A)
Mizuno, Miroaki OP10-3 (P094A)	// OP09-2 (P030C)	Nakamura, Shunya P056B	Ngo, Yen OP13-2 (P172A)
Mogi, Chihiro S05-5	// P066C	Nakamura, Tomonori S02-2	Nikaido, Itoshi SW3-2 (P181A)
// P119B	Naganuma, Hidekazu OP14-3 (P009C)	Nakanishi, Akiko MS02-2	Nikaido, Masataka P110B
Morimoto, Mitsuru OP07-1 (P088A)	Naher, Sharmin OP05-5	// P112A	Nishida, Haruka P048C
Morino, Yoshiaki OP08-3 (P045C)	Naiman, Natalie P097A	Nakanishi, Hiroyuki P100A	Nishida, Hiroki OP15-3 (P130A)
Morino-Koga, Saori OP12-5 (P171C)	Nakae, Ken SW2-4 (P134B)	Nakanishi, Mayu P048C	Nishikawa, Maho P186C
// SW3-4(P176B)	Nakagata, Naomi OP14-4	Nakano, Mikiharu OP09-5 (P033C)	Nishimura, Takashi OP14-1 (P050B)
Morishita, Yoshihiro TS-05	// P104B	Nakano, Yasue P183C	Nishimura, Toshiya S03-4
// OP06-2 (P084C)	Nakagawa, Kanji OP10-5	Nakao, Mitsuyoshi P104B	Nishinakamura, Ryuichi OP12-4 (P170B)
// P060C	Nakagawa, Mami P100A	Nakashima, Keisuke P046A	// OP14-3 (P009C)
Morishita, Yoshitaka P025A	Nakagawa, Shinichi OP14-2 (P051C)	Nakaya, Yukiko TS-09	// P002B
Morita, Hitoshi P058A	Nakagawa, Toshinori S03-6	// OP09-2 (P030C)	Nishiwaki, Yuko OP05-2 (P008B)
Morita, Osamu P006C	Nakamasu, Akiko P068B	// P027C	
		Nakayama, Manabu OP14-5 (P010A)	

Nishiyama, Koichi OP03-1 (P080B)	Oh, Sang-bin P071B	Onai, Takayuki OP08-5	Pedro Vieira Mariz, Joao P137B
Niwa, Hitoshi OP01-5 (P157A) " OP09-2 (P030C) " OP12-3 (P036C) " OP14-1 (P050B)	Ohkawa, Yasuyuki OP01-1 (P182B) Ohsawa, Shizue SW1-4 (P102C) Ohta, Kunimasa OP05-1	Onami, Mayumi OP15-1 Onami, Shuichi P179B " P183C	Pernaute, Barbara OP12-1 (P034A) Po Lai, Keng MS01-3
Niwa, Ryusuke OP04-4 " P049A	" P100A " P165C " P175A " SW3-1 (P169A)	Ono, Yusuke P002B " P167B Onuma, Takeshi OP15-3 (P130A)	" P120C Pokharel, Elina P062B " P077B
Nonaka, Shigenori P122B	Ohtsuka, Daisuke TS-05	Ooashi, Ayaka SW2-3(P140B)	Potter, Steven P097A Pourquie, Olivier S05-5
Nonomura, Atsuto P146B	" P060C Ohuchi, Hideyo P126C	Opiso, Einstine P184A	R Rao Tata, Purushothama OP11-1 (P141C)
Nonomura, Keiko S05-2 " OP06-1 (P083B)	Okada, Seiji P001A Okada, Yasushi P168C	Osato, Motomi OP13-1 Osawa, Ikuma P042C	Reyes, Mikojie P103A
Noto, Rio P053B " P075C	Okamatsu, Yuko OP14-2 (P051C)	Oshiro, Shogo OP12-5 (P171C)	Reza Mazahery, Ahmad P007A
Nowoshilow, Sergej S01-6	Okamoto, Kazuko P168C	Osumi, Noriko OP05-5	Ricci, Lorenzo S01-5 Rodewald, Hans-reimer OP01-3 (P121A)
Nozaki, Katsuya SW1-4(P102C)	Okamura, Daiji P146B	Otani, Tetsuhisa OP05-3 (P082A)	Rodrigues, Alan OP13-6
Nunome, Mitsuo OP09-5 (P033C) O	Okamura, Kaho P147C " P155B	Otomoto, Kohei OP10-3 (P094A)	Rodriguez, Anna P103A
Obregon, D. PL-2	Okano, Hideyuki S02-6	Otsu, Keishi OP13-5 " P153C	Rodriguez, Tristan OP12-1 (P034A)
Ochi, Haruki P145A	Okawa, Masumi OP10-5	Otsu, Sachiko OP04-2 (P159C)	S S.E. Cheah, Kathryn OP14-6 (P011B)
Oda, Hiroki P021C	Oki, Shinya OP01-1 (P182B)	Ou, Jianhong OP11-1 (P141C)	Sada, Aiko OP13-2 (P172A)
Odahara, Ryota P165C	Okochi, Yasushi SW2-4(P134B)	Oyadomari, Seiichi P126C	Saga, Yumiko OP04-1 (P158B)
Ogamino, Shohei S05-5	Okuda, Eri P111C	Ozaki, Haruka SW3-2(P181A) P	" OP06-4 (P086B) " OP12-2 (P035B) " P151A " P152B
Ogawa, Minetaro OP12-5 (P171C) " SW3-4 (P176B)	Okuda, Satoru P072C	Paglinawan, Florifern P184A	Saito, Daisuke TS-06 " TS-07
Ogawa, Takehiko OP15-7 (P133A)	Okumura, Misako OP02-4 (P115A)	Pang, Hao-yu P107B	
Ogino, Hajime P040A	Omiya, Hanae S06-5	Park, Jinah P153C	
Oginuma, Masayuki S05-5		Patapoutian, Ardem S05-2	

