

CILIA & CENTROSOMES

Awaji, Japan

Tuesday, February 28– Friday, March 3, 2023

Tuesday	7:00 pm – 8:45 pm	1 Keynote Session
Tuesday	8:45 pm	<i>Social Hour: Saka Barrel Breaking</i>
Wednesday	9:30 am – 12:00 pm	2 Cilia and Centrosome Structure
Wednesday	2:00 pm – 5:00 pm	3 Centrosome Biogenesis
Wednesday	7:00 pm – 9:00 pm	Poster Session
Thursday	9:30 am – 12:00 pm	4 Cilia Biogenesis
Thursday	1:30 pm – 3:30 pm	5 Cilia and Centrosome in Development
Thursday	4:00 pm – 6:15 pm	6 Sensory and Signaling Function
Thursday	6:30 pm	<i>Cocktails and Banquet</i>
Friday	9:30 am – 12:00 pm	7 Cilia and Centrosome in Disease

Awaji Yumebutai Conference Center

Meeting venue: Main Hall

Poster session: Lobby in 1st Basement of Conference Center

CSHA office: Room 202

*Breakfast**: Cocolare, 2nd floor of Grand Nikko Awaji, 7:00 am – 9:00 am

Lunch: Event Hall, 1st Basement of Conference Center, 12:00 – 2:00 pm

Dinner: Event Hall, 1st Basement of Conference Center, 5:00 pm – 7:00 pm

Cocktails (March 2): Cielo, 1st floor of Grand Nikko Awaji, 6:30 pm

Banquet (March 2): Stella, 1st floor of Grand Nikko Awaji, 7:30 pm

**Only available for guests staying at Grand Nikko Awaji*

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PROGRAM

TUESDAY, February 28—7:00 PM

SESSION 1 KEYNOTE SESSION

Chairperson: **Hiroshi Hamada**, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan

Welcome Remarks

Organizing ciliary assembly and intraflagellar transport at the centriole

Tomoharu Kanie, Niels Boegholm, Narcis A. Petriman, Jens S. Anderson, Esben S. Lorentzen, Peter K. Jackson [35'+10']
Presenter affiliation: Stanford University School of Medicine, Stanford, California.

1

Hyperactive protein responses in sensory cilia

Guangshuo Ou [35'+10']
Presenter affiliation: Tsinghua University, Beijing, China.

2

SOCIAL HOUR

Saka Barrel Breaking

WEDNESDAY, March 1—9:30 AM

SESSION 2 CILIA AND CENTROSOME STRUCTURE

Chairperson: **Masahide Kikkawa**, University of Tokyo, Tokyo, Japan

Using cryo-EM to reveal axoneme structures

Alan Brown [20'+10']
Presenter affiliation: Harvard Medical School, Boston, Massachusetts.

3

Combination of cryo-electron tomography and genetics to study cilia/flagella

Masahide Kikkawa [20'+10']

Presenter affiliation: The University of Tokyo, Tokyo, Japan.

4

Break

Mechanism of γ -tubulin complex docking on mitotic centrosomes

Midori Ohta, Yajie Gu, Wanying Tian, Kevin Corbett, Arshad Desai, Karen Oegema [20'+10']

Presenter affiliation: Okinawa Institute of Science and Technology, Onna, Japan; UC San Diego, San Diego, California.

5

Centrosome material properties in *C. elegans* cell division

Alexander Dammermann [20'+10']

Presenter affiliation: University of Vienna, Vienna, Austria.

6

DCX-EMAP is a core organizer for the ultrastructure of *Drosophila* mechanosensory organelles

Xuwei Song, Lihong Cui, Menghua Wu, Shan Wang, Yinlong Song, Zhen Liu, Zhaoyu Xue, Wei Chen, Yingjie Zhang, Hui Li, Landi Sun, Xin Liang [10'+5']

Presenter affiliation: Tsinghua University, Beijing, China.

