SEMINAR

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TEMASEK LIFESCIENCES LABORATORY

15 December 2017 (Friday), 11am

The Auditorium (Level 1)

Hosted by: Dr Yu Fengwei

Cortex Development and Evolution

Dr. Luo Zhen-Ge

Chinese Academy of Sciences, China



Cortical expansion and folding are assumed to be associated with the emergence of uniquely cognitive skills in primates. However, this hypothesis has been mainly based on across species comparative studies. We aim to understand genetic, molecular and cellular basis of cortex expansion, with particular interests on regulations of neural precursors (NPs) by hominoid-specific genes, contribution of NPs to cortex expansion, and the effects of cortical folding on higher brain functions. In this lecture, I will demonstrate a role of a hominoid-specific gene in inducing cortex folding in mice and a linkage between cortical folding and enhanced brain function.

Dr. Luo Zhen-Ge is a Senior Investigator and Deputy Director of Institute of Neuroscience (ION), Shanghai Institute for Biological Sciences (SIBS), Chinese Academy of Sciences (CAS). He obtained his PhD from Chinese Academy of Military Medical Sciences (CAMMS) in Beijing, China. He is also a member of Society for Neuroscience (SFN). His major research interests are molecular and cellular mechanisms underlying neural development and regeneration.

Recent Publications:

1. He, M., Ding, Y.T., Chu, C., Tang, J., Xiao, Q. and **Luo, Z.G.*** (2016) Autophagy induction stabilizes microtubules and promotes axon regeneration after spinal cord injury. ***Proc. Natl. Acad. Sci. USA.*** 113(40):11324-11329.
2. Ju, X.C., Hou, Q.Q., Sheng, A.L., Wu, K.Y., Zhou, Y., Jin, Y., Wen, T.Q., Yang, Z.G., Wang, X.Q., **Luo, Z.G.*** (2016) The hominoid-specific gene TBC1D3 promotes generation of basal neural progenitors and induces cortical folding in mice. ***eLife***. Aug 9;5. pii: e18197. doi: 10.7554/eLife.18197.
3. Wang, J.Y., Chen, F., Fu, X.Q., Ding, C.S., Zhou, L., Zhang, X.H. & **Luo, Z.G.*** (2014) Caspase-3 cleavage of disheveled induces elimination of postsynaptic structures. ***Dev. Cell*** 28:670–684