



CDB SEMINAR

Speaker: **Tamaki Yano**

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Title: **"Post-transcriptional regulation of *oskar* mRNA and RNP complexes during *Drosophila* oogenesis"**

Date:	Wednesday, May 12
Time:	16:00 P.M. ~ 17:30 P.M.
Place:	7th floor Conference Room of Building A, CDB

Summary:

In *Drosophila*, establishment of the body axes relies upon the targeting of determinants to specific regions in the egg. This is often achieved by localizing the corresponding mRNAs, which tightly couple to translational control. *oskar* mRNA encodes the posterior determinant and its correct localization to the posterior pole of the oocyte is essential for germline and abdominal development in the embryo. Until mid-oogenesis, *oskar* mRNA is transferred to the posterior pole of the oocyte with its translation repressed, which is mediated by *cis*-acting elements in 3'UTR of the RNA. The repression is overcome upon its localization, and this coupling of the localization to the translational regulation is the key mechanism of the tight restriction of Oskar activity to the posterior.

We identified the previously reported *oskar* RNA-binding protein p50 as Hrp48, a A/B type hnRNP, and showed that it is critical both for localization of *oskar* mRNA and for its translational repression during transport. Our results showed that Hrp48 is the first described *oskar* mRNA-binding protein regulating both processes, indicating that it may be a key regulator in the assembly of an *oskar* mRNP complex coordinating mRNA localization and translational control.

Host: **Akira Nakamura** Germline Development, CDB

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