

Special Issue

Next-Generation Liquid Crystal Devices and Applications

Message from the Guest Editor

Liquid crystal materials continue to be a cornerstone of modern photonics, underpinning technologies from ubiquitous displays and sensors to sophisticated adaptive optics and tunable lasers. Today, the field is undergoing a transformative shift beyond these traditional applications. Emerging LC systems—such as cholesteric photonic structures, hybrid LC–nanomaterial composites, and soft responsive LC architectures—are driving a new generation of device concepts with enhanced functionality, reconfigurability, and superior optical performance. With breakthroughs in materials engineering, device miniaturization, and multifunctional integration, liquid crystal technologies are rapidly expanding into advanced fields such as wearable sensing, soft photonics, neuromorphic devices, and next-generation communication systems. This evolution presents both exciting opportunities and new challenges in the design, fabrication, and application of these versatile photonic devices. We are pleased to invite you to contribute to this Special Issue, which aims to highlight recent advances, identify emerging directions, and provide a platform for innovative research.

Guest Editor

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