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Novel RE-free Nanocomposite Magnets

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Message from the Guest Editors

Magnets and especially permanent magnets are widely used in most industrial technologies today—from domestic household to magnetic recording media, from the automotive to the aircraft industry, for renewable energy generation for wind turbine components. The present Special Issue will address all the challenges encountered in developing novel RE-free nanocomposite magnets, including but not limited to:

- Theory and modeling of novel magnetic alloys compositions;
- Synthesis challenges and microstructure optimization for novel nanocomposite magnets;
- Magnetic phase coexistence and phase stability with temperature;
- Hard-soft exchange coupling in multiphase magnetic nanocomposites;
- Optimization of magnetic performances in RE-free nanocomposite magnets;
- Trade-off between lowering costs and holding high enough magnetic performances;
- Magnetic performances in extreme conditions of operation.



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Special Issue



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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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