

## 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

Dr. Mattia Borgarino

Dipartimento di Ingegneria Enzo Ferrari, University of Modena and Reggio Emilia, 41125 Modena, Italy

### Deadline for manuscript submissions

closed (15 March 2025)



## Electronics

an Open Access Journal  
by MDPI

Impact Factor 2.6  
CiteScore 5.3



[mdpi.com/si/156538](https://mdpi.com/si/156538)

*Electronics*  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[electronics@mdpi.com](mailto:electronics@mdpi.com)

[mdpi.com/journal/  
electronics](https://mdpi.com/journal/electronics)





# Electronics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.6  
CiteScore 5.3



[mdpi.com/journal/  
electronics](https://mdpi.com/journal/electronics)



## 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 guest-edited by leading experts in selected topics of interest.

---

### Editor-in-Chief

Prof. Dr. Flavio Canavero

Department of Electronics and Telecommunications, Politecnico di  
Torino, 10129 Torino, Italy

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), CAPus /  
SciFinder, Inspec, Ei Compendex and other databases.

#### Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q2 (Control and  
Systems Engineering)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is  
provided to authors approximately 16.4 days after  
submission; acceptance to publication is undertaken in 2.4  
days (median values for papers published in this journal in  
the second half of 2024).