

Developmental biology workshop held for high school teachers

October 12, 2016– A one-day practical workshop for high school biology teachers was held on October 2, at the RIKEN CDB. This hands-on workshop was co-organized by the CDB, the Japanese Society for Developmental Biologists (JSDB), and the Hyogo Prefectural High School Educational Committee for Biology. A total of 28 teachers (18 participants and 10 observers), mainly from around the Kansai region, attended the workshop. The CDB and JSDB have been organizing a similar two-day practical workshop since 2008, but this year welcomed the Hyogo Prefectural High School Educational Committee for Biology on board as an additional member of the organizing committee and overhauled the program into a one-day format designed to facilitate the teachers to take what they learned back to the classroom.



Teachers working on their tasks examining flies

The *Drosophila melanogaster* (fruit fly), one of the major model organisms used in biological research, has made a great contribution to the advancement of developmental biology and genetics research. In recent years, many high school biology textbooks use *Drosophila* to illustrate how gene expression controls morphogenesis, highlighting the importance of this organism for learning in the classroom as well. Thus, this year's program was conceived around the theme of genetics using the fruit fly. The aim was for the teachers to gain a firsthand understanding of how genes and environmental factors affect phenotypes through examining *Drosophila* mutants caused by sex-linked inheritance (white-eye mutants) and by epigenetic factors (variegated or red-white mosaic eye mutants). The workshop was led by Shigeo Hayashi, team leader of the Laboratory for Morphogenetic Signaling, who also oversaw the development of the program.

Another new element to the workshop this year was the incorporation of an active learning strategy called the jigsaw method, where participants were divided into groups that each tackled a separate but related assignment, and later regroup to share their knowledge with the others. The teachers were divided into three groups and engaged in active discussions on what they observed and tried to form a conclusion on what was going on at the gene level in the fly based on their observations. The teachers also paid special attention to collect representative data images that they could take back to their respective schools for use as educational tools.

Some of the workshop participants will have the opportunity to teach their own students about what they learned in the workshop by serving as TAs in a similar program that will be organized for high school students in December. The Hyogo Prefectural High School Educational Committee for Biology will take the lead in organizing this program for high school students.

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Teachers engaged in group work



Group photo at the end of the day

*Related link:
Japanese Society for Developmental Biologists (JSDB) <http://www.jsdb.jp/>