

Special Issue

Development and Applications of Force Microscopy Techniques

Message from the Guest Editor

The development of the family of scanning probe microscopes (SPM) started in 1981 with the invention of the STM (scanning tunneling microscope). In 1986, atomic force microscopy (AFM) was developed and since then, due to its versatility in measuring interactions of different origins at the nanoscale, it has become a very powerful tool for characterizing a large variety of nanomaterials, such as nanoparticles, nanowires, low dimensional materials and biological samples such as molecules, viruses or proteins. Frequently denoted as scanning force microscopy (SFM), these techniques can be used not only as a tool for topography acquisition but also to detect a widespread variety of interactions, such as magnetic interaction, chemical forces, mechanical properties, electronic transport properties, surface potential, and thermal gradients with extraordinary sensitivity and resolution. In summary, this Special Issue is open to any contributions describing novel developments in any of the aspects of force microscopy from experiments and instrumentation to theory.

Guest Editor

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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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