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Memristive Neural Architectures and Intelligent Systems

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Message from the Guest Editors

Neuromorphic computing was inspired by the biological neural networks in the human brain. Neural architectures for neuromorphic computing can be made area-efficient with memristive devices and networks. Developing efficient hardware for learning and inference tasks is important for neural computing applications. Emerging devices used for building memristive systems often suffer from variability issues, making their implementation challenging.

This SI is focused on the emerging devices, algorithms and systems inspired by the biological neural networks. Covering the latest research findings and highlighting hardware implementations in memristors and neural computing, in-memory computing and neural networks, near-sensor neural networks, analog neural networks and sensor fusion, chaotic circuits and stochastic neural networks, cognitive architectures and their hardware implementations, neural circuits and ASIC, FPGA-based neural networks, hierarchal temporal networks, cellular neural networks and spiking neural networks are particularly sought after. Papers should provide experimental evidence and results focusing on energy-efficient implementations of bio-inspired neural networks.

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Message from the Editor-in-Chief

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