

Special Issue

Photophysics and Photochemistry in Materials for Advanced Technologies

Message from the Guest Editors

Recent progress in the development of functional materials has provided new perspectives in photonic and optoelectronic technologies. The understanding of photophysical and photochemical phenomena is crucial to optimizing the performance of materials used in devices such as solar cells, sensors, light-emitting diodes, lasers, and photocatalysts. This Special Issue aims to bring together original research and review articles focusing on the interplay between light and matter at the molecular and nanoscale levels. Topics include excited-state dynamics, charge transfer mechanisms, energy migration, photoinduced structural transitions, and light-matter interaction in emerging materials such as perovskites, conjugated polymers, carbon-based systems, hybrid organic-inorganic structures, and 2D materials. The issue also welcomes contributions on experimental and theoretical approaches addressing spectroscopic techniques, photodegradation, and the design of photofunctional materials for advanced technologies.

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Editor-in-Chief

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