

Symposium Programme

Day 1: Monday, 18th November 2013

07:30 to 16:15 **Symposium Registration**
08:30 to 08:45 **Welcome & Opening Address**
Paul ROBSON, Organizing Committee Chairman

Session 1: Pluripotency and Early Cell Fate Decisions - 1

Chair: Larry STANTON, *GIS, Singapore*

8:45 to 9:15 **Dissecting the Molecular Mechanisms of Human Cellular Reprogramming Toward Pluripotency**
Kazutoshi TAKAHASHI, *Kyoto University, Japan* (Abstract S1)

9:15 to 9:45 **A Novel Hormone for Embryonic Pluripotency**
Bruno REVERSADE, *IMB, Singapore* (Abstract S2)

9:45 to 10:15 **Symmetry Breaking in Mouse Development**
Takahashi HIIRAGI, *EMBL, Germany* (Abstract S3)

10:15 to 10:30 **Mapping iPSC Reprogramming by Single Cell Mass Cytometry**
Ernesto LUJAN, *Stanford University School of Medicine* (Abstract S4)

10:30 to 11:00 Morning Tea Break

Session 2: Pluripotency and Early Cell Fate Decisions - 2

Chair: Jonathan Yui Han LOH, *IMCB, Singapore*

11:00 to 11:30 **A Long Non-coding RNA Interacts With Sox2 to Regulate Neurogenesis**
Larry STANTON, *GIS, Singapore* (Abstract S5)

11:30 to 12:00 **Directed Differentiation and Characterization of Microglial Precursors from Pluripotent Stem Cells**
Florent GINHOUX, *SlgN, Singapore* (Abstract S6)

12:00 to 12:30 **Master Transcription Factors Controlling Human Pancreatic Development and Disease**
Ray DUNN, *IMB, Singapore* (Abstract S7)

12:30 to 12:45 **Developmental Signaling Logic Animating Lineage Bifurcations During Endoderm Development and Patterning from Human Pluripotent Stem Cells**
Kyle M. LOH, *Stanford University School of Medicine, USA* (Abstract S8)

12:45 to 13:00 **Improved Method of Differentiation of Human Stem Cells Produces Better Functional Effects in a Primate Model**
D. Eugene REDMOND, *Yale University School of Medicine, USA* (Abstract S9)

13:00 to 13:30 *Lunch Time Talk:*
Enabling and Expanding Stem Cell Research
Christopher NOVAK, *Beckman Coulter* (Abstract L1)

13:00 to 14:30 Lunch Break and Poster session

Session 3: Stem Cells of the Placenta and Germ Cells:

Chair: Colin STEWART, *IMB, Singapore*

14:30 to 15:00 **Connecting Placental Stem/progenitor Cell Biology and Fetal Hematopoiesis**
Hanna MIKKOLA, *UCLA, USA* (Abstract S10)

15:00 to 15:30 **In-vivo Epigenomic Profiling of Germ Cells Reveals Germ Cell Molecular Signatures**
NG Jia Hui, *GIS, Singapore* (Abstract S11)

15:30 to 16:00 **Mechanism and Reconstitution In-vitro of Germ Cell Development in Mice**
Mitinori SAITOU, *Kyoto University, Japan* (Abstract S12)

16:00 to 16:15 **Characterising the Trophoblast Progenitors within Early Human Placentas**
Cheryl LEE, *Cambridge University, UK* (Abstract S13)

16:15 to 16:45 Afternoon Tea Break

Session 4: KEYNOTE LECTURE

Chair: NG Huck Hui, *GIS Singapore*

16:45 to 17:45 **iPS Cell Technology and Disease Research: Issues to be Resolved**
Rudolf JAENISCH, *Whitehead Institute/ MIT, USA* (Abstract S14)

18:00 - 21:00 Symposium Networking event at Long Black Café, Epicentre, Biopolis.

DAY 2: Tuesday 19th November 2013

07:30 to 12:00 Symposium Registration

Session 5: Single Cell Technologies

Chair: William BURKHOLDER, *IMCB, Singapore*

- 8:30 to 9:00 **Modelling Early Development with Human Embryonic Stem Cells**
Paul ROBSON, *GIS, Singapore* (Abstract S15)
- 9:00 to 9:30 **Preimplantation Genetic Diagnosis by Single Cell Genome Sequencing**
Fuchou TANG, *Peking University, China* (Abstract S16)
- 9:30 to 10:00 **Using Microfluidics Technology to Perform Single-cell DNA Methylation Analysis and Multiplexed Protein-protein Binding Assays**
Lih Feng CHEOW, *IMCB, Singapore* (Abstract S17)
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10:00 to 10:30 Morning Tea Break

Session 6: Endometrium & Maternal Interactions

Chair: Karl TRYGVASSON, *Duke-NUS, Singapore*

- 10:30 to 11:00 **Endometrial Stem Cells and Their Application to Women's Health**
Caroline GARGETT, *Monash University, Australia* (Abstract S18)
- 11:00 to 11:30 **The Role of Endometrial Progenitor Cells in Reproductive Failure**
Jan BROSENS, *Warwick University, UK* (Abstract S19)
- 11:30 to 12:00 **Maternal NK Cell KIR Recognition of Trophoblast HLA-C Regulates Placentation**
Ashley MOFFET, *Cambridge University, UK* (Abstract S20)
- 12:00 to 12:15 **Dynamic Regulation of Canonical Wnt/b catenin Signaling by LIF in Preparation for Embryo Attachment**
Gracy Xavier ROSARIO, *IMB, Singapore* (Abstract S21)
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12:15 to 13:45 Lunch Break and Poster session

Session 7: Clinical Applications

Chair: Susan LIM, *Stem Cell Technologies i*

- 13:45 to 14:15 **Fetal Programming of Human Health and Disease Risk: Role of Prenatal Stress and Stress Biology**
Pathik WADHWA, *UCI, USA* (Abstract S22)
- 14:15 to 14:45 **Use of Gestational Tissue Derived Cells for Lung and Brain Repair in Neonates**
Graham JENKIN, *Monash Institute of Medical Research, Australia* (Abstract S23)
- 14:45 to 15:15 **Recurrent Miscarriages: Maternofetal Interface, Microvesicles and More**
Sheila VASOO, *National University Hospital, Singapore* (Abstract S24)
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15:15 to 15:45 Afternoon Tea Break

Session 8: Imprinting/Epigenetics

Chair: Shigeki SUGII, *SBIC, Singapore*

- 15:45 to 15:50 **Poster Prize Presentation**
- 15:50 to 16:20 **STAT3 Regulates a Novel Epigenetic Pathway for ESC Pluripotency and Early Embryogenesis**
Xin-Yuan FU, *NUS, Singapore* (Abstract S25)

16:20 to 16:50 **Maintaining Genomic Imprinting During Early Development**
Daniel MESSERSCHMIDT, *IMCB, Singapore* (Abstract S26)

16:50 to 17:35 **The Epigenetic Stability of Pluripotent and Somatic Cell States**
Jacob HANNA, *Weizmann Institute, Israel* (Abstract S27)

17:35 to 17:45 **Close of symposium**
Paul ROBSON, *Organizing Committee Chairman*

17:45 End of Symposium