

## IRCN Seminar IRCN セミナーのご案内

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#### “Large-Scale Cortical Networks for Hierarchical Prediction Coding”

Friday, December 21, 2018 3:00 pm to 4:00 pm

IRCN Seminar Room

13F Experimental Research Building, Faculty of Medicine, Hongo Campus

#### Abstract:

The predictive-coding theory proposes that cortical areas of different hierarchical levels continuously generate and update predictions of sensory inputs, and emit prediction-error signals when the predicted and actual sensory inputs differ. This theory offers a unified model of perception and action, stating that the brain’s primary objective is to minimize prediction errors, either by adjusting predictions via learning or moving the body to explore the sensory space. In a recent study of auditory sequence processing, we identified prediction and prediction-error signals and their interactions across hierarchies by using unbiased data-driven analyses and large-scale electrocorticography (ECoG) in monkeys. Our findings provide strong support for the hierarchical processing in predictive coding and outline how it is dynamically implemented using distinct cortical areas and frequency channels.

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