Saito, Nanami SW2-3(P140B)	// P100A	Shibata, Marika OP15-5	Shinozuka, Takuma P055A
Saito, Seiji P127A	Sato, Keita P126C	Shibata, Tatsuo TS-09	Shioda, Norifumi OP05-4
Saitou, Mitinori S02-2 // OP01-4 (P156C)	OP02-5 // OP15-6 (P132C)	// OP09-2 (P030C)	// P108C
Saitou, Takashi OP01-2	Sato, Shigeru P099C	// OP15-2	Shiozawa, Kei P123C
Sakagami, Marina P112A	Sato, Tetsuya P104B	// P027C	Shirai, Ayaka P110B
Sakaguchi, Shunta SW2-4 (P134B)	Sato, Toshiyuki OP15-7 (P133A)	Shibuya, Minami TS-06	Shiraki, Nobuaki OP14-4
Sakai, Tomoko S02-4	Sato, Yuki TS-03	Shiga, Yasuhiro P042C	Shiura, Hirosuke S04-3
Sakamura, So OP02-3 (P114C)	Satoh, Akira P136A // SW2-3 (P140B)	Shigenobu, Shuji P110B	Shujie, Liu P006C
Sakano, Daisuke OP14-4	Satoh, Noriyuki P046A	Shikaya, Yuuki P105C	Silwamba, Marthias P184A
// P001A	Satou, Yutaka P017B	// SW1-3 (P079A)	Sohn, Wern P077B
// P052A	Sawa, Hitoshi OP15-1	Shimada, Ryuki OP04-1 (P158B)	Sohn, Wern-joo P062B
Sakashita, Akihiko OP01-5 (P157A)	Sawai, Satoshi S05-4	Shimada, Yuri P145A	Sone, Ryouta P161B
Sakuma, Chie P180C	Saya, Hideyuki P147C	Shimamura, Kenji OP02-1 (P113B)	Sonoda, Yuki OP14-4
Sakumura, Yuichi TS-01	Schloissnig, Siegfried S01-6	// OP02-2	Srinivas, Shankar OP12-1 (P034A)
Sakurai, Mizuki P024C	Scialdone, Antonio OP12-1 (P034A)	// P100A	Srivastava, Mansi S01-5
Sami, Mustafa P128B	Sekine, Sayaka OP02-4 (P115A)	Shimazaki, Aya S03-1	Su, Danhua P038B
Sancho, Margarida OP12-1 (P034A)	Seko, Daiki P167B	Shimizu, Natsumi P124A	Su, Min P120C
Sano, Hiroko OP14-1 (P050B)	Shah Adil Ishtiyag, Ahmad SW3-1 (P169A)	Shimizu, Takashi MS02-2	Suda, Toshio OP13-1
Sasai, Noriaki TS-01 // SW3-3 (P116B)	Shanker, Prabhat OP15-2	// P112A	Suematsu, Nobuhiko P068B
Sasaki, Hiroshi OP09-3 (P031A)	Sharif, Jafar P004A	Shimizu, Yuki P186C	Sugahara, Fumiaki OP08-5
// P014B	Shashidhara, Ls P063C	Shimoda, Momoka P165C	Sugihara, Izumi MS02-4
Sasakura, Yasunori OP08-3 (P045C)	Sheng, Guojun S04-6 // TS-08	Shimokita, Eisuke OP09-4 (P032B)	Sugimoto, Keiko S06-2
Sasamura, Takeshi OP10-3 (P094A)	// OP09-2 (P030C)	Shimono, Kohei OP10-4	Sugimoto, Michihiko P155B
Sato, Haruka OP02-1 (P113B)	// P016A	Shin, Dongsun P025A	Sugishita, Hiroki OP14-5 (P010A)
// OP02-2	// P066C	Shinohara, Akio P073A	// OP15-5
	Shi, Dongbo OP13-3 (P173B)		Sugiyama, Yuki P098B
	Shi, F MS01-4		

