Special Issue

Luminescent Nanoprobes for Biomedical Imaging, Treatment and Detection

Message from the Guest Editor

Nanoprobes, a powerful nanoscale tool used to interact with biological systems, have emerged as powerful agents in modern biomedicine, resulting in precise imaging, highly sensitive detection, and targeted therapeutic interventions. Recent advances have led to the development of luminescent nanoprobes with excellent sensitivity, specificity, and resolution, enabling real-time imaging, the precise detection of biomarkers, and targeted therapeutic interventions. Their versatility arises from tunable optical properties, surface functionalization, and biocompatibility, enabling early disease diagnosis to image-guided therapy. The integration represents a transformative approach to enhance patient outcomes. We invite you to contribute to this Special Issue, gathering high-quality research and review articles at the intersection of nanotechnology, optics, and biomedicine. This Special Issue aims to highlight progress in the development and application of luminescent nanoprobes for biomedical purposes, including imaging, biosensing, and therapeutic strategies. Contributions should address the design, synthesis, characterization, and/or practical implementation.

Guest Editor

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Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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