Special Issue

Advances in Characterization of Nanomaterials by X-ray/Neutron Scattering Methods

Message from the Guest Editor

Dear colleagues,

Scattering methods contribute essentially to the characterization of modern nanomaterials. This is due to the multiphase structure of the materials themselves. As well as the combination of bulk properties, the interfaces and interphases contribute to the complicated mechanisms that drive the functionality of nanomaterials to a much higher level. While, for X-ray scattering, the number of electrons of the atoms determines their scattering power, this is unsystematic in neutron scattering, which allows for the specific study of hydrogen and lithium atoms in their environment. Examples that have proven to be well suited for scattering characterizations are lithium and sodium batteries, fuel and electrolyzer cells, composite materials of soft and solid compounds (for instance rubbers), colloidal particles, polymeric micelles, food emulsions, microemulsions, protein complexes, tissue mimicking materials for medical applications, and many more. This Special Issue envisages a broad spectrum of many more examples not yet seen in the literature.

Guest Editor

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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.

Editor-in-Chief

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