

令和6年度 第26回 大学院セミナー

令和6年 7月 4日

分野名 Area of Research (責任者名)(内線)	Med. Pharmacol. 医科薬理学 分野 責任者名(Jun Aruga 有賀 純) 内線(7043)
演題 Title	Unveiling the role of sensory neuron number: Insights from comparative studies in fruit flies
講師等 Presenter	Suguru Takagi, PhD 高木 優 博士研究員 University of Lausanne スイス・ローザンヌ大学
概要 Abstract	Brains exhibit incredible diversity in neuron numbers across animal species. In this seminar, I will discuss the functional impact of increased neuron numbers in sensory systems. Traditionally, the evolutionary expansion of sensory neuron populations is thought to enhance the detection of crucial environmental cues. However, this hypothesis is challenging to validate using a single model organism. We investigated this phenomenon by comparing homologous olfactory pathways in the fruit fly <i>Drosophila melanogaster</i> and its close relative, <i>Drosophila sechellia</i> , an extreme specialist for the noni fruit. <i>D. sechellia</i> has evolved expansions in specific noni-detecting olfactory sensory neuron populations. Contrary to expectations, having more olfactory sensory neurons did not lead to greater sensitivity. Instead, increased sensory pooling reduced adaptation and improved odor-tracking behavior. Our work reveals an unexpected functional impact of sensory neuron expansions, explaining ecologically relevant, species-specific behavior. Moreover, I believe that such comparative approach demonstrates a powerful framework for dissecting fundamental aspects of neural circuit functions and for bridging the gaps across species in neuroscience.
開催日時 Date and Time	2024年 7月 23日(火) 16:00 ~ 17:30
開催方法 Online/Face to face	医学部基礎棟1階 第3セミナー室 対面 3 rd seminar room Basic Medical Science Building 1F
備考 Notes	参加者により、日本語で行う場合もあります。

- 先端医療科学特論(基礎編)
- 先端新興感染症病態制御学特論
- 日本語(Japanese)
- 対面(Face to face)

- 先端医療科学特論(臨床編)
- 先端放射線医療科学特論
- 英語(English)
- オンライン(Online)