

Special Issue

Advanced Optical Measurement Techniques and Applications

Message from the Guest Editors

This Special Issue, titled “Advanced Optical Measurement Techniques and Applications”, will explore a range of advanced optical technologies pertinent to scientific, chemical, biomedical, and environmental applications. It will provide a comprehensive overview of current trends, challenges, and future directions in these rapidly evolving fields. Various optical sensing technologies including spectroscopy and microscopy facilitate the detection of gases like CO₂, NH₃ and H₂O, as well as proteins and biological tissues. These technologies employ diverse optical sources including optical comb sources, superluminescent light emitting diodes, supercontinuum sources, and short pulse laser sources. Thanks to advances in machine learning and computational algorithms, the performances of these techniques have been significantly enhanced, allowing for compact, non-contact, rapid and accurate measurement. Moreover, optical materials such as metamaterials, metasurfaces and photonics crystals are greatly useful to these applications.

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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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