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Functional Magnetic Materials: Synthesis, Processing, Structure and Application

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Message from the Guest Editors

Functional magnetic materials find diverse applications in fields such as bioimaging, neuroimaging, drug delivery, magnetic storage, spintronics, and all-spin logic devices. However, as the proportion of renewable energy in total energy production increases, there is a growing need for devices that operate at high frequencies, for which existing materials may not meet the requirements.

The elemental composition and processing of magnetic materials play a crucial role in the determination of their crystallographic orientation and emerging microstructure. Therefore, it is imperative to explore the various processing techniques that could be applied; these include nanostructure preparation, topological state manipulation, and additive manufacturing, and the correlation of the resulting magnetic components, films, and nanostructures with their overall structure.

Due to the increasing demand for such materials, we welcome submissions from the research community that focus on the chemistry of magnetic materials chemistry, processing techniques, and the characterization of their properties. The submission of manuscripts that address the key properties of interest is encouraged.

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Special Issue