

Special Session on Learning Methods in Spiking Neural Networks
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SESSION CHAIRS

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OVERVIEW

The brain-inspired spiking neural networks (SNNs), considered as the third generation of artificial neural networks, are proposed to better simulate the information processing in the brain. There are a number of ongoing efforts to develop neuromorphic processors based on spiking neural networks (SNNs). Some representative examples include the SpiNNaker Project, Neurogrid, Spaun, TrueNorth Cognitive Computing, and SyNAPSE program. Although spiking neural networks show promising capabilities in achieving a performance similar to living brains, powerful computing capability and broad application prospects are not fully exploited. One of the reasons is that the intrinsic complexity of processing spike sequences might limit the usage of networks of spiking neural networks. This leads us to the necessity to develop efficient learning algorithms.

The SNCC 2017 special session on “[Learning Methods in Spiking Neural Networks](#) ” aims to reflect the efforts and achievements of the current research stream, by inviting scientists and researchers to report their state-of-the-art works on learning methods of spiking neural networks.

TOPICS

The main theme of the special session is learning methods in spiking neural networks. Topics of interest include but are not limited to:

- Bio-inspired or Neuro-inspired Supervised Learning in SNNs.
- Bio-inspired or Neuro-inspired Unsupervised Learning in SNNs.
- Rank-Order Learning in SNNs.
- Aggregate-Label Learning in SNNs.
- Reinforcement Learning in SNNs.
- The Robustness of Learning Methods in SNNs.
- Deep Learning in SNNs.
- Applications of SNNs.

SUBMISSION

Please follow IEEE SSCI 2017 submission website: <http://www.ele.uri.edu/ieee-ssci2017/SNCC.htm>. Please select the category of special session “[Learning Methods in Spiking Neural Networks](#)” during the paper submission process.