Sun, Wei	P049A	Tabin, Clifford		Takahashi, Yoshiko	TS-06	Takeuchi, Miki	P112A
Sun, Xiaofei	OP07-4		OP13-6				
Sun, Zhengkuan		Tachibana, Makoto		"	TS-07	Takeuchi, Yuki	
	P065B		OP01-5 (P157A)	"	OP03-5		P096C
Sung, Shijin	P062B	Tadokoro, Ryosuke		"	OP09-4 (P032B)	Takigawa, Taishi	
"	P077B		TS-06	"	OP15-4 (P131B)		OP07-5 (P091A)
Sushida, Takamichi		"	TS-07	"	P054C	Takigawa-Imamura, Hisako	
	OP07-5 (P091A)	"	OP09-4 (P032B)	"	P105C		P074B
"	OP15-6 (P132C)	"	P105C	"	SW1-3 (P079A)	Tam, Patrick	P015C
Suyama, Mikita		"	SW1-3 (P079A)	Takanezawa, Sota		"	P178A
	P104B	Taguchi, Atsuhiko			OP01-2	Tamaki, Teruhisa	
Suzuki, Akira	P125B		OP12-4 (P170B)	Takano, Tomoatsu			OP11-4 (P144C)
Suzuki, Atsushi		"	OP14-3 (P009C)		P054C	Tamura, Koji	TS-04
	OP11-2 (P142A)	Taimatsu, Kiyohito		Takasato, Minoru		"	TS-06
"	P023B		P161B		P053B	"	OP06-2 (P084C)
Suzuki, Haruka		Taira, Masanori		"	P067A	Tan, Zhijia	
	P019A		OP09-1 (P029B)	"	P075C		OP14-6 (P011B)
Suzuki, Ikuo	S02-1	Taira, Yuki		"	P166A	Tanaka, Eiji	P126C
Suzuki, Ken-ichi			OP07-3 (P090C)	Takase, Yuta	TS-07	Tanaka, Elly	S01-6
	P126C	"	OP09-5 (P033C)	"	OP03-5	Tanaka, Kaori	
Suzuki, Kentaro		Takada, Hiroyuki		"	OP15-4 (P131B)		OP01-1 (P182B)
	P104B		OP13-4	"	P054C	Tanaka, Minoru	
Suzuki, Kunihiro		Takada, Ritsuko		"	P105C		S03-4
	OP05-5		P018C	Takayama, Ayuko		"	P161B
"	P041B	Takada, Shinji	P018C		P126C	Tanaka, Satomi	
Suzuki, Makoto		"	P022A	Takebayashi-Suzuki, Kimiko			P015C
	OP09-3 (P031A)	"	P055A		OP11-2 (P142A)	"	P178A
"	P040A	"	P135C	"	P023B	Tanaka, Sayuri	S05-3
"	P100A	Takada, Shuji	P104B	Takeda, Hiroyuki		Tanaka, Tsubasa	
Suzuki, Nanoka		Takada, Yuki			S01-7		OP04-2 (P159C)
	P040A		OP01-5 (P157A)	"	OP09-1 (P029B)	Tando, Yukiko	
Suzuki, Takayuki		"	P148A	"	P057C		P146B
	TS-II	"	P155B	Takeda, Naoki		Tani, Naoki	
"	OP06-2 (P084C)	Takahashi, Eri			OP14-4		OP04-2 (P159C)
"	OP09-5 (P033C)		OP11-2 (P142A)	Takeichi, Masatoshi		"	P155B
"	P127A	Takahashi, Harumi			SL	Tanigawa, Shunsuke	
Suzuki, Tohru	P056B		P052A	Takemoto, Kazumasa			OP12-4 (P170B)
T		Takahashi, Masahide			OP01-5 (P157A)	"	OP14-3 (P009C)
Tabelin, Carlito			OP15-7 (P133A)	"	P155B	Taniguchi, Atsushi	
	P184A	Takahashi, Tokiharu		Takemoto, Tatsuya			P122B
Tabelin, Mylah			OP08-2		P127A	Taniguchi, Hiroki	
	P003C	Takahashi, Toshio		Takeo, Toru	P104B		OP10-3 (P094A)
			OP13-7 (P174C)				

