



an Open Access Journal by MDPI

## Functional Biomaterials and Nanobiomaterials for Biomedical Applications

Guest Editors:

### Dr. Baskar Gurunathan

Department of Biotechnology, St. Joseph's College of Engineering, Chennai 600119, India

### Dr. Marimuthu Govindarajan

1. Unit of Phytochemistry and Nanotechnology, Department of Zoology, Annamalai University, Annamalai Nadar-608002, Tamil Nadu, India

2. Unit of Natural Products and Nanotechnology, Department of Zoology, Government College for Women (Autonomous), Kumbakonam 612 001, Tamil Nadu, India

Deadline for manuscript submissions:  
**closed (20 November 2023)**

### Message from the Guest Editors

Customized nanomaterials have a wide range of medical applications in the areas of diagnostics, surveillance, and medication. Nanostructured biomaterials such as nanoparticles, nanofibers, nanosurfaces, nanowires, and nanocomposites are functionalized with peptides, proteins, nucleic acids, and drugs to be delivered to cells and organs. Unique physicochemical properties such as particle size, particle shape, surface area, solubility, polymorphism, surface charge, and hydrophobicity mean that nanomaterials must be considered when formulating a drug for effective drug delivery, tissue regeneration, and diagnostic applications. Nanomaterials' distinctive optical and X-ray attenuation qualities are used for cancer phototherapy. Nanomaterials in the form of nanoprobe are used for multimodal imaging of malignancies by combining them with other functional nanoparticles. In recent years, trending biomaterials have enabled three-dimensional (3D) bioprinting, organ-on-a-chip applications, immunomodulation, extracellular vesicle research, vaccine delivery, and anti-viral performances.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

## Message from the Editor-in-Chief

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:** JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

*Materials* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)