

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

## “Cooperation and specialization of the bilateral hippocampi in rodents”

While rodent hippocampi are interhemispherically connected, little is known about the anatomical and functional significance. We show that rat CA3-CA1 spine synapses differ in morphology and glutamate receptor subunit composition, depending on the laterality. At the systems level, theta-associated gamma oscillations in CA1 stratum radiatum in anesthetized rats become larger in power and bilateral synchrony after a month of enriched environment housing. This experience-dependent gamma power enhancement is more prominent on the right side and coincided with laterally-biased synaptogenesis in CA1 stratum radiatum. We are currently characterizing the dynamic properties of the experience-dependent gamma oscillation enhancement and how it relates to animals' cognition.



Speaker: Dr. Yoshiaki Shinohara  
Laboratory for Neuron-Glia Circuitry,  
RIKEN Brain Science Institute

**Date:** Tuesday, July 22, 2014

**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  
SLEEP MEDICINE



**Contact:** International Institute for Integrative Sleep Medicine  
Phone: 029-853-5857 (ext. 5857)