Center for Neuroscience, ART

# 第48回脳神経科学コアセンターセミナーのお知らせ

日時　2016年12月8日（木）17:00−18:30

会場　医学部第2セミナー室（医学部仮設校舎2階）

演題　CANE Technology and Its Application
In Dissecting the Social Fear Circuit

演者　櫻井　勝康　博士
Duke University Medical Center
Department of Neurobiology

I developed a new technology called CANE for Capturing Activated Neuronal Ensembles. CANE has two components. First, a knock-in mouse, called Fos$^{TVA}$, in which Fos drives the expression of a destablized foreign receptor (dsTVA). Second, designer viruses pseudotyped with a mutated coat protein (EnvA) that can express desired transgenes (e.g. Cre, GFP, etc). Since EnvA-coated viruses can only infect neurons expressing dsTVA, injections of EnvA-coated lentivirus (CANE-LV) or rabies viruses (CANE-RV) enables effective “capture” of neurons that are activated and therefore express Fos by a natural behavior.
I show that CANE system enables selective and efficient labeling and manipulation of transiently-activated, spatially-intermingled but behaviorally-specific neuronal ensembles with highly temporal resolution. Using CANE, I delineate the causal functions and connectivity of hypothalamic neurons activated by a social-fear experience.

連絡先：発生発達神経科学分野 大隅 典子（内線8203）