

新潟脳神経研究会特別例会の御案内

日時：令和7年4月18日(金) 11:00～12:00

場所：中田記念ホール 脳研究所 旭町総合研究実験棟
(統合脳機能研究センター)6階

Super-resolution microscopy to resolve the intimate organization and function of the synapse



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The synapse is a 1 μm size bi-partite organelle responsible of the talk between neurons. The role of glutamate receptors is to convert the chemical signal emits by the pre-synapse (glutamate release) to an electrical signal understandable by the post-synaptic neuron. Due to their relatively low affinity for glutamate and to the limited amount of glutamate, the spatiotemporal nanoscale organization of these receptors in post-synaptic membrane is fundamental to understand synaptic transmission and thus information processing by the brain. This nanoscale sub-synaptic organization has become accessible through the use of single particle based super-resolution microscopy which provides a spatial resolution of approximately 10 nm in multiple colors and allows for tracking the mobility of individual proteins. These advances have significantly enhanced our understanding of the properties governing synaptic transmission.

A specific focus is given to the effects of synaptic long term depression (LTD) on glutamate receptor organization and synaptic pruning properties in patho-physiological models.

どうぞ奮ってご参加ください。

(担当：脳研究所 細胞病態学分野)