Taniguchi, Junichi	//	P111C	Urakawa, Gen		Watanabe, Naoki
P067A	Tsudzuki, Masaoki		P165C		OP10-3 (P094A)
Taniguchi, Kiichiro	OP09-5 (P033C)		Urata, Kazumi		Watanabe, Tadayoshi
OP04-5	Tsukaya, Hirokazu		P175A		P105C
Tani-Matsuhana, Saori	P164B		Uriu, Koichiro	P064A	Watanabe, Tomonobu
TS-02	Tsukiyama, Tomoyuki		V		P168C
Tanimoto, Hiromu	S02-5		Vijendravarma, R.		Watanabe, Yuji
OP04-4	Tsunekawa, Yuji		PL-2	P180C	
Tanno, Nobuhiro	OP05-5		Villacorte, Mylah	Wei Lim, Yen	
P147C	Tsunogai, Yuri		P184A	OP15-2	
//	SW1-2(P078C)		Vincent Borromeo, Rod	Wen, Fu-lai	OP15-2
Tanouchi, Mikio	Tsuruda, Mariko		P003C	Wen, Songjia	
P040A	OP12-5 (P171C)		Virgiriinia, Regina	OP14-6 (P011B)	
Tasaki, Junichi	// SW3-4(P176B)		P023B	Wern, Joo-sohn	
P006C	Tsuyama, Taiichi		W	P013A	
Tasaki, Sohei	OP10-4		Wada, Hiroshi	Wing Ng, Kin	P162C
Tata, Aleksandra	Tung Lee, Wing		OP08-3 (P045C)	Wlizla, Marcin	
OP11-1 (P141C)	P162C		Wada, Housei	OP11-2 (P142A)	
Teramoto, Machiko	U		OP07-3 (P090C)	Wong, Chris	MS01-4
OP09-5 (P033C)	Ueda, Hitoshi	P048C	//	Wright, Danelle	
Togashi, Hideru	Ueda, Minako	S05-3	P065B	P151A	
P125B	Ueda, Yoko	S04-4	Wakamatsu, Yoshio	Wu, Rudolf	MS01-3
Tohsato, Yukako	Uefune, Fumiya		OP05-5	Wymeersch, Filip	
P183C	//	P052A	//	P075C	
Tojima, Sayaka	Uehara, Mari		Wan, H	Y	
P073A	MS02-2		Wang, Fangfang	Yabe, Taijiro	P135C
Tokuhiro, Shinichi	//	P112A	P183C	Yagasaki, Rei	
P017B	Uemura, Tadashi		Wang, Hongmei	SW1-3 (P079A)	
Tokuma, Hiraku	OP10-4		S04-2	Yaginuma, Hiroyuki	
OP14-4	Ueno, Naoto		Wang, Huijia	P109A	
Tomizawa, Reiko	OP06-5 (P087C)		OP08-2	//	P180C
OP13-6	// OP09-3 (P031A)		Wang, Kai	Yaguchi, Shunsuke	
Toya, Hikaru	//	P110B	OP15-3 (P130A)	P019A	
OP14-2 (P051C)	Uesaka, Masahiro		Wang, Miaoqing	Yakushiji-Kaminatsui, Nayuta	
Toyama, Yusuke	S01-7		OP02-5	OP14-5 (P010A)	
OP11-5 (P095B)	Umeda, Mana		Wang, Tingting	Yam, Prasad	P013A
Tsuboi, Alice	SW3-2 (P181A)		Warmflash, Aryeh	Yamada, Gen	P104B
OP07-2 (P089B)	Umesono, Yoshihiko		OP09-2 (P030C)	Yamada, Sohei	
Tsubouchi, Tomomi	P138C		Watakabe, Ikuko	OP03-2	
S06-3	Umetsu, Daiki		OP13-4	// OP10-2 (P093C)	
Tsuda, Leo	OP07-4		Watanabe, Hiroshi	Yamaguchi, Nao	
Tsuda, Sachiko			P044B	S04-5	
MS02-5					

