Special Issue

Novel Approaches for Quantum Computing and Quantum Information Processing

Message from the Guest Editor

The fields of quantum computing and quantum information processing have thoroughly advanced during the last decade due to potential applications in many scientific fields ranging from computer science and communications to biology and AI. As we are currently in the NISQ-era of quantum computation, the development of techniques for encoding information using the minimal number of qubits, the design of hardware-efficient quantum circuits, and the adoption of appropriate noise suppression and mitigation techniques are very important for designing algorithms that can have practical applications in the near future. In this light, this Special Issue aims to publish work that exhibits novel work regarding both new quantum algorithms and solutions based on new techniques, such as transpilation and custom noise handling, which allow for NISQ-efficient implementations of existing quantum algorithms.

Guest Editor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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