Special Issue

Photocatalytic and Luminescent Nanomaterials in Biomedical Applications

Message from the Guest Editor

Photocatalytic and luminescent nanomaterials have emerged as cutting-edge platforms in biomedical science. Enhanced through chemical modifications, these nanomaterials exhibit unique properties, such as high photostability, light-activated generation of reactive oxygen species, charge separation efficiency, long luminescence lifetime, high quantum yields, and biocompatibility. Their multifunctionality and responsiveness to light have enabled a wide range of biomedical applications, including bioimaging, diagnostics, drug delivery, photodynamic therapy, cancer therapy, etc. This Special Issue aims to present innovative research findings and accelerate the translation of photocatalytic and luminescent nanomaterial-based technologies into practical biomedical solutions. We welcome submissions of original research articles, reviews, and short communications that explore, but are not limited to, the following topics related to photocatalytic and luminescent nanomaterials and technologies: material design, synthesis, modification, and characterization; bioimaging, biosensing, diagnostics, drug deliveries, and therapeutic strategies; and the inactivation of pathogenic microorganisms.

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