SEMINAR

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TEMASEK LIFESCIENCES LABORATORY

18 December 2018 (Tuesday), 11am
The Auditorium (Level 1)

Hosted by: Dr Motegi Fumio

Processing of Animal miRNAs

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Dr Katsutomo Okamura completed his Master's study at the Nara Institute of Science and Technology and obtained his Ph.D from the Tokushima University. He did his post-doctoral work at the National Institute of Genetics and the Memorial Sloan-Kettering Cancer Center, where he furthered his research on small RNA biology. He joined TLL as a Principal Investigator in 2012 and holds a joint appointment at the School of Biological Sciences, Nanyang Techological University as an Assistant Professor.

microRNAs (miRNAs) are important gene regulators that are collectively essential for supporting various biological processes. Most miRNAs are processed from long transcripts via a two-step mechanism involving two Rnase-III class enzymes, but non-canonical miRNA processing pathways that bypass one of the processing steps also exist. In the first few years in my laboratory that started in 2012, we asked two major questions:

1) How many ways are there to produce mature miRNA molecules?
2) How do the processing enzyme complexes distinguish miRNA precursor molecules an other cellular transcripts that should not be cleaved?

In this seminar, I will review major findings in these initial studies and discuss how the progress in these areas led us to new questions.

Recent Publications:

1. Zhou and Lim et al. (2018) eLife 7:e38389
2. Goh and **Okamura** (2018) Methods Mol Biol. 1680:41-63
3. Lim and Ng et al. (2016) Cell Reports 15 (8) 1795–1808
4. Chak et al. (2015) RNA 21(3): 375-384
5. **Okamura** et al. (2013) Genes & Dev 27(7):778-92