Docking site occupancy as a regulator of synaptic function

講演者： Professor Alain Marty

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＜場所＞ 理学部 １号館 １階　106 号室　(BP1)

Standard views on synaptic function have considered that synaptic release sites are occupied with a docked synaptic vesicle at rest, and that the docking reaction is long lived. In recent years our laboratory has developed new methods to measure individual vesicular release events in ‘simple synapses’ containing a single active zone. This has shown that several release sites co-exist in one active zone. We also found that individual release sites are not always occupied with a vesicle at rest. During trains of presynaptic action potential stimulation, variations in docking site occupancy give rise to synaptic facilitation or depression, and to increased synaptic delay. These results highlight the importance of vesicular docking for synaptic function, and they indicate that docking is quicker and more readily reversible than hitherto envisaged.

Biophysics Seminar

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