Special Issue

Nanoscale Spintronics and Magnetism: From Fundamentals to Devices

Message from the Guest Editor

In recent years, more and more researchers have focused on spintronics, exploring next-generation materials and/or nanoelectronic devices that rely on electron spin and are characterized by reduced energy consumption, increased high-speed, high-density memory, etc. In short, materials/devices take advantage of the degree of spin freedom of electrons and/or holes and the interaction with the orbital moments. On the other hand, the field of molecular magnetism is rapidly evolving towards the use of magnetic molecules and magnetic nanomaterials in the field of molecular spintronics, quantum technology, etc. Magnetic materials can become a cornerstone of spintronics through the control of spin configurations. Molecular materials, single-molecule magnets, MOFs, 2D materials, and even the isolation of hybrids from single-molecule magnets and spin crossover nanoparticles are some examples that have attractive properties and functions in spintronics.

Guest Editor

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Deadline for manuscript submissions

closed (20 March 2025)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/213700

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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.

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