



## SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Dr. Huili Guo:

Date: 21 November 2014, Friday

Time: 10:00AM – 11:00AM

Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

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**Speaker:** Ms. Shirleen Soh, Ph.D. Candidate in Biology, Massachusetts Institute of Technology (MIT), USA

**Title:** Sequencing the Mouse Y Chromosome Reveals Convergent Gene Acquisition and Amplification on Both Sex Chromosomes

We sequenced the MSY (male-specific region of the Y chromosome) of the C57BL/6J strain of the laboratory mouse *Mus musculus*. In contrast to theories that Y chromosomes are heterochromatic and gene poor, the mouse MSY is 99.9% euchromatic and contains about 700 protein-coding genes. Only 2% of the MSY derives from the ancestral autosomes that gave rise to the mammalian sex chromosomes. Instead, all but 45 of the MSY's genes belong to three acquired, massively amplified gene families that have no homologs on primate MSYs but do have acquired, amplified homologs on the mouse X chromosome. The complete mouse MSY sequence brings to light dramatic forces in sex chromosome evolution: lineage-specific convergent acquisition and amplification of X-Y gene families, possibly fueled by antagonism between acquired X-Y homologs. The mouse MSY sequence presents opportunities for experimental studies of a sex-specific chromosome in its entirety, in a genetically tractable model organism.

### Biography:

Shirleen Soh is a graduate student in David Page's lab at the Whitehead Institute, MIT, where she studies the evolutionary forces and developmental processes that impact and regulate gametogenesis in mammals. Prior to that, she was an undergraduate in Andy McMahon's lab at Harvard University, where she worked on organogenesis of the mouse kidney.

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**ALL ARE WELCOME** (No registration required)