平成 29 年 6 月 30 日

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

Title:　Wiring principles of cortical inhibitory circuits
題目：　大脳抑制性神経回路の配線原理

講師：谷口　弘樹先生　**Hiroki Taniguchi, Ph.D.**
Max Planck Florida Institute, Research Group Leader

日時：平成 **29** 年 **7** 月 **25**（火）　**16:00－17:30**
Time and Date: 16:00－17:30　25th July (Tue), 2017

環境医学研究所　南館大会議室（東山キャンパス）
Room: Research Institute of Environmental Medicine, South Building, 204 (Higashiyama Campus)

＊関係講座部門等の連絡担当者: 環境医学研究所・神経性調節学 山中章弘（3864）
Contact:　Akihiro Yamanaka (3864)
使用言語：英語　＊事前連絡は不要です。Lecture in English.　No registration required.

Abstract

Multiple types of GABAergic interneurons (INs), which differ in morphology, physiology, gene expression, and connectivity, provide a rich repertoire of inhibitory mechanisms, which shape neuronal activity at synaptic, cellular, and circuit levels. Despite their functional importance, it remains unknown how cortical inhibitory circuits are assembled. This lack of knowledge is probably due to the lack of experimental systems that allow us to manipulate uniform IN types. The chandelier cell (ChC) is a unique IN type that specifically innervates axon initial segments of excitatory pyramidal neurons, therefore powerfully regulating spike generation. We have developed genetic strategies that enable us to manipulate ChCs and addressed several important questions regarding subcellular synapse specificity, axonal arborization, and a regional variation of terminal phenotypes, all of which are critical components for wiring of functional inhibitory circuits. In this seminar, I would like to introduce and discuss our recent achievements.

References:

Steinecke A, Hozhabri E, Tapanes S, Ishino Y, Zeng H, Kamasawa N, Taniguchi H.
Neocortical Chandelier Cells Developmentally Shape Axonal Arbors through Reorganization but Establish Subcellular Synapse Specificity without Refinement. *eNeuro*. 2017

Taniguchi H, Lu J, Huang ZJ. The spatial and temporal origin of chandelier cells in mouse neocortex. *Science*. 2013

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