### Research Theme:

**Research Project Title:** Post-transcriptional regulation of miRNA processing during fly embryogenesis

**Principal Investigator/Supervisor:** Asst/Prof Katsutomo Okamura

**Co-supervisor/ Collaborator(s) (if any):** NA

### Project Description

MicroRNAs (miRNAs) are a family of small regulatory RNA genes found in a wide range of higher animals. Functional mature miRNA species are processed from longer primary transcripts. Although their biogenesis mechanisms have been extensively studied, regulation of miRNA processing and turnover of mature miRNA species are poorly understood. Here, we use Drosophila embryogenesis as a model system to better understand how miRNAs are post-transcriptionally regulated. We have generated a set of small RNA deep-sequencing libraries to analyze the levels of mature miRNAs on a genome-wide scale during fly embryogenesis. In order to obtain the information of post-transcriptional regulation, the student will analyze the levels of primary transcripts in fly embryos. Through bioinformatics analyses, the student will aim to globally profile miRNA maturation and/or degradation rates during fly embryogenesis. This study will provide a framework for the future studies that will elucidate post-transcriptional regulation of miRNA biogenesis.

### Supervisor contact:

If you have questions regarding this project, please email the Principal Investigator: kokamura@ntu.edu.sg

### SBS contact and how to apply:

Associate Chair-Biological Sciences (Graduate Studies) : AC-SBS-GS@ntu.edu.sg

Please apply at the following: [http://admissions.ntu.edu.sg/graduate/R-Programs/R-WhenYouApply/Pages/R-ApplyOnline.aspx](http://admissions.ntu.edu.sg/graduate/R-Programs/R-WhenYouApply/Pages/R-ApplyOnline.aspx)