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TEMASEK LIFESCIENCES LABORATORY

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The Auditorium (Level 1)

Hosted by: Dr YU Fengwei

Epigenetic and RNA splicing machineries regulate cell signaling in development

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Dr. Alan Jian Zhu obtained his bachelor degree in Biochemistry at University of Aberdeen and PhD degree in Molecular Cell Biology with Dr. Fiona Watt at Imperial Cancer Research Fund / Imperial College London. He received postdoctoral training in developmental biology with Dr. Matthew Scott at Stanford University. Dr. Zhu is now a professor at Peking University, investigating temporal and spatial regulation of cell signaling in development and in disease.

The construction of an animal from a single fertilized egg cell into myriads requires exquisite coordination between individual cells. This tack is achieved through cell signaling mediated intercellular communication. These developmental signaling events must be precisely modulated at the level of gene expression or posttranslational protein modification. We have been utilizing the Drosophila developing wing as a model system to study candidate genes whose activities are essential for wing morphogenesis. I will discuss our recent findings highlighting the importance of epigenetic and RNA splicing machineries in the control of cell signaling, and their pivotal role in cell fate decision and pattern formation.

Recent Publications:

1. Du, J., Zhang, J., He, T., Li, Y., Su, Y., Tie, F., Liu, M., Harte, P. J. and **Zhu. A. J.** (2016) Stuxnet facilitates the degradation of Polycomb protein during development. *Developmental Cell*, 37: 507-519 (Cover featured article).
2. Liu, M., Li, Y., Liu, A., Li, R., Su, Y., Du, J., Li, C. and **Zhu, A. J**. (2016) The exon junction complex regulates the splicing of cell polarity gene *dlg1* to control Wingless signaling in development. *eLife*, 5: e17200.
3. Zhang, J., Du, J., Lei, C., Liu, M. and **Zhu, A. J**. (2014) UBPY controls the stability of the ESCRT-0 subunit Hrs in development. *Development*, 141: 1473-1479.