Yamaguchi, Shima	Yasuoka, Yuuri	Yukumatsu, Miki
S06-5	S01-1	OP07-5 (P091A)
Yamaguchi, Shinji	" P044B	Yura, Shinnosuke
P043A	Yee Cheung, Man	MS02-2
" P185B	P162C	" P112A
Yamaguchi, Yasuka	Yeung Tsang, Kwok	Yuslimatin Mujizah, Elzava
P178A	OP14-6 (P011B)	P020B
Yamaguchi, Yasuko	Yoke, Hiroshi	Z
P015C	P122B	Zawadzki, Tamzin
Yamaguchi, Yoshifumi	Yokoi, Hayato	OP12-1 (P034A)
OP14-2 (P051C)	P056B	Zhang, Jidong
Yamakawa, Shumpei	Yokokawa, Ryuji	P163A
OP08-3 (P045C)	OP03-1 (P080B)	Zhao, Wei P166A
Yamakawa, Tomoko	Yokomizo, Tomomasa	
OP10-1 (P092B)	OP13-1	
Yamamoto, Hitoshi	Yokoyama, Hitoshi	
P013A	OP06-2 (P084C)	
" P077B	" P145A	
Yamamoto, Nobuhiko	Yokozawa, Misato	
OP02-1 (P113B)	SW2-1(P129C)	
Yamamoto, Takuya	Yoshida, Hitoshi	
S02-3	OP11-2 (P142A)	
Yamanaka, Hiroyuki	Yoshida, Junki	
OP15-7 (P133A)	OP15-4 (P131B)	
Yamanaka, Yoshihiro	Yoshida, Shosei	
S02-3	S03-6	
Yamane, Mariko	" OP01-3 (P121A)	
OP14-1 (P050B)	" OP15-7 (P133A)	
Yamasu, Kyo P111C	Yoshido, Kana	
Yamazaki, Mei	P005B	
P026B	Yoshihi, Koya TS-10	
Yanagisawa, Hiromi	Yoshimochi, Sanka	
OP13-2 (P172A)	OP02-2	
Yanagisawa, Maria	Yoshimura, Raiki	
P026B	SW1-4 (P102C)	
Yang, Lu P120C	Yoshinari, Yuto	
Yao, Xinsheng	OP04-4	
P038B	Yoshino, Daisuke	
Yasue, Akihiro	TS-06	
P126C	Yu, Xiang-ling	
Yasue, Naoko	P059B	
OP06-5 (P087C)	Yuge, Shinya	
" OP09-3 (P031A)	OP03-1 (P080B)	

