

# Programme of the SCSS Symposium 2016

## Day 1: Monday, 7<sup>th</sup> November 2016

8:00 -17:00 Registration  
8:45 - 9:00 Welcome Address

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### Session 1. Cell Fate Regulation

Chair: Ray DUNN, *Institute of Medical Biology, Singapore*

- 9:00 – 9:30 **Imaging how cells decide their fate, shape and position in the living mouse embryo**  
Nicolas PLACHTA, *Institute of Molecular and Cell Biology, Singapore (Abstract S1)*
- 9:30 – 10:00 **Single cells get together: quantitative analyses of cell lineage specification in the mouse blastocyst**  
Kat HADJANTONAKIS, *Sloan Kettering Institute, New York, USA (Abstract S2)*
- 10:00 – 10:30 **ELABELA: an endogenous growth factor required for pluripotency and cardiovascular development**  
Lena HO, *Institute of Medical Biology, Singapore (Abstract S3)*
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10:30 – 11:00 MORNING TEA BREAK (*supported by STEMCELL Technologies Inc.*)

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### Session 1 continued

- 11:00 – 11:30 **Plasticity, self-renewal and transcriptional dynamics – How embryonic stem cells stall for time in the decision making process?**  
Joshua BRICKMAN, *University of Copenhagen, Denmark (Abstract S4)*
- 11:30 – 12:00 **MicroManaging brain homeostasis, the role of miRNAs-mediated neurogenesis during cortical development and its implication in neurological disorder**  
Li ZENG, *National Neuroscience Institute, Singapore (Abstract S5)*
- 12:00 – 12:15 **A map of early human mesoderm development guides artificial generation of engraftable human bone and heart progenitors**  
Kyle LOH, *Stanford University School of Medicine, USA (Abstract S6)*
- 12:15 – 12:45 *Industry Themed Talk*  
**Robust and efficient differentiation of human pluripotent stem cells with STEMdiff™ kits**  
Wing CHANG, *STEMCELL Technologies Inc., Canada*
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12:45 – 14:00 LUNCH BREAK & EXHIBITION

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### Session 1 continued

Chair: Hongyan WANG, *DUKE-NUS, Singapore*

- 14:00 – 14:30 **A man is as old as his arteries – mechanisms in neurovascular development and pathology**  
Christine CHEUNG, *Institute of Molecular and Cell Biology, Singapore (Abstract S7)*

### KEYNOTE LECTURE I

Chair: Larry STANTON, *Genome Institute of Singapore*

- 14:30 – 15:15 **Is Singapore facing cardiovascular catastrophe?**  
Mark RICHARDS, *Cardiovascular Research Institute, NUHS, Singapore (Abstract S8)*
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15:15 – 15:45 AFTERNOON TEA BREAK

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**Session 2. Modeling Development and Disease**

Chair: Chair: Hongyan WANG, *DUKE-NUS, Singapore*

- 15:45 – 16:15    **Understanding Zika virus-induced microcephaly using brain organoids**  
Hongjun SONG, *Johns Hopkins University School of Medicine, USA (Abstract S9)*
- 16:15 – 16:45    **Fabricating 3-dimensional kidney organoids with multiple building blocks**  
Yun XIA, *Nanyang Technological University, Singapore (Abstract S10)*
- 16:45 - 17:00    **Human pluripotent stem cell-derived acinar/ductal organoids generate human pancreas upon orthotopic transplantation and allow disease modelling**  
Meike HOHWIELER, *University Medical Center Ulm, Germany (Abstract S11)*
- 17:00 – 17:15    **Modeling diabetic beta cell failure using human multipotent pancreatic progenitors**  
Jamie TROTT, *Institute of Medical Biology, Singapore (Abstract S12)*

**KEYNOTE LECTURE II**

Chair: Larry STANTON, *Genome Institute of Singapore*

- 17:15 – 18:00    **Modeling human brain development and disease in stem cell derived 3D organoid culture**  
Jürgen KNOBLICH, *Institute of Molecular Biotechnology, Austria (Abstract S13)*

