

大学院学生各位
To All Graduate Students

平成 29 年度
基盤医学特論 開講通知
Information on Special Lecture Tokuron AY2017

題目 : Dissecting Long-Range Cortical Networks During Behavior

講師 : Jerry Chen, PhD
Assistant Professor, Department of Biology, Boston University

日時 : 平成 29 年 7 月 18 日 (火) 17:00-18:30

Time and Date: 17:00-18:30 18th July (Tue), 2017

場所 : 環境医学研究所 北館セミナー室 (東山キャンパス)

Room: Research Institute of Environmental Medicine, North Building, N201 (Higashiyama Campus)

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使用言語 : 英語 *事前連絡は不要です。Lecture in English. No registration required.

A long-standing goal in neuroscience is to achieve a complete understanding of the central nervous system, from the brain as a whole all the way down to individual neurons and synapses. A fundamental challenge in achieving this goal is bridging knowledge gaps impeded by the difficulty in integrating experimental measurements across different scales, for example between computations in local circuits and communication across brain areas. In the mammalian neocortex, cortico-cortical connections formed by long-range projection neurons across different areas are essential for higher cognitive function. I will present the development of new technologies that enable simultaneous recordings of identified long-range projection neurons across cortical areas. Using the mouse tactile whisker sensorimotor system as a model, I will describe the application of such methods for dissecting the role of long-range networks in the neocortex during sensory-guided decision making.

参考文献

1. **Chen JL***, Voigt F*, Javadzadeh M, Kruppel R, Helmchen F. *Long-range population dynamics of anatomically defined neocortical networks.* **eLife.** 2016 May 24;5. pii: e14679.
2. **Chen JL**, Margolis DJ, Stankov A, Sumanovski LT, Schneider BL, Helmchen F. *Pathway-specific reorganization of projection neurons in somatosensory cortex during learning.* **Nat Neurosci.** 2015 Aug;18(8):1101-1108.
3. **Chen JL**, Carta S, Soldado-Magraner J, Schneider BL, Helmchen F. *Behaviour-dependent recruitment of long-range projection neurons in somatosensory cortex.* **Nature.** 2013 Jul 18;499(7458):336-380