



Powering the Synapse on Demand

Cognitive function is an energy-consuming process that requires precise regulation of ATP production to ensure proper synaptic transmission. However, it was not known what mechanisms account for activity-driven upregulation of presynaptic ATP production. I will present our discovery of a feedforward pathway for upregulation of glycolysis that is essential for metabolic support of synaptic function. I will also discuss our recent characterization of a feedforward pathway in which mitochondrial Ca^{2+} uptake stimulates oxidative phosphorylation. This work lays the foundation for our understanding of how dysregulation of neuronal energetics in metabolic diseases may lead to cognitive impairments.

Friday, Sept 7, 4pm

Hess Seminar - Room B

WINE and CHEESE reception
5-7pm Hess 9th floor



Icahn
School of
Medicine at
Mount
Sinai

#MSNseminars

Ghazaleh Ashrafi, PhD