Special Issue

Memristive Materials and Devices

Message from the Guest Editor

With the rapid development of information technology, computing systems with low energy consumption and high processing speed are in great demand. Conventional computing architectures are now facing a von Neumann bottleneck due to the separation of memory and processor. New materials, devices, and architectures are being aggressively studied to meet future computing needs. Memristive devices, also known as resistive switching devices, have attracted intensive attention due to their simple structure, high switching speed, low power consumption, and desirable switching dynamics for emulating biological synapses. These features make the devices a good candidate for broad applications of nonvolatile memory, logic, in-memory computing, and neuromorphic computing. This Special Issue aims to compile recent developments in the field of memristive materials and devices. The articles presented in this Special Issue will cover various topics, ranging from but not limited to the development of memristive materials, the study of memristive mechanisms, the optimization of memristive performance, and the functionalization of memristive devices.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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