Special Issue

Advanced Integrated Circuit Design and Applications

Message from the Guest Editors

In recent years, the global demand for integrated circuits (ICs) has reached unprecedented levels. This surge has been driven by transformative applications across multiple domains—artificial intelligence, 6G communications, quantum computing, biomedical devices, automotive systems, and robotics, among others.

We place particular emphasis on electronic design automation (EDA) tools, design methodologies, and innovative architectures down to layout level.

Contributions may address RTL-to-GDSII flows, verification and manufacturing strategies, and the use of both fabricable open-source PDKs (e.g., SkyWater 130, GlobalFoundries 180, IHP 130) and commercial PDKs. Submissions exploring commercial-grade design tools alongside open-source platforms (such as Efabless/ChipFoundry) are also encouraged. Topics of interest include, but are not limited to, the following:

Novel IC architectures and layout methodologies. Open-source hardware design platforms and ecosystems.

System on Chip (SoC).

The design of customized ICs for digital signal processing algorithms, automatic control systems, communications, among others.

The integration of AI and machine learning in IC design automation.

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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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