Special Issue

Functional Nanoparticle Arrays

Message from the Guest Editor

Nanoparticle arrays, in which particles with well-defined and tailored structures, sizes and compositions behave as artificial atoms and are arranged in controlled patterns, have attracted tremendous attention in the last few decades because of their unique chemical and physical properties, which are quite different from those of bulk materials. The size and interparticle spacing of the nanoparticles that constitute nanostructures can have a dramatic effect on their properties. The electrical, optical and magnetic properties of nanoparticle-based nanostructures can be tuned to a substantial degree by varying the particle–particle interactions. The most critical factor in the realization of nanoparticle-based technology is the development of effective methods for the controllable fabrication of high-density nanoparticle films with defined size, density and functional structures in various dimensions.

This Special Issue will be dedicated to all nanoparticle arrays and related researches. Original research papers, short communications or state-of-the-art reviews are all welcome.

Guest Editor

Prof. Dr. Min Han

National Laboratory of Solid State Microstructures, College of Engineering and Applied Sciences, Nanjing University, Nanjing 210093, China

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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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.

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

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