HUMAN DEVELOPMENT: FROM EMBRYOS TO STEM CELL MODELS
Awaji, Japan
Sunday, March 5 – Friday, March 10, 2023

Sunday	7:00 pm – 8:00 pm	Opening Remarks and Keynote Lecture
Sunday	8:00 pm – 11:00 pm	*Sake Tasting / Dinner / Social Hour*
Monday	9:00 am – 12:00 pm	**1** Embryology
Monday	2:00 pm – 5:00 pm	**2** Symmetry
Monday	7:00 pm – 9:30 pm	**Poster Session I**
Tuesday	9:00 am – 12:00 pm	**3** Engineering
Tuesday	1:30 pm – 6:00 pm	*Excursion*
Tuesday	7:30 pm – 8:15 pm	Keynote Lecture
Tuesday	8:15 pm – 10:30 pm	**4** Embryo Models I
Wednesday	9:00 am – 11:30 am	**5** Embryo Models II
Wednesday	11:30 am – 12:30 pm	**Roundtable Discussion on Ethics**
Wednesday	2:00 pm – 5:30 pm	**6** Synthetic Organs I
Wednesday	7:00 pm – 9:30 pm	**Poster Session II**
Thursday	9:00 am – 12:00 pm	**7** Synthetic Organs II
Thursday	2:00 pm – 5:00 pm	**8** Lineages
Thursday	6:30 pm	***Cocktails and Banquet***
Friday		***Departure***

Awaji Yumebutai Conference Center
Meeting venue: Main Hall, 2nd floor of the conference center
Poster session: Lobby in the 1st basement of the conference center
CSHA office: Room 202

Breakfast***** : Coccolare, 2nd floor of Grand Nikko Awaji
Dinner (March 5-8): Event Hall, 1st basement of the conference center
Lunch (March 6-9): Event Hall, 1st basement of the conference center
Cocktails (March 9): Cielo, 1st floor of Grand Nikko Awaji
Banquet (March 9): Stella, 1st floor of Grand Nikko Awaji

Social hour (March 5-8): Event Hall, 1st basement of the conference center
Social hour (March 9): Reception Hall B, 2nd floor of the conference center

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

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PROGRAM

SUNDAY, MARCH 5—7:00 PM

Opening Remarks

Cantas Alev
Kyoto University

KEYNOTE LECTURE

Chairperson: **Alfonso Martinez-Arias,** University of Cambridge, Cambridge, United Kingdom

Mechanism and in vitro reconstitution of mammalian germ-cell development
Mitinori Saitou [35'+10']
Presenter affiliation: Kyoto University, Kyoto, Japan. 1

Dinner and Sake Tasting

MONDAY, March 6—9:00 AM

SESSION 1 EMBRYOLOGY

Chairpersons: **Guojun Sheng,** Kumamoto University, Kumamoto, Japan
Lilianna Solnica-Krezel, Washington University School of Medicine, St. Louis, Missouri, USA

The revival of research on human development
Nick Hopwood [20'+10']
Presenter affiliation: University of Cambridge, Cambridge, United Kingdom. 2

Gastrulation of human and monkey embryo in vitro
Weizhi Ji [20'+10']
Presenter affiliation: State Key Laboratory of Primate Biomedical Research, Institute of Primate Translational Medicine, Kunming, China. 3

Break

MONDAY, March 6—2:00 PM

SESSION 2 SYMMETRY

Chairpersons: **Tomonori Nakamura,** Kyoto University, Japan
Jessica Liu, City University of Hong Kong, Hong Kong

Break

Expansion of ventral foregut is linked to changes in the enhancer landscape for organ-specific differentiation
Yan Fung Wong, Yatendra Kumar, Martin Proks, Jose R. Herrera, Michaela M. Rothová, Rita S. Monteiro, Sara Pozzi, Rachel E. Jennings, Neil A. Hanley, Wendy A. Bickmore, Joshua M. Brickman [20'+10']
Presenter affiliation: University of Copenhagen, Copenhagen, Denmark. 10

