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Novel Liquid Crystal Materials and Applications

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Message from the Guest Editors

Dear Colleagues,

Liquid crystal (LC), as a smart soft material, has a lot of fascinating properties. In the past few decades, LC materials have been widely investigated in state-of-the-art research. Here, we highlight a few critical and unique properties of LCs and their applications. (1) LC small molecules are mobile and can self-assemble into complex structures, which enable designing and tailoring dynamic material surfaces and interfaces. (2) Sensitive to electric field, magnetic field, temperature, light exposure, and pressure, LC polymers can change the alignment and yield mechanical responses. (3) LCs are birefringent, which allows for phase modulation, polarization modulation, and intensity control through the spectrum of UV, visible, infrared, and microwave. The ability of surface patterning and volume patterning opens the door to flat optics, which significantly reduces the size and weight of AR/VR devices, microscopes, and Lidar sensors. This Special Issue aims to collect innovative work on LC materials and applications to accelerate LC research for science and technology development.

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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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