



Advanced Nanoparticle Assembly

Guest Editor:

Dr. Nikolaos Kalfagiannis

Department of Materials Science
Engineering, University of
Ioannina, Ioannina, Greece

Deadline for manuscript
submissions:

closed (20 January 2022)

Message from the Guest Editor

The recent advances in nanoscience and nanotechnology have provided the sophisticated tools to fabricate, investigate and characterise new functional elements at low dimensions, such as nanoparticles. Nanoparticles, whose properties can be significantly different from their corresponding bulk counterparts are becoming the major building blocks to develop new materials with unprecedented properties. The wide variety of potential applications of nanoparticles in biomedical, optical and electronic fields, among others, has intensified the research in their efficient formation.

Two distinct fabrication routes have been mainly followed: the top-down approach, where physical processes are exploited for slicing and dicing macroscopic entities down to the nanoscale, and the bottom-up approach, where atomic-scale chemical forces drive the molecular self-assembly. Practically speaking, the top-down route offers unparalleled control and reproducibility down to a few nanometres in feature size but at high cost for large area processing, while the bottom-up approach naturally applies for macroscopic scale nano-patterning albeit without the fine feature and reproducibility control.





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 - Q2 (*Metallurgy & 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

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)