7

WEDNESDAY, March 1—2:00 PM

SESSION 3 **CENTROSOME BIOGENESIS**

Chairpersons: **Fanni Gergely**, Cancer Research UK Cambridge Institute/ University of Oxford, Oxford, United Kingdom
Monica Bettencourt-Dias, Instituto Gulbenkian de Ciencia, Oeiras, Portugal

Centrosome regulation and deregulation in development and disease

Nuria Moreno, Mafalda Pimentel, Pilar Ramos, Ana Marques, Swadhin Jana, Gaëlle Marteil, Monica Bettencourt-Dias [20'+10']

Presenter affiliation: Instituto Gulbenkian de Ciencia, Oeiras, Portugal.

8

Species- and tissue-specific microtubule organization in nematodes

Asako Sugimoto [20'+10']

Presenter affiliation: RIKEN Center for Developmental Biology, Kobe, Japan.

Break

Centriole-membrane dynamics in ciliogenesis

Christopher J. Westlake [20'+10']

Presenter affiliation: NCI - Cancer Research Center, Frederick, Maryland.

9

Centrosomes—Organelles with cell type-specific composition and functions?

Fanni Gergely [20'+10']

Presenter affiliation: Cancer Research UK Cambridge Institute, Cambridge, United Kingdom; University of Oxford, Oxford, United Kingdom.

10

Mitotic centrosomes are assembled upon inter-dependent solid- and liquid-like scaffolds

Siu-Shing Wong, Jordan Raff [10'+5']

Presenter affiliation: University of Oxford, Oxford, United Kingdom.

11

Regulating the girth, length, duplication and microtubule stability of centrioles/basal bodies

David M. Glover, Pallavi Panda, Agota Nagy [10'+5']

Presenter affiliation: California Institute of Technology, Pasadena, California.

12

WEDNESDAY, March 1—7:00 PM

POSTER SESSION

How do trypanosomes assemble flagella of different length when progressing through the life cycle?

Daniel Abbühl, Serge Bonnefoy, Philippe Bastin

Presenter affiliation: Institut Pasteur, Paris, France; Sorbonne Université, Paris, France.

13

Dimerization GAS2 mediate F-actin and microtubule crosslinking

Jiancheng An, Tsukasa Makino, Tsuyoshi Imasaki, Shinsuke Niwa, Ryo Nitta, Masahide Kikkawa

Presenter affiliation: The University of Tokyo, Tokyo, Japan.

14

Functional analysis of the ciliary protein transport regulating kinase ICK in retinal photoreceptor cells

Taro Chaya, Ryotaro Tsutsumi, Yamato Maeda, Takahisa Furukawa

Presenter affiliation: Institute for Protein Research, Osaka University, Suita, Japan.

15

Ciliopathic spectrum caused by variants of *TUBB4B*, linking cilia function to the tubulin code

Daniel O. Dodd, Patricia Yeyati, Fraser McPhie, Amelia Shoemark, Deepesh Gupta, Maimoona Zariwala, Miao Gui, Jacob Anderson, Diana Bracht, Julia Wallmeier, Mahmoud Fassad, Isabelle Perrault, Jean-Michel Rozet, Heymut Omran, Hannah Mitchison, Alan Brown, Amjad Horani, Pleasantine Mill

Presenter affiliation: University of Edinburgh, Edinburgh, United Kingdom.

16

The germline-specific role of the unconventional components of the γ -tubulin complex in *C. elegans*

Nami Hartuta, Asako Sugimoto

Presenter affiliation: Tohoku University, Sendai, Japan.

17

Cilia-secretory hybrid cells in airway development and disease states

Mu He, Jiayi Zheng, Bing Wu, Spyros Darmanis, Lily Y. Jan

Presenter affiliation: The University of Hong Kong, Hong Kong.

18

Trypanosoma brucei Arl13 docks along the flagellar axoneme via a novel AKAP-like protein

Yameng Huang, Cynthia Y. He

Presenter affiliation: National University of Singapore, Singapore.

