Institute of Molecular and Cell Biology
A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof. Wanjin Hong:

Date: 16 January 2019, Wednesday
Time: 11:00AM – 12:00PM
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Dr. Mahesh Sangrithi, Assistant Professor, Duke-NUS Medical School & Consultant, KK Women's and Children's Hospital
Title: X chromosome dosage compensation: studies from the mammalian germline and perspectives from metatherian early development

Sex chromosomes are advantageous to mammals, allowing them to adopt a genetic rather than environmental sex determination system. However, sex chromosome evolution also carries a burden, because it results in an imbalance in gene dosage between females (XX) and males (XY). This imbalance is resolved by X dosage compensation, which comprises both X chromosome inactivation and X chromosome upregulation. X dosage compensation has been well characterized in the soma, but not in the germ line. Germ cells face a special challenge, because genome wide reprogramming erases epigenetic marks responsible for maintaining the X dosage compensated state. New research has uncovered unusual X dosage compensation states in germ cells, which may influence sexual dimorphisms in germ line development and cause infertility in individuals with sex chromosome aneuploidy. I will also introduce some of our more recent work, using single-cell RNA sequencing, on the X dosage compensation that is observed during embryonic development in metatherian mammals.

Biography:
Dr. Sangrithi graduated from St. George's Hospital Medical School, London in 1999. He completed his PhD in 2005 at University of Cambridge and went onto specialize in OBGYN and reproductive medicine at University College London (UCL). He subsequently was appointed as Consultant Gynaecologist at Addenbrooke's Hospital, Cambridge before relocating to Singapore. Alongside his clinical activity, he has developed a research-programme in reproductive biology, stem cells and early embryonic development.

ALL ARE WELCOME *(No registration required)*

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Thank you.