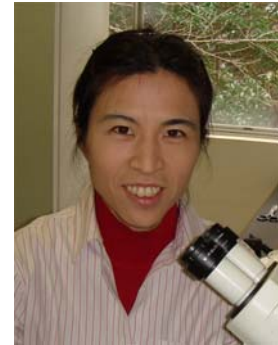


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Functional evolutionary genomics in *Drosophila* – Analyses of incompatibility in mating behavior

The genic view of speciation suggests the process in diverging populations based on the accumulation of genetic changes due to differential adaptation that progressively prevents gene flow at the respective loci. The key to support this view must come from the actual characterizations of those loci, which have diverged between populations and them-selves contribute to genetic incompatibility to some extent. I found two strains of *D. melanogaster* from different geographic origins that are divergent in many traits, such as pigmentation pattern, cuticular hydrocarbon, starvation resistance, and mating behavior. My aim is to identify genes responsible for those differences by taking functional genomics approaches and to analyze their effects on mate preferences. In particular, I have identified the causal genetic variation for the difference in pigmentation intensity of the thoracic trident between these strains. It was the difference in expression level of *ebony*, which codes for an enzyme in the melanin-synthesis pathway. Interestingly, this gene is known to have pleiotropic effects on vision and behavior, suggesting that it could potentially be a diversifying gene causing partial incompatibility in mating.

Brief CV

1994 – 2000 Graduate studies in Agricultural Biology Hokkaido University (Ph. D)
1997 – 2000 Visiting student at University of Chicago with Prof. Chung-I Wu
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