



## Synaptic Function and Energy Use

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### Message from the Guest Editor

Dear Colleagues,

Synapses are metabolically costly to operate. Research over the years has shed light on how synaptic function is sustained through dynamic, activity-dependent coupling with ATP synthesis, mitochondrial function, and motility, glia, and vasculature. Critically, dysfunction in such coupling, which arises in a number of neurological disorders, impairs cognitive function. Furthermore, an accumulating body of evidence has found that synaptic function and energy use is sensitive to nutrient and caloric intake, as well as to metabolic factors including ketone bodies, leptin, and insulin. Thus, the metabolically expensive synapse is regulated closely by the peripheral metabolic state.

The purpose of this Special Issue is to provide an up-to-date understanding of the link between synaptic function and energy use, its relation to peripheral metabolic state and nutrient status, and its relevance to cognitive function and neurological disorders. It is open to original articles, reviews, and perspectives that cover any element of these key aspects.

Prof. Dr. Gen Ohtsuki

*Guest Editor*





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