賛助企業（寄附、ランチョンセミナー、機器展示、書籍展示、広告）一覧

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(2020 年 3 月 25 日現在 順不同、敬称略)

ピークリスト作成ソフトウェア

MASCOT *Distiller*

◆各社質量分析装置からのRAWピークデータに対し、理論ピークフィッティングを行い最適なモノアイソトピック・ピークリストを作成し、MASCOT検索に最適なピーククエリを生成します。MASCOT *Daemon* との組み合わせにより、ピークリストから蛋白同定までを連続自動化するデータ処理が可能となります。

◆オプションモジュール：Search toolbox により *De Novo* シーケンシングが可能で、Quantitation Toolbox により、Silac 法、ICAT 法、 ^{18}O 法の各定量解析が可能となります。

蛋白質同定 Web システム

MASCOT *Server*

新機能

◆スペクトル・ライブラリ検索、ライブラリ構築が可能。

◆質量分析 (MS/MS/MS) データから核酸・蛋白質データベース検索を行い、試料蛋白質を同定します。各種データベースを組合わせた検索も可能です。

◆PMF 法、シーケンスクエリー法、MS/MS イオンサーチ法、検索手法に対応。

◆規定・独自翻訳後修飾を加味した検索パラメータの設計可能。

◆MASCOT *Daemon* により検索の自動化が行えます。

◆MASCOT *Cluster* へのアップグレードにより、検索負荷をスケラブルに解消できます。

◆主要質量分析メーカーファイルフォーマットに対応。

◆各種定量解析：emPAI 法、iTRAQ 法に対応、Distiller との組合せでは、Silac 法、ICAT 法、 ^{18}O 法に対応します。

検索結果解析・表示ソフトウェア

Scaffold



◆タンパク検索同定ソフトウェア MASCOT をはじめ他の検索エンジンの検索同定結果をサンプル毎に整理、統合、検証します。

◆検索同定結果のベイズ統計解析により、擬陽性判定解析を行う事が可能です。

◆X! tandem 検索エンジンを搭載し、同定結果の検証をサポート。

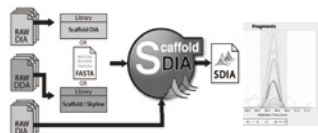
◆データ入力時のフィルタ機能により、解析不要データの削除が可能です。

◆データはフラットファイル形式で保存され、Xls ファイル形式でアウトプット可能です。

◆アップグレードモジュール：Scaffold *Q+*により iTRAQ、TMT 定量解析可能です。

◆アップグレードモジュール：Scaffold *Q+S*により iTRAQ、TMT 定量解析、SILAC 解析が可能です。

DIA 定量プロテオミクスソフトウェア

Scaffold *DIA*

◆定量プロテオミクス解析において、RAW データ読込から解析、解析結果表示までの一連作業がワンパッケージで行えるソフトウェアです。

◆FASTA、DDA データ検索由来ライブラリ、DIA データ検索由来ライブラリに検索対応。

◆見やすい GUI で、解析結果のシェアも Viewer を使って可能です。

◆Gene Ontology 解析表示、各種グラフ、統計解析に対応します。



大規模メタプロミクス解析ソフトウェア

Elements



◆数百に及び MS や MS2 スペクトルデータを効率的に解析するパラレル処理を行い、多次元検索とスコアリングを伴うアルゴリズムによって代謝産物を同定します。

◆定量解析結果は様々な区切り方で色分け表示可能です。m/z、保持時間、名前や分子式などで代謝産物について検索をかける事ができます。NIST や HMDB スペクトルライブラリー、オリジナルのデータベースに対して検索・結果閲覧が可能です。