19

Molecular basis of skeletal ciliopathies caused by mutations in components of the IFT machinery

Yamato Ishida, Yohei Katoh, Kazuhisa Nakayama

Presenter affiliation: Graduate School of Pharmaceutical Sciences, Kyoto University, Kyoto, Japan.

20

Directed differentiation of human embryonic stem cells reveals novel insights into the function of ‘master regulators’ of multiciliogenesis

Lu Hao, Kim J. Goh, Cameron T. James, Arnab Ghosh, Ee K. Tan, Colin Bingle, Nidhan K. Biswas, Norris R. Dunn, Sudipto Roy

Presenter affiliation: ASTAR, Singapore, Singapore; University of Sheffield, Sheffield, United Kingdom.

21

The complex of LARP6 and DNAAF6 in membrane-loss compartments controls the expression of α -tubulin protein in differentiation of multi-ciliated cells.

Ryan Earwood, Hiromasa Ninomiya, Chisato Yamada, Issei Shimada, Toru Akiyama-Miyoshi, Branko Stefanovic, Yoichi Kato

Presenter affiliation: Nagoya City University, Nagoya, Japan; Florida State University, Tallahassee, Florida.

22

<p>Molecular basis of Bardet-Biedl syndrome caused by defects in the intraflagellar transport complex IFT-B <u>Yohei Katoh</u>, Zhuang Zhou, Kazuhisa Nakayama Presenter affiliation: Kyoto University, Kyoto, Japan.</p>	23
<p>Roles of Ezrin in regulation of ciliary beating in lung multiciliated cell <u>Kotoku Kawaguchi</u>, Daichi Saito, Kasane Yasuoka, Shinji Asano Presenter affiliation: Ritsumeikan University, Kusatsu, Japan.</p>	24
<p>Overexpression of KLC3 promotes ciliary IFT trafficking and cystogenesis in renal epithelial cells Gyuyeong Rah, <u>Je Yeong Ko</u>, Jaehee Jun, Yejin Ahn, Jong Hoon Park Presenter affiliation: Sookmyung Women's University, Seoul, South Korea.</p>	25
<p>Mechanisms of cilia regeneration in <i>Xenopus</i> multiciliated epithelium in vivo Venkatramanan Rao, Vignesharavind Subramanianbalachandar, Magdalena Magaj, Stefanie Redemann, <u>Saurabh Kulkarni</u> Presenter affiliation: University of Virginia, Charlottesville, Virginia.</p>	26
<p>Common and divergent roles of RPAP3_C domain-containing proteins in axonemal dynein assembly and ciliary length control in <i>Chlamydomonas</i> <u>Xuecheng Li</u>, Yongli Zhang, Xin Wen, Junmin Pan Presenter affiliation: MOE Key Laboratory of Protein Sciences, Beijing, China.</p>	27
<p>The microcephaly protein DONSON regulates the intrinsic S/G2 checkpoint to coordinate DNA and centrosome replication cycles <u>Kyohei Matushashi</u>, Kei K. Ito, Grant S. Stewart, Shoji Hata, Daiju Kitagawa Presenter affiliation: Graduate School of Pharmaceutical Sciences, University of Tokyo, Tokyo, Japan.</p>	28
<p>Vinblastine-mediated cancer cell death was controlled by nephronophthisis 3 expression and anti-apoptotic transcription factor (AATF) <u>Eun-Yi Moon</u> Presenter affiliation: Sejong University, Seoul, South Korea.</p>	29

