

Special Issue

Current Trends in Nanoscale Magnetic Materials with Low Rare Earth Content

Message from the Guest Editor

Today, nanocomposite magnets are widely used across industrial technologies, from electric mobility, e-vehicles, and domestic household uses to magnetic recording media, aircraft, and renewable energy generation for wind turbine components. Demand for magnets continues to increase, with the most notable demand seen in autonomous and hybrid electric vehicles, wind turbines, automation and robotics, and smart phones and telecommunication, as well as a wide range of medical devices for imaging, diagnostics, and therapies. Hence, the research community has taken great interest in identifying magnetic materials of low rare earth content, based on abundant elements, and which are cost-effective and easy to process without compromising their magnetic performance. The present Special Issue welcomes research papers on theoretical and experimental approaches to conceiving and developing nanocomposite magnets with very low or zero rare earth content. The creation of this collection is motivated by current needs for alternative solutions to commonly employed magnetic materials.

Guest Editor

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Deadline for manuscript submissions

closed (15 April 2026)



Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed



mdpi.com/si/252476

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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