



## Application of Nanotechnology in Medical Diagnosis and Imaging

Guest Editor:

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Deadline for manuscript  
submissions:

**10 November 2024**

### Message from the Guest Editor

Dear Colleagues,

Nanotechnology has been widely applied in medical sciences, and has changed the basis of disease prevention, diagnosis and treatment. Indeed, imaging using nanomaterials has a wide range of applications, such as in targeting the root cause of diseases and identifying changes that occur in the body at the cellular/molecular level. Therefore, further progress of nanomaterials-based imaging will have a huge impact on treatment options and healthcare costs.

Basic scientists in the biomedical field have recently striven to improve the precision of signal capturing of biological events by using various techniques, such as the following: 1) synthesis of novel biosensing nanomaterials for the investigation of important local events in living cells, such as changes in  $[Ca^{2+}]$ ,  $[ATP]$ , pH, temperature and force, 2) development of innovative biosensing nanotechnology devices, and 3) evaluation of biosensing nanomaterials under critical experimental conditions.

This special issue covers recent advances in nanotechnology from basic science to clinical science. Original research articles, as well as review articles, are welcome.

Dr. Norio Fukuda

*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.

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