

# 医学特論 大学院特別セミナー The 60th Frontier Brain Science Seminar

## Hippocampal synchronized neuronal activity for learning, memory, and emotion

演者: 佐々木 拓哉 先生

東北大学 薬学部 大学院薬学研究科 薬理学分野 教授

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場所: 富山大学 薬学部研究棟 7F セミナー室8

Live streaming by Zoom is also available.

Please contact to [RCIBS@cts.u-toyama.ac.jp](mailto:RCIBS@cts.u-toyama.ac.jp), if you wish.

### Abstract

The hippocampus plays a crucial role in episodic memory and hippocampal neurons occasionally generates synchronized spikes of a large population of pyramidal neurons, often associated with sharp-wave ripples in local field potential signals. Ample evidence demonstrates that these hippocampal synchronized spikes play instrumental roles in mnemonic functions. In addition, our study found that such neuronal activity is strongly related to stress experiences in which stress memory-encoding neuronal ensembles are preferentially reactivated. In this talk, I would like to summarize these recent insights and discuss how hippocampal neuronal activity observed from various contexts serves as a neurophysiological substrate for learning, memory, and emotion.

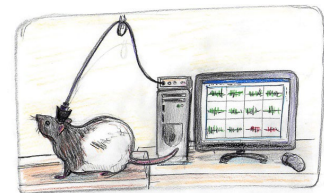
### References

Igata H, Ikegaya Y, Sasaki T.

Prioritized experience replays on a hippocampal predictive map for learning.  
*Proc Natl Acad Sci USA* (2021) 118: e2011266118.

Ikegaya Y, Sasaki T.

Hippocampal sharp wave ripples underlie stress susceptibility in male mice.  
*Nat Commun.* (2023) 14: 2105



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