

Special Issue

Advances in Hardware Security and Emerging Threats

Message from the Guest Editor

Recent incidents like the infiltration of hardware Trojans in critical infrastructure supply chains and the proliferation of counterfeit ICs, particularly during the global semiconductor shortage, highlight the urgent need for secure and transparent hardware lifecycles. The Spectre and Meltdown vulnerabilities exposed deep flaws in microarchitectural design, demonstrating how low-level exploits can compromise billions of devices globally. Similarly, side-channel attacks, including those targeting cryptographic systems, have raised concerns about the robustness of existing defenses. The transition to post-quantum cryptography and the adoption of AI, chiplet-based architectures, and cloud platforms introduce new opportunities but also expand the attack surface. For example, recent advances in quantum computing by entities like Google and IBM suggest the potential for breaking traditional cryptographic methods, emphasizing the importance of forward-looking security solutions. The primary objective of this Special Issue is to develop a set of security measures to address the above challenges while exposing new forms of attacks.

Guest Editor

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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.

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