

Synapses are key mediators of information transmission in the brain. The ease with which synaptic transmission occurs, called synaptic strength, determines the extent of information flow to the target neuron. Moreover, changes in synaptic strengths have been suggested to represent cellular substrates of learning. While synaptic strength changes are thought to be confined to active inputs, most often, single synapses do not operate in isolation and nearby synapses influence each other. Such local interactions amongst nearby synapses shape integration of information in the target neuron. Given the ambiguities of the spatial spread of synaptic strength changes and the types of plasticity associated with the changes, the minimal operating unit of synaptic plasticity and the rules for its implementation remain enigmatic. The talk will highlight and discuss experimental insights on features of synaptic strength regulation that are consequential for neural circuit properties.