



ON-SITE BIOLOGY COLLOQUIUM

Friday, 26 Jan 2024 | 4 pm | DBS Conference Room 1

Hosted by Prof Antonia Monteiro

Map to Block 53



Reproduction and intergenerational inheritance: insights from the fruit fly *Drosophila*

By **Pek Jun Wei**

*Principal Investigator, Temasek Life Sciences Laboratory and
Adjunct Assistant Professor, Department of Biological Sciences, NUS*



About the Speaker

PEK Jun Wei received his B.Sc. (Hons) (2008) and Ph.D. (2011) from the National University of Singapore (NUS). He did his graduate research in the laboratory of Dr. Toshie Kai at the Temasek Life Sciences Laboratory (TLL) where he studied the roles of *nuage* and small RNAs in the *Drosophila* germline. In 2012, he joined the laboratories of Drs. Joseph Gall and Allan Spradling at the Carnegie Institution for Science (Department of Embryology) as a Carnegie Collaborative Fellow. He developed a research program to study a novel class of noncoding RNAs (stable intronic sequence RNAs or *sisRNAs*) in *Drosophila*. He was later named a Howard Hughes Medical Institute (HHMI) Fellow of the Life Sciences Research Foundation and awarded a fellowship from the Jane Coffin Childs Memorial Fund. He returned to TLL as a Young Investigator in November 2014 to start his independent research group.

Reproduction involves making quality gametes – egg and sperm – which are essential for the continuity of a species and have huge implications for human health. The quality of the gametes is not only important for successful fertilization and embryonic development, but also influences the health and well-being of the offspring. Thus, the process of oogenesis and spermatogenesis are carefully controlled by quality control mechanisms, and heavily influenced by factors such as age, metabolic states, DNA integrity, temperature etc. In this seminar, I would discuss about how research on the fruit fly *Drosophila* has shed insights on the molecular and cellular mechanisms of how stressors (environmental, cellular, metabolic etc.) affect gamete formation and offspring health, and possible interventions that can improve reproductive health.