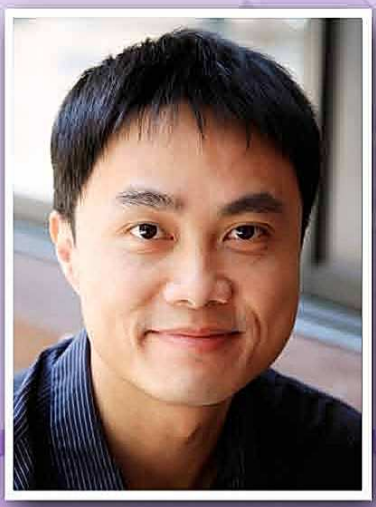
IMCB Invited Speaker



Speaker : **Dr. Tong-Wey Koh**
Associate Research Scientist,
Dept. of Molecular, Cellular and Developmental Biology,
Yale University, USA

Date : 29 October 2013, Tuesday

Time : 10:00AM - 11:00AM

Venue : IMCB Seminar Room, Level 3, Proteos, Biopolis

Host : Prof. Wang Yue

Seminar :

A large class of candidate taste and pheromone receptors in *Drosophila*

Insects rely on taste to evaluate food sources, hosts, and mates, with implications for crop damage and the transmission of human disease. In *Drosophila* there are many "orphan" taste neurons in which no known taste receptor is expressed. We identify a clade of 35 Ionotropic receptors (IRs) that is expressed in taste neurons, including many orphan neurons. A systematic expression analysis with reporter constructs indicates that they are expressed in all taste organs of the fly. Some are coexpressed with *Gustatory receptor genes (Grs)*, raising the possibility of receptor cross-talk. Others are expressed in "orphan" neurons. Two closely related genes, *IR52c and IR52d*, show signatures of adaptive evolution and sexually dimorphic expression in male forelegs, which contact females during courtship. Disruption of both genes leads to abnormal male mating behavior. These results provide a major addition to the repertoire of candidate taste receptors in the fly.

About the Speaker :

KOH Tong-Wey received his bachelor degree at the Department of Biological Sciences, before working with Benjamin Li at IMCB. During a summer training at Tata Institute of Fundamental Research in India, he had a glimpse of some interesting questions in neurobiology which one can address with the fruitfly, *Drosophila*. Inspired by this brief experience, Tong-Wey went on to pursue a Ph.D. degree in the lab of Hugo Bellen at Baylor College of Medicine, where he conducted a large forward genetic screen in *Drosophila* and characterized several interesting mutants with defects in neurotransmission. For his post-doctoral training, he worked with John Carlson at Yale University, where he characterized a large family of candidate taste receptors and found receptors that are required for normal mating behavior.

Institute of Molecular and Cell Biology
A*STAR

If you have questions about IMCB seminars, please contact seminars@imcb.a-star.edu.sg .