

第3回 難研 MTT セミナー

下記により難研セミナーを開催しますので、多数御来聴下さい。

記

日 時：平成 21 年 7 月 9 日（木）16:00～18:00

場 所： 医歯学総合研究棟Ⅱ期棟 23 階セミナー室

演 者： Dr. Corey G. Washington
(Department of Neuroscience,
Columbia University)

演 題： Color Vision in *Drosophila*

要 旨：

Color vision is the ability to distinguish between different wavelengths of light independently of their intensity. It has been demonstrated in a wide range of organisms, including arthropods, fish, birds and mammals, but evidence for color vision in *Drosophila* has so far been lacking. We report behavioral experiments showing that flies have a simple color vision that allows them to distinguish between two colors: UV and visible light. All known forms of color vision rest on opponent systems in their underlying circuitry. In such a system a visual receptor tuned one peak wavelength excites a downstream neuron, while a second receptor tuned to another wavelength inhibits the neuron. Stimulating these receptors has opposing effects on the behavior of the organism. We show that when added to a baseline of light sufficient to produce 80% response in phototaxis, bright UV light increases the rate of attraction, while visible light decreases attraction regardless of intensity. We suggest that the attractive response is mediated by the R7 cells, while the inhibitory response derives from the action of R1-6 and R8. These cells appear to be the basis of the opponent system underlying color vision in flies.

連絡先： MTT フェロー 佐藤淳（内線 4903）

共催：分子細胞生物学分野 澁谷浩司教授（内線 4901）