

Special Issue

Advances in Computational Materials Tribology

Message from the Guest Editor

Materials science as well as tribology, the scientific field interested in friction, lubrication, and wear, are both of an inherently multiscale nature spanning several length and time scales from the electronic to the component level. The systems that can nowadays be treated using a palette of computational methods will usually feature much higher degrees of realism and sheer complexity than can be achieved with purely theoretical approaches, while at the same time being able to provide more precision and detail than most experiments. Although many of the mechanisms acting in tribological contacts are generally understood, computational materials tribology can be seen as a tool for finding out which mechanisms matter under which conditions and how they interact. In this Special Issue, we call for computational studies focusing on nano- and microscale aspects of tribological contact evolution. These include, but are not limited to, plastic deformation near tribologically loaded surfaces, microstructural aspects of surface finishing or abrasive wear, or the formation of protective films by interaction between lubricant additives and sliding surfaces.

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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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