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TEMASEK LIFESCIENCES LABORATORY

21 March 2017 (Tuesday), 11am
The Auditorium (Level 1)
Hosted by: Dr Yu Fengwei

Mechanisms of Neuroblast Development in *C. elegans*

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The Guangshuo Ou laboratory has had a long-standing interest in understanding molecular and cellular mechanisms of cell division, migration and differentiation in developmental systems. We developed imaging methods to follow neuroblast development in a living nematode larva. We devised the somatic CRISPR-Cas9 technique to generate conditional knockouts to dissect the underlying molecular regulation. We has obtained new information regarding signaling pathways that direct neuroblast migration in vivo. This seminar will cover our recent progresses on neuroblast migration and differentiation.

Guangshuo Ou obtained his PhD in cell and developmental biology from the University of California Davis. His thesis work was conducted under the guidance of Dr. Jon Scholey about ciliogenesis in Caenorhabditis elegans neurons and elucidated how microtubule-based motor proteins are used to build neuronal cilia. Guangshuo received his postdoctoral training with Dr. Ron Vale at the University of California San Francisco, where he developed imaging techniques to study neuroblast migration and division in *C. elegans* larvae and discovered a novel myosin-based mechanism underlying neuroblast asymmetric division. In 2011 he was recruited by the Junior One Thousand Talent Plan Award by China Government as an investigator at the Institute of Biophysics Chinese Academy of Sciences. In 2013 his group relocated to the School of Life Sciences at Tsinghua University and he became a principle investigator of the Joint Center for Life Sciences at Tsinghua and Peking Universities. He continues to study neuroblast development using *C. elegans* as a model organism.

Recent Publications:

1. Zhu Z, Chai Y, Jiang Y, Li WJ, Hu H, Li W, Wu J, Wang Z, Huang S and **Ou G.** Functional Coordination of WAVE and WASP in *C. elegans* Neuroblast Migration. Developmental Cell. 2016 Oct 24;39(2):224-238.
2. Shen Z, Zhang X, Chai Y, Zhu Z, Yi P, Feng G, Li W and **Ou G.** (2014) Conditional Knockouts Generated by Engineered CRISPR-Cas9 Endonuclease Reveal the Roles of Coronin in *C. elegans* Neural Development. Developmental Cell. 2014 Sept 08; 30(5):625-36.
3. Cheng Z, Yi P, Wang X, Chai Y, Feng G, Yang Y, Liang X, Zhu Z, Li W and **Ou G**. (2013) Conditional targeted genome editing using somatically expressed TALENs in *C. elegans*. Nature Biotechnology. 2013 Oct; 31(10):934-7.