

POZVÁNKA

na seminář oddělení 15 Fyzikálního ústavu AV ČR, v.v.i.

Seminář se koná

V pátek 18. Ledna 2018 v 10 hod.

v zasedací místnosti Fyzikálního ústavu, Cukrovarnická 10, Praha 6, budova A.

Na programu je přednáška,

Harnessing the Switching Dynamics of Memristive Synapses in Spiking Neural Networks

kterou prosloví

Stefano Brivio

CNR – IMM, Unit of Agrate Brianza, via C. Olivetti 2 Agrate Brianza, Italy

Abstrakt:

Memristive devices, two terminal structures able to change their resistance upon voltage application, have been recently spotlighted as key-enabler of hardware neuromorphic computations, because of their non-volatile state retention, compact size and low programming voltage. Furthermore, their complex dynamics in response to pulse stimulation can be exploited to get access to a continuum of resistance states, which can be exploited in bio-inspired neuromorphic computation.

In this framework, we specifically design materials for memristive devices and optimize their analogue and non-linear dynamics. Further, we investigate the impact of the synaptic update dynamics on the training phase in a biologically-plausible and VLSI-compatible spiking neural network. In particular, through system-level simulations, we show that the non-linear memristive dynamics extends the persistence of memories in the network in comparison to linear synapses with similar resolution.

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Hosté vítáni!