Special Issue

Magnetic Techniques for Molecular Diagnostics and Analysis of Biomolecules

Message from the Guest Editor

Magnetic techniques rely on the manipulation and detection of biofunctionalized magnetic particles, which —depending on the application—are employed either as labels or probes. The most striking advantage in this regard is the ability to exert forces or torques onto magnetic particles by externally applied magnetic fields. For example, we can magnetically separate specific biomolecules from a bulk solution ('magnetic washing'), to draw specific biomolecules towards certain regions (e.g. embedded sensors) in a fluid environment, to agitate magnetic particles and look at their dynamic response for biomolecular detection directly in the bulk sample solution, or to investigate biophysical properties by applying controlled forces or torques via bound magnetic probes. Furthermore, magnetic techniques enable highly competitive detection limits in molecular diagnostics.
To illustrate the numerous advantages offered by applying magnetic techniques to both the detection and biophysical investigation of biomolecules, viruses or cells, we kindly invite you to submit your manuscript(s) to this Special Issue. Full papers, communications, and reviews are all welcome.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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