Special Issue

Holographic Technologies: Theory and Practice

Message from the Guest Editors

The development of micro-nano-photonics and optoelectronics is one of the current priorities toward achieving scientific and technological progress, and optical holography is a part of this. In recent years, much attention has been paid to the active introduction of holographic technologies in various branches of optical science, applied optics, and optoelectronics. Digital holography, digital holographic microscopy, and other related quantitative phase imaging techniques as phase retrieval, ptychography, and shearography, are currently important tools in advanced manufacturing technologies, industry, and biomedical research. Computer-synthesized holography is also in a phase of active development. These techniques find applications in 2D/3D image display systems, wavefront sensors, holographic memory, correlators, and image processing devices. Security holography is extremely important from the point of view of commercial holography applications. The range of its capabilities was sufficiently expanded thanks to new multispectral photopolymer materials and modern diffractive optical elements, including plasmonic devices and metasurfaces.

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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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