

# 24<sup>th</sup> WPI IIIS Seminar

## “Epigenetic switching by nutrient-sensing factors in generation of orexin neurons from pluripotent stem cells”

Narcolepsy, a debilitating sleep disorder, is caused by a highly specific degeneration of orexin-producing neurons in the hypothalamus. Only a few hundreds of surviving orexin neurons in mice (only thousands in humans) are sufficient to prevent the symptom of narcolepsy, rendering the disease a potential target for regenerative medicine. Dr. Hayakawa has recently devised a way to differentiate orexin neurons from mouse ES cells, opening up the possibility of cell-based therapy for narcolepsy. Through the course of study, he also discovered that epigenetic switching by multiple nutrient-sensing factors, including Sirt1, Ogt and Mgea5, is instrumental in the generation of functional orexin neurons.



Speaker: Dr. Koji Hayakawa

Graduate School of Agricultural and Life Science, The University of Tokyo

**Date: Wednesday, December 18, 2013**

**Time: 12:00-13:00**

**Venue: Room #402, 4F, Health and Medical Science Innovation Laboratory, University of Tsukuba**

**☆Light refreshments will be served.**



**IIIS**

INTERNATIONAL INSTITUTE FOR INTEGRATIVE  
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