

Division of Behavioral Neurobiology
Hokkaido University
(日本動物学会北海道支部第 583 回支部講演会)

Special Seminar

20 (Thu) September, 2018

17 : 00 ~ 18 : 00

Room 813 (8th fl.) - Science #5 bld.

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Oosaka University

(Grad Sch of Front Biosci, CiNet)

**Cortical area V4 solves the
stereo correspondence
problem**

**大脳皮質 V4 野が両眼対応問題
を解いている**

学部の集中講義の講師として阪大の藤田一郎先生をお呼びしました。その一環として、公開セミナーを日本動物学会北海道支部講演会としてひらくものです。システム神経科学の深いお話を伺えると期待しています。ご参集ください。

(Host : 松島俊也)

ABSTRACT

The visual system uses binocular disparity to derive the depth of objects and construct 3D scene. The computation involves determining which visual feature in one retina corresponds to which of the numerous features in the other, dubbed the stereo correspondence problem. Disparity is initially computed in area V1 by a process similar to cross-correlation between the two retinal images. The correlation-based signal conveys information about false disparities in addition to the true disparity. Processing beyond V1 then eliminates these false responses. Based on our research in the macaque monkey, we propose that a full transformation from correlation-based to match-based representation occurs at the neuronal population level in or immediately after cortical area V4.