

This talk will be in English.

Graduate School Seminar

How the Brain Builds Episodic Memories and the Meaning

Speaker: **Takashi Kitamura, Ph.D**

The UT Southwestern Medical Center, Texas, USA

Date: **17th June 2026 (Wed.) 16:30~18:00**

Venue: **日医工オーデトリウム (医薬イノベーションセンター1F)**

Episodes are fundamental to daily life. In this seminar, I will introduce how episodic memories are formed, retrieved, and maintained over time, focusing on hippocampal-entorhinal networks. I will highlight recent advances from circuit-genetic approaches that reveal the neural basis of memory. Furthermore, I will discuss how episodic memories are gradually integrated into semantic memory and schemas, providing a framework for understanding how experience is transformed into structured knowledge.

Selected Publications:

- 1) Kitamura et al., *Cell*, 139, 4, 814-827 (2009)
- 2) Kitamura et al., *Science*, 343, 6137, 896-901 (2014)
- 3) Kitamura et al., *Neuron*, 87, 6, 1317-1331 (2015)
- 4) Kitamura et al., *Science*, 356, 6333, 73-78 (2017)
- 5) Tonegawa S, Morrissey MD & Kitamura T, The role of engram cells in the systems consolidation of memory. *Nature Review Neuroscience*, 19(8):485-498 (2018)
- 6) Terranova JI, Yokose J, Osanai H, Marks WD, Yamamoto Y, Ogawa SK & Kitamura T. Hippocampal-Amygdala Memory Circuits Govern Experience-Dependent Observational Fear. *Neuron*, 110(8), 1416-1431, (2022)
- 7) Terranova JI, Yokose J, Osanai H, Ogawa SK & Kitamura T, Systems consolidation induces multiple memory engrams for a flexible recall strategy in observational fear memory in male mice. *Nature Communications*, 14(1), 3976, (2023)
- 8) Yokose J, Marks WD & Kitamura T, Visuo-tactile integration facilitates mirror-induced self-directed behavior through activation of hippocampal neuronal ensembles in mice. *Neuron*, 112 (2), 306-318, (2024)

※ 本セミナーは、大学院博士課程授業「脳認知学序論」の一環です。履修者は、レポートの提出が必要です。また、大学院特別セミナーの単位認定の対象となります。

Sponsor: Research Center for Idling Brain Science (RCIBS)

Organizer: Daisuke Miyamoto (RCIBS/Laboratory for Sleeping-Brain Dynamics) (Ext, 7324)