<p>Towards the structural basis for Ana1's roles in centriole to centrosome conversion and centriole elongation <u>Agota Nagy</u>, Nikola Dzhindzhev, Pallavi Panda, Levente Kovacs, Jingyan Fu, Zoltan Lipinszki, Helene Rangone, David M. Glover Presenter affiliation: California Institute of Technology, Pasadena, California.</p>	30
<p>Active sliding between microtubule ribbons extending from the ciliary basal bodies elongates the giant unicellular ciliate <i>Spirostomum ambiguum</i> <u>Kosuke Nakamura</u>, Hiroaki Kojima, Kazuhiro Oiwa, Seiji Sonobe Presenter affiliation: Grad. Sch. Sci., Univ. of Hyogo, Harima Science Park City, Japan; Natl. Inst. Info. Commune. Technol., Kobe, Japan.</p>	31
<p>Helical bending waves superimposed on large helical waves of an extremely long sperm flagellum of <i>Drosophila melanogaster</i> <u>Sho Tamai</u>, Kosei Sato, <u>Kazuhiro Oiwa</u> Presenter affiliation: University of Hyogo, Kamigori, Japan; National Institute of Information and Communications Technology, Kobe, Japan.</p>	32
<p>Rcd4 is required to maintain microtubule triplet stability during centriole elongation <u>Pallavi Panda</u>, Mark Ladinsky, David M. Glover Presenter affiliation: California Institute of Technology, Pasadena, California.</p>	33
<p>The 'tail' of SHIPPO-repeats—A domain with a conserved role in motile cilia <u>Julia Saez Conde</u>, Samuel Dean, Sudipto Roy Presenter affiliation: University of Warwick, Coventry, United Kingdom; Agency for Science, Technology and Research, Singapore.</p>	34
<p>Progression of cystogenesis in the kidney of the Cep90 conditional knockout mice <u>Byungho Shin</u>, Gyeongnam Kim, Younghoon Sung, Kunsoo Rhee Presenter affiliation: Seoul National University, Seoul, South Korea.</p>	35
<p>Dynamic epithelium and mesenchyme ciliogenesis restricts the hedgehog signaling during mouse embryonic intestine development <u>Jieun Song</u>, Suyeon Je, Hyuk Wan Ko Presenter affiliation: Yonsei University College of Life Science and Biotechnology, Seoul, South Korea.</p>	36

Molecular characterization of MAP9 in the photoreceptor sensory cilia as a modifier in canine *RPGRIP1*-associated cone-rod dystrophy

Kei Takahashi, Jennifer C. Kwok, Yu Sato, Gustavo D. Aguirre, Keiko Miyadera

Presenter affiliation: School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

37

Centriole microtubule assembly by a ciliopathy protein

Yutaka Takeda, Takumi Chinen, Shunnosuke Honda, Sho Takatori, Taisuke Tomita, Shoji Hata, Daiju Kitagawa

Presenter affiliation: The University of Tokyo, Tokyo, Japan.

38

FAP47, HYDIN, and CPC1 in the central pair apparatus of *Chlamydomonas flagella*

Yuma Tani, Haruaki Yanagisawa, Toshiki Yagi, Masahide Kikkawa

Presenter affiliation: Graduate School of Medicine, The University of Tokyo, Tokyo, Japan.

39

Elongation factor eEF1 α regulates ciliary length via mediating dynamics of axonemal microtubules

Hui Tao, Junmin Pan

Presenter affiliation: MOE Key Laboratory of Protein Sciences, Tsinghua-Peking Center for Life Sciences, Beijing, China.

40

CAPture—A new method to unravel dynamic changes in centrosome composition

Elisa Vitiello, Sarah Carden, Ivan Rosa e Silva, James Reitman-Holder, Valentina Quarantotti, Takashi Ochi, Mark van Breugel, Fanni Gergely

Presenter affiliation: University of Oxford, United Kingdom; CRUK Cambridge Institute, Cambridge, United Kingdom.

41

Control of ciliogenesis by a phospholipid flippase

Zhengmao Wang, Junmin Pan

Presenter affiliation: Tsinghua University, Beijing, China.

42

Cryo-electron tomography revealed that Calaxin stabilizes the docking of outer arm dyneins onto ciliary doublet microtubule in vertebrates

Hiroshi Yamaguchi, Motohiro Morikawa, Masahide Kikkawa

Presenter affiliation: Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan.

43

Primary cilia regulate the recovery of muscle injury through insulin/Akt and ST2/JNK signaling pathways

Daishi Yamakawa, Junya Tsuboi, Kousuke Kasahara, Chise Matsuda, Yuhei Nishimura, Tatsuya Kodama, Naoyuki Katayama, Masatoshi Watanabe, Masaki Inagaki

Presenter affiliation: Mie University Graduate School of Medicine, Tsu, Japan.