プロテオミクスとともに・・・

マトリックスサイエンス株式会社



〒110-0015 東京都台東区東上野 1-6-10 ARTビル1階
TEL : 03-5807-7895 FAX : 03-5807-7896

info-jp@matrixscience.com URL : <http://www.matrixscience.com/>

～研究者様へ徹底したサポートを追及～

株式会社ウインクスは、2020年、東京五輪開催の年に、おかげさまで創立30周年を迎えます。

今後もライフサイエンス研究や科学技術研究のお客様に最先端の機器、ソフトウェア、消耗品、試薬等をご提供して参ります。

お客様のニーズにお応えできるよう、国内外のメーカーの製品を幅広く取り扱い、最先端の情報提供、最適な製品販売と迅速なサービス・サポートを追求して参ります。



主要取扱メーカー



エーエムアール株式会社

ThermoFisher
SCIENTIFIC



株式会社ウインクス **winX**

お問い合わせはこちら

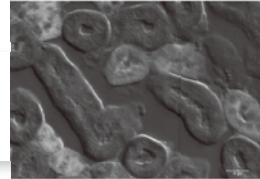
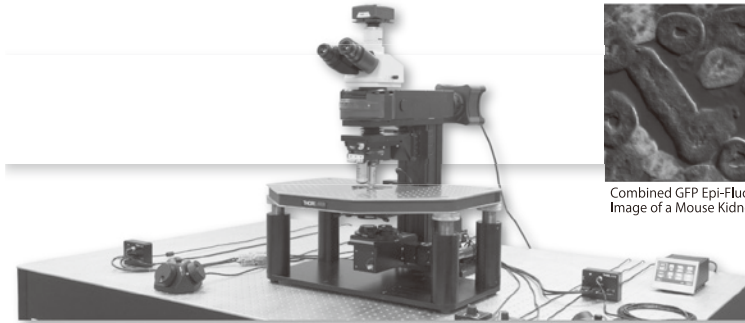
TEL.072-631-8810 FAX. 072-631-8820

〒567-0037 大阪府茨木市上穂東町4-24

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Microscopes & DIY Components: Cerna® Series



Combined GFP Epi-Fluorescence and DIC Image of a Mouse Kidney

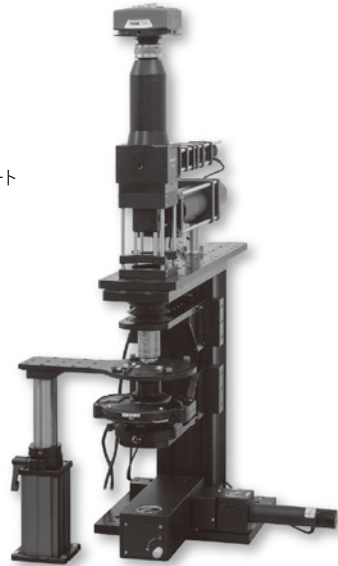
Cernaシリーズは、明視野、微分干渉、Dodtコントラスト、蛍光などさまざまな検鏡法をサポートする汎用顕微鏡プラットフォームです。モジュール式設計を採用しているため、あらゆる実験上の個別ニーズへのカスタム対応を可能にします。

特 長

- 照明やアクセサリを容易に着脱できるレール式の顕微鏡ボディ
- スリムな設計で対物レンズ直下に大きなスペースを確保
- 市販の光学製品のマウントを容易にする各種アダプタをご用意
- 豊富なアップグレード用アクセサリ：
当社製ガルバノスキャナの追加によりレーザ走査イメージングまでサポート
- UVから可視、近赤外光までカバーする照明、光学部品などの
各種コンポーネント
- 最小限の工具で簡単にカスタマイズ可能



ガルバノスキャナLSKGG4/Mを使用したレーザ走査型システムの構成例



カスタム仕様の落射照明付きCerna顕微鏡

■ Cerna顕微鏡ボディをベースに、実験用途に合わせてさまざまな構成が可能です ■

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正晃株式会社

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「知」を支える。

正しく、あきらか(見らか)に。そこから新たなステージへ。

正晃は、サイエンス・メディカル分野の専門商社として
最先端の医療と研究活動をサポートしています。



正晃株式会社は、試薬の専門ディーラーとして1950年に創業。時代の最先端分野から基礎研究にいたるまで、学術・研究における根幹を支えてきました。以来、お客様の尽きない探求姿勢にお応えする中で強固な信頼関係とフィールドを広げ、サイエンス・メディカル分野の専門商社として、充実したサービスを提供しています。

