

Special Issue

Recent Advances in Quantum Microprocessor

Message from the Guest Editor

Today, the quantum computing community suffers from the unavailability of such quantum microprocessors. The present Special Issue focuses on hardware for future quantum microprocessors. As it was for early electronic computers, research activity on this topic is strongly interdisciplinary. With the idea in mind of going beyond the dichotomy between applied and fundamental research, the scope of this Special Issue is to collect in one single issue technical contributions from microelectronics and integrated optics with more fundamental contributions from solid-state physics and quantum mechanics theory. The Special Issue covers but is not limited to the following topics:

- Architectures for quantum microprocessors;
- Cryogenic microelectronics for quantum computing;
- Integrated optics for quantum computing;
- Quantum mechanics for quantum algorithms;
- Physical implementations and characterization of qubits;
- Behavioral and/or physical modeling of qubits;
- Cryogenic modeling of microelectronic devices.

Guest Editor

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Deadline for manuscript submissions

closed (15 March 2025)



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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.4 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).