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Recent Progress in Smart Magnetic Materials: Synthesis, Characterization, and Multifunctional Applications

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Deadline for manuscript submissions:
closed (20 April 2024)

Message from the Guest Editors

In recent years, there has been considerable progress in the synthesis and characterization of smart magnetic materials, leading to the development of multifunctional materials with enhanced properties.

One area of recent progress has been the synthesis of core-shell magnetic nanoparticles, which have a magnetic core surrounded by a shell that can provide additional functionality such as biocompatibility or catalytic activity. These materials can be used for targeted drug delivery or as contrast agents in magnetic resonance imaging.

Another area of progress is the development of magnetic shape memory alloys, which exhibit a shape memory effect under the influence of a magnetic field. These materials have potential applications in sensors, actuators, and energy-harvesting devices.

In terms of characterization, there has been a focus on using advanced techniques. In the family of soft magnetic materials, a glassy-like structure is essentially relevant for the realization of the unique combination of physical properties.Multifunctional applications of smart magnetic materials have also been explored.

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Message from the Editor-in-Chief

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Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

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