また、正晃グループの幅広いネットワークを活かし、より良い商品・サービスの提供と充実したサポート体制で、豊かな未来の実現に貢献いたします。

HOW TO VIEW THE ONLINE ABSTRACT BOOK

53rd 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/jsdb2020/>

53rd Annual Meeting of the
Japanese Society of Developmental Biologists
Co-Sponsored by Asia-Pacific Developmental Biology Network

HOME

Annual Meeting

Welcome Message

Information

Schedule and Program

Participation

Registration

About Kumamoto and Hotel Accommodation

About Nursery

JSDB Travel Fellowship and VISA

Presentation

皆様、
日々のニュース等でご存知の通り、新型コロナウイルス（COVID-19）の感染による発症者が日本国内でも増加中
です。国の基本方針に基づき、感染拡大のスピードを抑える努力が各方面でなされているところです。

5月19～22日に熊本で開催予定の年会につきましては、今後1ヶ月程度（～3月末まで）の状況を鑑みて開催の
可否を判断することになります。最新情報は随時お知らせいたします。

第53回年会準備委員長 中村 輝

Dear JSDB/APDBN member,

As you are aware, the novel coronavirus (COVID-19) infection cases between people were confirmed in several
cities in Japan. The government provides a guideline to suppress the outbreak of the infection, especially for
this 1-2 week period.

For the JSDB/APDBN meeting to be held in Kumamoto during 19-22 May 2020, we carefully observe situations
for a couple of weeks ahead, and will make decision by the end of March 2020.

We will keep you informed of any updates regarding this matter.

Sincerely,

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



53rd Annual Meeting of the
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“Schedule and Program”

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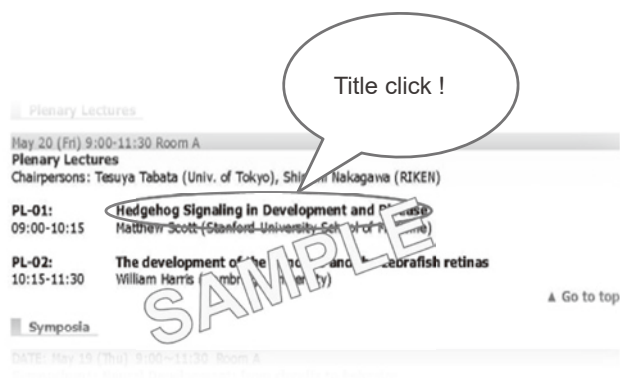
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Sincerely,

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), Shiro 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
Registration is closed. Please contact the organizers for any inquiries.

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44th Annual Meeting of JSDB

Please use the user ID and password that were e-mailed to you to confirm your registration.
(either as a presenter or as an observer)

User ID: (Example: knXXXXXX or enXXXXXX)

Password:

authenticate

[PL-01]
Hedgehog Signaling in Development and Disease

Hedgehog Signaling in Development and Disease

*Matthew Scott
(Stanford University School of Medicine)

The development of numerous tissues and organs depends on hierarchical gene expression in target cells. Defective Hsp signaling is also known to influence gene expression in target cells, leading to the development of cancer. We are investigating hsp signal transduction and gene expression in various cultured fibroblasts and cerebellum development. We have found that hsp protein signal has many genes in common with the hsp transcriptional response in cells exposed to heat shock. In addition, hsp protein is implicated in several cellular processes, including cell growth, cell differentiation, and cell death. We have found that hsp protein is involved in the regulation of gene expression in target cells, and that hsp protein is involved in the regulation of gene expression in target cells. We are exploring the mechanisms of protein trafficking and target gene activation. We are characterizing hsp target genes in responsive cerebellum granule neuron precursors and in the medulloblastoma tumors that arise from the precursors when function

Signaling in development

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Close

Edited by Organizing Committee of the 53rd Annual Meeting of JSCB (2020)

URL: <http://www.jsdb.jp/kaisai/jsdb2020>

E-mail: jsdb2020@jsdb.jp

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