The Guinea pig—An alternative small animal model to study early human development
Jesica Canizo, Cheng Zhao, Savana Biondic, Katherine Vandal, Sophie Petropoulos [20'+10']
Presenter affiliation: Université de Montréal, Montreal, Canada; CRCHUM, Montreal, Canada; Karolinska Institutet, Stockholm, Sweden. 11

MONDAY, March 6—7:00 PM

POSTER SESSION I

See p. xiv for list of posters

TUESDAY, March 7—9:00 AM

SESSION 3 ENGINEERING

Chairpersons: **Cantas Alev,** Kyoto University, Kyoto, Japan
Sophie Petropoulos, Université de Montréal, Montreal, Canada / Karolinska Institutet, Stockholm, Sweden

Geometry and genetics
Eric D. Siggia [20'+10']
Presenter affiliation: Rockefeller University, New York, New York. 12

Developmental bioengineering for building human embryo and organ models
Jianping Fu [20'+10']
Presenter affiliation: University of Michigan, Ann Arbor, Ann Arbor, Michigan. 13

Break

TUESDAY, March 7—1:30 PM

EXCURSION

TUESDAY, March 7—7:30 PM

KEYNOTE LECTURE

Chairperson: **Janet Rossant,** University of Toronto, Canada

SESSION 4 EMBRYO MODELS I

Chairpersons: **Kathryn Cheah,** University of Hong Kong, Hong Kong
Jacob Hanna, Weizmann Institute of Science, Rehovot, Israel

WEDNESDAY, March 8—9:00 AM

SESSION 5 EMBRYO MODELS II

Chairpersons: **Hongkui Deng,** Peking University, Beijing, China
Ge Guo, University of Exeter, United Kingdom

Dissecting lineage specification using embryos and stem cell models
Fredrik Lanner [20'+10']
Presenter affiliation: Karolinska Institutet, Stockholm, Sweden; Karolinska University Hospital, Stockholm, Sweden. 22

Reconstructing embryos from multiple stem cells
Magdalena Zernicka-Goetz [20'+10']
Presenter affiliation: University of Cambridge, Cambridge, United Kingdom.

Break

Reprogramming of histone modifications in human embryo development
Shaorong Gao [20'+10']
Presenter affiliation: Tongji University, Shanghai, China. 23

Synthetic ex utero embryogenesis—From naive pluripotent stem cells to bona fide embryo models
Jacob H. Hanna [20'+10']
Presenter affiliation: Weizmann Institute of Science, Rehovot, Israel. 24

WEDNESDAY, March 8—11:30 AM

ROUNDTABLE DISCUSSION on ETHICS

Moderated by: **Douglas Sipp**

Panelists: **Janet Rossant**
Jacob Hanna
Magdalena Zernicka-Goetz
Nicolas Rivron
Frederik Lanner
Nick Hopwood

SESSION 6 SYNTHETIC ORGANS I

Chairpersons: **Anne Grapin-Botton,** Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany
Stefan Liebau, University of Tubingen, Tubingen, Germany

Interaction between form and fate in cerebral organoids
Ilaria Chiaradia, Ivan Imaz-Rosshandler, Benedikt Nilges, Jerome Boulanger, Laura Pellegrini, Richa Das, Nachiket Kashikar, Madeline A. Lancaster [20'+10']
Presenter affiliation: MRC LMB, Cambridge, United Kingdom. 29

A pluripotent stem cell-based model for human embryonic hematopoiesis
Shicheng Sun, Ali Motazedian Motazedian, Jacky Li, Kevin Wijanarko, Jacqueline Schiesser, Yi Yu, Elizabeth Ng, Andrew Elefanty, Edouard Stanley [20'+10']
Presenter affiliation: Stem Cell Biology, Melbourne, Australia; Novo Nordisk Foundation Center for Stem Cell Medicine (reNEW), Melbourne, Australia; Changping Laboratory, Beijing, China. 30