44

Left-right asymmetry is formed in the basal bodies of the mouse node cilia in a cilia motility-dependent manner

Hiroshi Yoke, Atsushi Taniguchi, Shigenori Nonaka

Presenter affiliation: National Institute for Basic Biology, Okazaki, Aichi, Japan.

45

Protein kinase MAK is required for ciliogenesis by regulating axonemal MT assembly

Yi Zhang, Xinjia Yang, Junmin Pan

Presenter affiliation: Tsinghua University, Beijing, China.

46

THURSDAY, March 2—9:30 AM

SESSION 4 CILIA BIOGENESIS

Chairpersons: **Jessica Feldman**, Stanford University, Stanford, California, USA
Junmin Pan, Tsinghua University, Beijing, China

Control of ciliogenesis by a phospholipid flippase

Zhengmao Wang, Junmin Pan [20'+10']

Presenter affiliation: Tsinghua University, Beijing, China.

47

Intraflagellar transport in trypanosomes—A story of trains and tracks

Aline A. Alves, Jamin Jung, Serge Bonnefoy, Sylvain Trépout, Manuel Majrouh, Nadège Cayet, Adeline Mallet, Philippe Bastin [20'+10']

Presenter affiliation: Trypanosome Cell Biology Unit, Paris, France.

48

Unique homodimeric IFT kinesin-2 motors control flagellum assembly in trypanosomes—To transport or not to transport?

Aline A. Alves, Philippe Bastin [10'+5']

Presenter affiliation: Université de Paris Cité and Institut Pasteur, INSERM U1201, Paris, France.

49

Break

Jessica Feldman [20'+10']

Presenter affiliation: Stanford University, Stanford, California.

A cytoskeletal role for the epigenetic eraser, KDM4A, in maintaining centrosome integrity, mitotic fidelity and ciliogenesis

Pratim Chowdhury, Manga Motrapu, Sung Jung, Kristen Verhey, Elizabeth Martinez, Kimryn Rathmell, Cheryl Walker, Ruhee Dere [10'+5']

Presenter affiliation: Baylor College of Medicine, Houston, Texas. 50

PI4KB mediates the trafficking of vesicles for ciliogenesis

Peiwei Liu [10'+5']

Presenter affiliation: Shandong Normal University, Jinan, China. 51

THURSDAY, March 2—1:30 PM

SESSION 5 CILIA AND CENTROSOME IN DEVELOPMENT

Chairperson: **Gert Jansen**, Erasmus MC, Rotterdam, the Netherlands

Mechanisms of centrosome duplication cycle in human cells

Kyohei Matsushashi, Kei K. Ito, Koki Watanabe, Kasuga Takumi, Masamitsu Fukuyama, Takumi Chinen, Grant S. Stewart, Shoji Hata, Daiju Kitagawa [20'+10']

Presenter affiliation: Graduate school of Pharmaceutical Science, The University of Tokyo, Bunkyo, Tokyo, Japan. 52

Using *in vivo* proximity proteomics to identify novel constituents of primary cilia within neurons of the brain

Abdelhalim Loukil, Emma Ebright, Yudong Gao, Scott Soderling, Sarah C. Goetz [20'+10']

Presenter affiliation: Duke University School of Medicine, Durham, North Carolina. 53

Ubiquitin regulates ciliary dynamics of hedgehog receptors

Gregory J. Pazour, Bo Lv, Michael W. Stuck, Paurav B. Desai [20'+10']

Presenter affiliation: University of Massachusetts Chan Medical School, Worcester, Massachusetts. 54

Diploidization of haploid chromosome complements is driven by the first mitotic spindle organized by centrosomes in *Drosophila*

Kazuyuki Hirai, Kyoichi Sawamura [10'+5']

Presenter affiliation: Kyorin University School of Medicine, Mitaka, Japan.