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18:00 - 20:30    POSTER SESSION & SYMPOSIUM RECEPTION

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## DAY 2: Tuesday 8th November 2016

8:30 -11:00 Registration

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### Session 3. Modeling Neural Development and Degeneration

Chair: Peter DRÖGE, *Nanyang Technological University, Singapore*

9:00 – 9:30 **Arl2- and Msps-dependent microtubule growth governs asymmetric division of neural stem cells**

Hongyan WANG, *Duke-NUS Medical School, Singapore (Abstract S14)*

9:30 – 10:00 **Genetic correction of ALS iPSC reveals MAPK activated AP1 as a driver of neurodegeneration in Amyotrophic Lateral Sclerosis**

Akshay BHINGE, *Genome Institute of Singapore (Abstract S15)*

10:00 – 10:15 **Aurora A Kinase and WD40-Repeat Protein 62 (WDR62) signalling interactions regulate normal brain growth**

Dominic NG, *University of Queensland, Australia (Abstract S16)*

10:15 – 10:30 **ErbB receptor tyrosine kinase: a molecular switch between cardiac and neuroectoderm specification in human pluripotent stem cells**

Chrishan RAMACHANDRA, *National Heart Centre Singapore (Abstract S17)*

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10:30 – 11:00 MORNING TEA BREAK

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### Session 3. continued

11:00 – 11:30 **Complex dynamic enhancers control outwardly stable gene expression in postmitotic neurons**

Hynek WICHTERLE, *Columbia University Medical Center, USA (Abstract S18)*

11:30 – 12:00 **Isogenic stem cell-based modeling for neurodegenerative disorders**

Mahmoud POULADI, *Translational Laboratory in Genetic Medicine, Singapore (Abstract S19)*

12:00 – 12:15 **Stem cells without telomerase: a new tool for cell therapy**

Shang LI, *Duke-NUS Medical School, Singapore (Abstract S20)*

12:15 – 12:45 *Industry Themed Talk*

**Improved differentiation of human pluripotent stem cell-derived neurons through reduction of progenitor proliferation: impact on downstream applications**

Roland LEATHERS, *Thermo Fisher Scientific, USA*

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12:45 – 14:00 LUNCH BREAK & EXHIBITION

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### Session 4: Modeling Tissue Repair and Homeostasis

Chair: Leah VARDY, *Institute of Medical Biology, Singapore*

14:00 – 14:30 **Re-engineered RNA-guided FokI-nucleases for improved genome editing in human cells**

Steven HAVLICEK, *Genome Institute of Singapore (Abstract S21)*

14:30 – 15:00 **Excessive fatty acid oxidation induces muscle atrophy in cancer cachexia**

Shyh Chang NG, *Genome Institute of Singapore (Abstract S22)*

15:00 – 15:30 **Lgr5-expressing chief cells drive epithelial regeneration and cancer in the oxyntic stomach**

Marc LEUSHACKE, *Institute of Medical Biology, Singapore (Abstract S23)*

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15:30 – 16:00 AFTERNOON TEA BREAK

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**Session 5. Modeling Early Development**

Chair: Leah VARDY, *Institute of Medical Biology, Singapore*

16:00 – 16:30 **Developmental changes in mouse primordial germ cells (PGCs) and gonocytes as revealed by quantitative live imaging**

Carol READHEAD, *University of Southern California, USA (Abstract S24)*

16:30 – 17:00 **Breaking symmetry – asymmetric epigenetic inheritance during *Drosophila* germline stem cell asymmetric division**

Xin CHEN, *Johns Hopkins University, USA (Abstract S25)*

**KEYNOTE LECTURE III**

Chair: Larry STANTON, *Genome Institute of Singapore*

17:00 – 17:45 **Systems Biology of stem cells**

Huck Hui NG, *Genome Institute of Singapore (Abstract S26)*

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17:45 POSTER PRIZE AWARDS (supported by [STEMCELL Technologies Inc.](#))  
CLOSING OF SYMPOSIUM & RECEPTION @TeaParty

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