



Application of Nanoparticles in Biology and Medicine

Guest Editor:

Dr. Izabela Kamińska

Institute of Physics, Polish
Academy of Sciences, Warsaw,
Poland

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Message from the Guest Editor

Nanoparticles which emit light with energy higher than that of the exciting radiation are gaining attention as a new generation of probes with significant potential applications in biomedicine.

In particular, the applications are considered in imaging of biological objects in the nanoscale. The NPs, used for that purpose, should exhibit relatively low toxicity and have a small size (compared to cells). They should also have a surface available for biofunctionalization. The NPs, excited by near-infrared (NIR) light, exhibit effective emissions. This not only allows improving the photons' permeation through the tissue but also minimizes the effects of tissue autofluorescence and light scattering.

This Special Issue of *Nanomaterials* will cover the most recent advances in Gd_2O_3 , $NaYF_4$ or $NaGdF_4$ nanoparticles doped with rare earth (RE) Er^{3+} , Yb^{3+} , Tm^{3+} , and others in biology and medicine applications.





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Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and Environmental Science,
University of Birmingham,
Birmingham B15 2TT, UK

Message from the Editor-in-Chief

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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