

## IPNP Seminar

**Pr Kazuo EMOTO**

(Host Z Lenkei)



*Department of Biological Sciences, International Research Center  
for Neurointelligence, University of Tokyo, Japan*

## Molecular and cellular basis for neuronal remodeling in *Drosophila*

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R04-45, 102-108 rue de la santé - 75014 Paris

**Pr Kazuo EMOTO**

**Department of Biological Sciences, International Research Center for Neurointelligence, University of Tokyo,  
Japan**

Neuronal circuits in the brain are not static. In many systems, especially during critical periods of development, neurons exhibit a juvenile plasticity in which connectivity can be modified in response to sensory input or following specific experiences, thereby providing neurons with new response properties, tailored to the new environment. To achieve these changes in connectivity, certain neurons remodel particular axonal and/or dendritic branches in a compartmentalized manner, yet the mechanism remains largely unknown. The *Drosophila* sensory neurons provide a suitable system for systematic analysis of dendritic remodeling. Following a period of growth and development in larval stages, the larval dendritic arbors are completely replaced with adult-specific processes as a result of extensive pruning and subsequent regeneration of dendritic arbors during metamorphosis. By taking advantage of this system, we have revealed novel molecular and cellular mechanisms underlying the compartmentalized neurite remodeling. In this talk, I will talk about our ongoing projects and would like to discuss about how neurons refine the connectivity in response to environmental changes.

Cell Migration

Neuron

Dendrites