WEDNESDAY, March 8—7:00 PM

POSTER SESSION II

See p. xiv for List of Posters

THURSDAY, March 9—9:00 AM

SESSION 7 SYNTHETIC ORGANS II

Chairpersons: **Mu He,** University of Hong Kong, Hong Kong
Shahragim Tajbakhsh, Institut Pasteur, Paris, France

Generation of the 3D kidney from pluripotent stem cells
Ryuichi Nishinakamura [20'+10']
Presenter affiliation: Institute of Molecular Embryology and Genetics, Kumamoto University, Kumamoto, Japan. 31

Deconstructing human musculo-skeletal development in vitro
Olivier Pourquié [20'+10']
Presenter affiliation: Harvard Medical School, Boston, Massachusetts; Brigham and Women's Hospital, Boston, Massachusettts; Harvard University, Cambridge, Massachusetts. 32

Break

THURSDAY, March 9—2:00 PM

SESSION 8 LINEAGES

Chairpersons: **Joshua Brickman,** University of Edinburgh, United Kingdom
John Wallingford, University of Texas, Austin, Texas, USA

The brain arises from two separate embryonic origins, with implications for development, disease, and evolution
Kyle M. Loh [20'+10']
Presenter affiliation: Stanford University, Stanford, California. 38

Unique clonal selection to explore heterogeneity in human pluripotent stem cells
Omar Bashth, Rina Sakata, Yusuke Kijima, Nozomu Yachie, Nika Shakiba [20'+10']
Presenter affiliation: The University of British Columbia, Vancouver, Canada. 39

Closing Remarks

Janet Rossant
University of Toronto

AWARD CEREMONY

THURSDAY, March 9—6:30 PM

COCKTAILS and BANQUET

POSTERS

Unique clonal selection to explore heterogeneity in human pluripotent stem cells
Omar Bashth, Rina Sakata, Yusuke Kijima, Nozomu Yachie, Nika Shakiba
Presenter affiliation: The University of British Columbia, Vancouver, Canada. 39

Dissecting signaling rules of the first lineage bifurcation of embryonic development using differentiation slingshot
Wallis Boyd, Miaoci Zhang, Walter Piszker, Carlotta Ronda, Mijo Simunovic
Presenter affiliation: Columbia University, New York , New York. 40

Paraxial mesoderm organoids (Somitoids) model the development of human somites
Christoph Budjan, Shichen Liu, Adrian Ranga, Senjuti Gayen, Olivier Pourquie, Sahand Hormoz
Presenter affiliation: Harvard Medical School, Boston, Massachusetts; Dana-Farber Cancer Institute, Boston, Massachusetts. 41

Expansion of ventral foregut is linked to changes in the enhancer landscape for organ-specific differentiation
Yan Fung Wong, Yatendra Kumar, Martin Proks, Jose R. Herrera, Michaela M. Rothová, Rita S. Monteiro, Sara Pozzi, Rachel E. Jennings, Neil A. Hanley, Wendy A. Bickmore, Joshua M. Brickman
Presenter affiliation: University of Copenhagen, Copenhagen, Denmark. 10

Optogenetic dissection of transcriptional regulation during development
Jiaxi Zhao, Nicholas Lammers, Hernan G. Garcia
Presenter affiliation: University of California at Berkeley, Berkeley, California. 66

This is sentence case. This is also sentence case with Therefore, the realistic manifestations of molecular aging have the following signs—(1) Genome instability
Hancheng Zhou
Presenter affiliation: Guangzhou Medical University, Guangzhou, China. 67

Metabolic rewiring underpins human trophoblast induction
Karlien van Nerum, Viktoria Lavro, Anne Wenzel, Jan J. Zylicz
Presenter affiliation: University of Copenhagen, Copenhagen, Denmark. 21