Special Issue

Functional Magnetic Materials: Synthesis, Processing, Structure and Application

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.

Guest Editors

Dr. Ketan Pancholi

Centre for Advanced Engineering Materials, School of Engineering, Robert Gordon University, Garthdee House, Garthdee Road, Aberdeen AB10 7QB, Scotland, UK

Dr. Gavin Stenning

ISIS Neutron and Muon Source, Didcot, UK

Dr. Ranjeet Gupta

National Composites Centre, Bristol & Bath Science Park, Emersons Green, Bristol BS16 7FS, UK

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

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Editor-in-Chief

Prof. Dr. Carlos J. Gómez García
Department of Inorganic Chemistry, Faculty of Chemistry, University of Valencia, C/Dr. Moliner 50, 46100 Burjasot, Spain

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