Special Issue

Silicon Photonic Integrated Circuits: Advancements and Challenges

Message from the Guest Editors

The field of silicon photonic integrated circuits has seen remarkable progress in recent decades, providing innovative solutions for high-bandwidth communication, quantum information processing, lab-on-a-chip, chip-scale LIDAR, and future optical accelerators, among many others. Key developments in CMOS integration, material improvements, and on-chip lasers have propelled the field forward. Meanwhile, significant challenges remain, including thermal management, scalability, power consumption, and cost. Addressing these issues is crucial for unlocking the full potential of silicon photonics. By identifying these challenges and obstacles, we hope to stimulate further research in these critical areas for next-generation silicon photonic ecosystems. This Special Issue aims to compile contributions that highlight both the advancements and ongoing challenges in silicon photonics across various applications. We welcome both research and review articles.

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About the Journal

Message from the Editor-in-Chief

Chips is a new journal with the aim to become a leading reference on all aspects of the IC domain. The journal is devoted to publishing rigorously peer-reviewed articles (such as original research, reviews, and communications) with the specific target to disseminate novelties in terms of research and knowledge as well as the most advanced state of the art on IC technologies, design, testing, and production. The journal offers the opportunity to actively spread new concepts and advancements in the IC domain and its increasing interrelated and multidisciplinary areas in a timely manner. More specifically, the journal will cover chip design, including CAD tools, chip production, and their wide spectrum of applications.

Editor-in-Chief

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