Special Issue

Advances in Nanoscale Magnetism and Spintronics

Message from the Guest Editor

Nanoscale magnetism covers a broad range of research on magnetism and magnetic properties of low-dimensional systems, including both experimental methods in sample fabrication and characterization, as well as theoretical modeling and simulations. Advances in the synthesis techniques of magnetic nanoparticles, thin films, nanowires, nanotubes, and nanodots have contributed to the increased effectiveness of the tailoring of the magnetic properties of high-performance magnetic materials and spintronic devices. A nanomagnetic material exhibits magnetic behaviors that are distinct from those of the bulk form of the same substance because the material's dimensions are comparable to the critical lengths of one or more of various physical phenomena, such as the size of the magnetic domains. Finite-size effects on the magnetic properties of matter have led to a number of technologically important developments, with an extensive range of applications in sensors and activators. This Special Issue will be dedicated to gathering recent findings on the synthesis, fabrication, and characterization of nanoscale magnetic materials and devices with potential applications.

Guest Editor

Dr. Yong Hu

Department of Physics, College of Sciences, Northeastern University, Shenyang 110819, China

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

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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.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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