

ASHBi SEMINAR

Role of the cerebellum in rhythm processing

Lecturer: **Dr. Masaki Tanaka**

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Date **Friday, 22 December 2023**

Time **16:00 – 17:00 [JST]**

Venue **Zoom online**

*Register via the right QR code



Abstract

Periodic events evoke rhythm perception, often accompanied by synchronized movements such as tapping or dancing. When perceiving rhythm, we anticipate the occurrence of the next stimulus, focus our attention on that moment, and in some cases prepare for movement. Previous studies have shown that the cerebellum and basal ganglia are involved in temporal information processing, but little is known about their specific roles in rhythm processing. To understand this, we have conducted experiments with monkeys. In monkeys trained to detect omission of isochronously presented visual stimulus, we found that internalized rhythms without movement are maintained as sensory information in the cerebellum and as motor information in the striatum. In monkeys generating eye movements in synchrony with regularly alternating visual stimuli, some neurons in the cerebellum predicted the timing of target rather than movement onset. These results suggest that the cerebellum may generate internal models that predict upcoming sensory events.

Organizer : Graduate School of Medicine

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