55

The BBSome regulates ciliary levels of MC4R and ADCY3 in the paraventricular nucleus

Gabriela I. Canales, Irene Ojeda Naharros, Abbey Blake, Jeremy F. Reiter, Christian Vaisse, Maxence V. Nachury [10'+5']

Presenter affiliation: University of California, San Francisco, San Francisco, California.

56

THURSDAY, March 2—4:00 PM

SESSION 6 SENSORY AND SIGNALING FUNCTION

Chairperson: **Hiroshi Hamada**, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan

Identifying novel proteins that regulate ciliary tip localization of the *C. elegans* guanylate cyclase GCY-22

Suzanne Rademakers, Gert Jansen [20'+10']

Presenter affiliation: Erasmus MC, Rotterdam, the Netherlands.

57

Centrosome amplification fine-tunes tubulin acetylation to differentially control intracellular organisation

Susana A. Godinho [20'+10']

Presenter affiliation: Barts Cancer Institute -QMUL, London, United Kingdom.

58

Mouse nodal immotile cilia sense bending direction for left-right determination—Mechanical regulation in initiation of symmetry breaking

Takanobu A. Katoh, Toshihiro Omori, Katsutoshi Mizuno, Takeshi Itabashi, Atsuko H. Iwane, Takuji Ishikawa, Yasushi Okada, Takayuki Nishizaka, Hiroshi Hamada [20'+10']

Presenter affiliation: RIKEN, Kobe, Japan.

59

GPR161 regulates ventral/dorsal fate of neural stem cells in a brain organoid model

Issei S. Shimada, Yoichi Kato [10'+5']

Presenter affiliation: Nagoya City University, Nagoya, Japan.

60

A genome-wide CRISPRa screen reveals new regulators of cilia biogenesis and Hedgehog signal transduction

Shane D. Elliott, Anil K. Ganga, Paul Ready, David K. Breslow [10'+5']

Presenter affiliation: Yale University, New Haven, Connecticut. 61

Calaxin-mediated regulation of ciliary motility

Kazuo Inaba, Osamu Kutomi, Sayaka Yamaguchi, Seiya Kitanobo, Kogiku Shiba, Katsutoshi Mizuno [10'+5']

Presenter affiliation: University of Tsukuba, Shizuoka, Japan. 62

THURSDAY, March 2—6:30 PM

COCKTAILS and BANQUET

FRIDAY, March 3—9:30 AM

SESSION 7 CILIA AND CENTROSOME IN DISEASE

Chairpersons: Christina Mitchell / Greg Pazour,

Deciphering mammalian cilia diversity in development and disease—Ciliopathy patient-led functional genomics

Pleasantine Mill [20'+10']

Presenter affiliation: MRC Human Genetics Unit, Edinburgh, United Kingdom. 63

Interactions of anterograde IFT cargoes with the IFT-B complex underlying ciliary functions

Kazuhisa Nakayama [20'+10']

Presenter affiliation: Kyoto University, Kyoto, Japan. 64

Dysregulation of mir-34/449 multiciliogenesis program plays a critical role in choroid plexus tumorigenesis

Navjot Guru, Lukas Faltings, Mariam Zahran, Maheen Umer, James Virga, Haotian Zhao [10'+5']

Presenter affiliation: New York Institute of Technology College of Osteopathic Medicine, Old Westbury, New York. 65

Break

Regulation of cilia signalling by INPP5E

Christina A. Mitchell, Elizabeth M. Davies, Ian Smyth [20'+10']

Presenter affiliation: Monash University, Melbourne, Australia.

66

The role of centrosome amplification in tumour angiogenesis

Maria Fankhaenel, Judith Simon, Claire Curel, Anu Prakash, Emer Burke, Susana Godinho [10'+5']

Presenter affiliation: Barts Cancer Institute, Queen Mary University, London, United Kingdom.

67

Functional analysis of Tmem138, a photoreceptor ciliary protein, in Rhodopsin trafficking

Chunqiao Liu [10'+5']

Presenter affiliation: Sun Yat-sen University, Guangzhou, China.

68